WORLDSOFTWARE®

Guide
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WORLDSOFTWARE®

Advanced Programming Concepts and Skills

Release
A8.1

JDEdwards®

Item # A81CEAAS980101

J.D. Edwards & Company
8055 E. Tufts Avenue
Denver, CO 80237

Where Do I Look?

CD–ROM Guides

Guides

Technical Foundation

System Administration and Environment Fundamentals

- Understanding Your Environment
- Creating and Maintaining Environments
- Setting Up Security
- Upgrading Your System

Common Foundation

Prerequisite J.D. Edwards Software Fundamentals

- Using Menus
- Getting Help
- Customizing Data
- Reporting

Important Note for Students in Training Classes

This guide is a source book for online helps, training classes, and user reference. Training classes may not cover all the topics contained here.

Welcome

About this Guide

This guide provides overviews, illustrations, procedures, and examples for release A7.3 of J.D. Edwards software. Forms (screens and windows) shown are only examples. If your company operates at a different software level, you might find discrepancies between what is shown in this guide and what you see on your screen.

This guide includes examples to help you understand how to use the system. You can access all of the information about a task using either the guide or the online help.

Before using this guide, you should have a fundamental understanding of the system, user defined codes, and category codes. You should also know how to:

- Use the menus
- Enter information in fields
- Add, change, and delete information
- Create and run report versions
- Access online documentation

Audience

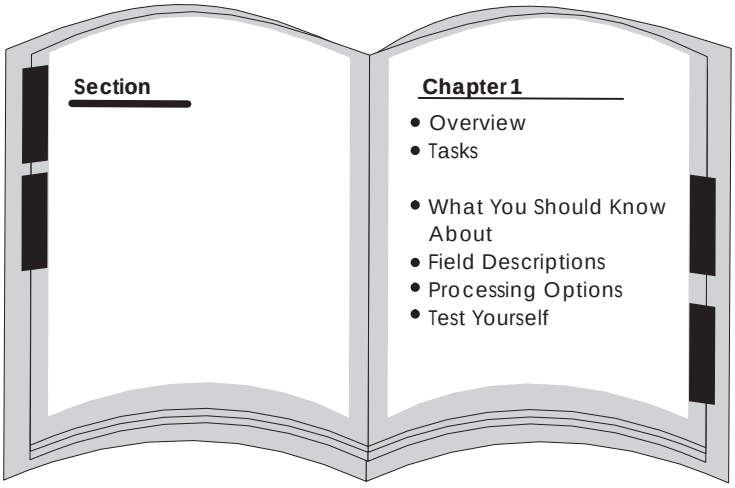
This guide is intended primarily for the following audiences:

- Users
- Classroom instructors
- Client Services personnel
- Consultants and implementation team members

Organization

This guide is divided into sections for each major function. Sections contain chapters for each task or group of related tasks. Each chapter contains the information you need to accomplish the task, run the program, or print the

report. Chapters normally include an overview, form or report samples, and procedures.



When it is appropriate, chapters also might explain automatic accounting instructions, processing options, and warnings or error situations. Some chapters include self-tests for your use outside the classroom.

This guide has a detailed table of contents and an index to help you locate information quickly.

Conventions Used in this Guide

The following terms have specific meanings when used in this guide:

- *Form* refers to a screen or a window.
- *Table* generally means "file."

We assume an "implied completion" at the end of a series of steps. That is, to complete the procedure described in the series of steps, either press Enter or click OK, except where noted.

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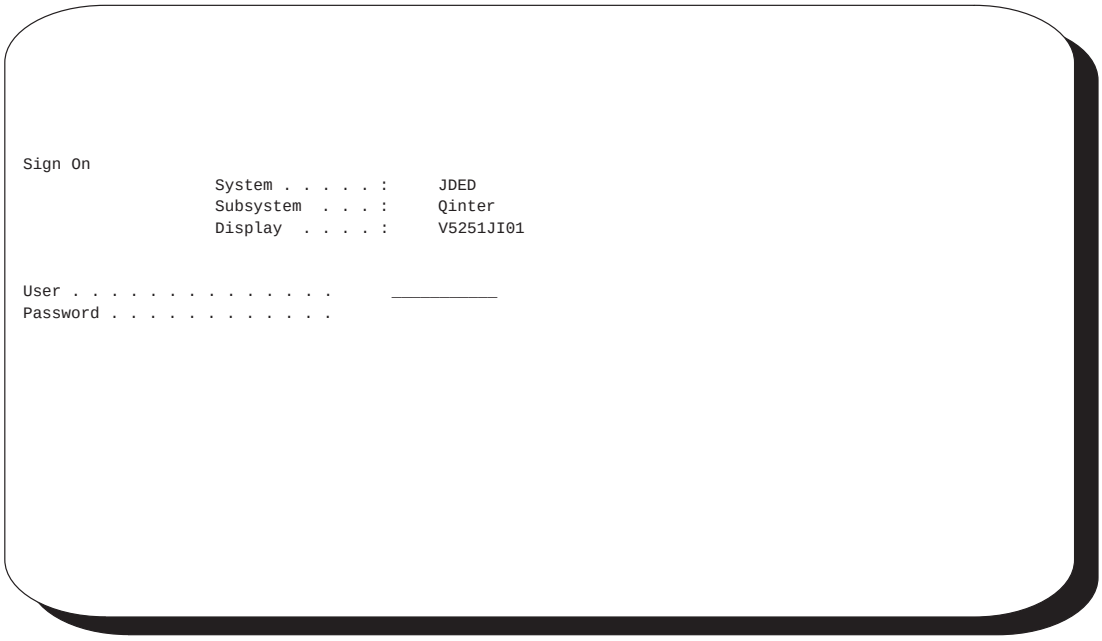
Signing On and Off



▶ To sign on

From the Sign On menu:

1. In the User field, type your User ID
2. In the Password field, type your Password
3. Press Enter

▶ To sign off

On the Selection line:

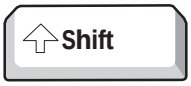
1. Type a double period (. .) or 90
2. Press Enter

Standard Menu Function Keys

The following charts show the standard function keys on the AS/400 and their equivalents on the PC.

AS/400 Keyboard	PC Keyboard	Function
F4	F4	Command Entry Prompt
F8	F8	Access Menu Word Search
F9	F9	Retrieve previous command
F12	F12	Return to previous menu
F13	Shift + F1	Fast Path Commands
F14	Shift + F2	Menu Selection Detail
F16	Shift + F4	Display Menu List window
F18	Shift + F6	Access processing options Type desired menu selection and press F18
F24	Shift + F12	List available Function Keys

Standard Screen Function Keys

AS/400 Keyboard	PC Keyboard	Function
		Display JDE field level help
		Exit
		Display Fold Area (more detailed information)
		View error message text
		Clear screen
		Display available functions window

Additional Differences

The following table showc additional keys used on the AS/400 and their equivalents on the PC.

AS/400	PC Keyboard
Field Exit	Enter
Enter	Ctrl
Reset	Alt
Roll Up	Page Down
Roll Down	Page Up
Help	Scroll Lock
Attn	Esc

Frequently Used Hidden Selections

Every J.D. Edwards menu displays up to 24 menu selections typically unique to a system. Hidden Selections are menu selections that let you perform certain functions regardless of the current menu. Hidden Selections can display the menus for Advanced and Technical Operations for a particular application, perform special activities, access certain menus even if the system restricts direct menu traveling, and access certain IBM commands without allowing access to the Command Entry Line.

To access a Hidden Selection, from any J.D. Edwards menu, enter HS in the Selection line. The Hidden Selections form displays, listing the selection number for each function. Enter 4 in the field to the left of the Hidden Selection that you want. Alternatively, type the desired number (two digit code) on the Selection or Command line and press Enter.

User Tools

Selection	Description
33	Display Submitted Jobs
34	Display User Messages
42	Display User Job Q
43	Display User Print Q
39	Change User Print Q
82	Hold Submitted Jobs
85	Display User Defaults
90	Sign Off

Operator Tools

Selection	Description
27	Advanced Operations
29	Technical Operations
97	Install History Display

Programming Tools

Selection	Description
25	Menu Specifications
40	File Field Description

Type HS on a *Selection* or *Command* line to display a list of available Hidden Selections.

J.D. Edwards Product Line

The following is a list of products available from J.D. Edwards:

Financials

- General Accounting
- Accounts Payable
- Accounts Receivable
- Fixed Assets
- Financial Modeling and Budgeting
- Multi-Currency, Multi-Language, Multi-National Processing
- Flexible Reporting Tools
- Address Book/Electronic Mail
- Human Resources
- Payroll
- Time Accounting

Distribution/Logistics

- Sales Order Management
- Configuration Management
- Advanced Pricing
- Forecasting
- Requirements Planning
- Enterprise Facility Planning
- Purchase Management
- Inventory Management
- Advanced Warehouse Management
- Transportation Management
- Data Collection
- EDI/Electronic Commerce

Manufacturing

- Product Data Management
- Configuration Management
- Plant and Equipment Maintenance
- Shop Floor Control
- Forecasting
- Requirements Planning
- Enterprise Facility Planning
- Capacity Requirements Planning
- Finite Scheduler
- Environmental Management System
- Data Collection

Energy and Chemical

- Process Manufacturing/Lube Oil Blending
- Equipment Management
- Inventory Management
- Bulk Stock Control
- Distribution Contracts
- Sales Order Management and Pricing
- Load and Delivery Management
- Forecasting
- Enterprise Facility Planning
- Purchase Management

Architecture, Engineering, Construction, and Real Estate

- Job/Project Cost Accounting
- Work Order Management
- Project Change Management
- Contract Management
- Contract Billing
- Engineering and Service Billing
- Equipment Management

- Homebuilder Management
- Real Estate Management

Public Services: State and Local Governments, Education, and Utilities

- Financial Administration and Reporting
- Budget Administration
- Fund and Encumbrance Accounting
- Grant and Endowment Management
- Purchasing and Material Management
- Warehousing and Central Stores Management
- Human Resources Management
- Service and Word Order Management
- Capital Project and Construction Management
- Contract Management
- Plant, Equipment, and Fleet Maintenance
- Customer Information and Billing Administration
- Assessment and Property Tax Administration

Other Integrated Solutions

- Bar Coding/Data Collection
- Connectivity/Network Solutions
- Development Tools
- Distributed Data Processing
- EDI/Electronic Commerce
- Enterprise Information Systems
- Facsimile Management
- PC Integration

J.D. Edwards Regional Offices and Worldwide Offices

The following is a list of all J.D. Edwards offices:

Office	Description
Headquarters	Denver, Colorado
Regional U.S. Offices	East Rutherford, New Jersey Herndon, Virginia Atlanta, Georgia Oak Brook, Illinois Denver, Colorado Costa Mesa, California Foster City, California Dallas, Texas Houston, Texas U.S. Satellite Offices Waltham, Massachusetts Beachwood, Ohio Trumbull, Connecticut Buffalo, New York Melville, New York New York, New York Fair Oaks, California Seattle, Washington West Conshohocken, Pennsylvania Bloomington, Minnesota Milwaukee, Wisconsin Lake Oswego, Oregon St. Louis, Missouri Tampa, Florida Fort Lauderdale, Florida Regional Canada Willowdale, Ontario
North and South American Affiliates	Canada Mexico Venezuela Argentina
European Offices	Frankfurt, Germany Bruxelles, Belgium Paris, France Milano, Italy United Kingdom Bourne End, U.K.

Office	Description
European Affiliates	United Kingdom Ireland Sweden Germany The Netherlands Belgium Austria Switzerland Spain Portugal Denmark
Australian Office	Chatswood, Australia
Middle East Affiliates	Israel Jordan Bahrain Egypt
Asia/Pacific Rim Affiliates	Japan China–Hong Kong City Philippines Malaysia Singapore Australia New Zealand

Application Development Cycle

World Computer Aided Software Engineering (CASE) covers the entire spectrum of the application development life cycle, including design tools, code generation, automatic documentation generation, prototyping, repositories and other productivity improvement tools for the development, operation and maintenance of flexible, business application software.

You can describe the Application Development Cycle (A/D Cycle) in three levels, as follows:

Level 1

- The Application Platform, which is described in the *Technical Foundation* class.

Level 2

- The Design Platform, which is described in the *Advanced Programming Concepts and Skills* (APCS) class.

Level 3

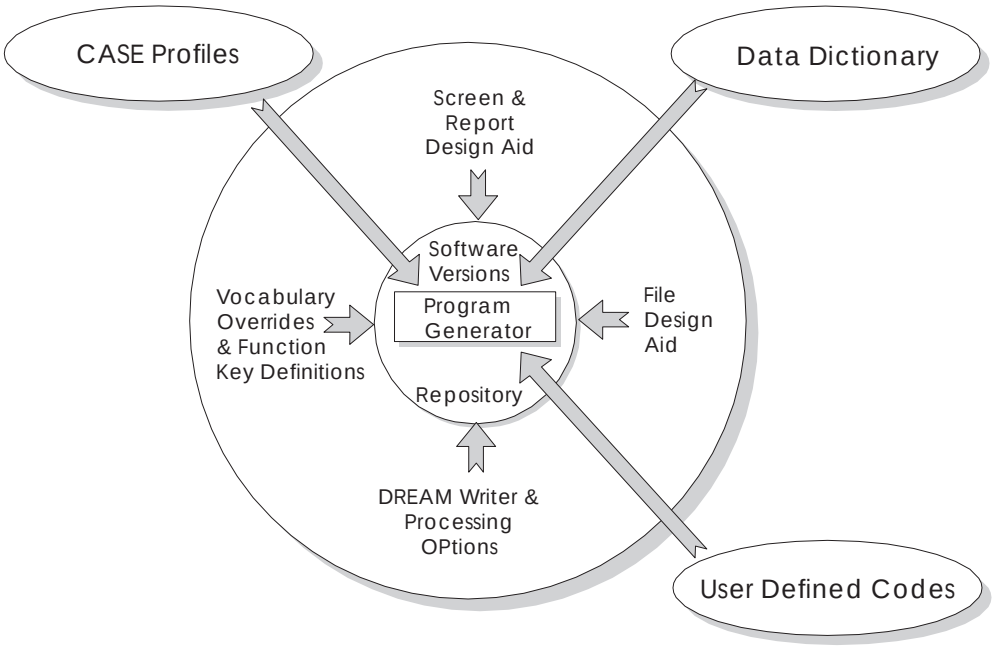
- The Development Platform, which is described in the *CASE* class.

Universal Building Blocks of J.D. Edwards Software

World CASE covers the entire spectrum of the application development life cycle, including:

- Design tools
- Code generation
- Automatic documentation generation
- Prototyping
- Repositories
- Other productivity improvement tools

The following figure shows the separate modules that contribute to the functioning of a J.D. Edwards program.



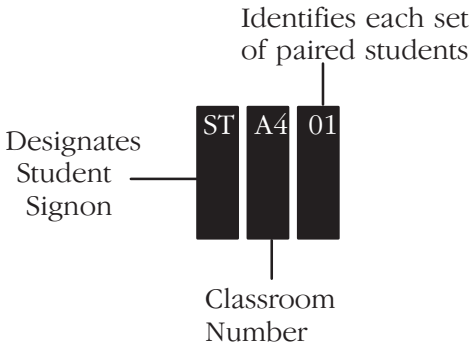
J.D. Edwards Training Environment

A brief look at the Student Library setup will help you understand the training environment set up for your learning experience. The following is a description of signon naming conventions. There is also a description of library naming conventions.

- Signon Naming Conventions

  Your signon depends on where you are located.

  For example, in the Denver Headquarters Office, we have several classroom numbers, so the structure of signons is as follows:



- Library Naming Conventions

  Your library names depends on where you are located.

  For example, in the Denver Headquarters Office, we have several classroom numbers and libraries that are structured for that classroom. You will also have your own student library. That library will have the naming conventions of your student number. Other libraries contained in your library list are libraries that are standard to all J.D. Edwards class environments.

The library list at a J.D. Edwards facility appears as follows:

Name	Contents
QTEMP	IBM temporary library
COMMON	Common library for training. Used for all J.D. Edwards Training Environments. It contains files that all training classes can share. For example, Help Files, Message Files, and Field Reference Files.
ST*xxyy*OBJ (*xx*=classrm #) (*yy*=student #)	Students object library. Used for the student to compile custom objects. It contains only programs that a student may modify in a class exercise.
JDFOBJ	Common object library for training. Contains all of J.D. Edwards execution programs. All J.D. Edwards training environments use this library.
ST*xxyy*DTA (*xx*=classrm #) (*yy*=student #)	Students data library. Used for the students custom data files. It contains only programs that a student may modify in a class exercise.
*xx*SHARE (*xx*=classrm #)	Classroom shared library. Is shared for that particular classroom environment. It contains files that the students all share. For example, the Data Dictionary file.
TRNSHARE	Shared library for all training. Used for all J.D. Edwards training environments. It contains files that all training classes can share. For example, word search files.
ST*xxyy*SRC (*xx*=classrm #) (*yy*=student #)	Students Source Library. Used for the student to write custom source programs. It contains only programs that a student may modify in a class exercise.
JDFSRC	Common Source Library for Training. Contains all of J.D. Edwards source code programs. All J.D. Edwards training environments use this library.
QGPL	IBM general purpose library

The library list at an on-site location will appear as follows:

Name	Contents
QTEMP	IBM temporary library
STUDSHARE	Contains files that will be shared for all students in class
STUDENT*x*D (*x*=student 1–6)	Contains files that will not be shared. Files are unique for each student.
STUDENT*x*O (*x*=student 1–6)	Contains any programs or objects that the student modifies in class (custom objects)
STUDENT*x*S (*x*=student 1–6)	Contains any source code that the student modifies in class (custom source)
JDETRAIN	Contains all J.D. Edwards execution programs
QGPL	IBM general purpose library

Classes

Classes consist of lectures and exercises. While each exercise is a separate task, they ultimately build upon each other to create a new program. It is imperative, therefore, that each student fully understand each exercise before continuing. At the end of the class, there are Case Studies which further enforce what you have learned by having you apply the information from this class to specific programming situations.

APCS System Overview

Features

Advanced Programming Concepts and Skills (APCS) focuses on the following World CASE features:

- Data Dictionary Repository
- Project Management (Software Action Request System)
- CASE Profiles
- SAR Log Inquiry
- Creating a Development Environment
- Software Versions Repository
- Data Modeling
- File Design Aid
- Screen Design Aid
- Report Design Aid
- J.D. Edwards Programming Standards
- File Servers and Functional Servers
- User Spaces and User Indexes
- Group Jobs
- Programming Modifications
- Source Debugger
- Programming Impacts from Software Upgrades

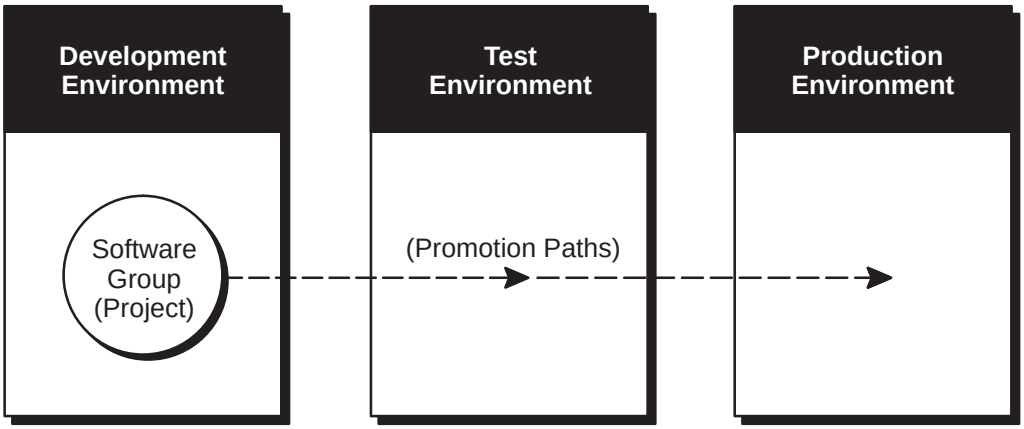
Version Control

Objectives

- To create a development environment
- To work with program management
- To create libraries
- To copy data files to the development environment

About Version Control

You use the J.D. Edwards Version Control system to manage the movement of software between various environments, such as ones you have set up for software development, testing, and production.

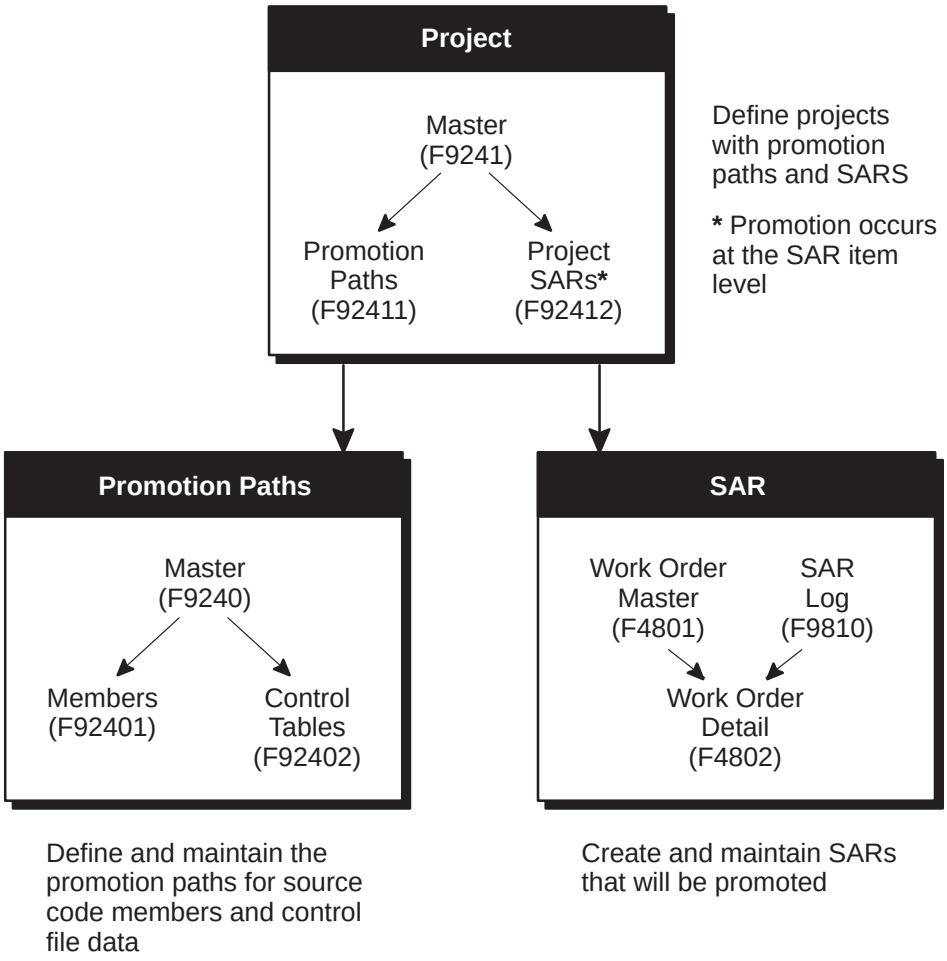


The Version Control system works with the Software Action Request (SAR) system and the SAR logging system. It performs three general functions:

- Groups source code members (such as RPG and CL programs, and physical and logical tables) and control file data (such as Data Dictionary and menus) together as a project
- Defines a promotion path, which specifies library information about the project's current environment and the environment to which it will be moved

- Promotes the project from the current environment to the target environment as defined by the promotion path

The following diagram shows how the version control process divides the tasks.



To set up a software development project for development and promotion, you must:

- Create the SARs that you want to promote, and define promotion paths
- Link the project to the SARs that are associated with it, and assign a promotion path to it

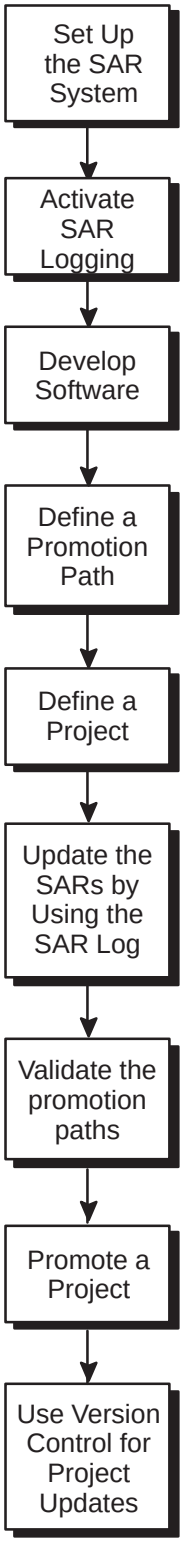
All additions or changes you make to programs and control file data are logged in the SAR Log (F9810). Use this log to update the SARs, which are in the Work Order Detail table (F4802).

After you finish developing the software, you promote the software from the Project Elements form to the next environment.

You will work with the following areas:

- ❑ Development Environment
- ❑ Project Management
- ❑ Work with Software Action Request
- ❑ Work with Software Versions Repository
- ❑ CASE Profiles
- ❑ Work with SAR Log
- ❑ Work with Promotion Paths and Projects
- ❑ Promote a Project
- ❑ Promote Project Updates

Version Control Process Flow



- Create record type codes
- Define record type titles
- Create SARs

- Activate SAR logging (CASE profile)

- Begin to create or change code related to the project using SVR

- Add a promotion path
- Assign the "From" and "To" environments to source code members and control tables

- Add a project
- Assign promotion paths and SARs to the project

- Update the Work Order Detail table (F4802)

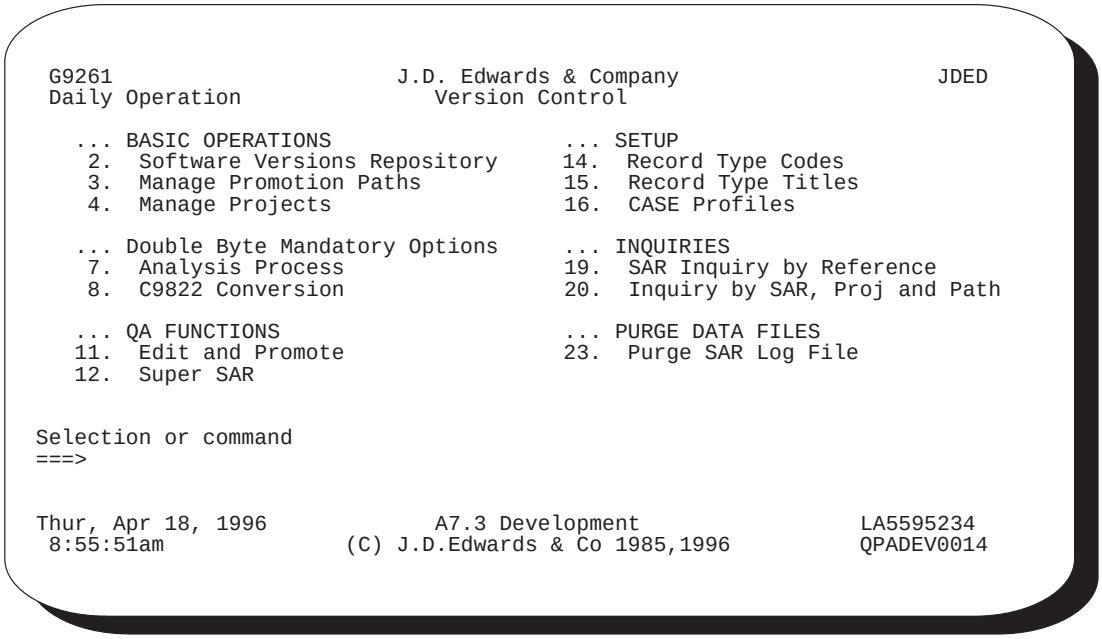
- Validate the promotion paths

- Promote the project to the next environment from the Project Elements form

- Perform version control procedures for a project update

Version Control Menu Overview

The figure below is the Version Control Menu. From this form, you will access the different features of the software development and promotion process.



Development Environment

About a Development Environment

A development environment contains objects and data being tested and edited. It is different from your production environment because it should not contain any live data files.

Rules for Creating Development Environments

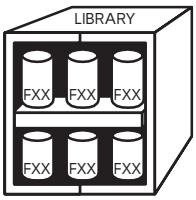
You should be aware of the following rules when you create development libraries.

- Do not begin library names with Q, JDF, or JDE because of the upgrade process.
- Create custom libraries for custom modifications.
- Library names should be a maximum of 9 characters in length because of the upgrade process.
- Do not use JDFDATA for your own test data or live data because of the upgrade process.
- Do not include JDFDATA in a live user's library list.

To create a Development Environment complete the following tasks:

- ❑ Create Libraries
- ❑ Define Access for a User Profile using J98INITA
- ❑ Define Access for a User Profile using J98INIT
- ❑ Copy Data to Your Development Environment

J.D. Edwards Libraries

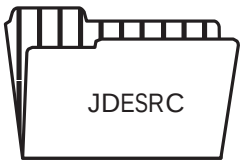


The folowing libraries are delivered with J.D. Edwards software. They are:

- Source Library (JDFSRC)
- Object Library (JDFOBJ)
- Data Library (JDFDATA)
- Install Library (JDEINSTAL)
- Plans Library (JDFINS)
- Security Library (CLTSEC)

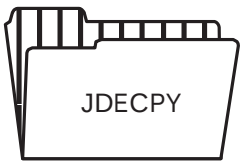
Source Library (JDFSRC)

This is the library that contains source code. Within the JDFSRC library, J.D. Edwards has three multi-member source files. The source files and their contents are illustrated below.



The file JDESRC contains the source code for:

- RPG Programs
- Printer files
- Display files
- CL Programs
- DDS for logical files
- DDS for physical files



The file JDECPY contains the source code for common subroutines

The file F98CRTCMD contains pre-compiler commands

- This is used to compile J.D. Edwards programs

Object Library (JDFOBJ)

The object library contains executable objects for your J.D. Edwards software.

- RPG programs
- CL programs
- Display files
- Report files

Data Library (JDFDATA)

The data library contains data files for your J.D. Edwards software (files in this library contain test data provided by J.D. Edwards).

Install Library (JDEINSTAL)

The install library is used to install programs and software that upgrade J.D. Edwards software.

Plans Library (JDFINS)

The library is used to plan how to upgrade J.D. Edwards software.

Security Library (CLTSEC)

You can create a security library that is shared across all environments. The benefit of having a security library is that you enter a user profile only once to have access to any environment. The following files must exist in the security library:

- User library list (F0092)
- Library list control (F0093)
- Library list master (F0094)
- User Preference (F00921)

In addition, all logical files associated with the above files must also exist in the security library.

Production and Development Examples

There are many ways to set up a production and development environment. The following are some examples.

Basic Production Environment

Library	Description
QTEMP	IBM Temporary data files
CLTOBJ	Client's objects
JDFOBJ	J.D. Edwards objects
CLTCOM	Client's common files
CLTDTA	Client's data files
CLTSEC	Client's security files
QGPL	IBM general public library

Basic Development Environment

Library	Explanation
QTEMP	IBM Temporary data files
DEVOBJ	Development objects
CLTOBJ	Client's objects
JDFOBJ	J.D. Edwards objects
DEVCOM	Development common files
DEVDTA	Development data files
CLTSEC	Client's security files
DEVSRC	Development source files
CLTSRC	Client's source files
JDFSRC	J.D. Edwards source files
QGPL	IBM general public library

All modifications and tests are performed in the development environment with the program's object and source residing in DEVOBJ and DEVSRC. After you complete the testing, the program's object is moved from DEVOBJ to CLTOBJ and the source is moved from DEVSRC to CLTSRC. You must create a separate data and common library (DEVDTA and DEVCOM) to ensure that any data changes during testing in the development environment do not affect live data in the production environment.

No Source in Production Environment and a Common Shared Library

Library	Explanation
QTEMP	IBM Temporary data files
CLTOBJ	Client's objects
JDFOBJ	J.D. Edwards objects
CLTCOM	Client's common files
COMMON	Common unchanged files
CLTDTA	Client's data files
CLTSEC	Client's security files
QGPL	IBM general public library

Basic Development Environment with a Shared Common

Library	Explanation
QTEMP	IBM Temporary data files
DEVOBJ	Development objects
CLTOBJ	Client's objects
JDFOBJ	J.D. Edwards objects
DEVCOM	Development common files
COMMON	Common unchanged files
DEVDTA	Development data files
CLTSEC	Client's security files
DEVSRC	Development source files
CLTSRC	Client's source files
JDFSRC	J.D. Edwards source files
QGPL	IBM general public library

No source libraries exist in the production environment because source code is not necessary to run J.D. Edwards programs. This makes the production environment easier to maintain. The only restriction is that users in the production environment cannot view source code. Another difference is that a third shared common library (COMMON) has been added to the environments. This library contains common files whose data is not changed during the testing process (For example, F98HELP). By having this type of common library not only are the environments easy to maintain, but you save considerable machine resources.

One Development Source and Object Library

Library	Explanation
QTEMP	IBM Temporary data files
CLTMOD	Client's source and objects under modification
CLTOBJ	Client's objects
JDFOBJ	J.D. Edwards objects
DEVCOM	Development common files
COMMON	Common unchanged files
DEVDTA	Development data files
CLTSEC	Client's security files
CLTSRC	Client's source files
JDFSRC	J.D. Edwards source files
QGPL	IBM general public library

DEVOBJ and DEVSRC have been combined into one library called CLTMOD. This library contains both source code and compiled objects for programs while they are being modified and tested. After testing, the program objects are moved to CLTOBJ and source code is moved to CLTSRC. The purpose of having one object and source code library like CLTMOD is to simplify the development library list by having one place where all modifications and testing takes place.

Creating Libraries

Create the following libraries:

- ❑ Common and data libraries
- ❑ Development object library
- ❑ Development source library

If you create a common library (DEVCOM), be sure to specify it each time you create the other development libraries. If you do not specify the common library each time, the files are created in your development library.

Your common library should contain files with data that does not change because of development activities (For example, Help Instructions Master). If there is a possibility of the data changing, you should place the file in your test data library (DEVDTA). By doing this, you are insulating the end users from changes in the development environment.

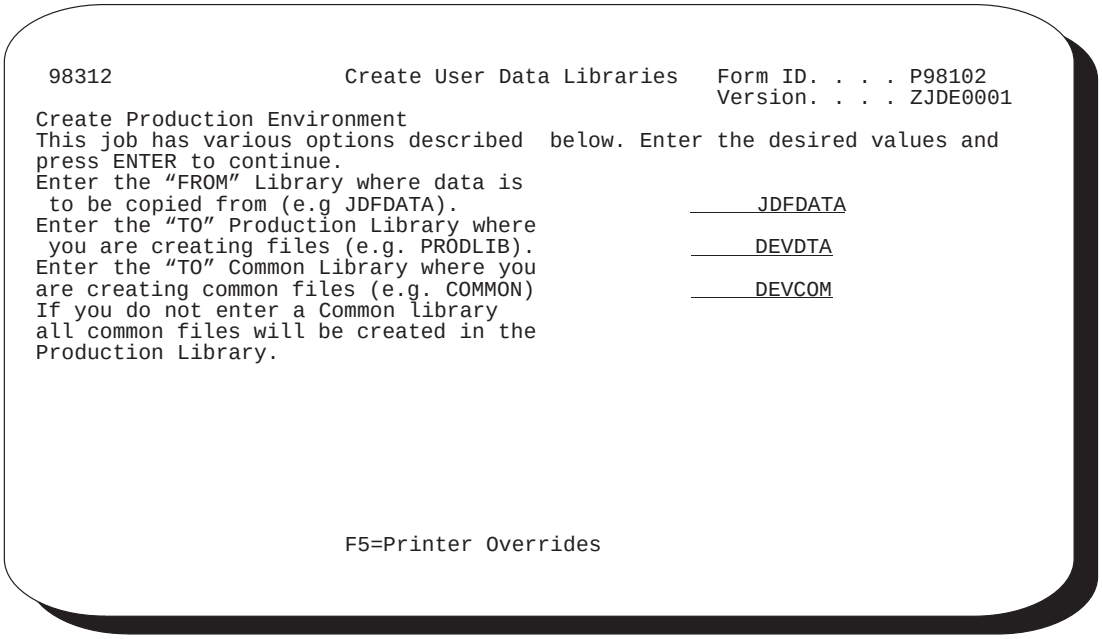
See Appendix A: Common and Production Library Files, for a list of common and production files.

Creating Common and Data Libraries

You will create the libraries that contain common data files (DEVCOM) and test data files (DEVDTA).

▶ To create common and data libraries

From the Data Base Management menu, select Data Libraries. This displays the following form.



Field	Explanation
Selection value	The library containing the data to be copied. Because you are creating development libraries, type the development library name. If you want to create a common library, you must specify the common library name. If you leave this field blank, the system creates the common files in the development Library you specified in the step above.

1. Complete the Create User Data Libraries form
   - Once you correctly complete the form and press Enter, the job (J98102) is submitted to batch.

2. Repeat the above step for each of the development data libraries you have.

The program automatically:

- Creates your libraries
- Creates the physical and logical files that should be maintained in your common library
- Creates the physical and logical files necessary for operations control in your development library
- Creates the physical and logical files for various applications in your development library
- Generates reports to identify all the physical, logical, and join files created and to identify where they were created
- Generates a report to identify all the optional files. The report explains why the files are optional so that you can determine if they should be deleted

Creating a Development Object Library

▶ To create a development object library

From the Data Base Management menu, type the command Create Library (CRTLIB) and press F4.

```
                          Create Library (CRTLIB)
Type choices, press Enter.
Library  . . . . . . . . . . . . .   DEVOBJ       Name
Library type . . . . . . . . . . .   *TEST        *PROD, *TEST
Text 'description' . . . . . . . .   *BLANK

                                                                  Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Field	Explanation
Library Name	Your development object library name.
Type of Security	*PROD or *TEST
Text Number	The description of your library

Creating a Development Source Library

To create the development source library (DEVSRC), you create a source environment and a source physical file. The source physical file is the Program Source File (JDESRC). All J.D. Edwards source programs are located in the JDESRC file.

There are two possible methods to create the JDESRC file. You must determine if you have the J.D. Edwards Program Generator and then choose the appropriate method.

▶ To create a development source library

From the Data Base Management menu, type the command Create Library (CRTLIB) and press F4.

```
                          Create Library (CRTLIB)
Type choices, press Enter.
Library  . . . . . .   DEVSRC        Name
Library type . . . . .   *TEST        *PROD, *TEST
Text 'description' . . . . . .   *BLANK

                                                                    Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Field	Explanation
Library Name	Your development object library name.
Type of Security	*PROD or *TEST
Text Number	The description of your library

Creating JDESRC with J.D. Edwards Program Generator

When a program is moved into production at J.D. Edwards, the record length is 92 bytes. If you have J.D. Edward's Program Generator product, the program source file format must be 142 bytes to allow for the Program Generator Serial Number and additional required data.

▶ To create JDESRC with J.D. Edwards Program Generator

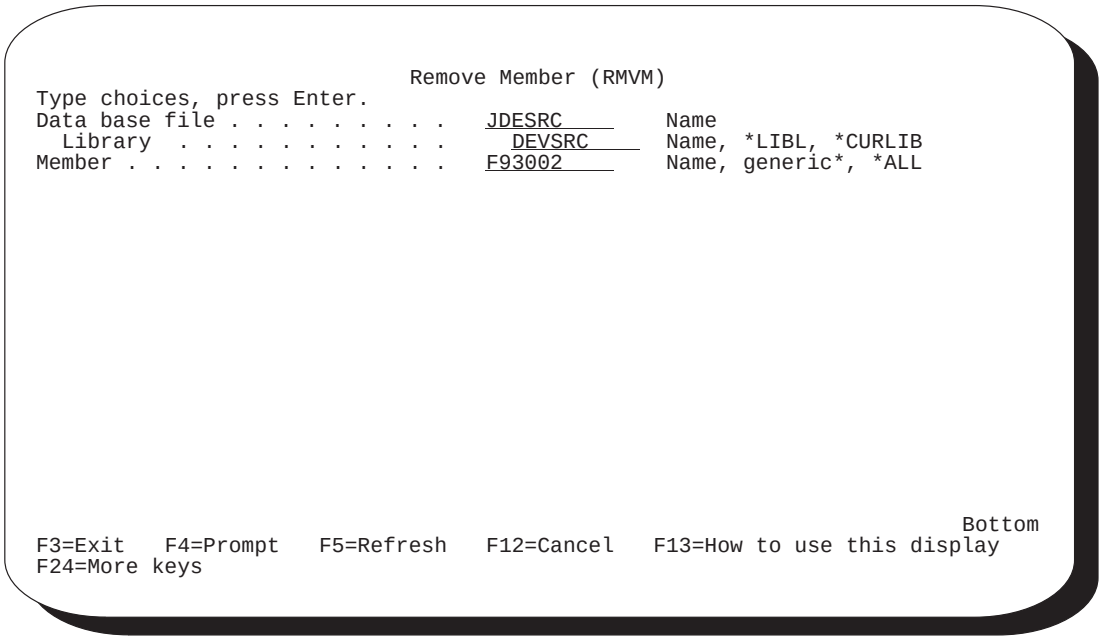
1. To copy an existing file with the correct format (F93002), type the Copy File command (CPYF) and press F4

```
                              Copy File (CPYF)
Type choices, press Enter.
From file  . . . . . .   F93002      Name
  Library  . . . . . .     *LIBL     Name, *LIBL, *CURLIB
To file  . . . . . .   JDESRC       Name, *PRINT
  Library  . . . . . .     DEVSRC    Name, *LIBL, *CURLIB
From member  . . . . .   *FIRST      Name, generic*, *FIRST, *ALL
To member or label . .   *FIRST      Name, *FIRST, *FROMMBR
Replace or add records   *NONE       *NONE, *ADD, *REPLACE
Create file  . . . . .   *YES        *NO, *YES
Print format . . . . .   *CHAR       *CHAR, *HEX
                                                                  Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Field	Explanation
From file	The file and library containing the data to be copied. The file is F93002 and the library can default to *LIBL.
To file	The name of the source file and your development source library. Generally, the file is JDESRC and the library is DEVSRC.
From member	The member name that will be the beginning of the copy process. Generally, this value is *FIRST.
To member or label	The member name that will be the beginning of the receiving process. Generally, this value is *FIRST.

Field	Explanation
Replace or add records	Specifies whether the records copied should replace or be added to the records in the *To* file. In this case since the *To* file does not exist, this value is *NONE.
Create file	Specifies whether the *To* file does not exist and needs to be created. This value is *YES.
Print format	Specifies whether the characters are printed in character or character and hexadecimal format. This option only applies if the *To* file is *PRINT.

2. To remove the empty member copied from JDESRC, type the Remove Member command (RMVM) and press F4.



Field	Explanation
Data base file	Type the source file and your development source library that contains the record to be removed. Generally, this file is JDESRC and the library is DEVSRC.
Member	Type the name of the record that is to be removed. This is F93002.

Creating JDESRC Without the Program Generator

If you *do not* have J.D. Edward's Program Generator product, the program source file format can remain at 92 bytes, as it is when a program is moved into production at J.D. Edwards. To create the JDESRC file with a 92 byte record format, you can execute the Create Source Physical File command (CRTSRCPF).

▶ To create JDESRC without the Program Generator

1. Type the Create Source Physical File command (CRTSRCPF) and press F4.

```
                    Create Source Physical File (CRTSRCPF)
Type choices, press Enter.
File . . . . . . . . . . . . . . .   JDESRC          Name
  Library  . . . . . . . . . . . .     DEVSRC        Name, *CURLIB
Record length  . . . . . . . . . .   92              Number
Member, if desired . . . . . . . .   *NONE           Name, *NONE, *FILE
Text 'description' . . . . . . . .   *BLANK

                                                                      Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Field	Explanation
File	The source file and your development source library that contains the record to be removed. Generally, this file is JDESRC and the library is DEVSRC.
Record Length	The number of bytes in the length of the records to be stored in the source file. This value is 92.
Member, if desired	The member to be added to the source file. Generally, this member is left to *NONE.
Text Description	The description of your source file.

About User Profiles

You must create profiles that allow users to have access to new environments.

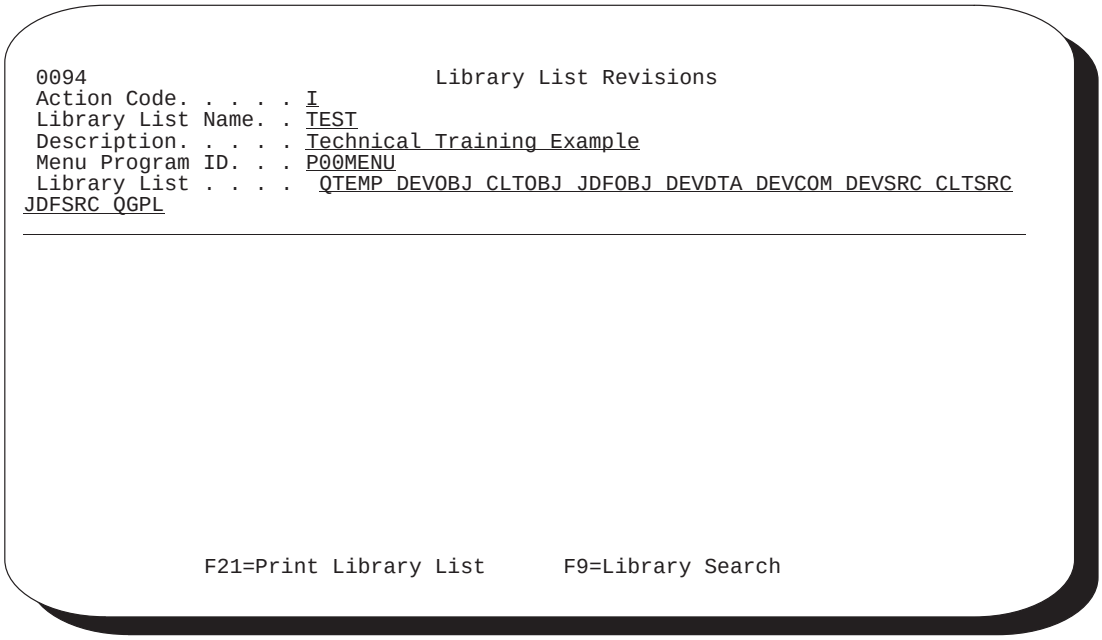
There are two separate methods to defining access to an environment. The method you choose depends upon whether the User Profile accesses J.D. Edwards software using J98INITA or J98INIT.

Defining Access for a User Profile using J98INITA

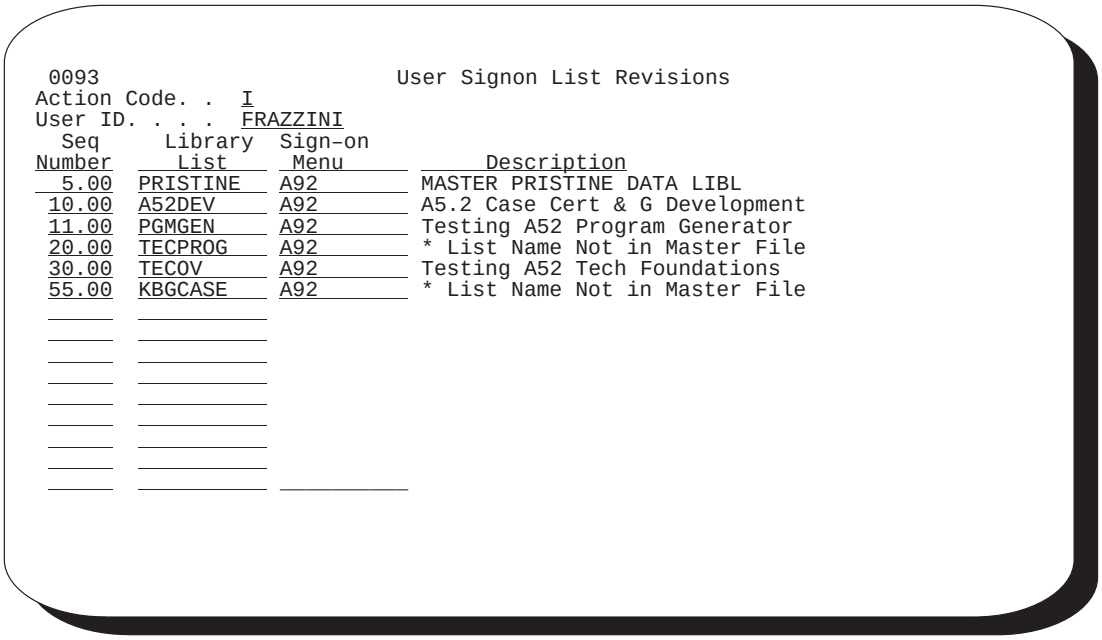
If you are allowing access to your development environment for a user profile that is using J98INITA, you must define a development environment library list name. In addition, the User Signon List must contain the Development Environment Library List name.

▶ To define access for a user profile using J98INITA

1. Select Library List Revisions, from the Library List Control menu (G944).



2. To assign the library list to each user, select User Signon List Revisions from the Library List Control menu (G944).



```
 0093                          User Signon List Revisions
Action Code. .  I
User ID. . . .  FRAZZINI
  Seq      Library  Sign-on
Number      List     Menu        Description
  5.00    PRISTINE   A92         MASTER PRISTINE DATA LIBL
 10.00    A52DEV     A92         A5.2 Case Cert & G Development
 11.00    PGMGEN     A92         Testing A52 Program Generator
 20.00    TECPROG    A92         * List Name Not in Master File
 30.00    TECOV      A92         Testing A52 Tech Foundations
 55.00    KBGCASE    A92         * List Name Not in Master File
 _____    __________
 _____    __________
 _____    __________
 _____    __________
 _____    __________
 _____    __________
 _____    __________
 _____    __________
 _____    __________
 _____    __________  __________
```

Defining Access for a User Profile Using J98INIT

If you are allowing access to your development environment for a user profile that is using J98INIT, you must define a new library list.

▶ To define access for a User Profile using J98INIT

1. Select User Information (User Keys), from the Security Officer menu (G94).

```
 0092                  User Information                Action Code. . . . . I
 User ID. . . . . . . . . . . . . . .  TEACH
 Library List . . . . . . . . . . . .  QTEMP DEVOBJ CLTOBJ JDFOBJ DEVDTA DEVCOM
DEVSRC CLTSRC JDFSRC SECURITY QGPL
_
_

 User Security:                        A J K DP F
     User Key . . . . . . . . . . .    _ _ _ __ _  Allow Command Entry (Y/N).
     Initial Menu to Execute. . . .    A           Allow Menu Traveling (Y/N)
     Initial Program to Execute . .    __________  Allow Fast Path (Y/N). . .
 Menu Level . . . . . . . . . . . .
 User Type. . . . . . . . . . . . .
 User Class/Group . . . . . . . . .
 Batch Job Queue. . . . . . . . . .  QBATCH
 Job Scheduling Priority. . . . . .  5 5
 Logging(level/severity/messages) .  4   00    *NOLIST
 Output Queue . . . . . . . . . . .  QPRINT
 Optional Printer File Library. . .
 Current Library. . . . . . . . . .
 Employee Address Number (PPAT) . .
 Set Attention Program. . . . . . .
 F6=Display/Lang Pref    F9=Library Inquiry    F21=Print Lib List    F24=More
```

Each user profile for the J.D. Edwards software must have an IBM profile. To define an IBM profile, use the command, Create User Profile (CRTUSRPRF).

Each user profile for the J.D. Edwards software must have an IBM profile. To define an IBM profile, use the command, Create User Profile (CRTUSRPRF).

Copy Data to Your Development Environment

You can use several methods to copy data to your development environment. The method you choose should depend upon how much data you need to copy to your development environment. You may copy the following:

- Libraries

- Files
- Records
- JDE Record Types

Copying a Library

If you need to duplicate several files in your development environment you can copy one or more libraries.

▶ To copy a library

1. To display the parameters, type the Copy Library command (CPYLIB) and press F4.

```
                              Copy Library (CPYLIB)

Type choices, press Enter.

Existing library . . . . . .   __________     Name
New library  . . . . . . . .   __________     Name
Create library . . . . . . .   *YES           *NO, *YES
```

If you use CPYLIB, you must rebuild your access paths. Any files that are in use are not copied.

Field	Explanation
Existing Library	The library to be copied in your Production Environment.
New Library	The new library that will be used in your Development Environment
Create Library	Specifies whether the New Library does not exist and needs to be created.

Copying a File

If you need to copy specific files from a library in your production environment to a library in your development environment, you use the J.D. Edwards copy file utility.

▶ To copy a file

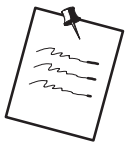
1. From the Data Base Management menu (G9645), select Copy Data files.

   Enter the system code, the library to copy the data from, and the library to copy the data to.

2. Then type a 1 next to the files you wish to copy.

```
 98101                              Copy Data Files

Enter System Code. . . 01__   Address Book

Library Name: From . . JDFDATA___          To . . PROD

Sel File Name  File Type Description
 1  F0070      PHYSICAL  Country Constants Master File
 1  F009101    PHYSICAL  Word Search Occurrence Master
 1  F0101      PHYSICAL  Address Book Master
 1  F0101A     PHYSICAL  Address Book Master File Audit Log
 1  F0101XX    PHYSICAL  Address Book Master
 1  F0101Z1    PHYSICAL  Address Book – Batch File
 _  F01090     PHYSICAL  Supplemental Data Base – CORE
 _  F01092     PHYSICAL  Supplemental Data Base – Code
 _  F01093     PHYSICAL  Supplemental Data Base – Narrative
 _  F01094     PHYSICAL  User Sequence Preference
 _  F0111      PHYSICAL  Address Book – Who's Who
 _  F0114      PHYSICAL  Address Book Memo/Text Information
 _  F0114W     PHYSICAL  WF – Memo Information Work File
 _  F0116      PHYSICAL  Address Book Locations
 _  F01800     PHYSICAL  Address Book  Word Search Master

                        Opt:  1=Copy Data File
```

All records in those specified files will be copied.



When using this utility, be sure to copy all related files.

NOTE: When using this utility, be sure to copy all related files.

Copying a Record

If you wish to copy a file with only selected records, use the Copy File command (CPYF).

▶ To copy a record

1. Type the Copy File command (CPYF).

```
                              Copy File (CPYF)

Type choices, press Enter.

From file  . . . . . .  F0101       Name
  Library  . . . . . .    CLTDTA    Name, *LIBL, *CURLIB
To file  . . . . . .  F0101       Name, *PRINT
  Library  . . . . . .    DEVDTA    Name, *LIBL, *CURLIB
From member  . . . . . .  *FIRST    Name, generic*, *FIRST, *ALL
To member or label . . . . .  *FROMMBR    Name, *FIRST, *FROMMBR
Replace or add records . . . .  *ADD      *NONE, *ADD, *REPLACE
Create file  . . . . . .  *NO       *NO, *YES
Print format . . . . . .  *CHAR     *CHAR, *HEX
                          Additional Parameters

 Which records to print . . . . .  *NONE       *NONE, *EXCLD, *COPIED

 Record format of logical file  .  *ONLY       Name, *ONLY, *ALL
 Copy from record number  . . . .  365         Number, *START
                                                                  More...
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

2. Press F10 to display additional parameters.

Field	Explanation
From file	The file and library containing the data to be copied.
To file	The name of the file and your development library the data will be copied to.
From member	The member name that will be the beginning of the copy process.
To member or label	The member name that will be the beginning of the receiving process.
Replace or add records	Specifies whether the records copied should replace or be added to the records in the *To* file.
Create file	Specifies whether the *To* file does not exist and needs to be created.

Field	Explanation
Print format	Specifies whether the characters are printed in character or character and hexadecimal format. This option only applies if the *To* file is *PRINT.
Copy from record number	Specifies the record number from which to start the copy.

3. Scroll up and enter the record number of the record to which you wish to copy.
    - The Copy to record number is the field in which you specify the record number of the last record to be copied.

```
                              Copy File (CPYF)

Type choices, press Enter.

Copy to record number  . . . . .   365          Number, *END
Copy from record key:
  Number of key fields . . . . .   *NONE        Number, *NONE, *BLDKEY
  Key value  . . . . . . . . . .


               + for more values

                                                                      More...
F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
F24=More keys
```

Field	Explanation
Copy to Record Number	Specifies the record number of the last record to be copied.
Copy from Record Key	Only applies when copying a file with keyed fields.

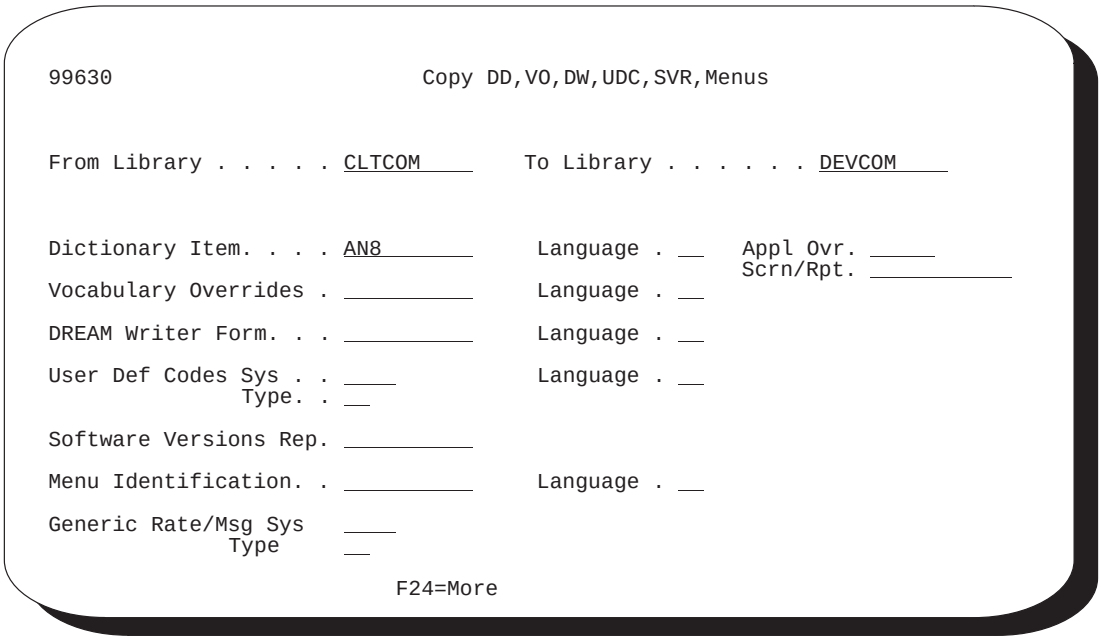
Copying J.D. Edwards Record Types

You can copy any of the following record types:

- Vocabulary Overrides
- Data Dictionary
- Software Inventory Revisions
- User Defined Code
- DREAM Writer
- Menu
- Generic Rate/Msg

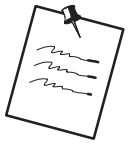
▶ To copy a J.D. Edwards record type

From the Developer's Workbench menu (G9362) or Repository Services choose Copy DD,VO,DW,UDC,SVR,Menus.



Field	Explanation
From Library	The library containing the data to be copied.
To Library	The library in your Development Environment to receive the data.

Field	Explanation
Dictionary Item	The RPG data name. This data field has been set up as a 10-byte field for future use. Currently, it is restricted to 4 bytes so that, when preceded by a 2-byte file prefix, the RPG data name does not exceed 6 bytes. Within the Data Dictionary, all data items are referenced by this 4-byte data name. As they are used in database tables, a 2-character prefix is added to create unique data names in each table specification (DDS). Special characters are not allowed as part of the data item name, with the exception of #, @, $. You can create protected data names by using $xxx and @xxx, where you define xxx. Messages can contain up to 10 characters. Types of messages are further defined by glossary group.
Vocabulary Overrides	The name of the screen or report record to be copied. All records for soft coding will be copied.
DREAM Writer Form	The name of the DREAM Writer Form ID to be copied. All versions of the specified form will be copied.
User Def Codes Sys	The system code and type of the table to be copied. All values for the specified table will be copied.
Software Versions Rep	The record of the Software Versions Repository member to be copied.
Menu Identification	The menu ID and the display language of the record to be copied.



You can enter and copy only one item at a time. If the item exists in the To Library, it is replaced.

Project Management

About Project Management

To manage projects you may use Work Order Processing. You will perform the following tasks:

- ❑ Understand Work Order Processing
- ❑ Create Work Orders
- ❑ Access the Scheduling Workbench
- ❑ Add or change record types

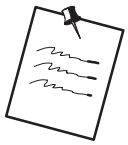
Understanding Work Order Processing

The Software Action Request System (SAR) is shipped to clients under the name of Work Order Processing.

The Work Order Processingsystem allows you to:

- Create and classify work orders with simple budgets or estimates
- Schedule and expedite work orders
- Perform cost accounting by specific work orders or family of work orders.

Unlike jobs that are often preplanned and thoroughly budgeted, work orders are often completed without the prior knowledge of the accounting department. Work orders are typically spontaneous and of short duration.



If you purchased system 48 (Work Order Processing), you have all of the programs associated with Work Orders (SARs). If you have not purchased the Work Order Processing system, you have only the programs from the Work Order Processing system that are defined as being part of the General Back Office System (00).

Creating Work Orders

There are only three required fields when creating a new work order

- Work Order Number If you do not provide a work order number, the system assigns one automatically.
- Description (short)
- Charge to Business Unit

▶ To create work orders

From the Simple Project Management menu (G4812), select Single Task Details.

```
48014                Single Task Details
                                                Parent W.O. No
Action Code. . . I                              W.O.Number . .      289
Description. . . APCS Class
Status Comment . Student SAR                    Charge to BU .         1001
Search X-Ref . .                                Cost Code. . .
Est. Hours . . .        40                      Start Date . . 01/03/94
Est. Amount. . .     1,500                      Planned Comp . 12/31/94
Phase. . . . . . 55      Reserved for Clients    Completed. . .
Type . . . . . . 2       Priority . . . . H      Status . . . . 10
Tax Expl Code. .     1001 Tax Rate/Area. .       Transaction. . 11/12/93
Subledger Inact.     6001 Active Subledger       Date Assigned.
Customer No. . .         Edwards, J.D.
Manager. . . . .         Allen, Ray
_____________Description_____________________________________  Option
SAR setup for work to be performed during the Advanced
Programming Concepts and Skills class
Engine REQ125-796
_____________________________________________________________
_____________________________________________________________
_____________________________________________________________
_____________________________________________________________
 Opt:  1=Insert  9=Del  F5=More Desc  F8=Cat Codes  F21=Print  F24=More Keys
```

What You Should Know About

Accessing the W.O. Detail form

To access the W.O. Detail form, choose More Description (F5).

Searching for address numbers

To search for address numbers for the Customer Number and Manager fields, choose More Keys (F24), then Exit to Name Search.

Field	Explanation
Parent W.O. No	This is the parent work order number. You can use this number to: 1. Enter default values for newly added work orders, for example, Type, Priority, Status, or Manager. 2. Group work orders for project setup and reporting . . . . . *Form-specific information* . . . . . . For Work Orders When you create a new work order using a parent work order, the system uses information from the parent work order as default values for the new work order. If you leave any of these information fields blank when you create the new work order, the system uses the values from the parent work order. The only information that the system does not use as default values from the parent work order includes: • Description • Extended description • Tax code • Tax rate and area • Date completed
Action Code	A code that indicates the activity you want to perform. Valid codes are: A Add new record C Change existing record D Delete existing record I Inquire on existing record . End of program or function space Clear the form If you enter a code that is not active, the system highlights the code and no action occurs. NOTE: Depending on how your company has set up action code security, you might not be authorized to use all action codes.
W.O.Number	The number that identifies an original document. This can be a voucher, an order number, an invoice, unapplied cash, a journal entry number, and so on.
Description	A brief description of an item, a remark, or an explanation.
Status Comment	A brief description to explain the status of the work order.

Field	Explanation
Charge to BU	An alphanumeric field that identifies a separate entity within a business for which you want to track costs. For example, a business unit might be a warehouse location, job, project, work center, or branch/plant. You can assign a business unit to a voucher, invoice, fixed asset, and so on, for purposes of responsibility reporting. For example, the system provides reports of open accounts payable and accounts receivable by business units to track equipment by responsible department. Security for this field can prevent you from locating business units for which you have no authority. Note: The system uses this value for Journal Entries if you do not enter a value in the AAI table.
Search X–Ref	An alphanumeric value used as a cross-reference or secondary reference number. Typically, this is the customer number, supplier number, or job number.
Cost Code	A subdivision of an object account. Subsidiary accounts include more detailed records of the accounting activity for an object account.
Est. Hours	The estimated hours that are budgeted for this work order.
Est. Amount	The estimated dollar amount that is budgeted for this work order.
Start Date	This is a start date that you can enter, or an automatic start date which the planning system calculates using a backscheduling routine. The routine starts with the required date and offsets the total leadtime to calculate the appropriate start date. Will default from system date or you can enter a date.
Planned Comp	The date the work order is planned to be completed.
Phase	A user defined code (00/W1) that indicates the current stage or phase of development for a work order. You can assign a work order to only one phase code at a time. NOTE: Certain forms contain a processing option that allows you to enter a default value for this field. If you enter a default value on a form for which you have set this processing option, the system displays the value in the appropriate fields on any work orders that you create. The system also displays the value on the Project Setup form. You can either accept or override the default value.
Completed	The date the work order or engineering change order is completed or canceled.

Field	Explanation
Type	A user defined code (00/TY) that indicates the type classification of a work order or engineering change order. You can use work order type as a selection criteria for work order approvals.
Priority	A user defined code (system 00, type PR) that indicates the relative priority of a work order or engineering change order in relation to other orders. A processing option for some forms lets you enter a default value for this field. The value then displays automatically in the appropriate fields on any work order you create on those forms and on the Project Setup form. You can either accept or override the default value.
Status	A user defined code (00/SS) that describes the status of a work order or engineering change order. Any status change from 90 thru 99 automatically updates the date completed.
Customer No	A number that identifies an entry in the Address Book system. Use this number to identify employees, applicants, participants, customers, suppliers, tenants, and any other Address Book members.
Manager	The address book number of a manager or planner. NOTE: A processing option for some forms lets you enter a default value for this field based on values for Category Codes 1 (Phase), 2, and 3. Set up the default values on the Default Managers and Supervisors form. After you set up the default values and the processing option, the information displays automatically on any work orders you create if the category code criterion is met. (You can either accept or override the default value.)
Transaction	The date that an order was entered into the system. This date determines which effective level that the system uses for inventory pricing.
Date Assigned	The date the person responsible for the work order receives the work order.
Tax Expl Code	A user defined code (00/EX) that controls how a tax is assessed and distributed to the general ledger revenue and expense accounts. You assign this code to a customer or supplier to set up a default code for their transactions. Do not confuse this with the taxable, non-taxable code. A single invoice can have both taxable and non-taxable items. The entire invoice, however, must have one tax explanation code.

Field	Explanation
Tax Rate/Area	A code that identifies a tax or geographic area that has common tax rates and tax distribution. The tax rate/area must be defined to include the tax authorities (for example, state, county, city, rapid transit district, or province), and their rates. To be valid, a code must be set up in the Tax Rate/Area table (F4008). Typically, U.S. sales and use taxes require multiple tax authorities per tax rate/area, whereas VAT requires only one simple rate. The system uses this code to properly calculate the tax amount.
Subledger Inact	A code that indicates whether a specific subledger is active or inactive. Any value other than blank indicates that a subledger is inactive. Examples are jobs that are closed, employees that have been terminated, or assets that have been disposed. If a subledger becomes active again, set this field back to blank. If you want to use subledger information in the tables for reports but want to prevent transactions from posting to the master record, enter a value other than blank in this field.

Processing Options

There are processing options associated with the Single Task Details program that allow you to default the value for the Type, Priority, Status, Phase, Category Code 2, Category Code 3, and Manager fields. To see the processing options, type the selection number for Single Task Details and press F18.

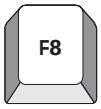
Function Keys from Single Task Details

F5 - Detailed Specifications

F5 - Allows you to enter additional detailed information about your work order. Each detail screen is based on Record Type. Record Type A provides room for you to enter more description. You can customize other Record Types to fit your requirements. The steps to add and change Record Types are described later in this chapter.

```
4802                        W.O. Detail Entry            Record Type. . . .  A
                          Full Description of Request
Action Code. . . .  C
Order Number . . .      289  Tech for Programmers Class

           Description                                                Option
SAR setup for work to be performed during the Advanced                 _
Programming Concepts and Skills class.                                 _
                                                                       _
                                                                       _
                                                                       _
                                                                       _
                                                                       _
                                                                       _
                                                                       _
                                                                       _
                                                                       _
                                                                       _
                                                                       _
                                                                       _
                                                                       _
   Opt: 1=Insert  9=Delete     F5=Re-Fresh  F8=Record Types  F24=More Keys
```

Option	Description
1 – Insert	Insert a blank line for additional text.
9 – Delete	Delete a line of text

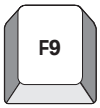


F8 - Category Codes

F8 - Allows you to update other work order values.

```
48016                    Work Order – Category Codes

Action Code. . . . . _
W.O. Number. . . . . _____289   Tech for Programmers Class
W.O. Flash Message . . _

Phase. . . . . _55        Reserved for Clients
Category 02. . . . . ___                                        .
Category 03. . . . . ___                                        .
Category 04. . . . . ___                                        .
Category 05. . . . . ___                                        .
Status . . . . . ___                                            .
Service Type . . . . . ___                                      .
Skill Type . . . . . ___                                        .
Experience Level . . . ___                                      .
Category 10. . . . . ___                                        .

Originator . . . . . _________
Supervisor . . . . . _________

Std. Desc. . . . . __________
Search X-Ref . . . . . __________
                  F2=Standard Desc Text    F24=More Keys
```

Field	Explanation
W.O. Number	The work order identification number. This value defaults from the Single Task Details.
W.O. Flash Message	A highlighted message that will be attached to the work order. . . . . . *Form-specific information* . . . . . . The flash message appears as a highlighted message on Backlog Management, replacing the work order description.
Phase	A user defined code describing a stage or category in the development of a project. This value defaults from the Single Task Details.
Category 02	Category Codes that are user defined values associated with the work order.
Originator	The address number of the person who entered the work order. Must be a valid number in the Address Book Master file (F0101).
Supervisor	The address number of the work order supervisor. Must be a valid number in the Address Book Master table (F0101).
Std. Desc	A user defined code describing instructional information. Must be a valid number in the Address Book Master file (F0101). . . . . . *Form-specific information* . . . . . . For Equipment/Plant Maintenance users: You can use this code to assign narrative text for a standard procedure. The information appears on the Item PM schedule and the work order routing.
Search X–Ref	Any number or characters that will be used to cross–reference work orders. This value will default from the Single Task Defaults screen.

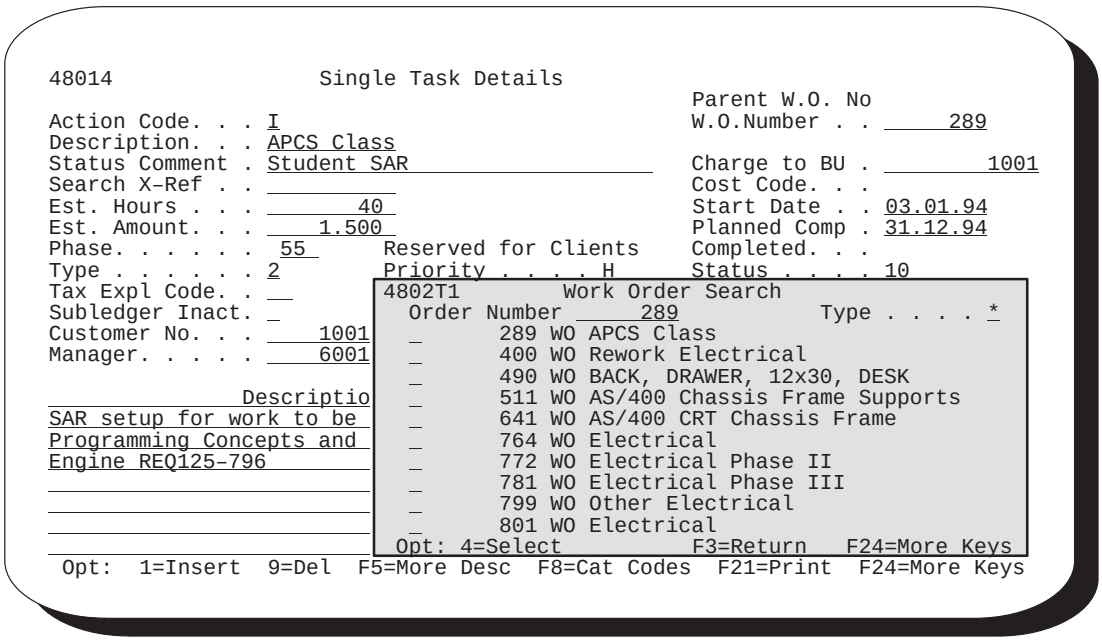


F9 - Name Search

F9 - Allows you to search for a specific address book number.

F15 - Work Order Search Window

F15 - Allows you to search for work order descriptions. It will only return the description.



F21 - Print Work Order

F21 - Allows you to print the work order, including all of the associated record types.

Accessing the Scheduling Workbench

The Scheduling Workbench program allows you to review and update work orders. You can retrieve information about work orders in multiple ways. After retrieving the work orders that meet your search criteria, you can update selected fields in those work orders directly from the Scheduling Workbench form.

▶ To access the Scheduling Workbench

From the Simple Project Management menu, select Scheduling Workbench

```
48201                        Scheduling Workbench              Flr Rem Cat T P M
                                                               ___ ___ ___ _ _ Y
  Action Code. . . . I
  Job or BU. . . . . ________ 1001 Work Orders in Progress
  Originator . . . . _________
  Customer Number. . _________
  Manager. . . . . . _________
  Supervisor . . . . _________     Parent W.O. No . . _______ Type . _ Model. _
  Search X-Ref . . . ___________ Cost Code. . . . . _______ Prior. _
  Category Codes . . Phs. ___ CC2. ___ CC3. ___ CC4. ____CC5. ___
                     Sta. ___ Srv. ___ Ski. ___ Exp. ___ CC0. ___

O  Number  Description                  X-Ref No.  St  Status Comment  T P
_      1347 Subcontractors              __________ 10  _______________ _ _
_       289 APCS Class                  __________ 10  Student SAR      2 H




 Opt: 1=W.O Entry 4=Return w/#  F4=Detail  F10=Eq. Workbench  F24=More Keys
```

Field	Explanation
Category Codes	Any number or characters that will be used to cross–reference work orders. This value will default from the Single Task Defaults screen.
Job or BU	The business unit that is responsible for charges incurred. Must be a valid business unit setup in the Business Unit Master File (F0006).
Originator	The address number of the person who entered the work order. Must be a valid number in the Address Book Master file (F0101).

Field	Explanation
Customer	The Address Number of the customer. Must be a valid number in the Address Book Master file (F0101).
Manager	The Address Number of the manager in charge of the work order. Must be a valid number in the Address Book Master File (F0101).
Supervisor	The address number of the work order supervisor. Must be a valid number in the Address Book Master table (F0101).
Parent W.O. No	Through parent work order number, you can group work orders together based on one parent work order, such as the installation of a computer and its associated electrical wiring, which may involve more than one customer or manager. . . . . . *Form-specific information* . . . . . . The parent work order number which groups work orders together in a "family".
Model	Determines whether model work orders will be displayed on the screen.
M	Determines whether model work orders will be displayed on the screen.
Search X–Ref	Any number or characters that will be used to cross–reference work orders. This value will default from the Single Task Defaults screen.
Cost Code	The subsidiary account responsible for incurred charges.
Number	The work order identification number. This value defaults from the Single Task Details.
Description	Describes the function or option exit. Cannot exceed 40 characters. . . . . . *Form-specific information* . . . . . . The name or a brief description of the work order.
X–Ref No	Any number or characters that will be used to cross–reference work orders. This value will default from the Single Task Defaults screen.
Status	A user defined code used to describe the current status of the work order; for example, planned, started, or completed.
Status Comment	This line allows status comments or further description of the work.

Field	Explanation
Type	User defined code describing the work order type.
Priority P	A user defined code used to assign the priority of the work order; for example, high, medium, or low.

F4 - More Detail

F4 - Displays additional information concerning each work order that is hidden in the Fold Area.

```
48201                        Scheduling Workbench              Pha Cat Cat T P M
                                                               ___ ___ ___ _ _ _
  Action Code. . . . I
  Job or BU. . . . . ________ 1001 Work Orders in Progress
  Originator . . . . _________
  Customer Number. . _________
  Manager. . . . . . _________
  Supervisor . . . . _________      Parent W.O. No . . _________
  Status . . . . . . __ Thru __    Search X-Ref . . . ___________
  W.O. Date Range. . _________ Thru. _________
  Compl. Date Range. _________ Thru. _________
  Supervisor . . . . _________     Parent W.O. No . . ________ Type . _ Model. _
  Search X-Ref . . . ___________ Cost Code. . . . . ________  Prior. _
  Category Codes . . Phs. ___ CC2. ___ CC3. ___ CC4. ____CC5. ___
                     Sta. ___ Srv. ___ Ski. ___ Exp. ___ CC0. ___

O  Number   Description                X-Ref No.   St   Status Comment   T P
_      1347 Subcontractors                          10 ____________________ _
            Planned Comp _______ Hours Scheduled. . ___ Est. Hours .
          Start Date . 05/26/92 W.O. Flash Message. _  W.O. Date . . 05/26/93
_       289 APCS Class                              10 Student SAR________ 2 H
            Planned Comp 12/31/94 Hours Scheduled. . ___ Est. Hours. . ______ 40
            Start Date . 01/03/94 W.O. Flash Message. _  W.O. Date . . 11/12/93

     Opt: 1=W.O Entry 4=Return w/#  F4=Detail  F10=Eq. Workbench  F24=More Keys
```

Field	Explanation
Planned Comp	The date the work is scheduled to be completed.
Hours Scheduled	The hours of work that has been scheduled.
Est. Hours	Total number of hours estimated for the work order.
Start Date Range	The initial date the work is scheduled to begin.
W.O. Flash Message	A highlighted message that will be attached to the work order.
W.O. Date	The date the work order was entered. Must be a valid number in the Address Book Master File (F0101).

Selection Exits from the Scheduling Workbench

Selection 1 - Work Order Entry

- Takes you to the Work Order Entry screen and automatically inquires on the selected work order

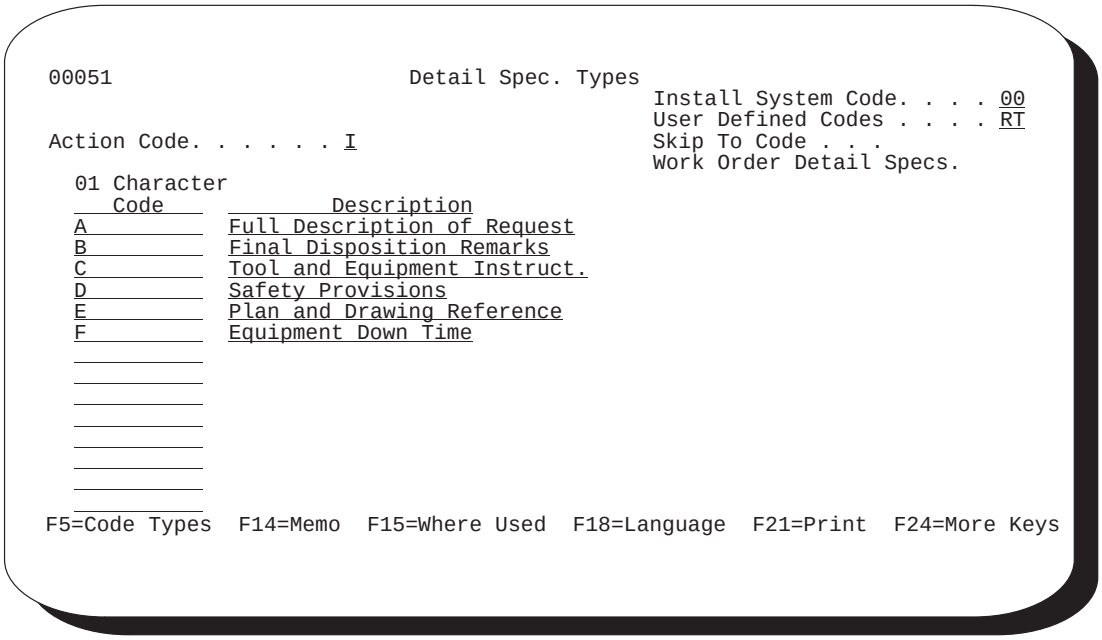
Processing Options

There are processing options associated with the Scheduling Workbench program that allow you to default a Work Order Status Range and a Work Order Type. In addition, you can call either Project Task Details (P48014) or the Equipment Work Orders (P48011) when the W.O. Entry option is selected. Be aware that Equipment Work Orders (P48011) is part of the Work Order Processing system (48). To see the processing options, type the selection number for Scheduling Workbench and press F18.

Adding Record Types

To add record types

1. From the Misc Additional Features menu (G4841), select Detail Spec. Types.



```
00051                          Detail Spec. Types
                                                  Install System Code. . . . 00
                                                  User Defined Codes . . . . RT
Action Code. . . . . . I                          Skip To Code . . .
                                                  Work Order Detail Specs.

  01 Character
    Code          Description
  A               Full Description of Request
  B               Final Disposition Remarks
  C               Tool and Equipment Instruct.
  D               Safety Provisions
  E               Plan and Drawing Reference
  F               Equipment Down Time
  _____________
  _____________
  _____________
  _____________
  _____________
  _____________
  _____________
  _____________

F5=Code Types  F14=Memo  F15=Where Used  F18=Language  F21=Print  F24=More Keys
```

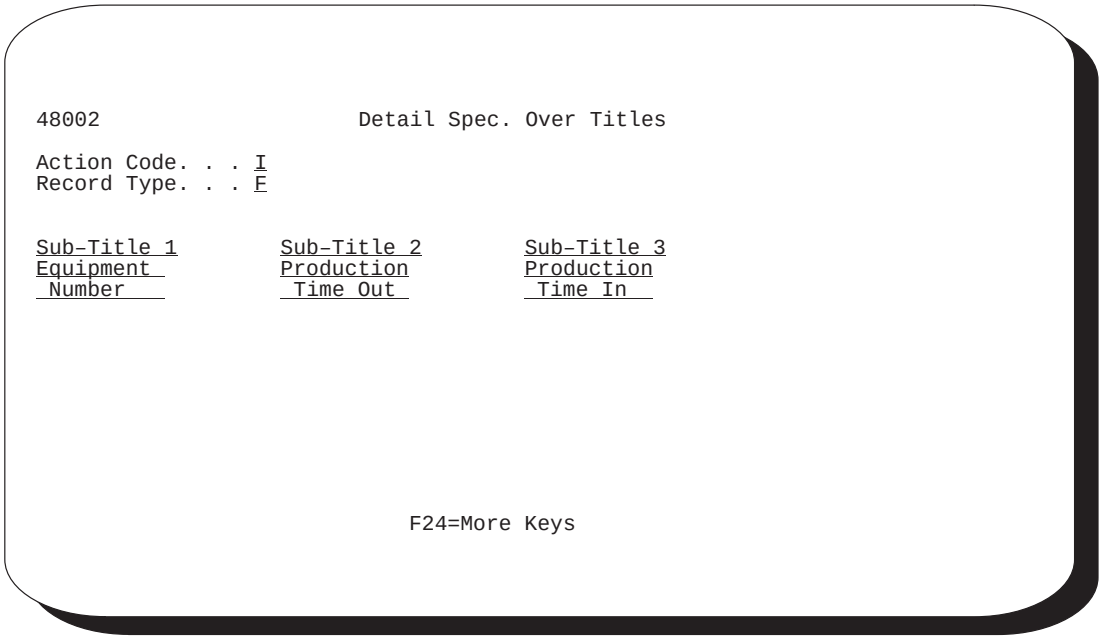
2. Add your specified record type and description to the table.

Changing Record Types

You can change the format of your record type.

▶ To change record types

1. From the Misc Additional Features menu (G4841), select Detail Spec. Over Titles.



2. Enter the heading text of each column you wish to add to the format of your Record Type.

- Work Order (SAR) file is F4801
- Detail Record Type file is F4802
- Method of tracking programming projects

See Also

- This is a brief overview of the Work Order Processing system. For more information, consult *Work Orders.*

Exercises

See the exercises for this chapter.

Work with Software Action Requests

About SAR System Setup

To set up a project, you must assign SARs and promotion paths to it. You create the SARs and define promotion paths first because the version control process uses the definitions.

After you set up your SAR system, you can develop the software. The SAR logging program keeps track of your changes as you have specified. While you develop the software, you can also define promotion paths and projects, and attach SARs to projects.

After you finish developing the software, you must update the SARs by using the SAR log before you promote the SAR.

Complete the following tasks:

- ❑ Create record type codes
- ❑ Define record type titles

Before You Begin

- ❑ The SAR system uses the Work Order files (F4801 and F4802). If your production environment uses these files, and if the F4802 file has different record types than what version control needs, define a separate library that contains these files for version control purposes only.

See Also

- *Defining a Promotion Path*

Creating Record Type Codes

The Work Order Instructions table (F4802) has an essential role in the version control process. It identifies and captures, for promotion purposes, all the source code members and control table data associated with a SAR. The Version Control system assigns a record type code to each source code member or control table data item, which classifies it for promotion. You must create record type codes that your Work Order Instructions table does not have currently.

▶ To create record type codes

1. From the Version Control menu (G9261), choose Record Type Codes.
2. On User Defined Code Revisions enter the following character codes and descriptions:

```
00051                  User Defined Code Revisions
                                                    System Code. . . . . . . . 00
                                                    User Defined Codes . . . . RT
Action Code. . . . . . I                            Skip To Code . . . ________
                                                    Work Order Detail Specs.
  01 Character
     Code                      Description
  A           Original Request
  __________  ______________________________
  __________  ______________________________
  __________  ______________________________
  __________  ______________________________
  __________  ______________________________
  __________  ______________________________
  __________  ______________________________
  __________  ______________________________
  __________  ______________________________
  __________  ______________________________
  __________  ______________________________
  __________  ______________________________
  __________  ______________________________

F5=Code Types  F14=Memo  F15=Where Used  F21=Print  F18=Translate  F24=More
```

Character Code	Description
A	Original Request
C	Members Affected
D	Menu Modifications
E	Automatic Accounting Instructions
F	Software Inventory Record Updates
G	Processing Options/DREAM Writer
H	Vocabulary Override Changes
I	Database Changes
J	Constants Data File Changes
K	User Defined Code Changes
M	Connected SAR Numbers
N	Generic Rate/Message Type Changes
O	Connected SAR Numbers
Q	Generic Rate/Message Type Changes
S	Status History
U	Post-Installation Instructions
W	Pre-Compiler Commands
Z	First Included in PTF
3	Next Number Changes

Defining Record Type Titles

For each record type code you create, you must also define record type titles, which appear as column headings on the W.O. Detail Entry form.

Before You Begin

- ❑ Create record type codes before you define record type titles. See *Creating Record Type Codes.*

▶ To define record type titles

From the Version Control menu (G9261), choose Record Type Titles.

On Record Type Titles

```
48002                    Record Type Titles

Action Code. . . I
Record Type. . . D Menu Modifications

Sub-Title 1        Sub-Title 2        Sub-Title 3
   Menu               Option             Job To
   Name               Number             Execute

                          F24=More Keys
```

For each record type you created, complete the following fields with the information in the chart that follows:

TITLE	SUB-TITLE 1	SUB-TITLE 2	SUB-TITLE 3
A	_____ _____	_____ _____	_____ _____
C	__Member__ ___Name___	__Source__ __Library_	__Object__ __Library_
D	___Menu___ ___Name___	__Option__ __Number__	__Job_To__ __Execute_
E	_____ ___AAI_____	__Company_ ____No_____	_____ _____
F	_____ CL_Program	_____ _Program__	_____ Video/Rpt_
G	___Form___ _____ID_____	_Version__ ___No_____	_____ _____
H	__Scr/Rpt_ ___Name___	_____ _____	_____ _____
I	_____ _____	_____ _____	_____ _____
J	_____ _____	_____ _____	_____ _____
K	__Help____ __Start___	__Help____ __Stop____	_____ _____
M	___Sys____ ___Code___	__DTAI____ __Name____	_____ _____
N	___Sys____ ___Code___	___Rec____ ___Type___	_____ _____
O	___SAR____ _____No____	___SAR____ _____No____	___SAR____ _____No____
Q	___Sys____ ___Code___	___Rec____ ___Type___	_____ _____
S	_____ _____	_____ _____	_____ _____
U	Reference_ ID/Code___	Attachment Needed-Y/N	_____ _____
W	__Program_ ___Name___	_____ _____	_____ _____
Z	__Release_ _____ID_____	___PTF____ __Number__	___Date___ _Included_
3	System____ Code_____	Line_____ Number____	Action____ Code_____

What You Should Know About

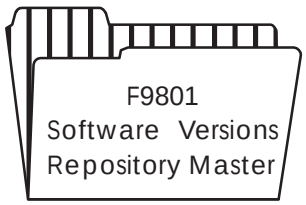
Verifying the record type titles

After you define the record type titles, you can view them to verify their accuracy. On Single Task Details, choose More Description. On W.O. Detail Entry, locate a record type you want to view by using the Record Type field.

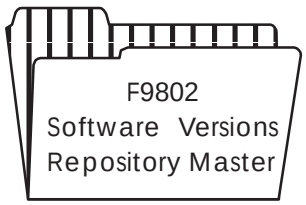
To access Single Task Details, see *Creating SARs*.

Work with Software Versions Repository

The Software Versions Repository (SVR) consists of the following master directories.



A master directory of all files, programs, screens, reports, and copy modules.



Stores the member locations for each member master record.

Working with Software Versions Repository (SVR)

The Software Versions Repository indicates in what environments a requested member is located and whether the environment is a production or development environment. The file is used extensively for documentation and plays an important role in J.D. Edwards Design and Development tools.

The Software Versions Repository is the natural starting point for all programming and software inquiry functions. It provides exits to the following features:

- Source Entry Utility.(SEU)
- SAR Detail Entry
- Screen Design Aid (SDA)
- Report Design Aid (RDA)
- File Design Aid (FDA)
- The Program Generator
- Precompiler Commands

- Repository Services
  - Data Dictionary
  - Menus
  - Vocabulary Overrides
  - Function Key Definitions
  - DREAM Writer Versions
  - Processing Options
  - User Defined Codes
  - Edit System Helps
  - CASE Profiles
  - SAR Log Inquiry
  - Copy DD,VO,DW,UDC,SVR, Menus
- Optional Files Feature
- Programmer Checklists
- Where Used Facility
- Flowchart Programs/Illustrate File Models
- Source Modifications Editor

In addition, it provides access to the following functions:

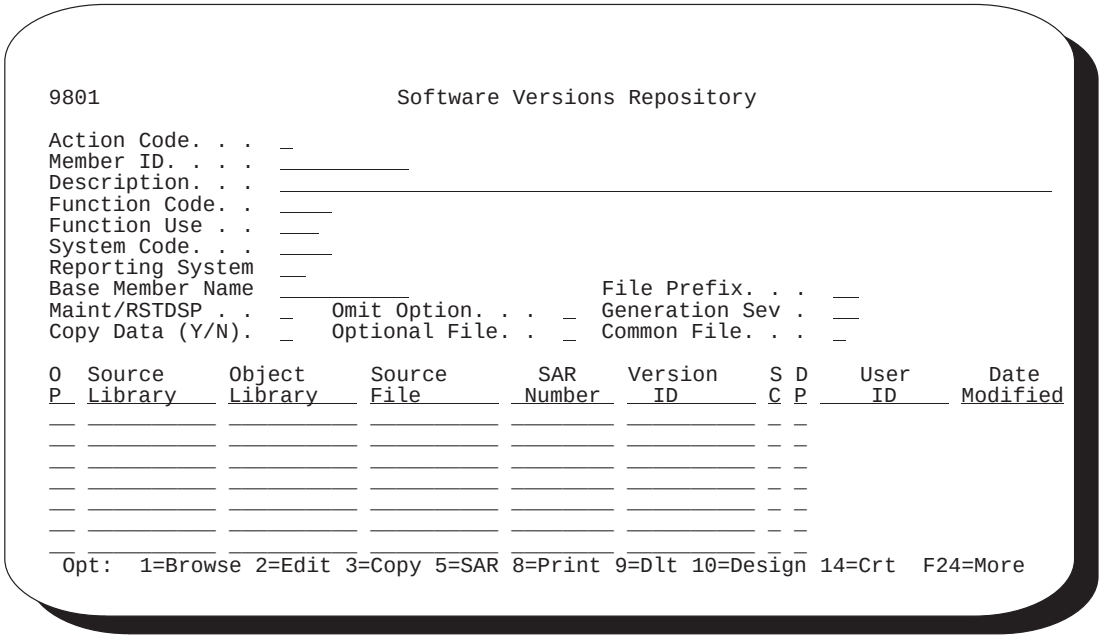
- Copy Source
- Print Source
- Submit Creation of Object
- Generate Program Source and Help
- Edit Help Instructions
- Delete Source
- Print Help Instructions

Accessing the Software Versions Repository

The Software Versions Repository serves as the front-end for all J.D. Edwards design aids and programming utilities. You can also utilize this form as your own inventory file.

▶ To access the Software Versions Repository

From the Computer Assisted Design menu, choose Software Versions Repository.



The top portion of the form identifies the member and its attributes. This information is stored in the Software Versions Repository master file (F9801).

Member Identifiers

The first two fields identify the member.

The Member ID and Description fields identify the SVR member.

Field	Explanation
Member ID	The record of the Software Versions Repository member to be copied. . . . . . *Form-specific information* . . . . . . The source file containing the source member. At J. D. Edwards, three source files reside inside of the JDFSRC library. They are: • JDECPY for copy modules • JDESRC for other source code • F98CRTCMD for precompiler commands
Description	Identifying information of the member, such as Trial Balance by Business Unit. Associated programs, screens, and reports should share the same description. The description associated with each member is used to further identify the purpose of the member. • Physical files should have a description that explains the purpose of the file. • Screens, reports, and CL programs should have the same description as the associated RPG program. • Logical files should be designated as follows: LF – fldname, fldname, fldname: where fldname is a key field. • Join files should be designated as follows: JF – filename/filename/filename – fldname,fldname,fldname; where the filename is a file over which the join is built and fldname is the key field joining the files. • Work files should be designated as follows: WF – filename; where filename is the file that the work file accesses. • Copy modules carry their own unique descriptions. • File Server programs should be designated as follows: File Server – filename; where filename is the file being served.

Type, Use, and Associated Systems

The following fields identify the associated systems, along with their type and use.

The following SVR fields identify the associated systems, along with their type and use: Function Code, Function Use, System Code, and Reporting System.

Field	Explanation
Function Code	Designates the object type such as display file, physical and logical files. Use F1 in the field to view the available types.
Function Use	Displays the files that either match or have a function use less than the function use you specify. . . . . . *Form-specific information* . . . . . . Indicates how the member is being used.
System Code	The system code and type of the table to be copied. All values for the specified table will be copied. . . . . . *Form-specific information* . . . . . . Designates the system number associated with the member. The configuration of installation media and the install process itself are driven by this install system code. Use F1 in the field to view valid codes.
Reporting System	Designates the system number for reporting purposes. This rarely differs from the Install System. Exceptions occur for data files used by more than one system

Member Relationship and Compiling Information

The following fields identify the logical grouping of members and information used in the compile process.

The following SVR fields identify the logical grouping of members and information used in the compile process: Base Member Name, Omit Option, Generation Sev, and Maint/RSTDSP.

The Maint/RSTDSP field, in particular, designates the type of maintenance on a logical file, how a screen will be processed, or if the program contains embedded SQL statements.

Field	Explanation
Base Member Name	This field allows for the logical grouping of members. . . . . . *Form-specific information* . . . . . . This field simply allows for logical grouping of members. For screens, reports, RPG programs and CL jobs, this name is usually the RPG program name associated with a particular member. For logical files, this name is the physical file upon which it is based and is required.
Omit Option	Designates items in the Software Versions Repository file that would be bypassed for a new release. These codes are as follows: H Held from all releases X Omit from all releases S Omit Source from all releases O Omit Execution Object from all releases
Generation Sev	Allows the user to designate a severity level when compiling a member. Because some J. D. Edwards programs contain messages that appear in the compile listing as a severity level 10 error, it is suggested that you override the IBM default of a severity level 9 to a level 20 for all programs. To do this, enter the following on any command line: CHGCMDDFT CMD(DRTRPGPGM) NEW DFT('GENLVL(20)') For those specific programs that must override the new default severity level of 20, you can enter the override value in the Generation Severity field.
Maint/RSTDSP	Designates the type of maintenance on a logical file, how a screen will be processed, or if the program contains embedded SQL statements.

Maintenance on a Logical File

Value	Description
0	No maintenance; or the logical is created dynamically
1	Logical will be immediately updated when physical is updated.
2	Logical update will be delayed until the next time it is opened. –– USE WITH CAUTION

A value of 0 (zero) indicates no maintenance; or the logical is created dynamically.

A value of 1 (one) indicates the logical will be immediately updated when the physical is updated.

CAUTION: A value of 2 (two) indicates the logical update will be delayed until the next time it is opened. Use this value with caution.

Processing a Screen

Value	Field Values	Description
1	RSTDSP = *NO (Restore Display) DFRWRT = *YES (Defer Write)	Use with OVERLAY. Do not use with PUTOVR/OVRDTA All writes to the form field or file formats will be collected and written at one time
A	RSTDSP = *NO DFRWRT = *NO	Overlay Each write statement is written to the screen

B	RSTDST = *YES DFRWRT = *NO	Use with PUTOVER to clear and write screen at field level
S		Used when compiling SQL, RPG, and PL1 programs. For example, if SQL statements exist within an RPG program, the compiler: 1) Executes a create SQL program statement 2) Executes the SQL statements (converts them to calls) 3) Comments them out 4) Executes a create RPG program statement and continues as normal

File Information

The following fields identify the file information.

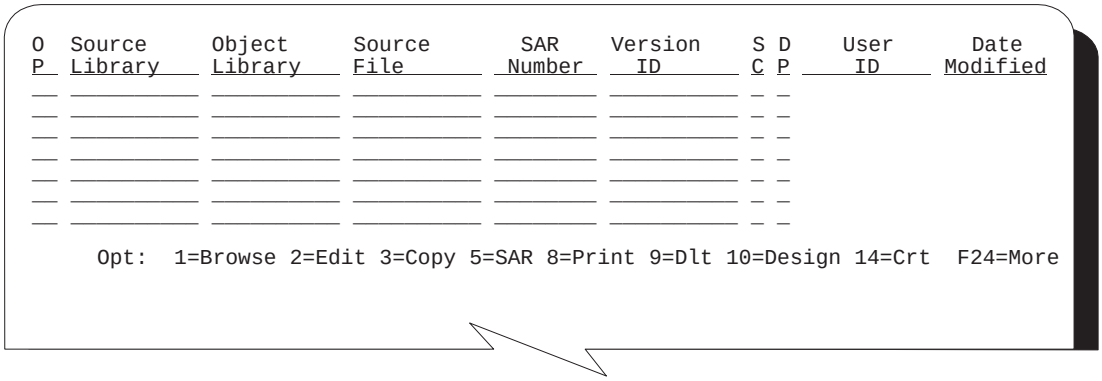
The following SVR fields identify the file information: File Prefix, Copy Data (Y/N), Optional File, and Common File.

Field	Explanation
File Prefix	This field indicates the prefix associated with a file. Use F1 to display all file prefixes in use. Each physical file should have an unique file prefix.
Copy Data (Y/N)	Used to indicate when a database file must be copied with or without data. The Create User Data Libraries (2/A9645) utility accesses this field to determine fi the file copied will be copied with data.
Optional File	Indicates the file may be optional in your production environment. F8 provides a list of optional files. . . . . . *Form-specific information* . . . . . . Designates if the file may not be needed at a client installation. The explanation of these situations can be found in the Generic Rate/Message information for that file for Generic Rate/Message Type 96/OF. All of these files that exist in a specified library can be listed in the Optional File Report on menu A9645.

Field	Explanation
Common File	Indicates when a file should exist in the common library or user production library. The Create User Data Libraries (2/A9645) utility accesses this field to determine if the file should be placed in the specified common library or production library.

Where Are Members Maintained?

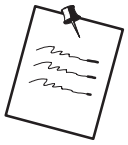
The bottom half of the Software Versions Repository form lists the libraries in which the member is maintained. This information is stored in the Software Versions Repository Detail file (F9802).



Field	Explanation
Source Library	The library containing the data to be copied. . . . . . *Form-specific information* . . . . . . The source library where the source file for the object is maintained. This library is usually JDFSRC (for J. D. Edwards) or CLTSRC (for the client) for production and DEVSRC for development.
Object Library	The library in your Development Environment to receive the data. . . . . . *Form-specific information* . . . . . . The library where the compiled object resides. Leave the object library name blank for copy modules since they are not compiled objects.
Member ID	The record of the Software Versions Repository member to be copied. . . . . . *Form-specific information* . . . . . . The source file containing the source member. At J. D. Edwards, three source files reside inside of the JDFSRC library. They are: • JDECPY for copy modules • JDESRC for other source code • F98CRTCMD for precompiler commands

Field	Explanation
SAR Number	An abbreviation for software action request (SAR). • *NONE = the SAR number will not be validated in any of the CAD/CAP programs and can be left blank. • If a SAR number is entered, it is used in conjunction with the SAR Delivery Type of *DFT (default). . . . . . *Form-specific information* . . . . . . The most recent Software Action Request (SAR)/Work Order number associated with the member. This number must be valid, and if the status of the SAR number is complete, you should enter a new SAR to perform additional work on the member. A basic version of the Work Order system is sent to clients who have purchased the Computer Assisted Design (CAD) system and serves as a means for the client to keep track of their projects. If a PPAT number is specified on the User Information screen (F0092 file), that number will show as the default for the window that comes up when F1 is pressed on this field. The edit for this field is controlled by the SAR information entered in CASE Profiles.
Version ID	The software version number to be defaulted in the Software Versions Repository file. . . . . . *Form-specific information* . . . . . . Identifies the release level of the member in the designated environment. Validated against User Defined Codes 98/RL/
S C	Determines the status of the software as well as where it resides in production. It will specify that the software is in production, in development, or in release. . . . . . *Form-specific information* . . . . . . Status Code Indicates the status of the software, that is, whether it is in production or development. These codes are as follows:
Development	Development Progress Code Indicates the progress of modifications done to the member.

Field	Explanation
User ID	For World, The IBM-defined user profile. For OneWorld, the creator of the version. . . . . . *Form-specific information* . . . . . . User ID that last modified the member (automatically updated).
Date Modified	The Date Modified field is simply the date that the DREAM Writer version, Software Versions Repository Record, and so on, was last updated. . . . . . *Form-specific information* . . . . . . The date the member was last updated (automatically updated).



Each subfile line represents a record in the Software Versions Repository detail file (F9802).

Each subfile line represents a record in the Software Versions Repository detail file (F9802).

Typing "D" in the Action Code deletes all the members and control data from:

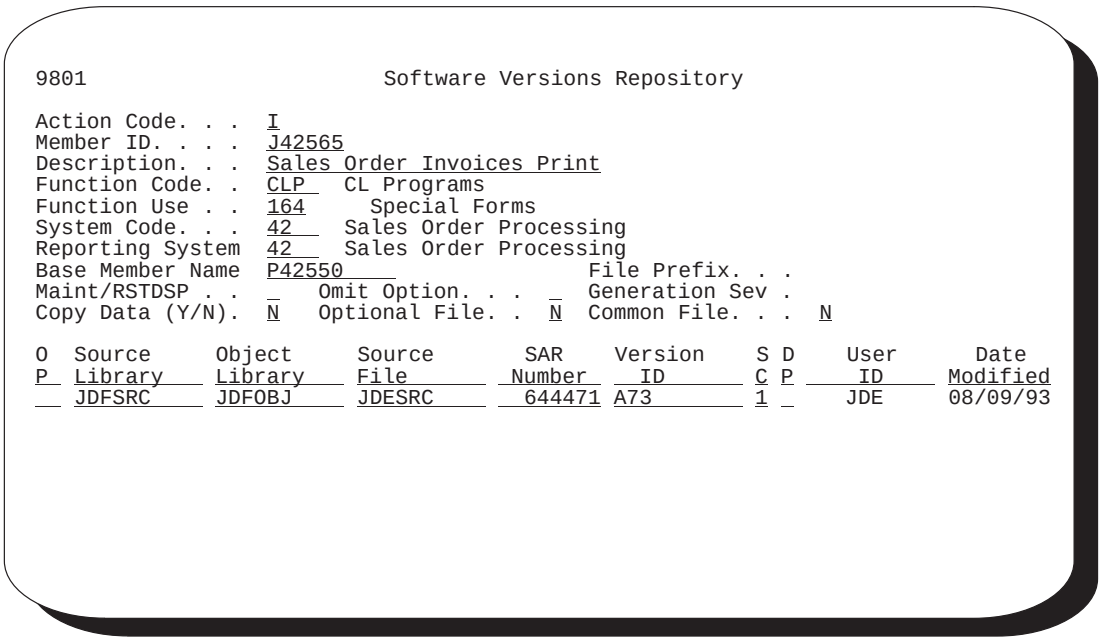
- Software Versions Repository Master file (F9801)
- Software Versions Repository Detail file (F9802)
- Source and Object, if applicable
- Data Dictionary (F9200, F9203, F9816, F98163)
- Vocabulary Overrides (F9220)
- Function Key Definition (F9601,F9611)
- DREAM Writer forms (F98301, F9831, F98311, F98312)
- Cursor Sensitive Helps (F9620, F9621)
- Processing Options (F98302)
- Program Generator, if applicable

Naming Conventions

The following forms show how the report and CL program share the same description and base member as the program name. The same convention is true for the CL program and the special form.

```
 9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  P42565
Description. . .  Sales Order Invoices Print
Function Code. .  RPG   RPG Programs
Function Use . .  164     Special Forms
System Code. . .  42    Sales Order Processing
Reporting System  42    Sales Order Processing
Base Member Name  P42565                  File Prefix. . .
Maint/RSTDSP . .  _     Omit Option. . .  _  Generation Sev .  21
Copy Data (Y/N).  N   Optional File. .  N  Common File. . .  N
                    DREAM Writer Form Exists
O  Source     Object     Source       SAR    Version    S D    User      Date
P  Library    Library    File         Number   ID       C P     ID     Modified
_  JDFSRC     JDFOBJ     JDESRC       685935 A73        1 _     JDE    11/12/93
```

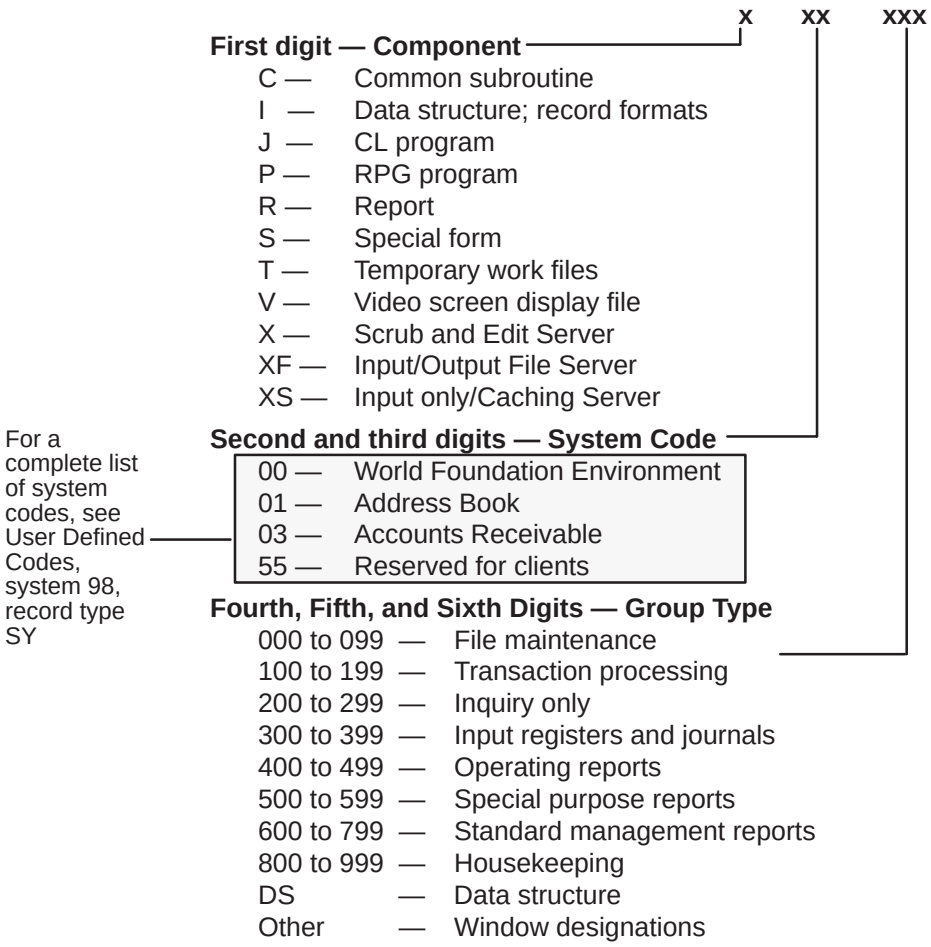
```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  R42565
Description. . .  Sales Order Invoices Print
Function Code. .  PRTF  Printer Files
Function Use . .  164     Special Forms
System Code. . .  42    Sales Order Processing
Reporting System  42    Sales Order Processing
Base Member Name  P42565                  File Prefix. . .
Maint/RSTDSP . .  _     Omit Option. . .  _  Generation Sev .
Copy Data (Y/N).  N   Optional File. .  N  Common File. . .  N

O  Source     Object     Source       SAR    Version    S D    User      Date
P  Library    Library    File         Number   ID       C P     ID     Modified
_  JDFSRC     JDFOBJ     JDESRC       672721 A73        1 _     JDE    11/08/93
```



```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  J42565
Description. . .  Sales Order Invoices Print
Function Code. .  CLP   CL Programs
Function Use . .  164     Special Forms
System Code. . .  42    Sales Order Processing
Reporting System  42    Sales Order Processing
Base Member Name  P42550                File Prefix. . .
Maint/RSTDSP . .  _     Omit Option. . .  _  Generation Sev .
Copy Data (Y/N).  N     Optional File. .  N  Common File. . .  N

O  Source     Object     Source       SAR     Version     S D    User      Date
P  Library    Library    File         Number    ID        C P     ID     Modified
_  JDFSRC     JDFOBJ     JDESRC       644471  A73         1 _     JDE    08/09/93
```

A coded naming structure identifies and describes major components of J.D. Edwards software. The first character of the name indicates the type of component, such as program or data file. The second and third characters denote the system and are referred to extensively throughout the software. The fourth, fifth, and sixth characters represent the component group type, such as the function to be performed by the indicated component. The seventh through the tenth characters identify component versions. File names vary from four to eight characters in length, while all other component names are at least six characters long.

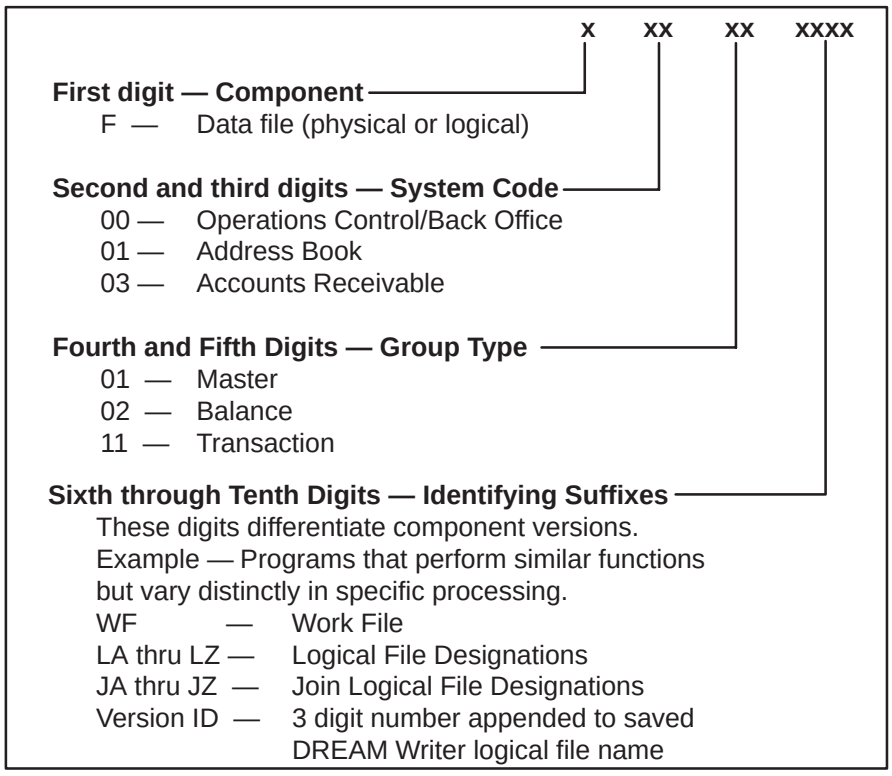
Use the following chart as your guide when naming objects.



A CL program, RPG program and a Report file may have identical names with different prefixes.

For example: J01051, P01051, R01051 (Address Book Revisions).

Use the following as a guide when naming files.



The following shows the names for different types of programs and files.

Maintenance program

The maintenance program for a file has the same name with a different prefix.

For example, F9220 is P9220 or F9601 is P9601.

Logical files

For logical files over one physical, the logical file has the same name as the physical followed by an L, followed by A thru Z.

For example, F0101 has logicals F0101LA, F0101LB, F0101LC, and F0101LD.

Join logical files

Join Logical files have the same name as the principal based-on file, a suffix of J followed by A thru Z.

For example, the system names the join of F0006 and F0911 as F0006JA

Temporary files

Batch jobs use T files doing a CRTDUPOBJ. The job then removes the object after completion.

- Usually Physical Files
- Begin with T
- Found in JDFOBJ

Dynamic work files

Dynamic work files are usually FASTR processing requirements. Dynamic work files create and delete after the job is complete.

- Usually logical files
- Have same name as program

The J.D. Edwards System Codes

When used in menus, the system code follows the letter in the menu name. Shown below are the system codes for the standard AS/400 systems:

= Technical Foundation Systems

00 = World Foundation Environment

01 = Address Book
02 = Electronic Mail
03 = Accounts Receivable
04 = Accounts Payable
05 = Stand-Alone Time Accounting
07 = Payroll "Enhanced"
08 = Human Resources
09 = General Accounting
10 = Financial Reporting
11 = Multi Currency/Cash Basis
12 = Fixed Assets
13 = Equipment/Plant Management
14 = Modeling, Planning, & Budgeting

15 = Commercial Property Management
16 = Resident Property Management
17 = Property Management Base
18 = Deal Management

20 = Energy Base

30 = Product Data Management
31 = Shop Floor Control
32 = Configuration Management
33 = Capacity Requirements Planning
34 = DRP/MRP/MPS
35 = Enterprise Facility Planning

40 = Inventory/OP Base
41 = Inventory Management
42 = Sales Order Processing
43 = Purchasing Order Processing

44 = Contract Management
45 = Advanced Price Adjustments
46 = Warehouse Management
47 = Electronic Data Interchange
48 = Work Order Processing
49 = Load and Delivery
50 = Job Cost Base
51 = Job Cost Accounting
52 = Job Cost Billing
53 = Change Management

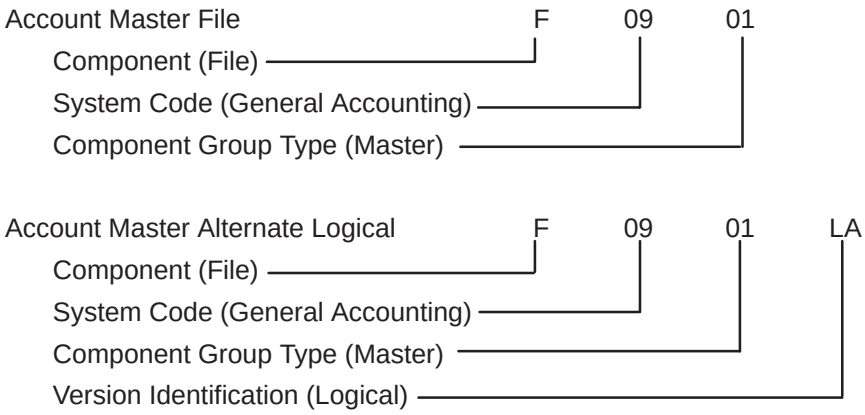
55–59 = Client Use
60–69 = JDE Internal Custom Programming
70 = Multi–National Products
71 = Client/Server Applications
72 = World Vision
73 = CS — A/P Entry
74 = CS — Pay Time Entry
75 = CS — Sales Order Entry
76 = CS — Training and Development
77 = Canadian Payroll
79 = CS — Translation

80 = COBOL Translator
81 = DREAM Writer
82 = World Writer
83 = Management Reporting — FASTR
84 = Distributive Data Processing
85 = Custom Programming
86 = Electronic Document Interchange
87-99 = Miscellaneous Tech

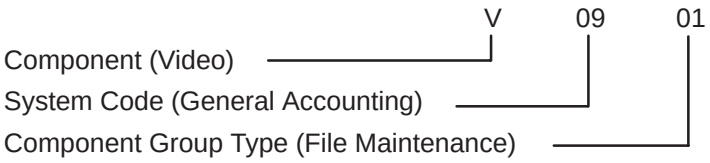
Examples of Program and File Names

The following is a detailed breakdown of program and file names. All of the file types have the same system code and component group.

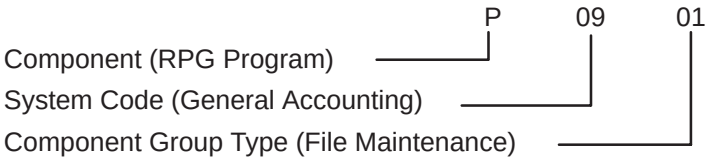
Data Files



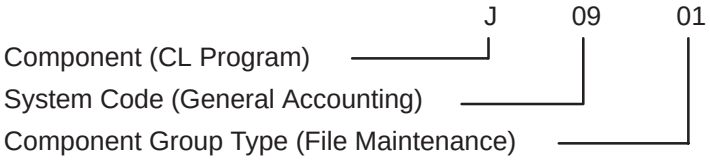
Videos (Screens)



RPG Programs



CL Programs



Optional Files Workbench

The Optional Files Workbench provides better access to optional files. When you delete optional files, they are logged. If you reinstall, those files are not put back into the system. Each file has an explanation about the circumstances that makes it optional.

- If you need the deleted files, you can remove them from the logged optional files and copy them from JDFDATA.

```
98290                          Optional Files Workbench    System Code. .  ____
                                                           Reporting Sys.  ____
Library. . . . . PGFDTA73
Skip To File . . __________

O    File
P     ID             Description
_  F00021     Next Numbers by Company/FY - Automatic
_  F00021LA   Next Numbers by Company/FY - Automatic - Logical Key Co,Seq
_  F0006JA    JF - BILLING ONLY - F0006/F0911 - Cost Center
_  F0006JE    JF - Profit Recognition F0006/F5144 (Cost Center)
_  F0006LC    LF - JOB COST ONLY - Level of Detail, Cost Center
_  F0006LG    Business Unit Master
_  F0006LH    LF - JOB COST ONLY - Company, Desc Compressed, Cost Center
_  F0013      Currency Codes
_  F0018LD    LF - OneWorld - Document Typ, Document No, Key Co,
_  F0030LF    LF - OneWorld - Decending Unique ID
_  F0030LG    LF - OneWorld - Type, Account ID, Cost Center
_  F0031      Cross Over Rules
_  F0031LA    LF - domestic file, foreign file, foreign field
_  F0031LB    LF - domestic file, foreign file, dom reference field
_  F0040      PC Batch Entry - Error File

  Opt: 1=Explanation  2=SVR  4=Delete    F2=Cmd Entry  F5=View Log  F24=More
```

Logical Files

- The Member ID for logical files ends with Lx, where x is the next available letter in alpha sequence.
- The Object Library is usually JDFDATA.
- The Description should list the key fields for the view.
- The Maint/RSTDSP is 1 for permanent system logicals.
- The Base Member Name is the physical file the logical view is over.

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  F0911LA
Description. . .  LF - Doc Type, Doc, Key Co, G/L Date(##YYMMDD), Line #, Ext
Function Code. .  LF   Logical Files
Function Use . .  230   Transaction Files
System Code. . .  00   Technical Foundation
Reporting System  09   General Accounting
Base Member Name  F0911                File Prefix. . .  GL
Maint/RSTDSP . .  1   Omit Option. . .  _  Generation Sev .
Copy Data (Y/N).  N   Optional File. .  N  Common File. . .  N

O  Source     Object     Source       SAR     Version    S D    User      Date
P  Library    Library    File         Number    ID       C P     ID     Modified
__ JDFSRC     JDFDTA     JDESRC      591710 A61           1 _     JDE    03/22/93
```

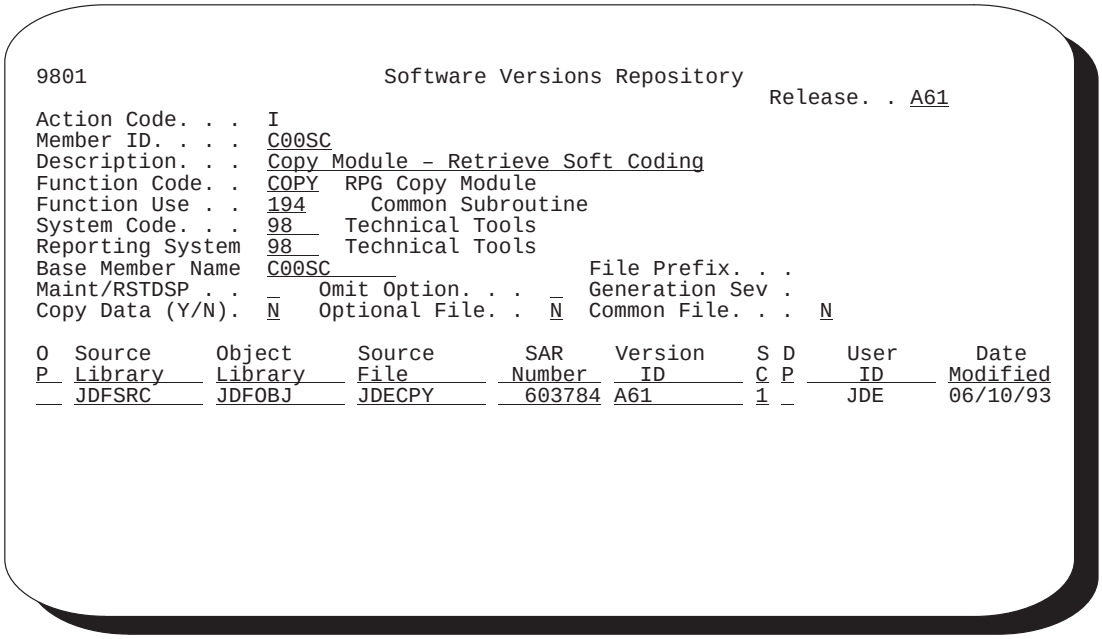
Join Logical Files

- The Description lists the files over which the join is built.
- The Base Member Name is the primary file in the join.
- Physical files must exist in the same library.

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  F0006JA
Description. . .  JF - BILLING ONLY - F0006/F0911 - Business Unit
Function Code. .  LF   Logical Files
Function Use . .  210    Master Files
System Code. . .  00   Technical Foundation
Reporting System  00   Technical Foundation
Base Member Name  F0006                File Prefix. . .  MC
Maint/RSTDSP . .  2   Omit Option. . .  _  Generation Sev .
Copy Data (Y/N).  N   Optional File. .  N  Common File. . .  N

O  Source     Object     Source       SAR     Version    S D    User      Date
P  Library    Library    File         Number    ID       C P     ID     Modified
__ JDFSRC     JDFDTA     JDESRC      493167  A61          1 _     JDE    03/05/93
```

Copy Modules

- The Member ID begins with C, I, E, D, G.
- The Source File is JDECPY.
- The Description describes the function of the module.
- The Function Code is COPY.



```
9801                        Software Versions Repository
                                                    Release. . A61
Action Code. . .  I
Member ID. . . .  C00SC
Description. . .  Copy Module - Retrieve Soft Coding
Function Code. .  COPY  RPG Copy Module
Function Use . .  194     Common Subroutine
System Code. . .  98    Technical Tools
Reporting System  98    Technical Tools
Base Member Name  C00SC                 File Prefix. . .
Maint/RSTDSP . .  _     Omit Option. . .  _  Generation Sev .
Copy Data (Y/N).  N     Optional File. .  N  Common File. . .  N

O  Source     Object     Source       SAR     Version    S D    User      Date
P  Library    Library    File         Number    ID       C P     ID     Modified
__ JDFSRC     JDFOBJ     JDECPY       603784  A61        1 _     JDE    06/10/93
```

Windows

- The Member ID begins with V, the system number, then an alphabetic identifier as shown in the example below.
- The Description describes the function of the form.
- Maint/RSTDSP is left blank to allow the form to appear in front of text from the calling form.

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  V09ACCT
Description. . .  Account Master Additions Window
Function Code. .  DSPF  Video Display Files
Function Use . .  111     File Maintenance
System Code. . .  09    General Accounting
Reporting System  09    General Accounting
Base Member Name  P09ACCT                 File Prefix. . .
Maint/RSTDSP . .  _     Omit Option. . .  _  Generation Sev .
Copy Data (Y/N).  N     Optional File. .  N  Common File. . .  N

O  Source      Object      Source        SAR     Version     S D     User       Date
P  Library     Library     File          Number    ID        C P      ID      Modified
_  JDFSRC      JDFOBJ      JDESRC       552868   A61         1 _      JDE     12/08/92
```

Navigation Functions

The following Function keys facilitate navigating within the Software Versions Repository.

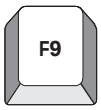
F6 – Access Repository Services

F6 – You can access the Repository Services form using F6. This form provides access to the other repository services within J.D. Edwards.

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  P01051
Description. . .  Address Book Information
Function Code. .  RPG   RPG Programs
Function Use . .  111     File Maintenance
System Code. . .  01    Addres
Reporting System  01    Addres
Base Member Name  P01051
Maint/RSTDSP . .  _    Omit Opt
Copy Data (Y/N).  N    Optional
                    DREAM Writ
O  Source      Object      Sourc
P  Library     Library     File
__ JDFSRC61    JDFOBJ61    JDESR
__ JDXSRC61    JDXOBJ61    JDESR
__ PGXSRC61    PGXOBJ61    JDESR
__ ____________ ____________ _____
__ ____________ ____________ _____
__ ____________ ____________ _____
__ ____________ ____________ _____

  Opt:  1=Browse 2=Edit 3=Copy 5=SAR 8=Print 9=Dlt 10=Design 14=Crt  F24=More
```

```
985001      Repository Services
  "1" Available Services
    _  Data Dictionary
    _  Menus
    _  Vocabulary Overrides
    _  Function Key Definitions
    _  Processing Options
    _  User Defined Codes
    _  Edit System Helps
    _  CASE Profiles
    _  SAR Log Inquiry
    _  Copy DD,VO,DW,UDC,SVR,Menus

  Opt:  1=Select   F12=Previous
```

Use selection 1 to select the available services.



F9 – Automatic Reinquiry

F9 – Once the system has accepted the changes you made to a member and cleared the screen, you can automatically inquire on that member by pressing F9.

F17 – Position Cursor to Action Code

F17 – When you inquire on a member, the system positions the cursor in the subfile for the screen. To reposition your cursor in the *Action Code* field, press F17.

F19 – Previous Member

F19 – To access the member stored before the current member, press F19.

F20 – Next Member

F20 – To access the member stored after the currently displayed member, press F20.

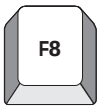
Other Function Keys

F2 – J.D. Edwards Command Line

F2 – To access a command line to enter a J.D. Edwards or IBM command without having to exit to Command Entry or a menu.

Calls a J.D. Edwards program and not the IBM Command Entry.

If you are secured out of Command Entry or Menu Traveling, you still receive this command line but you cannot execute commands or menu travel.



F8 – Optional Files

F8 – The system displays the optional files.

F10 – Checklists

F10 – Displays a user defined checklist. Opt 1 displays additional job information.

F13 – Member Category Codes

F13 – Displays additional category code information for each member. You can cross-reference category code values to the Software Versions Search program (23/G91).

F14 – Member Parameter/Key List

F14 – Identifies the access path for keyed files.

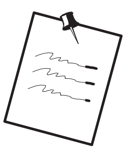
F15 – Where Used Facility

F15 – SVR Where Used Facility

F15 – You can access the Where Used facility using Function key 15 on Software Versions Repository. Use this facility to determine every location that a particular member is used.

Below is an example form displaying every program that uses the Business Unit Master form:

```
980014                         Cross Reference

Object: Name . . .  V0006_____  Business Unit Master Revisions - Single
        Type . . .  F           All programs using file
        To Display  P
        Funct Cd .  ____

O   Name         Description                              Field Attr T Start Upd
P __________ ________________________________________      Len  Dec  Y  Loc  Y/N
_ P0006      Business Unit Master Revisions - Single                          Y








Opt: 1=SVR  2=Create Object  3=Field Explanation  F21=Print  F16=Regenerate
```



To use this facility, you must run the Cross Reference Rebuild.(6/G9642)

NOTE: To use this facility, you must run the Cross Reference Rebuild.(6/G9642)

F23 – Flow Programs / Illustrate File Models

F23 – To display a flowchart if the member is a program or a Data Model if the member is a file.

Only functional for programs and files.

Selection Exits from the Software Versions Repository

The following is a list of the options available from the Software Versions Repository. By referring to the form pictured in the beginning of the chapter, you can see that there are more options than can be displayed on the form.

Option	Description
1	Browse SEU member Displays the SEU Member in browse mode.
2	Edit using SEU Displays the SEU Member in update mode.
3	Copy/Add entry/source member Copies the source member to another member. Adds master and detail record for the member being copied to if they do not already exist. Copies pre-compiler commands and Vocabulary Overrides. Copies program generator specifications if requested.
5	Work with SAR detail Displays the SAR/Work Order Detail Entry screen, defaulting to the members affected portion of the SAR/Work Order.
8	Print source Prints a spooled file of the member.
9	Delete/ remove source Deletes the detail record and removes the source member from the source file. The same IBM authority that applies to the command RMVM applies to this function. Will delete the object if requested by the user. If you do not remove the source member, you will not be allowed to delete the object.
10	Exit to design aid Determines what type of member you are accessing and then exits to the correct J.D. Edwards design tool; that is, SDA/RDA/FDA/Program Generator.

Option	Description
11	Precompiler commands for J.D. Edwards compiler. Accesses the source code for the precompiler commands associated with a program. A highlighted message, *Precompiler Commands Exist*, indicates when they exist for the member. Contains information for steps that need to be completed prior to compiling the program. NOTE: Only one person can view the same pre–compiler commands.
14	Submit object creation Compiles the member and generates an object.
15	Generate program source and help Submits the member to the program generator in order to generate source and related helps. Only applicable to CASE users.
17	Edit help instructions Accesses the help instructions for a particular program in update mode utilizing SEU.
18	Generate & rebuild help instructions Submits the helps for generation and rebuilds them into their final form once they have been entered.
20	Browse SDA/RDA Accesses SDA or RDA in browse mode.
21	Print help Prints the help instructions for the member.
25	Print illustration Prints an illustration of printer files, display files, or data base files.
30	Source modifications editor Allows you to view the source modifications made to the member through SEU after source was generated. Stored in the F93002 file. Only applicable to CASE users.

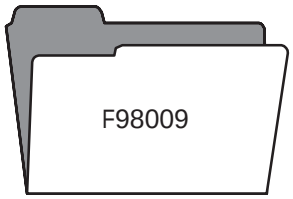
Exercises

See the exercises for this chapter.

CASE Profiles

About CASE Profiles

CASE profiles are user defined values that can pertain to individual users or to one *PUBLIC user profile.

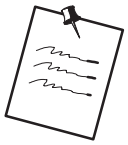


Information is stored in the CASE profiles file (F98009).

These profiles are used to define the overall CASE operating environment.

Various processing control parameters are defined by the user including:

- Default development libraries
- Compile job queue
- Program Generator source generation job queue
- Compile print options
- SAR logging options



You should immediately update the record for User ID *PUBLIC.

When entering information for *PUBLIC, all fields are required.

Default CASE Profile values are maintained in a record with the User ID *PUBLIC. You should enter CASE Profile values for individual users only if you need overrides to the *PUBLIC values.

When entering values for individual users, you can leave all fields blank except for the specific values being overridden.

Accessing CASE Profiles

▶ To access CASE Profiles

To access CASE Profiles, choose one of the following methods:

- From menu G92, choose CASE Profiles

```
G92                          J.D. Edwards & Company                    JDED
Programmers                Computer Assisted Design (CAD)

   ... SYSTEM DESIGN AIDS                ... PROGRAM DESIGN AIDS
    2.  Software Versions Repository     14.  Processing Options
    3.  Menus                            15.  Help Instructions
    4.  Data Dictionary                  16.  Universal File Convertor
    5.  Model Relations
    6.  CASE Profiles
    7.  Functions Key Definitions
    8.  Vocabulary Overrides




Selection or command
===> _____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
```

- From the Repository Services form, select CASE Profiles.

```
9801                          Software Versions Repository

Action Code. . .  _
Member ID. . . .  __________
Description. . .  ________________________________________________________
Function Code. .  ____
Function Use . .  ____
System Code. . .  ____
Reporting System  ____
Base Member Name  __________
Maint/RSTDSP . .  _   Omit Opt
Copy Data (Y/N).  _   Optional

O  Source     Object     Sourc
P  Library    Library    File
__ __________ __________ ______
__ __________ __________ ______
__ __________ __________ ______
__ __________ __________ ______
__ __________ __________ ______
__ __________ __________ ______
__ __________ __________ ______

985001-----Repository Services---------------
 "1" Available Services
  _  Data Dictionary
  _  Menus
  _  Vocabulary Overrides
  _  Function Key Definitions
  _  Processing Options
  _  User Defined Codes
  _  Edit System Helps
  _  CASE Profiles
  _  SAR Log Inquiry
  _  Copy DD,VO,DW,UDC,SVR,Menus
  _
-Sel:---1=Select------F12=Previous-----------

  Opt:  1=Browse 2=Edit 3=Copy 5=SAR 8=Print 9=Dlt 10=Design 14=Crt  F24=More
```

The new CASE Profiles form appears. The program attempts to automatically inquire on your User ID. If your ID is not set up, an error occurs. You can inquire on *PUBLIC.

```
98009                              CASE Profiles

Action Code. . . . . .  I
User ID. . . . . . . .  *PUBLIC

Default Development Environment        Program Creation Options
 Source File . . . . .  JDESRC          Compile Job Queue . . . COMPILE
 Source Library. . . .  PGFSRC          Prog Gen Job Queue. . . CLONE
 Object Library. . . .  PGFOBJ          Compile Target Release. *CURRENT
 CL Source File. . . .  JDESRC          Print Option . . . . .  1
 Data File Library . .  TEST            Cross-Reference Listing N
 SAR Number. . . . . .  _______
 Version ID. . . . . .  A7.3
 Status Code . . . . .  4               Custom

SAR Options
 SAR File Library. . .  TEST
 SAR Delivery Type . .  *LOG            Log to SAR# 00000000

Miscellaneous
 Source Gen Opt (Future)  _
 Helps Maint Opt(Future)  _            SEU

                              F24 = More Keys
```

Default Development Environment

Field	Explanation
Source File Name	The default source file name where source is to be stored within the source library. Must reside within the source library specified.
Source Library	The default library where source will be stored. The source file specified must reside within this library.
Object Library	The default library where compiled objects will be stored.
CL Source File	The default library where source for CL programs will be stored. The value specified must reside within the source library specified.
Data File Library	Used to specify the test (or development) library for physical and logical files. Used as the default object library for the Software Versions Repository when copying source code for physical or logical files.
SAR Number	An abbreviation for software action request (SAR). • *NONE = the SAR number will not be validated in any of the CAD/CAP programs and can be left blank. • If a SAR number is entered, it is used in conjunction with the SAR Delivery Type of *DFT (default).
Version ID	The software version number to be defaulted in the Software Versions Repository file.
Status Code	Determines the status of the software as well as where it resides in production. It will specify that the software is in production, in development, or in release.

If you create a custom environment, put 2, 3, or 4 in user defined codes. If you have a "1" (production) the system will think it is a J.D. Edwards file and write over it during the Software Version Repository Merge in an upgrade.

Program Creation Options

You have the following options when you create a program.

Field	Explanation
Compile Job Queue	Specifies which job queue will be used when submitting programs to compile. This job queue is used for programs with function code of RPG, CBL, PLI, C and SYSC.
Prog Gen Job Queue	Specifies which job queue will be used when submitting jobs from the Program Generator. These jobs include the source code generation and the source code monitor from SEU.
Compile Target Release	Used by various AS/400 compilers (RPG,CLP,COBOL,C) to compile an object compatible with a specified target release. • A value of *CURRENT compiles an object compatible to the release of the machine at compile time. • A value of *PRV compiles an object compatible with both one release back and the current release.
Print Option	Used to designate whether or not a report will be generated when an object is compiled. • 0 = no print • 1 = print • 2 = print and hold spool file • 3 = print only, does not generate execution object (applies to COBOL and RPG only) • 4 = print when compile or creation fails
Cross–Reference Listing	Specifies whether a cross–reference listing will be generated for variables and fields in a program's compile listing.

You must have a job queue called COMPILE for COMPILE JOB QUEUE to compile programs or use a valid job queue.

SAR Options

The following fields provide you with options for the location of your SAR file and SAR logging.

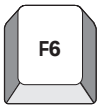
Field	Explanation
SAR File Library	Specifies the library where the Software Action Request (SAR) file for software development exists. • If left blank, the user's library list will be used. • You can specify *NONE in the SAR number field if you do not want any SAR number editing.
SAR Delivery Type	Associated with SAR logging. SAR logging is a feature which tracks all activities related to modifying J. D. Edwards' software. • *NONE = no logging. • *LOG = log to SAR number 00000000 (no SAR number is used for logging). • *DFT = log to a default SAR number (specified in the SAR Number field). • *PROMPT = log and prompt the user for the SAR number to be used and allow the user to enter the revision notes.

Miscellaneous

The following fields are reserved for future use.

Field	Explanation
Source Gen Opt (Future)	For future use.
Helps Maint Opt(Future)	For future use.

Function Key Exits From the CASE Profiles Program



F6 – Access Repository Services

F6 – This key will display a form that provides access to the other repository services, except for CASE profiles.

F9 – Previous Profile

F9 – Allows you to re-inquire on the last record updated.

Summary of CASE Profiles

- The CASE Profiles file is F98009.
- You need to update the *PUBLIC record as well as add any additional individual records desired.
- You cannot delete the *PUBLIC record.
- When entering information for the *PUBLIC record, all fields are required.
- The record for User ID *PUBLIC contains the values that are used as the defaults for all users unless individual user profiles have been set up.
- When entering values for individual profiles, all fields are left blank EXCEPT for the specific values being overridden on the *PUBLIC profile.
- SAR Number and SAR Delivery type work together to determine what type of SAR logging should occur.
    - *NONE = no SAR logging at all.
    - *LOG = no SAR number is included as part of the SAR logging.
    - *DFT = the SAR number specified is used for the SAR logging.
    - *PROMPT = you are prompted for a SAR number and revision notes when an entry is about to be made to the SAR log.

Exercises

See the exercises for this chapter.

Working with SAR Log

About SAR Log

After you create the SARs, you must activate SAR logging, which automatically tracks the SARs as you develop the software.

The SAR Log Inquiry program allows you to review information in the SAR Log file (F9810).

You can also change the SAR Number and Revision Notes for individual log records.

Complete the following tasks:

- ❑ Set up user input options for SAR logging
- ❑ Select types of SAR information to log
- ❑ Access SAR Log Inquiry

Before You Begin

❑ Create SARs before you activate SAR logging.

From the Version Control menu (G9261), choose CASE Profiles.

Setting Up User Input Options for SAR Logging

▶ **To set up user input options for SAR logging**

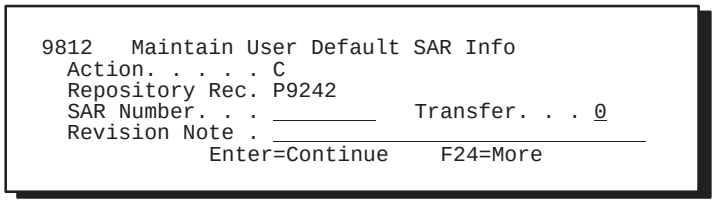
On CASE Profiles

```
98009                              CASE Profiles

Action Code. . . . . .  I
User ID. . . . . .  MORRIS

Default Development Environment        Program Creation Options
 Source File . . . . . .  JDESRC        Compile Job Queue . . . COMPILE
 Source Library. . . . .  PGFSRC61      Prog Gen Job Queue. . . CLONE
 Object Library. . . . .  PGFOBJ61      Compile Target Release. *CURRENT
 CL Source File. . . . .  JDECLSRC      Print Option . . . . .  1
 Data File Library . . .  PGFDTA61      Cross-Reference Listing N
 SAR Number. . . . . .  774487
 Version ID. . . . . .  A61             A6.1 Base
 Status Code . . . . . .  2             Development

SAR Options
 SAR File Library. . . .  DDPDATA
 SAR Delivery Type . . .  *DFT         Default SAR Number

Miscellaneous
 Source Gen Opt (Future)  _
 Helps Maint Opt(Future)  _                SEU

                                F24=More Keys
```

1. Complete the following fields:
   - SAR File Library
   - SAR Delivery Type

The SAR file library contains the Work Order system files (F4801 and F4802). If you currently use these files, and if the F4802 file has different record types than what version control needs, you must create a library that contains new F4801 and F4802 files for version control purposes only. Specify this new library name in the SAR File Library field.

If you set the SAR Delivery Type field to *PROMPT, the Maintain User Default SAR Information form appears whenever you change a source code member or control table.



- If you provided a SAR number on CASE Profiles, it appears on this form. If you did not provide a SAR number, provide one on this form.
- If the Transfer field on Maintain User Default SAR Information is set to 1, the Version Control system can promote the change. If it is set to 0, the system cannot promote the change.

2. Complete the following optional field:
    - SAR Number

What You Should Know About

SAR number and delivery type combinations

The information you provide for the SAR Number and SAR Delivery Type fields affects how the system handles SAR logging.

If you do not provide a SAR number, and set the SAR Delivery Type field to *PROMPT, the Maintain User Default SAR Information form prompts you for the SAR number whenever you change a source code member or control table.

If you provide a SAR number, and set the SAR Delivery Type field to *DFT, the system creates SAR log entries automatically without your input.

If you provide a SAR number, and set the SAR Delivery Type field to *PROMPT, the Maintain User Default SAR Information form prompts you to change the SAR number, if necessary, whenever you change a source code member or control table.

Invalid SAR delivery types

*LOG and *NONE are not valid for the SAR Delivery Type field when you use the Version Control system.

If you set the SAR Delivery Type field to *PROMPT, the Maintain User Default SAR Information form appears whenever you change a source code member or control table.

Selecting Types of SAR Information to Log

▶ To select types of SAR information to log

In addition to setting up user input options for SAR logging, select the types of SAR information you want to log.

3. From the Version Control menu (G9261), access the processing options for Edit and Promote.
4. Make the following changes:

SAR Logging (1)

Specify Y if you want to track SARs that are associated with J.D. Edwards source code and control file development only. Specify N if you want to track SARs that are associated with all software development. Leave this processing option blank to disable SAR logging and, therefore, version control.

If you specify Y, the SAR log keeps track of development automatically. It tracks changes to menus that start with "A" or "G" only. For DREAM Writer, it tracks changes to XJDE or ZJDE versions only. When you transfer these versions, the user ID associated with them changes to DEMO.

In addition, the SAR logging program runs a double-byte analysis against your RPG programs if you set this processing option to Y.

If you specify Y, you also must indicate the name of the library that contains your SAR files. The default library name is JDCOMDATA.

DREAM Writer Copy (2)

Specify Y to track changes to DREAM Writer versions (XJDE and ZJDE versions only). Specify N to not track these changes. If you track changes, the user ID changes to DEMO automatically when you transfer the versions.

Accessing SAR Log Inquiry

The SAR Log Inquiry includes several functions:

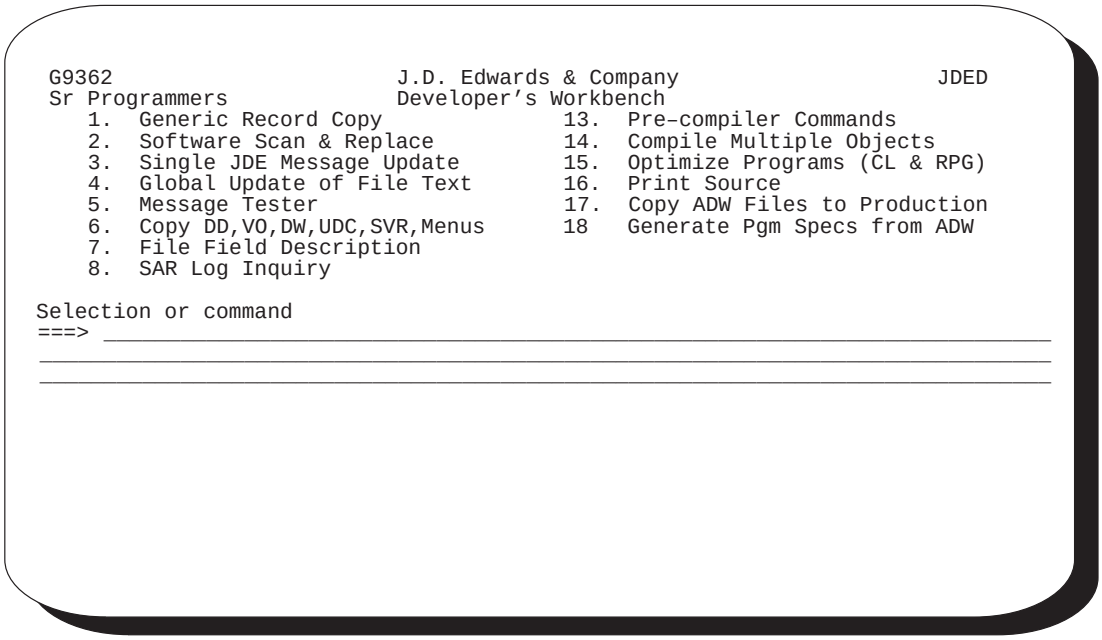
- Inquiry by user ID or SAR number with date range
- Exit to a maintenance program for the record type
- Exit to SAR detail
- Print option that allows for DREAM Writer selection

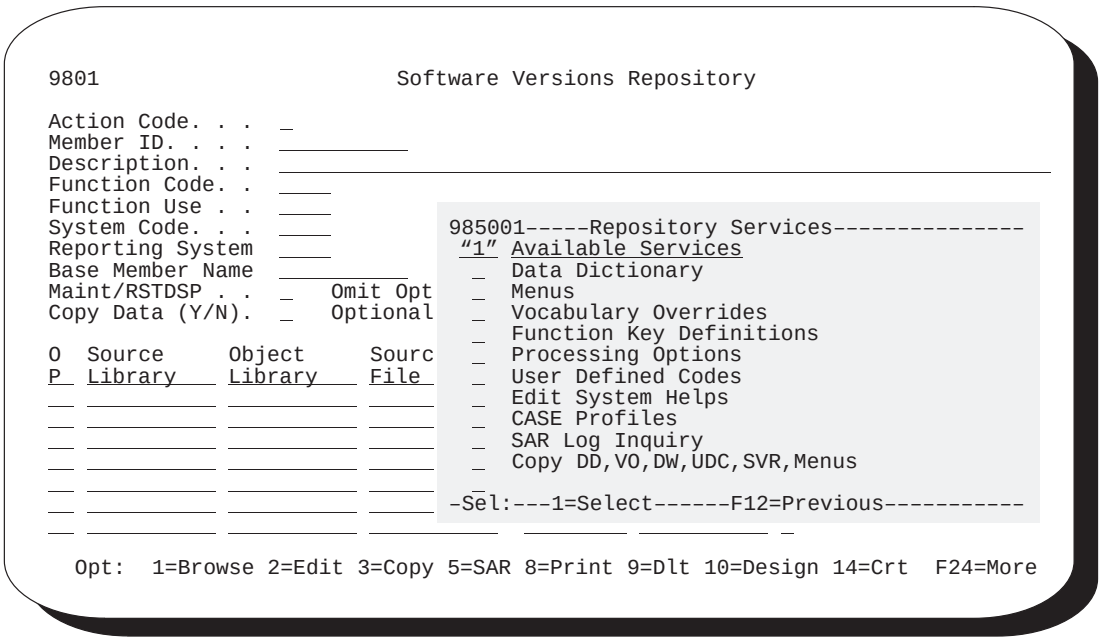
There are two ways to access the SAR Log Inquiry.

▶ To access the SAR Log Inquiry

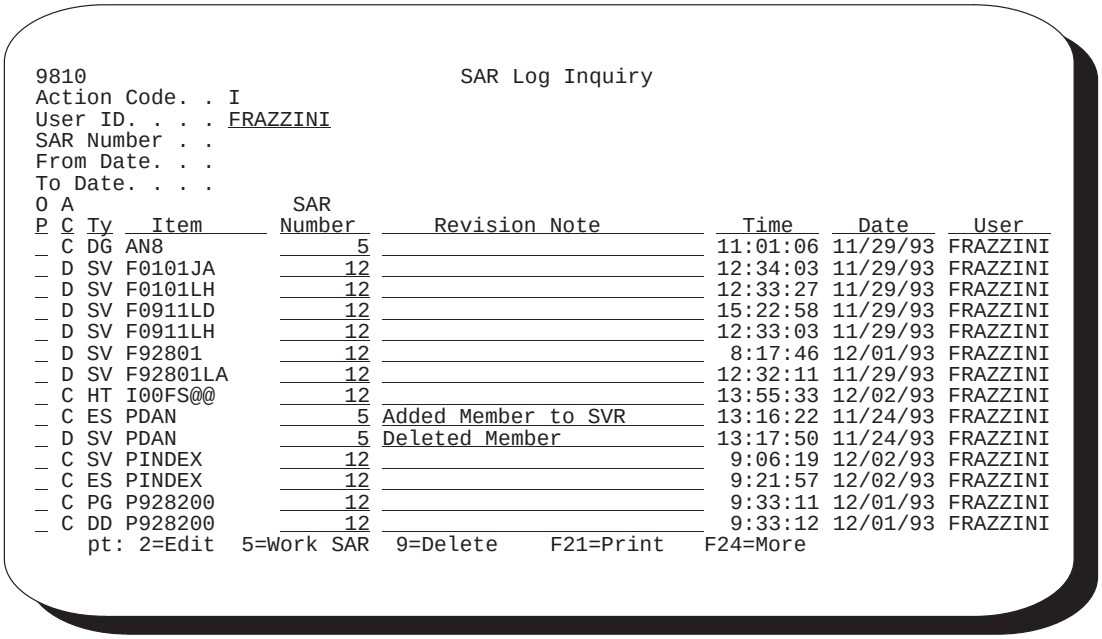
1. To access the SAR Log Inquiry, select one of the following methods:

- Choose SAR Inquiry from Menu G9362
- Choose SAR Log Inquiry from the Repository Services form





The new SAR Log Inquiry form appears.



2. Complete one or more of the following fields:

- User ID
- SAR number
- Date range

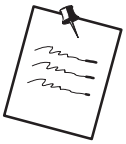
Records matching the search criteria are displayed.

Field	Explanation
AC (Action)	The action that was taken on this record. The standard action code values apply.
Ty (Record Type)	The type of record that was updated. Use F1 to display all valid record types stored in User Defined Code 98/RT.
Item	The identification number (program number, file number, report number) assigned to any element of the software. These items are the members that reside in the Software Versions Repository or other repositories such as the Data Dictionary, Vocabulary Overrides etc.
SAR Number	The SAR number under which this change was made. This field can be updated on this video.
Revision Note	A user defined description field to further clarify the change made. This field can be updated on this video.
Time	The time at which the change was made.
Date	The date on which the change was made.
User	The user who made the change.

Selection Exits from the SAR Log Inquiry

The following is a list of selection exits from the SAR Log Inquiry form and an explanation of the effects of each selection.

Exit	Explanation
2– Edit	Allows for maintenance of the record type. What program is accessed is based on the record type. For example, if the record type is 'DD', this exit will take the user to the Data Dictionary program.
5 – Work SAR	Exits to the SAR associated with the SAR log entry.
9 –Delete	Allows the user to delete entries from the SAR log.

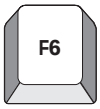


If you entered this program from the Repository Services form from the Software Versions Repository program, selection exit 2 does not function with record types "SV" or "PG" as these record types attempt to call the Software Versions Repository, which causes a recursive call error.

Function Key Exits from the SAR Log Inquiry

F5 – ASI Entry

F5 – Exits to Application Specific Instructions form for use during a software upgrade. You need the F0098 file to do this.



F6 – Access Repository Services

F6 – Pressing this key displays a form that provides access to the other repository services, except for SAR Log Inquiry.

F21 – Print

F21 – Allows you to print a SAR log report.

Exits to a DREAM Writer versions list.

Summary of the SAR Log Inquiry

The SAR Log Inquiry has the following features and restrictions:

- Uses the file F9810.
- If you so not want to use the SAR Logging feature at all, specify *NONE in the SAR Delivery Type field for all CASE Profile records.
- To use the SAR Logging feature,you must specify a value of *LOG, *DFT, or *PROMPT in the SAR Delivery Type field for all CASE Profile records.
- The SAR Logging feature records any changes that you make to the Data Dictionary, Vocabulary Overrides, User Defined Codes, and so forth.
- The SAR Log Inquiry program allows you to see what changes you make to any of the above.
- The SAR Log Inquiry program has Function Keys and Selection Exits which allow you to change the SAR Log records in the SAR Log file (F9810) or to exit to the maintenance program for the change you made.

  For example, exit to the Data Dictionary program if the record indicates a Data Dictionary item was added or updated.

Exercises

See the exercises for this chapter.

Work with Promotion Paths and Projects

Working with Promotion Paths and Projects

A promotion path defines how a project's source code members and control file data will move from one environment to another. An environment consists of source code members and control file data. For source code members, the environment consists of:

- A source file
- A source library
- An object library

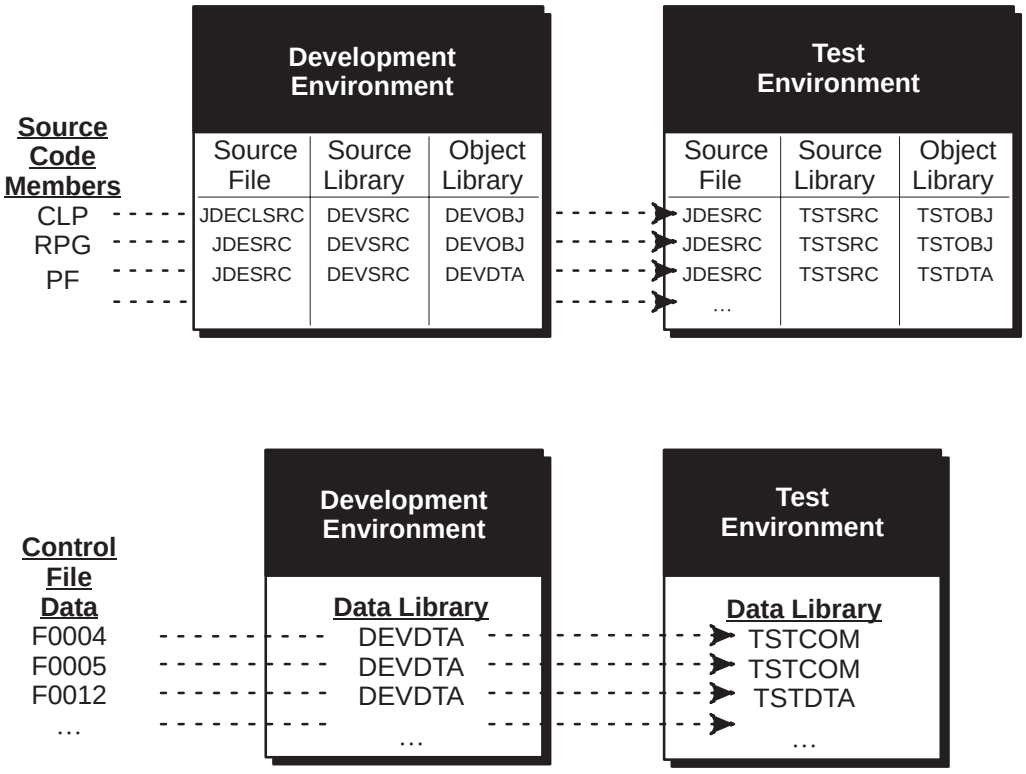
For control file data, the environment consists of a data library.

Perform the following tasks:

- ❑ Understand promotion paths
- ❑ Define a promotion path
- ❑ Define a project

Understanding Promotion Paths

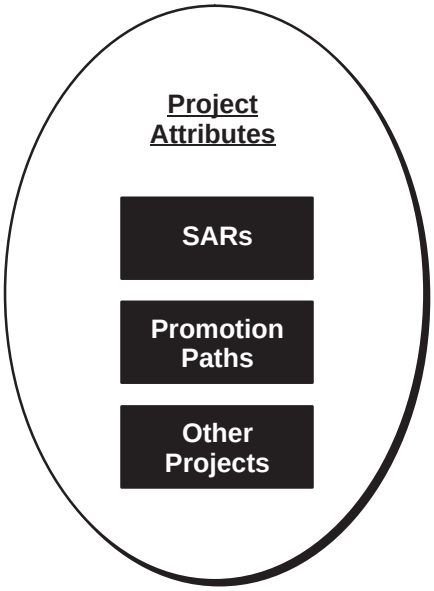
A promotion path specifies the current locations of source code members and control file data and where they will be moved. For example, promoting a project's source code members and control file data from a development environment to a test environment could look similar to the following illustrations.



Each move between two environments requires that you define a unique promotion path.

A project is a collection of software and data you want to group together for promotion. A project is defined by the following characteristics:

- SARs that are associated with the project
- Promotion paths that determine the movement of the project software and data between environments
- Other projects that are attached to the project



Before You Begin Defining a Promotion Path

❑ Verify that the SARs and promotion paths you want to associate with a project have been set up.

❑ The SAR system uses the Work Order files (F4801 and F4802). If your production environment uses these files, and if the F4802 file has different record types than what version control needs, define a separate library that contains these files for version control purposes only.

Defining a Promotion Path

Several steps are involved in defining promotion paths. Complete the following tasks:

- Locate a promotion path
- Add a promotion path
- Define a promotion path for source code members
- Define a promotion path for control tables

From the Version Control menu (G9261), select Manage Promotion Paths.

```
92403                         Manage Promotion Paths      Code 1 . . . . . . ___
                                                          Code 2 . . . . . . ___
Promotion Path . JDF73______                              Code 3 . . . . . . ___
                                                          Code 4 . . . . . . ___
O Promotion       Description                Release      Code 5 . . . . . . ___
P   Path                                      Number
_ JDF73      Transfer to JDF73            A73
_ JDF73T     'T' file transfer to JDF73   A73
_ JDF73TEC   Transfer to JDF73 SECURE     A73
_ JDU71      Transfer to JDU71            A71X
_ JDX71      Transfer to JDX71            A71X
  T130892PC2 Utility CIS - PCCPY          A71X
  T130892PC3 Utility CIS - PCCPY          A71X
  T130892PC4 Utility CIS - PCCPY          A71X
  T130892PC5 Utility CIS - PCCPY          A71X
  T130892PC6 Utility CIS - PCCPY          A71X
  T130892PC7 Utility CIS - PCCPY          A71X
  T130892PC8 Utility CIS - PCCPY          A71X
  T130892PC9 Utility CIS - PCCPY          A71X
  UQF62      UQF build for A6.2           A62
  UQF71      UQF build                    A71
  VCT        Version control training     A71

  Opt: 1=Change   2=Members   3=Ctl Files   F5=Add Path   F24=More Keys
```

```
92403                         Manage Promotion Paths      Code 1 . . . . . . ___
                                                          Code 2 . . . . . . ___
Promotion Path . JDF73______                              Code 3 . . . . . . ___
                                                          Code 4 . . . . . . ___
O Promotion       Description                Release      Code 5 . . . . . . ___
P   Path                                      Number
_ JDF73      Transfer to JDF73            A73
  Code 1 . ___   Code 2 . ___   Code 3 . ___   Code 4 . CUR   Code 5 . JDF
```

To locate a promotion path

Select one of the following methods to locate a promotion path:

- On a blank Manage Promotion Paths form, press Enter.

  The screen displays a complete list of promotion paths.

- On Manage Promotion Paths, enter the path name in the Promotion Path field.

  The screen displays the path name. If the promotion path does not exist, the screen displays the path name that is closest alphabetically.

To add a promotion path

1. On the Manage Promotion Paths form,pPress F5 (Add Path).

```
9240                                Promotion Path

Action Code. . . I

Promotion Path . __________
Description. . . ______________________________
Release. . . . . __________

Code 1 . . . . . ___
Code 2 . . . . . ___
Code 3 . . . . . ___
Code 4 . . . . . ___
Code 5 . . . . . ___









  F9=Redisplay   F10=Members   F11=Ctl Files   F24=More Keys
```

2. Complete the Promotion Path form.
   - Add a new path name, a path description, and a release level.
   - Use the Code 1 through 5 fields for additional classifications.
     - Code 1 through 5 fields are user defined in system 92, types E1, E2, E3, E4, and E5.
   - Specify the status of the promotion path in the Code 4 field.

- Field-sensitive help (function key F1) provides valid values for the Code 4 and 5 fields.

- Specify the type of promotion environment in the Code 5 field.

To define a promotion path for source code members

1. Locate Promotion Path Members using one of the following methods:

   - On the Manage Promotion Paths form, locate the promotion path you want to define.

     - Enter 2 (Members) in the OP (Option) field next to the promotion path name.

   - On the Promotion Path form, press F10 (Members).

92401 Promotion Path Members

Action Code. . . I
Promotion Path . JDF73 Transfer to JDF73

O P	Mbr Type	From Environment Src File	Src Libr	Obj Libr	To Environment Src File	Src Libr	Obj Libr
_	ASM	SECURE	JDFSRC71	JDFOBJ71	JDESRC	JDFSRC73	JDFOBJ73
_	CLP	JDECLSRC	PGFSRC73	PGFOBJ73	JDESRC	JDFSRC73	JDFOBJ73
_	CMD	JDESRC	PGFSRC73	PGFOBJ73	JDESRC	JDFSRC73	JDFOBJ73
_	COPY	JDECPY	PGFSRC73		JDECPY	JDFSRC73	
_	DSPF	JDESRC	PGFSRC73	PGF0BJ73	JDESRC	JDFSRC73	JDFOBJ73
_	LF	JDESRC	PGFSRC73	PGFDTA73	JDESRC	JDFSRC73	JDFDTA73
_	LFS	SECURE	PGFSRC73	PGFDTA73	SECURE	JDFSRC73	JDFDTA73
_	PF	JDESRC	PGFSRC73	PGFDTA73	JDESRC	JDFSRC73	JDFDTA73
_	PFS	SECURE	PGFSRC73	PGFDTA73	SECURE	JDFSRC73	JDFDTA73
_	PLI	SECURE	PGFSRC73	PGFOBJ73	SECURE	JDFSRC73	JDFOBJ73
_	PRTF	JDESRC	PGFSRC73	PGFOBJ73	JDESRC	JDFSRC73	JDFOBJ73
_	PRTS	JDESRC	PGFSRC73	PGFOBJ73	JDESRC	JDFSRC73	JDFOBJ73
_	RPG	JDESRC	PGFSRC73	PGFOBJ73	JDESRC	JDFSRC73	JDFOBJ73
_	RPGS	JDESRC	PGFSRC73	PGFOBJ73	JDESRC	JDFSRC73	JDFOBJ73
_							

Opt: 1=Copy 2=Target F11=Ctrl Files F13=CASE Profile F24=More Keys

The From Environment area on the Promotion Path Members form shows the current locations of the source and object code. The To Environment area shows the locations to which the code will be moved.

2. Specify source files and library names for each member type you list on this screen.

   - To display valid member types and their descriptions, press F1 while your cursor is in a Mbr Type field. The member types are defined in the Function Codes user defined code table (98/FN).

   - To copy source file and library names from one member type to another, type 1 (Copy) in the OP (Option) field next to the member type you want to copy. Type 2 (Target) in the OP fields next to the

member types you want the information copied to, and press Enter. You can specify multiple targets.

The following chart shows some of the function keys available on this screen.

KEY	DESCRIPTION
F9	Redisplays the record for the previously-changed path.
F11	Displays the Promotion Path Control Files form.
F13	Displays the CASE Profiles form.
F14	Retrieves the source file, source library, and object library from your CASE profile and fills in the From environment. This overwrites any information currently in the fields.
F15	Duplicates the source file and library names from the first member type to the remaining member types.

What You Should Know About

Copying an existing promotion path

If you copy an existing promotion path to create a new path, be sure that the source files and library names for the members are correct for the new path.

Changing library names

To change library names, enter the new library names over the current ones.

To define a promotion path for control tables

1. Locate the Promotion Path Control Files using one of the following methods:
   - On Manage Promotion Paths, locate the promotion path you want to define and enter 3 (Ctl Files) in the OP (Option) field next to the promotion path name.
   - On the Promotion Path form, press F11 (Ctl Files).
   - On the Promotion Path Members form, press F11 (Ctrl Files).

```
92402                        Promotion Path Control Files

Action Code. . . I
Promotion Path . JDF73_____  Transfer to JDF73

O Rec    From         To                                          Control
P Typ  Data Libr   Control Lib  Record Type Description          File
_  C   JDFCTL73    JDFTEM71     Members Affected                 F9801
_  D   PGFDTA73    JDFCTL73     Menu Modifications               F0090
_  F   JDFCTL73    JDFTEM71     Software Inventory Records       F9801
_  G   PGFDTA73    JDFCTL73     DREAM Writer/Processing Option   F98301
_  H   PGFDTA73    JDFCTL73     Vocabulary Overrides             F9220
_  M   JDFCTL73    JDFTEM71     Data Dictionary                  F9200
_  N   PGFDTA73    JDFCTL73     User Defined Codes               F0005
_  W   JDFCTL73    JDFTEM71     Pre-Compiler Commands            F98CRTCMD
_  _   __________  __________
_  _   __________  __________
_  _   __________  __________
_  _   __________  __________
_  _   __________  __________
_  _   __________  __________
_  _   __________  __________

  Opt: 1=Copy  2=Target   F10=Members  F13=CASE Profile        F24=More Keys
```

The From Data Libr column on the Promotion Path Control Files form shows the current location of the data records. The To Control Lib column shows the location to which the data records will be moved.

2. Specify library names for each record type listed on this form.

The following chart shows some of the function keys available on this form.

KEY	DESCRIPTION
F9	Redisplays the record for the previously-changed project.
F10	Displays the Promotion Path Members form.
F13	Displays the CASE Profiles form.

KEY	DESCRIPTION
F14	Retrieves the data library from your CASE profile and fills in the first From Data Libr field. This overwrites any information currently in the field.
F15	Duplicates the library names from the first record type to the remaining record types.

3. To copy library names from one record type to another, type 1 (Copy) in the OP (Option) field next to the record type you want to copy.
4. Type 2 (Target) in the OP fields next to the record types you want the information copied to, and press Enter. You can specify multiple targets.

Guidelines

- If you copy an existing promotion path to create a new path, be sure the library names for the control files are correct for the new path.
- To change library names, enter the new library names over the current ones.

Defining a Project

Complete the following tasks:

- Locate a project
- Add a project
- Assign promotion paths
- Assign project SARs

From the Version Control menu (G9261), choose Manage Projects.

```
92413                              Manage Projects

Project . . . .  __________                          Code 1 . . . . . ___
Client . . . . . _________                           Code 2 . . . . . TEC
Originator . . . _________                           Code 3 . . . . . ___
Assigned To. . . _________                           Code 4 . . . . . ___
                                                     Code 5 . . . . . ___
O
P Project     Description                  Client   Orig   Assigned
_ REINSTALL   Simplified Reinstall Process
_ TEC         Tech Foundation Corrections
_ TECHENH     Tech Foundation Enhancements
_ UBP         User Based Pricing
_ UPGRADE     Upgrade Enhancements/fixes    256006  878411  878411
_ VC          Version Control                       875561
_ 1055020     Merge PO Display Level
_ 4 BYTE SYS  4 Byte System Code                    878411  2211696
_
_


  Opt: 1=Details  2=Paths  3=SARs   F5=Add Project   F24=More Keys
```

```
92413                              Manage Projects

Project . . . .  __________                          Code 1 . . . . . ___
Client . . . . . _________                           Code 2 . . . . . TEC
Originator . . . _________                           Code 3 . . . . . ___
Assigned To. . . _________                           Code 4 . . . . . ___
                                                     Code 5 . . . . . ___
O
P Project     Description                  Client   Orig   Assigned
_ REINSTALL   Simplified Reinstall Process
  Code 1 . 300  Code 2 . TEC  Code 3 . ___  Code 4 . ___  Code 5 . ___
```

To locate a project

Locate a project using one of the following methods:

- On a blank Manage Projects form, press Enter.
  - A complete list of projects appears.
- On the Manage Projects form, enter the project name in the Project field.
  - The project name appears on the form. If the project does not exist, the project name that is closest alphabetically appears on the form.

To add a project

1. On Manage Projects, choose Add Project.

```
9241                        Software Development Project

Action Code. . . I

Project. . . . . __________
Description. . . ____________________________________
Parent Project . __________
Edit File. . . . _

Client . . . . . _________                    Requested. . . . _________
Originator . . . _________                    Planned Comp . . _________
Assigned To. . . _________                    Date Assigned. . _________
Auth List. . . . __________
Design Doc . . . ______________

Code 1 . . . . . ___
Code 2 . . . . . ___
Code 3 . . . . . ___
Code 4 . . . . . ___
Code 5 . . . . . ___


  F9=Redisplay   F10=Promotion Paths   F11=Project SARs   F24=More Keys
```

2. On the Software Development Project form, do the following:
   - Enter a new project name.
   - Enter a project description.
   - Enter any other information you want to associate with the project.
   - Complete the Code 1 through 5 fields for additional classifications.
     - The Code 1 through 5 fields are user defined in system 92, types P1, P2, P3, P4, and P5.
3. If you want to attach this project to a parent project, specify the parent project name in the Parent Project field.

The following chart shows some of the function keys available on this form.

KEY	DESCRIPTION
F9	Redisplays the record for the previously-changed project.
F10	Displays the Project Promotion Paths form.
F11	Displays the Project Elements form.
F14	Displays the generic text associated with this project, and gives you access to text model selections.

You must assign promotion paths and SARs to the project you set up here. The following sections explain how to assign them.

▶ To assign promotion paths

1. Locate the project to which you want to assign promotion paths using one of the following methods.
   - On Manage Projects, locate the project to which you want to assign promotion paths.
     - In the OP (Option) field next to the project name, enter 2 (Paths)
   - On Software Development Project, press F10 (Promotion Paths).

```
92411                         Project Promotion Paths

Action Code. . . I
Project. . . . . TEC          Tech Foundation Corrections

O Promotion                                      Release
P    Path       Description                        Number
_ A62CUM     Transfer to current A62 Cum        A62
_ A62PC000TI User based pricing                 A62
_ A62PREV    Transfer to previous A62 Cum       A62
_ A72CUM     Transfer to current A71 Cum        A71
_ A71PREV    Transfer to previous A71 Cum       A71
_ A72CUM     Transfer to current A72 Cum        A72
_ JDF62      Transfer to JDF62                  A62
_ JDF62TEC   Transfer to JDF62-SECURE           A62
_ JDF71      Transfer to JDF71                  A71
_ JDF71TEC   Transfer to JDF71-SECURE           A71
_ JDF73      Transfer to JDF73                  A73
_ JDF73TEC   Transfer to JDF73 SECURE           A73
_ VCTL       Version control Update             A73
_ __________
_ __________
_ __________
  Opt: 1=Details  2=Members  3=Ctrl Files  F11=Project SARs  F24=More Keys
```

2. Specify the promotion paths you want to assign to this project.
    - To display the available promotion paths, press F1 (Help) while the cursor is in a Promotion Path field.

The following chart shows some of the function keys available on this form.

KEY	DESCRIPTION
F9	Redisplays the record for the previously-changed project.
F11	Displays the Project Elements form.

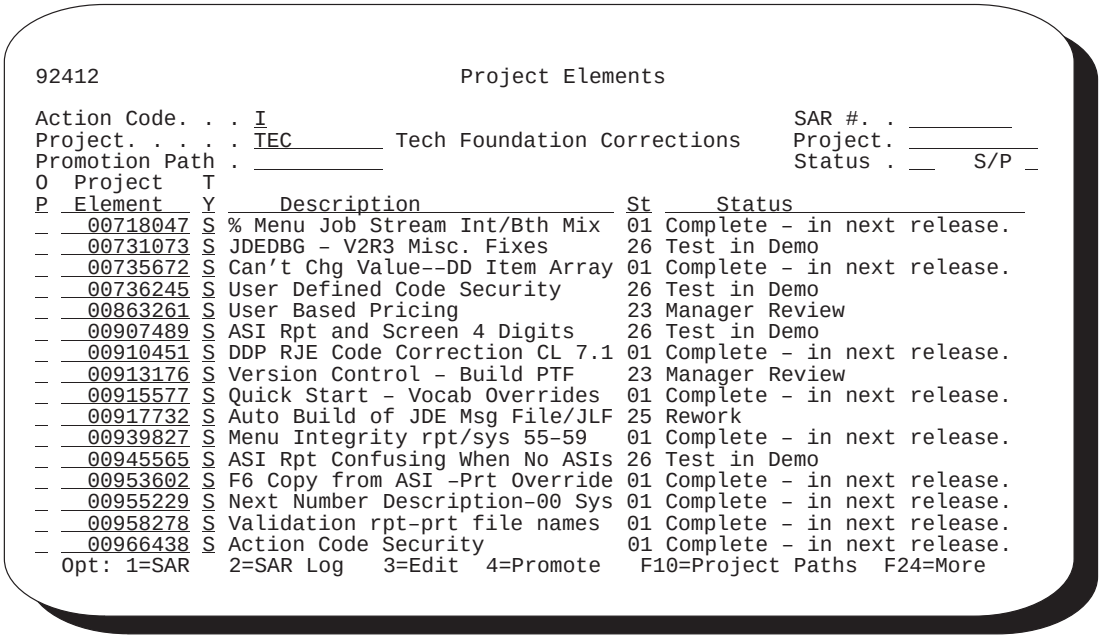
The following chart shows options available on this form.

OPTION	DESCRIPTION
1	Edit the promotion path details.
2	Edit the promotion path members.
3	Edit the promotion path control files.

To assign project SARs

SARs are elements of a project, however, other projects can also be elements of a project.

1. Access the Project Elements form using one of the following methods:
   - On the Version Control form, choose Edit and Promote.
   - On the Manage Projects form, locate the project to which you want to assign elements.
     - Enter 3 (SARs) in the OP (Option) field next to the project name.
   - On the Software Development Project form, press F11 (Project SARs).
   - On the Project Promotion Paths form, press F11 (Project SARs).



```
92412                              Project Elements

Action Code. . . I                                          SAR #. . _________
Project. . . . . TEC        Tech Foundation Corrections     Project. __________
Promotion Path . __________                                 Status . __   S/P _
O  Project   T
P  Element   Y     Description                  St    Status
_   00718047 S % Menu Job Stream Int/Bth Mix  01 Complete - in next release.
_   00731073 S JDEDBG - V2R3 Misc. Fixes      26 Test in Demo
_   00735672 S Can't Chg Value--DD Item Array 01 Complete - in next release.
_   00736245 S User Defined Code Security     26 Test in Demo
_   00863261 S User Based Pricing             23 Manager Review
_   00907489 S ASI Rpt and Screen 4 Digits    26 Test in Demo
_   00910451 S DDP RJE Code Correction CL 7.1 01 Complete - in next release.
_   00913176 S Version Control - Build PTF    23 Manager Review
_   00915577 S Quick Start - Vocab Overrides  01 Complete - in next release.
_   00917732 S Auto Build of JDE Msg File/JLF 25 Rework
_   00939827 S Menu Integrity rpt/sys 55-59   01 Complete - in next release.
_   00945565 S ASI Rpt Confusing When No ASIs 26 Test in Demo
_   00953602 S F6 Copy from ASI -Prt Override 01 Complete - in next release.
_   00955229 S Next Number Description-00 Sys 01 Complete - in next release.
_   00958278 S Validation rpt-prt file names  01 Complete - in next release.
_   00966438 S Action Code Security           01 Complete - in next release.
  Opt: 1=SAR   2=SAR Log   3=Edit  4=Promote   F10=Project Paths  F24=More
```

   The Project Elements form displays the elements (usually SARs) assigned to the project.

2. Specify the elements (usually SARs) you want to assign to this project. You can also assign projects, which have SARs associated with them, as elements on this screen.
   - In the TY (Type) fields, specify the corresponding element types (S for SARs, and P for projects).

- In the TY (Type) fields, specify the corresponding element types (S for SARs, and P for projects). The following chart shows some of the function keys available on this screen.

KEY	DESCRIPTION
F9	Redisplays the record for the previously-changed project.
F10	Displays the Project Promotion Paths screen.

The following chart shows options available on this screen.

OPTION	DESCRIPTION
1	Displays or edits the SAR detail.
2	Displays or edits the SAR log. The SAR Log Transfer screen appears, which lets you edit the SAR log and update the project SARs. For more information about updating the SARs by using this log, see *Update the SARs* in this publication. For information about the SAR log, refer to the *Computer Assisted Design Reference Guide*.
3	Displays the Pre-Promotion Edit History form. For information about this function, see *Promote a SAR* in this publication.
4	Promotes a project. For information about this function, see *Promote a SAR* in this publication.
5	Displays the promotion history of a SAR ('Z' record).
6	Displays or edits notes associated with a SAR (for J.D. Edwards environments only; '*' record).

Promote a Project

Promoting a Project

After you create a project, link promotion paths and SARs to it, and complete project development, you are ready to begin the promotion process.

The SAR system uses the Work Order files (F4801 and F4802). If your production environment uses these files, and if the F4802 file has different record types than what version control needs, define a separate library that contains these files for version control purposes only.

Complete the following tasks:

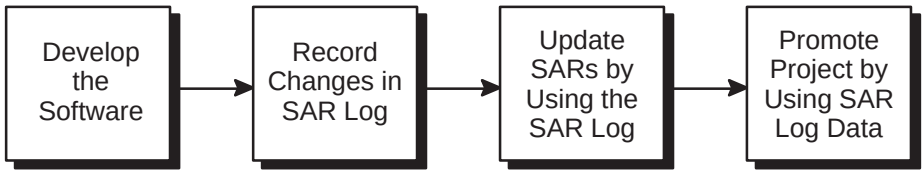
- ❑ Update the SARs
- ❑ Validate a Promotion Path
- ❑ Promote a Project

See Also

- *Defining a Promotion Path*

Update the SARs

The SARs, which are contained in the Work Order Header file (F4801), have detailed information in the Work Order Detail file (F4802). You must update the information in the SARs to reflect software developments that are recorded in the SAR log.



When you developed the software, the changes were recorded in the SAR log automatically. You now must update the F4802 file.

From the Version Control menu (G9261), choose Edit and Promote.

```
92412                              Edit and Promote

Action Code. . . I                                          SAR #. . 1079777
Project. . . . . TEC          Tech Foundation Corrections   Project. _______
Promotion Path . JDF73        Transfer to JDF73             Status . __    S/P _
O  Project   T
P  Element   Y     Description                    St    Status
_   01079777 S Multiple Jobs Submitted           23 Manager Review
_   01081666 S Release Specific Transfers        23 Manager Review
_   01083573 S Help Window Mods A73              26 Test in Demo
_   01086299 S Unable to use A Action Code       06 Returned - Already reported
_   01087558 S Data Selection - HMCU             23 Manager Review
_   01088104 S V3R1 CRTCPGM/CRTBNDC              28 A test complete
_   01088163 S Handle special char for DBCS      01 Complete - in next release.
_   01089414 S Localization Issues in A/B        01 Complete - in next release.
_   01093536 S No previous item displayed        23 Manager Review
_   01099807 S Finalize Version Control          23 Manager Review
_   01101364 S Video Illustration                23 Manager Review
_   01102615 S J97UPGRADE Command Validation     23 Manager Review
_   01104004 S DW Merge Database-No Merge Opt    26 Test in Demo
_   01105226 S WW-Reads all versions at once     28 A test complete
_   01107601 S Don't delete SAR Log if Trf er    23 Manager Review
_   01113921 S Variable Length Field Support     26 Test in Demo
  Opt: 1=SAR  2=SAR Log  3=Edit  4=Promote  5='Z'  F10=Proj Paths  F24=More
```

▶ To update the SARs

1. On the Edit and Promote form, inquire on the project you want to promote.
2. In the OP (Option) field next to the project SAR you want to update, enter 2 (SAR Log).

The SAR Log Transfer form appears, which lists all added or changed records logged in the SAR log (F9810) according to record type. The SAR Detail Sts field shows whether the record has been updated in the F4802 file.

```
9242                                SAR Log Transfer

SAR Number . . . 1079777 Multiple Jobs Submitted
Record Type. . . __
and/or Member. . __________
O                          Primary    Secondary   Data File   T A
P Record Type              Log Item   Log Item    Library     R C SAR Detail Sts
_ M - Data Dictionary      4888                   JDFCTL73    1 A Updated
_ M - Data Dictionary      4889                   JDFCTL73    1 A Updated
_ C - Modified Source      J9242S                 JDFSRC73    1 A Updated
_ C - Modified Source      J98901B                JDFSRC73    1 A Updated
_ C - Modified Source      J98901T                JDFSRC73    1 A Updated
_ C - Modified Source      P924124                JDFSRC73    1 A Updated
_ C - Modified Source      P9242                  JDFSRC73    1 A Updated
_ C - Modified Source      P9242D                 JDFSRC73    1 A Updated
_ C - Modified Source      P924210                JDFSRC73    1 A Updated
_ C - Modified Source      P98905                 JDFSRC73    1 A Updated
_ C - Modified Source      P98907                 JDFSRC73    1 A Updated
_ F - Software Reposit     J9242S                 JDFCTL73    1 A Updated
_ F - Software Reposit     P9242D                 JDFCTL73    1 A Updated


  Opt: 1=Details   9=Delete   F5=Add   F10=Update SAR   F24=More Keys
```

If this form lists many SAR log records, you can narrow your search by entering information in the Record Type and the and/or Member fields.

To view the details of a SAR log item, enter 1 (Details) in the OP (Option) field next to the item. On the form that appears, you can edit the SAR details. If the SAR logging system does not log an item that you want to include, press F5 (Add) from the SAR Log Transfer form to add it.

3. To update the F4802 file, press F10 (Update SAR).

   Before you update a SAR, verify that each SAR log record should be transferred with the SAR. Change or delete those that are associated incorrectly with the SAR. To display all records with data that can be transferred (TR field value is 1) or with test data (TR field value is 0), press F16 (Display Update Capable/All Items). Update only those records that should be transferred with this SAR.

   The system creates or updates the records in the SAR file that is located in the SAR library you indicated in the Edit and Promote processing options (not the SAR library appearing in your library list).

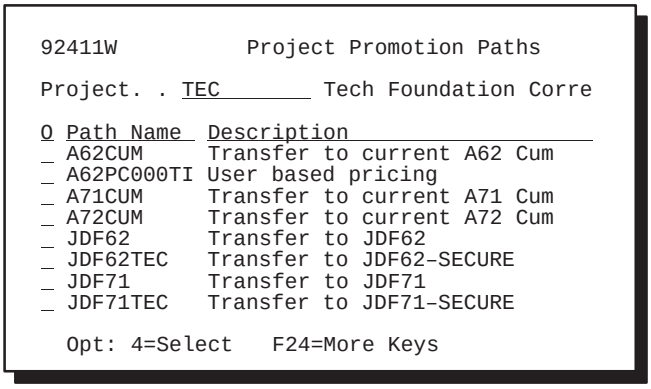
Validating a Promotion Path

Before you promote a SAR, you must perform a pre-promotion edit, or validation, against the promotion path that will be used for this SAR.

▶ To validate a promotion path

1. From the Edit and Promote form, inquire on the project you want to promote.
2. In the Promotion Path field, type the name of the promotion path you want to use for your project.
3. In the OP (Option) field next to the project SAR you want to update, enter 3 (Edit).

   If you did not choose a promotion path for the project, the Project Promotion Paths form lists all promotion paths defined for the project.



```
92411W          Project Promotion Paths

Project. . TEC_______ Tech Foundation Corre

O Path Name  Description
_ A62CUM     Transfer to current A62 Cum
_ A62PC000TI User based pricing
_ A71CUM     Transfer to current A71 Cum
_ A72CUM     Transfer to current A72 Cum
_ JDF62      Transfer to JDF62
_ JDF62TEC   Transfer to JDF62-SECURE
_ JDF71      Transfer to JDF71
_ JDF71TEC   Transfer to JDF71-SECURE

  Opt: 4=Select   F24=More Keys
```

4. In the O (Option) field next to the promotion path you use to promote the project, enter 4 (Select). If you have run pre-promotion edits previously for this SAR, the Pre-Promotion Edit History form lists them. Otherwise, this form is blank.

```
9243                            Pre Promotion Edit History

Project. . . . . TEC           Tech Foundation Corrections
SAR. . . . . . .  1079777      Multiple Jobs Submitted
Promotion Path . JDF73         Transfer to JDF73

O                                 Hrd No.
P   Date      Time     User ID    Err Err
_ 01/22/96 13:18:24 TFRCTL6
_ 01/22/96  9:17:28 CHAN                8
  01/16/96 12:39:59 CHAN                4




  Opt: 1=Details   F5=Perform Edit   F24=More Keys
```

5. To view the errors associated with a pre-promotion edit, enter 1 (Details) in the OP (Option) field next to the desired history record.

```
92431                           Pre Promotion Edit Details

Project. . . . . TEC           Tech Foundation Corrections
SAR Number . . .  1079777      Multiple Jobs Submitted
Promotion Path . JDF73         Transfer to JDF73
Date of Edit . . 01/22/96
Time of Edit . .  9:17:28

O R                     Member                  Err                                   E
P T   Description        Name      2nd Item     Key     Description                   T
_ C Members Affe J9242S                         1946 Object Not Found                 W
_ C Members Affe J98901B                        1946 Object Not Found                 W
_ C Members Affe J98901T                        1946 Object Not Found                 W
_ C Members Affe P924124                        1946 Object Not Found                 W
_ C Members Affe P9242                          1946 Object Not Found                 W
_ C Members Affe P9242D                         1946 Object Not Found                 W
_ C Members Affe P98905                         1946 Object Not Found                 W
_ C Members Affe P98907                         1946 Object Not Found                 W


  Opt: 1=Error Details          F24=More Keys
```

6. From the Pre-Promotion Edit History form, press F5 (Perform Edit) to perform the pre-promotion edit.

7. Correct any errors and perform the edit until no errors occur. You do not need to resolve warnings that can occur.

The following table shows a partial list of errors and how to resolve them.

Error Code	Cause and Resolution
0020	**Cause:** You entered a "From" library that does not exist or you are not authorized to use. **Resolution:** Either correct the library name, create the library, or get authorization to use it.
0092	**Cause:** A database table or member could not be opened because it did not exist, a conflicting lock state held by another job exists, or you are not authorized to open it. **Resolution:** Check your job log messages.
1046	**Cause:** An XJDE or ZJDE version was expected but not found. **Resolution:** If an XJDE or ZJDE version should exist, create it. If not, then change the processing option for form ID P926304.
1370	**Cause:** You entered a "From" table that does not exist or you are not authorized to use. **Resolution:** Review the "From" library for the promotion path control table. Either correct the library name or create the table.
1371	**Cause:** You entered a "To" table that does not exist or you are not authorized to use. **Resolution:** Review the "To" library for the promotion path control table. Either correct the library name or create the table.
1372	**Cause:** A key you wanted to copy from the "From" library does not exist. **Resolution:** Review the "From" library for the promotion path control table. Either correct the library name or re-enter the data record.
2892	**Cause:** A "From" library name is the same as the corresponding "To" library name. **Resolution:** Review the "From" and "To" libraries for the promotion path control table. Make the appropriate changes.

4395

Cause: No records exist in the Promotion Path Members table (F92401) for the promotion path you specified.

Resolution: Complete the Promotion Path Members form for the promotion path.

4396

Cause: No records exist in the Promotion Path Members table (F92401) for the promotion path you specified.

Resolution: Complete the Promotion Path Control Files form for the promotion path.

4397

Cause: No records exist in the SAR Log table (F9810) for the project you specified.

Resolution: In the project master record, change the based-on table for the Pre-Promotion Edit to the SAR Detail table (F4802), then manually update the SAR Detail records for the members and control table records updated by this project.

4400

Cause: No record exists in the Promotion Path Members table (F92401) for the function code of the member you want to promote.

Resolution: For the specified promotion path, enter the environment for the function code of the member.

4402

Cause: No record exists in the Promotion Path Control Files table (F92402) for the control table you want to promote.

Resolution: For the specified promotion path, enter the environment for the control table of the record.

4439

Cause: An error occurred while you attempted to copy a source code member.

Resolution: Check for valid library, table, and member names, as well as options in the CPYF command. Check the job log for the error message ID.

Promoting a Project

The promotion process involves transferring members and copying control file data.

Before You Begin

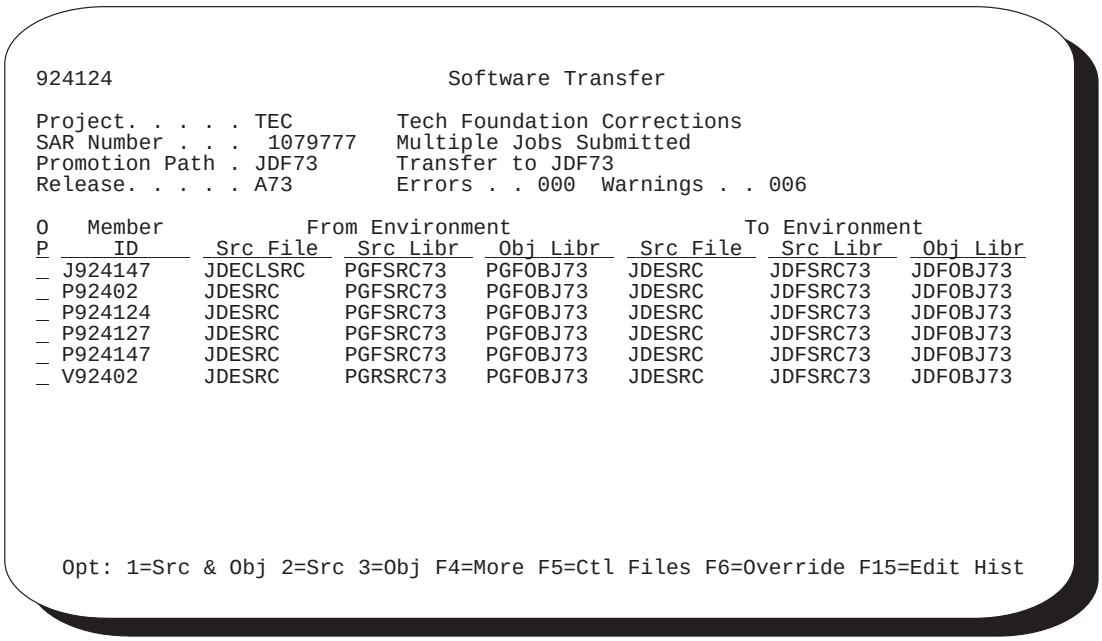
- ❑ Before you promote the project, be sure you have edited all items that appear on the SAR Log Transfer screen. Otherwise, the SAR Log Transfer screen appears when you attempt to promote the project.
- ❑ You must update all SAR log records associated with the SAR before you promote it.
- ❑ You also must resolve all errors (not warnings) before you promote the SAR.

▶ To promote a project

1. On the Promote a Project form, inquire on the project you want to promote.
2. In the OP (Option) fields next to the project elements you want to promote, enter 4 (Promote).

   To select all project elements automatically for promotion, press F14.

3. On the Project Promotion Paths form, enter 4 (Select) in the O (Option) field.



4. In the OP (Option) fields next to the member IDs, specify whether to transfer:

   - Both source and object code (option 1)
   - Source code only (option 2)
   - Object code only (option 3)

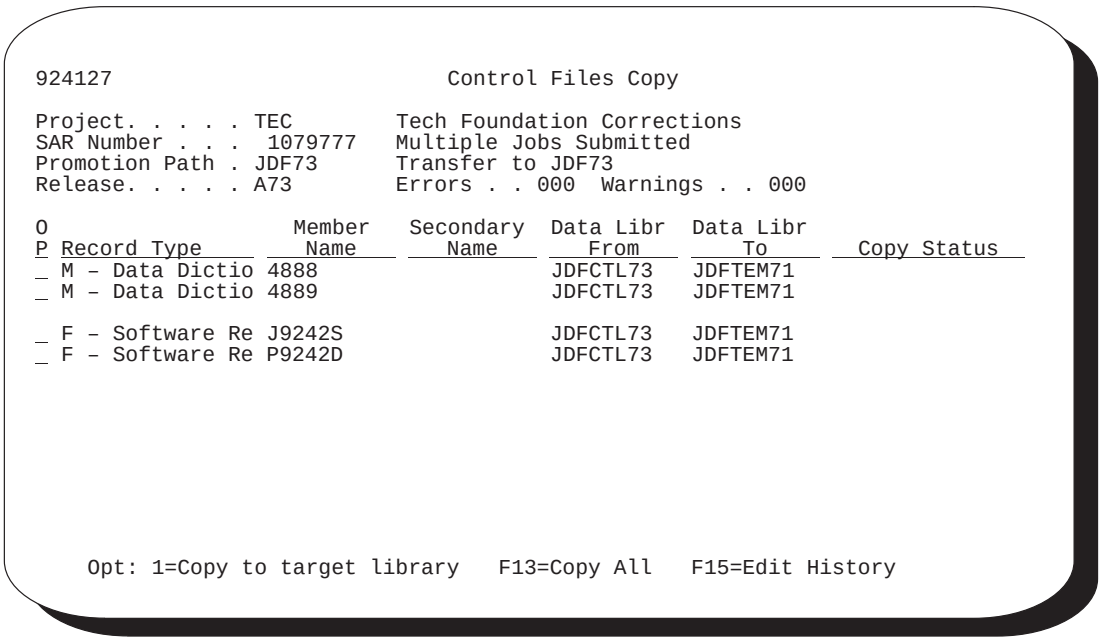
   To override the From Environment and To Environment object libraries before you transfer the members, press F6 before you enter options 1, 2, or 3. Enter the names of the object libraries to which you want the members transferred.

   The system transfers the members you selected to the target environment.

   You can review the batch job that was submitted by this transfer program from the J.D. Edwards command line. To display the command line, press F2.

   If your promotion is successful, the system deletes all SAR log records for transferred items. It also creates a new SAR log record for each transferred item and associates it with the target library.

5. To copy control file data, press F5 (Control Files) from the Software Transfer form.



6. In the OP (Option) fields next to the items you want to copy, enter 1 (Copy to target library).

   NOTE: Press F13 to select all items automatically for copying.

   The system copies the items you selected to the target environment.

Promote Project Updates

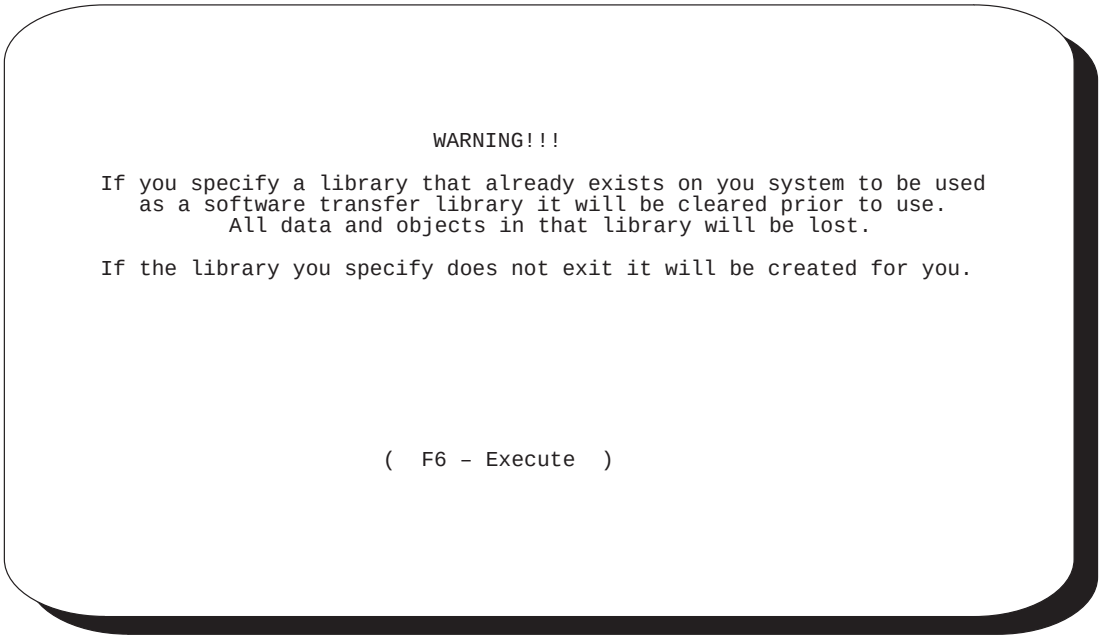
Promoting Project Updates

The version control process for project updates includes the following general steps.

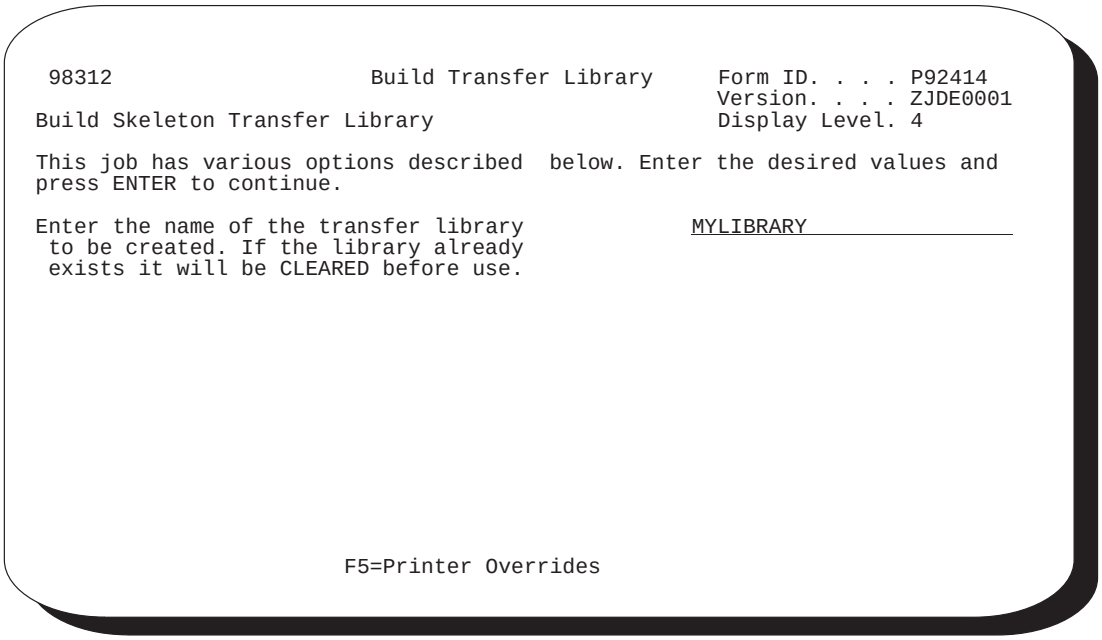
- Create the transfer library
- Prepare the SAR system
- Define promotion paths
- Define a project
- Update the SARs
- Validate the promotion path
- Promote a SAR
- Save the transfer library to tape
- Restore the transfer library from tape
- Print the transfer library report
- Load the transfer library
- Transfer individual control table records

To create the transfer library

1. From the Software Install menu (G9262), choose Build Transfer Library.



2. After you read the warning message, press F6 (Execute).



3. In the processing option field, enter a name for the transfer library you want to create.

To prepare the SAR system

To prepare your SAR system, see *Prepare the SAR System* in this guide.

To define promotion paths

From the Version Control menu (G9261), choose Manage Promotion Paths. Use the project update library name as your promotion path name. For information about defining a promotion path, see *Define Promotion Paths* in this guide.

To define a project

To define a project, see *Define a Project* in this guide.

To update the SARs

From the Software Install menu (G9262), choose Edit and Promote. For information about updating a SAR, see *Update the SARs* in *Promote a SAR* in this guide.

To validate the promotion path

From the Software Install menu (G9262), choose Edit and Promote. For information about validating a promotion path, see *Validate the Promotion Path* in *Promote a SAR* in this guide.

To promote the project

From the Software Install menu (G9262), choose Edit and Promote. For information about promoting a SAR, see *Promote the Project* in *Promote a SAR* in this guide.

To save the transfer library to tape

1. From the Software Install menu (G9262), choose Save Library to Tape.

```
                              Save Library (SAVLIB)

Type choices, press Enter.

Library  . . . . . . . . . . . .   MYLIBRARY     Name, *NONSYS, *ALLUSR, *IBM
               + for more values
Device . . . . . . . . . . . . .   TAP01         Name, *SAVF
               + for more values

                                                                        Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

2. In the Library field, type the name of your transfer library.
3. In the Device field, enter the name of your tape device.

▶ To restore the transfer library from tape

1. From the Software Install menu (G9262), choose Restore Library from Tape.

```
                            Restore Library (RSTLIB)

Type choices, press Enter.

Saved library  . . . . . . . . .   MYLIBRARY     Name, *NONSYS, *ALLUSR, *IBM
Device . . . . . . . . . . . . .   TAP01         Name, *SAVF
               + for more values

                                                                        Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

2. In the Saved Library field, type the name of your transfer library.

3. In the Device field, enter the name of your tape device.

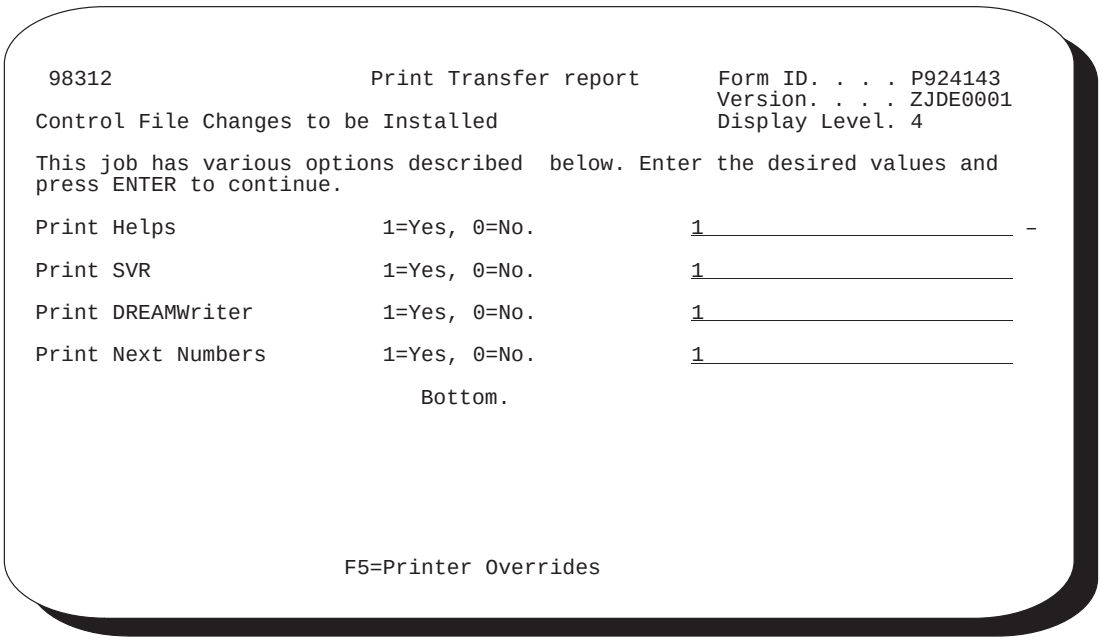
To print the transfer library report

1. From the Software Install menu (G9262), choose Print Transfer Report.

   A processing options form appears. Use the cursor keys to display additional processing options.

```
 98312                    Print Transfer report      Form ID. . . . P924143
                                                     Version. . . . ZJDE0001
Control File Changes to be Installed                 Display Level. 4

This job has various options described  below. Enter the desired values and
press ENTER to continue.

Enter name of Transfer Library.                      MYLIBRARY

Print UDCs                 1=Yes, 0=No.              1

Print AAIs                 1=Yes, 0=No.              1

Print Menus                1=Yes, 0=No.              1

Print Data Dictionary      1=Yes, 0=No.              1

Print Vocabulary/Exits     1=Yes, 0=No.              1

Print CASE specs           1=Yes, 0=No.              1

                             More...                                      +

                         F5=Printer Overrides
```

2. In the first processing option field, type the name of your transfer library.



3. In the remaining processing option fields, select the types of control files for which you want to print information.
4. To print the report, press Enter.

An example of the Print Install Records report (P924143) follows. It provides the total number of records for each type of control file. It also shows whether the transfer record already exists in your control file.

```
924143                                            J.D. Edwards & Company                                      Page     -          2
                                                  Print Install Records                                       Date     -    2/05/96


                  Primary     Secondary                                 New/
   Record Type     Item         Item        Description                Change
   ----------------  ----------  ----------  ------------------------------  --------
   Menus           G9261                    Version Control               Changed
   Menus           G9262                    Software Install              Changed

       Total Number of Records for    Menus             00002

                  .                                              .                                                    .
                  .                                              .                                                    .
                  .                                              .                                                    .
   DREAMwriter / PO  P00PURGE    ZJDE0024    Payee Control File Purge      Changed
   DREAMwriter / PO  P92412      ZJDE0001    Promote a Project             Changed
   DREAMwriter / PO  P92413      ZJDE0001    Manage Projects               Changed
   DREAMwriter / PO  P92414      ZJDE0001    Build Skeleton Transfer Librar Changed
   DREAMwriter / PO  P924143     ZJDE0001    Control File Changes to be Ins Changed
   DREAMwriter / PO  P924147     ZJDE0001    Load Transfer Software        Changed
   DREAMwriter / PO  P924801     ZJDE0001    SAR Inquiry by Reference      Changed

       Total Number of Records for    DREAMwriter / PO   00007

                  .                                              .                                                    .
                  .                                              .                                                    .
                  .                                              .                                                    .

   Vocbulary /Exits  R924143                 Print Install Records         Changed
   Vocbulary /Exits  V9240                   Promotion Path                Changed
   Vocbulary /Exits  V9240W                  Promotion Path Master Window  Changed

       Total Number of Records for    Vocbulary /Exits   00030
```

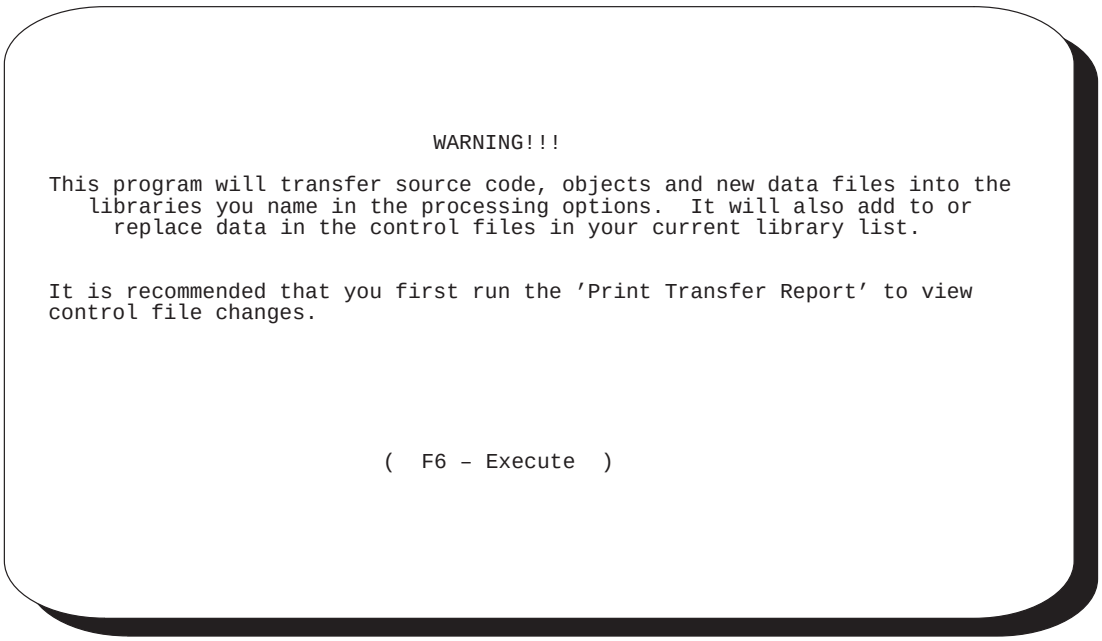
▶ To load the transfer library

Before you load the transfer library, you must create new target libraries for the objects, source code, and data files you will transfer. In your target source library, you must create the following multi-member source files:

- JDESRC
- JDECPY
- F98CRTCMD

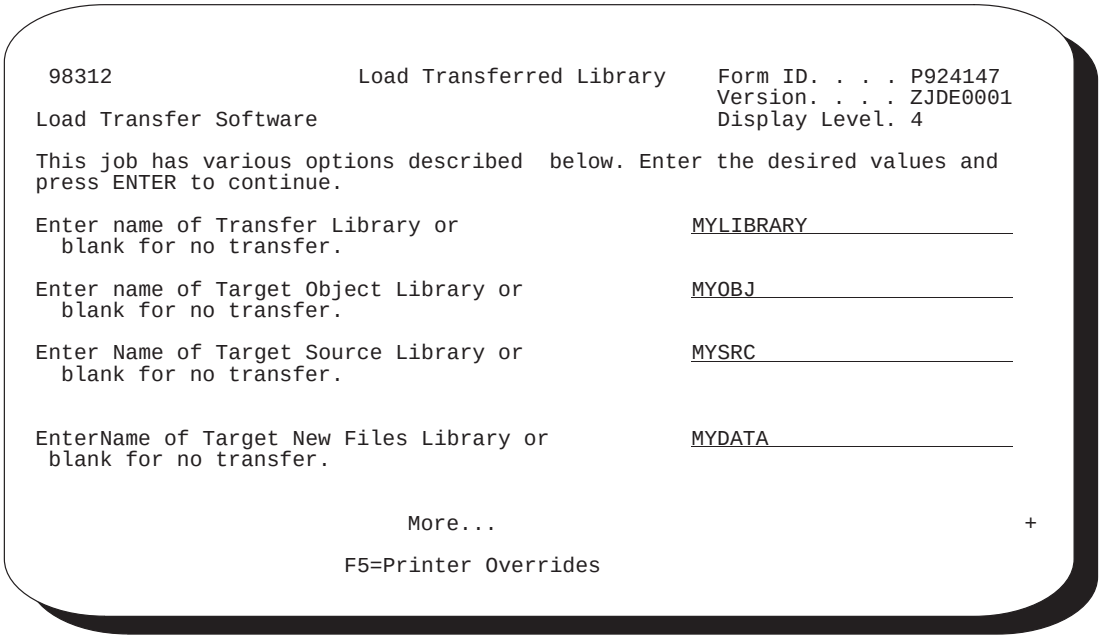
Load the contents of your transfer library into your target libraries. The process merges control file records into your library files. You also can transfer control file records individually. For more information, see *Transfer Individual Control File Records* following this procedure.

1. From the Software Install menu (G9262), choose Load Transferred Library.



2. After you read the warning message, press F6 (Execute).

   A processing options form appears. Use the cursor keys to display additional processing options.



3. In the first processing option field, specify the name of your transfer library.
4. In the next three fields, specify the libraries you created for the source code, objects, and data files you will transfer.

```
 98312                  Load Transferred Library    Form ID. . . . P924147
                                                    Version. . . . ZJDE0001
Load Transfer Software                              Display Level. 4

This job has various options described  below. Enter the desired values and
press ENTER to continue.

Transfer UDCs              1=Yes, 0=No.             0                       -

Transfer AAIs              1=Yes, 0=No.             0

Transfer Menus             1=Yes, 0=No.             0

Transfer Data Dictionary   1=Yes, 0=No.             1

Transfer Vocabulary/Exits  1=Yes, 0=No.             0

Transfer CASE specs        1=Yes, 0=No.             0

Transfer Helps             1=Yes, 0=No.             0

                             More...                                       +

                         F5=Printer Overrides
```

```
 98312                  Load Transferred Library    Form ID. . . . P924147
                                                    Version. . . . ZJDE0001
Load Transfer Software                              Display Level. 4

This job has various options described  below. Enter the desired values and
press ENTER to continue.

Transfer SVR               1=Yes, 0=No              0                       -

Transfer DREAMWriter       1=Yes, 0=No              0

                                 Bottom.

                         F5=Printer Overrides
```

5. In the remaining fields, select the control files you want the system to transfer.
6. To begin the transfer, press Enter.

The system merges the control files into the target data library. For non-control files, the system adds the file if it currently does not exist in the target data library. If the file does exist in the target data library, the system does not transfer the file or any data. After the transfer process completes, you must change these files manually based on information in the Print Install Records report (P924143).

Even though you can include next numbers in the transfer library and display information about them in the Print Install Records report, the system will not transfer them automatically. This protects your next number tables. After the transfer process completes, you must change them manually based on information in the report.

▶ To transfer individual control table records

1. From the Software Install menu (G9262), choose Copy DD,VO,DW,UDC,SVR,Menus.

```
99630                        Copy DD,VO,DW,UDC,SVR,Menus

From Library . . . . . MYLIBRARY    To Library . . . . . . MYDATA

Dictionary Item. . . . ___________   Language . __   Appl Ovr . ____
                                                    Scrn/Rpt . ___________
Vocabulary Overrides . ___________   Language . __   Appl Ovr . ____
DREAM Writer Form. . . ___________   Language . __
User Def Codes Sys . . ____          Language . __
                Type. . __
Software Versions Rep. ___________
Menu Identification. . ___________
Generic Rate/Msg Sys . ____
                Type. . __
                              F24=More
```

2. In the From Library, type the name of your transfer library.
3. In the To Library, type the name of the target data file library.
4. In the appropriate fields, enter information that is specific to the control file record you want to transfer.

Programming Tools

Objectives

- To work with data modeling
- To understand the Software Versions Repository
- To set up user defined values
- To retrieve information
- To create data description specifications
- To design and maintain display forms
- To design reports

About Programming Tools

Perform the following tasks:

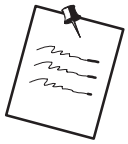
- ❑ Work with Data Modeling
- ❑ Work with the Object Cross Reference Repository
- ❑ Work with Data Dictionary
- ❑ Work with Data File Design Aid
- ❑ Work with Screen Design Aid
- ❑ Work with Report Design Aid

Work with Data Modeling

Working with Data Modeling

The Data Modeling feature provides graphic representation of the relationships of different files. The important aspects of the J.D. Edwards Data Modeling feature are:

- It is graphical in its presentation.
- It allows you to narrow the amount of information you view so you can better analyze the file and data relationships.
- It is integrated back to the Data Dictionary and other cross reference tools.



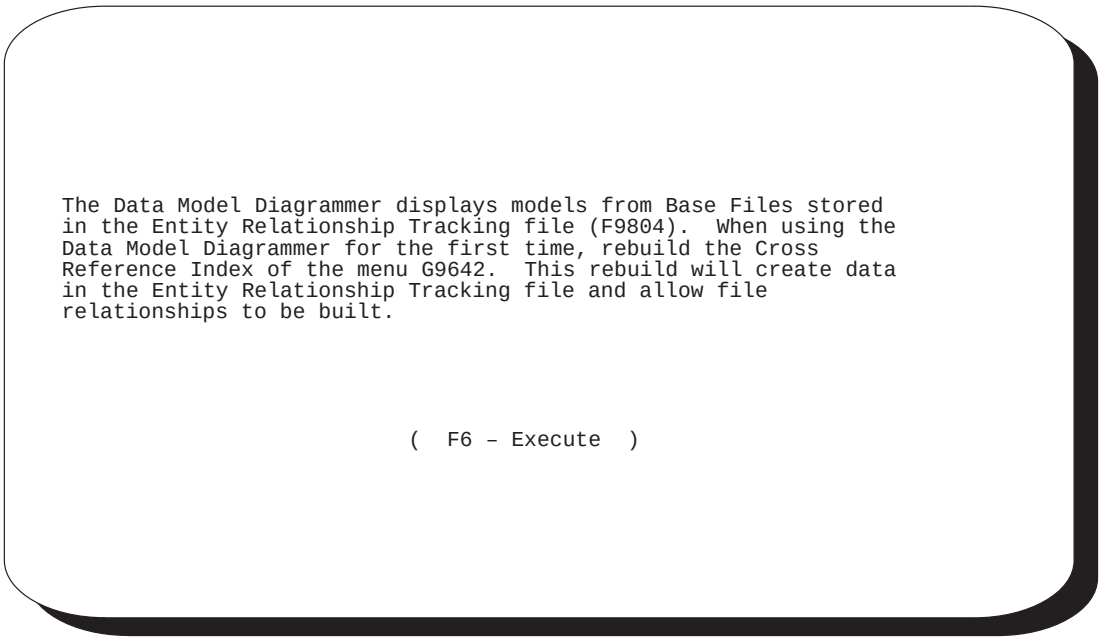
To create a data model, you must run the Data Model rebuild.

Accessing Data Modeling

There are two ways to access Data Modeling.

▶ To access data modeling

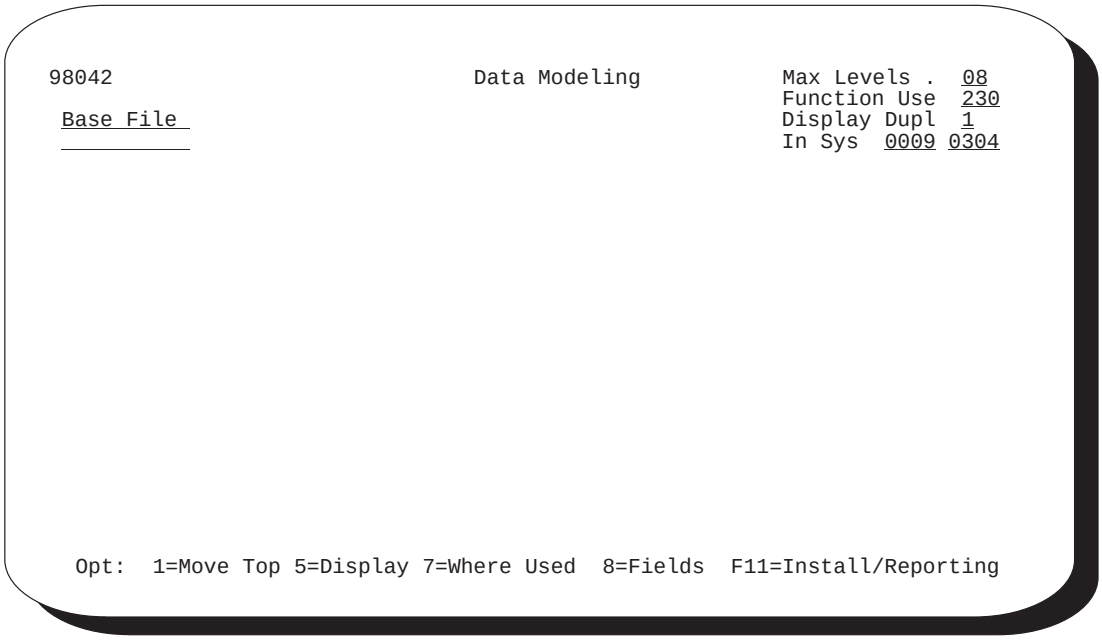
1. Use one of the following two methods to access Data Modeling.
   - Inquire on the file through the Software Versions Repository and then press F23
   - From the Model Relations form, select Data Modeling



A menu message form appears with sample data you can use to view a supplied data model.

2. Press F6 to continue.

The Data Modeling form appears with the cursor positioned in the field where you enter a file name.



3. To view the Data Model, enter a file name and press Enter.

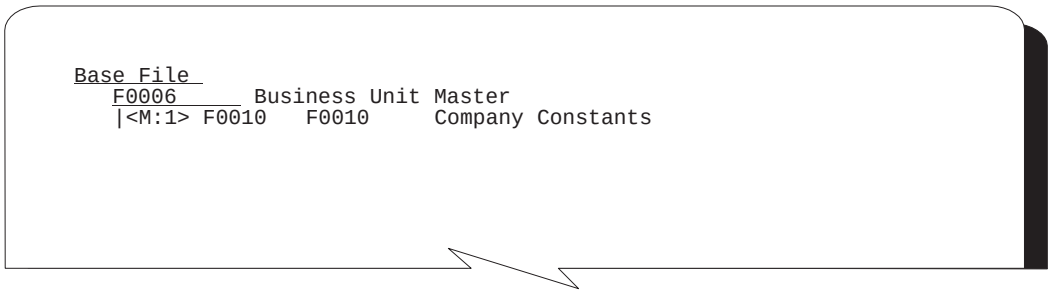
Field	Explanation
Max Levels	Determines what level of detail you want to view in terms of file relationships. Level 1 represents the highest level and level 10 represents the lowest level. The default value is level 08. Level 01 shows only those files that are directly related to the data model file.
Function Use	Displays the files that either match or have a function use less than the function use you specify.
Display Duplicate Relationships	Determines whether you want to display duplicate relationships or not. The valid values are: 1 – no duplicates (default value 2 – first logical only 3 – all files
In Sys	Limits your model to only those files from the specified install or reporting system codes. To toggle to reporting system codes, you press F11, Install/Reporting.

4. To narrow the amount of file information displayed, specify values in the four fields appearing in the upper right of the form.

```
98042                              Data Modeling          Max Levels .  08
                                                          Function Use  230
  Base File                                               Display Dupl  1
  F0006      Business Unit Master                           In Sys  00 09 03 04
  |
_ |<M:1> F0010   F0010     Company Constants
  |      |
_ |      |<1:M> F0901   F0901LE   Account Master
  |      |      |
_ |      |      |-M:M> F4801   F4801LB   Work Order Master File
  |      |      |      |
_ |      |      |-M:1> F0902   F0902LA   Account Balances
  |      |      |      |
_ |      |      |      |-M:M> F0311   F0311LG   Accounts Receivable Ledger
  |      |      |      |      |
_ |      |      |      |-M:M> F0411   F0411LK   Accounts Payable Ledger
  |      |      |      |      |
_ |      |      |      |-M:M> F0911   F0911LD   Account Ledger
  |      |      |      |      |



   Opt:  1=Move Top 5=Display 7=Where Used  8=Fields  F11=Install/Reporting
```

Detailed Explanation of a Line

The following figure shows a portion of the Data Modeling form.



Below is an explanation of the components displayed on the form.

- Business Unit Master is the primary file (F0006)
- Company Constants is the secondary file (F0010)
- <m:1> – There is a many to one, bi-directional relation between the files

Field	Explanation
Quantifier	The quantifier notation indicates the following: M:1 many to one 1:M one to many M:M many to many M:N many to zero or many N:M zero or many to many 1:N one to zero or many 1:1 one to one
Direction	The three direction notations are as follows: –> refers to <– referred to <–> 2 way relation
Type	Used to distinguish between prototype and permanent files.
Subfile portion of screen	Displays the key fields that relate these two files together

Function Key Exits from Data Modeling

Install/Reporting

F11 – Allows you to toggle between displaying install or reporting system codes.

Rebuild A File Relationship

F16 – Rebuilds a data model.

Exits to a DREAM Writer versions list.

The rebuild is fundamentally based upon the program finding a connection between data items.

For example, if you create new data items in the Data Dictionary and use those data items when creating a new file, you do not get a graphic representation for that file because the data items do not exist in any other file. To create and present file relationships, there must be at least one data item in the primary file that also resides in some other file as well.

Selection Exits from Data Modeling

Selection 1 – Move Top

To select a file in the current data model and move it to the top to view its data model.

Selection 5 – Display

To view the file relationships. The Define a File Relationship form appears displaying the relationship detail for the two files.

Selection 7 – Where Used

Exits to the Object Cross Reference Repository and displays all the programs that access the particular file.

```
980014                          Cross Reference

Object: Name . . .  F0006____   Business Unit Master
        Type . . .  F           All programs using file
        To Display  P
        Funct Cd .  ____

O   Name        Description                                Field Attr T Start Upd
P ________   ________________________________________     Len  Dec  Y  Loc  Y/N
_ PJON       Jon Nugent Test                                                 N
_ P0006      Business Unit Master Revisions - Single                         Y
_ P0006A     Business Unit Structure Revisions                               Y
_ P0006ISS   File Conversion - Plug the default value                        Y
_ P0006P     Business Unit Master Print                                      N
_ P0006QD    Update Bill Code If Business Unit Type = C                      N
_ P00061     Job Master Revisions                                            Y
_ P00062     Property/Building Revisions                                     Y
_ P00071     Work Day Calendar                                               N
_ P0012      Automatic Accounting Instructions Revisi                        N
_ P0013QD    Convert Amounts to Domestic Decimal                             N
_ P0018      Tax File Revisions                                              N
_ P0018P3    Tax Detail Report by Tax Authority                              N

Opt: 1=SVR  2=Create Object  3=Field Explanation  F21=Print  F16=Regenerate
```

Selection 8 – Fields

To access the File Field Description form for any file displayed in the Data Model. The File Field Description form presents all the fields in a file, the field type, their size and their position in the file.

```
98042                              Data Modeling            Max Levels .  08
                                                            Function Use  230
  Base File                                                 Display Dupl  1
  F0010       Company Constants                             In Sys  00 09 03 04
  |
8 |<1:M> F0006   F0006LB   Business Unit Master
  |      |
_ |      |-M:1> F0901   F0901LB   Account Master
  |      |      |
_ |      |      |-M:M> F4801   F4801LB   Work Order Master File
  |      |      |      |98FFD--------File-Field-Descriptions----------S/FMT|
_ |      |      |-M:1> | File and Libr:  F0006      TEST        PF        |
  |      |      |      | _   I0006      - Business Unit Master File       |
_ |      |      |      | _ MCMCU  K01 Business Unit. . . . A   12      1 |
  |      |      |      | _ MCDL01     Description. . . . . A   30     13 |
_ |      |      |      | _ MCDC       Description - Compre A   25     43 |
  |      |      |      | _ MCLDM      Level of Detail. . . A    1     68 |
_ |      |      |      | _ MCAN8      Address Number . . . S    8 0   69 |
  |      |      |      | _ MCCO       Company. . . . . . . A    3     77 |
                       | _ MCSTYL     Type Business Unit . A    2     80 |
                       | _ MCRP01     Division x . . . . . A    3     82 |
                       | _ MCRP02     Region . . . . . . . A    3     85 |
                       |Opt:-2=Dictionary--4=Sel--F15=Resequence--F3=Return|
   Opt:  1=Move Top 5=Display 7=Where Used  8=Fields  F11=Install/Reporting
```

Work with the Object Cross Reference Repository

Working with the Object Cross Reference Repository

The Object Cross Reference Repository locates all the objects associated with a particular member or object. When you add a new member to the Software Versions Repository, run the Rebuild Cross Reference job to have the new member included in the display. You must have source code on your machine to run this rebuild and display this option.

Complete the following tasks:

- ❑ Access the Object Cross Reference Repository
- ❑ Conduct an Object Cross Reference Repository search

Accessing the Object Cross Reference Repository

▶ To access the Object Cross Reference Repository

Select one of the following methods.

- From the Master Directory, choose the Technical and Advanced Operations menu. From the Technical and Advanced Operations menu (G9), select Documentation Services. From the Documentation Services menu (G91), choose Object Cross Reference Repository.
- On Software Version Repository, press F15 to access the Object Cross Reference Repository.

Example

The following form displays all programs using the file F0006.

The first four fields on this form relate to the object being cross referenced. The remainder of the form lists the members found during the cross reference search.

```
980014                  Object Cross Ref. Repository

Object: Name . . .  F0006       Business Unit Master
        Type . . .  F           All programs using file
        To Display  P
        Funct Cd .  ____

O   Name        Description                              Field Attr T Start Upd
P                                                         Len  Dec  Y  Loc  Y/N
_ P000661     Business Unit Master Conversion                                Y
_ P06238      Report - Payroll Check Register                                N
_ P06371      Report - Certified Payroll Register                            N
_ P06611I     Tip Credit Generation with Interim Check                       N
_ P06638      Sales Allocation Report                                        N
_ P126410     STAR - Columnar Spreadsheet                                    N
_ P200        Submit Network Job                                             N
_ P23250      Texas 250 Report                                               N
_ P26011      Gas Balancing - Entitlement Extract                            N
_ P26112      Gas Balancing - Entitlement Explosion to                       N
_ P26115      Gas Balancing Statement by Sales Point                         N
_ P26116      Gas Balancing Statement by Owner                               N
_ P26119      Gas Balancing Master Subfile Display                           N

Opt:  1=SVR  2=Create Object  3=Field Expl  F21=Print  F16=Regenerate
```

Conducting an Object Cross Reference Repository Search

All members of the Software Versions Repository are cross referenced, and you can search for these relationships in different ways.

▶ To conduct an Object Cross Reference Repository search

From the Documentation Services menu (G91), choose Object Cross Ref. Repository.

The following form displays the statistics for program P0006.

```
980014                    Object Cross Ref. Repository

Object: Name . . .  P0006       Business Unit Master Revisions - Single
        Type . . .  P           Statistics for program
        To Display  #
        Funct Cd .  ____

O   Name         Description                              Field Attr T Start Upd
P                                                          Len  Dec  Y  Loc  Y/N
_              Total Statements in RPG II
_      1,259   Total Statements as Comments
_      1,313   Total Statements in RPG III
_      3,993   Total Statements in Program
```

1. To conduct an object cross reference repository search, enter an object Name, Type code and To Display code. To narrow the search, enter a Funct Cd.

   - If you are unfamiliar with the Cross Reference Relationships codes, type an asterisk (*) in the Type field, as shown below. Press Enter.

The Cross Reference Relationships codes appear in a new form.

```
Object: Name . . .  F0006      Business Unit Master
        Type . . .  *
        To Display  _
      Funct Cd .  ____

O   Name         Description                              Field Attr T Start Upd
P                                                          Len  Dec  Y  Loc  Y/N
```

```
  81QM    User Defined Codes Window
  98   XR    Cross-Reference Relationships
Skip To Code . . . . __________
_ /D          All data fields in  /COPY
_ /F          All files in /COPY
_ /I          Program invocations from /COPY
_ /P          Programs containing /COPY
_ CP          All Programs using command
_ DF          All files using data field
_ DP          All programs using data field
_ EP          Error messages in a program
_ F/          All /COPY members using file
4 FD          All data fields in file
Opt:  4=Select  F9=Glossary  F14=Memo
```

2. Enter 4 in the single character field to the left of the desired code. The Object Cross Ref. Repository form displays with the selected codes.

```
980014                  Object Cross Ref. Repository

Object: Name . . .  F0006      Business Unit Master

        Type . . .  F          All data fields in file
        To Display  D
        Funct Cd .  ____

O   Name        Description                          Field Attr T Start Upd
P  __________  _____________________________________  Len  Dec  Y  Loc  Y/N
_ MCMCU       Business Unit. . . . . . . . .          12       A    1
_ MCSTYL      Type Business Unit . . . . . .           2       A   13
_ MCDC        Description - Compressed . . .          40       A   15
_ MCLDM       Level of Detail. . . . . . . .           1       A   55
_ MCCO        Company. . . . . . . . . . . .           5       A   56
_ MCAN8       Address Number . . . . . . . .           8   0   S   61
_ MCAN8O      Owner/Receivable Address . . .           8   0   S   69
_ MCCNTY      County . . . . . . . . . . . .           3       A   77
_ MCADDS      State. . . . . . . . . . . . .           3       A   80
_ MCDL01      Description. . . . . . . . . .          30       A   83
_ MCDL02      Description 02 . . . . . . . .          30       A  113
_ MCDL03      Description 03 . . . . . . . .          30       A  143
_ MCDL04      Description 04 . . . . . . . .          30       A  173

Opt:  1=SVR  2=Create Object  3=Field Expl  F21=Print  F16=Regenerate
```

Work with Data Dictionary

About the Data Dictionary Repository

The Data Dictionary is the most powerful element in all of J.D. Edwards' software offerings. We define all data items used by J.D. Edwards programs in the Data Dictionary. By requiring this up-front definition, the Data Dictionary enforces uniformity, consistency, and accuracy across all J.D. Edwards applications.

The Data Dictionary represents a centralized glossary of all:

- Field definitions
- Program error messages, both interactive and batch
- Menu messages
- Work fields
- User defined help instructions
- Program and field descriptions accessed by the Help facility

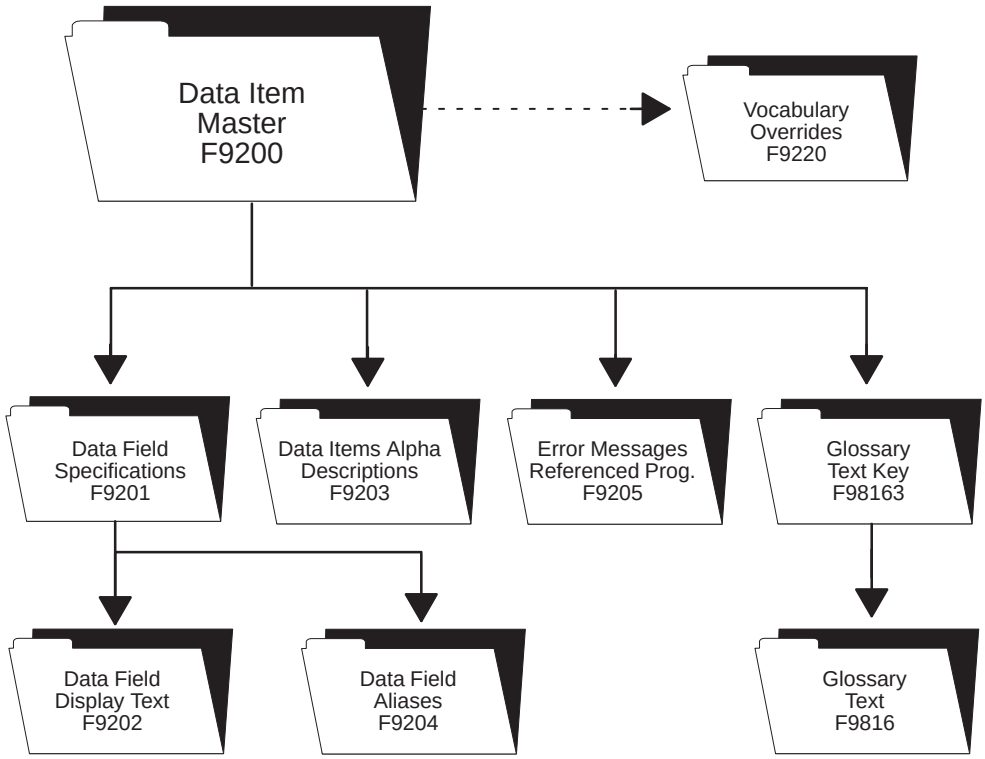
Complete the following tasks:

- ❑ Understand the Data Dictionary structure
- ❑ Locate a data item name
- ❑ Work with the Data Dictionary
- ❑ Work with data item alias revisions
- ❑ Work with Data Dictionary glossary
- ❑ Work with user defined help instructions
- ❑ Work with data field descriptions
- ❑ Work with the next numbers facility
- ❑ Locate the field reference rebuild

Understanding the Data Dictionary Structure

The following files comprise the Data Dictionary Repository.

The following diagram illustrates the relationships between these files.



Data Item Master (F9200)

This is the master file for the Data Dictionary. Every data item has a record in this file.

Data Field Specifications (F9201)

This file contains database fields, which is a glossary group of "D" or "S," work fields, glossary group "U," and categories, glossary group "C." This file contains the base display and validation rules for all file and data items.

Data Field Display Text (F9202)

This file lets you define multiple row descriptions and column titles for each data item, based upon language or reporting system (application override). You can add a language value for each language translation required for the row description and column title. The reporting system code allows the entry of jargon or company terminology that overrides the generic text supplied with the application.

Data Item Alpha Descriptions (F9203)

This file contains the alpha and compressed descriptions for all data items. This allows you to perform a Data Dictionary search by description. You can also specify separate alpha descriptions by language preference and reporting system. Every data item has a record in this file.

Data Item Aliases (F9204)

This file only contains database fields, which is a glossary group of "D" or "S". This file contains multiple aliases for both a COBOL alias and a C alias for each data item.

Error Message Program ID (F9205)

This file contains error messages that have a program, form, or report ID attached to them. You exit to this program, form, or report when you receive the error. For example, if you receive a user defined code error, you could exit to the User Defined Code Revisions program to modify a value.

Glossary Text File (F9816)

This file contains the glossary text for every data item. Each line of text in the glossary is one record.

Key Index File (F98163)

This file contains key information to link the data items to their glossary and to specific items.

Locating A Data Item Name

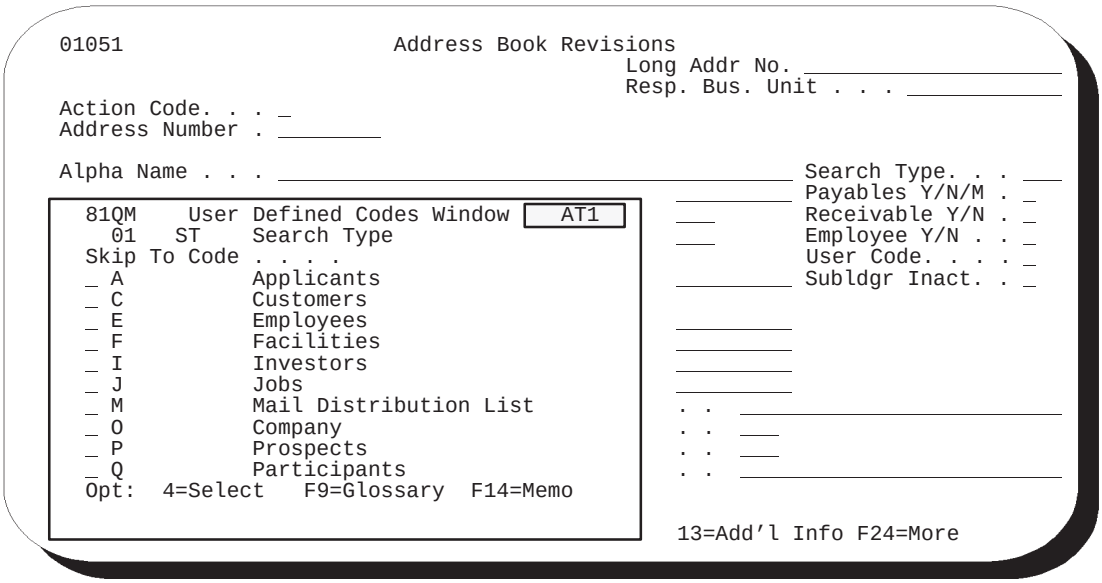
The system uses data items to define the parameters of a field or message. For example, AT1 defines the field Search Type. The system maintains each data item used in a file or retrieved for a form or report based on a data item name, such as AT1. To work with the Data Dictionary functions you need to know this name.

▶ To locate a data item name

The J.D. Edwards field-level help displays data item names.

Position the cursor on any field and press F1.

For example, position the cursor in the Search Type field on the Address Book Revisions form and press F1. The User Defined Codes form displays for the Search Type field. In the upper right corner of this form is the data item name for the Search Type field, which is AT1.



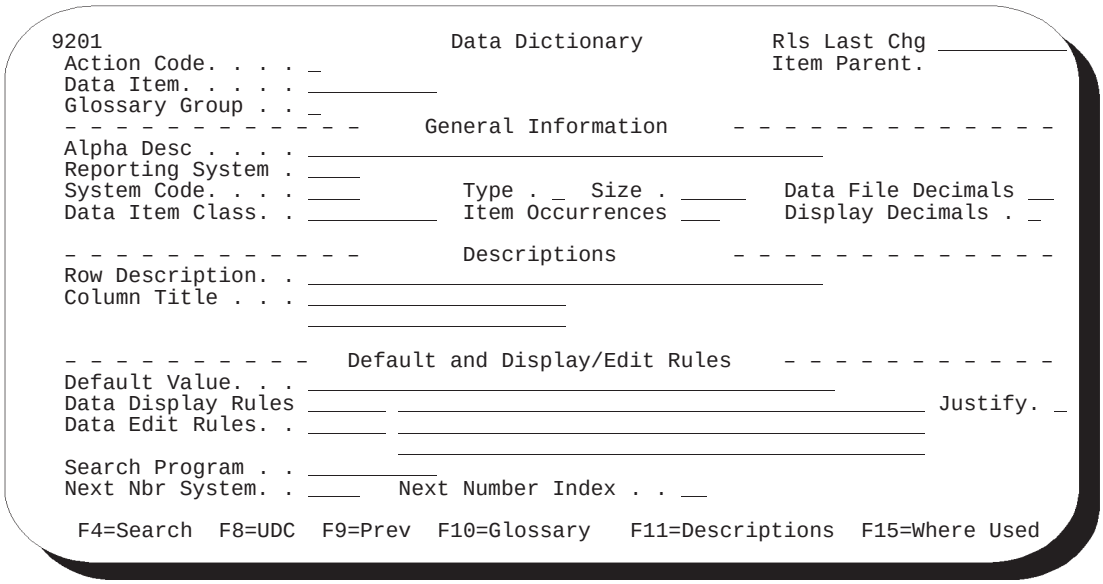
The data item name is always in the upper right corner of the help form, no matter which help form displays, such as the User Defined Codes form or the field explanation form.

Working with the Data Dictionary

The Data Dictionary provides many useful abilities. You can create data item aliases for other programming languages, work with the glossary, add or change user defined help instructions, and locate data field descriptions.

▶ To work with the Data Dictionary

From menu G92, choose Data Dictionary. The Data Dictionary form is displayed.



You find the Data Dictionary selection on several J.D. Edwards menus and repository services.

You can also display the Data Dictionary form by entering the mnemonic DD in the Selection line of any J.D. Edwards menu.

Use the following fields where applicable:

Field	Explanation
Rls Last Chg	The software version number to be defaulted in the Software Versions Repository file.
Item Parent	Display only. A data item which becomes the template from which other data items are created. For example, AC (Category Codes) is the parent to AC01.

Field	Explanation
Data Item	The RPG data name. This data field has been set up as a 10-byte field for future use. Currently, it is restricted to 4 bytes so that, when preceded by a 2-byte file prefix, the RPG data name does not exceed 6 bytes. Within the Data Dictionary, all data items are referenced by this 4-byte data name. As they are used in database tables, a 2-character prefix is added to create unique data names in each table specification (DDS). Special characters are not allowed as part of the data item name, with the exception of #, @, $. You can create protected data names by using $xxx and @xxx, where you define xxx. Messages can contain up to 10 characters. Types of messages are further defined by glossary group. . . . . . *Form-specific information* . . . . . . Messages can contain up to 10 characters. Types of messages are further defined by glossary group.
Glossary Group	Differentiates data items into types. These types include primary and secondary types, error messages, and help text. See UDC 98/GG for a complete listing of Glossary Groups. See also 'What Are the Data Dictionary Glossary Groups?' within this 'Data Dictionary Repository' chapter.
Alpha Desc	Database text string that names the data item. Enter text in upper and lower case. The system uses this field to search for similar data items. To enter an alpha description, follow these conventions: Dates – Begin all Date fields with Date Amounts – Begin all Amount fields with Amount Units – Begin all Unit, Quantity, and Volume fields with Units Name – Begin all 30-byte description fields with Name Prompt – Begin any Y/N prompting field with Prompt Address Number – Begin all address numbers (employee, customer, owner) with Address Number
Reporting System .ode	Designates the system number for reporting purposes. This rarely differs from the Install System. Exceptions occur for data files used by more than one system
System Code	The system code and type of the table to be copied. All values for the specified table will be copied.

Field	Explanation
Type	The Data Dictionary name of the field or the record format name. • The file prefix is added to create unique data names for each file specification if a data item is entered in this field. • The record format line is automatically defaulted in. . . . . . *Form-specific information* . . . . . . Note: When using the "O" format, create the field as large as possible. This allows the use of ideographic languages such as Japanese.
Size	The description of the data item entered in the previous field. • Comes from the Row Description field in the Data Dictionary.
Data File Decimals	The number of positions to the right of the decimal of the data item.
Data Item Class	Defines the essential attributes and characteristics of a data item.
Item Occurrences	In setting up a data item in the data dictionary, you may specify a number of array elements. This will cause the automatic creation of one additional data item for each array element. The array data item names are restricted to certain lengths depending on the number of array elements: 3 bytes – 1 to 9 elements 2 bytes – 10 to 99 elements 1 byte – 100 to 999 elements
Display Decimals	Use this parameter to designate the number of decimals in the currency, amount, or quantity fields the system displays. For example, U.S. Dollars would be 2 decimals, Japanese Yen would be no decimals, and Cameroon Francs would be 3 decimals.
Row Description	Creates the title on text and reports. It is used in a manner similar to the column description in the query facility. It should be less than 35 characters. Use abbreviations whenever possible. For example: U/M Units of measure YTD Year-to-date MTD Month-to-date PYE Prior year end QTY Quantity G/L General ledger A/P Accounts payable DEPR Depreciation

Field	Explanation
Column Title	The first line of description that will be used in column headings on a report or form. This description should be no larger than the data item size, if possible. If the column heading is only one line, it should be placed in this column. Use the second line of the Column Title when one is not clear.
Default Value	Used as the initial value on the data entry screen for the associated data item. The value entered must be the exact same length as the data item size. Place single quotes around the value if it contains any embedded blanks. The keywords *BLANKS and *ZEROS can be used as the default value. When entering a numeric data item with default values, the redisplay of the data item suppresses all leading zeros. CAUTION: If a blank entry is allowed, default values should not be used.
Data Display Rules	Keywords which decribe an editing technique applied when data is displayed. Validation is applied to the data after Enter is pressed. The rule will be applied as specified in the F9207 table at the screen/report and/or the action code si desired. The developer can override these rules at the time of program creation. The current list of these rules is kept in the User Defined Codes at SYSTEM = 98 and RECORD TYPE = ER.
Data Edit Rules	Keywords which decribe an editing technique applied when data is entered. Validation applied to the data after Enter is pressed. The rule will be applied as specified in the F9207 table at the screen/report and/or the action code as desired. The developer can override these rules at the time of program creation. The current list of these rules is kept in the User Defined Codes at SYSTEM = 98 and RECORD TYPE = ER.

Field	Explanation
Search Program	The Help Text Program field is used to call a program when the function key - F1 is pressed on its Data Item. When F1 is pressed, the program entered in this field will be executed. If this field is left blank, the glossary will be used. If you wish the User Defined Code window to appear when F1 is pressed, enter '*UDC' in this field (this is the default when 'UDC' is entered in the Data Edit Rules field). If you do not want the UDC window to appear and you have 'UDC' in the Data Edit Rules field, change this field to be blank. Program Requirements: For your text program to work correctly, you must allow it to accept three standard parameters: • PARM 1 Field Name, size 10, type alpha • PARM 2 Return Value, size 30, type alpha • PARM 3 Return Description, size 30, type alpha
Next Nbr System	Designates the system number for the Next Number retrieval. See User Defined Codes, system code '98', record type 'SY'.
Next Number Index	The array element number retrieved in the Next Number Revisions program. For example, the next voucher number is array element '02' of system '04'.

What You Should Know About

Data Dictionary Security Once a system is operational, you must be particularly careful to secure the integrity of the Data Dictionary. Two facilities are provided to aid you with the security:

- Operational systems coding - System numbers and names are defined in User Defined Codes, system code 98, record type SY. If you place an X in the second line of description for a particular system, it will be designated as operational. Once a system has been set up as operational, all data fields coded to this system are protected from modifications. This control, however, can be violated by removing the X in User Defined Codes.
- Action Code Security - A more prudent form of control is to assign change/delete authority to only one individual, the database administrator. If you choose to use this control, you should restrict access to the Data Dictionary program (P9201) in Action Code Security. See *Working with Action Code Security*. All users must be set up with add authority only. The database administrator would be set up with add/change/delete authority.

The Function Keys for the Data Dictionary

The following function keys are available from the Data Dictionary form.

- F4. A data item search facility. If you are a double-byte user, you must provide a search description for each data item you create or change in order for the search facility to function properly. Enter the search text in the Search Description field on the Data Dictionary screen.
- F6. Repository Services
- F8. User Defined Code Tables
- F9. Automatic Reinquiry
- F15. A data item cross reference

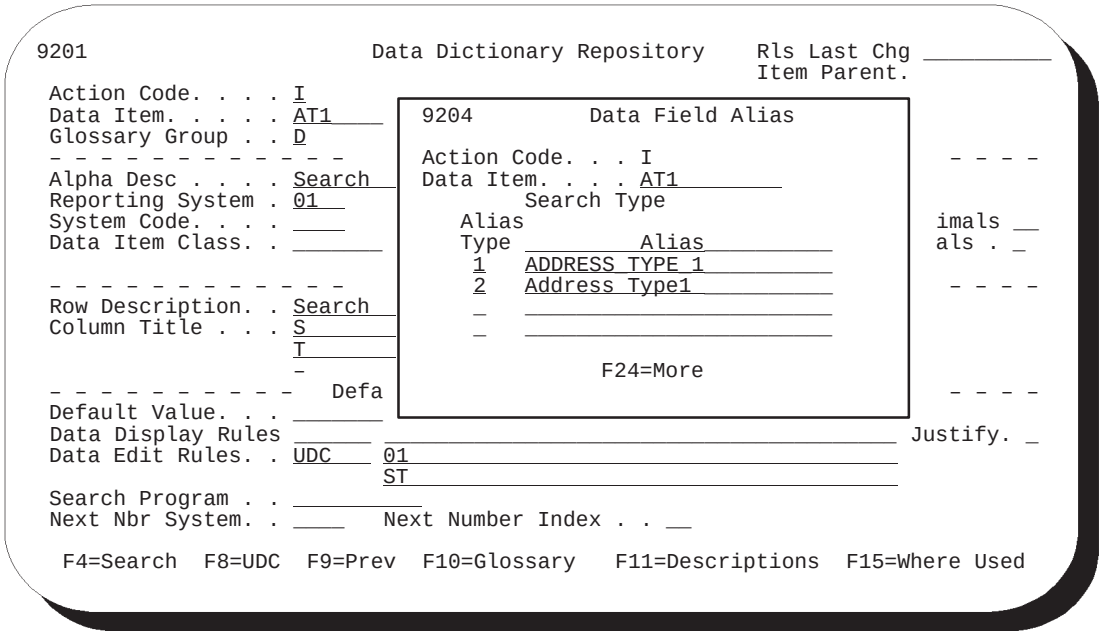
Working with Data Item Alias Revisions

Use the Data Item Alias form to assign alias names to a data item that other programming languages use. When adding a data item of glossary group "D" or "S", you must enter an alias for that field. This form automatically appears on an Add function when the alias is not unique. The alias defaults from the alpha description.

▶ To work with data item alias revisions

On Data Dictionary Repository form

1. Press F5. The Data Field Alias form displays.



2. Enter an alias type and name.

   An alias name must be unique to the system or the system does not let you exit from the Data Field Alias form.

   Current alias types required:

   - 1 = PL1 or COBOL
   - 2 = C language

   An alias must adhere to J.D. Edwards' syntax rules of the "C" language.

Working with the Data Dictionary Glossary

What are the Data Dictionary Glossary Groups?

The Data Dictionary consists of several glossary groupings that define the data item in the J.D. Edwards software. All glossary groups typically have associated text. The glossary stores this text. The major glossary groups follow:

The Data Dictionary consists of several glossary groupings that define the data item in the J.D. Edwards software. All glossary groups typically have associated text. The glossary stores this text.

E — J.D. Edwards interactive error messages

- J.D. Edwards defines interactive error messages with numbers less than 5000 and with numbers from 000A to 999Z. For example, 0001
- Client defines interactive error messages with numbers from 5001 to 9999

M — Menu Messages

- J.D. Edwards defines menu message data items as MENUMSGxxx, where xxx represents a number. For example, MENUMSG044
- Client defines menu message data items as MENUCLTxxx, where xxx represents a number

J — J.D. Edwards batch error messages

- J.D. Edwards defines batch error messages with JDExxxx, where xxxx represents a number less than 7000. For example, JDE0001
- Client defines batch error messages with JDExxxx, where xxxx represents a number greater than 7000 and less than 9000
- The QJDEMSG message file contains batch error messages
- A J.D. Edwards program found on Rebuilds and Global Updates (G9642) must build the batch error messages files QJDEMSG

C — Data Item Functions Categories

- Groups common data elements
- For example, CURRENCY

D or S

Primary or Secondary Data Items

- Used for validations
- Text on Videos
- Text on Reports
- Field Reference Files - F98FRFA-Z $ and @
- For example, AC for a D data item; AC01 for an S data item

F

Files

G

General Narrative. Used to add information about a specific data item

H

User Defined program Helps

- Client use only for adding custom helps for J.D. Edwards programs
- For example, U00MENU

L

Report Messages. Messages or warnings for certain procedures, or letters written and produced through DREAM Writer

N

Program Notes

- Used by programmers to type notes about a program in the system
- Add the notes to the glossary in the Data Dictionary
- Create notes for a program, add a data item with an "N' as a prefix in front of the program name. For example, N00HELP

P

Program Purposes

- Used in the general summary help instructions
- Used for the Program Generator Product
- For example, P01051

R

Report Data Elements - the majority of these data items are letters produced through DREAM Writer

T

Terms

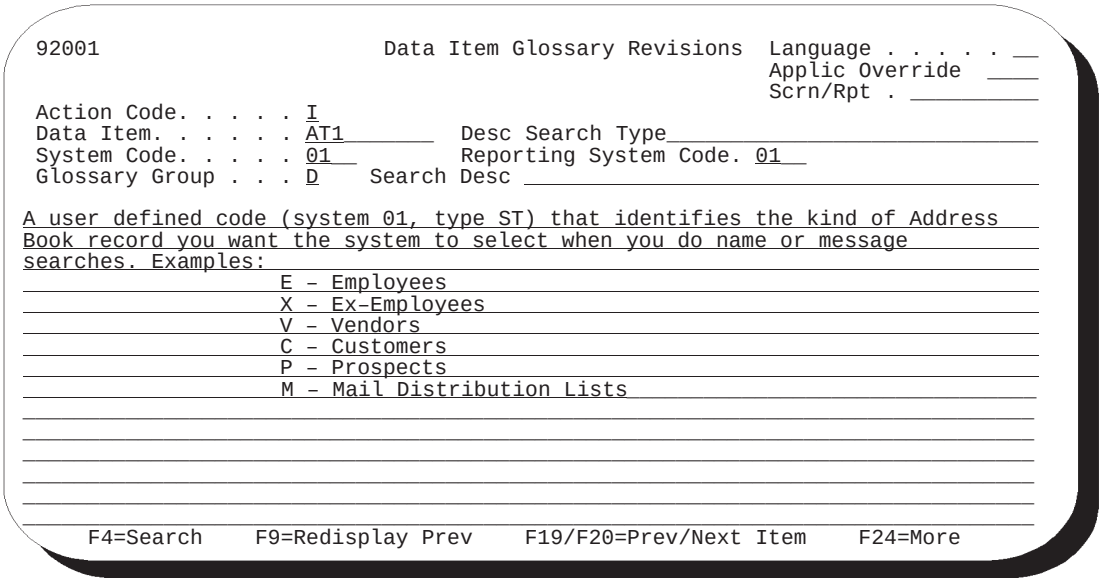
- These data items are definitions of commonly used terms
- The prefix of the data item name is "TERM." For example, the AAI definition is in the glossary under the data item TERMAAI.

U	For work fields that a program utilizes • Begin with # • For example, #AA

To work with the glossary

1. From Data Dictionary, press F10. The Data Item Glossary Revisions form displays.

   If your glossary group is E, H, J, or M, this form automatically displays when you press Enter on the main Data Dictionary form.



2. Do the following that applies:
   - Use the Language, Applic Override, and Scrn/Rpt fields for jargon. See *About Language and Jargon* for details.
   - Use cursor keys to see additional text lines.
   - When entering an "E" glossary group item, which is an interactive error message, use F5 to define a program, form, or report to reference when the system displays the error message.
   - On double-byte machines, this form displays the Search Desc field. To ensure the data item search facility functions properly, you must enter a search description for each data item you create or change. You can enter it on this form or on the Data Dictionary form.
3. Always leave the last two character positions of each text line blank.

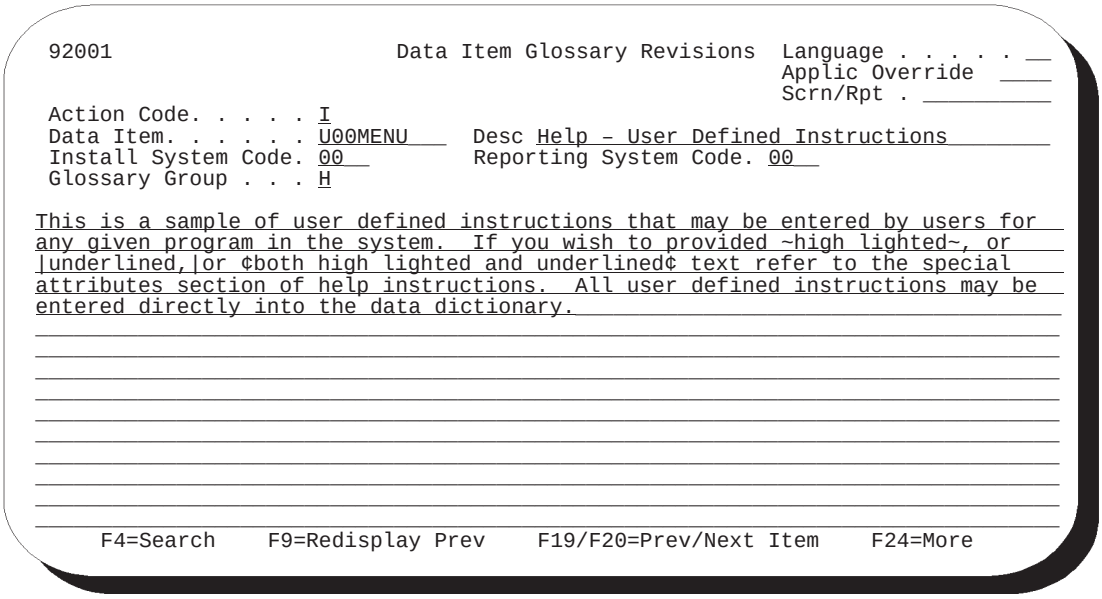
Field	Explanation
Data Item	The RPG data name. This data field has been set up as a 10-byte field for future use. Currently, it is restricted to 4 bytes so that, when preceded by a 2-byte file prefix, the RPG data name does not exceed 6 bytes. Within the Data Dictionary, all data items are referenced by this 4-byte data name. As they are used in database tables, a 2-character prefix is added to create unique data names in each table specification (DDS). Special characters are not allowed as part of the data item name, with the exception of #, @, $. You can create protected data names by using $xxx and @xxx, where you define xxx. Messages can contain up to 10 characters. Types of messages are further defined by glossary group. . . . . . *Form-specific information* . . . . . . If you are adding an error message, this field must be left blank. The system assigns the error message number using next numbers. The name appears on a successful add. You should assign interactive error message numbers greater than 5000.
Glossary Group	Differentiates data items into types. These types include primary and secondary types, error messages, and help text. See UDC 98/GG for a complete listing of Glossary Groups. See also 'What Are the Data Dictionary Glossary Groups?' within this 'Data Dictionary Repository' chapter. . . . . . *Form-specific information* . . . . . . NOTE: If you need to assign your own error message numbers, use 4 digit numbers greater than '5000'. For help text (glossary group H), the data dictionary "Inquiry/Revision Program" field may be used to specify the name of a follow-on item. To create your own messages for the IBM message file (glossary group J), begin the data item name with your own three characters (e.g., CLT0001).

Working with User Defined Help Instructions

The easiest way to modify help instructions is to utilize the User Defined Instructions in Data Dictionary.

▶ To work with user defined help instructions

On the Data Item Glossary Revisions form



J.D. Edwards provides an example record (U00MENU) in your system.

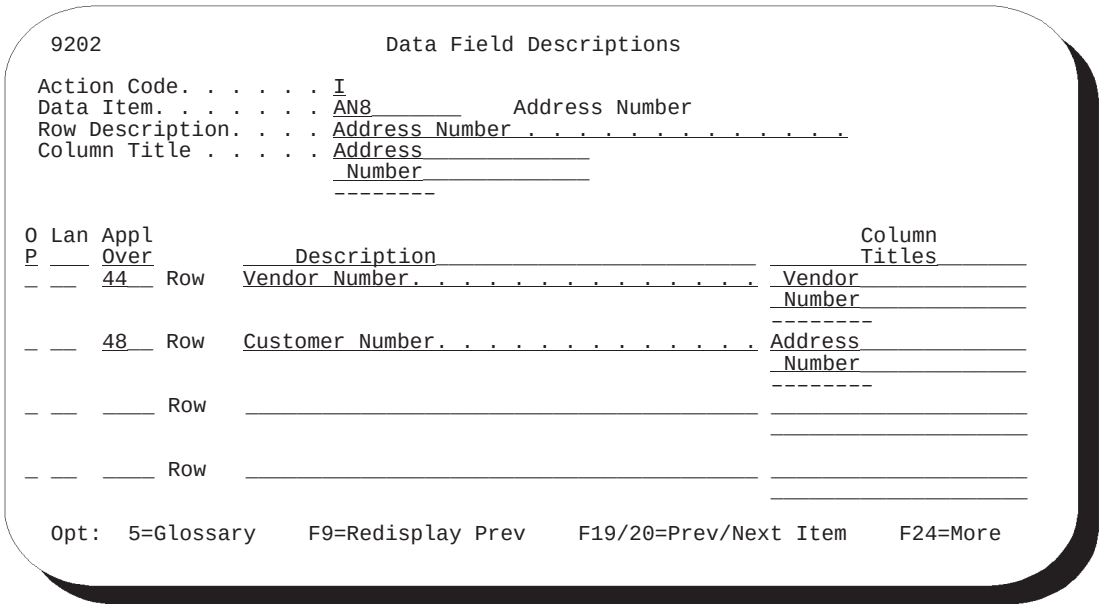
1. Enter a program name in the Data Item field, replacing the "P" with "U". For example, for program P01051, create a data item U01051.
2. Enter H in the Glossary Group field. The H Glossary Group defines user defined help. J.D. Edwards does not replace H Glossary Group data items during an upgrade.
3. Perform an add or change.

   On the Help Task List form, "F5=User Inst" is displayed if you wrote your own User Defined Help instructions.

Working with Data Field Descriptions

▶ To work with data field descriptions

1. From Data Dictionary, press F11.



2. On the Data Field Descriptions form, enter specific jargon or language descriptions for each data item. See *About Language and Jargon* in *Technical Foundation* for details.

Working with the Next Numbers Facility

The Next Number facility controls the automatic numbering for such items as new G/L account numbers, voucher numbers, address numbers. It allows you to specify what numbering system you want to use and gives you a method of incrementing numbers to reduce transpositions and keying errors.

Complete the following tasks:

- Locate the Next Numbers facility
- Work with Next Numbers by company and fiscal year

▶ To locate the Next Numbers facility

From menu G00, choose Next Numbers.

```
  0002                              Next Numbers

Action Code. . . . . I
System Code. . . . . 09__  General Accounting


              _____Use_____    Next Number   Check Digit
              Next Account ID     21831          _
              Journal Entries      1946          _
              Consol Accounts    90000214        _
              _______________    ________        _
              _______________    ________        _
              _______________    ________        _
              _______________    ________        _
              _______________    ________        _
              _______________    ________        _
              _______________    ________        _

CAUTION:
 Changing the data on this screen may make it impossible to retrieve
 previously added addresses and may result in attempts to assign
 duplicate numbers.

          F8=Next Numbers by Co/FY        F24=More Keys
```

What You Should Know About

What You Should Know About Next Numbers

Next Numbers

The next numbers file is F0002

- 10 element array
- 1 record per system
- Modulus 11 check optional

Once set, do not change

- Has an impact on system performance
- Will not duplicate numbers. When it reaches max, starts over
- Cannot change position of user or add new entry without programming modifications

Ties with the Data Dictionary

- Data Item in Data Dictionary points to the Next Number System. For example, System Code 09 AID Data Item

The next numbers file is F0002:

- 10 element array
- 1 record per system
- Modulus 11 check optional

Once set, do not change:

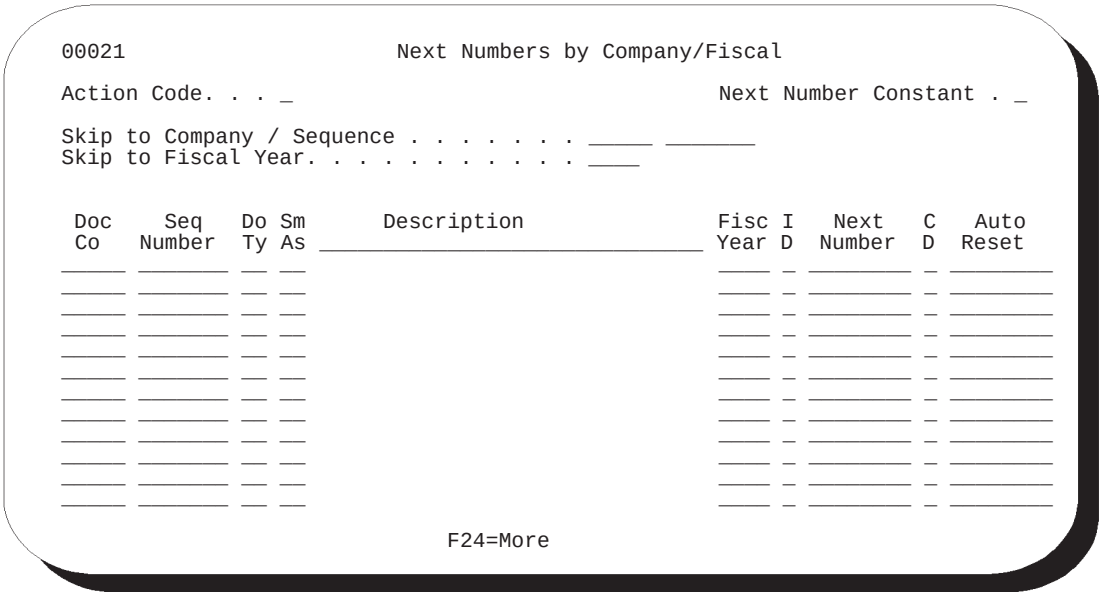
- Has an impact on system performance
- Will not duplicate numbers; when it reaches max, starts over
- Cannot change position of user or add new entry without programming modifications

Ties with the Data Dictionary:

- Data Item in Data Dictionary points to the Next Number System (for example, System Code 09 AID Data Item)

▶ To work with Next Numbers by company and fiscal year

1. From Next Numbers, press F8.



2. Set the Next Number constant field to maintain next numbers by
   - Company
   - Company and Fiscal Year

   Use Next Number by Company for these original documents:
   - Journal Entries
   - Accounts Payable Vouchers
   - Accounts Receivable Invoices
   - Sales Orders
   - Purchase Orders

About the Field Reference File

The Field Reference File contains the specifications for each data item in the J.D. Edwards Data Dictionary. Because the J.D. Edwards Data Dictionary is different from the standard IBM Data Dictionary, each data item record needs to be translated from the J.D. Edwards standard to the IBM standard.

When building the Field Reference File, J.D. Edwards groups the data items. Items that begin with "A" are translated into the IBM-readable format and stored in file F98FRFA. Data items that begin with "B" are in F98FRFB. Each letter of the alphabet has a corresponding F98FRF file. Client data items are stored in F98FRF$ and F98FRF@. You can rebuild one file at a time. You can also build the message file in alternative languages.

What Happens with the Rebuild?

The system does the following:

- Rebuilds F98FRFA-Z, $, and @
- Picks up Data Dictionary data item glossary groups D and S
- Rebuilds the message file (QJDEMSG) in QGPL. Uses a processing option, Form ID J98DDMSGF, to determine which library to build the QJDEMSG file. The default is QGPL
- Does not rebuild the J.D. Edwards message file if entering a single field reference file to be built
- Builds a separate message file for each language installed. Enter "**" for all languages installed on the system.

Always rebuild the files in the same library as previously built.

About the J.D. Edwards Message File

The J.D. Edwards Message (QJDEMSG) file contains all the messages that are coded Glossary Group J. The programs access the messages from this file. If a client adds messages with Glossary Group J, a rebuild is necessary to correctly add the new messages to the J.D. Edwards Message (QJDEMSG) file.

Rebuilding only the J.D. Edwards Message File?

The system does the following:

- Rebuilds the message file (QJDEMSG) in QGPL. Uses a processing option, Form ID J98DDMSGF, to determine which library to build the QJDEMSG file. The default is QGPL
- Picks up Data Dictionary data item glossary group J

Enter a value from UDC table 01/LP to generate a message file for a single language. Enter "**" for all languages installed on the system.

Locating the Rebuild FRF and JDE Msg File Form

▶ **To locate the Rebuild FRF and JDE Msg File form**

From menu G9642, choose Rebuild FRF & JDE Msg File

```
98FRF                        Rebuild FRF & JDE Msg File

The Field Reference Files are facsimiles of the J. D. Edwards Data Dictionary
and are vital for the creation of all data base files. The version of the Data
Dictionary upon which they are based determines the type and characteristics
of all application data elements. This procedure will recreate these files
based upon the Data Dictionary files found in the library specified, placing
the DDS source in the JDESRC source file the Source Library selected, with
the Field Reference Files being created in the Data Library selected.

           Base Field Ref Files on Data Dictionary in Library __________

           Create Field Ref source in Source Library   __________

           Create Field Ref Files in Data Library      __________

           Single field ref($, @, A-Z or blank=all)    _

           Language for message file (** for all) . __

           NOTE:  Generation of Field Reference and Message File is
                  submitted to batch.  No data files may be
                  created during this generation process.

Press Enter to Rebuild Field Reference Files      F3=Exit without Rebuild
```

Exercises

See the exercises for this chapter.

Work with Data File Design Aid

About the Data File Design Aid

J.D. Edwards Data File Design Aid provides a simple mechanism for creating Data Description Specifications (DDS) for physical and logical files.

- J.D. Edwards does not allow any file changes through the Source Entry Utility (SEU) to enforce standards. Changes must be done through File Design Aid.

What You Should Know About

Enforced Prefixes

Throughout the Data Dictionary, J.D. Edwards makes extensive use of the data item name. Within files, these data item names are qualified with a prefix to make them unique. Every data file in J.D. Edwards software is assigned a two-character prefix. For example:

- Business Unit Master file is MC
- Address Book Master is AB
- The data name MCU in the Business Unit Master file is MCMCU
- The data name in the Address Book file is ABMCU
- Use of prefixes ensures that data item names are both consistent and unique.

Enforced naming conventions

At J.D. Edwards, file names begin with an F prefix and the format within that file begins with an I prefix.

Data Dictionary validation

- All data fields defined in files are verified against the Data Dictionary.
- Programmers cannot enter data names without first creating and documenting them in the Data Dictionary.
- Prefixes of $ and @ are reserved for client use.

Automatic reference to Field Reference Files

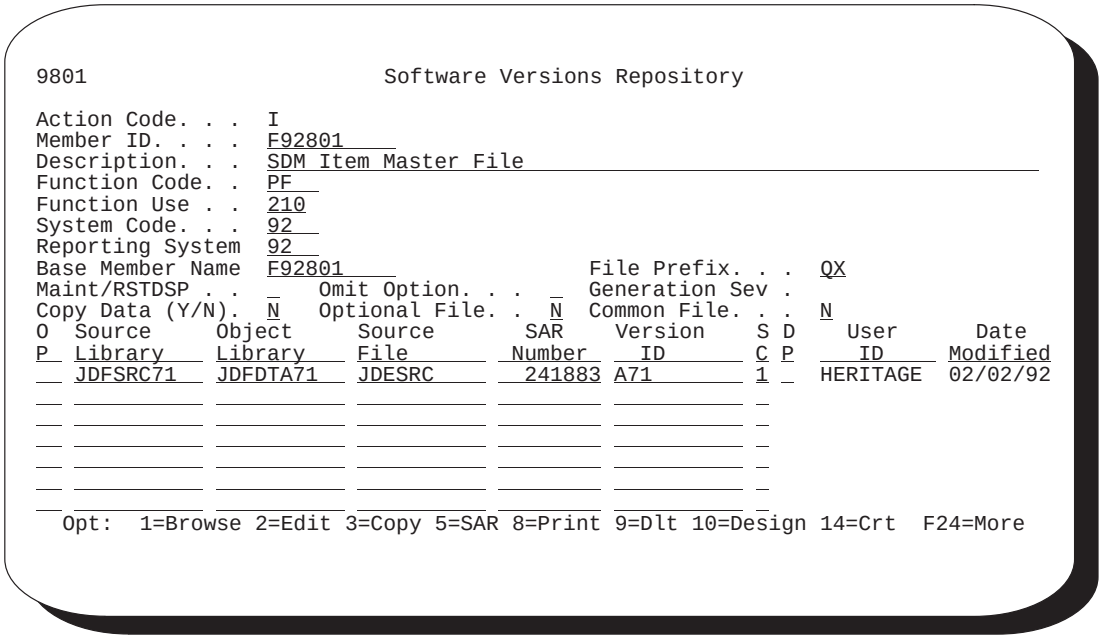
- J.D. Edwards uses IBM's Field Reference File (FRF) technology for all files. When creating the DDS for a file, you need to enter the Data Dictionary data item name. Data File Design Aid automatically enters the correct keywords for referring to the FRFs.
- If data items are added to the Data Dictionary, the user needs to run the rebuild for the Field Reference Files before using Data File Design Aid.

Resequencing

- A sequence number allows you to rearrange data items within a file while you are designing.

About Assigning the File Prefix

File prefixes are assigned through the Software Versions Repository.



- The Q series is reserved for clients.
- If creating a new logical file, the prefix defaults from the based on physical file.
- To view all file prefixes currently in use, press F1 on the File Prefix field. A file prefix can display in this list more than once if it is attached to more than one file.
    - Pressing F10 from this form displays all file prefixes that you should not use.

F10 – User Defined Code Form

F10 – User Defined Code Form

F10. Displays the User Defined Code form to see which prefixes you should not use.

Field	Explanation
File Description	The description of a record in the Software Versions Repository file. The member description is consistent with the base member description.

File Description The description of a record in the Software Versions Repository file. The member description is consistent with the base member description.

- The information in this form comes from a logical file built over the Software Versions Repository.
- The information in this form is updated automatically whenever the user adds, updates, or deletes software version repository record(s) for files.

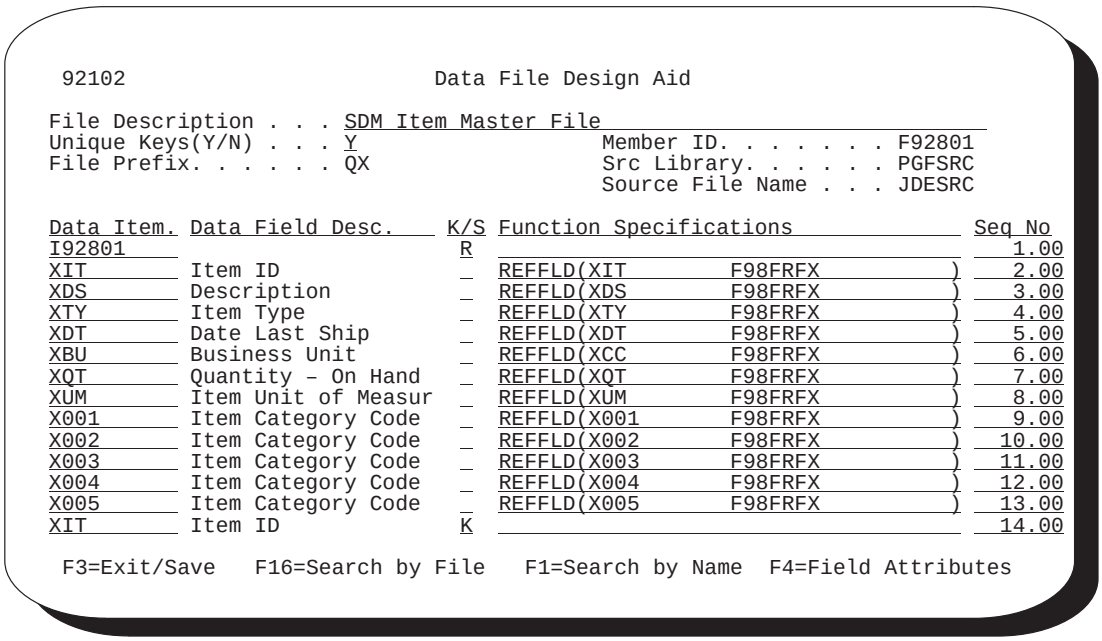
- Programmers are responsible for not assigning the same prefix to different files used in the same program.

Entering Data File Design Aid

You must have access to the source file to enter FDA.

▶ To enter Data File Design Aid

1. Inquire on a physical file.
2. Copy the production source down to a development environment.
3. Choose Option 10 to take you to the appropriate Design Aid form based on the members Function Code value.
   - A PF or LF value takes you to File Design Aid.

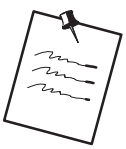


```
92102                          Data File Design Aid

File Description . . . SDM Item Master File
Unique Keys(Y/N) . . . Y                    Member ID. . . . . . . F92801
File Prefix. . . . . . QX                   Src Library. . . . . . PGFSRC
                                            Source File Name . . . JDESRC

Data Item. Data Field Desc.     K/S Function Specifications                Seq No
I92801                           R                                          1.00
XIT        Item ID               _ REFFLD(XIT        F98FRFX         )     2.00
XDS        Description           _ REFFLD(XDS        F98FRFX         )     3.00
XTY        Item Type             _ REFFLD(XTY        F98FRFX         )     4.00
XDT        Date Last Ship        _ REFFLD(XDT        F98FRFX         )     5.00
XBU        Business Unit         _ REFFLD(XCC        F98FRFX         )     6.00
XQT        Quantity - On Hand    _ REFFLD(XQT        F98FRFX         )     7.00
XUM        Item Unit of Measur   _ REFFLD(XUM        F98FRFX         )     8.00
X001       Item Category Code    _ REFFLD(X001       F98FRFX         )     9.00
X002       Item Category Code    _ REFFLD(X002       F98FRFX         )    10.00
X003       Item Category Code    _ REFFLD(X003       F98FRFX         )    11.00
X004       Item Category Code    _ REFFLD(X004       F98FRFX         )    12.00
X005       Item Category Code    _ REFFLD(X005       F98FRFX         )    13.00
XIT        Item ID               K                                        14.00

 F3=Exit/Save   F16=Search by File   F1=Search by Name  F4=Field Attributes
```

Field	Explanation
File Description	Database text string that names the data item. Enter text in upper and lower case. The system uses this field to search for similar data items. To enter an alpha description, follow these conventions: Dates – Begin all Date fields with Date Amounts – Begin all Amount fields with Amount Units – Begin all Unit, Quantity, and Volume fields with Units Name – Begin all 30-byte description fields with Name Prompt – Begin any Y/N prompting field with Prompt Address Number – Begin all address numbers (employee, customer, owner) with Address Number

Field	Explanation
Unique Keys(Y/N)	Specifies if the data file contains unique keys. • If you say yes, Data File Design Aid puts the unique keyword in the DDS. As a result, no two records may have duplicate keys. • If you say no, Data File Design Aid leaves the UNIQUE keyword out of the file DDS. . . . . . *Form-specific information* . . . . . . If a file can be organized so the key will uniquely identify only one specific record, define the Unique Keys field. Uniqueness can be specified for physical and logical files. Most J. D. Edwards physical files in the past have been defined as sequential and logicals were used for creating keyed sequences. More recently, however, physical files have been keyed.
Member ID	The record of the Software Versions Repository member to be copied. . . . . . *Form-specific information* . . . . . . The name assigned to the file. Defaults in from the Software Versions Repository.
File Prefix	This field indicates the prefix associated with a file. Use F1 to display all file prefixes in use. Each physical file should have an unique file prefix.
Src Library	The library containing the data to be copied. . . . . . *Form-specific information* . . . . . . The library where the source for the data file resides. Defaults in from the Software Versions Repository.
Source File Name	The name of the file within the source library that contains the source member. Defaults in form the Software Versions Repository.
Based on File	Designates the physical file on which a logical file is based. • Defaults in from the Software Versions Repository and only displays for logical files. . . . . . *Form-specific information* . . . . . . For physical and logical files, the Based On File is the same as the physical file. For join files, the Based On File is the name of the first physical file that the join is built over.

Field	Explanation
Data Item Type	The Data Dictionary name of the field or the record format name. • The file prefix is added to create unique data names for each file specification if a data item is entered in this field. • The record format line is automatically defaulted in.
Data Item Size	The description of the data item entered in the previous field. • Comes from the Row Description field in the Data Dictionary.
K/S	Identifies the DDS Type indicating whether the field is a format name, key field, select logic field or omit logic field. It may be used in conjunction with information that appears in the Function Specifications field.
Function Specifications	Used with the DDS Type specified in the K/S column. • If it is a record format name: It is blank for physical files Contains the PFILE (Filename) statement for a logical file and you enter: JFILE (Filename Filename) statement for join files listing all the files involved in the join. Right below the JFILE statement, you use the JFLD (Field Field) statement to list the fields that are used to construct the join. • If you are defining a normal data item and you want the FRF field designation pulled in, you leave it blank. • If you are defining Select/Omit logic on a field, you enter the logic itself. • If you are defining a key data item, you may leave the Function Specifications field blank, or you may enter any valid DDS function keyword (DESCEND, RENAME, SIGNED, ZONE, and so forth).
Seq No	Determines the order of the fields in the file. . . . . . *Form-specific information* . . . . . . When designing a physical, list the component fields in descending order of their importance to the file. Keyed items must always be last in sequence number within the Data File Design Aid program itself.



There is a fold area which includes additional information: data item type, data item size, and number of display decimals.

Sample — Logical File

J.D. Edwards logical files contain all fields from the PF, only keys are specified.

```
 92102                          Data File Design Aid

File Description . . . LF – Business Unit, Item ID
Unique Keys(Y/N) . . . Y                  Member ID. . . . . . . F92801LA
File Prefix. . . . . . QX                 Src Library. . . . . . PGFSRC
Based on File. . . . . F92801             Source File Name . . . JDESRC

Data Item. Data Field Desc.     K/S Function Specifications              Seq No
I92801                           R  PFILE(F92801)                         1.00
XCC        Business Unit         K                                        2.00
XIT        Item ID               K                                        3.00
                                 _                                        4.00
                                 _                                        5.00
                                 _                                        6.00
                                 _                                        7.00
                                 _                                        8.00
                                 _                                        9.00
                                 _                                       10.00
                                 _                                       11.00
                                 _                                       12.00
                                 _                                       13.00
                                 _                                       14.00

 F3=Exit/Save    F16=Search by File    F1=Search by Name  F4=Field Attributes
```

Sample — Logical File with Selects

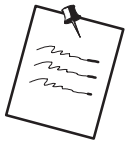
This example represents an AND condition for the selects.

```
 92102                          Data File Design Aid

File Description . . . LF – Acct ID, LT, DOI, Sub LT, Serv Date, Doc TyN#
Unique Keys(Y/N) . . . _                  Member ID. . . . . . . F0911LH
File Prefix. . . . . . GL                 Src Library. . . . . . PGFSRC
Based on File. . . . . F0911              Source File Name . . . JDESRC

Data Item. Data Field Desc.     K/S Function Specifications              Seq No
I0911                            R  PFILE(F0911     )                     1.00
AID        Account ID            K                                        2.00
LT         Ledger Type           K                                        3.00
DOI        DOI Sub               K                                        4.00
SBL        Subledger             K                                        5.00
DSV        Date – Service/Tax    K                                        6.00
DSVY       Date – Service/Tax    K                                        7.00
DSVM       Date – Service/Tax    K                                        8.00
DSVD       Date – Service/Tax    K                                        9.00
DCT        Document Type         K                                       10.00
DOC        Document (Voucher,    K                                       11.00
KCO        Document Company      K                                       12.00
POST       G/L Posted Code       S  CMP(EQ 'P')                          13.00
BC         Bill Code             _  CMP(NE 'H')                          14.00

F3=Exit/Save    F16=Search by File    F1=Search by Name  F4=Field Attributes
```

Sample — Logical File with Omits

This example represents an AND condition for the omits.

```
 92102                          Data File Design Aid

File Description . . . LF – Report Code 01
Unique Keys(Y/N) . . . _                    Member ID. . . . . . . F0101LH
File Prefix. . . . . . AB                   Src Library. . . . . . PGFSRC
Based on File. . . . . F0101                Source File Name . . . JDESRC

Data Item. Data Field Desc.     K/S Function Specifications          Seq No
I0101                           R   PFILE(F0101      )               1.00
AC01       Category Code – Add  K                                    2.00
ALPH       Name – Alpha         K                                    3.00
AN8        Address Number       K                                    4.00
DFI        Date – First Invoic  O   COMP(EQ 000000)                  5.00
DLI        Date – Last Invoice  _   COMP(EQ 000000)                  6.00
                                _                                    7.00
                                _                                    8.00
                                _                                    9.00
                                _                                   10.00
                                _                                   11.00
                                _                                   12.00
                                _                                   13.00
                                _                                   14.00

F3=Exit/Save   F16=Search by File   F1=Search by Name  F4=Field Attributes
```

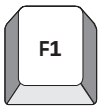


Creating Join Files and Work Files

Creating Join Files and Work Files

To create a join file or a work file, you should use the Source Edit Utility.

Function Keys From File Design Aid



F1 – Field Help on Data Item

F1. Using F1 in the Data Item field takes you to the Data Item Search form.

F2 – J.D. Edwards Command Line

F2. Access the command line to enter a J.D. Edwards or IBM command without having to exit to Command Entry or a menu. If you are secured out of Command Entry or Menu Traveling, you can still get to this command line but you cannot execute commands or menu travel.

F3 – Exiting Data File Design Aid

F3. When you press F3 to exit Data File Design Aid, the following form appears.

```
                          Data File Design Aid


    Update Source Changes (Y/N). . N

    Member ID. . . . . . . . . . . F92801
    File ID. . . . . . . . . . . . JDESRC
    Src Library. . . . . . . . . . PGFSRC

    Description. . . . . . . . . . SDM Item Master File
    Function Code. . . . . . . . . PF

    Return to Design (Y/N) . . . . N
```

On this form, you can choose to:

- Exit without saving the changes made.
- Exit and save the changes made.
- Save the changes made and return to the Design Aid form.

F6 – Access Repository Services

F6. This form provides access to other repository services within J.D. Edwards.

F16 – Search by File

F16. Accesses the File Field Description form to view file formats and field descriptions for any file on the system.

What Are the Data File Design Aid Standards?

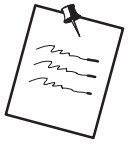
Field	Explanation
Unique Keys	Specifies if the data file contains unique keys If Yes, FDA puts the unique keyword in the DDS. No two records can have duplicate data in the key field. If No, FDA leaves the keyword out of the file DDS. Records can share data in those key fields. . . . . . *Form-specific information* . . . . . . If a file can be organized so the key will uniquely identify only one specific record, define the Unique Keys field. Uniqueness can be specified for physical and logical files. Most J. D. Edwards physical files in the past have been defined as sequential and logicals were used for creating keyed sequences. More recently, however, physical files have been keyed.
File Description	The description of a record in the Software Versions Repository file. The member description is consistent with the base member description. . . . . . *Form-specific information* . . . . . . The description associated with each file is used to further identify the relation of the file and its purpose. • Physical files should have a description that explains the purpose of the file. • Logical files should be designated as follows: LF – fldname, fldname, fldname: where fldname is a key field. • Join files should be designated as follows: JF – filename/filename/filename – fldname,fldname,fldname; where the filename is a file over which the join is built and fldname is the key field joining the files. • Work files should be designated as follows: WF – filename; where filename is the file that the work file accesses.
Based On File	Designates the physical file on which a logical file is based. • Defaults in from the Software Versions Repository and only displays for logical files. . . . . . *Form-specific information* . . . . . . For physical and logical files, the Based On File is the same as the physical file. For join files, the Based On File is the name of the first physical file that the join is built over.

Field	Explanation
Ordering of Fields	Determines the order of the fields in the file. . . . . . *Form-specific information* . . . . . . When designing a physical, list the component fields in descending order of their importance to the file. Keyed items must always be last in sequence number within the Data File Design Aid program itself.
Logical Files	Logical files include all fields; we do not define specific fields.
Recompiling	When recompiling a physical, you need to delete any logicals or joins from the data file library and then recompile them after the physical has been recompiled.
Record Format	It is a J.D. Edwards standard that only one record format is defined for each physical and logical file. Joins may contain more. Record format names begin with I followed by the physical file number.
Field Reference Files	Used in all file creations to retrieve field descriptions.

Merge Functions for Program Temporary Fix (PTF) Installations and Reinstallations

The PTF installation or reinstallation does the following:

- A PTF installation prints a report that identifies all files that are in the PTF library but were not installed in the client's production libraries. You must add the new files manually into the appropriate libraries.
- A reinstallation prints a report to add new files into appropriate libraries.
- Updates JDFDATA in a PTF installation; replaces JDFDATA in a reinstallation.
- Adds new keys to both logical and physical files.
- Changes the file formats of logical and physical files.



The Data Models display relational models of the major files within each J.D. Edwards product.

The Data Models display relational models of the major files within each J.D. Edwards product.

Data File Design Aid Summary

In summary, the Data File Design Aid has the following features or restrictions:

- It has direct ties to the Data Dictionary and the Field Reference Files.
- It attaches a two-character prefix to each data item to create a unique field within the file.
- A record format must be defined for all files with a K/S value of R. This is the default record format.
- The PFILE keyword is automatically pulled in for logical files.
- Logical files must have a Based on File designated in the Software Versions Repository, which carries over to the design form.
- You must enter the data item names from the Data Dictionary.
- Perform these steps for creating a new file:
  - Data items must reside in the Data Dictionary.
  - You must rebuild the FRF files if new data items were added (from the Rebuilds menu, G9642).
  - A new file must have a file prefix specified on the Software Versions Repository record.
- Field Reference Files are characterized by the following:
  - They contain all the definitions for creating fields.
  - There are 28 in all (F98FRFA–F98FRFZ, F98FRF$, and F98FRF@).
  - Each field reference file contains all the data items beginning with the same character as the field reference file.

    For example: F98FRFA contains all Data Dictionary data items beginning with the letter A.

Exercises

See the exercises for this chapter.

Work with Screen Design Aid

About Screen Design Aid

Screen Design Aid (SDA) is an interactive feature you use to design and maintain forms. This full-screen editor validates your work against the Data Dictionary and adds records to vocabulary overrides. You can work with multiple record formats simultaneously and you can move fields from one format to another.

Below is a list of some features of the Screen Design Aid:

- Design is conducted in a safe work environment. If you make a mistake you can exit without changing a form's Data Description Specifications (DDS).
- Form specifications are stored in data structures in the QRECOVERY library. This is similar to the IBM recovery of SEU.
- You can create a form in normal mode (80 columns by 24 rows) or wide mode (132 columns by 27 rows). You can also design wide forms on 80 column devices using a windowing facility.
- Answering initial yes/no options allows you to create a basic form skeleton for a subfile, non-subfile or window-style form.
- SDA is fully integrated with the Data Dictionary and vocabulary override files. You can place fields on the form by referring to a Data Dictionary name and override default attributes, if necessary. You can place vocabulary override fields on the form and, if desired, modify their contents through the full form.
- SDA is fully integrated with the system database. You can select fields from the system database, create a pick list and then reorder fields in the pick list. You can place fields on the form individually or all at once by pinpointing locations on the full form with an ampersand (&) or asterisk (*).
- SDA has full screen capability. You can add, change, move, or delete fields by entering control characters directly on the form.
- Unlike the IBM SDA, the JDE SDA allows you to work with multiple record formats at one time. You can display and change any combination of formats simultaneously (as long as they do not overlap). You can also move fields from one format to another.

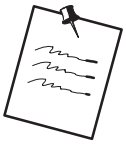
- SDA allows you to simulate a form at program execution time. You can run the simulation for any set of conditioning indicators to represent a particular error condition or other program functions.

Editing Commands

Below is a list of editing commands available in the SDA:

Command	Explanation
*DEL	Delete field(s) (used in Field Definition window)
d (cannot be uppercase D)	Delete field(s) (used in Field Definition window)
<<, >>	Shift field(s) to the left or right
(xx...xx) 'xx...xx'	Literals (use apostrophes)
–	Move from position.
=	Move to position.
– –	Move block from position
=	Move block to position.
F7	Restore the form if you accidently press Field Exit or a power failure knocks you off.

The following is a list of precautions and automatic features of the SDA:



- Do not use the INSERT or DELETE keys while in the actual design portion of SDA.
- Do not use the INSERT or DELETE keys while in the actual design portion of SDA.
- SDA automatically assigns editing indicators.
  - Indicators 40 to 79 are reserved for editing.
  - Indicator 40 is reserved for the Action Code field.
  - Indicator 41 is reserved for the key fields.
  - If you use all available indicators, you will get an error message.
- Indicator 37 is used in subfile forms to highlight all fields on the last line of the subfile to indicate that no more records exist.

Prefix Standards

Below is a list of prefix standards for use in the SDA:

Prefix	Explanation
VD	Video display fields. • VD fields display database information from the file being used for the form and you can use them to enter database information. • Default size is the size specified in the Data Dictionary for the data item being displayed. • Reside in the based on file and can be input/output.
SF	Subfile fields. • Same as VD fields, but they are in a subfile. • Default size is the size specified in the Data Dictionary for the data item being displayed plus editing characters.
SH	Subfile Hidden fields. SH fields store data that is not displayed on a form.

Field Name Standards

Below is a list of field name standards for use in the SDA:

Field	Standard
VC0 – Video constants	VC0 fields display definitions or descriptions for a single piece of data or for a group of data. VC0 fields are always output fields and the description that is loaded into the VC0 field is obtained from a separate file • For example, if creating a form using the Item Master file (F92801), you need to take the Item Master Business Unit field and chain out to the Business Unit Master file (F0006) to get the description for that Business Unit. • You enter *VC0 for the Field Name field in the Field Definition form when adding a new constant or description field. • The default size for VC0 fields is 30.
VTX – Video text	These fields display the row description or column headings from the Data Dictionary. • The text that displays in the VTX fields is stored in the Vocabulary Overrides file (F9220). • You can type directly over Vocabulary Override fields in SDA. You enter *VTX for the Field Name field in the Field Definition form when adding a new text field. • The default size for VTX fields is 16.
Line 24 is always VDL24	You cannot change the text for Line 24 by using the Field Definition form because it is too large. Type over the text in Line 24 to change it.
TTL@	Uses the default title from Vocabulary Overrides if the form is called from another form. Uses the menu selection text if the form is called from a menu.
ACTION	Action Code field. • The name assigned by SDA. • The default cursor keyword is assigned to the action code field.
*LITER – Literal fields	Literals are added by placing apostrophes around the text on the screen and pressing Enter. (For example, "V928011").

Updating or Adding Fields through SDA

Field	Explanation
* – Field Definition Window	Allows you to update existing fields and add new fields without using the Pick List feature. Place the * one space to the left of the first character of the requested field to display the Field Definition form. • To add a field, place an asterisk (*) on the SDA design area where you want to add the field. • To update a field, place an asterisk in the attribute character of the field you want to update. You can pull in the form field, the Row Description/ Column Headings (VTX), and a 30 character description field (VC0) all at the same time by making special entries in the field definition form (*BOTH and *ALL).
& – Field Selection Window	Allows you to add new fields using the Pick List feature Causes the Field Selection form to display. To place a field on the screen from your Pick List, place an ampersand (&) on the SDA design area where you want to place the first character of the field. Allows you to pull in one or all of the following at the same time: • The Row Description/Column Headings (VTX) • The form field • A description field (VC0)

Working with Screen Design Aid

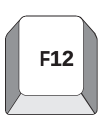
To work with Screen Design Aid you must have access to the source file.

▶ To work with Screen Design Aid

1. Inquire on a form in SVR
2. Copy the production source code down to a development environment using selection 3.
3. Choose option 10 to access the appropriate Design Aid form based on the member's Function Code value.

```
928200                              Item Search

Business Unit. BBBBBBBBBBBB  000000000000000000000000000000

O   Item                                        Ship
P  Number         Description                   Date    Quantity On Hand  UM
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000

     Opt:1=Item Master Information     F5=Item Maintenance    F24=More Keys
```

Function Key Exits



F12 – Return to Previous Panel

F12. Exits you out of the current form or utility and returns to the form you were on previously.

- Use F12 instead of F3; however, if you are calling another program outside of SDA (for example: F13, F24), you must use F3 to return to SDA.

Updating an Existing Field

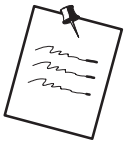
▶ To update an existing field

Place an asterisk (*) in front of the field (in the attribute character).

```
 928200                                  Item Search

*Business Unit . BBBBBBBBBBBB  000000000000000000000000000000

 O   Item                                          Ship
 P  Number        Description                      Date    Quantity On Hand  UM
 B 00000000 000000000000000000000000000000 00000000 0000000000000000 00
   Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
 B 00000000 000000000000000000000000000000 00000000 0000000000000000 00
   Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
 B 00000000 000000000000000000000000000000 00000000 0000000000000000 00
   Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
 B 00000000 000000000000000000000000000000 00000000 0000000000000000 00
  Screen: V928200---------------Field-Definition-------------Format:-V928200C-
   Dict Name    XCC        Text        Business Unit. . . . . . . . . . . . . .
   Data Type    A          Field Name  VTX004                        Cond Ind
   Row/Column     3   2    Field Use   O                    RI  _ ___ ___ ___
   Size          14 __     Text Form   R                    HI  _ ___ ___ ___
   Dft Cursor   _          Edited      _                    UL  _ ___ ___ ___
   Lower Case   _          Change      _ __                 ND  _ ___ ___ ___
   OVRDTA       _          Duplicate   _ __                 BL  _ ___ ___ ___
   OVRATR       _          Field Cond  _ ___ ___ ___        PR  _ ___ ___ ___
                                                            PC  _ ___ ___ ___
  --F3=Exit--F12=Prev-Screen--F17=Dictionary----------------------------------
```

Field	Explanation
Dict Name	Identifies the four–byte data item name from the Data Dictionary. This is the only required field for most data items, the rest will default.
Text	Describes the Dictionary Name. On VTX fields contains soft coded description that updates F9220.
Data Type	S Numeric data items. A Alphanumeric. Blank w/decimal position blank defaults to A. Blank w/decimal position defined defaults to an S. All J.D. Edwards fields are defined as A.

Field	Explanation
Field Name	Identifies a screen field name. • *VTX (VTX001–VTX200) automatically assigns next available. • *VC0 (VC0001–VC0200) automatically assigns next available. • *LITER literal fields. • *BOTH or *ALL to bring in video (VD), VC0, and VTX fields.
Row/Column	Two 3–digit fields that define the row and column location of field.
Field Use	How the data is to be used on the screen. I input only. O output only. B Both input and output. H Hidden field. M IBM Message field.
Size	Two fields identify the length of the data item and for numeric fields, the decimal places. • If left blank, automatically fills.
Text Form	For VTX fields, identifies the field from the Data Dictionary that is used for headings. R Row Description. C Column Heading 1. D Column Heading 2.
Dft Cursor	Starting cursor position on a data entry screen, Y or N.
Edited	Should the field be checked for error conditions, Y or N. • Will assign an indicator for error handling and default Condition Indicator information. • Assigns error indicators 40–79. • Key fields, K. Assigns indicator 41.
Lower Case	To allow lowercase, Y or N.
Change	CHANGE keyword is in effect, Y or N. The indicator will be seton whenever the value in this field is changed.
OVERDTA	OVRDTA keyword is in effect, Y or N. Used with PUTOVR to override data that is in a field already on the video.



You should edit all input capable fields. (There will be a“Y” or “K” in the “Edited” field).

NOTE: All input capable fields should be edited (‘Y’ or ‘K’ in Edited field).

Field	Explanation
Duplicate	Duplicate the data. Only valid for an SFL format. Puts the DUP keyword in the video/report DDS but the Program Generator does **not** generate any code to enable this.
OVRATR	OVRATR keyword is in effect, Y or N. Used with PUTOVR to override display attributes of a field on the video.
Field Cond	Field Conditioning Indicators. Determines if the user can see the field or not.
Condition Indicators	To set a condition indicator on a field, enter a Y in the first blank to the right of the desired condition. You have the option of entering up to 3 indicators to be associated with the condition. Three spaces are provided to allow an N prior to the two digit indicator to create a negative condition. The allowed conditions are: RI Reverse Image HI Highlight UL Underline ND Nondisplay BL Blink PR Protect PC Place Cursor A blank or N will deactivate the condition.
Color	F8 toggles to display the color attributes for the field. The first blank to the right of each color controls the order that multiple colors will appear in the DDS (1–7). If multiple colors are defined, the first enabled color appears and the remaining colors are ignored. A blank or N disables the color. The color values default based on whether you selected JDE or SAA colors in QJDF.

Accessing Fast Path Create for a New Form

When you design the format for a new form, you have the option to use Fast Path Create.

▶ To access Fast Path Create for a new form

1. Locate your form and enter selection 10
   - If SDA cannot find the existing DDS for your form, the following form will appear:
   - If SDA cannot find the existing DDS for your form, the Create New Screen (V927400) form will appear.

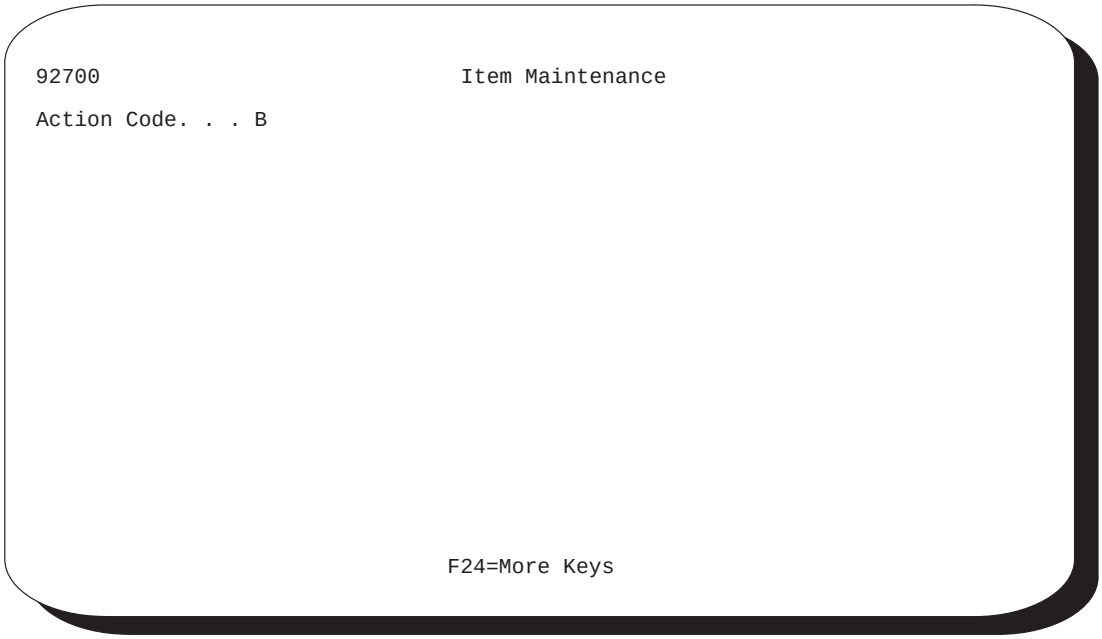
```
92510                          Create New Screen
Screen: V927400
Text Description. . . Item Search
                      (Y/N)
Fast Path Create        Y
Screen Type
 Action Code            Y
 Window                 N
 Wide Screen (Y/N). .   N
Subfile Creation
 Subfile                N
 Subfile Fold           N
 Subfile Clear          Y
 Selection Exits        N
Record Format Level
 PUTOVR                 N
 OVERLAY                Y
                       F3=Exit     F12=Previous
```

Field	Explanation
Description	Describes the function or option exit. Cannot exceed 40 characters.
Fast Path Create	Automatically create record formats, fields, file, and record level parameters.
Action Code	Automatically create an Action Code field.
Window	Video is a window.
Wide Screen	Video is in wide format (132 columns by 27 rows) or normal format (80 columns by 24 rows).

Field	Explanation
Subfile	Create subfile format.
Subfile Fold	Create a fold area in the subfile using SFLDROP and SFLFOLD keywords.
Subfile Clear	Use SFLCLR (Y) OR FSLINZ (N).
Selection Exits	Create selection exits to allow the user to exit the program using selection codes.
PUTOVR	The video record format used the PUTOVR keyword. Causes the video to be erased and redisplayed when a window is displayed.
OVERLAY	The video record format uses the OVERLAY keyword. Will not erase and redisplay video when a window is displayed. Most J. D. Edwards videos use OVERLAY.

2. Press Enter and SDA begins the creation of your form based on what you specified.

Example – Form with Action Code and No Subfile



Example – Form with Action Code and Subfile

```
92700                              Item Maintenance

Action Code. . . B


SFLCTL
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD
 DELETE THIS FIELD

                                   F24=More Keys
```

Example – Form with Action Code, Subfile and Selection Exits

```
92700                              Item Maintenance

Action Code. . . B


O
P
B
B
B
B
B
B
B
B
B
B
B
B
B
B
B

                                   F24=More Keys
```

Adding Fields without Using a Pick List

▶ To add a Video Text Field (VTX)

1. Place an asterisk (*) on the SDA design area where you want to place the video text field.

```
928011                        Item Master Information

Action Code. . . B

*

Screen: V928011---------------Field Definition-------------Format: V9280111-
 Dict Name   XIT       Text
 Data Type   _         Field Name  *VTX                          Cond Ind
 Row/Column  ___ ___   Field Use   _                        RI   _ ___ ___ ___
 Size        ____ __   Text Form   R                        HI   _ ___ ___ ___
 Dft Cursor  _         Edited      _                        UL   _ ___ ___ ___
 Lower Case  _         Change      _ __                     ND   _ ___ ___ ___
 OVRDTA      _         Duplicate   _ __                     BL   _ ___ ___ ___
 OVRATR      _         Field Cond  _ ___ ___ ___            PR   _ ___ ___ ___
                                                          PC   _ ___ ___ ___
--F3=Exit  F12=Prev Screen F17=Dictionary-----------------------------------
```

When the field definition form appears:

2. In the Dict Name field, enter the Data Dictionary item name.
3. In the Field Name field, specify *VTX.
   - The system assigns the next available VTX number.
4. Enter a value in the Text Form field to indicate whether the row description or a column heading from the Data Dictionary should be used as the text.
   - R – Row Description.
   - C – Column Heading 1.
   - D – Column Heading 2.

     Default is R for non-subfile formats

   - Text defaults from the Data Dictionary based upon the Text Form value.
5. Enter a value in the Size field only if you want to override the default length of 16 for the Row Description that will be brought in.

You should start your fields in column two (unless selection exits exist). This allows you to place an asterisk to the left of the first field in column one.

NOTE: You should start your fields in column two (unless selection exits exist). This allows you to place an asterisk to the left of the first field in column one.

To add a Database Video Field (VD)

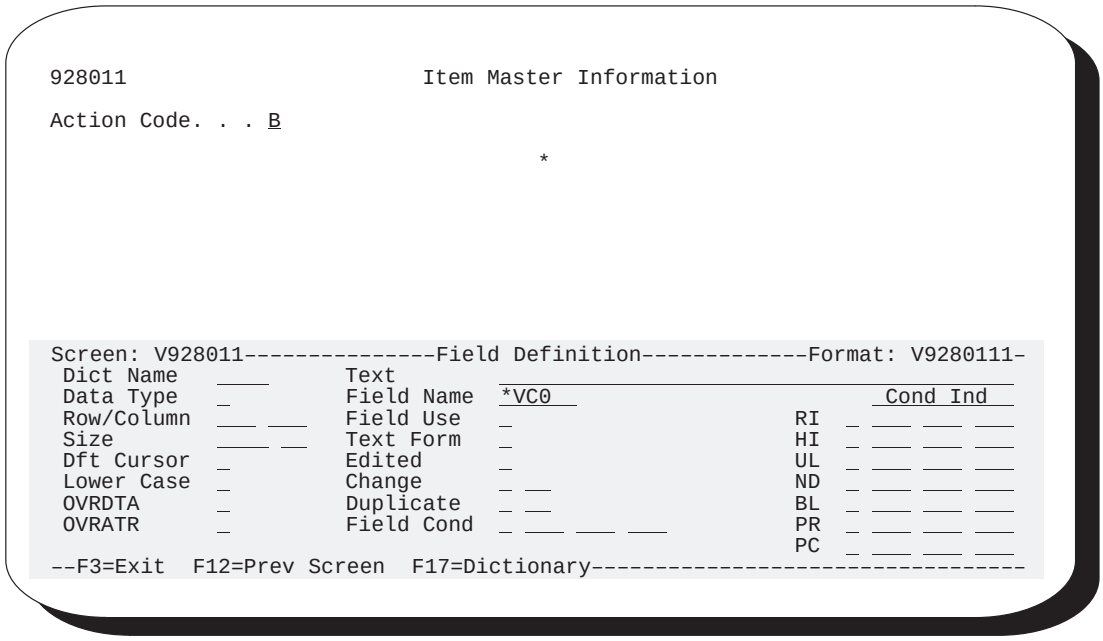
1. Place an * on the SDA design area where you want the field to be placed.

```
928011                         Item Master Information

Action Code. . . B
                  *






Screen: V928011---------------Field Definition-------------Format: V9280111-
 Dict Name   XIT       Text       ________________________________________
 Data Type   _         Field Name ______                          Cond Ind
 Row/Column  ___ ___   Field Use  B                        RI  _ ___ ___ ___
 Size        ____ __   Text Form  _                        HI  _ ___ ___ ___
 Dft Cursor  _         Edited     _                        UL  _ ___ ___ ___
 Lower Case  _         Change     _ __                     ND  _ ___ ___ ___
 OVRDTA      _         Duplicate  _ __                     BL  _ ___ ___ ___
 OVRATR      _         Field Cond _ ___ ___ ___            PR  _ ___ ___ ___
                                                           PC  _ ___ ___ ___
--F3=Exit  F12=Prev Screen  F17=Dictionary--------------------------------
```

2. On the field definition form, enter the Data Dictionary item name in the Dict Name field.
3. Specify a field use.
   - The default for field use is O for output.
   - Editing indicators are not assigned for output fields.
4. Enter the Data Type, Size, and Text defaults from the Data Dictionary.

To add a Video Constant Field (VC0)

1. Place an * on the SDA design area where you want to place the description or constant field.



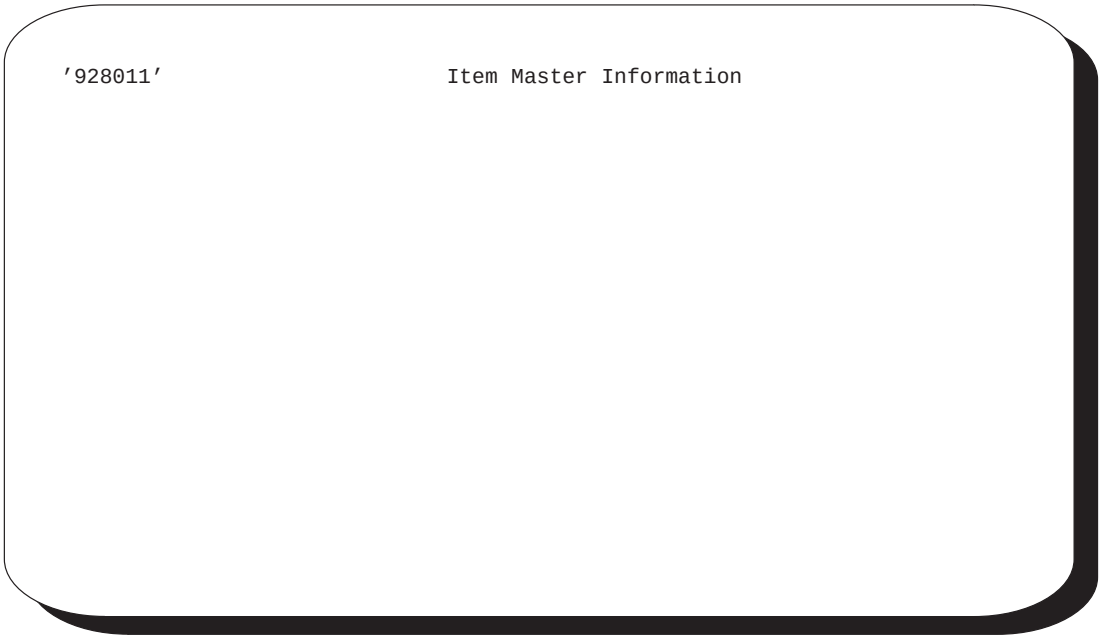
The Field Definition form is displayed.

2. On the field definition form, specify *VCO in the Field Name field.
   - The system assigns the next available VC0 number.
3. If you want to override the default length of 30, enter a value in the size field.

Adding a Literal Field

▶ To add a literal field

Enter the literal text in the SDA Design area, enclose the text within single quotes, and press Enter.



J.D. Edwards standard is that the only literal on a form is the program ID in the top left corner.

J.D. Edwards standard is that the only literal on a video is the program ID in the top left corner.

Using the *BOTH and *ALL Features

The field definition form allows you to enter some special keywords in the Field Name field. Two of these special keywords are *BOTH and *ALL.

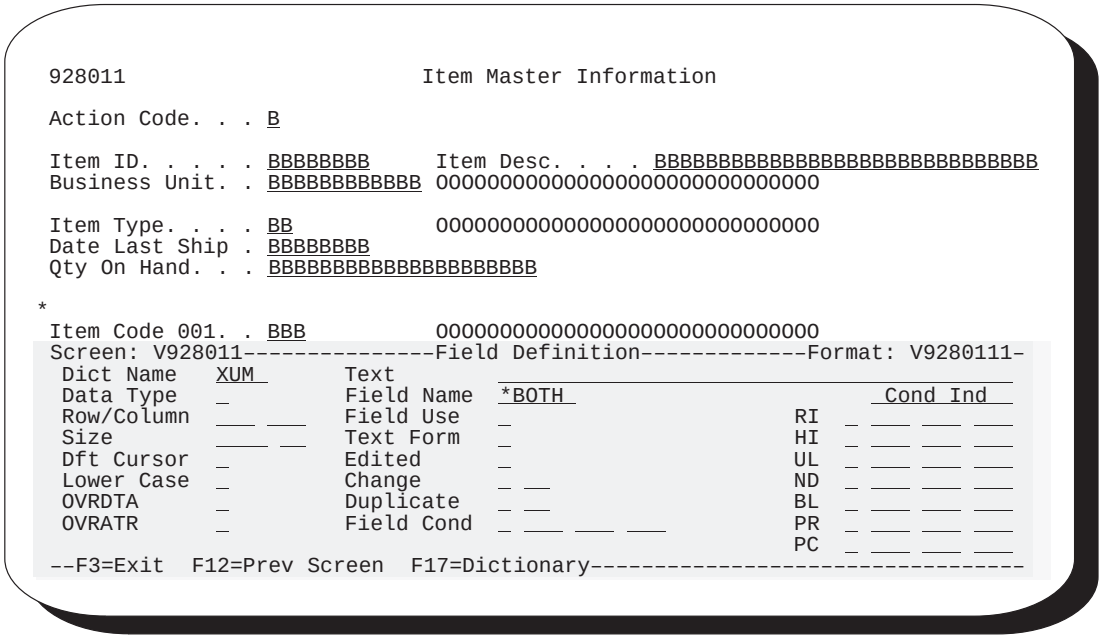
This feature provides for placement of multiple fields with a single entry.

Using *BOTH

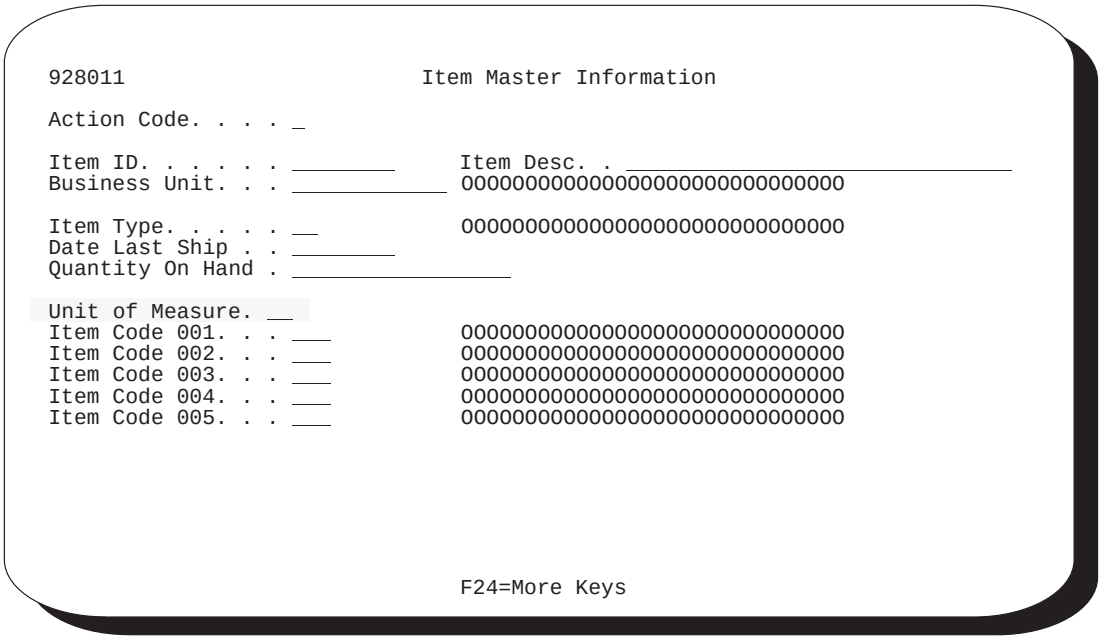
If you use the keyword *BOTH with a valid data dictionary item, screen design will place a VTX field and a video (VD) field on the screen.

To use *BOTH

On Field Definition type "*BOTH" in the Field Name



When you enter *BOTH, the following form appears in the SDA design area for the Unit of Measure field:



Using *ALL

If you use the keyword *ALL with a valid Data Dictionary item, screen design places a VTX field, a video (VD) field, and a VC0 field on the form.

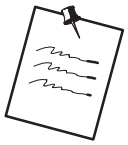
▶ To use *ALL

On the Field Definition form, type "*ALL" in the Field Name

```
928011                        Item Master Information

Action Code. . . B

Item ID. . . . . BBBBBBBB     Item Desc. . . . BBBBBBBBBBBBBBBBBBBBBBBBBBBBB
 Business Unit. . BBBBBBBBBBBB OOOOOOOOOOOOOOOOOOOOOOOOOOOO

Item Type. . . . BB           OOOOOOOOOOOOOOOOOOOOOOOOOOOO
Date Last Ship . BBBBBBBB
Qty On Hand. . . BBBBBBBBBBBBBBBBBBBB

*
 Item Code 001. . BBB          OOOOOOOOOOOOOOOOOOOOOOOOOOOO
 Screen: V928011---------------Field Definition-------------Format: V9280111-
  Dict Name   XUM       Text
  Data Type   _         Field Name  *ALL                            Cond Ind
  Row/Column  ___ ___   Field Use   _                        RI  _ ___ ___ ___
  Size        ____ __   Text Form   _                        HI  _ ___ ___ ___
  Dft Cursor  _         Edited      _                        UL  _ ___ ___ ___
  Lower Case  _         Change      _ __                     ND  _ ___ ___ ___
  OVRDTA      _         Duplicate   _ __                     BL  _ ___ ___ ___
  OVRATR      _         Field Cond  _ ___ ___ ___            PR  _ ___ ___ ___
                                                           PC  _ ___ ___ ___
 --F3=Exit  F12=Prev Screen  F17=Dictionary-----------------------------------
```

When you enter *ALL, the following form appears in the SDA design area for the Unit of Measure field:

```
928011                        Item Master Information

Action Code. . . . _

Item ID. . . . . _________      Item Desc. . ____________________________
Business Unit. . ______________ OOOOOOOOOOOOOOOOOOOOOOOOOOOOOO

Item Type. . . . . __           OOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
Date Last Ship . . _________
Quantity On Hand . ___________________

Unit of Measure. __ OOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
Item Code 001. . . ___          OOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
Item Code 002. . . ___          OOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
Item Code 003. . . ___          OOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
Item Code 004. . . ___          OOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
Item Code 005. . . ___          OOOOOOOOOOOOOOOOOOOOOOOOOOOOOO



                                F24=More Keys
```



Field Defaults

Field Defaults

The following are field defaults in the SDA:

VD - Video Display field

- Output only

  You can enter a B in the Field Use field to override the default and change it to both input and output.

- No Editing

  If you enter B in the Field Use field, the Edited field defaults to Y. The Condition Indicators default to Y and the next available editing indicator is assigned to that field.

VTX - Video Text field

- 16 bytes long
- Defaults to Row description rather than column description

VC0 — Video Constant field

- 30 bytes long

Understanding the SDA Exit/Save Function Key

F3 – Design Aid Exit/Save

F3. Saves or exits or does both from Screen Design Aid.

```
92590                        Design Aid Exit/Save


   Save DDS (Y/N) . . .  N

   Member ID. . . . . .  V928200
   File ID. . . . . .  JDESRC
   Src Library. . . . .  STB301SRC

   Description. . . . .  Item Search
   Function Code. . . .  DSPF

   Return to Edit (Y/N)  N




                              F12=Previous
```

Field	Explanation
Save DDS (Y/N)	Whether or not to include the function or option key on the screen. . . . . . *Form-specific information* . . . . . . Saves the DDS and updates or creates Vocabulary Overrides and Function Key definitions.
Member ID	The record of the Software Versions Repository member to be copied. . . . . . *Form-specific information* . . . . . . Name of the screen.
File ID	The name of the file within the source library that contains the source member. Defaults in form the Software Versions Repository. . . . . . *Form-specific information* . . . . . . Identifies the file that will contain the source code.

Field	Explanation
Src Library	The library containing the data to be copied. . . . . . *Form-specific information* . . . . . . Identifies the library where the source code resides.
Description	The description of a record in the Software Versions Repository file. The member description is consistent with the base member description. . . . . . *Form-specific information* . . . . . . Description of the Member ID. Should be the same as in F9801.
Function Code	Designates the object type such as display file, physical and logical files. Use F1 in the field to view the available types. . . . . . *Form-specific information* . . . . . . Identifies the Member ID.
Return to Edit (Y/N)	Logical files include all fields; we do not define specific fields. . . . . . *Form-specific information* . . . . . . EOJ or return to SDA.

Compiling Your Form

▶ To compile your form

From the Software Versions Repository form, enter 14 next to the member in the subfile that you want to create and press Enter.

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  V928200
Description. . .  Item Search
Function Code. .  DSPF  Video Display Files
Function Use . .  113     Inquiry
Install System .  92    Computer Assisted Design
Reporting System  92    Computer Assisted Design
Base Member Name  P928200                File Prefix. . .
Maint/RSTDSP . .  1   Omit Option. . .  _  Generation Sev .
Copy Data (Y/N).  N   Optional File. .  _  Common File. . .  N
O  Source     Object     Source       SAR    Version    S D    User      Date
P  Library    Library    File         Number   ID       C P    ID      Modified
__ JDFSRC     JDFOBJ     JDESRC       241883 A61        1 _ HERITAGE   11/04/91
__ _________  _________  _________    ______ _________  _ _
__ _________  _________  _________    ______ _________  _ _
__ _________  _________  _________    ______ _________  _ _
__ _________  _________  _________    ______ _________  _ _
__ _________  _________  _________    ______ _________  _ _
__ _________  _________  _________    ______ _________  _ _
  Opt:  1=Browse 2=Edit 3=Copy 5=SAR 8=Print 9=Dlt 10=Design 14=Crt  F24=More
```

Screen Design Standards and Tips

Title

A screen title is limited to 30 characters and should match the Software Versions Repository (F9801). The title you enter in SDA updates the vocabulary overrides record for the form. If you access the form using a menu selection, the menu selection name overrides the form title. If you access the form using a selection option or function key, the vocabulary overrides title is used.

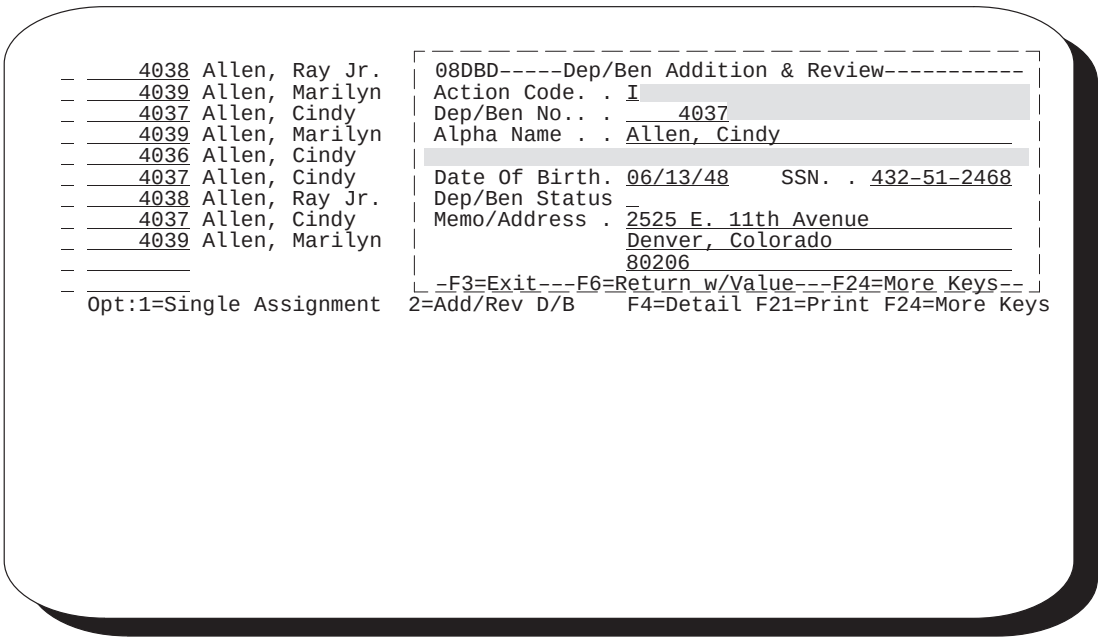
Line 24

You should document all function keys on the right side of line 24 and you should document options on the left side. The following guidelines should also be followed:

- List both the options and function keys in numeric order.
- F24 should always appear and should say MORE KEYS or MORE.
- F4 should always read MORE DETAIL or DETAIL.
- Do not include standard exits of F3, F7, F22, Help, Rollup, Rolldown.
- Line 24 should be in reverse image during an error condition except on forms. Line 24 is conditioned to appear in reverse image on forms based on indicator 93.
- If you specify *SAME for the field “Error Text” for Line 24 in vocabulary overrides, then the text displayed is the same as the text specified for the normal Line 24.

Forms

Within a form, line 24 should include F3 and F24 when the form is initially displayed. When designing forms in SDA, fill in unused line space with literal fields to prevent data on the calling form from showing through on the form. You can add the literal fields as blanks with a single quote on each end or through the Field Definition form.



You must enter blanks to overlay data on the calling form

Default Cursor

You set the default cursor attribute to Action Code for the input field closest to the upper-left corner of the form.

Fold Area

Keep the number of Fold Area lines to no more than two lines to avoid excessive use of the cursor keys when the Fold Area is open.

Description Fields

Define all description input fields to allow for uppercase and lowercase letters. Use VC0 descriptions when a field's value has no obvious meaning and you can retrieve a description from a master file or user defined codes.

Alpha Fields

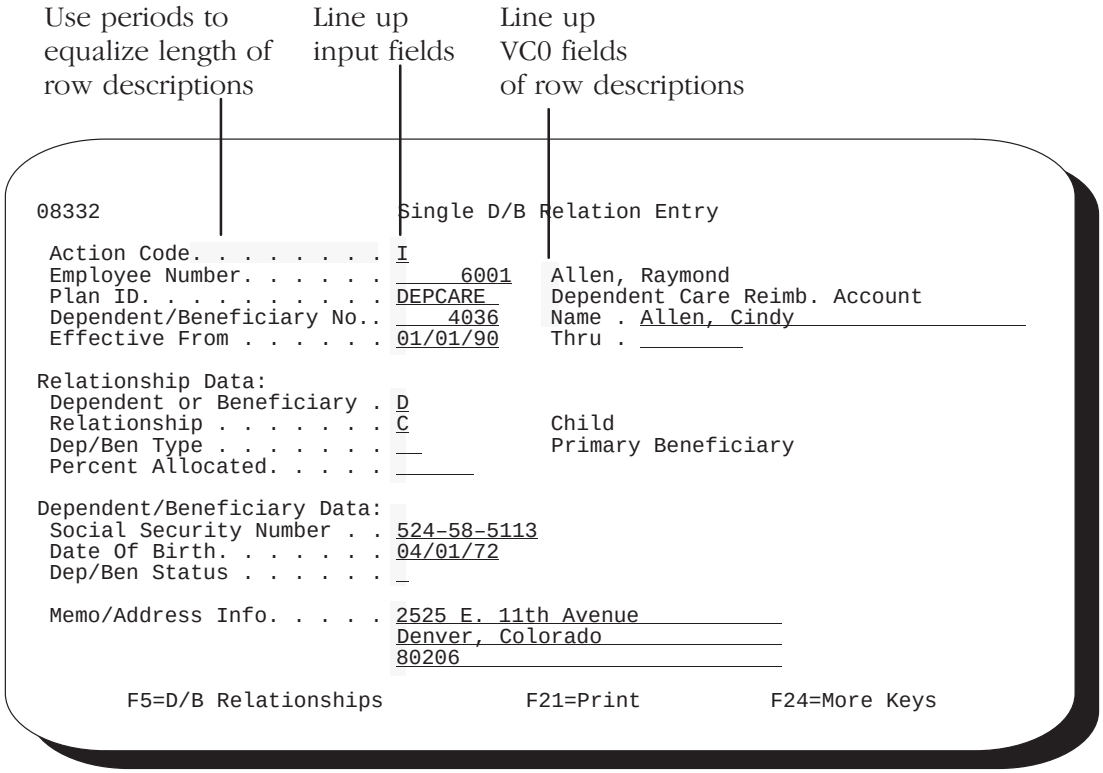
Because of the dynamic nature of international currency, you must define every field as alpha. The only exception is that you can define hidden fields as numeric. J.D. Edwards scrubbing routines handle the two-way conversion between numeric file data and alpha form fields.

General Aesthetics

The following are things you might want to consider when designing forms. They are guidelines that will give your forms a more professional look.

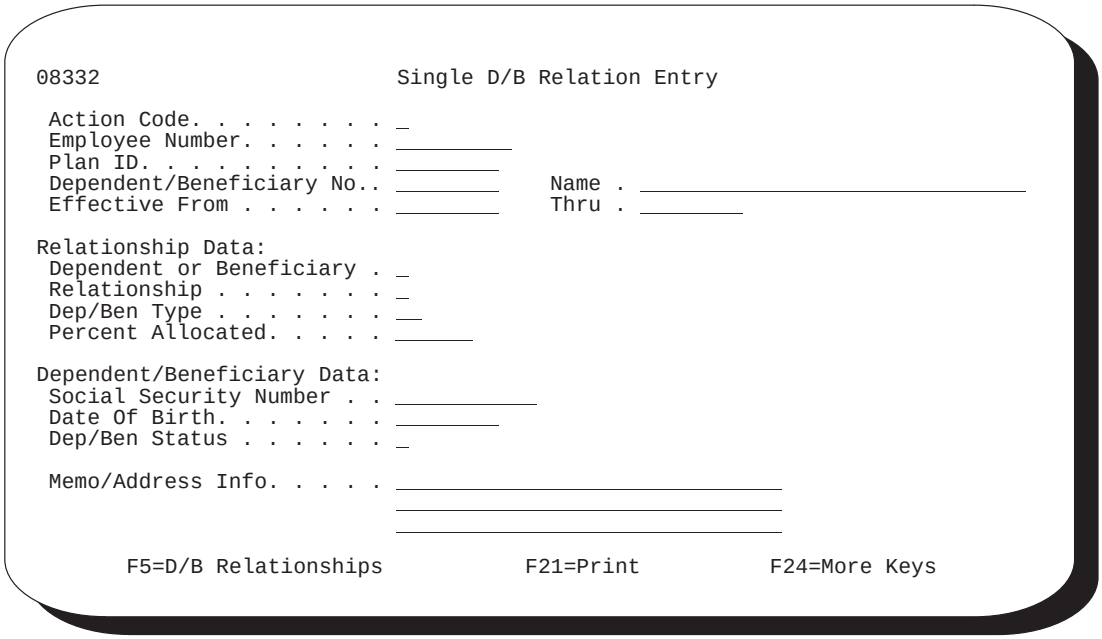
Alignment

Line up fields vertically. This includes row descriptions, input fields, and description fields. Fields on the left side of the form should be in column space 2 (column 1 is needed for the attribute byte).



Grouping Fields

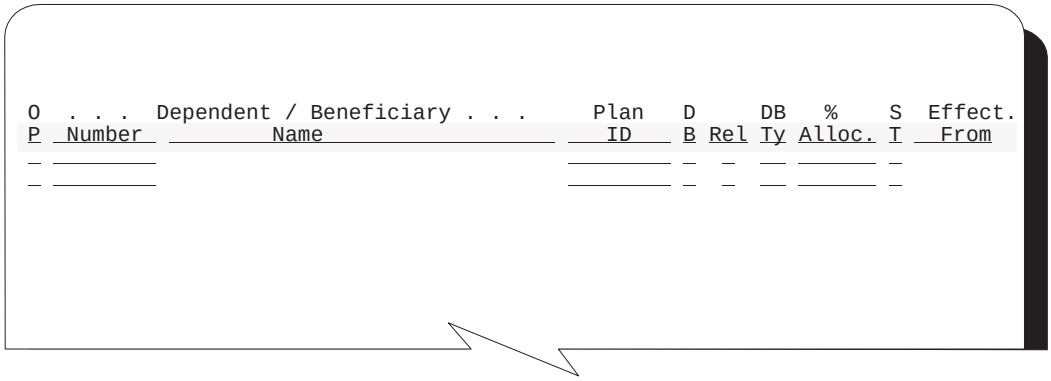
When entering a description heading to group related fields, use up to 40 characters for the description (or as long as space permits). Highlight the heading and end it with a colon. Underneath the heading, indent the group of fields one space to the right.



Spacing

Use the following as your standards when spacing different form elements.

- Separate column headings with one space.



- End row descriptions with at least one period followed by a single space before you begin associated input fields.

```
Dependent or Beneficiary . _
Relationship . . . . . . . _
Dep/Ben Type . . . . . . . __
Percent Allocated. . . . . _____
```

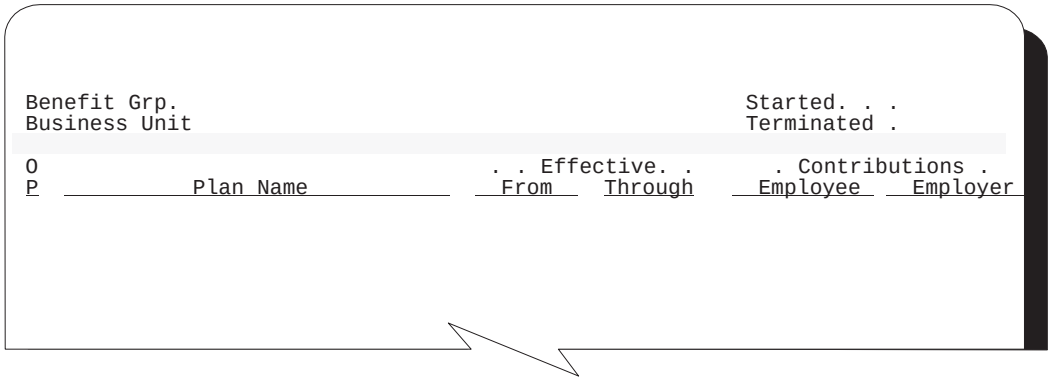
- Indent Fold Area fields one or more spaces to offset them from regular subfile.

```
08335                      Benefits  by Employee        Year . . . . 90
                                                        Type of Year C
                                                        Dates:
Employee . . _____6001    Allen, Raymond                Birth. . . . 10/20/58
Soc Sec No . 798-52-5841                                Orig. Hire . 12/15/88
Benefit Grp.                                            Started. . . 12/15/88
Business Unit           9 An Energy Deleted Interes     Terminated .

O                                    . . Effective. .      . Contributions .
P          Plan Name                  From    Through    Employee   Employer
_  Dependent Care Reimb. Account
    Plan ID: DEPCARE   Provider/Trustee: Edwards, J. D.
_  Life Insurance                    01/01/90  12/31/90
    Plan ID: LIFE      Provider/Trustee: State Mutual Insurance Company
```

- Use two or more spaces to separate Fold Area data fields from row descriptions that follow on the same line. End Fold Area row descriptions with a colon instead of periods to aid legibility.

```
O                                    . . Effective. .      . Contributions .
P          Plan Name                  From    Through    Employee   Employer
_  Dependent Care Reimb. Account
    Plan ID: DEPCARE   Provider/Trustee: Edwards, J. D.
_  Life Insurance                    01/01/90  12/31/90
    Plan ID: LIFE      Provider/Trustee: State Mutual Insurance Company
```

- Insert a blank line between header and subfile information.



- When possible, insert a blank line between the title and first field. Begin fields on line 3 unless you need to use the upper right corner of line 1 and 2.

Exercises

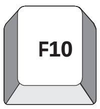
See the exercises for this chapter.

Adding Video Fields Using Pick List

▶ To add video fields

From the SDA form:

1. Access the Records Formats List using the F10 key
2. Complete the Record Formats List form



F10 – Record Formats List

F10. Displays the Record Formats List.

```
92520                              Record Formats List
Screen: V928200
                                                   Start
                                        Fast Path  / End      Related      # Fields    Fld
Opt    Format Name    Type               File      Lines      Record       Selected    Pfx

 1     V928200C       SFLCTL        F92801         001  006   V928200S        000      VD
 _     V928200S       SFL           __________     007  022   __________      000      SF
 _     V9282001       RECORD        __________     024  024   __________      000      VD
 _     __________     ______        __________     ___  ___   __________               __
 _     __________     ______        __________     ___  ___   __________               __
 _     __________     ______        __________     ___  ___   __________               __
 _     __________     ______        __________     ___  ___   __________               __
 _     __________     ______        __________     ___  ___   __________               __
 _     __________     ______        __________     ___  ___   __________               __
 _     __________     ______        __________     ___  ___   __________               __
 _     __________     ______        __________     ___  ___   __________               __
 _     __________     ______        __________     ___  ___   __________               __
 _     __________     ______        __________     ___  ___   __________               __
 _     __________     ______        __________     ___  ___   __________               __
 _     __________     ______        __________     ___  ___   __________               __
 _     __________     ______        __________     ___  ___   __________               __

 Opt: 1=DB Field Selection  3=Field List  4=Delete  5=Format Keywords
```

This form is used to select database fields and maintain record formats, record types, fast path files, and record format keywords.

Field	Explanation
Opt	Enter the appropriate number to indicate you want to select one of the following values: File/field pick list of ampersand functions. File/field pick list for fast path functions. List of defined fields in the format. Delete format. Record format keywords.

Field	Explanation
Format Name	Screen record format. The format name will be the video ID followed by a specific format suffix value. Typically, the suffix values are: subfile control format subfile format record format If additional formats are required, each format name must be unique so new format suffix values must be assigned.
Type	Record format type. See types listed below.
Fast Path File	The database file you want to select fields from.
Start/End Lines	Specifies the line number range of the format.
Related Record	Field that ties a subfile to a control record format. Required in all SFLCTL record formats.
# Fields Selected	The number of database fields that have been selected for use on the format.
Fld Pfx	Form field prefix to be used for the video fields: VD, SF.

About Record Formats

Several Record Format Types are valid for forms. Currently, they are

- SFLCTL - Subfile control

  Present in all subfile forms. Contains all of the fields in the header or top portion of the form, including the subfile column headings.

V928200C (SFLCTL)

```
928200                              Item Search

Business Unit. BBBBBBBBBBBB  00000000000000000000000000000000

O   Item                                          Ship
P  Number      Description                        Date   Quantity On Hand  UM
```

- SFL – Subfile

  Contains all of the fields in the subfile potion of the form, including the fold area, if applicable.

V928200S (SFL)

```
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
```

- RECORD

Present in all forms. In subfile forms, contains VDL24 (line 24 text). In non-subfile forms, can contain all fields on the form, including VDL24.

V9282001 (RECORD)

```
Opt:1=Item Master Information     F5=Item Maintenance   F24=More Keys
```

- SFLMSG – Subfile Message

  Displays error message text. J.D. Edwards does not use this format because errors are handled through RPG programs.

Selecting Database Fields

There are two methods of selecting database fields for placement on the form:

- With Fast Path
- With the File Selection List

Method	Explanation
Fast Path	Type 1 next to the format on which you want to place the fields and enter a file name under the Fast Path File column.
File Selection List	Type 1 next to the format on which you want to place the fields but do not enter a file name. Accesses a file selection form where you can specify multiple files and libraries from which to select database fields.

▶ To select a database field using Fast Path

1. On the Record Formats List form, enter a Fast Path File for the specified format.
2. For database field selection, choose option 1 f

```
92520                          Record Formats List
Screen: V928200
                                                    Start
                                        Fast Path   / End    Related      # Fields    Fld
Opt   Format Name      Type             File        Lines    Record       Selected    Pfx

 1    V928200C         SFLCTL           F92801      001 006  V928200S       000       VD
 _    V928200S         SFL                          007 022                 000       SF
 _    V9282001         RECORD                       024 024                 000       VD

 Opt: 1=DB Field Selection  3=Field List  4=Delete  5=Format Keywords
```

The Field Selection List appears.

```
92524                        Field Selection List
Report: V928200                                            Format: V928200C

Seq
No    Field Name    Description                         DT   Size    HDG  D  Use

___   QXXIT  K01  Item ID. . . . . . . . . . . . . . .  S      8  0   _   _   _
___   QXXDS       Description . . . . . . . . . . . .  A     30      _   _   _
___   QXXTY       Item Type. . . . . . . . . . . . . .  A      2      _   _   _
___   QXXDT       Date Last Ship . . . . . . . . . . .  S      6  0   _   _   _
___   QXXCC       Business Unit. . . . . . . . . . . .  A     12      _   _   _
___   QXXQT       Quantity On Hand . . . . . . . . . .  S     15  0   _   _   _
___   QXXUM       Unit of Measure. . . . . . . . . . .  A      2      _   _   _
___   QXX001      Item Code 001. . . . . . . . . . . .  A      3      _   _   _
___   QXX002      Item Code 002. . . . . . . . . . . .  A      3      _   _   _
___   QXX003      Item Code 003. . . . . . . . . . . .  A      3      _   _   _
___   QXX004      Item Code 004. . . . . . . . . . . .  A      3      _   _   _
___   QXX005      Item Code 005. . . . . . . . . . . .  A      3      _   _   _



        F3=Exit     F12=Prev Screen     F21=Select All
```

Field	Explanation
Seq No	Sequence Number to indicate which data items you want on the video you are creating and what order you want them to be displayed in the Pick List window accessed from SDA.
Field Name	The name given to a record format for a form, report, or database table.
Description	The Data Dictionary row description.
Data Item Type	The type of data. The data item types are defined in User Defined Codes, system code '98', record type 'DT'. Note: All amount fields should be entered as 15 bytes, 0 decimals, and data item type should be P (packed).
Data Item Size	The field size of the data item. NOTE: All amount fields should be entered as 15 bytes, 0 decimals, and the data item type should be P (packed).
HDG	Which heading to use from the Data Dictionary. Row Description Column 1 heading Column 1 and 2 heading
D	Used to indicate whether a 30 character VC field should be brought for constant information to be loaded into.

Field	Explanation
Use	Specifies how the data field is to be used on the video: Input only. Output only (default). Both input and output. IBM Message field.

F21 - Select All

F21. To select all the fields for the file instead of selecting them individually, press F21 from this form.

Based on the record format for which you are using the Field Selection List, the following information is the default:

- For a subfile control record format, the HDG field will default to R for the type of heading and the Use field will default to B for input/output.
- For a subfile record format, the HDG field will default to D for the type of heading and the Use field will default to B for input/output.
- For a non-subfile form, the HDG field will default to R for the type of heading and the Use field will default to B for input/output.
- For a report, the HDG field will default to D for the type of heading and the Use field will default to O for output.

▶ To select database fields using the File Selection List

From the Record Formats List form:

1. Choose option "1" but do not specify a file.

```
92520                           Record Formats List
Screen: V928200
                                              Start
                              Fast Path       / End     Related       # Fields    Fld
Opt   Format Name    Type       File          Lines     Record        Selected    Pfx

 1    V928200C       SFLCTL                   001 006   V928200S        000       VD
 _    V928200S       SFL                      007 022                   000       SF
 _    V9282001       RECORD                   024 024                   000       VD

 Opt: 1=DB Field Selection   3=Field List   4=Delete   5=Format Keywords
```

The File Selection List appears.

```
92522                           File Selection List
Screen: V928200                                                  Format: V928200C

File Name   Library    File Type              Description

F92801      JDFDATA    PF         SDM Item Master File

                       F3=Exit      F12=Prev Screen
```

2. Enter the files from which you want to select fields.

   Fields for files requested will be displayed through the Field Selection List form.

```
92524                           Field Selection List
Screen: V928200                                                  Format: V928200C

Seq
No     Field Name   Description                          DT    Size    HDG  D   Use

___    QXXIT  K01   Item ID. . . . . . . . . . . . . . . S       8  0  _    _   _
___    QXXDS        Description  . . . . . . . . . . . . A      30     _    _   _
___    QXXTY        Item Type. . . . . . . . . . . . . . A       2     _    _   _
___    QXXDT        Date Last Ship . . . . . . . . . . . S       6  0  _    _   _
___    QXXCC        Business Unit. . . . . . . . . . . . A      12     _    _   _
___    QXXQT        Quantity On Hand . . . . . . . . . . S      15  0  _    _   _
___    QXXUM        Unit of Measure. . . . . . . . . . . A       2     _    _   _
___    QXX001       Category Code 001. . . . . . . . . . A       3     _    _   _
___    QXX002       Category Code 002. . . . . . . . . . A       3     _    _   _
___    QXX003       Category Code 003. . . . . . . . . . A       3     _    _   _
___    QXX004       Category Code 004. . . . . . . . . . A       3     _    _   _
___    QXX005       Category Code 005. . . . . . . . . . A       3     _    _   _



        F3=Exit     F12=Prev Screen     F21=Select All
```

3. Select fields using the same techniques as in the Fast Path method.

   - If you select a key field, that field is edited as the key of the form. An edit indicator of 41 is assigned.

Placing Fields on a Form Using a Pick List

▶ To place fields on a form using a Pick List

On the Item Master Information form

```
928011                       Item Master Information

Action Code. . . . B

&
&






 Screen: V928200            Field Selection List             Format: V928200C
 Seq   Fields to select                                 Row  Desc Length. .  10
 No    Field Name          Description                   DT    Size   HDG  D  Use
   1   Qx$XIT 01   Item ID. . . . . . . . . . . . . . .  S      8   0  R      B
   2   Qx$XCC      Business Unit. . . . . . . . . . . .  A     12      R   D  B
 ___   __________  ____________________________________  _   _____  _  _   _  _
 ___   __________  ____________________________________  _   _____  _  _   _  _
 ___   __________  ____________________________________  _   _____  _  _   _  _
 ___   __________  ____________________________________  _   _____  _  _   _  _
 ___   __________  ____________________________________  _   _____  _  _   _  _
        F3=Exit  F10=Formats  F12=Prev Screen  F16=Field List
```

1. Type either one or more ampersands (&) on the form where you want to place the fields from the pick list you created.
   - If you place more than one &, make sure that you allow room for all of the fields that are returned to the form, so that you do not overlap fields.
2. On the Field Selection form, verify the information that is on the form (VTX field - HDG, 30-character description - D, and field Use - USE), as well as the order that they will be brought back (the sequence number), and row description length.

Adding a Fold Area to a Subfile

To add a Fold Area, place an asterisk (*) or ampersand (&) on the second line in the subfile format of your form. If you need a second line in the Fold Area, you can place an asterisk (*) or ampersand (&) on the third line of the subfile format. HDG should be "R" when adding to the fold.

Exercises

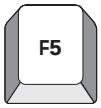
See the exercises for this chapter.

Function Key Exits from Screen Design Aid

F2 – J.D. Edwards Command Line

F2. Access a command line to enter a J.D. Edwards or IBM command without having to exit to Command Entry or a menu.

If tyou are secured out of Command Entry or Menu Traveling, you still get this command line, but you cannot execute commands or menu travel.



F5 – Format Display Control Window

F5. Shows the Format Display Control form.

```
928200                                Item Search

Business Unit. BBBBBBBBBBBB  OOOOOOOOOOOOOOOOOOOOOOOOOOOO

O   Item                                        Ship
P  Number      Description                     Date   Quantity On Hand  UM
B 00000000 OOOOOOOOOOOOOOOOOOOOOOOOOOOO -----Format-Display-Control---------
  Code 1 . OOO  Code 2 . OOO  Code 3 . OO  Sel Format     Type    Boundaries
B 00000000 OOOOOOOOOOOOOOOOOOOOOOOOOOOO   1  V928200C    SFLCTL  001  006
  Code 1 . OOO  Code 2 . OOO  Code 3 . OO   1  V928200S    SFL     007  022
B 00000000 OOOOOOOOOOOOOOOOOOOOOOOOOOOO   1  V9282001    RECORD  024  024
  Code 1 . OOO  Code 2 . OOO  Code 3 . OO   _
B 00000000 OOOOOOOOOOOOOOOOOOOOOOOOOOOO   _
  Code 1 . OOO  Code 2 . OOO  Code 3 . OO   _
B 00000000 OOOOOOOOOOOOOOOOOOOOOOOOOOOO   _
  Code 1 . OOO  Code 2 . OOO  Code 3 . OO   Window:    Row 001 Col 001
B 00000000 OOOOOOOOOOOOOOOOOOOOOOOOOOOO   Browse (Y/N) N
  Code 1 . OOO  Code 2 . OOO  Code 3 . OO Opt:-1=Display-Fmt--F3=Exit--F12=Pre
B 00000000 OOOOOOOOOOOOOOOOOOOOOOOOOOOO 00000000 OOOOOOOOOOOOOOOO OO
  Code 1 . OOO  Code 2 . OOO  Code 3 . OOO  Code 4 . OOO  Code 5 . OOO
B 00000000 OOOOOOOOOOOOOOOOOOOOOOOOOOOO 00000000 OOOOOOOOOOOOOOOO OO
  Code 1 . OOO  Code 2 . OOO  Code 3 . OOO  Code 4 . OOO  Code 5 . OOO

     Opt:1=Item Master Information     F5=Item Maintenance   F24=More Keys
```

The following table provides an explanation of the fields in the Format Display Control form.

Field	Explanation
Selection	Controls the display of record formats. 1 Format is active. Blank Not to display.
Format	Lists the DDS format names for the video screen. All names begin with Video name • Subfile control formats end with C. • Subfile formats end with S. • Record (non–subfile) formats end with 1.
Type	Describes the DDS format name.
Boundaries	Two 3–digit numbers that define the range (rows) for the DDS.
Window	Allows access to fields outside the boundaries.
Browse (Y/N)	Allows user to enable/disable the browse mode and view the screen as it would appear when executed. • Cannot change or access any item while in browse mode.

F4 – Subfile Drop (while in browse mode)

F4. Provides the following:

- Toggle between displaying the Fold Area or not for a subfile form
- Must set Browse in Format Display Control Window (F5)

F6 – Access Repository Services

F6. This form provides access to other repository services within J.D. Edwards.

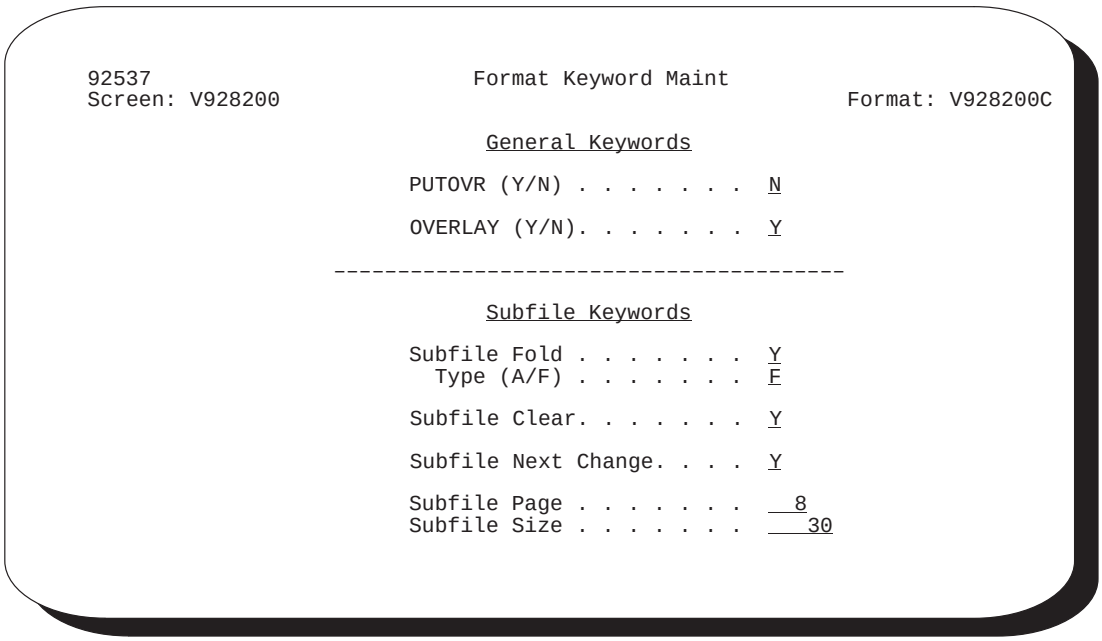
F8 – Toggle Monochrome/Color Display

F8. Provides the following:

- Will display your form in monochrome or color
- If accessing the Field Definition form, will toggle between Condition Indicators and Color Attributes

F10 – Option 5 — Format Keyword Maintenance

F10 – Displays the Format Keyword Maintenance form.



Field	Explanation
PUTOVR (Y/N)	The video record format used the PUTOVR keyword. Causes the video to be erased and redisplayed when a window is displayed.
OVERLAY (Y/N)	The video record format uses the OVERLAY keyword. Will not erase and redisplay video when a window is displayed. Most J. D. Edwards videos use OVERLAY.
Subfile Fold	Create a fold area in the subfile using SFLDROP and SFLFOLD keywords.
Type (A/F)	Further identifies subfile fold area: • A Will lose modified data in the subfile when you press F4. • F Data is retained.
Subfile Clear	This option specifies if you want to use SFLCLR or SFLINZ. The default is SFLCLR. This option is ignored when designing non-subfile screens. Y means you want SFLCLR N will give you SFLINZ
Subfile Next Change	Whether or not to use SFLNXTCHG (Y/N). Will require the user to correct any errors in the subfile before further execution of the program.
Subfile Page	Idnetifies the number of records on one subfile page, with the fold area open, if applicable. • 1 to 27 inclusive

Field	Explanation
Subfile Size	Identifies the total number of records in the subfile that will be loaded in one program cycle. • 1 to 9999 inclusive

F13 – Function Key/Opt Definition

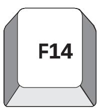
F13. Displays the Function Key/Opt Definition form.

- Used to define the function keys for the form
- Function Key Definition files (F9601 and F9611)

```
9601                          Function Key/Opt Definition

Action Code. . . I            Video Screen . . . V928200
                              Video Title. . . . Item Search
Line 24
   Opt:1=Item Master Information     F5=Item Maintenance    F24=More Keys

Include   Description                          Key/Opt  Field
   Y      Exit Program                           03     #FEOJ
   Y      Clear Screen                           22     #FCLR
   Y      Help Instructions                      HL     #FHELP
   Y      Roll Up/Next Record                    RU     #FROLU
   Y      Roll Down/Previous Record              RD     #FROLD
   Y      Field Sensitive Help                   01     #FQMRK
   Y      Display Error Message(s)               07     #FERRD
   Y      Display All Function Keys              24     #FKEYS
   Y      Item Maintenance                       05     #F01
   Y      Item Master Information                01     #S01




   Include: Y/N                    F16=Display All
```

Field	Explanation
Action Code	One character field used to indicate the action that the user wants to take on the record requested. Inquire on a record before you attempt to change it.
Video Screen	The name of the screen or report record to be copied. All records for soft coding will be copied.
Video Title	The vocabulary overrides title used on forms and reports. On forms, the title is retrieved from the Menu table. If a record is not found, then the title is retrieved from the Vocabulary Overrides table. Report titles are retrieved from the DREAM Writer Version ID (F98301).

Field	Explanation
Include	Whether or not to include the function or option key on the screen.
Description	Describes the function or option exit. Cannot exceed 40 characters.
Key/Opt	Identifies the function key number or option. Special values: Helps. Roll Up. Roll Down.
Field	Identifies the name of the function or option exit. Values always begin with a # (pound sign).



F14 – Indicator Control

F14. Displays the Indicator Control portion of a simulated program execution form.

- Used with the Browse mode to simulate a form at program execution

```
928200                                Item Search
              -------Indicator-Control----------
Business Unit                                     00000000

                         1 2 3 4 5 6 7 8 9
O   Item               1 0 0 0 0 0 0 0 0 0 0
P  Number  __         11 0 0 0 0 0 0 0 0 0 0      Quantity On Hand  UM
B 00000000 00         21 0 0 0 0 0 0 0 0 0 0      00000000000000000 00
  Code 1 . 00         31 0 0 0 0 0 0 0 0 0 0      . 000  Code 5 . 000
B 00000000 00         41 0 0 0 0 0 0 0 0 0 0      00000000000000000 00
  Code 1 . 00         51 0 0 0 0 0 0 0 0 0 0      . 000  Code 5 . 000
B 00000000 00         61 0 0 0 0 0 0 0 0 0 0      00000000000000000 00
  Code 1 . 00         71 0 0 0 0 0 0 0 0 0 0      . 000  Code 5 . 000
B 00000000 00         81 0 0 0 0 0 0 0 0 0 0      00000000000000000 00
  Code 1 . 00         91 0 0 0 0 0 0 0 0 0        . 000  Code 5 . 000
B 00000000 00                                     00000000000000000 00
  Code 1 . 00  Ignore all conditioning  _ (Y/N)   . 000  Code 5 . 000
B 00000000 00  Reset all indicators     _ (1/0)   00000000000000000 00
  Code 1 . 00 ----F3=Exit---F12=Prev-Screen-----  . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 00000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000

     Opt:1=Item Master Information     F5=Item Maintenance   F24=More Keys
```

F16 – List of Defined Fields

F16. Displays the List of Defined Fields form.

- Used to maintain the defined fields and add hidden fields.
- Only shows fields for the formats that are active.

```
92540                          List of Defined Fields
Screen: V92801


Opt  Fmt/Field     Description                         Row/Col Typ  Size    Use

 _   VTX007                 Item                       006 013  A    30      O
 _   VTX009            Quantity                        006 044  A    21      O
 _   VTX011          Ship                              006 066  A     8      O
 _   VTX003        P                                   007 002  A     1      O
 _   VTX006         Number                             007 004  A     8      O
 _   VTX008                Description                 007 013  A    30      O
 _   VTX010            On Hand                         007 044  A    21      O
 _   VTX012          Date                              007 066  A     8      O
     V92801S       Record Format               SFL
 _   SHXIT         Item ID - Hidden Field              000 000  A     8      H
 _   SFSELC        Selection Exits                     008 002  A     1      B
 _   SFXIT         Item ID. . . . . . . . . . . . . .  008 004  A     8      B
 _   SFXDS         Description  . . . . . . . . . . .  008 013  A    30      B
 _   SFXQT         Quantity On Hand . . . . . . . . .  008 044  A    21      B


  Opt: 4=Delete     5=Display/Update     F3=Exit     F12=Prev Screen
```

Hidden Fields

Used to store hidden field information

▶ To add a hidden field to a form

1. Roll to the bottom blank line of the format that contains the field.
2. Choose option 5, Display/Update.
3. Enter the field with a prefix of SH, description, type, size, and press Enter.
   - This information should be the same as the displayed database field that is affected.

Option 5. Select Field Definition

```
928200                              Item Search

*Business Unit. BBBBBBBBBBBB  000000000000000000000000000000

O   Item                                       Ship
P  Number         Description                  Date     Quantity On Hand  UM
B 00000000 000000000000000000000000000000 00000000 0000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 0000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 0000000000000000 00
  Code 1 . 000  Code 2 . 000  Code 3 . 000  Code 4 . 000  Code 5 . 000
B 00000000 000000000000000000000000000000 00000000 0000000000000000 00
Screen:V928200----------------Field-Definition-------------Format:-V928200C-
 Dict Name    XCC         Text        Business Unit . . . . . . . . . . . . .
 Data Type    A           Field Name  VTX004                       Cond Ind
 Row/Column     3   2     Field Use   O                      RI  _ ___ ___ ___
 Size          14 __      Text Form   R                      HI  _ ___ ___ ___
 Dft Cursor   _           Edited      _                      UL  _ ___ ___ ___
 Lower Case   _           Change      _ __                   ND  _ ___ ___ ___
 OVRDTA       _           Duplicate   _ __                   BL  _ ___ ___ ___
 OVRATR       _           Field Cond  _ ___ ___ ___          PR  _ ___ ___ ___
                                                             PC  _ ___ ___ ___
F3=Exit  F12=Prev-Screen  F17=Dictionary
```

- Accesses the Field Definition form, just as if you had entered an asterisk (*) for the field.

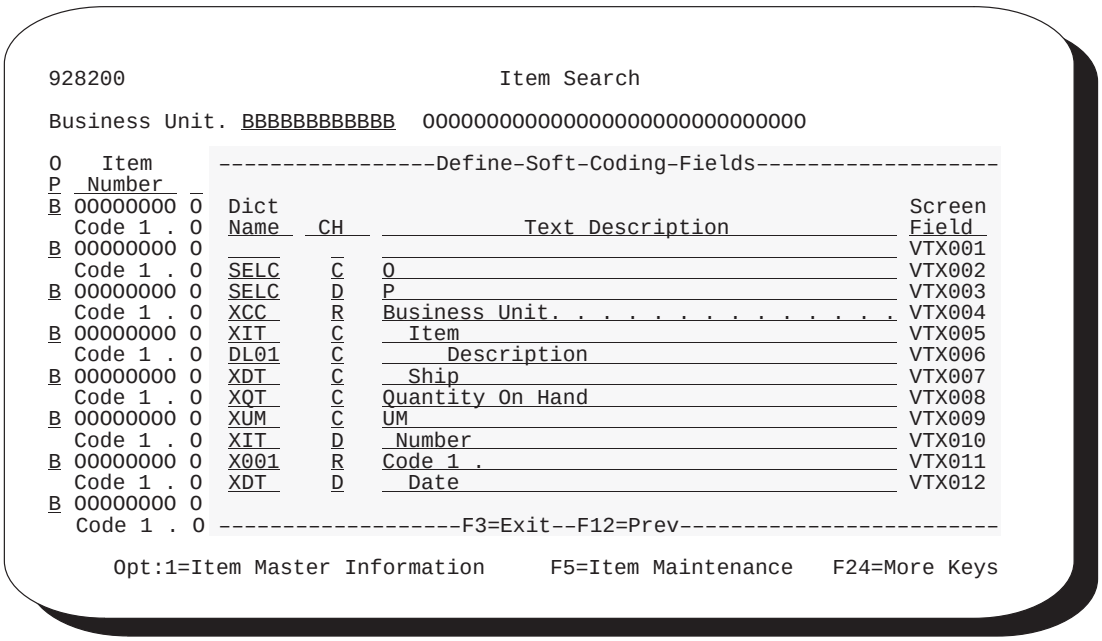
F17 – Define Soft Coding (Vocabulary Override) Fields

F17. Used to define soft coding fields.

- To define VTX fields other than row and column headings on the form. Row and column headings are protected here. Specify whether you want to use the Data Dictionary row description, column heading 1 or column heading 2.
- You can specify the literal text that will be loaded into a *VC0 field.
- You must save your form at least once in order to be able to update vocabulary overrides and/or function key definitions by this method. This is because when you are first defining a form, the vocabulary override record and function key definition record are not created until you save the form.

After changing the size of a VTX field, you should execute the Rebuild Vocabulary Override Field Lengths program (11/G9642). This displays the correct VTX field lengths in the Field Size field in Vocabulary Overrides.

An example of the Define Soft Coding Fields form follows:



F19 – Window left

F19. Window left

- This function key is applicable only when designing wide forms (132 by 27 rows) on 80 column terminal.

F20 – Window right

F20. Window right

- This function key is applicable only when designing wide forms (132 by 27 rows) on 80 column terminal.

Changing Subfile Boundaries

Be careful when changing the size of a subfile through SDA. Consider using these processes to make such changes easier and less confusing.

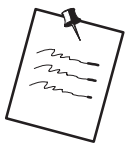
▶ To make a subfile smaller

1. To access the Record Formats List form, press F10.
2. Change the starting line number for the subfile format (VxxxxxS).
3. To return to SDA, press Enter.
4. To access the Record Formats List form again, press F10.
5. Change the ending line number for the control format (VxxxxxC).
6. To return to SDA, press Enter.
7. Move or add headings.

▶ To make a subfile larger

You can reverse the above steps if you want to make the subfile larger. You must move the control format fields up before changing the starting line number for the subfile format.

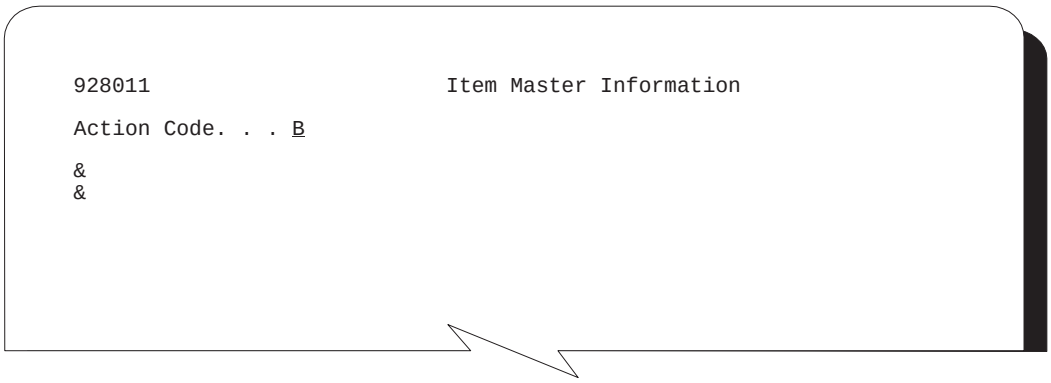
1. Move headings.
2. To access the Record Formats List form, press F10.
3. Change the ending line number for the control format (VxxxxxC).
4. To return to SDA, press Enter.
5. To access the Record Formats List form again, press F10.
6. Change the starting line number for the subfile format (VxxxxxS).
7. To return to SDA, press Enter.
8. In SDA, press F10 to alter the format.
9. Enter 5 on the control format field.
    - Change subfile page size if desired.



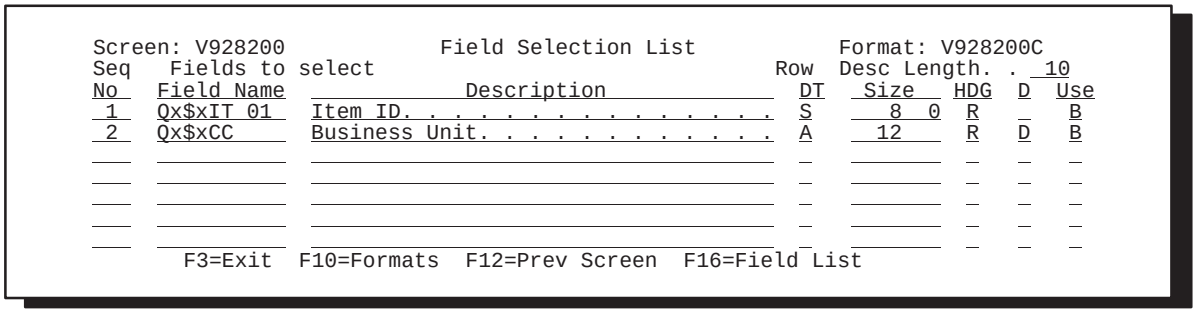
When you change the subfile, you must change the subfile page and subfile size to correctly reflect the size of the new subfile.

Process Overview - Placing Selected Fields

Once you have established your field pick list, use the ampersand (&) to specify where you want to locate the field.



The ampersand (&) calls up the pick list in the Field Selection form where you can order the fields and further define their specifications.

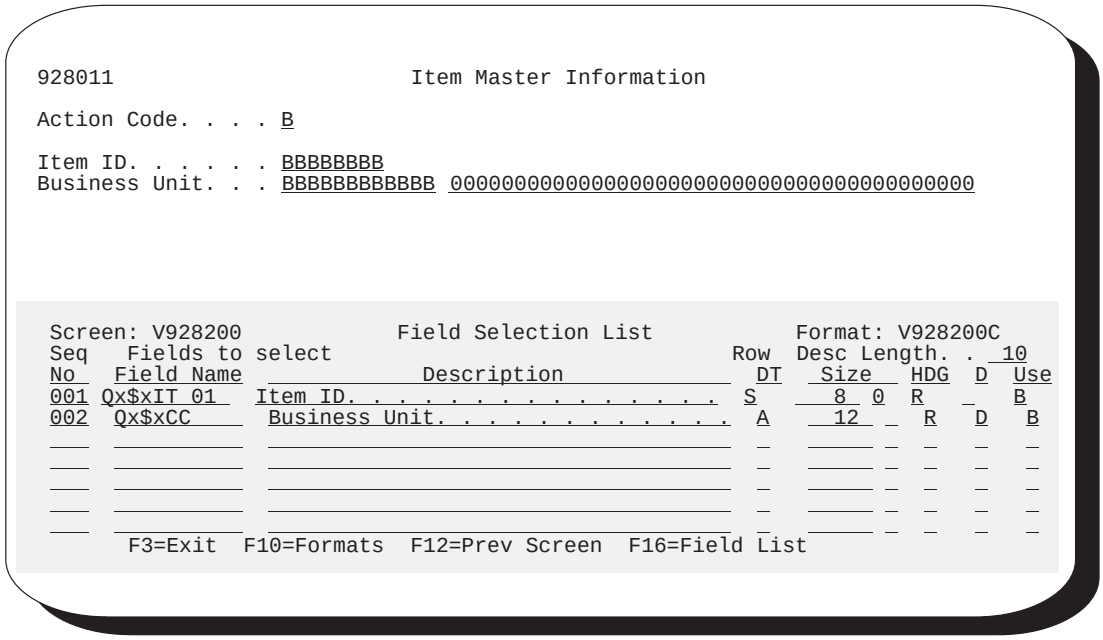


Options

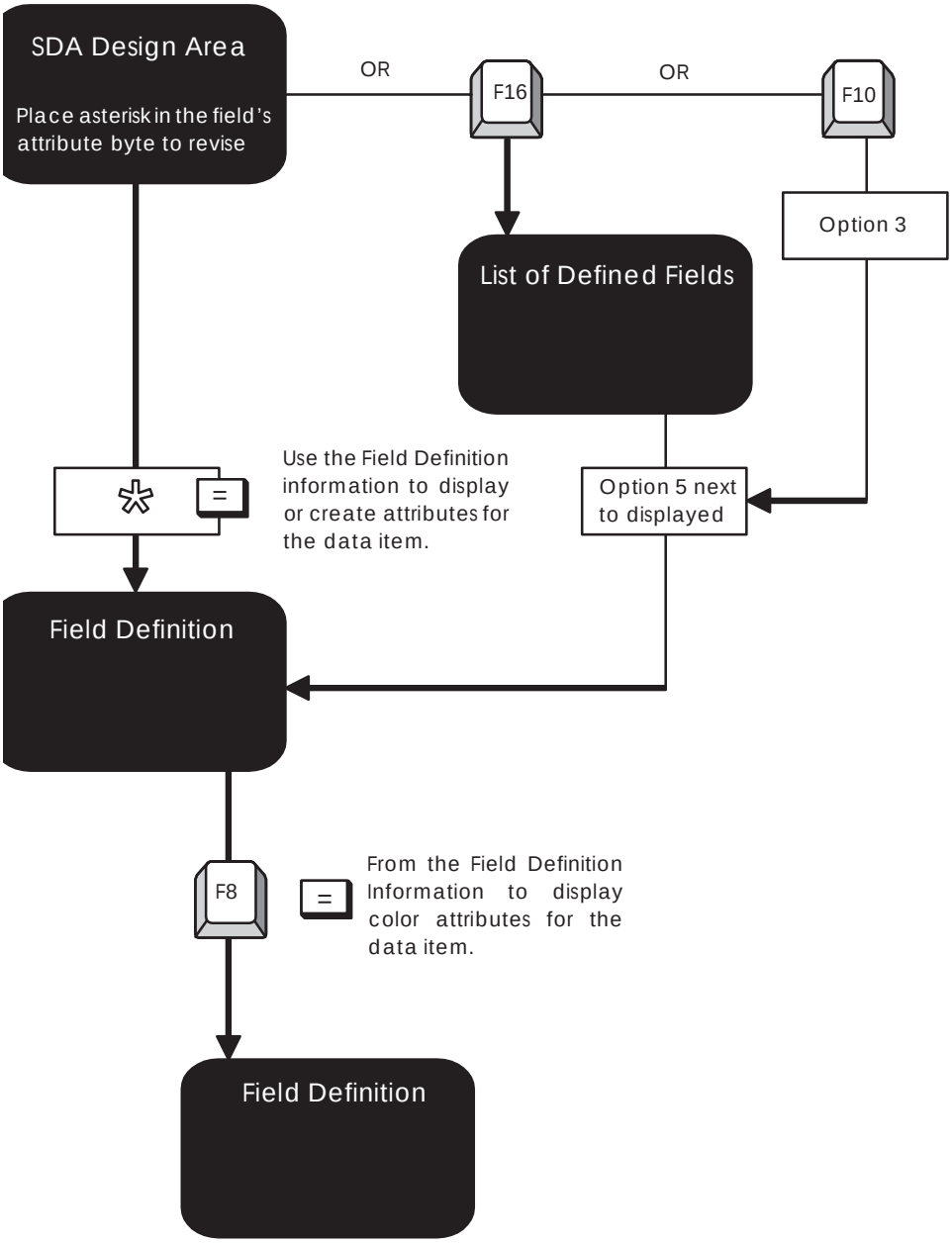
The following options are available. You can:

- Override Row Description length
- Resequence fields in list
- Select headings (Row, Column headings) *VTX
- Description Field (*VC0)
- Usage (O=Output, B=Both Input and Output)

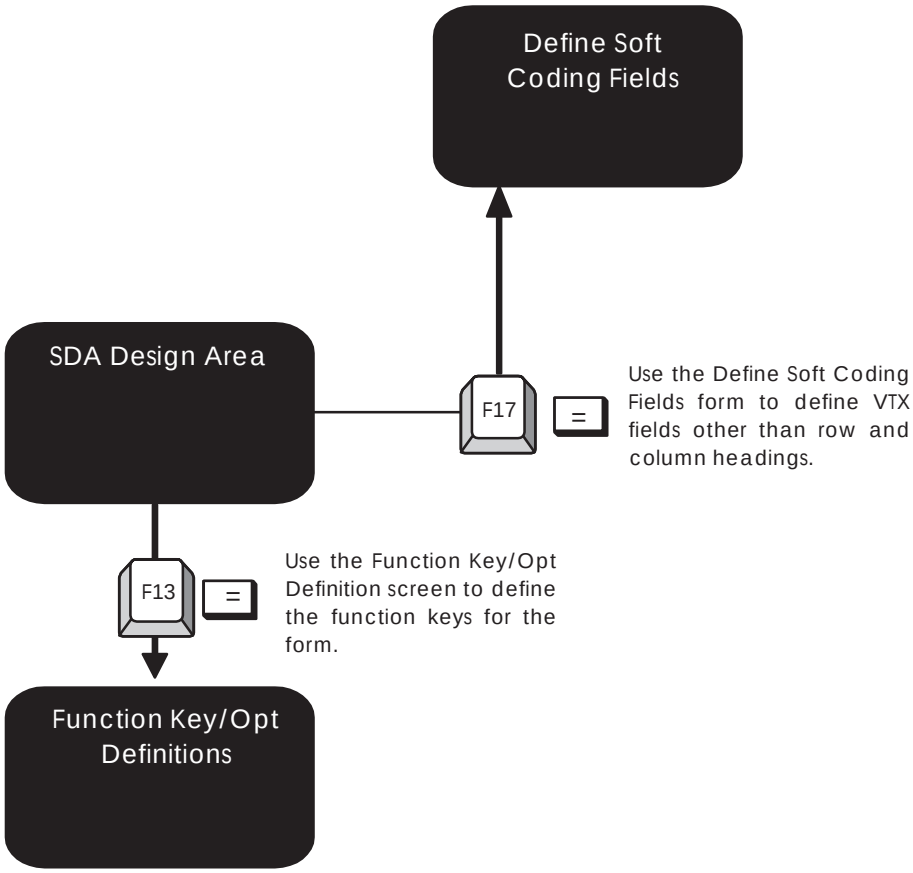
Once you have sequenced the fields, they are retrieved from the file and placed on the design area.



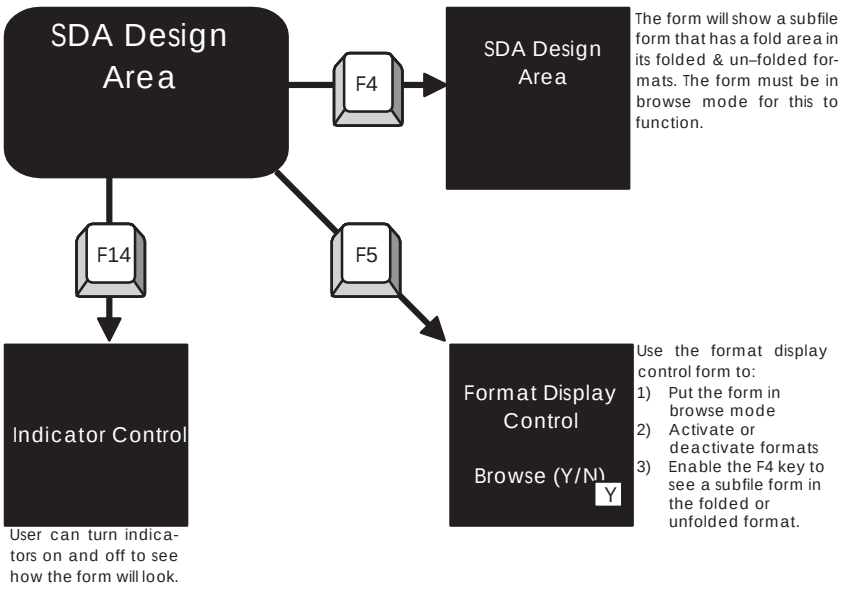
Process Overview - Revising the Field Definition



Process Overview - Revising Vocabulary and Function Keys



Function Keys for Form and Display Format Control



Summary of Screen Design Aid

- Editing options
  - d, *DEL
  - <<, >>
  - 'xx...xx'
  - –, =
  - – –, =
  - * and &
- You should not use the INSERT and DELETE keys while in SDA.
- F7 restores a form if you accidentally press Field Exit.
- Standard prefixes
  - VD, SF, SH
- Special Fields
  - *VTX, *VC0, *LITER, *DATE, *TIME
  - ACTION
  - VDL24
  - TTL@
- Error indicators 40 to 79 are automatically assigned to VD and SF fields that are defined as input or input/output
- Update fields by using *
- You have two methods of adding fields to a form
  - * (non-pick list method)
  - & (pick list method)
  - You can pull in VTX, VC, and the form database fields all at the same time for one database field
- You have two methods of selecting database fields
  - Fast Path
  - Non-Fast Path - Accesses File Selection form

- If you are changing subfile boundaries, you should use the outlined processes to make this process easier
- You must save a form at least once before updating vocabulary overrides or Function Key Definitions because the exit from SDA creates these records
- You add hidden fields from the List of Defined Fields form, which you access by pressing F16 from SDA
    - You add hidden fields one at a time
    - You must enter a selection exit 5 to actually add the field

Exercises

See the exercises for this chapter.

Work with Report Design Aid

About Report Design Aid

The Report Design Aid (RDA) is a powerful and versatile tool for designing reports.

It uses the same process as the Screen Design Aid (SDA), except:

- It extends to column 227
- It has windowing capability

You need to identify only field names, field lengths, and field positions on the report.

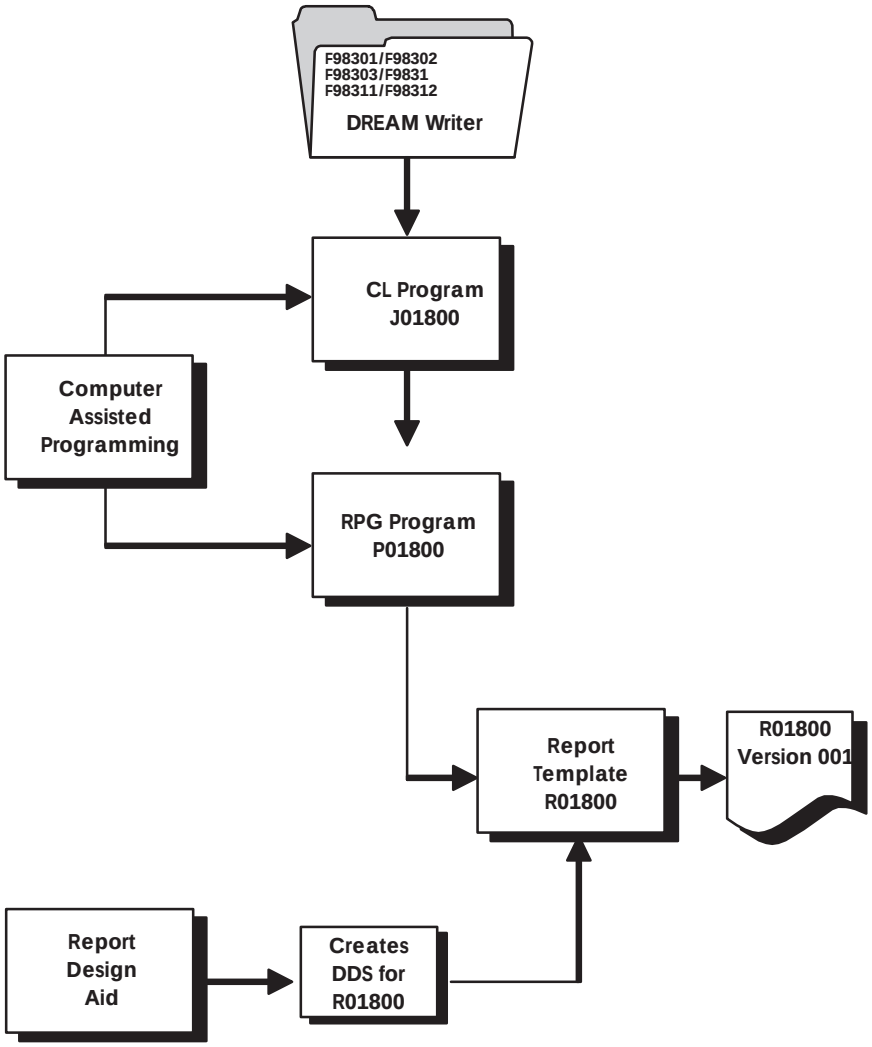
J.D. Edwards reports are externally defined, which means that all the Data Description Specifications are created and compiled as a printer file, separate from the program object. Report Design Aid automatically generates the DDS. It also incorporates the report information into the documentation and adds it to the cross reference facilities. You can print illustrations of each report.

RDA differs from SDA in that its parameters are targeted for print-based output, which includes page skipping, line skipping, and relative positioning.

Perform the following tasks:

- ❑ Access Report Design Aid
- ❑ Update a Field in RDA
- ❑ Compile a Report
- ❑ Change the Compile Option Defaults for Reports

Example - RDA and DREAM Writer



Comparing RDA and SDA – Field Definition Form

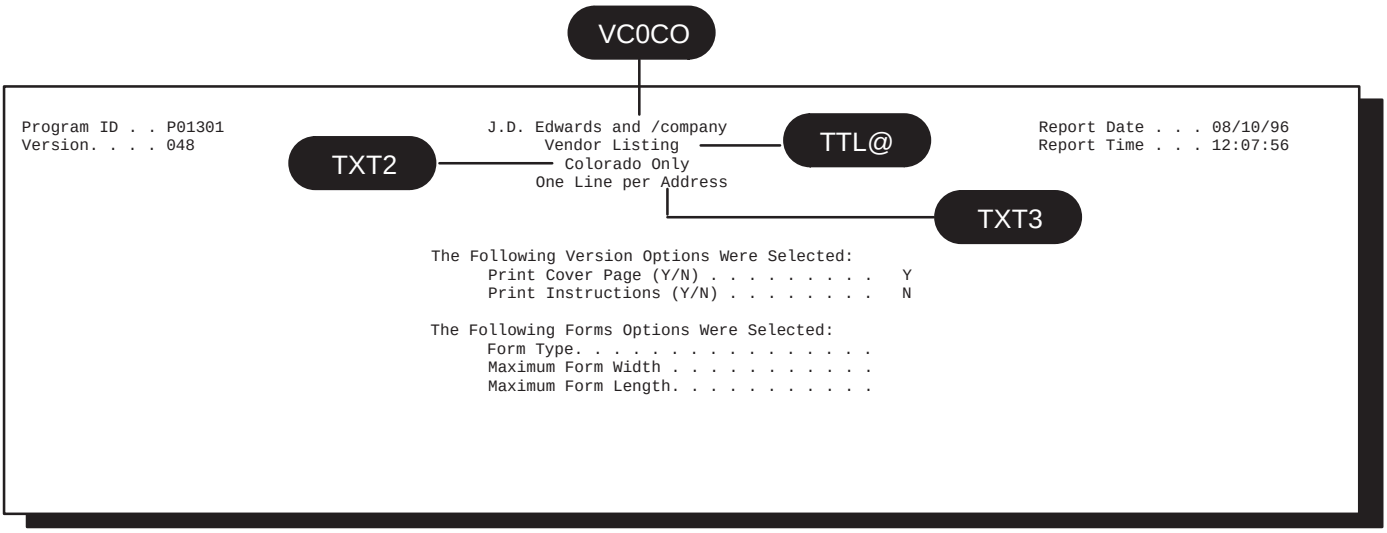
```
Screen: V5501Z---------------Field Definition--------------Format: V5501ZS
 Dict Name    $XDS        Text         Description. . . . . . . . . . .
 Data Type    A           Field Name   SF$XDS                    Cond Ind
 Row/Column    8  13      Field Use    B                  RI   Y  44
 Size          ____ __    Text Form    _                  HI   Y  44
 Dft Cursor    _          Edited       Y 44               UL   Y N44
 Lower Case    Y          Change       _ __               ND   _
 OVRDTA        _          Duplicate    _ __               BL   _
 OVRATR        _          Field Cond   _ ___ ___ ___      PR   _
                                                         PC   _
--F3=Exit  F12=Prev Screen  F17=Dictionary-----------------------------------
```

```
Report:R55400X----------------Field-Definition-------------Format:-DETAIL1--
 Dict Name    $XDS        Text         Description. . . . . . . . . . . . . .
 Data Type    A           Field Name   RR$XDS                    Cond Ind
 Row/Column    9  89      Field Use    O          Highlight      _ ___ ___ ___
 Size         12          Text Form    _          Underline      _ ___ ___ ___
              Lines  Cond Ind                     Field Cond     _ ___ ___ ___
 Space Before ___  ___ ___ ___                   Char per Inch __ ___ ___ ___
 Space After  ___  ___ ___ ___                   Edit Code      _
 Skip Before  ___  ___ ___ ___                   Asterisk Fill  _
 Skip After   ___  ___ ___ ___                   Float Symbol   _
--F3=Exit   F12=Prev-Screen   F17=Dictionary---------------------------------
```

	FIELD POSITIONING	FIELD CONDITIONING
RDA	Row positions are relative to the other field, not fixed. The location on the report is determined by Space and Skip designations. Column positions are fixed.	A field can optionally appear bold, underlined, and so forth. J.D. Edwards does not typically use these features because they impact printer performance.
SDA	Both row and column positions are fixed. A field appears on the screen exactly where the Row and Column indicators specify.	A field can appear highlighted, underlined, in reverse image, and so forth J.D. Edwards makes use of these attributes for marking fields in error.

Cover Page Fields

The figure below shows the fields used on the cover page of a report. These fields would indicate your company in a production environment.

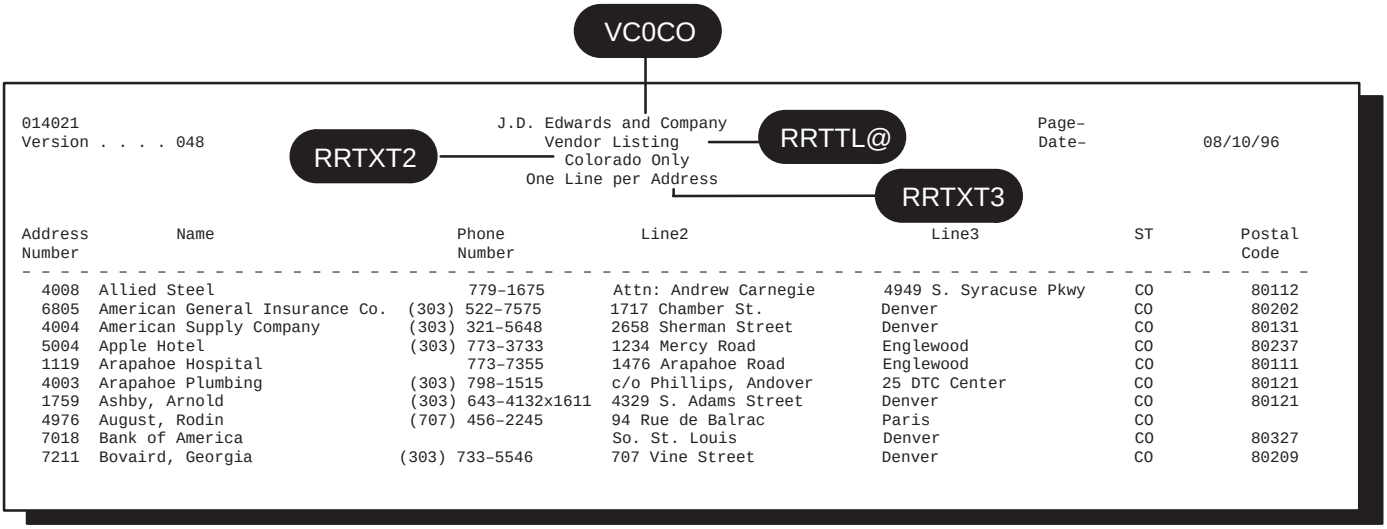


The following table provides the field names and a description of each.

Name	Description
VC0CO	Name of company 00000
TTL@	Line 1 of DREAM Writer Version ID if it exists, otherwise it is blank
TXT2	Line 2 of DREAM Writer Version ID, or blank
TXT3	Line 3 of DREAM Writer Version ID, or blank

Report Header Fields

The figure below shows the fields used on the report header. These fields would indicate your company in a production environment.



The following table provides the field names and a description of each.

Name	Description
VC0CO	Name of company 00000
RRTTL@	Line 1 of DREAM Writer Version ID if it exists, otherwise it is blank
RRTXT2	Line 2 of DREAM Writer Version ID, or blank
RRTXT3	Line 3 of DREAM Writer Version ID, or blank

What Are the Report Formats?

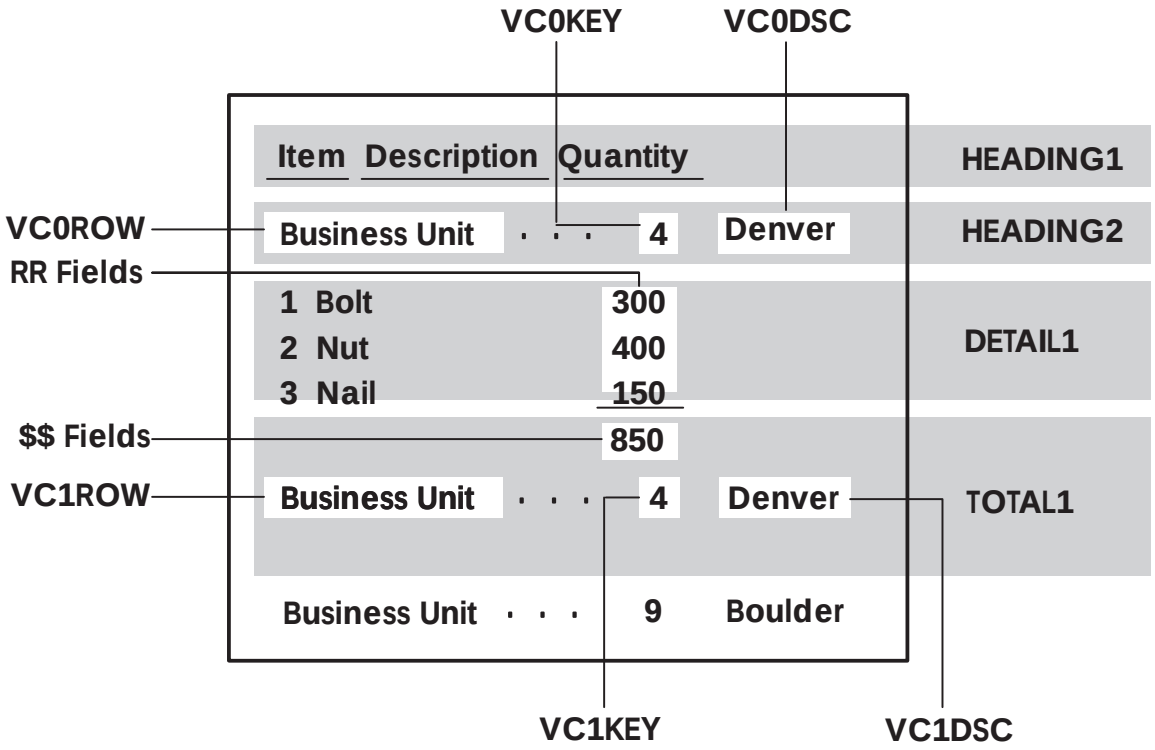
The first step in designing a new report is determining the format of the report. You should account for all lines of information on the report to correctly define the formats needed and their size.

FORMAT	FIELD	DESCRIPTION
Any format	*VTX	Assigns the first available VTX name to the field and gets a description from the Data Dictionary that you can change.
	*VC0	Assigns the first available VC0 field and assigns a default size of thirty.
HEADING1 – contains the standard fields to be printed on the top of every page	VTX001	The default VTX field which prints the row description, Page –.
	*PAGE	The default special field that inserts the DDS keyword PAGNBR in the source and retrieves the current page number on the report.
	VTX002	The default VTX field which prints the row description, Date –.
	*DATE	Special field that retrieves today's date.
	VC0CO	The name of the default company 000, it appears on the first line of each page.
	RRTTL@	Line 1 of DREAM Writer Version ID if it exists, otherwise it is blank.
	RRTXT2 & RRTXT3	DREAM Writer overrides that correspond to the second and third header lines of the report.
HEADING2 – contains the subheading fields used to describe the level break detail that is to follow	VC0ROW	Data Dictionary row description of the level break field.
	VC0KEY	The value of the level break field.
	VC0DSC	The description of the value of the level break field.
DETAIL1 – contains the data line fields	RRxxxx	The value of the data for this field

FORMAT	FIELD	DESCRIPTION
TOTAL1 – contains the total line fields	VC1ROW	Data Dictionary row description of the level break field
	VC1KEY	The value of the level break field
	VC1DSC	The description of the level break field
	$$XXX	Value on total line.

You can have as many formats as you can fit on one RDA form. Just remember to increment the suffix number for each format added as well as any VC fields you may be using.

Certain fields are used in RDA when generating reports that contain subheadings or dynamic (hierarchical) totaling. The following illustrates how these fields are used within a report.



What Are the Report Design Standards?

The following is a list of report design standards. Using these standards will give your reports an uniform appearance.

RDA Features

Some fo the features of RDA are:

- Normal design range of 132 – 198 character reports
- Validates against the Data Dictionary
- Automatically adds records to the vocabulary overrides file

J.D. Edwards Standards for Record Formats

Prefix standards

- RR for output fields
- $$ for total fields

General Aesthetics

When possible, design your reports using the following set of rules:

Column Headings

Column headings should not be wider than the length of the data that appear below them.

Alignment

Begin fields in column space 2 and do not extend fields beyond column 132 unless necessary.

Spacing

Use the following as your guides when spacing different report elements:

- Separate column headings by one space
- Use both column headings when one heading is not clear enough

Special Effects

You should always use dashes below column headings instead of underlines. Underlines can impact the performance of printers. You enter dashes as literal fields.

Do not use highlight as it prints a line three times to achieve the highlighted (or boldface) effect, again impacting performance.

Format

To avoid overflow, limit the number of lines in any detail or total format to six or less.

Line and Page Skipping

To be consistent with other report programs, use SPACEB and SKIPB instead of SPACEA and SKIPA.

About Designing the Report

- DDS are being created as you design the report
  - SPACEB and SPACEA are entered and removed as you add and move fields around.
  - Multiple formats are relative to each other.

Function	What to use
Changing the Report Title	TTL@
Adding a New Field	*, &
Updating Existing Fields	*
Deleting an Existing Field	*DEL on field definition form
Format Name	Displayed in upper right hand corner of form.
Field positions	Represent starting positions.

Accessing Report Design Aid

You must have access to the source file to enter RDA.

▶ To access Report Design Aid

From the the Software Versions Repository

```
9801                          Software Versions Repository

Action Code. . .  I
Member ID. . . .  R928400
Description. . .  Inventory by Cost Center w/o Subheadings
Function Code. .  PRTF  Printer Files
Function Use . .  161     Simple Reports
System Code. . .  92    Computer Assisted Design
Reporting System  92    Computer Assisted Design
Base Member Name  P928400                 File Prefix. . .
Maint/RSTDSP . .  1    Omit Option. . .  S  Generation Sev .
Copy Data (Y/N).  N    Optional File. .  N  Common File. . .  N

O  Source      Object      Source        SAR     Version     S D     User       Date
P  Library     Library     File          Number    ID        C P     ID       Modified
__ JDFSRC71    JDFOBJ71    JDESRC       834451  A71         1 _  QUARLES     10/26/94
__ ____________ ____________ ____________ ________ ____________ _
__ ____________ ____________ ____________ ________ ____________ _
__ ____________ ____________ ____________ ________ ____________ _
__ ____________ ____________ ____________ ________ ____________ _
__ ____________ ____________ ____________ ________ ____________ _
__ ____________ ____________ ____________ ________ ____________ _

  Opt:  1=Browse 2=Edit 3=Copy 5=SAR 8=Print 9=Dlt 10=Design 14=Crt  F24=More
```

1. Inquire on a report.
2. Copy the production source code down to a development environment.
3. Choose option 10 on the Software Versions Repository form to go to the appropriate Design Aid form based on the members Function Code value.
   - To go to Report Design Aid, enter “PRTF” or “PRTS” in the Function Code field

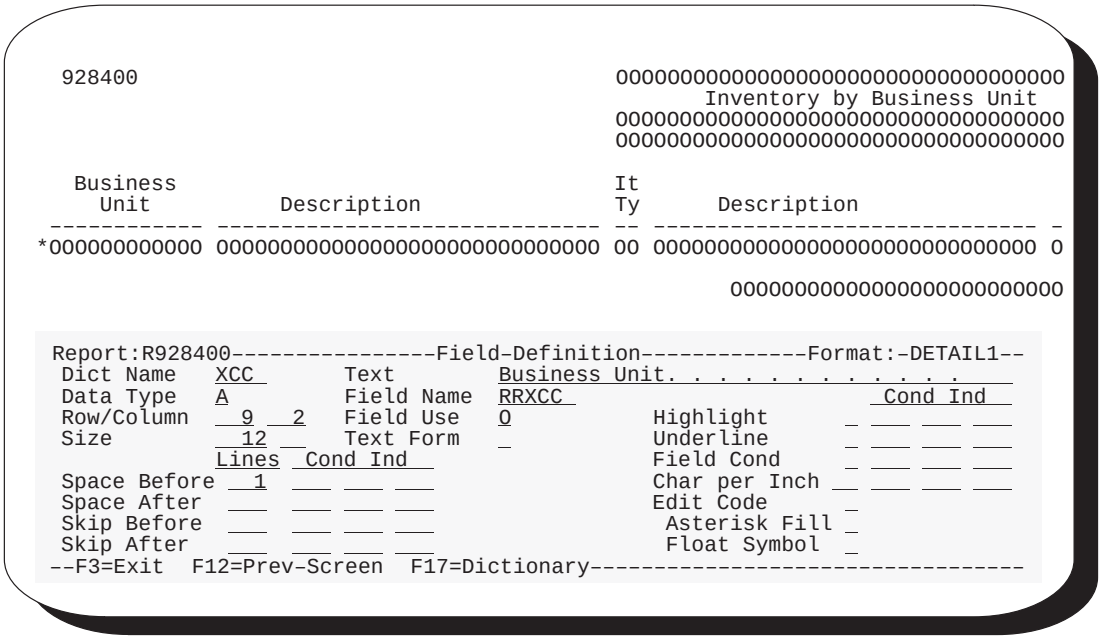
Updating a Field in RDA

The field definition form in RDA is slightly different from SDA.

▶ To update a field in RDA

From Software Versions Repository, choose the design option.

1. Enter "*" in the field you wish to update.



Field	Explanation
Space Before	Specifies the number of lines a printer device is to space before printing the next line(s)
Space After	Specifies the number of lines a printer device is to space after printing the next line(s)
Skip Before	Specifies that the printer device is to skip to a specific line number before it prints the next line(s).
Skip After	Specifies that the printer device is to skip to a specific line after it prints the next line(s).
Field Cond	Indicates whether the field conditioning (to print this field or not) is in effect.

Field	Explanation
Char per Inch	Specifies the horizontal printing density. J.D. Edwards specifies this at the report level and this field is not used.
Edit Code	Used to specify output formatting of numeric data. Used in conjunction with *DATE, *TIME, *PAGE.
Asterisk Fill	Optionally specify asterisk fill for edit codes 1–4, A–D, and J–M. An asterisk will print for each zero suppressed in the edited field.
Float Symbol	Specify a currency symbol (corresponding to the system value QCURSYM) that will be printed immediately to the left of the left–most digit of an edited field. Valid for a numeric field that has an edit code of 1–4, A–D, or J–M.

Understanding the Report Design Aid Function Keys

F5 – Format Display Control

F5. Shows the Format Display Control portion of a form.

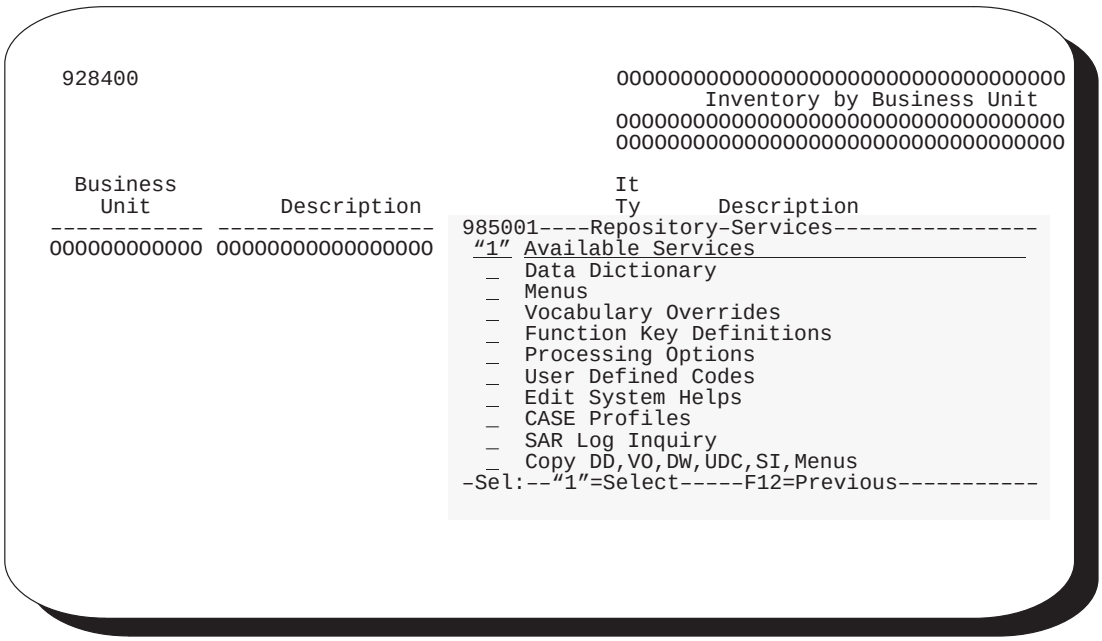
```
 928400                                      OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
                                                    Inventory by Business Unit
                                             OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
                                             OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO


   Business                                    It
     Unit          Description             -----Format-Display-Control-------
------------ ------------------------------ Sel Format     Type   Boundaries
OOOOOOOOOOO OOOOOOOOOOOOOOOOOOOOOOOOOOOOOO   1  HEADING1   REPORT  001  008
                                             1  DETAIL1    REPORT  009  009
                                             1  TOTAL1     REPORT  010  011
                                              _
                                              _
                                              _
                                              _
                                             Window:    Row 001 Col 001
                                             Browse (Y/N) N   Form Width 132
                                           Opt:1=Display-Fmt--F3=Exit-F12=Pre
```

Field	Explanation
Sel	Selection. Controls the display of record formats.
Format	Lists the DDS format names. Valid format names are: • HEADING1 • HEADING2 • DETAIL1 • TOTAL1
Type	Describes the DDS format type. Always REPORT or SFORMS in RDA.
Boundaries	Two 3–digit numbers that define the range (rows) for the DDS. • HEADING1 is rows 1 to 8 • DETAIL1 is row 9 • TOTAL1 is rows 10 to 11
Window	Allows you to access fields outside the boundaries.
Browse (Y/N)	Indicator that allows you to enable/disable the browse mode.

RDA might automatically adjust displayed formats with those formats that are not displayed.

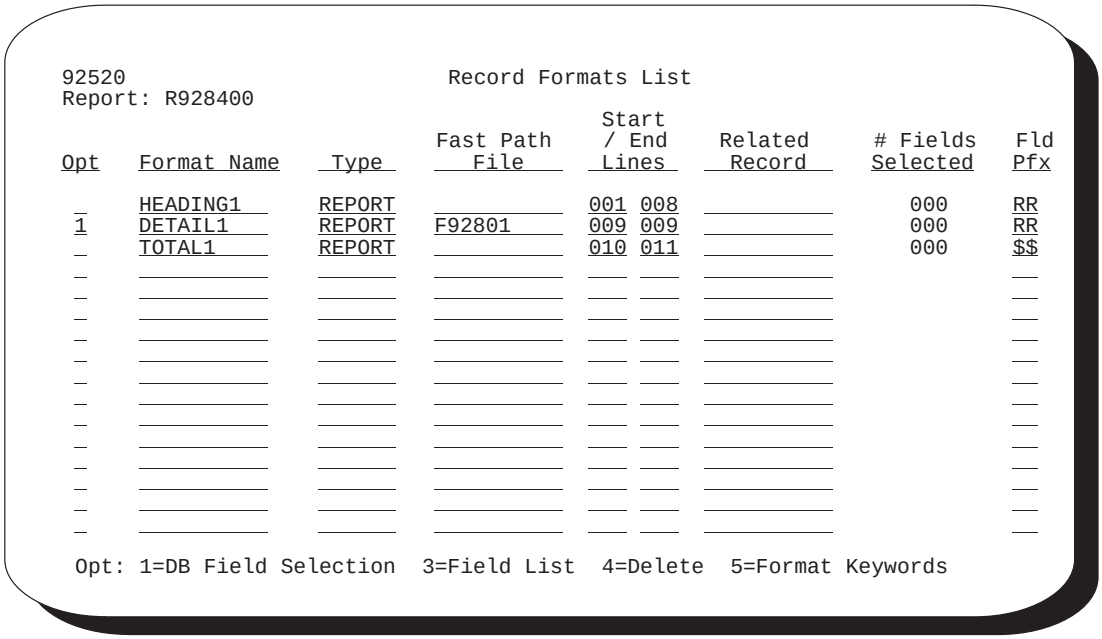
F6 – Repository Services

F6. Shows the Repository Services portion of a form.



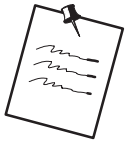
F10 – Record Formats List

F10. Displays the Record Formats List form.



The Record Formats establish the arrangement of fields on your report and in what segment of the page they are to print.

Field	Explanation
Opt	Enter the appropriate number to indicate you want to select one of the following values: File/field pick list of ampersand functions. File/field pick list for fast path functions. List of defined fields in the format. Delete format. Record format keywords.
Format Name	Screen record format. The format name will be the video ID followed by a specific format suffix value. Typically, the suffix values are: subfile control format subfile format record format If additional formats are required, each format name must be unique so new format suffix values must be assigned.
Type	Record format type. See types listed below.
Fast Path File	The data base file you want to select fields from.
Start/End Lines	Specifies the line number range of the format.
Related Record	Field that ties a subfile to a control record format. Required in all SFLCTL record formats.
Fld Pfx	Screen field prefix to be used for the video fields: VD, SF.



There should be no gaps between the end line of one format and the start line of the next format. If you make changes to the positioning of a format and leave a gap between formats, RDA will automatically adjust the end lines for you.

F14 – Indicator Control form

F14. Displays the Indicator Control form.

```
 928400                                        OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
                 -------Indicator-Control----------  Inventory by Business Unit
                                                     OOOOOOOOOOOOOOOOOOOOOOOOOOO
                           1 2 3 4 5 6 7 8 9         OOOOOOOOOOOOOOOOOOOOOOOOOOO
                         1 0 0 0 0 0 0 0 0 0 0
   Business             11 0 0 0 0 0 0 0 0 0 0
     Unit               21 0 0 0 0 0 0 0 0 0 0      Description
 ------------           31 0 0 0 0 0 0 0 0 0 0      ---------------------------- -
 OOOOOOOOOOOO           41 0 0 0 0 0 0 0 0 0 0      OOOOOOOOOOOOOOOOOOOOOOOOOOO O
                        51 0 0 0 0 0 0 0 0 0 0
                        61 0 0 0 0 0 0 0 0 0 0        OOOOOOOOOOOOOOOOOOOOOOOOO
                        71 0 0 0 0 0 0 0 0 0 0
                        81 0 0 0 0 0 0 0 0 0 0
                        91 0 0 0 0 0 0 0 0 0

                  Ignore all conditioning  _ (Y/N)
                  Reset all indicators     _ (1/0)
                 ----F3=Exit---F12=Prev-Screen-----
```

F16 – Display All Defined Fields

F16. Displays the List of Defined Fields form.

```
 92540                          List of Defined Fields
 Report: R928400


Opt  Fmt/Field      Description                          Row/Col Typ   Size     Use
     HEADING1       Record Format                 REPORT
     *LITER                                       001 003          6        O
     VC0CO          Company Name                  001 046   A     40        O
     VTX001         Page No. . . . . . . . . . .  001 112   A     12        O
     *PAGE                                        001 125           4   0    O
     RRTTL@         Inventory by Business Unit    002 046   A     40        O
     VTX002         Date - . . . . . . . . . . .  002 112   A     12        O
     *DATE                                        002 125           6   0    O
     RRTXT2         Processing Option Text        003 046   A     40        O
     RRTXT3         Processing Option Text        004 046   A     40        O
     VTX003         Cost                          006 002   A     12        O
     VTX006         Item                          006 046   A      2        O
     VTX009         Item                          006 080   A      8        O
     VTX011         Ship                          006 109   A      8        O


   Opt: 4=Delete     5=Display/Update     F3=Exit     F12=Prev Screen
```

F17 – Maintain Vocabulary Override Fields

F17. Used to maintain vocabulary override fields.

```
928400                                          0000000000000000000000000000000000
                                                       Inventory by Business Unit
                                                0000000000000000000000000000000000
                                                0000000000000000000000000000000000
                 ------------------Define-Soft-Coding-Fields-------------------
  Business
    Unit            Dict                                               Screen
------------        Name     CH               Text Description         Field      -
000000000000        PAGN      R     Page No. . . . . . . . . . . . . . VTX001     0
                    DATE      R     Date - . . . . . . . . . . . . . . VTX002
                    XCC       C         Business                       VTX003    00
                    XCC       D        Unit                            VTX004
                    DL01      C          Description                   VTX005
                    XTY       C     Item                               VTX006
                    XTY       D     Type                               VTX007
                    DL01      C          Description                   VTX008
                    XIT       C       Item                             VTX009
                    XIT       D      Number                            VTX010
                    XDT       C       Ship                             VTX011
                    XDS       D          Description                   VTX012

                   -------------------F3=Exit--F12=Prev------------------------
```

You must save your report at least once to update vocabulary overrides by this method. This is because when you are first defining a report, the vocabulary override record is not created until you save the report.

F19 – Window Left

F19 – Window Left

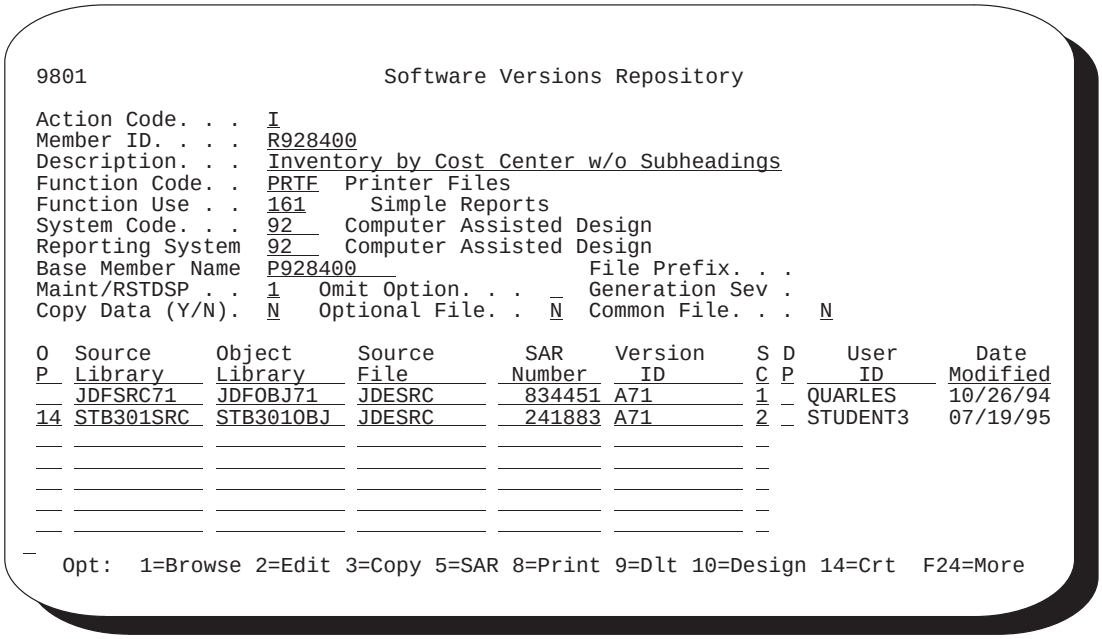
F20 – Window Right

F20 – Window Right

Compiling A Report

▶ To compile a report

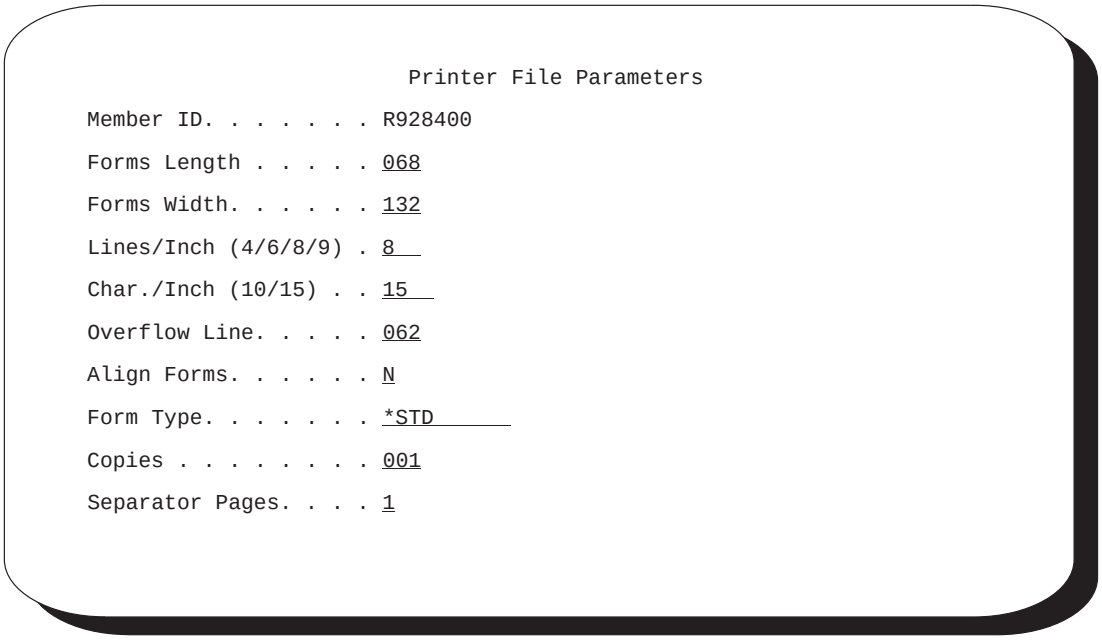
From the Software Versions Repository form



```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  R928400
Description. . .  Inventory by Cost Center w/o Subheadings
Function Code. .  PRTF  Printer Files
Function Use . .  161     Simple Reports
System Code. . .  92    Computer Assisted Design
Reporting System  92    Computer Assisted Design
Base Member Name  P928400                File Prefix. . .
Maint/RSTDSP . .  1   Omit Option. . .   _  Generation Sev .
Copy Data (Y/N).  N   Optional File. .  N  Common File. . .  N

O  Source      Object      Source        SAR     Version     S D     User       Date
P  Library     Library     File          Number    ID        C P     ID       Modified
__ JDFSRC71    JDFOBJ71    JDESRC         834451 A71         1 _ QUARLES     10/26/94
14 STB301SRC   STB301OBJ   JDESRC         241883 A71         2 _ STUDENT3    07/19/95
__ ____________ ____________ ____________ ________ ___________ _
__ ____________ ____________ ____________ ________ ___________ _
__ ____________ ____________ ____________ ________ ___________ _
__ ____________ ____________ ____________ ________ ___________ _
__ ____________ ____________ ____________ ________ ___________ _
_
  Opt:  1=Browse 2=Edit 3=Copy 5=SAR 8=Print 9=Dlt 10=Design 14=Crt  F24=More
```

Enter 14 next to the member in the subfile that you want to create and press Enter.

A form of printer file parameters displays.



2. You can either accept the defaults or change them as necessary.

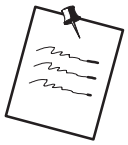
Changing the Compile Option Defaults for Reports

You must compile reports through the J.D. Edwards compiler by this method so that R98COVER and R98RPTH are pulled in for the cover page and help instructions. Compiling through the Production Development Manager (PDM) or some other method will not bring this information in automatically.

▶ To change compile option defaults for reports

Change the Data Dictionary defaults for the following data items:

- #FLN– Forms Length
- WDTH– Forms Width
- LPI– Lines Per Inch
- #CPI – Characters Per Inch
- #OVF– Overflow Line Number
- #ALN – Alignment (Y/N)
- #FTY– Form Type
- #CPY – Number of Copies
- #SPG – Number of Separator Pages



Some severity level 10 errors can occur when your report compiles because of R98COVER (DREAM Writer cover page) and R98RPTH (DREAM Writer help instructions). These are only warning errors.

Exercises

See the exercises for this chapter.

Programming Standards

Objectives

- To understand and use J.D. Edwards programming standards

Programming Standards

The Program Generator serves as the primary enforcer of J.D. Edwards programming standards. These standards include subroutines and consistent formats that ease the maintenance process. The following areas are covered in the programming standards.

- ❑ Program Specifications
- ❑ Program Overview
- ❑ Program Structure
- ❑ Performance Issues
- ❑ User Spaces
- ❑ User Indices
- ❑ File Servers
- ❑ Functional Servers
- ❑ Group Jobs
- ❑ J.D. Edwards Source Debugger

Program Specifications

About Program Specifications

As described in IBM's *Languages: RPG/400 User's Guide*, there are several kinds of RPG/400 specifications. When your source program is compiled, these specifications are arranged in the following sequence:

- Control specifications (H Specs)
- File description specifications (F Specs)
- Extension specifications (E Specs)
- Input specifications (I Specs)
- Calculation specifications (C Specs)
- Output specifications (O Specs)

An RPG/400 program does not have to use all specifications. A typical J.D. Edwards program contains control, file description, extension, input, calculation, and output specifications. The following descriptions are from the , *Languages: RPG/400 User's Guide*, and are repeated here for your convenience.

What Are Control Specifications?

The control specifications include the name of the program.

- The first line identifies the program, P55011X, including its description, Item Information Update.
- The next fourteen lines are comments that are included in J.D. Edwards programs for copyright purposes and reproduction restrictions.

```
Columns . . . :    1  71          Browse                        DEVSRC/JDESRC

SEU==>> _____________________________________________________________   P55011X
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
      *************** Beginning of data ************************************
0001.00       H/TITLE P55011X   - Item Information Update
0002.00       H* ------------------------------------------------------------------
0003.00       H*
0004.00       H*    Copyright (c) 1993
0005.00       H*    J. D. Edwards & Company
0006.00       H*
0007.00       H*        This unpublished material is proprietary to
0008.00       H*        J. D. Edwards & Company.  All rights reserved.
0009.00       H*        The methods and techniques described herein are
0010.00       H*        considered trade secrets and/or confidential.
0011.00       H*        Reproduction or distribution, in whole or in part,
0012.00       H*        is forbidden except by express written permission
0013.00       H*        of J. D. Edwards & Company.
0014.00       H*
0015.00       H* ------------------------------------------------------------------
0016.00       F*

 F3=Exit   F5=Refresh   F9=Retrieve   F10=Cursor   F12=Cancel
 F16=Repeat find        F24=More keys
```

What Are File Description Specifications?

File description specifications (F Specs) describe all the files that your program uses. The information for each file includes:

- The name of the file
- How the file is used (for example, input)
- The size of records in the file for internal files or an external designation
- Whether or not the file is keyed
- Input or output device used for the file
- If the file will have records added to it

```
Columns . . . :    1  71          Browse                        DEVSRC/JDESRC

SEU==>> _____________________________________________________________    P55011X

FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
0027.00      F*
0028.00      FF0001   IF  E           K        DISK
0029.00      FF5501X  UF  E           K        DISK                           A
0030.00      FV55011X CF  E                    WORKSTN     KINFDS SRVFDS
0031.00      F*****************************************************************
0032.00      F*
0033.00      F*    Copy Member for Composite Common Subroutine - C0001
0034.00      F*
0035.00      F/COPY JDECPY,D0001
0036.00      F*****************************************************************
0037.00      E*****************************************************************
0038.00      E*    PROGRAM TABLES AND ARRAYS
0039.00      E*    -------------------------
0040.00      E*

 F3=Exit   F5=Refresh   F9=Retrieve   F10=Cursor   F12=Cancel
 F16=Repeat find        F24=More keys
```

When the Program Generator generates a program, it arranges the included files in alphabetical order within the F Specs.

When a program runs, it opens the files in bottom-to-top order. As a general rule:

- Place the files that have the most I/Os at the bottom of the F specs.
- Place any small usage files or files that are closed after first use at the top of the F specs.
- Place the display or print files at the bottom of the list.

Line 35 shows a request for the compiler to copy in F specs from JDECPY. All F spec copies begin with D.

What Are Extension Specifications?

Extension specifications describe all tables and arrays used in the program. The information includes:

- Name of the file, table, or array
- Number of entries in a table or array input record
- Length of the table or array entry
- Optional comment text

```
 Columns . . . :    1  71          Browse                        DEVSRC/JDESRC
 SEU==>> _____________________________________________________________ P55011X
 FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
0040.00      E*************************************************************
0041.00      E*    PROGRAM TABLES AND ARRAYS
0042.00      E*    -------------------------
0043.00      E*
0044.00      E                    EMK        64  4              Error Msg
0045.00      E                    @MK        64  1              Error Msg
0046.00      E                    @ER        64  4              Error Msg
0047.00      E                    @DV        40  1              Dflt Wrk
0048.00      E*
0049.00      E*
0050.00      E*    Copy Member for Composite Common Subroutine - C0001
0051.00      E*
0052.00      E/COPY JDECPY,E0001
0053.00      E*************************************************************


 F3=Exit   F5=Refresh   F9=Retrieve   F10=Cursor   F12=Cancel
 F16=Repeat find        F24=More keys
```

Lines 44 through 47 are used in this program to facilitate error handling and field editing.

- The first line defines an array called EMK which has a maximum of 64 entries, each with a length of 4 characters.

Line 52 requests that the compiler program copy in a specific set of E Specs.

- The E Specs, E0001, are used in any program that executes the common subroutine, C0001.

What Are Input Specifications?

Input specifications describe the records, fields, data structures, and named constants used by the program. The information in the input specifications includes:

- The name of the file
- The sequence of record types
- Whether record-identifying indicators, control-level indicators, field-record relation indicators, or field indicators are used
- Whether data structures, look-ahead fields, record identification codes, or match fields are used
- The type of each file (alphanumeric or numeric; packed-decimal, zoned decimal, or binary format)
- The location of each field in the record
- The name of each field in the record
- All named constants

```
 Columns . . . :    1  71          Browse                        DEVSRC/JDESRC
 SEU==>> ____________________________________________________________    P55011X
 FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
0067.00      I*****************************************************************
0068.00      I*    PROGRAM INPUT SPECIFICATIONS AND DATA STRUCTURES
0069.00      I*    ------------------------------------------------
0070.00      I*
0071.00      I*    Data Structure to Load Video Screen Text
0072.00      I*
0073.00      IDSTXT       DS                            520
0074.00      I                                            1  18 VTX001
0075.00      I                                           41  58 VTX002
0076.00      I                                           81  92 VTX003
0077.00      I                                          121 138 VTX004
0078.00      I                                          161 178 VTX005
0079.00      I                                          201 218 VTX006
0080.00      I                                          241 258 VTX007
0081.00      I                                          281 298 VTX008
0082.00      I                                          321 338 VTX009
0083.00      I                                          361 378 VTX010

 F3=Exit   F5=Refresh   F9=Retrieve   F10=Cursor   F12=Cancel
 F16=Repeat find        F24=More keys
There are no commands to retrieve.
```

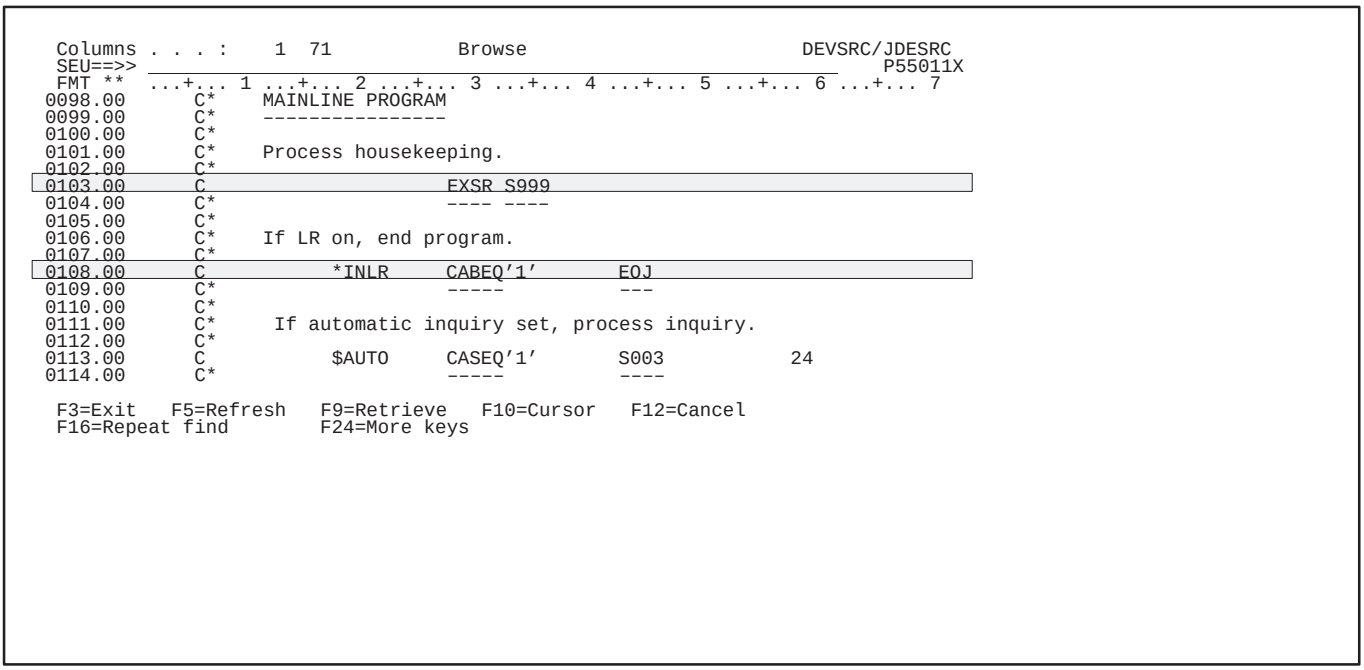
Lines 73 through 83 are used to define some of the vocabulary overrides that appear on this screen.

- The ending lengths change from program to program, and the program retrieves the values for each field at the time it executes the housekeeping subroutine, S999.

What Are Calculation Specifications?

Calculation specifications describe the calculations to be done on the data and the order of the calculations. Calculation specifications can also be used to control certain input and output operations. The information includes:

- Control-level and conditioning indicators for the operation specified (generally not used in J.D. Edwards software)
- Fields or constants to be used in the operation
- The operation to be processed
- Whether resulting indicators are set after the operation is processed



```
 Columns . . . :    1  71          Browse                        DEVSRC/JDESRC
 SEU==>> _____________________________________________________________ P55011X
 FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
0098.00      C*    MAINLINE PROGRAM
0099.00      C*    ----------------
0100.00      C*
0101.00      C*    Process housekeeping.
0102.00      C*
0103.00      C                      EXSR S999
0104.00      C*                     ---- ----
0105.00      C*
0106.00      C*    If LR on, end program.
0107.00      C*
0108.00      C           *INLR      CABEQ'1'       EOJ
0109.00      C*                     -----          ---
0110.00      C*
0111.00      C*     If automatic inquiry set, process inquiry.
0112.00      C*
0113.00      C           $AUTO      CASEQ'1'       S003          24
0114.00      C*                     -----          ----

 F3=Exit   F5=Refresh   F9=Retrieve   F10=Cursor   F12=Cancel
 F16=Repeat find        F24=More keys
```

The C Specs are the heart of the processing of a program. J.D. Edwards programs are designed with a MAINLINE portion which is a select set of C Specs that call other subroutines.

What Are Output Specifications?

Output specifications describe the records and fields in the output files and the conditions under which output operations are processed. They include information such as:

- Name of the file
- Type of record to be written
- Spacing and skipping instructions of Printer files
- Output indicators that condition when the record is to be written
- Name of each field in the output record
- Location of each field in the output record
- Edit codes and edit words
- Constants to be written
- Format name for a workstation file

```
  Columns . . . :    1  71           Browse                        DEVSRC/JDESRC
  SEU==>> ____________________________________________________________    P55011X
  FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
 2334.00      CSR                   MOVE '0026'    EMK,08           Inv MCU
 2335.00      CSR                   MOVE '0027'    EMK,09           Inv Desc Ttl
 2336.00      C*---------------------------------------------------------------
 2337.00      C*
 2338.00      C*    Load invalid action code array.
 2339.00      C*
 2340.00      CSR                   MOVEA'     '   @NAC
 2341.00      C*---------------------------------------------------------------
 2342.00      C*
 2343.00      C*    Load system date.
 2344.00      C*
 2345.00      CSR                   TIME           $WRK12 120
 2346.00      CSR                   MOVE $WRK12    $$EDT   60
 2347.00      C*---------------------------------------------------------------
 2348.00      CSR         END999    ENDSR
 2349.00      C*****************************************************************
 2350.00      OI5501X  E               UNLOCK

  F3=Exit   F5=Refresh   F9=Retrieve   F10=Cursor   F12=Cancel
  F16=Repeat find        F24=More keys
```

J.D. Edwards utilizes the RPG EXCPT operation to release locks on data records. This O Specs inform the program which record format is to be released when the EXCPT UNLOCK calculation is performed. Additional formats can be identified with a name such as UNLCKA or UNLCKB.

- Typically, J.D. Edwards does not perform reporting functions using O Specs.
- You can use the Opcode “UNLCK” instead of EXCPT/O–SPECS.

Program Overview

About the Program Overview

The program overview provides a basic overview of the standards used in a program, including:

- Subroutines
- Error Handling
- Indicator Usage
- Documentation
- Miscellaneous Items

Subroutines

The Program Generator uses two categories of subroutines:

- Standard Subroutines
- Common Subroutines

Standard Subroutines

The Program Generator includes the required standard routines in the Calculation Specifications at the time it generates a program. It arranges them in alphanumeric order.

If you must enter your own standard subroutine, name it in such a way that it will be executed in the necessary order. For example, if you need your subroutine to be executed after the scrub and edit subroutine (S005) but before the update files subroutine (S010), begin the name with an S and then use a three to four character suffix that fits in logically, such as S005A or S006.

Standard subroutine code lines are identified in positions 7 and 8 with SR. Their names always begin with an S. Subroutines are separated by a single line of asterisks. Major blocks of code within a subroutine are separated by a single line of dashes.

```
1870.00      CSR                    MOVE *BLANK    HRJBCD
1871.00      CSR                    MOVE *BLANK    HRJBST
1872.00      CSR                    MOVE *BLANK    HRRVW
1873.00      CSR                    END
1874.00      C*------------------------------------------------------------
1875.00      CSR         END001     ENDSR
1876.00      C************************************************************
1877.00      C*
1878.00      C*    SUBROUTINE S003 - Edit Key
1879.00      C*    -------------------------
1880.00      C*
```

Place an END tag on the ENDSR statement. The TAG name should start with END. The subroutine name is added as a suffix. For example, END001 would be the used for subroutine S001. Do not use the end tag for anything else. Use a T tag if the code needs to be executed prior to the ENDSR statement. For example, T001 would be used for subroutine S001 if the tag is used in the middle of the subroutine.

```
1874.00      C*-------------------------------------------------------------
1875.00      CSR         END001    ENDSR
1876.00      C*************************************************************
```

Common Subroutines

Common subroutines are maintained outside the program and are included at the appropriate times using the COPY statement. Common subroutines are also referred to as copy modules for that reason. J.D. Edwards stores all common subroutines in the file JDECPY.

At compile time, the compiler copies in code for all instances of the COPY statement. The included code appears only once and then can be called from anywhere within the program.

The statement that instructs the compiler to copy in the source code is shown below. Single lines of asterisks separate common subroutines.

```
0731.00      C*****************************************************************
0732.00      C*
0733.00      C*    Copy Common Subroutine – Right Justify Numeric Fields
0734.00      C*
0735.00      C/COPY JDECPY,C0012
0736.00      C*****************************************************************
```

This example shows how the COPY statement in the source (above) brings in additional code to the compiled source (below).

```
  73400  C*
  73500  C/COPY JDECPY,C0012
Q000000+  MEMBER C0012 IN FILE JDECPY LIBRARY JDFSRC OPENED FOR /COPY.
Q0000100+ C*************************************************************
Q0000200+ C*  This is part of a composite common subroutine. In
Q0000300+ C*  order for the subroutine to work correctly, the
Q0000400+ C*  RPG program must /COPY in the following members:
Q0000500+ C*   E0012, C0012
Q0000600+ C*************************************************************
Q0000700+ C*    MAINLINE PROGRAM
Q0000800+ C*    ----------------
Q0000900+ C*
Q0001000+ C*
Q0001100+ C*     SUBROUTINE C0012 - Right Justify Numeric Fields
Q0001200+ C*     -----------------------------------------------
Q0001300+ C*
Q0001400+ C*  PURPOSE
Q0001500+ C*  -------
Q0001600+ C*       To provide a subroutine common to all programs which
Q0001700+ C*       right justifies numeric fields and places the sign over
Q0001800+ C*       the low order byte of the fields, designated by either a
Q0001900+ C*       leading or trailing minus sign.  This routine also ignores
Q0002000+ C*       all non-numeric characters in the input field, and
Q0002100+ C*       determines the placement of the decimal point.
Q0002200+ C*
Q0002300+ C*  REMARKS
Q0002400+ C*  -------
Q0002500+ C*
Q0002600+ C*       Prior to executing this subroutine data from an
Q0002700+ C*       alphanumeric input field should be placed in the array
Q0002800+ C*       named '@NM' with a 'MOVEA' command.  The right justified
Q0002900+ C*       number is available from the subroutine field named
Q0003000+ C*       '#NUMR', which is a 15 digit 6 decimal field.
Q0003100+ C*       CAUTION: The largest number that can be handled
Q0003200+ C*       by this subroutine is 999,999,999.999999.
Q0003300+ C*       However, the input field may contain only 15
Q0003400+ C*       numbers.
Q0003500+ C*
Q0003600+ CSR         C0012     BEGSR
Q0003700+ C*          -----     -----
Q0003800+ C*
Q0003900+ CSR                   Z-ADD0         #NUMR  299
Q0004000+ CSR                   Z-ADD0         #NUMR2 152       Compile only
Q0004100+ CSR                   Z-ADD0         #NUMR9 159       Compile only
Q0004200+ C*
Q0004300+ CSR                   MOVEA@NM       #ALNUM
Q0004400+ CSR         #ALNUM    CABEQ*BLANKS   EN0012
Q0004500+ CSR                   MOVE *ALL'0'   #ALNUM 22
```

The following user defined code contains an online listing and specifications.

Install System Code: 93

User Defined Code: /C

Error Handling

J.D. Edwards has devised an efficient means of handling errors by way of arrays.

```
 Columns . . . :    1  71          Browse                        DEVSRC/JDESRC
 SEU==>> ____________________________________________________________ P55011X
0040.00      E*****************************************************************
0041.00      E*    PROGRAM TABLES AND ARRAYS
0042.00      E*    -------------------------
0043.00      E*
0044.00      E                     EMK        64  4              Error Msg
0045.00      E                     @MK        64  1              Error Msg
0046.00      E                     @ER        64  4              Error Msg
0047.00      E                     @DV        40  1              Dflt Wrk
0048.00      E                     @AV        10 10              Allowed Values
0049.00      E                     @40        40  1              Allowed Values
0050.00      E                     @10        10  1              Allowed Values
0051.00      E*
0052.00      E*
0053.00      E*    Copy Member for Composite Common Subroutine - C0001
0054.00      E*
0055.00      E/COPY JDECPY,E0001
0056.00      E*****************************************************************
0057.00      E*
0058.00      E*    Copy Member for Composite Common Subroutine - C0012
0059.00      E*
0060.00      E/COPY JDECPY,E0012
```

- The EMK array holds the four byte data dictionary name of every error that could occur in this program. The array is loaded in Housekeeping (S999).
- The @MK array maintains a flag setting for each error identified in EMK. If one of the errors occurs, the flag is set on.
- The @ER array loads the related error messages when the user presses F7 to view the errors that actually occurred.
- A program may have up to 64 errors.

The call to the error message handling program is shown below.

```
 Columns . . . :    1  71          Browse                       DEVSRC/JDESRC
 SEU==>>                                                            P55011X
0278.00      C*
0279.00      C*    If Display errors pressed, exit to error messages.
0280.00      C*   ------------------------------------------------
0281.00      C*
0282.00      CSR         @@AID     IFEQ #FERRD
0283.00      CSR                   Z-ADD1        #G
0284.00      CSR                   Z-ADD1        #H
0285.00      CSR         #G        DOWLE64
0286.00      CSR         @MK,#G    IFEQ '1'
0287.00      CSR                   MOVE EMK,#G   @ER,#H
0288.00      CSR                   ADD  1        #H
0289.00      CSR                   END
0290.00      CSR                   ADD  1        #G
0291.00      CSR                   END
0292.00      CSR                   CALL'P0000E'               98
0293.00      C*                    ------------
0294.00      CSR                   PARM          @ER
0295.00      CSR                   GOTO ENDEXE
0296.00      C*                    ---- ------
0297.00      CSR                   END
0298.00      C*
```

If any error flag is set to one, then the program moves the corresponding data item from the array of all possible errors (EMK) into the array of the errors that have actually occurred (@ER). P0000E is called to display the errors when the function key is pressed.

The next example of code shows how a flag is set in the @MK array.

```
 Columns . . . :    1  71          Browse                       DEVSRC/JDESRC
 SEU==>>                                                            P55011X
0347.00      C*
0348.00      C*    If error on read, set error.
0349.00      C*
0350.00      CSR         *IN82     IFEQ '1'
0351.00      CSR                   SETON                      9341
0352.00      CSR                   MOVE '1'      @MK,2
0353.00      CSR                   GOTO ENDEXE
0354.00      C*                    ---- ------
0355.00      CSR                   END
0356.00      CSR                   END
0357.00      CSR                   END
0358.00      C*
0359.00      C*    If ROLL DOWN key pressed, process read prior.
0360.00      C*    ---------------------------------------------
0361.00      C*
0362.00      CSR         @@AID     IFEQ #FROLD
0363.00      C*
0364.00      C*    Reset error indicators if roll
0365.00      C*
0366.00      CSR                   MOVEA$RESET   *IN,41
0367.00      CSR                   MOVE '0'      *IN,40
```

If indicator 82 is on, the standard indicator for an error (93) is set on and indicator 41 is set on to highlight the field in error.

The next example of code shows the loading of the array that contains every possible error for this program. This loading takes place only once (in S999).

```
 Columns . . . :    1  71          Browse                      DEVSRC/JDESRC
 SEU==>>                                                            P55011X
2324.00      C*
2325.00      C*    Load error messages array.
2326.00      C*
2327.00      CSR                  MOVE '0001'    EMK,01          Inv Action
2328.00      CSR                  MOVE '0002'    EMK,02          Inv Key
2329.00      CSR                  MOVE '0003'    EMK,03          Inv Blanks
2330.00      CSR                  MOVE '0004'    EMK,04          Inv Date
2331.00      CSR                  MOVE '0005'    EMK,05          Inv Next Nbr
2332.00      CSR                  MOVE '0007'    EMK,06          In Use
2333.00      CSR                  MOVE '0025'    EMK,07          Inv Values
2334.00      CSR                  MOVE '0026'    EMK,08          Inv MCU
2335.00      CSR                  MOVE '0027'    EMK,09          Inv Desc Ttl
2336.00      C*-------------------------------------------------------------
2337.00      C*
2338.00      C*    Load invalid action code array.
2339.00      C*
2340.00      CSR                  MOVEA'     '   @NAC
2341.00      C*-------------------------------------------------------------
2342.00      C*
2343.00      C*    Load system date.
2344.00      C*
```

Indicator Usage

There are 99 indicators available for use. They are grouped by purpose. The chart on the next page lists the available indicators and their description.

Indicator	Explanation
01	Causes the Invalid Function Key Pressed message to appear
02	Dictates the color palette to be used
15	Indicates a function key was pressed.
20	Handles the clear screen action code
21	Handles the add action code
22	Handles the change action code
23	Handles the delete action code
24	Handles the inquire action code
25	Handles the inquire action code 'P' for print (payroll)
31	Used in conjunction with subfile processing to initiate the INVITE or SFLCLR keyword. Using INVITE will slow processing
32	Used in conjunction with subfile processing initiating the keyword SFLNXTCHG
37	Used in conjunction with subfile processing to avoid display of an empty subfile (used only with inquiry subfiles)
38	Used in conjunction with subfile processing to highlight the last record in the display (keyword SFLDSP) and avoid display of an empty subfile
40–79	Used for error processing to indicate which fields are in error and need to be highlighted
40	Reserved for errors in the Action Code field
41	Reserved for errors in the key fields
80–89	General reusable one–time indicators. Use them as needed.
93	Global error indicator that highlights line 24
98	Indicates a chain or read failure
99	Indicates a record is in use or file error
OF	Indicates overflow for report processing
LR	Indicates that the last record has been read and the program should end normally
RT	Indicates that a temporary or final halt in the program should take place. Returns to calling program leaving files open.

Documentation

In the F specifications the program contains several comment lines that are to serve as the program revisions log. The log should list all programmers who have revised the program, the date the revisions were made and the SAR outlining the change that was made.

```
0016.00       F*
0017.00       F*    PROGRAM REVISION LOG
0018.00       F*    --------------------
0019.00       F*
0020.00       F*          Date     Programmer     Nature of Revision
0021.00       F*         --------  ----------  ----------------------------------
0022.00 AUTHRF*         03/18/93   MARTIN      SAR # 00000005      (AS/400  A/G)
0023.00       F*        05/01/93   RIPPEY      SAR # 00167542
```

When entering comment lines, use the following conventions.

- An asterisk in column seven specifies that the line is a comment line only.
- The asterisk should be followed by four blank spaces before the comment begins.
- Precede and follow the comment lines with a blank line.

The example below shows how these conventions are observed.

```
0034.00       F*****************************************************************
0035.00       F*
0036.00       F*    Copy Member for Composite Common Subroutine - C0001
0037.00       F*
```

Guidelines

Common sense should be your guide when documenting your programs. Be thorough and descriptive. Put yourself in the place of the next programmer who will inherit your work. Use English and not "programmerese" to specify the action occurring. For example, for the code shown below:

```
0130.00      C*
0131.00      C           $998       CASEQ' '       S998
0132.00      C*                     -----          ----
0133.00      C                      END
```

- DON'T WRITE: If $998 is blank, execute S998.
- INSTEAD WRITE: Load data field dictionary parameters (one cycle only).

The following example gives more detail than can be inferred from the actual code.

Include a line of dashes beneath any line of code that branches to another line of code (CASxx, CABxx, GOTO, EXSR, CALL, BEGSR). The receiving tag statement should also be followed by a line of dashes as shown in the example below.

```
0275.00      C*
0276.00      C                      EXSR S999
0277.00      C*                     ---- ----
```

Miscellaneous Items

The following represent miscellaneous items of note that you should keep in mind when writing your own code.

Naming Conventions

Use the following first character to distinguish different item names:

- @ Array names
- $ Program created field names (flags and work fields)
- # Fields defined in common subroutines

Key List (KLIST)

Key lists should all be defined in the housekeeping subroutine.

Begin the key list name with the data file prefix. For example, the Address Book Master file prefix is AB, so the key list would be ABKY01.

The Program Generator creates key lists using the following naming conventions:

- XXKY01 for physical files where XX = the file prefix. For example, ABKY01
- When a physical file needs to have more than one key list in a program, the successive files are noted in the last character space. For example, for three key lists for the physical file F0101, the key lists would be: ABKY01, ABKY02, and ABKY03.
- XXKY0x for logical files where XX is equal to the file prefix and x is equal to the last letter of the logical file name. For example: ABKY0A for F0101LA, ABKY0B for F0101LB.
- When a logical file needs to have more than one key list in a program, the successive files are noted in the second to last character space. For example for three key lists for the logical file F0101LA, the key lists would be: ABKY0A, ABKY1A, and ABKY2A.

Work Fields

Define work fields only once within a program. The use of the *LIKE DEFN command is highly recommended for defining work fields when their attributes are directly tied to those of database fields.

For example, if the work field needs to have the same attributes as a field that exists in a file:

MOVE ABANS $$ANS,

then define $$ANS as follows:

*LIKE DEFN ABANS $$ANS

The advantage of this method is that the work field and database field will retain the same attributes even if the database field changes.

When using work fields as a flag, you should assign them the prefix $ and have the remainder of the name be descriptive. In the example below, the work field name is $GLOBL. This name is more descriptive than a field name such as $G.

```
0831.00      C*
0832.00      C*    If F6 pressed, Global Update by Percent or Amount.
0833.00      C*    ---------------------------------------------------
0834.00      C*
0835.00      CSR        @@AID     IFEQ #F03
0836.00      CSR                  MOVE '1'       $GLOBL  1
```

Optional Files

If a program uses files which are dependent upon your particular setup, you should designate those files as user control open (UC) in the file specifications and then write the program such that they are opened, if needed, in the Housekeeping subroutine. This eliminates the need to open files unnecessarily and conserves resources.

```
FF085201 UF  E           K        DISK                           UC
FF08501LAIF  E           K        DISK                           UC
```

The lines that perform the open are shown below.

```
 Columns . . . :    1  71          Browse                        JDFSRC/JDESRC
 SEU==>>                                                             P08320
3825.00      C*
3826.00      C*    Check for existence of pension files.
3827.00      C*
3828.00      CSR                 OPEN F085201                99
3829.00      CSR         *IN99   IFEQ '0'
3830.00      CSR                 MOVE '1'       $PENS   1
3831.00      CSR                 END
3832.00      C*
3833.00      CSR                 OPEN F08501LA               99
3834.00      CSR         *IN99   IFEQ '0'
3835.00      CSR                 MOVE '1'       $PENS2  1
3836.00      CSR                 END
```

If you are doing a user-controlled open for a file that is part of another system, you will also need to provide pre-compiler commands in the event the user hasn't purchased that system. The example below illustrates the necessary pre-compiler commands designed to address just such a situation.

In the example, if a Payroll client has not purchased Human Resources, the code specifies a file override and then substitutes an empty file (identified with the suffix E) which all Payroll clients receive.

```
        ********** Beginning of data *************************************
0001.00             OVRRDBF    FILE(F082001B) TOFILE(F082001E)
0002.00             OVRRDBF    FILE(F08001) TOFILE(F08001E)
0003.00             OVRRDBF    FILE(F08005B) TOFILE(F08005E)
        ********** End of data ***************************************
```

The user-controlled opens in the program allow the program to run in the absence of certain files, whereas the precompiler commands allow the program to be compiled in the absence of those files.

Program Structure

About Program Structure

There are several types of subroutines used in the J.D. Edwards program structure, including the following:

- Internal RPG Subroutines within J.D. Edwards programs
- Subfile program with selection exits
- Interactive non-subfile program
- Report program without subheadings
- Report program with subheadings
- Maintenance program without a subfile

Internal RPG Subroutines Within J.D. Edwards Programs

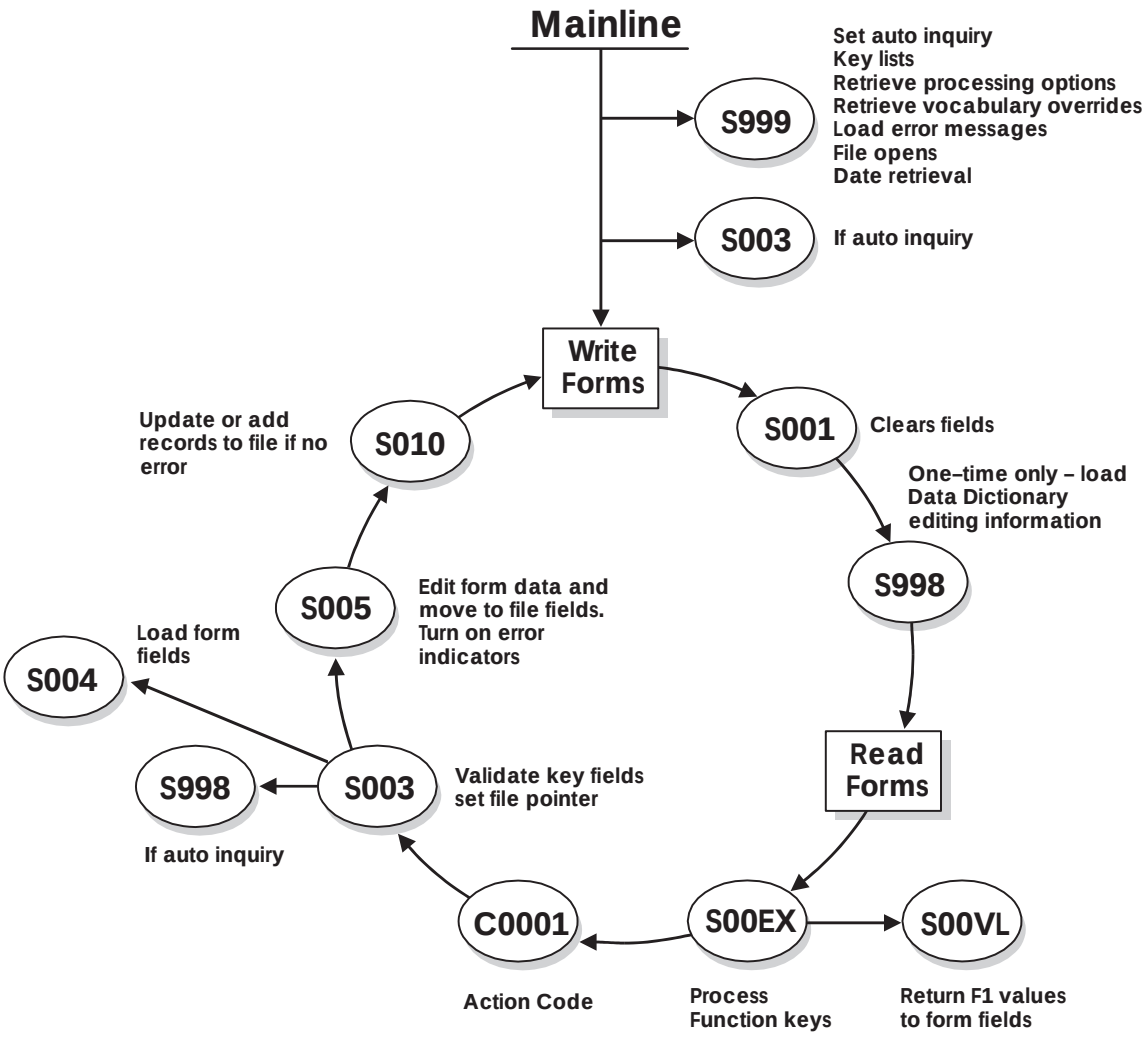
- Standard names make program maintenance easier.
- Called primarily from Mainline.

The table below describes internal RPG subroutines within J.D. Edwards programs:

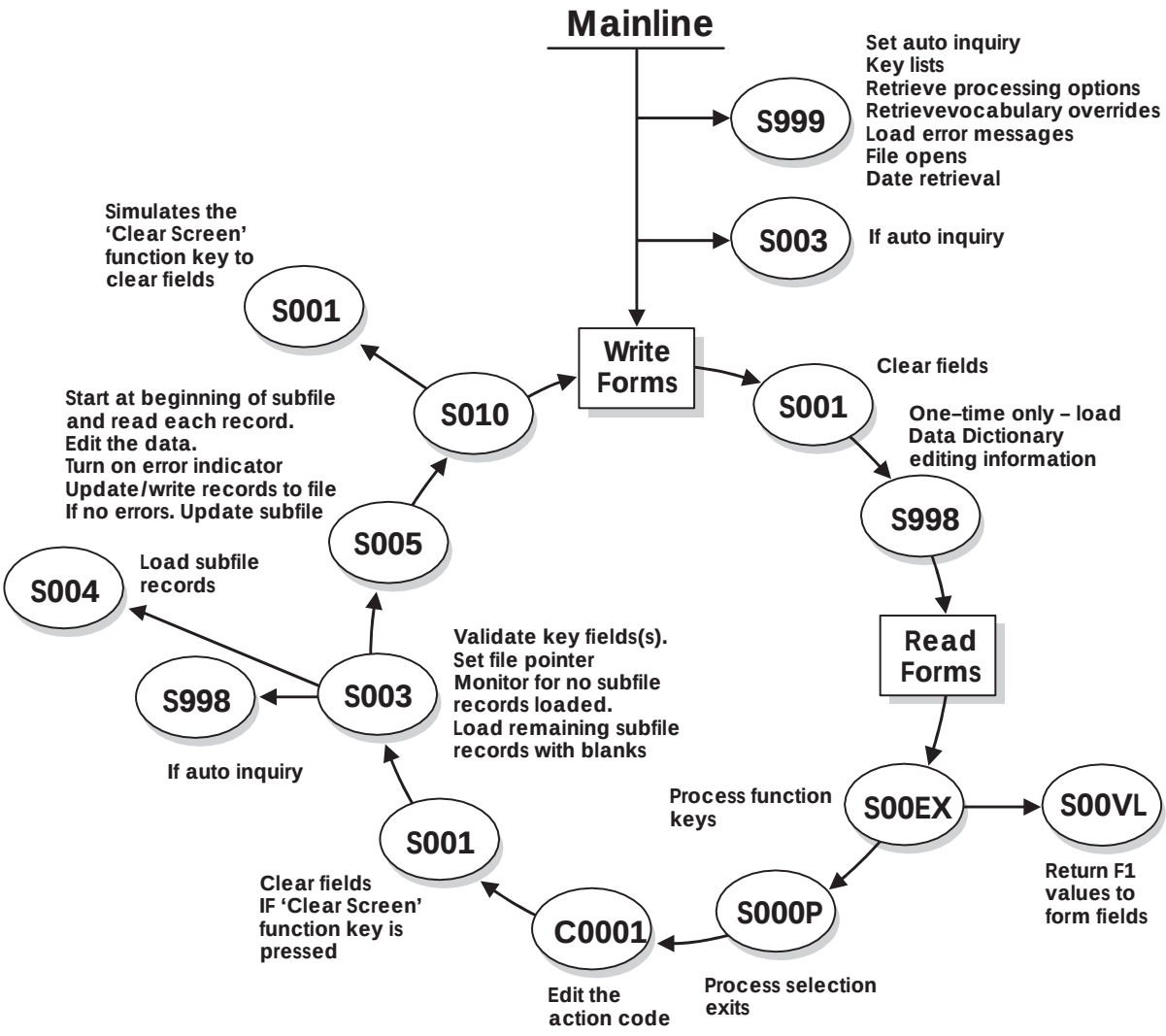
Name	Explanation
S00EX	Processes all function key exits. • Calls P9601H if F24 was pressed • Calls X96CCX if F1 was pressed • Calls subroutine S00VL if F1 was pressed after X96CCX was called • Calls P0000E if F7 was pressed • Calls P00HELP if the HELP key was pressed • Calls subroutine S001 if F22 was pressed • Calls all programs to process all user defined function keys
S00VL	Values returned with Cursor Sensitive Help. Is called from the subroutine S00EX after the program X96CCX is called
S00OP	Subfile Selection Exits (Options).
S001	Clears all database and form fields. • Usually only clears key fields and VC0 fields if F22 (Clear) is pressed
S002	Checks for level breaks for reports. • Turns on level break flags. • Retrieves total line description
S003	Validates the key fields. Calls S998 subroutine if auto inquire was invoked Sets the file pointer. • Performs a SETLL or CHAIN if a single record maintenance program • Performs a SETLL for subfile programs Calls a subroutine S004 to load form or report fields Monitors for no subfile records loaded if a subfile Loads unused subfile records with blanks
S004	Display or load form or report fields.

Name	Explanation
S005	Scrubs and edits form fields. • Moves form data to database fields • Turns on error indicators if a field is in error • Updates or writes records to the database file if a subfile • Updates the subfile
S010	For reports with level breaks it: • Prints the total • Clears the level break totals • Prints the grand total (if it has reached the end of the file) • Prints the detail • Adds to the new level break totals Calls subroutine S020 if it is a report with subheadings If it is *not* a report, it updates, adds, or deletes records from the database file • Turns on F22 (Clear) to force S001 to be executed to clear the buffer before reading another record.
S020	Print Report Subheadings.
S998	Loads Data Dictionary values. (One time only) • Retrieves row description for level breaks and subheadings, if applicable
S999	Housekeeping. (One time only) • Sets auto inquiry • Defines key lists • Retrieves processing options and level breaks, if applicable • Retrieves vocabulary overrides • Loads error messages • Performs file opens • Current date retrieval • Work fields defined using *LIKE • Prints cover page and Helps in a report

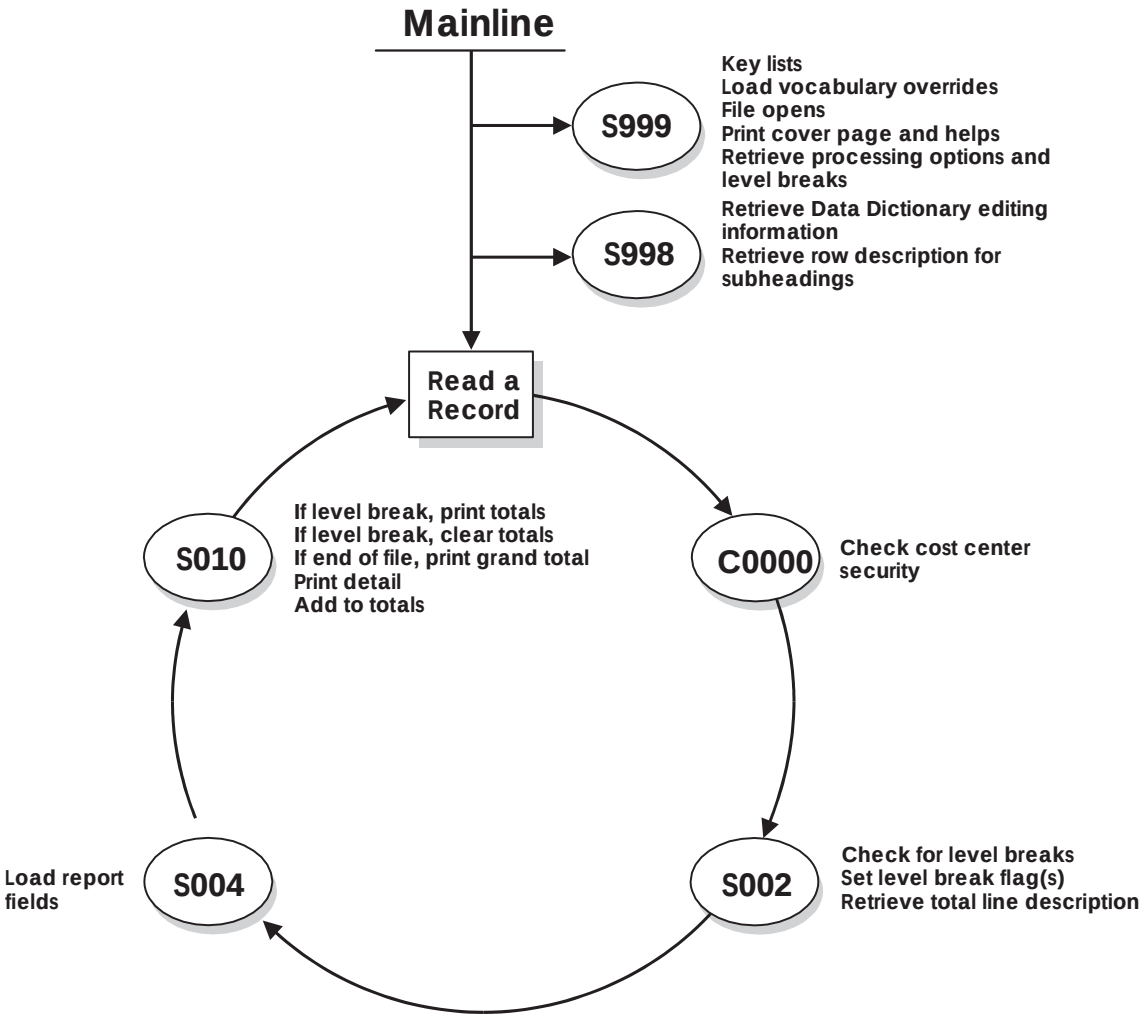
Interactive Non-Subfile Program



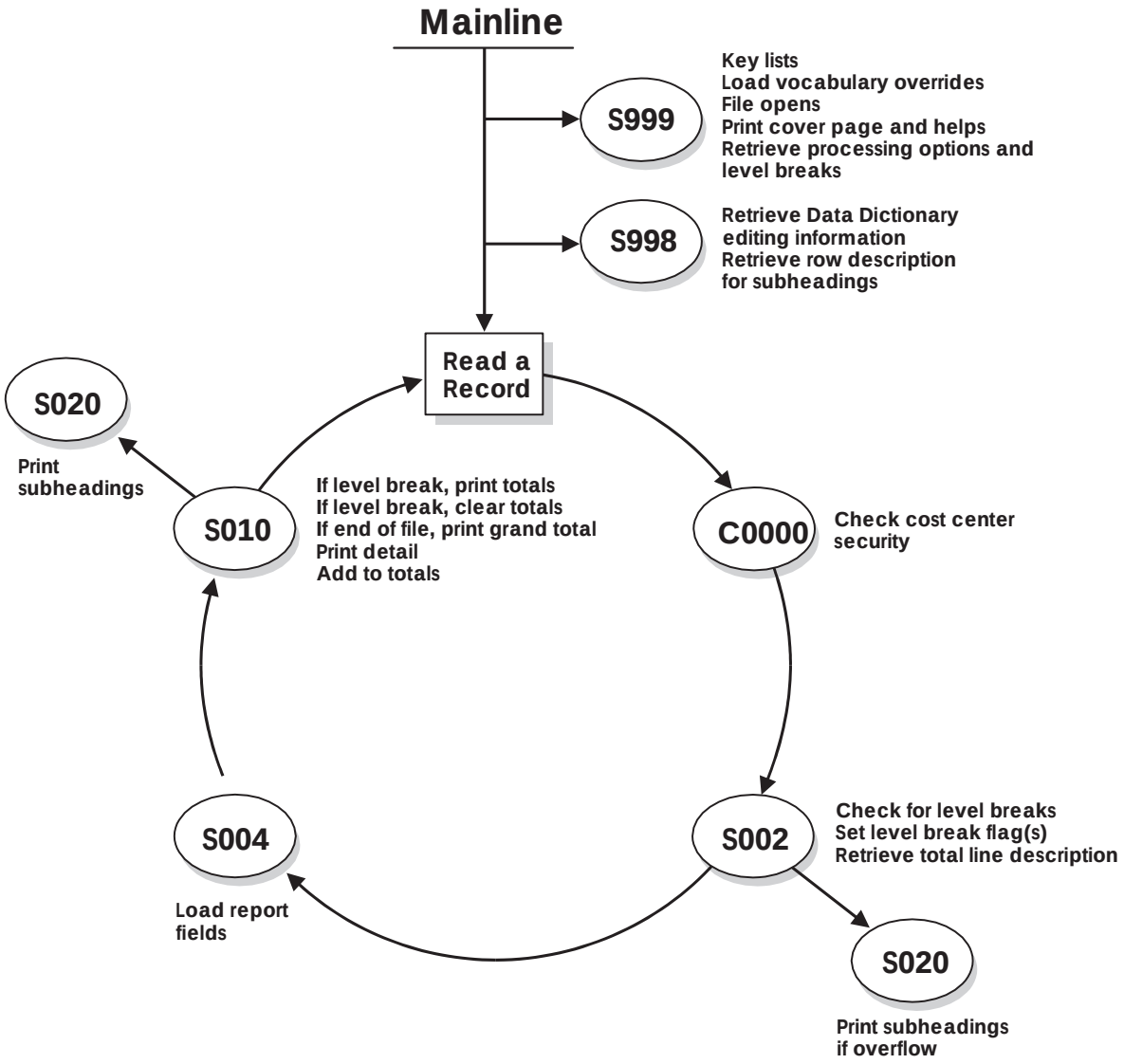
Subfile Program with Selection Exits



Report Program without Subheadings



Report Program with Subheadings



Review an RPG Program's Source

The following pages illustrate a maintenance program without a subfile.

Some of the more important areas and commonly used fields are highlighted and explained.

```
 1.00      H/TITLE P928011     Item Master Information
 2.00      H* ------------------------------------------------------------------------
 3.00      H*
 4.00      H*       Copyright  (c) 1993
 5.00      H*       J. D. Edwards & Company
 6.00      H*
 7.00      H*       This unpublished material is proprietary to
 8.00      H*       J. D. Edwards & Company.  All rights reserved.
 9.00      H*       The methods and techniques described herein are
10.00      H*       considered trade secrets and/or confidential.
11.00      H*       Reproduction or distribution, in whole or in part,
12.00      H*       is forbidden except by express written permission
13.00      H*       of J. D. Edwards & Company.
14.00      H*
15.00      H* ------- ---------------------------------------------------------------
16.00      F*
17.00      F*       PROGRAM REVISION LOG
18.00      F*       --------------------
19.00      F*
20.00      F*            Date     Programmer          Nature of Revision
21.00      F*          --------   ----------   ---------------------------------
22.00AUTHRF*          12/07/93     QUARLES      SAR  #     241883     (AS/400  A/G)
23.00      F*
24.00      F*       B0010     - Standard Maintenace Program Type
25.00      F*                   This program provides the standard single cycle
26.00      F*                   processing for adding, changing, deleting and
27.00      F*                   inquiring into data records as requested.
28.00      F*
29.00      F*********************************************************************
30.00      F*
31.00      FF0001     IF  E           K       DISK
32.00      FF92801    UF  E           K       DISK                           A
33.00      FV928011   CF  E                   WORKSTN      KINFDS  SRVFDS
34.00      F*********************************************************************
35.00      E*
36.00      F*       Copy Member for Composite Common Subroutine - C0001
37.00      F
38.00      F/COPY JDECPY,D0001
39.00      F*********************************************************************
40.00      E*********************************************************************
41.00      E*       PROGRAM TABLES AND ARRAYS
42.00      E*       -------------------------
43.00      E*
44.00      E             EMK         64  4              Error Msg
45.00      E             @MK         64  1              Error Msg
46.00      E             @ER         64  4              Error Msg
47.00      E             @DV         40  1              Dflt Wrk
48.00      E             @C         256  1              Literal Work
49.00      E*
50.00      E*
51.00      E*       Copy Member for Composite Common Subroutine - C0001
52.00      E*
53.00      E/COPY JDECPY,E0001
54.00      E*********************************************************************
55.00      E*
56.00      E*       Copy Member for Composite Common Subroutine C0012
57.00      E*
58.00      E/COPY JDECPY,E0012
59.00      E*********************************************************************
60.00      E*
61.00      E*       Copy Member for Composite Common Subroutine - C997
62.00      E*
63.00      E/COPY JDECPY,E997
64.00      E*********************************************************************
65.00      I*********************************************************************
66.00      I*       PROGRAM INPUT SPECIFICATIONS AND DATA STRUCTURES
67.00      I*       -----------------------------------------------
68.00      I*
```

Copyright statement can be changed through the Program Generator

Shows all SARs used to make changes to the program

The Program Generator puts in numeric order. RPG opens from bottom to top so JDE puts more heavily used files at the bottom.

Informational data structure for the video

Arrays that handle error messages

Will copy in additional specifications for copy module C0001

```
 69.00      I*       Data Structure to Load Video Screen Text
 70.00      I*
 71.00      IDSTXT       DS                                1000
 72.00      I                                            1  18 VTX001
 73.00      I                                           41  58 VTX002
 74.00      I                                           81  92 VTX003
 75.00      I                                          121 138 VTX004
 76.00      I                                          161 178 VTX005
 77.00      I                                          201 218 VTX006
 78.00      I                                          241 258 VTX007
 79.00      I                                          281 298 VTX008
 80.00      I                                          321 338 VTX009
 81.00      I                                          361 378 VTX010
 82.00      I                                          401 418 VTX011
 83.00      I                                          441 458 VTX012
 84.00                                                 481 498 VTX013
 85.00      I                                          521 536 VTX014
 86.00      I                                          561 576 VTX015
 87.00      I                                          601 616 VTX016
 88.00      I                                          541 656 VTX017
 89.00      I                                          681 696 VTX018
 90.00      I                                          721 736 VTX019
 91.00      I                                          761 776 VTX020
 92.00      I                                          801 816 VTX021
 93.00      I                                          841 856 VTX022
 94.00      I                                          881 896 VTX023
 95.00      I                                          921 936 VTX024
 96.00      I                                          961 976 VTX025
 97.00      I*
 98.00      I/COPY JDECPY,I00DSINX
 99.00      I/COPY JDECPY,I00PS@@
100.00      I/COPY JDECPY,I00PSPROG
101.00      I*
102.00      I*
103.00      I*
104.00      I*       Copy Member for Composite Common Subroutine - C00SC
105.00      I*
106.00      I/COPY JDECPY, I00SC
107.00      I*****************************************************************
108.00      I*
109.00      I*      Copy Member for Server - X0005
110.00      I*
111.00      I/COPY JDECPY, I0005U
112.00      I*****************************************************************
113.00      I*
114.00      I*      Copy Member for Server - X0006
115.00      I*
116.00      I/COPY JDECPY, I000661
117.00      I*****************************************************************
118.00      I*
119.00      I*      Copy Member for Server - X9800E
120.00      I*
121.00      I/COPY JDECPY, I9800E
122.00      I*****************************************************************
123.00      C*****************************************************************
124.00      C*      MAINLINE PROGRAM
125.00      C*       ----------------
126.00      C*
127.00      C*      Process housekeeping.
128.00      C*
129.00      C*                    EXSR S999
130.00      C*                    ---- ----
131.00      C*
132.00      C*      If LR on, end program.
133.00      C*
134.00      C            *INLR      CABEQ'1'            EOJ
135.00      C*                      -----               ---
136.00      C*
137.00      C*      If automatic inquiry set, process inquiry.
138.00      C*
139.00      C*           $AUTO      CASEQ'1'            S003
140.00      C*                      -----               ----
141.00      C                       END
142.00      C*
143.00      C*      Begin normal program processing.
144.00      C*      --------------------------------
145.00      C*
146.00      C            *INLR      DOWEQ'0'
147.00      C*
148.00      C*      Write video screen.
149.00      C*
```

Each VTX field is 40 long but may not use all 40. Pulls in text from Vocabulary Overrides.

Data structure for commonly used indexes

Data structured used with file servers

Program status data structure

Data structure for vocabulary overrides and function keys

Data structure for file server X0005

One time only functions

If information is passed to this program, it will automatically inquire on the record

```
150.00      C                   WRITEV9280111
151.00      C                   MOVE '1'          @@AID
152.00      C                   EXSR S001
153.00      C*                  ---- ----
154.00      C*
155.00      C*      Load data field dictionary parameters (one cycle only).
156.00      C*
157.00      C       $998        CASEQ' '          $998
158.00      C*                  --------          ----
159.00      C                   END
160.00      C*
161.00      C*      Begin video screen read processing.
162.00      C*
163.00      C                   SETOF                          999301
164.00      C                   READ V928011                     9998
165.00      C                   Z-ADD0            ##RROW
166.00      C                   Z-ADD0            ##RCOL
167.00      C*
168.00      C*      If video read timed out, end program.
169.00      C*
170.00      C       *IN99       CABEQ'1'          EOJ          LR
171.00      C*                  -----             ---
172.00      C       @@AID       CABEQ#FEOJ        EOJ          LR
173.00      C*                  -----             ---
174.00      C*
175.00      C*      If valid function key pressed, process and return.
176.00      C*
177.00      C       *IN15       IFEQ '1'
178.00      C                   EXSR S00EX
179.00      C*                  ---- -----
180.00      C       *INLR       CABEQ'1'          EOJ
181.00      C*                  -----             ---
182.00      C       *IN15       CABEQ'1'          END
183.00      C*                  -----             ---
184.00      C                   END
185.00      C*
186.00      C*      Edit the action code.
187.00      C*
188.00      C                   EXSR C0001
189.00      C*                  ---- -----
190.00      C*
191.00      C*      If end of job requested, end program.
192.00      C*
193.00      C       @@AID       CABEQ#FEOJ        EOJ
194.00      C*                  -----             ---
195.00      C*
196.00      C*      If clear screen requested, process and return.
197.00      C*
198.00      C       @@AID       IFEQ #FCLR
199.00      C                   EXSR S001
200.00      C*                  ---- ----
201.00      C                   GOTO END
202.00      C*                  ---- ---
203.00      C                   END
204.00      C*
205.00      C*      Load subfile records.
206.00      C*
207.00      C                   EXSR S003
208.00      C*                  ---- ----
209.00      C*
210.00      C*      If add or change, validate all video input.
211.00      C*
212.00      C       *IN93       CABEQ'0'          S005
213.00      C*                  -----             ---
214.00      C                   END
215.00      C*
216.00      C*      If no errors and not inquiry, update file.
217.00      C*
218.00      C       *IN93       IFEQ '0'
219.00      C       *IN24       CASEQ'0'          S010
220.00      C                   ---               ----
221.00      C                   END
222.00      C                   END
223.00      C*
226.00      C*      Return for next input.
224.00      C*
225.00      C*
226.00      C       END         TAG
227.00      C*      ---         ---
228.00      C*
```

Clears fields

One time only. Pulls in Data Dictionary editing information functions

Used for cursor sensitive help. Tells where the cursor is.

All function keys are assigned indicator 15 so if 15 is on, a function key has been pressed

Edits the action code. Checks action code security.

Sets the file pointer and calls S004 to load the video/report fields

If an error has not occurred, validates and edits data

Updates files

```
229.00      C*      Set correct message in line 24.
230.00      C*
231.00      C            *IN93      IFEQ '1'
232.00      C                       MOVELSVL24E          VDL24
233.00      C                       ELSE
234.00      C                       MOVELSVL24M          VDL24
235.00      C                       END
236.00      C*
237.00      C                       END
238.00      C*
239.00      C            EOJ        TAG
240.00      C*           ---        ---
241.00      C*
242.00      C*      END MAINLINE PROGRAM
243.00      C*      --------------------
244.00      C*************************************************************
245.00      C*
246.00      C*      Copy Common Subroutine - Edit Action Code
247.00      C*
248.00      C/COPY JDECPY,C0001
249.00      C*************************************************************
250.00      C*
251.00      C*      SUBROUTINE SOOEX - Process Function Keys
252.00      C*      ----------------------------------------
253.00      C*
254.00      C*      Processing:   1.  Determine function key pressed.
255.00      C*                    2.  Process function key request.
256.00      C*
257.00      CSR          S00EX      BEGSR
258.00      C*           -----      -----
259.00      CSR          T00EXA     TAG
260.00      C*           ------     ---
261.00      C*
262.00      C*      If EOJ requested, exit subroutine.
263.00      C*
264.00      CSR          @@AID      CABEQ#FEOJ           ENDEXE       LR
265.00      C*                      -----                ------
266.00      C*
267.00      C*      If Display Keys pressed, exit to help facility and return.
268.00      C*      ----------------------------------------------------------
269.00      C*
270.00      CSR          @@AID      IFEQ #FKEYS
271.00      CSR                     CALL 'P9601H'                     98
272.00      C*                      ---- --------
273.00      CSR                     PARM                 IOOSC
274.00      CSR                     PARM                 SRVFDS
275.00      CSR                     PARM                 IOOCSR
276.00      C*
277.00      CSR          @@AID      CABNE#FKEYS          TOOEXA
278.00      C*                      -----                ------
279.00      CSR                     GOTO ENDEXE
280.00      C*                      ---- ------
281.00      CSR                     END
282.00      C*
283.00      C*      If Cursor Sensitive Help Pressed, exit to CS Help.
284.00      C*      --------------------------------------------------
285.00      c*
286.00      CSR          @@AID      IFEQ #FQMRK
287.00      CSR                     MOVEA*IN             ##IN
288.00      CSR                     CALL 'X96CCX'                     98
289.00      C*                      ---- --------
290.00      CSR                     PARM                 IOOSC
291.00      CSR                     PARM                 SRVFDS
292.00      CSR                     PARM                 IOOCSR
293.00      CSR                     PARM ' '             ##CCFF   2
294.00      CSR                     PARM                 IOOMDE
295.00      C*
296.00      CSR          ##FLDN     IFNE *BLANKS
297.00      CSR                     EXSR SOOVL
298.00      C*                      ---- -----
299.00      CSR                     MOVEA##IN            *IN,1
300.00      CSR                     END
301.00      CSR                     MOVEL*BLANKS         ##DTAI
302.00      CSR                     GOTO ENDEXE
303.00      C*                      ---- ------
304.00      CSR                     END
305.00      C*
```

Sets the message for Line 24

Contains what function key was pressed by the user

Values assigned in the Function Key Definitions program

External programs start with an X. This is the cursor sensitive help program

Parameters passed identifying where the cursor was when F1 was pressed

```
306.00      C*       If Display errors presse, exit to error messages.
307.00      C*       ------------------------------------------------
308.00      C*
309.00      CSR           @@AID      IFEQ #FERRD
310.00      CSR                      Z-ADD1              #G
311.00      CSR                      Z-ADD1              #H
312.00      CSR           #G         DOWLE64
313.00      CSR           @MK,#G     IFEQ '1'
314.00      CSR                      MOVE EMK, #G        @ER, #H
315.00      CSR                      ADD  1              #H
316.00      CSR                      END
317.00      CSR                      ADD  1              #G
318.00      CSR                      END
319.00      CSR                      CALL 'P0000E'                    98
320.00      C*                       ----  --------
321.00      CSR                      PARM                @ER
322.00      CSR                      GOTO ENDEXE
323.00      C*                       ---- ------
324.00      CSR                      END
325.00      C*
326.00      C*        If HELP key pressed, exit to help facility and return.
327.00      C*       ------------------------------------------------
328.00      C*
329.00      CSR           @@AID      IFEQ #FHELP
330.00      CSR                      CALL 'P00HELP'                   99
331.00      C*                       ---- ---------
332.00      CSR                      PARM                HS@@
339.00      CSR                      PARM                HE@@
334.00      CSR                      PARM                I00SC
335.00      CSR                      PARM                SRVIDS
337.00      CSR                      GOTO ENDEXE
338.00      C*                       ---- ------
339.00      CSR                      END
340.00      C*
341.00      C*       If Clear screen pressed, clear screen and return.
342.00      C*       ------------------------------------------------
343.00      C*
344.00      CSR           @@AID      IFEQ #FCLR
345.00      CSR                      EXSR S001
346.00      C*                       ---- ----
347.00      CSR                      GOTO ENDEXE
348.00      C*                       ---- ------
349.00      CSR                      END
350.00      C*
351.00      C*     Process roll up and down keys.
352.00      C*     ------------------------------
353.00      C*
354.00      CSR           @@AID      IFEQ #FROLU
355.00      CSR           @@AID      OREQ #FROLD
356.00      CSR           $SECUR     DOUEQ' '
357.00      CSR                      MOVE ' '            $SECUR  1
358.00      C*
359.00      C*     If ROLL UP key pressed, process read next.
360.00      C*     ------------------------------------------
361.00      C*
362.00      C*           @@AID      IFEQ #FROLU
363.00      C*
364.00      C*     Reset error indicators if roll
365.00      C*
366.00      CSR                      MOVEA$RESET         *IN, 41
367.00      CSR                      MOVE '0'            *IN, 40
368.00      CSR                      SETOF                            818299
369.00      CSR                      READ I92801                        9981
370.00      CSR           *IN81      IFEQ '1'
371.00      CSR           $RUKEY     SETLLI92801
372.00      CSR                      SETOF                            8299
373.00      CAR                      READI92801                         9982
374.00      C*
375.00      C*     If error on read, set error.
376.00      C*
377.00      CSR           *IN82      IFEQ '1'
378.00      CSR                      SETON                            9341
379.00      CSR                      MOVE '1'            @MK,2
380.00      CSR                      GOTO ENDEXE
381.00      C*                       ---- ------
382.00      CSR                      END
383.00      CSR                      END
```

Access JDE program level Help information

```
384.00      CSR           END
385.00      C*
386.00      C*    If ROLL DOWN key pressed, process read prior.
387.00      C*    ---------------------------------------------
388.00      C*
389.00      CSR         @@AID      IFEQ #FROLD
390.00      C*
391.00      C*    Reset error indicators if roll
392.00      C*
393.00      CSR                    MOVEA$RESET          *IN,41
394.00      CSR                    MOVE '0'             *IN,40
395.00      CSR                    SETOF                       818299
396.00      CSR                    READPI92801                   9981
397.00      CSR         *IN81      IFEQ '1'
398.00      CSR         $RDKEY     SETTLLI92801
399.00      CSR                    SETOF                         8299
400.00      CSR                    READPI92801                   9982
401.00      C*
402.00      C*   If error on read, set error.
403.00      C*
404.00      CSR         *IN82      IFEQ '1'
405.00      CSR                    SETON                         9341
406.00      CSR                    MOVE '1'             @MK,2
407.00      CSR                    GOTO ENDEXE
408.00      C*                     ---- ------
409.00      CSR                    END
410.00      CSR                    END
411.00      CSR                    END
412.00      C*
413.00      C*    Load video screen data on roll keys.
414.00      C*    ------------------------------------
415.00      C*
416.00      CSR         @@A1D      IFEQ #FROLU
417.00      CSR         @@AID      OREQ #FROLD
418.00      C*
419.00      C*    Release record lock or report record in use.
420.00      C*
421.00      CSR         *IN99      IFEQ '0'
422.00      CSR                    EXTCPTUNLOCK
423.00      CSR                    ELSE
424.00      CSR                    CALL 'P98RLCK'                 81
425.00      C*                     ---- ---------
426.00      CSR                    PARM                 ##PSDS
427.00      CSR                    SETON                       9341
428.00      CSR                    MOVE '1'             @MK,6
429.00      CSR                    GOTO ENDEXE
430.00      C*                     ---- ------
431.00      CSR                    END
432.00      C*
433.00      C*
434.00      C*    Cost Center security edit.
435.00      C*
436.00      CSR                    MOVEL'F92801  '      #FILE
437.00      CSR                    MOVELQXXCC           #MCU
438.00      CSR         #AUT       IFNE '1'
439.00      CSR         #FAUT      ANDNE'1'
440.00      CSR                    EXSR COOOO
441.00      C*                     ---- -----
442.00      CSR                    END
443.00      CSR         #AUT       IFNE '1'
444.00      CSR         #FAUT      ANDNE'l'
445.00      CSR         #MAUT      ANDNE'l'
446.00      CSR                    MOVE '1'             $SECUR
447.00      CSR                    END
448.00      CSR         $SECUR     CASEQ' '             S004
449.00      C*                     -----                ----
450.00      CSR                    END
451.00      C*
452.00      CSR                    END
453.00      C*
454.00      CSR                    END
455.00      CSR                    GOTO ENDEXE
456.00      C*                     ---- ------
457.00      CSR                    END
458.00      C*
459.00      CSR         @@AID      IFNE '1'
460.00      CSR                    SETON                0193
461.00      CSR                    GOTO ENDEXE
462.00      C*                     ---- ------
463.00      CSR                    END
464.00      C*
465.00      CSR         ENDEXE     ENDSR
```

Program that will display a record lock window when a *record in use* error is encountered

Could not find a match in the Function Key Definitions for the function key pressed, so program displays *Invalid Function Key* message.

```
466.00      C*****************************************************************************
467.00      C*
468.00      C*     Copy Common Subroutine - Cost Center Security Check
469.00      C*
470.00      C/COPY JDECPY,C0000
471.00      C*****************************************************************************
472.00      C*
473.00      C*    SUBROUTINE SGOVL - Cursor Control Return Values
474.00      C*    -----------------------------------------------
475.00      C*
476.00      C*    By format, find the field to update and move in the
477.00      C*    returned value.  If the format is a subfile, the record
478.00      C*    to change is found in @@RRN.
479.00      C*
480.00      CSR         SOOVL      BEGSR
481.00      C*          -----      -----
482.00      C*
483.00      CSR         ##RVAL     IFEQ '*BLANK
484.00      CSR                    MOVE *BLANK          ##RVAL
485.00      CSR                    END
486.00      C*
487.00      C*    Return values for fields in format V9280111
488.00      C*
489.00      CSR         ##RFMT     IFEQ 'V9280111'
490.00      C*
491.00      CSR         ##FLDN     IFEQ 'ACTION        '
492.00      CSR                    MOVEL##RVAL          ACTION
493.00      CSR                    GOTO ENDOVL
494.00      C*                     ---- ------
495.00      CSR                    END
496.00      C*
497.00      CSR         ##FLDN     IFEQ 'VDXIT         '
498.00      CSR                    MOVEL##RVAL          VDXIT
499.00      CSR                    GOTO ENDOVL
500.00      C*                     ---- ------
501.00      CSR                    END
502.00      C*
503.00      CSR         ##FLDN     IFEQ 'VDXDS         '
504.00      CSR                    MOVEL##RVAL          VDXDS
505.00      CSR                    GOTO ENDOVL
506.00      C*                     ---- ------
507.00      CSR                    END
508.00      C*
509.00      CSR         ##FLDN     IFEQ 'VDXCC         '
510.00      CSR                    MOVEL##RVAL          VDXCC
511.00      CSR                    GOTO END0VL
512.00      C*                     ---- ------
513.00      CSR                    END
514.00      C*
515.00      CSR         ##FLDN     IFEQ 'VDXTY         '
516.00      CSR                    MOVEL##RVAL          VDXTY
517.00      CSR                    GOTO ENDOVL
518.00      C*                     ---- ------
519.00      CSR                    END
520.00      C*
521.00      CSR         ##FLDN     IFEQ 'VDXDT         '
522.00      CSR                    MOVEL##RVAL          VDXDT
523.00      CSR                    GOTO ENDOVL
524.00      C*                     ---- ------
525.00      CSR                    END
526.00      C*
527.00      CSR         ##FLDN     IFEQ 'VDXQT         '
528.00      CSR                    MOVEL##RVAL          VDXQT
529.00      CSR                    GOTO ENDOVL
530.00      C*                     ---- ------
531.00      aSR                    END
532.00      C*
533.00      CSR         ##FLDN     IFEQ 'VDXUM         '
534.00      CSR                    MOVEL##RVAL          VDXUM
535.00      aSP                    GOTO ENDOVL
536.00      C*                     ---- ------
537.00      CSR                    END
538.00      C*
539.00      CSR         ##FLDN     IFEQ 'VDX001         '
540.00      CSR                    MOVEL##RVAL          VDX001
541.00      CSR                    GOTO ENDOVL
542.00      C*
```

For cursor sensitive help. Information was retrieved in program X96CCX. The retrieved information is returned to the video fields in this subroutine.

```
543.00      CSR                     END
544.00      C*
545.00      CSR          ##FLDN     IFEQ 'VDX002        '
546.00      CSR                     MOVEL##RVAL          VDX002
547.00      CSR                     GOTO ENDOVL
548.00      C*                      ---- ------
549.00      CSR                     END
550.00      C*
551.00      CSR          ##FLDN     IFEQ 'VDX003        '
552.00      CSR                     MOVEL##RVAL          VDX003
553.00      CSR                     GOTO ENDOVL
554.00      C*                      ---- ------
555.00      CSR                     END
556.00      C*
557.00      CSR          ##FLDN     IFEQ 'VDX004        '
558.00      CSR                     MOVEL##RVAL          VDX004
559.00      CSR                     GOTO ENDOVL
561.00      CSR                     END
562.00      C*
563.00      CSR          ##FLDN     IFEQ 'VDX005        '
564.00      CSR                     MOVEL##RVAL          VDX005
565.00      CSR                     GOTO ENDOVL
566.00      C*                      ---- ------
567.00      CSR                     END
568.00      CSR                     END
569.00      C*
570.00      csR          ENDOVL     ENDSR
571.00      C*****************************************************************************
572.00      C*
573.00      C*     SUBROUTINE S001 - Clear Fields
574.00      C*     ------------------------------
575.00      C*
576.00      C*     Processing:  1.    Reset all video screen and data file fields
577.00      C*                        for next transaction.
578.00      C*                  2.    Clear action code only if requested.
579.00      C*
580.00      CSR          S001       BEGSR
581.00      C*           ----       -----
582.00      C*
583.00      C*     Reset fields for next transaction.
584.00      C*
585.00      CSR          *NOKEY     CLEARI92801
586.00      CSR                     MOVE *BLANK          ###CFL
587.00      CSR                     MOVE *BLANK          ###CRC
588.00      CSR                     Z-ADD*ZERO           ##RCOL
589.00      CSR                     Z-ADD*ZERO           ##RROW
590.00      CSR                     MOVE *BLANK          VDXCC
591.00      CSR                     MOVE *BLANK          VDXDS
592.00      CSR                     MOVE *BLANK          VDXDT
593.00      CSR                     MOVE *BLANK          VDXIT
594.00      CSR                     MOVE *BLANK          VDXQT
595.00      CSR                     MOVE *BLANK          VDXTY
596.00      CSR                     MOVE *BLANK          VDXUM
597.00      CSR                     MOVE *BLANK          VDX001
598.00      CSR                     MOVE *BLANK          VDX002
599.00      CSR                     MOVE *BLANK          VDX003
600.00      CSR                     MOVE *BLANK          VDX004
601.00      CSR                     MOVE *BLANK          VDX005
602.00      CSR                     MOVELSVL24M          VDL24
603.00      CSR                     MOVE ' '             @IN37    1
604.00      C*
605.00      C*     Clear action code only if clear screen action.
606.00      C*
607.00      CSR          @@AID      IFEQ #FCLR
608.00      CSR                     MOVE *ALL'0'         $RESET
609.00      CSR                     MOVE$RESET           *IN,41
610.00      CSR                     MOVE ' '             ACTION   1
611.00      CSR                     Z-ADD*ZERO           QXXIT
612.00      CSR                     MOVE *BLANK          VC0001
613.00      CSR                     MOVE *BLANK          VC0002
614.00      CSR                     MOVE *BLANK          VC0003
615.00      CSR                     MOVE *BLANK          VC0004
616.00      CSR                     MOVE *BLANK          VC0005
617.00      CSR                     MOVE *BLANK          VC0006
618.00      CSR                     MOVE *BLANK          VC0007
619.00      CSR                     MOVE *BLANK          VC0008
620.00      CSR                     Z-ADD*ZERO           $$EDT   60
621.00      CSR                     END
622.00      C*
623.00      CSR          END001     ENDSR
```

Clears all the fields in the record format for F92801

Clears the video fields

These fields will only be cleared if the user presses the function key to clear the screen. We want to save certain information like key fields and descriptions so they don't get cleared everytime S001 is executed.

```
624.00      C*****************************************************************************
625.00      C*
626.00      C*     SUBROUTINE S003 - Edit Key
627.00      C*     --------------------------
628.00      C*
629.00      C*     Processing:   1.  Clear error indicators and arrays.
630.00      C*                   2.  Load input keys.
631.00      C*                   3.  Validate master file key.
632.00      C*                   4.  Release master file record lock.
633.00      C*                   5.  Load video screen output on inquiry.
634.00      C*
635.00      CSR          S003       BEGSR
636.00      C*           ----       -----
637.00      C*
638.00      C*     Load data field dictionary parameters (one cycle only).
639.00      C*
640.00      CSR          $998       CASEQ' '            S998
641.00      C*                      -----               ----
642.00      CSR                     END
643.00      C*
644.00      C*     Reset error indicators and arrays.
645.00      C*
646.00      CSR                     MOVE *ALL'0'        $RESET 39
647.00      CSR                     MOVE *BLANK         $RESTl 63
648.00      CsR                     MOVEA$RESET         *IN,41
649.00      CSR                     MOVEA$RESTl         @MK,2
650.00      CSR                     CLEAR@ER
651.00      C*---------------------------------------------------------------------------
652.00      C*
653.00      C*     Load video input field for - Item ID
654.00      C*
655.00      CSR                     MOVEAVDXIT          @NM
656.00      CSR                     EXSR C0012
657.00      C*                      ---- -----
658.00      CSR                     z-ADD#NUMR          $NBR08  80
659.00      CSR                     MOVE $NBR08         QXXIT
660.00      C*
661.00      C*     Automatic Next Number for - Item ID
662.00      C*
663.00      CSR          *IN21      IFEQ '1'
664.00      CSR          VDXIT      ANDEQ*BLANK
665.00      CSR                     SETON                         81
666.00      CSR          *IN81      DOWEQ'1'
667.00      CSR                     MOVE N@XIT          PSIDX   2
668.00      CSR                     CALL 'X0010'                    82
669.00      C*                      ---- -------
670.00      CSR                     PARM S@XIT          NNSY    4
671.00      CSR                     PARM                PSIDX
672.00      CSR                     PARM *ZERO          #NXTNO  80
673.00      CSR                     MOVE #NXTNO         QXXIT
674.00      CSR                     MOVE #NXTNO         VDXIT
675.00      CSR          QXXIT      SETLLF92801                   8281
676.00      CSR                     END
677.00      CSR                     END
678.00      C*---------------------------------------------------------------------------
679.00      CSR          QXKY0l     CHAINI92801                 9899
680.00      C*
681.00      C*     Cost Center security edit.
682.00      C*
683.00      CSR                     MOVEL'F92801        '#FILE
684.00      CSR                     MOVELQXXCC          #MCU
685.00      CSR          #AUT       IFNE '1'
686.00      CSR          #FAUT      AXDNE'l'
687.00      CSR                     EXSR C0000
688.00      C*                      ---- -----
689.00      CSR                     END
690.00      CSR          #AUT       IFNE '1'
691.00      CSR          #FAUT      ANDNE'1'
692.00      CSR          #MAUT      ANDNE'l'
693.00      CSR                     MOVE '1'             $$SECR  1
694.00      CSR                     END
695.00      C*
696.00      C*     If security violation,set error condition.
697.00      C*
698.00      CSR          $$SECR     IFEQ '1'
699.00      CSR                     MOVE '1'            @MK,8
700.00      CSR                     SETON                       9341
```

Sets the file pointer and edits the key

Checks cost center security

```
701.00      CSR                     MOVE ' '            $$SECR  1
702.00      CSR                     GOTO END003
703.00      C*                      ---- ------
704.00      CSR                      END
705.00      C*
706.00      C*    Edit result of read and action code.
707.00      C*
708.00      CSR          *IN98      IFEQ '1'
709.00      CSR          *IN21      COMP '0'                        41 *error*
710.00      CSR                     ELSE
711.00      CSR          *IN21      COMP '1'                        41 *error*
712.00      CSR                     END
713.00      C*
714.00      C*           If indicator 41 on, invalid key for action code.
715.00      C*
716.00      CSR          *IN41      IFEQ '1'
717.00      CSR                     MOVE '1'            @MK,2
718.00      CSR                     SETON                           93
719.00      CSR                     END
720.00      C*
721.00      C*           If indicator 99 on, record in use.
722.00      C*
723.00      CSR          *IN99      IFEQ '1'
724.00      CSR                     CALL 'P98RLCK'                  81
725.00      C*                      ---- ---------
726.00      CSR                     PARM                ##PSDS
727.00      CSR                     MOVE '1'            @MK,6
728.00      CSR                     SETON                           9341
729.00      CSR                     END
730.00      C*-------------------------------------------------------------------------
731.00      C*
732.00      C*     If not inquiry, skip remainder of subroutine.
733.00      C*
734.00      CSR          *IN24      CABEQ'0'            END003
735.00      C*                      -----               ------
736.00      C*-------------------------------------------------------------------------
737.00      C*
738.00      C*     Release record lock on master file.
739.00      C*
740.00      CSR          *IN98      IFEQ '0'
741.00      CSR          *IN99      ANDEQ'0'
742.00      CSR                     EXCPTUNLOCK
743.00      CSR                     END
744.00      C*
745.00      C*           If errors, skip remainder of subroutine.
746.00      C*
747.00      CSR          *IN93      CABEQ'l'            END003
748.00      C*                      -----               ------
749.00      C*-------------------------------------------------------------------------
750.00      C*
751.00      C*           Move data base information to video screen.
752.00      C*
753.00      CSR                     EXSR S004
754.00      C*                      ---- ----
755.00      C*-------------------------------------------------------------------------
756.00      CSR          ENDOO3     ENDSR
757.00      C*************************************************************************
758.00      C*
759.00      C*     Copy Common Subroutine - Right Justify Numeric Fields
760.00      C*
761.00      C/COPY JDECPY,C0012
762.00      C*************************************************************************
763.00      C*
764.00      C*     SUBROUTINE S004 - Load Video Screen Data
765.00      C*     ----------------------------------------
766.00      C*
767.00      C*     Processing:  1. Move data base information to video screen.
768.00      C*                     All video screen fields are alpha and
769.00      C*                     therefore numeric information must be
770.00      C*                     processed through subroutine C0014 to set
771.00      C*                     proper decimals and provide editing for
772.00      C*                     display on screen
773.00      C*
774.00      C*                     Date fields must be converted from their
775.00      C*                     internal format of month, day and year or
776.00      C*                     julian to the systsem format using program
777.00      C*                     X0028
```

JDE uses this or SETLL to release record locks

Moves information to the video/report fields

```
778.00      C*
779.00      CSR          S004       BEGSR
780.00      C*           ----       -----
781.00      C*
782.00      C*
783.00      C*     Move to output - Description for Cost Center
784.00      C*
785.00      CSR                     CALL 'X0006'                    81
786.00      C*                      ---- --------
787.00      CSR                     PARM *BLANKS         PSOMOD  1
788.00      CSR                     PARN '1'             PSIMOD  1
789.00      CsR                     PARM QXXCC           PSMCU  12
790.00      CSR                     PARM *BLANKS         PSERRM  4
791.00      CSR                     PARM                 I0006
792.00      C*
793.00      CSR                     MOVE *BLANK          VC0001
794.00      CSR          PSERRM     IFEQ *BLANK
795.00      CSR                     MOVELMCDL0l          VC0001
796.00      CSR                     END
797.00      C*-------------------------------------------------------------------------------
798.00      C*
799.00      C*     Description display for - Item Type
800.00      C*
801.00      CSR                     CLEARI0005U
802.00      CSR                     MOVELS@XTY           #USY
803.00      CSR                     MOVE R@XTY           #URT
804.00      CSR                     MOVE QXXTY           #UKY
805.00      CSR                     CALL 'X0005'                    81
806.00      C*                      ---- -------
807.00      CSR                     PARM                 I0005U
808.00      CSR                     MOVE *BLANK          VC0002
809.00      CSR          #UERR      IFEQ '0'
810.00      CSR                     MOVEL#UDL01          VC0002
811.00      CSR                     END
812.00      C*-------------------------------------------------------------------------------
813.00      C*
814.00      C*     Description display for - Item Unit of Measure
815.00      C*
816.00      CSR                     CLEARI0005U
817.00      CSR                     MOVELS@XUM           #USY
818.00      CSR                     MOVE R@XUM           #URT
819.00      CSR                     MOVE QXXUM           #UKY
820.00      CSR                     CALL 'X0005'                    8l
821.00      C*                      ---- -------
822.00      CSR                     PARM                 I0005U
823.00      CSR                     MOVE *BLANK          VC0003
824.00      CSR          #UERR      IFEQ '0'
825.00      CSR                     MOVEL#UDL0l          VC0003
826.00      CSR                     END
827.00      C*-------------------------------------------------------------------------------
828.00      C*
829.00      C*    Description display for - Item Category Code 001
830.00      C*
831.00      CSR                     CLEARI0005U
832.00      CSR                     MOVELS@X00l          #USY
833.00      CSR                     MOVE R@X001          #URT
834.00      CSR                     MOVE QXX00l          #UKY
835.00      CSR                     CALL 'X0005'                    81
836.00      C*                      ---- -------
837.00      CSR                     PARM                 I0005U
838.00      CSR                     MOVE *BLANK          VC0004
839.00      CSR          #UERR      IFEQ '0'
840.00      CSR                     MOVEL#UDLOl          VC0004
841.00      CSR                     END
842.00      C*-------------------------------------------------------------------------------
843.00      C*
844.00      C*   Description display for - Item Category Code 002
845.00      C*
846.00      CSR                     CLBARI0005U
847.00      CSR                     MOVELS@X002          #USY
848.00      CSR                     MOVE R@X002          #URT
849.00      CSR                     MOVE QXX002          #UKY
850.00      CSR                     CALL 'X0005'                    81
851.00      C*                      ---- -------
852.00      CSR                     PARM                 I0005U
853.00      CSR                     MOVE *BLANK          VC0005
854.00      CSR          #UERR      IFEQ '0'
```

Server for Bus. Unit

Description loaded to the *VC0 field

File server for user defined codes

```
855.00      CSR                     MOVEL#UDL0l         VC0005
856.00      CSR                     END
857.00      C*-------------------------------------------------------------------------
858.00      C*
859.00      C*     Description display for – Item Category Code 003
860.00      C*
861.00      CSR                     CLEARI0005U
862.00      CSR                     MOVELS@X003         #USY
863.00      CSR                     MOVE R@X003         #URT
864.00      CSR                     MOVE QXXOO3         #UKY
865.00      CSR                     CALL 'X0005'                81
866.00      C*                      ---- -------
867.00      CSR                     PARM                I0005U
868.00      CSR                     MOVE *BLANK         VC0006
869.00      CSR          #UERR      IFEQ '0'
870.00      CSR                     MOVEL#UDL0l         VC0006
871.00      CSR                     END
872.00      C*-------------------------------------------------------------------------
873.00      C*
874.00      C*     Description display for – Item Category Code 004
875.00      C*
876.00      CSR                     CLEARI0005U
877.00      CSR                     MOVELS@X004         #USY
878.00      CSR                     MOVE R@X004         #URT
879.00      CSR                     MOVE QXX004         #URY
880.00      CSR                     CALL 'X0005'                81
881.00      C*                      ---- -------
882.00      CSR                     PARM                I0005U
883.00      CSR                     MOVE *BLANK         VC0007
884.00      CSR          #UERR      IFEQ '0'
885.00      CSR                     MOVEL#UDLOl         VC0007
886.00      CSR                     END
887.00      C*-------------------------------------------------------------------------
888.00      C*
889.00      C*     Description display for – Item Category Code 005
890.00      C*
891.00      CSR                     CLEARI0005U
892.00      CSR                     MOVELS@X005         #USY
893.00      CSR                     MOVE R@X005         #URT
894.00      CSR                     MOVE QXX005         #UKY
895.00      CSR                     CALL 'X0005'                81
896.00      C*                      ---- -------
897.00      CSR                     PARM                I0005U
898.00      CSR                     MOVE *BLANK         VC0008
899.00      CSR          #UERR      IFEQ '0'
900.00      CSR                     MOVEL#UDL0l         VC0008
901.00      CSR                     END
902.00      C*-------------------------------------------------------------------------
903.00      C*
904.00      C*     Move to output – Cost Center
905.00      C*
906.00      CSR                     MOVE *BLANK         #SINBR
907.00      CSR                     MOVELQXXCC          #SINBR
908.00      CSR                     MOVE T@XCC          #DTYP
909.00      CSR                     MOVE W@XCC          #EWRD
910.00      CSR                     MOVE E@XCC          #EC
911.00      CSR                     MOVE F@XCC          #DSPD
912.00      CSR                     MOVE G@XCC          #DATD
913.00      CSR                     MOVE J@XCC          #ALR
914.00      CSR                     MOVE ' '            #ECOR
915.00      CSR                     MOVE ' '            #DCOR
916.00      CSR                     EXSR C00161
917.00      C*                      ---- ------
918.00      CSR          #ALR       IFEQ 'L'
919.00      CSR                     MOVEL#SINBR         VDXCC
920.00      CSR                     ELSE
921.00      CSR                     MOVE #SINBR         VDXCC
922.00      CSR                     END
923.00      C*-------------------------------------------------------------------------
924.00      C*
925.00      C*     Move to output – Description
926.00      C*
927.00      CSR                     MOVELQXXDS          VDXDS
928.00      C*-------------------------------------------------------------------------
929.00      C*
930.00      C*     Move to Output – Date Last Ship
931.00      C*
```

Editing information retrieved in S998

Copy module to edit field for use on screen/report

```
932.00      CSR                     MOVE QXXDT          #SIDAT  6
933.00      CSR                     MOVE *BLANK         #EDAT   8
934.00      CSR                     MOVEL'*JUL          '#FFMT   7
935.00      CSR                     MOVEL'*SYSVAL       '#TFMT   7
936.00      CSR                     MOVEL'*SYSVAL       '#SEP    7
937.00      CSR                     MOVE ' '            $ERTST  1
938.00      CSR                     CALL 'X0028     '   81
939.00      C*                      ---- ------
940.00      CSR                     PARM                #SIDAT
941.00      CSR                     PARM                #EDAT
942.00      CSR                     PARM                #FFMT
943.00      CSR                     PARM                #TFMT
944.00      CSR                     PARM                #SEP
945.00      CSR                     PARM                $ERTST
946.00      CSR                     MOVEL#EDAT          VDXDT
947.00      C*-------------------------------------------------------------------------
948.00      C*
949.00      C*     Move to output - Item ID
950.00      C*
951.00      CSR                     MOVE *BLANK         #SINBR
952.00      CSR                     MOVELQXXIT          #SINBR
953.00      CSR                     MOVE T@XIT          #DTYP
954.00      CSR                     MOVE W@XIT          #EWRD
955.00      CSR                     MOVE E@XIT          #EC
956.00      CSR                     MOVE F@XIT          #DSPD
957.00      CsR                     MOVE G@XIT          #DATD
958.00      CSR                     MOVE J@XIT          #ALR
959.00      CSR                     MOVE ' '            #ECOR
960.00      CSR                     MOVE ' '            #DCOR
961.00      CSR                     EXSR C00161
962.00      C*                      ---- ------
963.00      CSR           #ALR      IFEQ 'L'
964.00      CSR                     MOVEL#SINBR         VDXIT
965.00      CSR                     ELSE
966.00      CSR                     MOVE #SINBR         VDXIT
967.00      CSR                     END
968.00      C*-------------------------------------------------------------------------
969.00      C*
970.00      C*     Move to output - Quantity - On Hand
971.00      C*
972.00      CSR                     MOVE *BLANK         #SINBR
973.00      CSR                     MOVELQXXQT          #SINBR
974.00      CSR                     MOVE T@XQT          #DTYP
975.00      CSR                     MOVE W@XQT          #EWRD
976.00      CSR                     MOVE E@XQT          #EC
977.00      CSR                     MOVE F@XQT          #DSPD
978.00      CSR                     MOVE G@XQT          #DATD
979.00      CSR                     MOVE J@XQT          #ALR
980.00      CSR                     MOVE ' '            #ECOR
981.00      CSR                     MOVE ' '            #DCOR
982.00      CSR                     EXSR C00l6l
983.00      C*                      ---- ------
984.00      CSR           #ALR      IFEQ 'L'
985.00      CSR                     MOVEL#SINBR         VDXQT
986~00      CSR                     ELSE
987.00      CSR                     MOVE #SINBR         VDXQT
988.00      CSR                     END
989.00      C*-------------------------------------------------------------------------
990.00      C*
991.00      C*     Move to output - Item type
992.00      C*
993.00      CSR                     MOVELQXXTY          VDXTY
994.00      C*-------------------------------------------------------------------------
995.00      C*
996.00      C*     Move to output - Item Unit of Measure
997.00      C*
998.00      CSR                     MOVELQXXUM          VDXUM
999.00      C*-------------------------------------------------------------------------
1000.00     C*
1001.00     C*     Move to output - Item Category Code 001
1002.00     C*
1003.00     C*                      MOVE *BLANK         #SINBR
1004.00     C*                      MOVELQXX001         #SINBR
1005.00     C*                      MOVE T@X001         #DTYP
1006.00     C*                      MOVE W@X001         #EWRD
1007.00     C*                      MOVE E@X001         #EC
1009.00     C*                      MOVE G@X001         #DATD
```

External program used to edit dates

```
1010.00     CSR                     MOVE J@X00l         #ALR
1011.00     CSR                     MOVE ' '            #ECOR
1012.00     CSR                     MOVE ' '            #DCOR
1013.00     CSR                     EXSR C00161
1014.00     C*                      ---- ------
1015.00     CSR          #ALR       IFEQ 'L'
1016.00     CSR                     MOVEL#SINBR         VDX00l
1017.00     CSR                     ELSE
1018.00     CSR                     MOVE #SINBR         VDX00l
1019.00     CSR                     END
1020.00     C*-------------------------------------------------------------------------
1021.00     C*
1022.00     C*     Move to output - Item Category Code 002
1023.00     C*
1024.00     CSR                     MOVE *BLANK         #SINBR
1025.00     CSR                     MOVELQXX002         #SINBR
1026.00     CSR                     MOVE T@X002         #DTYP
1027.00     CSR                     MOVE W@X002         #EWRD
1028.00     CSR                     MOVE E@X002         #EC
1029.00     CSR                     MOVE F@X002         #DSPD
1030.00     CSR                     MOVE G@X002         #DATD
1031.00     CSR                     MOVE J@X002         #ALR
1032.00     CSR                     MOVE ' '            #ECOR
1033.00     CSR                     MOVE ' '            #DCOR
1034.00     CSR                     EXSR C00161
1035.00     C*                      ---- ------
1036.00     CSR          #AIR       IFEQ 'L'
1037.00     CSR                     MOVEL#SINBR         VDX002
1038.00     CSR                     ELSE
1039.00     CSR                     MOVE #SINBR         VDX002
1040.00     CSR                     END
1041.00     C*-------------------------------------------------------------------------
1042.00     C*
1043.00     C*     Move to output - Item Category Code 003
1044.00     C*
1045.00     CSR                     MOVE *BLANK         #SINBR
1046.00     CSR                     MOVELQXX003         #SINBR
1047.00     CSR                     MOVE T@X003         #DTYP
1048.00     CSR                     MOVE W@X003         #EWRD
1049.00     CSR                     MOVE E@X003         #EC
1050.00     CSR                     MOVE F@X003         #DSPD
1051.00     CSR                     MOVa G@X003         #DATD
1052.00     CSR                     MOVE J@X003         #ALR
1053.00     CSR                     MOVE ' '            #ECOR
1054.00     CSR                     MOVE ' '            #DCOR
1055.00     CSR                     EXSR C00161
1056.00     C*-------------------------------------------------------------------------
1057.00     CSR          #ALR       IFEQ 'L'
1058.00     CSR                     MOVEL#SINBR         VDX003
1059.00     CSR                     ELSE
1060.00     CSR                     MOVE #SINBR         VDX003
1061.00     CSR                     END
1062.00     C*-------------------------------------------------------------------------
1063.00     C*
1064.00     C*     Move to output - Item Category Code 004
1065.00     C*
1066.00     CSR                     MOVE *BLANK         #SINBR
1067.00     CSR                     MOVELQXX004         #SINBR
1068.00     CSR                     MOVE T@X004         #DTYP
1069.00     CSR                     MOVE W@X004         #EWRD
1070.00     CSR                     MOVE E@X004         #EC
1071.00     CSR                     MOVE F@XOO4         #DSPD
1072.00     CSR                     MOVE G@X004         #DATD
1073.00     CSR                     MOVE J@X004         #ALR
1074.00     CSR                     MOVE ' '            #ECOR
1075.00     CSR                     MOVE ' '            #DCOR
1076.00     CSR                     EXSR C00161
1077.00     C*                      ---- ------
1078.00     CSR          #ALR       IFEQ 'L'
1079.00     CSR                     MOVEL#SINBR         vDX004
1080.00     CSR                     ELSE
1081.00     CSR                     MOVE #SINBR         VDX004
1082.00     CSR                     END
1083.00     C*-------------------------------------------------------------------------
1084.00     C*
1085.00     C*     Move to output - Item Category Code 005
1086.00     C*
```

```
1087.00     CSR                     MOVE *BLANK          #SINBR
1088.00     CSR                     MOVELQXX005          #SINBR
1089.00     CSR                     MOVE T@X005          #DTYP
1090.00     CSR                     MOVE W@X005          #EWRD
1091.00     CSR                     MOVE ESK005          #EC
1092.00     CSR                     MOVE F@X005          #DSPD
1093.00     CSR                     MOVE G@X005          #DATD
1094.00     CSR                     MOVE J@X005          #ALR
1095.00     CSR                     MOVE ' '             #ECOR
1096.00     CSR                     MOVE ' '             #DCOR
1097.00     CSR                     EXSR C00161
1098.00     C*                      ---- ------
1099.00     CSR          #ALR       IFEQ 'L'
1100.00     CSR                     MOVEL#SINBR          VOXOO5
1101.00     CSR                     ELSE
1102.00     CSR                     MOVE #SINBR          VDXOO5
1103.00     CSR                     END
1104.00     C*-------------------------------------------------------------------------
1105.00     CSR          END004     ENDSR
1106.00     C*************************************************************
1107.00     C*
1108.00     C*     Copy Common Subroutine - Format Numeric Fields for Output with Override
1109.00     C*
1110.00     C/COPY JDECOPY,C00161
1111.00     C*************************************************************
1112.00     C*
1113.00     C*     SUBROUTINE S005 - Scrub Input
1114.00     C*     -----------------------------
1115.00     C*
1116.00     C*     Processing:  1.  Validate all video input.
1117.00     C*                       All numeric fields must be processed
1118.00     C*                       thru subroutines C0012 and C00l5 in order
1119.00     C*                       to scrub the alpha input field and convert
1121.00     C*                       15 digits and 0 decimals.
1122.00     C*
1123.00     C*                       Date fields must be converted from system
1124.00     C*                       format to their internal format of month,
1125.00     C*                       day and year or julian using program X0028.
1126.00     C*                  2.   Update data record fields from video.
1127.00     C*
1128.00     CSR          S005       BEGSR
1129.00     C*           ----       -----
1130.00     C*
1131.00     C*     If not addition or change, bypass subroutine.
1132.00     C*
1133.00     CSR            *IN21    IFEQ '0'
1134.00     CSR            *IN22    ANDEQ'0'
1135.00     CSR                     GOTO END005
1136.00     C*                      ---- ------
1137.00     CSR                     END
1138.00     C*
1139.00     C*
1140.00     C*
1141.00     C*     Scrub and edit - Cost Center
1142.00     C*
1143.00     CSR                     CALL 'X0006'                      99
1144.00     C*                      ---- -------
1145.00     CSR                     PARM '1'             PSOMOD   1
1146.00     CSR                     PARM ' '             PSIMOD   1
1147.00     CSR                     PARM VDXCC           PSMCU   12
1148.00     CSR                     PARM *BLANKS         PSERRM   4
1149.00     CSR                     PARM                 I0006
1150.00     C*
1151.00     CSR          PSERRM     IFNE *BLANK
1152.00     CSR                     SETON                          4393
1153.00     CSR                     MOVELPSERRM          EMK,10
1154.00     CSR                     MOVE '1'             @MK,10
1155.00     CSR                     END
1156.00     CSR                     MOVE PSMCU           QXXCC
1157.00     C*-------------------------------------------------------------------------
1158.00     C*
1159.00     C*     Scrub and edit - Description
1160.00     C*
1161.00     CSR                     MOVELVDXDS           QXXDS
1162.00     C*
1163.00     C*     Set default value - Description
1164.00     C*
```

Validates and edits data entered by the user

Only performs this subroutine if action code is add or change

```
1165.00     CSR          QXXDS      IFEQ *BLANK
1166.00     CSR          D@XDS      IFNE *BLANK
1167.00     CSR                     MOVEAD@XDS          @DV
1168.00     CSR                     MOVEA@DV            QXXDS
1169.00     CSR          @DV,1      IFEQ
1170.00     CSR                     MOVE ' '            @DV,1
1171.00     CSR                     Z-ADD2
1172.00     CSR          #M         DOWLE40
1173.00     CSR          @DV,#M     IFEQ ''''
1174.00     CSR                     MOVE ' '            @DV,#M
1175.00     CSR                     END
1176.00     CSR                     ADD  1              #M
1177.00     CSR                     END
1178.00     CSR                     MOVEA@DV,2           QXXDS
1179.00     CSR                     END
1180.00     CSR                     END
1181.00     CSR                     END
1182.00     C*
1183.00     C*    Edit allowed values - Description
1184.00     C*
1185.00     CSR          A@XDS      IFEQ '*NB'
1186.00     CSR          QXXDS      ANDEQ*BLANK
1187.00     CSR                     MOVE '1'            @MK,03
1188.00     CSR                     SETON                        4293
1189.00     CSR                     END
1190.00     C*-------------------------------------------------------------------------
1191.00     C*
1192.00     C*     Scrub and edit - Date Last Ship
1193.00     C*
1194.00     CSR                     MOVEAVDXDT          @NM                      A
1195.00     CSR                     EXSR C0012
1196.00     C*                      ---- -----
1197.00     CSR                     Z-ADD#NUMR          $NBR6      60
1198.00     CSR                     MOVE $NBR6          QXXDT
1199.00     C*
1200.00     C*    Edit julian date - Date Last Ship
1201.00     C*
1202.00     CSR          VDXDT      IFNE *BLANK
1203.00     CSR                     MOVE QXXDT          #SIDAT  6
1204.00     CSR                     MOVE *BLANK         #EDAT   8
1205.00     CSR                     MOVEL'*SYSVAL       '#FFMT   7
1206.00     CSR                     MOVEL'*JUL          '#TFMT   7
1207.00     CSR                     MOVEL'*NONE         '#SEP    7
1208.00     CSR                     MOVEL' '            $ERTST  1
1209.00     CSR                     CALL 'X0028          '              99
1210.00     C*                      ---- ------
1211.00     CSR                     PARM                #SIDAT
1212.00     CSR                     PARM                #EDAT
1213.00     CSR                     PARM                #FFMT
1214.00     CSR                     PARM                #TFMT
1215.00     CSR                     PARM                #SEP
1216.00     CSR                     PARM                $ERTST
1217.00     CSR                     MOVEL#SIDAT         QXXDT
1218.00     CSR          $ERTST     IFEQ '1'
1219.00     CSR                     MOVE '1'            @MK,04
1220.00     CSR                     SETON                        4593
1221.00     CSR                     END
1222.00     CSR                     END
1223.00     C*-------------------------------------------------------------------------
1224.00     C*
1225.00     C*     Scrub and edit - Item ID
1226.00     C*
1227.00     CSR                     MOVEAVDXIT          @NM
1228.00     CSR                     EXSR C0012
1229.00     C*                      ---- -----
1230.00     CSR                     MOVE F@XIT          #DSPD
1231.00     CSR                     MOVE G@XIT          #DATD
1232.00     CSR                     EXSR C00151
1233.00     C*                      ---- ------
1234.00     CSR                     MOVE #NUMBR         QXXIT
1235.00     C*
1236.00     C*    Set default value - Item ID
1237.00     C*
1238.00     CSR          VDXIT      IFEQ *BLANK
1239.00     CSR          D@XIT      ANDNE*BLANK
1240.00     CSR                     MOVEAD@XIT          @NM
1241.00     CSR                     EXSR C0012
```

Common subroutine to convert screen fields to numeric data

Work fields used in the RPG program begin with $

Work fields used in a copy module begin with #

Convert to numeric

Adjust for display decimals

```
1242.00     C*                      ---- -----
1243.00     CSR                     MOVE F@XIT          #DSPD
1244.00     CSR                     MOVE G@XIT          #DCTD
1245.00     CSR                     EXSR C00151
1246.00     C*                      ---- ------
1247.00     CSR                     MOVE #NUMBR         QXXIT
1248.00     CSR                     END
1249.00     C*
1250.00     C*     Edit upper and lower range - Item ID
1251.00     C*
1252.00     CSR          L@XIT      IFNE *BLANK
1253.00     CSR                     MOVE *BLANK         X@XIT  15
1254.00     CSR                     MOVE '1'            $ERTST
1255.00     CSR                     MOVELQXXIT          X@XIT
1256.00     CSR          X@XIT      IFGE L@XIT
1257.00     CSR          X@XIT      ANDLEU@XIT
1258.00     CSR                     MOVE ' '            $ERTST
1259.00     CSR                     END
1260.00     CSR          $ERTST     IFEQ '1'
1261.00     CSR                     MOVE '1'            @MK,07
1262.00     CSR                     SETON                       4193
1263.00     CSR                     END
1264.00     CSR                     END
1265.00     C*-------------------------------------------------------------------------------
1266.00     C*
1267.00     C*    Scrub and edit - Quantity - on Hand
1268.00     C*
1269.00     CSR                     MOVEAVDXQT          @NM
1270.00     CSR                     EXSR C0012
1271.00     C*                      ---- -----
1272.00     CSR                     MOVE F@XQT          #DSPD
1273.00     CSR                     MOVE G@XQT          #DATD
1274.00     CSR                     EXSR C00151
1275.00     C*                      ---- ------
1276.00     CSR                     MOVE #NUMBR         QXXQT
1277.00     C*
1278.00     C*     Set default value - Quantity - On Hand
1279.00     C*
1280.00     CSR          VDXQT      IFEQ *BLANK
1281.00     CSR          D@XQT      ANDNE*BLANK
1282.00     CSR                     MOVEAD@XQT          @NM
1283.00     CSR                     EXSR C0012
1284.00     C*                      ---- -----
1285.00     CSR                     MOVE F@XQT          #DSPD
1286.00     CSR                     MOVE G@XQT          #DATD
1287.00     CSR                     EXSR C00151
1288.00     C*                      ---- ------
1289.00     CSR                     MOVE #NUMBR         QXXQT
1290.00     CSR                     END
1291.00     C*
1292.00     C*     Edit upper and lower range - Quantity - On Hand
1293.00     C*
1294.00     CSR          L@XQT      IFNE *BLANK
1295.00     CSR                     MOVE *BLANK         X@XQT  15
1296.00     CSR                     MOVE '1'            $ERTST  1
1297.00     CSR                     MOVELQXXQT          X@XQT
1298.00     CSR          X@XQT      IFGE L@XQT
1299.00     CSR          X@XQT      ANDLEU@XQT
1300.00     CSR                     MOVE ' '            $ERTST
1301.00     CSR                     END
1302.00     CSR          $ERTST     IFEQ '1'
1303.00     CSR                     MOVE '1'            @MK,07
1304.00     CSR                     SETON                       4693
1305.00     CSR                     END
1306.00     CSR                     END
1307.00     C*-------------------------------------------------------------------------------
1308.00     C*
1309.00     C*     Scrub and edit - Item Type
1310.00     C*
1311.00     CSR                     MOVELVDXTY          QXXTY
1312.00     C*
1313.00     C*          Set default value - Item Type
1314.00     C*
1315.00     CSR          QXXTY      IFEQ *BLANK
1316.00     CSR          D@XTY      IFNE *BLANK
1317.00     CSR                     MOVEAD@XTY          @40
1318.00     CSR                     MOVEA@40            QXXTY
```

Default value from Data Dictionary

Upper and lower ranges from Data Dictionary

```
1319.00     CSR          @40,1      IFEQ ''''
1320.00     CSR                     MOVE ' '              @40,1
1321.00     CSR                     Z-ADD2                #M
1322.00     CSR          #M         DOWLE40
1323.00     CSR          @40,#M     IFEQ ''''
1324.00     CSR                     MOVE ' '              @40,#M
1325.00     CSR                     END
1326.00     CSR                     ADD  1                #M
1327.00     CSR                     END
1328.00     CSR                     MOVEA@40,2            QXXTY
1329.00     CSR                     END
1330.00     CSR                     END
1331.00     CSR                     END
1332.00     C*
1333.00     C*    Edit allowed values - Item Type
1334.00     C*
1335.00     CSR          A@XTY      IFNE *BLANK
1336.00     CSR          A@XTY      IFEQ '*NB'
1337.00     CSR          QxxTY      ANDEQ*BLANK
1338.00     CSP                     MOVE '1'              @MK,03
1339.00     CSR                     SETON                           4493
1340.00     CSR                     ELSE
1341.00     CSR                     MOVEAA@XTY            @40
1342.00     CSR                     MOVE *HIVAL           @AV
1343.00     CSR                     EXSR C997
1344.00     C*                      ---- ----
1345.00     CSR                     MOVE ' '              $ERTST  1
1346.00     CSR                     MOVE *BLANK           $WRK10 10
1347.00     CSR                     MOVELQXXTY            $WRK10
1348.00     CSR          @AV,1      IFNE *HIVAL
1349.00     CSR          $WRK10     LOKUP@AV                        81
1350.00     CSR          *IN81      IFEQ '0'
1351.00     CSR                     MOVE '1'              $ERTST
1352.00     CSR                     END
1353.00     CSR          $ERTST     IFEQ '1'
1354.00     CSR                     MOVE '1'              @MK,07
1355.00     CSR                     SETON                           4493
1356.00     CSR                     END
1357.00     CSR                     END
1358.00     CSR                     END
1359.00     CSR                     END
1360.00     C*
1361.00     C*     Edit upper and lower range - Item Type
1362.00     C*
1363.00     CSR          L@XTY      IFNE *BLANK
1364.00     CSR                     MOVE '1'              $ERTST
1365.00     CSR          QXXTY      IFGE L@XTY
1366.00     CSR          QXXTY      ANDLEU@XTY
1367.00     CSR                     MOVE ' '              $ERTST
1368.00     CSR                     END
1369.00     CSR          $ERTST     IFEQ '1'
1370.00     CSR                     MOVE '1'              @MK,07
1371.00     CSR                     SETON                           4493
1372.00     CSR                     END
1373.00     CSR                     END
1374.00     C*
1375.00     C*           Edit from User Defined Codes - Item Type
1376.00     C*
1377.00     CSR          R@XTY      IFNE *BLANK
1378.00     CSR                     CLEARI0005U
1379.00     CSR                     MOVELS@XTY            #USY
1380.00     CSR                     MOVE P@XTY            #URT
1381.00     CSR                     MOVE QXXTY            #UKY
1382.00     CSR                     CALL 'X0005'                    81
1383.00     C*                      ---- -------
1384.00     CSR                     PARM                  I0005U
1385.00     CSR          #UERR      IFEQ '1'
1386.00     CSR                     MOVE '1'              @MK,09
1387.00     CSR                     SETON                           4493
1388.00     CSR                     END
1389.00     CSR                     END
1390.00     C*-------------------------------------------------------------------------------
1391.00     C*
1392.00     C*     Scrub and edit - Item Unit of Measure
1393.00     C*
1394.00     CSR                     MOVELVDXUM            QXXUM
1395.00     C*
```

```
1396.00     C*    Set default value – Item Unit of Measure
1397.00     C*
1398.00     CSR         QXXUM      IFEQ *BLANK
1399.00     CSR         D@XUM      IFNE *BLANK
1400.00     CSR                    MOVED@XUM             @40
1401.00     CSR                    MOVEA@40              QXXUM
1402.00     CSR         @40,1      IFEQ’’’
1403.00     CSR                    MOVE ’ ’              @40,1
1404.00     CSR                    Z–ADD2                #M
1405.00     CSR         #M         D0WLE40
1406.00     CSR         @40,#M     IFEQ ’’’’
1407.00     CSR                    MOVE ’ ’              @40,#M
1408.00     CSR                    END
1409.00     CSR                    ADD  1                #M
1410.00     CSR                    END
1411.00     CSR                    MOVEA@40,2            QXXUM
1412.00     CSR                    END
1413.00     CSR                    END
1414.00     CSR                    END
1415.00     C*
1416.00     C*    Edit allowed values – Item Unit of Measure
1417.00     C*
1418.00     CSR         A@XUM      IFNE *BLANK
1419.00     CSR         A@XUM      IFEQ ’*NB’
1420.00     CSR         QXXuM      ANDEQ*BLANK
1421.00     CSR                    MOVE ’1’              @MK,03
1422.00     CSR                    SETON                              4793
1423.00     CSR                    ELSE
1424.00     CSR                    MOVEAA@XUM            @40
1425.00     CSR                    MOVE *HIVAL           @AV
1426.00     CSR                    EXSR C997
1427.00     C*                     ---- ----
1428.00     CSR                    MOVE ’ ’              $ERTST  1
1429.00     CSR                    MOVE *BLANK           $WRK10 10
1430.00     CSR                    MOVELQXXUM            $WRKl0
1431.00     CSR         @AV,1      IFNE *HIVAL
1432.00     CSR         $WRK10     LOKUP@AV                             81
1433.00     CSR         *IN81      IFEQ ’0’
1434.00     CSR                    MOVE ’1’              $ErTST
1435.00     CSR                    END
1436.00     CSR         $ERTST     IFEQ ’1’
1437.00     CSR                    MOVE ’1’              @MK,07
1438.00     CSR                    SETON                              4793
1439.00     CSR                    END
1440.00     CSR                    END
1441.00     CSR                    END
1442.00     CSR                    END
1443.00     C*
1444.00     C*    Edit upper and lower range – Item Unit of Measure
1445.00     C*
1446.00     CSR         L@XUM      IFNE *BLANK
1447.00     CSR                    MOVE ’1’              $ERTST
1448.00     CSR         QXXUM      IFGE L@XUM
1449.00     CSR         QXXUM      ANDLEU@XUM
1450.00     CSR                    MOVE ’ ’              $ERTST
1451.00     CSR                    END
1452.00     CSR         $ERTST     IFEQ ’1’
1453.00     CSR                    MOVE ’1’              @MK,07
1454.00     CSR                    SETON                              4793
1455.00     CSR                    END
1456.00     CSR                    END
1457.00     C*
1458.00     C*    Edit from User Defined Codes – Item Unit of Measure
1459.00     C*
1460.00     CSR         R@XUM      IFNE *BLANK
1461.00     CSR                    CLEARI0005U
1462.00     CSR                    MOVELS@XUM            #USY
1463.00     CSR                    MOVE R@XUM            #URT
1464.00     CSR                    MOVE QXXUM            #UKY
1465.00     CSR                    CALL ’X0005’                         81
1466.00     C*                     ---- -------
1467.00     CSR                    PARM                  I0005U
1468.00     CSR         #UERR      IFEQ ’1’
1469.00     CSR                    MOVE ’1’              @MK,O9
1470.00     CSR                    SETON                              4793
1471.00     CSR                    END
1472.00     CSR                    END
```

```
1473.00     C*-------------------------------------------------------------------------------
1474.00     C*
1475.00     C*     Scrub and edit – Item Category Code 001
1476.00     C*
1477.00     CSR                     MOVELVDX00l           QXX00l
1478.00     C*
1479.00     C*    Set default value – Item Category Code 001
1480.00     C*
1481.00     CSR          QXX00l     IFEQ *BLANK
1482.00     CSR          D@X001     IFNE *BLANK
1483.00     CSR                     MOVEAD@X001           @40
1484.00     CSR                     MOVAA@40              QXX00l
1485.00     CSR          @40,1      IFEQ ''''
1486.00     CSR                     MOVE ' '              @40,1
1487.00     CSR                     Z-ADD2                #M
1488.00     CSR          #M         DOWLE40
1489.00     CSR          @40,#M     IFEQ ''''
1490.00     CSR                     MOVE ' '              @40,#M
1491.00     CSR                     END
1492.00     CSR                     ADD  1                #M
1493.00     CSR                     END
1494.00     CSR                     MOVEA@40,2            QXX001
1495.00     CSR                     END
1496.00     CSR                     END
1497.00     CSR                     END
1498.00     C*
1499.00     C*    Edit allowed values – Item Category Code 001
1500.00     C*
1501.00     CSR          A@X001     IFNE *BLANK
1502.00     CSR          ASK00l     IFEQ '*NB'
1503.00     CSR          QXX001     ANDEQ*BLANK
1504.00     CSR                     MOVE '1'              @MK,03
1505.00     CSR                     SETON                           4893
1506.00     CSR                     ELSE
1507.00     CSR                     MOVEAA@X00l           @40
1508.00     CSR                     MOVE *HIVAL           @AV
1509.00     CSR                     EXSR C997
1510.00     C*                      ---- ----
1511.00     CSR                     MOVE ' '              $ERTST  1
1512.00     CSR                     MOVE *BLANK           $WRK10 10
1513.00     CSR                     MOVELQXX00l           $WRKl0
1514.00     CSR          @AV,1      IFNE *HIVAL
1515.00     CSR          $WRKl0     LOKUP@AV                             81
1516.00     CSR          *IN81      IFEQ '0'
1517.00     CSR                     MOVE '1'              $ERTST
1518.00     CSR                     END
1519.00     CSR          $ERTST     IFEQ '1'
1520.00     CSR                     MOVE '1'              @MK,07
1521.00     CSR                     SETON                           4893
1522.00     CSR                     END
1523.00     CSR                     END
1524.00     CSR                     END
1525.00     CSR                     END
1526.00     C*
1527.00     C*    Edit upper and lower range – Item Category Code 001
1528.00     C*
1529.00     CSR          L@X001     IFNE *BLANK
1530.00     CSR                     MOVE '1'              $ERTST
1531.00     CSR          QXX00l     IFGE L@X001
1532.00     CSR          QXX001     ANDLEU@X00l
1533.00     CSR                     MOVE ' '              $ERTST
1534.00     CSR                     END
1535.00     CSR          $ERTST     IFEQ '1'
1536.00     CSR                     MOVE '1'              @MK,07
1537.00     CSR                     SETON                           4893
1538.00     CSR                     END
1539.00     CSR                     END
1@40.00     C*
1541.00     C*    Edit from User Defined Codes – Item Category Code 001
1542.00     C*
1543.00     CSR          R@X001     IFNE *BLANK
1544.00     CSR                     CLEARI0005U
1545.00     CSR                     MOVELS@X001         #USY
1546.00     CSR                     MOVE P@X001         #URT
154~.00     CSR                     MOVE QXX001         #UKY
1548.00     CSR                     CALL 'X0005'                      81
1549.00     C*                      ---- -------
```

```
1550.00     CSR                     PARM                I0005U
1551.00     CSR          #UERR      IFEQ '1'
1552.00     CSR                     MOVE '1'            @MK,09
1553.00     CSR                     SETON                           4893
1554.00     CSR                     END
1555.00     CSR                     END
1556.00     C*---------------------------------------------------------------------------------
1557.00     C*
1558.00     C*     Scrub and edit - Item Category Code 002
1559.00     C*
1560.00     CSR                     MOVELVDX002          QXX002
1561.00     C*
1562.00     C*    Set default value - Item Category Code 002
1563.00     C*
1564.00     CSR          QXX002     IFEQ *BLANK
1565.00     CSR          D@X002     IFNE *BLANK
1566.00     CSR                     MOVEAD@X002          @40
1567.00     CSR                     MOVEA@40             QXX002
1568.00     CSR          @40,1      IFEQ ''''
1569.00     CSR                     MOVE ' '              @40,1
1570.00     CSR                     Z-ADD2                #M
1571.00     CSR          #M         DOWLE40
1572.00     CSR          @40,#M     IFEQ ''''
1573.00     CSR                     MOVE ' '              @40,#M
1574.00     CSR                     END
1575.00     CSR                     ADD  1               #M
1576.00     CSR                     END
1577.00     CSR                     MOVEA@40,2            QXX002
1578.00     CSR                     END
1579.00     CSR                     END
1580.00     CSR                     END
1581.00     C*
1582.00     C*    Edit allowed values - Item Category Code 002
1583.00     C*
1584.00     CSR          A@X002     IFNE *BLANK
1585.00     CSR          A@X002     IFEQ '*NB'
1586.00     CSR          QXX002     ANDEQ*BLANK
1587.00     CSR                     MOVE '1'              @MK,03
1588.00     CSR                     SETON                           4993
1589.00     CSR                     ELSE
1590.00     CSR                     MOVEAA@X002          @40
1591.00     CSR                     MOVE *HIVAL          @AV
1592.00     CSR                     EXSR C997
1593.00     C*                      ---- ----
1594.00     CSR                     MOVE ' '             $ERTST
1595.00     CSR                     MOVE *BLANK          $WRK10 10
1596.00     CSR                     MOVELQXX002          $WRKl0
1597.00     CSR          @AV,1      IFNE *HIVAL
1598.00     CSR          $WRK10     LOKUP@AV                          81
1599.00     CSR          *IN81      IFEQ '0'
1600.00     CSR                     MOVE '1'              $ERTST
1601.00     CSR                     END
1602.00     CSR          $ERTST     IFEQ '1'
1603.00     CSR                     MOVE '1'              @MK,07
1604.00     CSR                     SETON                           4993
1605.00     CSR                     END
1606.00     CSR                     END
1607.00     CSR                     END
1608.00     CSR                     END
1609.00     C*
1610.00     C*    Edit upper and lower range - Item Category Code 002
1611.00     C*
1612.00     CSR          L@X002     IFNE *BLANK
1613.00     CSR                     MOVE '1'              $ERTST
1614.00     CSR          QXX002     IFGE L@X002
1615.00     CSR          QXX002     ANDLEU@X002
1616.00     CSR                     MOVE ' '             $ERTST
1617.00     CSR                     END
1618.00     CSR          $ERTST     IFEQ '1'
1619.00     CSR                     MOVE '1'             @MK,07
1620.00     CSR                     SETON                          4993
1621.00     CSR                     END
1622.00     CSR                     END
1623.00     C*
1624.00     C*    Edit from User Defined Codes - Item Category Code 002
1625.00     C*
1626.00     CSR          R@X002     IFNE *BLANK
```

```
1627.00     CSR                     CLEARI0005U
1628.00     CSR                     MOVELS@X002           #USY
1629.00     CSR                     MOVE R@X002           #URT
1630.00     CSR                     MOVE QXX002           #UKY
1631.00     CSR                     CALL 'X0005'                    81
1632.00     C*                      ---- -------
1633.00     CSR                     PARM                  I0005U
1634.00     CSR          #UERR      IFEQ '1'
1635.00     CSR                     MOVE '1'              @MK,09
1636.00     CSR                     SETON                       4993
1637.00     CSR                     END
1638.00     CSR                     END
1639.00     C*-------------------------------------------------------------------------------
1640.00     C*
1641.00     C*     Scrub and edit - Item Category Code 003
1642.00     C*
1643.00     CSR                     MOVELVDX003           QxX003
1644.00     C*
1645.00     C*    Set default value - Item Category Code 003
1646.00     C*
1647.00     CSR          QXX003     IFEQ *BLANK
1648.00     CSR          D@X003     IFNE *BLANK
1649.00     CSR                     MOVEAD@X003           @40
1650.00     CSR                     MOVEA@40              QXX003
1651.00     CSR          @40,1      IFEQ
1652.00     CSR                     MOVE ' '              @40,1
1653.00     CSR                     z-ADD2                #M
1654.00     CSR          #M         DOWLE40
1655.00     CSR          @40,#M     IFEQ ''''
1656.00     CSR                     MOVE ' '              @40,#M
1657.00     CSR                     END
1658.00     CSR                     ADD  1                #M
1659.00     CSR                     END
1660.00     CSR                     MOVEA@40,2            QXX003
1661.00     CSR                     END
1662.00     CSR                     END
1663.00     CSR                     END
1664.00     C*
1665.00     C*    Edit allowed values - Item Category Code 003
1666.00     C*
1667.00     CSR          A@X003     IFNE *BLANK
1668.00     CSR          A@X003     IFEQ '*NB'
1669.00     CSR          QXX003     ANDEQ*BLANK
1670.00     CSR                     MOVE '1'              @MK,03
1671.00     CSR                     SETON                       5093
1672.00     CSR                     ELSE
1673.00     CSR                     MOVEAA@X003           @40
1674.00     CSR                     MOVE *HIVAL           @AV
1675.00     CSR                     EXSR C997
1676.00     a*                      ---- ----
1677.00     CSR                     MOVE ' '              $ERTST
1678.00     CSR                     MOVE *BLANK           $WPK10 10
1679.00     CSR                     MOVELQXX003           $WRK10
1680.00     CSR          @AV,1      IFNE *HIVAL
1681.00     CSR          $WRK10     LOKUP@AV                        81
1682.00     CSR          *IN81      IFEQ '0'
1683.00     CSR                     MOVE '1'              $ERTST
1684.00     CSR                     END
1685.00     CSR          $ERTST     IFEQ '1'
1686.00     CSR                     MOVE '1'              @MK,07
1687.00     CSR                     SETON                       5093
1688.00     CSR                     END
1689.00     CSR                     END
1690.00     CSR                     END
1691.00     CSR                     END
1692.00     C*
1693.00     C*     Edit upper and lower range - Item Category Code 003
1694.00     C*
1695.00     CSR          L@X003     IFNE *BLANK
1696.00     CSR                     MOVE '1'              $ERTST
1697.00     CSR          QXX003     IFGE L@X003
1698.00     CSR          QXX003     ANDLEU@X003           $ERTST
1699.00     CSR                     MOVE ' '
1700.00     CSR                     END
1701.00     CSR          $ERTST     IFEQ '1'
1702.00     CSR                     MOVE '1'              @MK,07
1703.00     CSR                     SETON                       5093
```

```
1704.00     CSR                     END
1705.00     CSR                     END
1706.00     C*
1707.00     C*     Edit from User Defined Codes – Item Category Code 003
1708.00     C*
1709.00     CSR          R@X003     IFNE *BLANK
1710.00     CSR                     CLEARI0005U
1711.00     CSR                     MOVELS@X003          #USY
1712.00     CSR                     MOVE P@X003          #URT
1713.00     CSR                     MOVE QXX003          #UKY
1714.00     CSR                     CALL 'X0005'                        81
1715.00     C*                      ---- -------
1716.00     CSR                     PARM                 I0005U
1717.00     CSR          #UERR      IFEQ '1'
1718.00     CSR                     MOVE '1'             @MK,09
1719.00     CSR                     SETON                          5093
1720.00     CSR                     END
1721.00     CSR                     END
1722.00     C*-------------------------------------------------------------------------------------
1723.00     Ct
1724.00     C*     Scrub and edit – Item Category Code 004
1725.00     C*
1726.00     CSR                     MOVELVDX004          QXX004
1727.00     C*
1728.00     Ct    Set default value – Item Category Code 004
1729.00     C*
1730.00     CSR          QXX004     IFEQ *BLANK
1731.00     CSR          D@X004     IFNE *BLANK
1732.00     CSR                     MOVEAD@X004          @40
1733.00     CSR                     MOVEA@40             QXX004
1734.00     CSR          @40,1      IFEQ ''''
1735.00     CSR                     MOVE ' '             @40,1
1736.00     CSR                     Z-ADD2               #M
1737.00     CSR          #M         D0WLE40
1738.00     CSR          @40,#M     IFEQ ''''
1739.00     CSR                     MOVE ' '             @40,#M
1740.00     CSR                     END
1741.00     CSR                     ADD  1               #M
1742.00     CSR                     END
1743.00     CSR                     MOVEA@40,2           QXX004
1744.00     CSR                     END
1745.00     CSR                     END
1746.00     CSR                     END
1747.00     C*
1748.00     C*    Edit allowed values – Item Category Code 004
1749.00     C*
1750.00     CSR          A@X004     IFNE *BLANK
1751.00     CSR          A@X0O4     IFEQ '*NB'
1752.00     CSR          QXX004     ANDEQ*BLANK
1753.00     CSR                     MOVE '1'             @MK,03
1754.00     CSR                     SETON                          5193
1755.00     CSR                     ELSE
1756.00     CSR                     MOVEAA@X004          @40
1757.00     CSR                     MOVE *HIVAL          @AV
1758.00     CSR                     EXSR C997
1759.00     C*                      ---- ----
1760.00     CSR                     MOVE ' '             $ERTST 1
1761.00     CSR                     MOVE *BLANK          $WRK10 10
1762.00     CSR                     MOVELQXX004          $WRK10
1763.00     CSR          @AV,l      IFNE *HIVAL
1764.00     CSR          $WRK10     LOKUP@AV                             81
1765.00     CSR          *IN81      IFEQ '0'
1766.00     CSR                     MOVE '1'             $ERTST
1767.00     CSR                     END
1768.00     CSR          $ERTST     IFEQ '1'
1769.00     CSR                     MOVE '1'             @MK,07
1770.00     CSR                     SETON                          5193
1771.00     CSR                     END
1772.00     CSR                     END
1773.00     CSR                     END
1774.00     CSR                     END
1775.00     C*
1776.00     C*     Edit upper and lowr range – Item Category Code 004
1777.00     C*
1778.00     CSR          L@004      IFNE *BLANK
1779.00     CSR                     MOVE '1'             $ERTST
1780.00     CSR          QXX004     IFGE L@X004
```

```
1781.00     CSR          QXX004     ANDLEU@X004
1782.00     CSR                     MOVE ' '            $ERTST
1783.00     CSR                     END
1784.00     CSR          $ERTST     IFEQ '1'
1785.00     CSR                     MOVE '1'            @MK,07
1786.00     CSR                     SETON                          5193
1787.00     CSR                     END
1788.00     CSR                     END
1789.00     C*
1790.00     C*     Edit from User Defined Codes - Item Category Code 004
1791.00     C*
1792.00     CSR          R@X004     IFNE *BLANK
1793.00     CSR                     CLEARI0005U
1794.00     CSR                     MOVELS@X004         #USY
1795.00     CSR                     MOVE R@X004         #URT
1796.00     CSR                     MOVE QXX004         #UKY
1797.00     CSR                     CALL 'X0005'                    81
1798.00     C*                      ---- -------
1799.00     CSR                     PARM                I0005U
1800.00     CSR          #VERR      IFEQ '1'
1801.00     CSR                     MOVE '1'            @MK,09
1802.00     CSR                     SETON                       5193
1803.00     CSR                     END
1804.00     CSR                     END
1805.00     C*-------------------------------------------------------------------------------
1806.00     C*
1807.00     C*     Scrub and edit - Item Category Code 005
1808.00     C*
1809.00     CSR                     MOVELVDX005         QXX005
1810.00     C*
1811.00     C*    Set default value - Item Category Code 005
1812.00     C*
1813.00     CSR          QXX005     IFEQ *BLANK
1814.00     CSR          D@X005     IFNE *BLANK
1815.00     CSR                     MOVEAD@X005         @40
1816.00     CSR                     MOVEA@40            QXX005
1817.00     CSR          @40,1      IFEQ'''
1818.00     CSR                     MOVE ' '            @40,1
1819.00     CSR                     Z-ADD2              #M
1820.00     CSR          #M         D0WLE40
1821.00     CSR          @40,#M     IFEQ
1822.00     CSR                     MOVE ' '            @40,#M
1823.00     CSR                     END
1824.00     CSR                     ADD  1              #M
1825.00     CSR                     END
1826.00     CSR                     MOVEA@40,2          QXX005
1827.00     CSR                     END
1828.00     CSR                     END
1829.00     CSR                     END
1830.00     C*
1831.00     C*    Edit allowed values - Item Category Code 005
1832.00     C*
1833.00     CSR          A@X005     IFNE *BLANK
1834.00     CSR          A@X005     IFEQ '*NB'
1835.00     CSR          QXX005     ANDEQ*BLANK
1836.00     CSR                     MOVE '1'            @MK,03
1837.00     CSR                     SETON                       5293
1838.00     CSR                     ELSE
1839.00     CSR                     MOVEAA@X005         @40
1840.00     CSR                     MOVE *HIVAL         @AV
1841.00     CSR                     EXSR C997
1842.00     C*                      ---- ----
1843.00     CSR                     MOVE ' '            $ERTST
1844.00     CSR                     MOVE *BLANK         $WRK10 10
1845.00     CSR                     MOVELQXX005         $WRK10
1846.00     CSR          @AV,1      IFNE *HIVAL
1847.00     CSR          $WRK10     LOKUP@AV                       81
1848.00     CSR          *IN81      IFEQ '0'
1849.00     CSR                     MOVE '1'            $ERTST
1850.00     CSR                     END
1851.00     CSR          $ERTST     IFEQ '1'
1852.00     CSR                     MOVE '1'            @MK,07
1853.00     CSR                     SETON                       5293
1854.00     CSR                     END
1855.00     CSR                     END
1856.00     CSR                     END
1857.00     CSR                     END
```

```
1858.00     C*
1959.00     C*     Edit upper and lower range – Item Category Code 005
1860.00     C*
1861.00     CSR          L@X005     IFNE *BLANK
1862.00     CSR                     MOVE '1'             $ERTST
1863.00     CSR          QXX005     IFGE L@X005
1864.00     CSR          QXX005     ANDLEU@X005
1865.00     CSR                     MOVE ' '             $ERTST
1866.00     CSR                     END
1867.00     CSR          $ERTST     IFEQ '1'
1868.00     CSR                     MOVE '1'             @MK,07
1869.00     CSR                     SETON                     5293
1870.00     CSR                     END
1871.00     CSR                     END
1872.00     C*
1873.00     C*     Edit from User Defined Codes – Item Category Code 005
1874.00     C*
1875.00     CSR          R@X005     IFNE *BLANK
1876.00     CSR                     CLEARI0005U
1877.00     CSR                     MOVELS@X005          #USY
1878.00     CSR                     MOVE R@X005          #URT
1879.00     CSR                     MOVE QXX005          #UKY
1880.00     CSR                     CALL 'X0005'                81
1881.00     C*
1882.00     CSR                     PARM                 I0005U
1883.00     CSR          #UERR      IFEQ '1'
1884.00     CSR                     MOVE '1'             @MK,09
1885.00     CSR                     SETON                     5293
1886.00     CSR                     END
1887.00     CSR                     END
1888.00     C*-------------------------------------------------------------------------------------
1889.00     CSR          END005     ENDSR
1890.00     C*************************************************************
1891.00     C*
1892.00     C*     Copy Common Subroutine – Currency – Translate Video Fields to Data Base
1893.00     C*
1894.00     C/COPY JDECPY,C00151
1895.00     C*************************************************************
1896.00     C*
1897.00     C*     Copy Common Subroutine – Build Allowed Values Work Array
1898.00     C*************************************************************
1899.00     C/COPY JDECPY,C997
1900.00     C*************************************************************
1901.00     C*
1902.00     C*     SUBROUTINE S010 – Update Data Base
1903.00     C*     ----------------------------------
1904.00     C*
1905.00     C*     Processing:  1.    Update data base file based upon valid
1906.00     C*                         action codes.
1907.00     C*
1908.00     CSR          S010       BEGSR
1909.00     C*           ----       -----
1910.00     C*
1911.00     C*     If add action, add record.
1912.00     C*
1913.00     CSR          *IN21      IFEQ '1'
1914.00     CSR                     WRITEI92801               99
1915.00     CSR                     END
1916.00     C*
1917.00     C*     If change action, update record.
1918.00     C*
1919.00     CSR          *IN22      IFEQ '1'
1920.00     CSR                     UDATI92801             99
1921.00     CSR                     END
1922.00     C*
1923.00     C*     If delete action, delete record.
1924.00     C*
1925.00     CSR          *IN23      IFEQ '1'
1926.00     CSR                     DELETI92801             99
1927.00     CSR                     END
1928.00     C*
```

Indicator value for action code is assigned in copy module C0001.

```
1929.00     C*     Clear data field for next transaction
1930.00     C*
1931.00     CSR                    MOVE #FCLR          @@AID
1932.00     CSR                    EXSR S001
1933.00     C*                     ---- ----
1934.00     CSR          END010    ENDSR
1935.00     C*************************************************************
1936.00     C*
1937.00     C*     SUBROUTINE S998  - Load dictionary parameters.
1938.00     C*      ---------------------------------------
1939.00     C*
1940.00     CSR          S998      BEGSR
1941.00     C*           ----      -----
1942.00     C*
1943.00     C*
1944.00     C*    Dictionary parameters for - Cost Center
1945.00     C*
1946.00     CSR                    MOVE *BLANK         FRDTAI
1947.00     CSR                    MOVEL'XCC'          FRDTAI
1948.00     CSR                    CALL  'X9800E'                   81
1949.00     C*                     ----  --------
1950.00     CSR                    PARM                19800E
1951.00     CSR          FRERR     IFEQ '0'
1953.00     CSR                    MOVE FRDTAT         T@XCC         1
1954.00     CSR                    MOVE FREC           E@XCC         1
1955.00     CSR                    MOVE FRDTAS         C@XCC        50
1956.00     CSR                    MOVE FRDTAD         G@XCC        20
1957.00     CSR                    MOVE FRCDEC         F@XCC         1
1958.00     CSR                    MOVELFRSY           S@xCC         4
1959.00     CSR                    MOVE FRRT           R@XCC         2
1960.00     CSR                    MOVE FRDVAL         D@XCC        40
1961.00     CSR                    MOVE FRVAL          A@XCC        40
1962.00     CSR                    MOVE FRLVAL         L@XCC        40
1963.00     CSR                    MOVE FRUVAL         U@XCC        40
1964.00     CSR                    MOVE FREDWR         W@XCC        30
1965.00     CSR                    MOVE FRLR           J@XCC         1
1966.00     CSR                    MOVE FRNNIX         N@XCC        20
1967.00     CSR                    Z-ADD1              #@XCC       110
1968.00     CSR                    MOVE F@XCC          #A
1969.00     CSR                    DO   #A
1970.00     CSR                    MULT 10             #@XCC
1971.00     CSR                    END
1972.00     CSR                    END
1973.00     C*-------------------------------------------------------------------------------
1974.00     C*
1975.00     C*    Dictionary parameters for - Description
1976.00     C*
1977.00     CSR                    MOVE *BLANK         FRDTAI
1978.00     CSR                    MOVEL'XDS'          FRDTAI
1979.00     CSR                    CALL 'X9800E'                            81
1980.00     C*                     ---- --------
1981.00     CSR                    PARM                I9800E
1982.00     CSR          FRERR     IFEQ '0'
1984.00     CSR                    MOVE FRDTAT         T@XDS         1
1985.00     CSR                    MOVE FREC           E@XDS         1
1986.00     CSR                    MOVE FRDTAS         C@xDS        50
1987.00     CSR                    MOVE FRDTAD         G@XDS        20
1988.00     CSR                    MOVE FRCDEC         F@XDS         1
1989.00     CSR                    MOVELFPSY           S@xDS         4
1990.00     CSR                    MOVE FRRT           R@XDS         2
1991.00     CSR                    MOVE FRDVAL         D@XDS        40
1992.00     CSR                    MOVE FRVAL          A@EDS        40
1993.00     CSR                    MOVE FRLVAL         L@XDS        40
1994.00     CSR                    MOVE FRUVAL         U@XDS        40
1995.00     CSR                    MOVE FREDWR         W@XDS        30
1996.00     CSR                    MOVE FRLR           J@XDS         1
1997.00     CSR                    MOVE FRNNIX         N@XDS        20
1998.00     CSR                    Z-ADD1              #@XDS       110
1999.00     CSR                    MOVE F@XDS          #A
2000.00     CSR                    DO   #A
2001.00     CSR                    MULT 10             #@XDS
2002.00     CSR                    END
2003.00     CSR                    END
2004.00     C*-------------------------------------------------------------------------------
2005.00     C*
```

Forces clear of everything before processing next record. Simulates user pressing the *Clear Screen* function key.

Retrieves all of the Data Dictionary editing parameters for necessary data items used in the program and moves the information into constant fields

Data Dictionary file server

```
2006.00     C*     Dictionary parameters for – Date Last Ship
2007.00     C*
2008.00     CSR                    MOVE *BLANK          FRDTAI
2009.00     CSR                    MOVEL' XDT'          FRDTAI
2010.00     CSR                    CALL 'X9800E'                          81
2011.00     C*                     ---- --------
2012.00     CSR                    PARM                 I9800E
2013.00     CSR          FRERR     IFEQ '0'
2015.00     CSR                    MOVE FRDTAT          T@XDT          1
2016.00     CSR                    MOVE FREC            E@XDT          1
2017.00     CSR                    MOVE FRDTAS          C@EDT          50
201S.00     CSR                    MOVE FRDTAD          G@XDT          20
2019.00     CSR                    MOVE FRCDEC          F@XDT          1
2020.00     CSR                    MOVELFRSY            S@XDT          4
2021.00     CSR                    MOVE FRRT            R@XDT          2
2022.00     CSR                    MOVE FRDVAL          D@XDT         40
2023. Co    CSR                    MOVE FRVAL           A@xDT         40
2024.00     CSR                    MOVE FRLVAL          L@XDT         40
2025.00     CSR                    MOVE FRUVAL          U@XDT         40
2026.00     CSR                    MOVE FREDWR          W@XDT         30
2027.00     CSR                    MOVE FRLR            J@xDT          1
2029.00     CSR                    MOVE FRNNIX          N@XDT          20
2029.00     CSR                    Z–ADD1               #@XDT         110
2030.00     CSR                    MOVE F@XDT           #A
2031.00     CSR                    DO   #A
2032.00     CSR                    MULT 10              #@XDT
2033.00     CSR                    END
2034.00     CSR                    END
2035.00     C*-------------------------------------------------------------------------------
2036.00     C*
2037.00     C*     Dictionary parameters for – Item ID
2039.00     C*
2039.00     CSR                    MOVE *BLANK          FRDTAI
2040.00     CSR                    MOVEL'XIT'           FRDTAI
2041.00     CSR                    CALL 'X9800E'                          81
2042.00     C*                     ---- --------
2043.00     CSR                    PARM                 I9800E
2044.00     CSR          FRERR     IFEQ '0'
2046.00     CSR                    MOVE FRDTAT          T@XIT          1
2047.00     CSR                    MOVE FREC            E@XIT          1
2048.00     CSR                    MOVE FRDTAS          C@XIT          50
2049.00     CSR                    MOVE FRDTAD          G@XIT          20
2050.00     CSR                    MOVE FRCDEC          F@XIT          1
2051.00     CSR                    MOVELFRSY            S@XIT          4
2052.00     CSR                    MOVE FRRT            R@XIT          2
2053.00     CSR                    MOVE FRDVAL          D@XIT         40
2054.00     CSR                    MOVE FRVAL           A@XIT         40
2055.00     CSR                    MOVE FRLVAL          L@XIT         40
2056.00     CSR                    MOVE FRUVAL          U@XIT         40
2057.00     CSR                    MOVE FREDWR          W@XIT         30
2058.00     CSR                    MOVE FRLR            J@XIT          1
2059.00     CSR                    MOVE FRNNIX          N@XIT          20
2060.00     CSR                    Z–ADD1               #@XIT         110
2061.00     CSR                    MOVE F@XIT           #A
2062.00     CSR                    DO   #A
2063.00     CSR                    MULT 10              #@XIT
2064.00     CSR                    END
2065.00     CSR                    END
2066.00     C* -------------------------------------------------------------------------------
2067.00     C*
2068.00     C*    Dictionary parameters for – Quantity – On Hand
2069.00     C*
2070.00     CSR                    MOVE *BLANK          FRDTAI
2071.00     CSR                    MOVEL'XQT'           FRDTAI
2072.00     CSR                    CALL 'X9800E'                          81
2073.00     C*                     ---- --------
2074.00     CSR                    PARM                 I9800E
2075.00     CSR          FRERR     IFEQ '0'
2077.00     CSR                    MOVE FRDTAT          T@XQT          1
2078.00     CSR                    MOVE FREC            E@XQT          1
2079.00     CSR                    MOVE FRDTAS          C@XOT          50
2080.00     CSR                    MOVE FRDTAD          G@XQT          20
2081.00     CSR                    MOVE FRCDEC          F@QXT          1
2082.00     CSR                    MOVELFRSY            S@XQT          4
```

```
2083.00     CSR                     MOVE FRRT           R@XQT         2
2084.00     CSR                     MOVE FRDVAL         D@XQT        40
2085.00     CSR                     MOVE FRVAL          A@XQT        40
2086.00     CSR                     MOVE FRLVAL         L@XQT        40
2087.00     CSR                     MOVE FRUVAL         U@XQT        40
2088.00     CSR                     MOVE FREDWR         W@XQT        30
2089.00     CSR                     MOVE FRLR           J@XQT         1
2090.00     CSR                     MOVE FRNNIX         N@XQT         20
2091.00     CSR                     Z-ADD1              #@XQT        110
2092.00     CSR                     MOVE F@XQT          #A
2093.00     CSR                     DO   #A
2094.00     CSR                     MULT 10             #@XQT
2095.00     CSR                     END
2096.00     CSR                     END
2097.00     C*------------------------------------------------------------
2098.00     C*
2099.00     C*     Dictionary parameters for - Item Type
2100.00     C*
2101.00     CSR                     MOVE *BLANK         FRDTAI
2102.00     CSR                     MOVEL'XTY'          FRDTAI
2103.00     CSR                     CALL 'X9800E'                          81
2104.00     C*                      ---- --------
2105.00     CSR                     PARM                I9800E
2106.00     CSR           FRERR     IFEQ '0'
2108.00     CSR                     MOVE FRDTAT         T@XTY   1
2109.00     CSR                     MOVE FREC           E@XTY   1
2110.00     CSR                     MOVE FRDTAS         C@XTY   50
2111.00     CSR                     MOVE FRDTAD         G@XTY   20
2112.00     CSR                     MOVE FRCDEC         F@XTY    1
2113.00     CSR                     MOVELFRSY           S@XTY    4
2114.00     CSR                     MOVE FRRT           P@XTY    2
2115.00     CSR                     MOVE FRDVAL         D@XTY   40
2116.00     CSR                     MOVE FRVAL          A@XTY   40
2117.00     CSR                     MOVE FRLVAL         L@XTY   40
2118.00     CSR                     MOVE FRUVAL         U@XTY   40
2119.00     CSR                     MOVE FREDWR         W@XTY   30
2120.00     CSR                     MOVE FRLR           J@XTY    1
2121.00     CSR                     MOVE FRNNIX         N@XTY    20
2122.00     CSR                     Z-ADD1              #@XTY   110
2123.00     CSR                     MOVE F@XTY          #A
2124.00     CSR                     DO   #A
2125.00     CSR                     MULT 10             #@XTY
2126.00     CSR                     END
2127.00     CSR                     END
2128.00     C*------------------------------------------------------------
2129.00     C*
2130.00     C*     Dictionary parameters for - Item Unit of Measure
2131.00     C*
2132.00     CSR                     MOVE *BLANK                    FRDTAI
2133.00     CSR                     MOVEL'XUM'                     FRDTAI
2134.00     CSR                     CALL 'X9800E'                          81
2135.00     C*                      ---- --------
2136.00     CSR                     PARM                I9800E
2l37.00     CSR           FRERR     IFEQ '0'
2139.00     CSR                     MOVE FRDTAT         T@XUM         1
2140.00     CSR                     MOVE FREC           E@XUM         1
2141.00     CSR                     MOVE FRDTAS         C@XUM         50
2142.00     CSR                     MOVE FRDTAD         G@XUM         20
2143.00     CSR                     MOVE FRCDEC         F@XUM         1
2144.00     CSR                     MOVELFRSY           S@XUM         4
2145.00     CSR                     MOVE FRRT           R@XUM         2
2146.00     CSR                     MOVE FRDVAL         D@XUM        40
2147.00     CSR                     MOVE FRVAL          A@XUM        40
2148.00     CSR                     MOVE FRLVAL         L@XUM        40
2149.00     CSR                     MOVE FRUVAL         U@XUM        40
2150.00     CSR                     MOVE FREDWR         W@XUM        30
2151.00     CSR                     MOVE FRLR           J@XUM         1
2152.00     CSR                     MOVE FRNNIX         N@XUM         20
2153.00     CSR                     Z-ADD1              #@XUM        110
2154.00     CSR                     MOVE F@XUM          #A
2155.00     CSR                     DO   #A
2156.00     CSR                     MULT 10             #@XUM
2157.00     CSR                     END
2158.00     CSR                     END
2159.00     C*
```

```
2160.00     C*
2161.00     C*     Dictionary parameters for – Item Category Code 001
2162.00     C*
2163~C0     CSR                    MOVE *BLANK          FRDTAI
2164.00     CSR                    MOVEL'X001'          FRDTAI
2165.00     CSR                    CALL 'X9800E'                          81
2166.00     C*                     ---- --------
2167.00     CSR                    PARM                 I9800E
2168.00     CSR          FRERR     IFRQ '0'
2170.00     CSR                    MOVE FRDTAT          T@X001         1
2171.00     CSR                    MOVE FREC            E@X001         1
2172.00     CSR                    MOVE FRDTAS          C@X00l         50
2173.00     CSR                    MOVE FRDTAD          G@X00l         20
2174.00     CSR                    MOVE FRCDEC          F5X001         1
2175.00     CSR                    MOVELFRSY            S@X001         4
2176.00     CSR                    MOVE FRRT            R5X001         2
2177.00     CSR                    MOVE FRDVAL          D@X00l        40
2178.00     CSR                    MOVE FRVAL           A@X001        40
2179.00     CSR                    MOVE FRLVAL          L@X001        40
2180.00     CSR                    MOVE FRUVAL          U@X001        40
2181.00     CSR                    MOVE FREDWR          W@X00l        30
2182.00     CSR                    MOVE FRLR            J@XO0l         1
2183.00     CSR                    MOVE FRNNIX          N@X00l         20
2184.00     CSR                    Z–ADD1               #@X00l        110
2185.00     CSR                    MOVE F@X001          #A
2186.00     CSR                    DO   #A
2187.00     CSR                    MULT 10              #@X001
2188.00     CSR                    END
2189.00     CSR                    END
2190.00     C*-------------------------------------------------------------------
2191.00     C*
2192.00     C*     Dictionary parameters for – Item Category Code 002
2193.00     C*
2194.00     CSR                    MOVE *BLANK          FRDTAI
2195.00     CSR                    MOVEL'X002'          FRDTAI
2196.00     CSR                    CALL 'X9800E'                          81
2197.00     C*                     ---- --------
2198.00     CSR                    PARM                 I9800E
2199.00     CSR          FRERR     IFEQ '0'
2201.00     CSR                    MOVE FRDTAT          T@X002         1
2202.00     CSR                    MOVE FREC            E@X002         1
2203.00     CSR                    MOVE FRDTAS          C@X002         50
2204.00     CSR                    MOVE FRDTAD          G@XO02         20
2205.00     CSR                    MOVE FRCDEC          F@X002         1
2206.00     CSR                    MOVELFRSY            S@X002         4
2207.00     CSR                    MOVE FRRT            R@X002         2
2208.00     CSR                    MOVE FRDVAL          D@X002        40
2209.00     CSR                    MOVE FRVAL           A@X002        40
2210.00     CSR                    MOVE FRLVAL          L@X002        40
2211.00     CSR                    MOVE FRUVAL          U@X002        40
2212.00     CSR                    MOVE FREDWR          W@X002        30
2213.00     CSR                    MOVE FRLR            J@X002         1
2214.00     CSR                    MOVE FRNNIX          N@X002         20
2215.00     CSR                    Z–ADD1               #@X002        110
2216.00     CSR                    MOVE F@X002          #A
2217.00     a~                     DO   #A
2218.00     CSR                    MULT 10              #@X002
2219.00     CSR                    END
2220.00     CSR                    END
2221.00     Ct
2222.00     C*
2223.00     C*     Dictionary parameters for – Item Category Code 003
2224.00     C*
2225.00     CSR                    MOVE *BLANK          FRDTAI
2226.00     CSR                    MOVEL'X003'          FRDTAI
2227.00     CSR                    CALL 'X9800E'                          81
2228.00     C*                     ---- --------
2229.00     CSR                    PARM                 I9800E
2230.00     CSR          FRERR     IFRQ '0'
2232.00     CSR                    MOVE FRDTAT          T@X003         1
2233.00     CSR                    MOVE FREC            E@X003         1
2234.00     CSR                    MOVE FRDTAS          C@X003         50
2235.00     CSR                    MOVE FRDTAD          G@X003         20
2236.00     CSR                    MOVE FRCDEC          F@X003         1
```

```
2237.00     CSR                     MOVELFRSY           S@X003  4
2238.00     CSR                     MOVE FRRT           R@X003  2
2239.00     CSR                     MOVE FRDVAL         D@X003 40
2240.00     CSR                     MOVE FRVAL          A@X003 40
2241.00     CSR                     MOVE FRLVAL         L@X003 40
2242.00     CSR                     MOVE FRUVAL         U@X003 40
2243.00     CSR                     MOVE FREDWR         W@X003 30
2244.00     CSR                     MOVE FRLR           J@X003  1
2245.P0     CSR                     MOVE FRNNIX         N@X003  20
2246.00     CSR                     Z-ADD1              #@X003 110
2247.00     CSR                     MOVE F@X003         #A
2248.00     CsR                     DO   #A
2249.00     CSR                     MULT 10             #@X003
2250.00     CSR                     END
2251.00     CSR                     END
2252.00     C*---------------------------------------------------------------
2253.00     C*
2254.00     C*     Dictionary parameters for - Item Category Code 004
2255.00     C*
2256.00     CSR                     MOVE *BLANK         FRDTAI
2257.00     CSR                     MOVEL'X004'         FRDTAI
2258.00     CSR                     CALL 'X9800E'                              81
2259.00     C*                      ---- -------
2260.00     CSR                     PARM                I9800E
2261.00     CSR           FRERR     IFEQ '0'
2263.00     CSR                     MOVE FRDTAT         T@X004  1
2264.00     CSR                     MOVE FREC           E@X004  1
2265.00     CSR                     MOVE FRDTAS         C@X004  50
2266.00     CSR                     MOVE FRDTAD         G@X004  20
2267.00     CSR                     MOVE FRCDEC         F@X004  1
2268.00     CSR                     MOVELFRSY           S@X004  4
2269.00     CSR                     MOVE FRRT           R@X004  2
2270.00     CSR                     MOVE FRDVAL         D@X004 40
2271.00     CSR                     MOVE FRVAL          A@X004 40
2272.00     CSR                     MOVE FRLVAL         L@X004 40
2273.00     CSR                     MOVE FRUVAL         U@X004 40
2274.00     CSR                     MOVE FREDWR         W@X004 30
2275.00     CSR                     MOVE FRLR           J@X004  1
2276.00     CSR                     MOVE FRNNIX         N@X004  20
2277.00     CSR                     Z-ADD1              #@X004 110
2278.00     CSR                     MOVE F@X004         #A
2279.00     CSR                     DO   #A
2280.00     CSR                     MULT 10             #@X004
2281.00     CSR                     END
2282.00     CSR                     END
2283.00     C*---------------------------------------------------------------
2284.00     C*
2285.00     C*     Dictionary parameters for - Item Category Code 005
2286.00     C*
2287.00     CSR                     MOVE *BLANK         FRDTAI
2288.00     CSR                     MOVEL'X005'         FRDTAI
2289.00     CSR                     CALL 'X9800E'                    81
2290.00     C*                      ---- --------
2291.00     CSR                     PARM                I9800E
2292.00     CSR           FRERR     IFEQ '0'
2294.00     CSR                     MOVE FRDTAT         T@X005  1
2295.00     CSR                     MOVE FREC           E@X005  1
2296.00     CSR                     MOVE FRDTAS         C@X005  50
2297.00     CSR                     MOVE FRDTAD         G@X005  20
2298.00     CSR                     MOVE FRCDEC         F@X005  1
2299.00     CSR                     MOVELFRSY           S@X005  4
2300.00     CSR                     MOVE FRRT           R@X005  2
2301.00     CSR                     MOVE FRDVAL         D@X005 40
2302.00     CSR                     MOVE FRVAL          A@X005 40
2303.00     CSR                     MOVE FRLVAL         L@X005 40
2304.00     CSR                     MOVE FRUVAL         U@X005 40
2305.00     CSR                     MOVE FREDWR         W@X005 30
2306.00     CSR                     MOVE FRLR           J@X005  1
2307.00     CSR                     MOVE FRNNIX         N@X005  20
2308.00     CSR                     Z-ADD1              #@X005 110
2309.00     CSR                     MOVE F@X005         #A
2310.00     CSR                     DO   #A
2311.00     CSR                     MULT 10             #@X005
2312.00     CSR                     END
2313.00     CSR                     END
```

```
2314.00     C*------------------------------------------------------------------
2315.00     C*
2316.00     C*     Set subroutine execution flag.
2317.00     C*
2318.00     CSR                    MOVE '1'          $998          1
2319.00     C*
2320.00     CSR          END998    ENDSR
2321.00     C*****************************************************************
2322.00     C*
2323.00     C*     SUBROUTINE S999 - Housekeeping
2324.00     C*     ------------------------------
2325.00     C*
2326.00     C*     Processing:   1.  Load video screen text.
2327.00     C*                   2.  Retrieve screen title data area, test
2328.00     C*                       for unauthorized access, center video
2329.00     C*                       title and move to video screen.
2330.00     C*                   3.  Initialize key list.
2331.00     C*                   4.  Load roll keys.
2332.00     C*                   5.  Passed parameters.
2333.00     C*                   6.  Load error message array.
2334.00     C*
2335.00     CSR          S999      BEGSR
2336.00     C*           ----      -----
2337.00     C*
2338.00     C*     Required program parameters.
2339.00     C*
2340.00     CSR          *ENTRY    PLIST
2341.00     C*
2342.00     C*     Passed Parameter - Item ID
2343.00     C*
2344.00     CSR                    PARM              ##XIT         8
2345.00     C*
2346.00     C*     Move to internal reference - Item ID
2347.00     C*
2348.00     CSR                    MOVE ##XIT        VDXIT
2349.00     C*
2350.00     C*     Test for auto inquiry function.
2351.00     C*
2352.00     CSR          VDXIT     IFNE *BLANK
2353.00     CSR                    MOVE '1'          $AUTO         1
2354.00     CSR                    END
2355.00     C*------------------------------------------------------------------
2356.00     C*
2357.00     C*     Load video screen text.
2358.00     C*
2359.00     CSR                    MOVEL@@FILE       PSKEY        10
2360.00     CSR                    Z-ADD025          PSVTX#       30
2361.00     C/COPY JDECPY,C00SC
2362.00     C*------------------------------------------------------------------
2363.00     C*
2364.00     C*     Key list for - Cost Center Security
2365.00     C*
2366.00     CSR          MSKY01    KLIST
2367.00     CSR                    KFLD              MSUSER
2368.00     CSR                    KFLD              MSFILE
2369.00     CSR                    KFLD              MSMCUT
2370.00     C*------------------------------------------------------------------
2371.00     C*
2372.00     C*     Key list for - SUM Item Master File
2373.00     C*
2374.00     CSR          QXKY01    KLIST
2375.00     CSR                    KFLD              QXXIT
2376.00     C*------------------------------------------------------------------
2377.00     C*
2378.00     C*     Load roll key upper and lower key values.
2379.00     C*
2380.00     CSR          *LIKE     DEFN QXXIT        $RUKEY
2381.00     CSR          *LIKE     DEFN $RUKEY       $RDKEY
2382.00     CSR                    MOVE *LOVAL       $RUKEY
2383.00     CSR                    MOVE *ALL'9'      $RDKEY
2384.00     C*------------------------------------------------------------------
2385.00     C*
```

Assures S998 will only be executed once

Parameters passed to program

Set auto-inquiry if information is passed

Retrieves vocabulary overrides

Only loads these VTX fields displayed on the video instead of all 144.

Composite keys are defined here

Using *LIKE more and more, especially for work fields.

```
2386.00     C*           Load error messages array.
2387.00     C*
2388.00     CSR                      MOVE '0001'          EMK,01      Inv Action
2389.00     CSR                      MOVE '0002'          EMK,02      Inv Key
2390.00     CSR                      MOVE '0003'          EMK,03      Inv Blanks
2391.00     CSR                      MOVE '0004'          ENK,04      Inv Date
2392.00     CSR                      NIVE '0005'          EMK,05      Inv Next Nbr
2393.00     CSR                      MOVE '0007'          EMK,06      In Use
2394.00     CSR                      MOVE '0025'          EMK,07      Inv Values
2395.00     CSR                      MOVE '0026'          EMK,08      Inv MCU
2396.00     CSR                      MOVE '0027'          EMK,09      Inv Desc Ttl
2397.00     CSR                      MOVE '0052'          EMK,10
2398.00     C*-------------------------------------------------------------------
2399.00     C*
2400.00     C*     Load invalid action code array.
2401.00     C*
2402.00     CSR                      MOVEA'      '        @NAC
2403.00     C*-------------------------------------------------------------------
2404.00     C*
2405.00     C*     Load system date.
2406.00     C*
2407.00     CSR                      TIME                 $WRK12 120
2408.00     CSR                      MOVE $WRK12          $$EDT   60
2409.00     CSR                      MOVE $$EDT           #SIDAT  6
2410.00     CSR                      MOVEL'*SYSVAL      ' #FFMT   7
2411.00     CSR                      MOVEL*BLANKS         #EDAT   8
2412.00     CSR                      MOVEL'*JUL         ' #TFMT   7
2413.00     CSR                      MOVEL'*NONE        ' #SEP    7
2414.00     CSR                      MOVE ' '             $ERTST  1
2415.00     CSR                      CALL 'X0028        '
2416.00     C*                       ---- ------
2417.00     CSR                      PARM                 #SIDAT
2418.00     CSR                      PARM                 #EDAT
2419.00     CSR                      PARM                 #FFMT
2420.00     CSR                      PARM                 #TFMT
2421.00     CSR                      PARM                 #SEP
2422.00     CSR                      PARM                 $ERTST
2423.00     CSR                      MOVE #SIDAT          $$UPMJ  60
2424.00     C*-------------------------------------------------------------------
2425.00     CSR           END999     ENDSR
2426.00     C*************************************************************
2427.00     C*************************************************************
2428.00     OI92801  E                    UNLOCK
```

Error message numbers from Data Dictionary

Lockout action code function used with the Program Generator

Use the TIME feature to allow for all date formats

Method of releasing master file record locks

Exercises

See the exercises for this chapter.

User Spaces

About User Spaces

User spaces are objects managed by Application Program Interfaces (APIs) to store data. User object APIs create, manipulate, and delete user spaces and indexes. An API provides you with:

- A faster method of retrieving information
- A means of dynamically modifying sizes
- A means of manipulating user objects

You should place your user spaces in library QTEMP so that it is deleted automatically when you sign off. In this chapter you will learn the following about user spaces.

To work with user spaces, perform the following tasks:

- ❑ Create a user space
- ❑ Write to a user space
- ❑ Read from a user space

What Is a User Space?

A user space is an object made up of a collection of bytes that are used for storing any user defined information.

When you use a user space, there is no key to retrieve the information placed in the space. Therefore, the information in the user space is in the order that it was entered. A user space can store up to 16 megabytes of information.

To see the contents of a User Space, enter the command DMPOBJ (Dump Object) from any command line after the space has been loaded.

What Are the Advantages of Using a User Space?

The main advantage of using a user space is its speed. Because a user space consists of bytes instead of elements like an array, you can write and retrieve records faster using a user space than an array.

In addition to speed, a user space provides you with more flexibility. A user space does not have a fixed record length. When you write a record to a user space, you define the length of that record. Therefore, each record you write to your user space can be a different size. In addition, it is possible to dynamically increase the size of your user space by calling the Enter User Space program (X00SPC) after creating the user space.

For example: @EX 999 30

The array @EX has a fixed record length of 30, therefore no record smaller or larger than 30 bytes can be written to this array.

User spaces are also used when communicating between two programs. The space can carry information loaded in one program to another program for retrieval.

For example: Program A creates the user space and loads information into a user space. Then Program A calls Program B and passes the name of the user space to it. Program B can retrieve information from the user space that was loaded by Program A.

How Does a User Space Function?

Remember that a user space is nothing more than a collection of bytes used to store information:

You write information to a user space, as well as retrieve information from it. Since there is no key associated with a user space, the information contained in a user space is in a user-defined order. The order is based on program controlled offset and length values.

Creating a User Space

▶ To create a User Space

1. Determine if a user space already exists by using the J.D. Edwards program J98CKOBJ.

For example:

```
CALL        'J98CKOBJ'          81
- - - -     - - - - - -
PARM                    PSOBJ
PARM                    PSLIB
PARM                    PSTYPE
PARM                    PSMID
PARM                    PSAUT
PARM                    PSERR
```

PARM (Length)	Description
PSOBJ (10)	The name of your user space.
PSLIB (10)	The name of the library in which you wish to check for the existence of the user space. Generally, this is *LIBL to check all of the libraries in the library list.

PARM (Length)	Description
PSTYPE (8)	The type of object you are checking for. Generally, this is *USRSPC for a user space.
PSMID (10)	The member ID if you are checking for a database file. Generally, this is *NONE.
PSAUT (10)	The authority or authorization list to be checked for the user. Generally, this is *NONE.
PSERR (1)	The error parameter that will indicate an error while checking your object. Generally, this is *BLANK. 0 – No authority 1 – Not found 3 – No library 4 – Member not found 5 – No authority to library 6 – Cannot assign library

2. If a user space does exist you should clear it and write your new information over the old.
3. If the user space does not exist and no errors occurred, you can create your user space. To create a user space, use the QUSCRTUS (Create User Space) command.

```
For example:  CALL      'QUSCRTUS'   81
              ----      --------
              PARM      #SPNAM
              PARM      #SPATT
              PARM      #SPSIZ
              PARM      #SPVAL
              PARM      #SPAUT
              PARM      #SPTXT
```

PARM (Length)	Explanation
#SPNAM (20)	The first 10 characters contain your user space name, and the second 10 characters contain the name of the library where your user space is located. Remember, place your user space in library QTEMP to automatically delete your space when you sign off.
#SPATT (10)	The extended attribute of your user space. You may use this field to classify your user space. For example, JDE uses this field to label all of the user spaces with JDE.

PARM (Length)	Explanation
#SPSIZ (4 binary)	The initial size of your user space. Any value from 1 byte to 16 megabytes.
#SPVAL (1)	The initial value of all bytes in the user space. Generally, this is *BLANK.
#SPAUT (10)	The authority you give users to your user space. Generally, this is *ALL.
#SPTXT (50)	The text description of your user space.

4. To dynamically increase the size of your user space when maximum allocation is reached, call the Enlarge User Space program (X00SPC).

```
For example:  CALL      'X00SPC'      81
              ----      ------
              PARM      #XSPCN
              PARM      #XRQSZ
              PARM      #XERR
```

PARM (Length)	Explanation
#XSPCN (20)	The first 10 characters contain your user space name, and the second 10 characters contain the name of the library where your user space is located. Remember to place your user space in library QTEMP to automatically delete your space when you sign off.
#XRQSZ (15,0)	The requested size to increase your space.
#XERR (1)	An error flag: 1 – Space not found 2 – Not authorized 3 – Error

Writing to a User Space

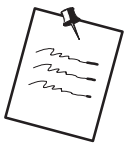
▶ To write to a User Space

Use either the QUSCHGUS or the X98CHGUS (Change User Space) command.

For example:

```
CALL      'QUSCHGUS'   81
PARM      #SPNAM
PARM      #SPPOS
PARM      #SPLGH
PARM      #SPVAL
PARM      #SPAUX
```

PARM (Length)	Explanation
#SPNAM (20)	The first 10 characters contain your user space name, and the second 10 characters contain the name of the library where your user space is located. Remember to place your user space in library QTEMP to automatically delete your space when you sign off.
#SPPOS (4 binary)	The starting position in your user space where the information will begin. It must be the first byte and must have a value greater than 0.
#SPLGH (4 binary)	The length of the information that is being written to your user space. This field is user–defined, but it must be greater than 0.
#SPVAL (* user defined)	The actual information to be written to your user space. The field must be at least as long as the length parameter.
#SPAUX (1)	Used to force changes made to your user space to auxiliary storage, such as a disk. The valid values are: 0 – do not force changes 1 – write changes 2 – write changes immediately



The X98CHGUS program, JDE's version of the IBM command QUSCHGUS, will perform a transfer control to QUSCHGUS.

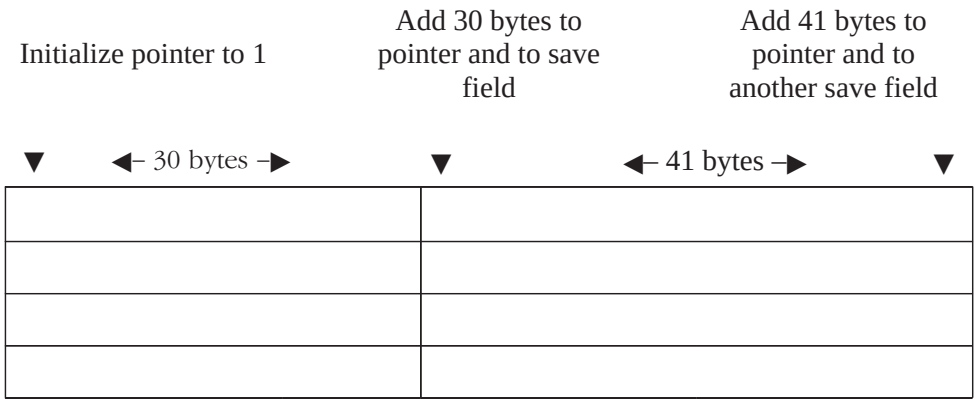
Tracking Information if Writing Variable Length Records

Method 1

During the process of writing information to your user space, you should keep track of a pointer. This will ensure that you will not overwrite information or retrieve incorrect information.

One way to do this is to initialize your pointer to 1 and after you write information to your user space, add the length of the information to your pointer. The pointer is now set at the next starting point and ready for you to enter new information.

If the information you are writing to your user space contains various lengths, you should maintain the length of each piece of information in save fields. You can use the save fields when you wish to retrieve the information from your user space.



Method 2

You can also reserve the first 2 or 3 bytes of every record for the size of that record. Then you would only have to load that part of the record with its length. When you read the record from the user space, the first 2 or 3 bytes will tell you how long the record is.

Reading from a User Space

Once you have loaded information into your user space, you are ready to retrieve it. Do not forget that your pointer must be set to the proper starting position to ensure the correct information is retrieved.

▶ To read from a User Space

Use the QUSRTVUS (Retrieve User Space) command.

For example:

```
CALL      'QUSRTVUS'   81
----      --------
PARM      #SPNAM
PARM      #SPPOS
PARM      #SPLGH
PARM      #SPREC
```

PARM (Length))	Description
#SPNAM (20)	The first 10 characters contain your user space name, and the second 10 characters contain the name of the library where your user space is located. Remember to place your user space in library QTEMP to automatically delete your space when you sign off.
#SPPOS (4 binary)	The starting position in your user space where the information will begin. It must be the first byte and must have a value greater than 0.
#SPLGH (4 binary)	The length of the information that is being retrieved to your user space. This field is user–defined, it must not be larger than the variable that will receive the information, and it must be greater than 0.
#SPREC (* user defined)	The variable that will receive the information from your user space.

User Indices

About User Indices

A user index is an object that will:

- Store data
- Allow search functions
- Automatically sort data based on its value

When you use a user index you must have a key to retrieve the information placed in the index. The key must be unique and you can only retrieve data using the key in ascending or descending order.

When you enter data into a user index, it is placed in order according to its value.

A user index can store up to 4 gigabytes of information. Each key and record within a user index can be 1 to 999 bytes long.

To see the contents of a user index, enter the command DMPOBJ (Dump Object) from any command line after the index has been loaded.

You should place your user indices in library QTEMP so that it will be deleted automatically when you sign off.

To work with user indices, perform the following tasks:

- ❑ Create a User Index
- ❑ Write to a User Index
- ❑ Retrieve from a User Index

What Are the Advantages of Using a User Index?

When you load data into your user index, it is automatically sorted for you. Based on your key for the index, the information is arranged according to its value. This will help streamline table searches, cross referencing, and the ordering of data.

The size flexibility of a user index is much better than an array because arrays have a fixed size. A user index is only as big as the information it contains at one time. User indices expand as you add data to them.

For example: @EX 999 30

The array @EX has a fixed size of approximately 3 kilobytes. Each record must be 30 bytes long and up to 999 records can be loaded. If you have 300 records loaded into @EX, you will waste approximately 2 kilobytes. On the other hand, if you have 1500 records to load, the program will error when record number 1000 is loaded. A user index would be able to accommodate both situations.

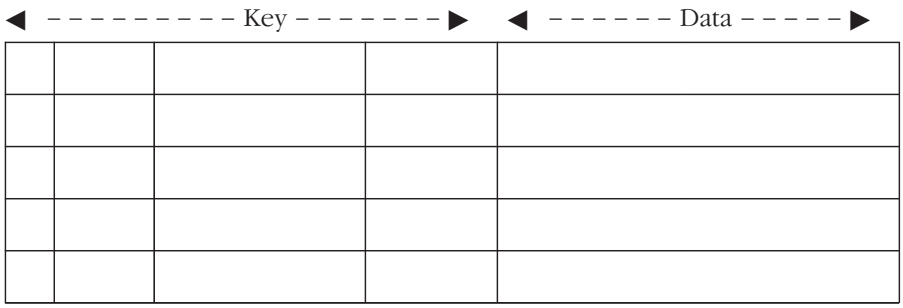
- A user index is able to retrieve records faster than an array.
- Although a user index may expand to hold more records, it will not contract when records are removed. If you load 100 records into a user index and then remove 50 of them, the user index will remain at the 100 record level size.

You may retrieve data from a user index in ascending order or descending order. When data is loaded into a user index, it is loaded in ascending order. This does not restrict you to retrieving it in this order.

How Does a User Index Function?

A user index stores data and allows you to retrieve it by a key, which must be unique. The data it stores is made up of a data structure that consists of several fields that you wish to store. A user index is capable of expanding when you add data to it.

J.D. Edwards leaves the first byte in the user index blank for clearing purposes.



When using a user index you can create it, add data to it, remove data from it, and delete it.

User indices, like user spaces, should be created in your QTEMP library so you do not have to worry about deleting them.

Creating a User Index

Before you actually create a user index, check to see if one already exists using the JDE program J98CKOBJ.

For example:

```
CALL     'J98CKOBJ'     81
PARM     PSOBJ
PARM     PSLIB
PARM     PSTYPE
PARM     PSMID
PARM     PSAUT
PARM     PSERR
```

PARM (Length))	Explanation
PSOBJ (10)	The name of your user index.
PSLIB (10)	The name of the library in which you wish to check for the existence of the user index. Generally, this is *LIBL to check all of the libraries in the library list.
PSTYPE (8)	The type of object you are checking for. Generally, this is *USRIDX for a user index.
PSMID (10)	The member if you are checking for a database file. Generally, this is *NONE.
PSAUT (10)	The authority or authorization list to be checked for the user. Generally, this is *NONE.
PSERR (1)	The error parameter that will indicate an error while checking your object. Generally, this is *BLANK. 0 – No authority 1 – Not found 3 – No library 4 – Member not found 5 – No authority to library 6 – Cannot assign library

If a user index exists, clear it and write your new information over the old.

```
For example:  CALL     'X00IDX'                81
              ----     -----
              PARM                  #0XNAM
              PARM     'D'          #0XACT
              PARM     'EQ'         #0XRUL
              PARM     '1'          #0XKLN
              PARM     *BLANK       #0XKEY
              PARM                  #0XRLN
              PARM                  #0XREC
              PARM                  #0XSTA
```

If the user index did not exist, you can now create your user index.

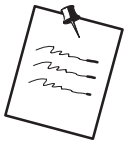
▶ To create a User Index

Use the QUSCRTUI (Create User Index) command.

```
For example:  CALL     'QUSCRTUI'              81
              ----     -------
              PARM                  #IDNAM
              PARM                  #IDATT
              PARM                  #IDENT
              PARM                  #IDLEN
              PARM                  #IDINS
              PARM                  #IDKEY
              PARM                  #IDUPD
              PARM                  #IDOPT
              PARM                  #IDAUT
              PARM                  #IDTXT
```

PARM (Length))	Explanation
#IDNAM (20)	The first 10 characters contain your user index name, and the second 10 characters contain the name of the library where your user index is located. Remember to place your user index in library QTEMP to automatically delete your index when you sign off.

PARM (Length))	Explanation
#IDATT (10)	The extended attribute of your user index. You may use this field to classify your user index. For example, JDE uses this field to label all of the user indexes with JDE.
#IDENT (1)	Whether the records you are loading into your user index are Fixed–length (F) or Variable–length (V). Generally, this is set to 'F'.
#IDLEN (4 binary)	The length of the records to be entered into your user index. For fixed–length records valid values are 1 to 999. For variable–length records, enter 0 for a key length of 1 to 120, or 1 for a key length of 1 to 999.
#IDINS (1)	Whether you are loading your user index by a key or not. Generally, this is set to 1 to load your index by a key. A value of 0 means you are not loading your index by a key.
#IDKEY (4 binary)	The length of your key. The first byte in your record must be the beginning of your key. The values are 1 to 999 or 0 for no key.
#IDUPD (1)	Whether or not the data in your user index will be immediately updated. Each data change to your index is written to auxiliary storage. The values are 0 for no immediate update or 1 for immediate update. Generally, this is 0.
#IDOPT (1)	The type of access in which to optimize your index. The values are 0 to optimize for random references or 1 to optimize for sequential references. Generally, this is 1.
#SPAUT (10)	The authority you give users to your user index. Generally, this is *ALL.
#SPTXT (50)	The text description of your user index.



You may want to define data structures containing some of the information required for the parameters to avoid having to enter values. The user index name, record length, key length, and user index text are good examples.

Writing to a User Index

▶ To write to a User Index

J.D. Edwards provides an external program called User Index Server (X00IDX) to manipulate data for user index entries.

For example:

```
CALL     'X00IDX'     81
----     ------
PARM     #0XNAM
PARM     #0XACT
PARM     #0XRUL
PARM     #0XKLN
PARM     #0XKEY
PARM     #0XRLN
PARM     #0XREC
PARM     #0XSTA
```

PARM (Length))	Explanation
#0XNAM (20)	The first 10 characters contain your user index name, and the second 10 characters contain the name of the library where your user index is located. Remember to place your user index in library QTEMP to automatically delete you index when you sign off.
#0XACT (1)	The action you want to perform on your user index. The valid values are: I – Inquire A – Add C – Change D – Delete
#0XRUL (2)	The rule used to search your user index using the record. The valid values are: EQ – Equal to GT – Greater than LT – Less than GE – Greater than or Equal to LE – Less than or Equal to

PARM (Length))	Explanation
#0XKLN (3,0)	The length of your key. The first byte in your record must be the beginning of your key. The values are 1 to 999 or 0 for no key.
#0XKEY (120)	The fields that make up the key to your user index. *FIRST (first record) and *LAST (last record) are allowed.
#0XRLN (3,0)	The length of your record. The values are 1 to 999.
#0XREC (120)	The record you are entering or deleting from your user index. This parameter will also receive the record when you inquire on your user index.
#0XSTA (1)	The error status of the manipulation. The possible values are: 0 – Record found 1 – Record not found, not authorized 8 – Rule invalid 9 – Error on action

Appearance of Records

The records added to your user index will appear in ascending order.

For example: You created a user index to keep track of your ice cream sales. Each record within your user index contains the total sales amount, item, item description, and cost center. The key for your user index consists of total sales amount and item (remember the key must be unique).

The following records are to be loaded into your user index:

Total	Sales Item	Description	Cost Center
$ 500.00	CHO	Chocolate	Denver
$ 250.00	STR	Strawberry	Denver
$ 750.00	C&C	Cookies & Cream	Denver
$1200.00	VAN	Vanilla	Denver
$ 400.00	ROC	Rocky Road	Denver

Because the key to your user index is total sales amount and item, the records will be entered into your index in ascending order by total sales amount first, then item. So your user index will look like this:

Ice Cream Sales Index

Total	Sales Item	Description	Cost Center
$ 250.00	STR	Strawberry	Denver
$ 400.00	ROC	Rocky Road	Denver
$ 500.00	CHO	Chocolate	Denver
$ 750.00	C&C	Cookies & Cream	Denver
$1200.00	VAN	Vanilla	Denver

Retrieving Data from a User Index

You can retrieve data in ascending or descending order.

▶ To retrieve data in Ascending Order

1. Use the User Index Server (X00IDX).
2. Set the Action parm to inquire (I)
3. Set Rule to Equal to (EQ)
4. Set the Key to the first record (*FIRST)

For example:

```
CALL    'X00IDX'
----    -----
PARM            #0XNAM 20
PARM    'I'     #0XACT  1
PARM    'EQ'    #0XRUL  2
PARM            #0XKLN  30
PARM    '*FIRST' #0XKEY120
PARM            #0XRLN  30
PARM            #0XREC120
PARM            #0XSTA  1
```

5. To retrieve the next record, load the key with the current record's values and change your rule to "GT".

For example:

```
CALL    'X00IDX'
----    -----
PARM            #0XNAM 20
PARM    'I'     #0XACT  1
PARM    'GT'    #0XRUL  2
PARM            #0XKLN  30
PARM            #0XKEY120
PARM            #0XRLN  30
PARM            #0XREC120
PARM            #0XSTA  1
```

To retrieve data in descending order

1. Use the User Index Server (X00IDX)
2. Set the Action parm to inquire (I)
3. Set Rule to Equal to (EQ)
4. Set the Key to the first record (*LAST)

For example:

```
CALL     'X00IDX'
----     -----
PARM                #0XNAM 20
PARM     'I'        #0XACT  1
PARM     'EQ'       #0XRUL  2
PARM                #0XKLN  30
PARM     '*LAST'    #0XKEY120
PARM                #0XRLN  30
PARM                #0XREC120
PARM                #0XSTA  1
```

5. To retrieve the next record, load the key with the current record's values and change your rule to "LT".

For example:

```
CALL     'X00IDX'
----     -----
PARM                #0XNAM 20
PARM     'I'        #0XACT  1
PARM     'LT'       #0XRUL  2
PARM                #0XKLN  30
PARM                #0XKEY120
PARM                #0XRLN  30
PARM                #0XREC120
PARM                #0XSTA  1
```

User Index Example Program

```
 1.00      H/TITLE PINDEX     – User Index Demonstration
 2.00      H* ---------------------------------------------------------------------------
 3.00      H*
 4.00      H*       Copyright  (c) 1993
 5.00      H*       J. D. Edwards & Company
 6.00      H*       This unpublished material is proprietary to
 7.00      H*       J. D. Edwards & Company.  All rights reserved.
 8.00      H*       The methods and techniques described herein are
 9.00      H*       considered trade secrets and/or confidential.
10.00      H*       Reproduction or distribution, in whole or in part,
11.00      H*       is forbidden except by express written permission
12.00      H*       of J. D. Edwards & Company.
13.00      H*
14.00      H*
15.00      H* ---------------------------------------------------------------------------
16.00      F*
17.00      F*       PROGRAM REVISION LOG
18.00      F*       --------------------
19.00      F*
20.00      F*            Date     Programmer          Nature of Revision
21.00      F*          --------   ----------    ----------------------------------------
22.00AUTHRF*              12/02/93    FRAZZINI      SAR  #     289     (AS/400  A/G)
23.00      F*
24.00      F*****************************************************************
25.00      F*
27.00      FVINEX  CF  E                          WORKSTN       KINFDS  SRVFDS
28.00      F                                           I1     KSFILE  VINDEXS
29.00      F*****************************************************************
30.00      F*
31.00      F*       Copy Member for Composite Common Subroutine – C0001
32.00      F*
33.00      F/COPY JDECPY,D0001
34.00      F*****************************************************************
35.00      E*****************************************************************
36.00      E*       PROGRAM TABLES AND ARRAYS
37.00      E*       -------------------------
38.00      E*
39.00      E             EMK         64  4              Error Msg
40.00      E             @MK         64  1              Error Msg
41.00      E             @ER         64  4              Error Msg
42.00      E             @DV         40  1              Dflt Wrk
43.00      E             @I#         99  1              Save Indicator
44.00      E             @C         256  1              Literal Work
45.00      E*
46.00      E*
47.00      E*       Copy Composite Member for Common Subroutine C0001
48.00      E*
49.00      E/COPY JDECPY,E0001
50.00      E*****************************************************************
51.00      E*
52.00      E*       Copy Member for Composite Common Subroutine C0012
53.00      E*
54.00      E/COPY JDECPY,E0012
55.00      E*****************************************************************
56.00      E*
57.00      E*       Copy Member for Composite Common Subroutine C0042
58.00      E*
59.00      E/COPY JDECPY,E0042
60.00      E*****************************************************************
61.00      E*
62.00      E*       Copy Member for Composite Common Subroutine C997
63.00      E*
64.00      E/COPY JDECPY,E997
65.00      E*****************************************************************
66.00      I*****************************************************************
67.00      I*       PROGRAM INPUT SPECIFICATIONS AND DATA STRUCTURES
68.00      I*       -----------------------------------------------
69.00      I*
70.00      I*            Data Structure to Load Video Screen Text
71.00      I*
72.00      IDSTXT        DS                              240
73.00      I                                       1   16 VTX001
74.00      I                                      41   56 VTX002
75.00      I                                      81   92 VTX003
76.00      I                                     121  150 VTX004
77.00      I                                     161  163 VTX005
78.00      I                                     201  203 VTX006
79.00      I*
80.00      I/COPY JDECPY,I00DSINX
81.00      I/COPY JDECPY,I00PS@@
82.00      I/COPY JDECPY,I00DSPROG
```

```
 83.00      I*
 84.00      I*
 85.00      I*       Copy Member for Composite Common Subroutine - C00SC
 86.00      I*
 87.00      I/COPY JDECPY, I00SC
 88.00      I*-----------------------------------------------------------------------------
 89.00      I*
 90.00      I*       Data Structures for user index.
 91.00      I*       ===============================
 92.00      I*
 93.00      I*       *   Entry Record
 94.00      I*
 95.00      IDSIDX1      DS
 96.00      I                                        1    1 $IBLK
 97.00      I                                        2    6 $1CO
 98.00      I                                        7   18 $1MCU
 99.00      I                                       19   48 $1DL01
100.00      I                                       49   51 $1RP01
101.00      I                                       52   54 $1RP02
102.00      I*
103.00      I*       *   Entry Length, Name/Library, Text
104.00      I*
105.00      I            DS
106.00      I I            54                     B  1    40$1RECL
107.00      I I            'PINDEX     QTEMP         5   24 $1IDX
108.00      I I            'Demonstration Index     25   44 $1TEXT
109.00      I*
110.00      I*       *   Partial keys 1 & 2, full unique key KEYL.
111.00      I*
112.00      I            DS
113.00      I I             1                     B  1   40$1KEY1
114.00      I I             6                     B  5   80$1KEY2
115.00      I I             18                    B  9  120$1KEYL
115.01      I*
115.02      I*       Data Structure for File Servers
115.03      I*
115.04      IDS0010      E DSF0010
115.05      I*
116.00      I/COPY JDECPY,I9800E
117.00      I/COPY JDECPY,I0005U
117.01      I/COPY JDECPY,I00XFSRV
118.00      I*
119.00      I*****************************************************************
120.00      C*****************************************************************
121.00      C*     MAINLINE PROGRAM
122.00      C*     ----------------
123.00      C*
124.00      C*       Process housekeeping.
125.00      C*
126.00      C                       EXSR S999
127.00      C*                      ---- ----
128.00      C*
129.00      C*       If LR on, end program.
130.00      C*
131.00      C            *INLR      CABEQ'1'             EOJ
132.00      C*                      --------             ---
133.00      C*
134.00      C*       If automatic inquiry set, process inquiry.
135.00      C*
136.00      C            $AUTO      CASEQ'1'             S003         24
137.00      C*                      --------             ----
138.00      C                       END
139.00      C*
140.00      C*       Begin normal program processing.
141.00      C*       --------------------------------
142.00      C*
143.00      C            *INLR      DOWEQ'0'
144.00      C*
145.00      C*       If subfile page display not set, set subfile page display.
146.00      C*
147.00      C            #SFRNO     IFEQ 0
148.00      C                       Z-ADD1               #SFRNO
149.00      C                       END
150.00      C*
151.00      C*       If subfile page empty, don't display SFL page.
152.00      C*
153.00      C            I1         IFLE 0
154.00      C                       SETOF                                38
155.00      C                       ELSE
156.00      C                       SETON                                38
157.00      C                       END
158.00      C*
159.00      C*       Write video screen.
```

Record format to be used with User Index defined as a Data Structure

Data Structure containing the record length, User Index name, and User Index description text.

Data structure defining three possible key lengths. $1KEYL is the full key length. Refer to DSIDX1 to see which fields are key fields when $1KEY1 (1 bye,), $1KEY2 (1−6 bytes), or $$1KEYL (1−18 bytes) are being used.

```
160.00      C*
161.00      C                     WRITEVINDEX1
162.00      C                     WRITEVINDEXC
163.00      C                     MOVE '1'            @@AID
164.00      C                     EXSR S001
165.00      C*                    ---- ----
166.00      C*
167.00      C*       Load data field dictionary parameters (one cycle only).
168.00      C*
169.00      C           $998      CASEQ' '            S998
170.00      C*                    --------            ----
171.00      C                     END
172.00      C*
173.00      C*       Begin video screen read processing
174.00      C*
175.00      C                     SETOF                           999301
176.00      C                     READ VINDEX                       9998
177.00      C                     Z-ADD0              ##RROW
178.00      C                     Z-ADD0              ##RCOL
179.00      C*
180.00      C*       If video read timed out, end program.
181.00      C*
182.00      C           *IN99     CABEQ'1'            EOJ         LR
183.00      C*                    -----               ---
184.00      C           @@AID     CABEQ#FEOJ          EOJ         LR
185.00      C*                    -----               ---
186.00      C*
187.00      C*       If valid function key pressed, process and return.
188.00      C*
189.00      C           *IN15     IFEQ '1'
190.00      C                     EXSR S00EX
191.00      C*                    ---- -----
192.00      C           *INLR     CABEQ'1'            EOJ
193.00      C*                    -----               ---
194.00      C           *IN15     CABEQ'1'            END
195.00      C*                    -----               ---
196.00      C                     END
197.00      C*
198.00      C*       Edit the action code.
199.00      C*
200.00      C                     EXSR C0001
201.00      C*                    ---- -----
202.00      C*
203.00      C*       If end of job requested, end program.
204.00      C*
205.00      C           @@AID     CABEQ#FEOJ          EOJ
206.00      C*                    -----               ---
207.00      C*
208.00      C*       If clear screen requested, process and return.
209.00      C*
210.00      C           @@AID     IFEQ #FCLR
211.00      C                     EXSR S001
212.00      C*                    ---- ----
213.00      C                     GOTO END
214.00      C*                    ---- ---
215.00      C                     END
216.00      C*
217.00      C*       Load subfile records.
218.00      C*
219.00      C                     EXSR S003
220.00      C*
221.00      C*       If add or change, validate all video input.
222.00      C*
223.00      C*
224.00      C*
225.00      C           *IN93     CASEQ'0'            S005
226.00      C*                    -----               ---
227.00      C           END
228.00      C*
229.00      C*
230.00      C*       If no errors and not inquiry, update file.
231.00      C*
232.00      C           *IN93     IFEQ '0'
233.00      C*          *IN24     CASEQ'0'            S010
234.00      C                     ---                 ----
235.00      C                     END
236.00      C                     END
237.00      C*       Return for next input.
238.00      C*
239.00      C           END       TAG
240.00      C*          ---       ---
241.00      C*
242.00      C*       Set correct message in line 24.
243.00      C*          *IN93     IFEQ '1'
```

```
244.00
245.00      C                       MOVELSVL24E         VDL24
246.00      C                       ELSE
247.00      C                       MOVELSVL24M         VDL24
248.00      C                       END
249.00      C*
250.00      C                       END
251.00      C*
252.00      C            EOJ        TAG
253.00      C*           ---        ---
254.00      C*
255.00      C*       END MAINLINE PROGRAM
256.00      C*       --------------------
257.00      C*************************************************************
258.00      C*
259.00      C*       Copy Common Subroutine - Edit Action Code
260.00      C*
261.00      C/COPY JDECPY,C0001
262.00      C*************************************************************
263.00      C*
264.00      C*       SUBROUTINE S00EX - Process Function Keys
265.00      C*       ----------------------------------------
266.00      C*
267.00      C*       Processing:   1.  Process standard function keys.
268.00      C*                     2.  Process special function key exits.
269.00      C*
270.00      CSR          S00EX      BEGSR
271.00      C*           -----      -----
272.00      C*
273.00      C*       Retain current page of subfile.
274.00      C*
275.00      C                       Z-ADD@@SRCN         #SFRNO
276.00      C*
277.00      CSR          T00EXA     TAG
278.00      C*           ------     ---
279.00      C*
280.00      C*       If EOJ requested, exit subroutine.
281.00      C*
282.00      CSR          @@AID      CABEQ#FEOJ          ENDEXE       LR
283.00      C*                      -----               ------
284.00      C*
285.00      C*       If Display Keys pressed, exit to help facility and return.
286.00      C*       ----------------------------------------------------------
287.00      C*
288.00      CSR          @@AID      IFEQ #FKEYS
289.00      CSR                     CALL 'P9601H'                    98
290.00      C*                      ---- --------
291.00      CSR                     PARM                I00SC
292.00      CSR                     PARM                SRVFDS
293.00      CSR                     PARM                I00CSR
294.00      C*
295.00      CSR          @@AID      CABNE#FKEYS         T00EXA
296.00      C*                      -----               ------
297.00      CSR                     GOTO ENDEXE
298.00      C*                      ---- ------
299.00      CSR                     END
300.00      C*
301.00      C*       If Cursor Sensitive Help Pressed, exit to CS Help.
302.00      C*       --------------------------------------------------
303.00      c*
304.00      CSR          @@AID      IFEQ #FQMRK
305.00      CSR                     MOVEA*IN            ##IN
306.00                              CALL 'X96CCF'                    98
307.00      C*                      ---- --------
308.00      CSR                     PARM                I00SC
309.00      CSR                     PARM                SRVFDS
310.00      CSR                     PARM                I00CSR
311.00      CSR                     PARM ' '            ##CCFF  2
312.00      C*
313.00      CSR          ##FLDN     IFNE *BLANKS
314.00      CSR                     EXSR S00VL
315.00      C*                      ---- -----
316.00      CSR                     MOVEA##IN           *IN,1
317.00      CSR                     END
318.00      CSR                     MOVEL*BLANKS        ##DTAI
319.00      CSR                     GOTO ENDEXE
320.00      C*                      ---- ------
321.00      CSR                     END
322.00      C*
323.00      C*       If Display errors pressed, exit to error messages.
324.00      C*       --------------------------------------------------
325.00      c*
326.00      CSR          @@AID      IFEQ #FERRD
327.00      CSR                     Z-ADD1              #G
```

```
327.01      CSR                     Z-ADD1              #H
328.00      CSR          #G         DOWLE64
329.00      CSR          @MK,#G     IIEQ '1'
330.00      CSR                     MOVE EMK, #G        @ER, #H
331.00      CSR                     ADD  1              #H
332.00      CSR                     END
333.00      CSR                     ADD  1              #G
334.00      CSR                     END
335.00      CSR                     CALL 'P0000E'                   98
336.00      C*                      ----  --------
337.00      CSR                     PARM                @ER
338.00      CSR                     GOTO ENDEXE
339.00      C*                      ---- ------
340.00      CSR                     END
341.00      C*
342.00      C*       If HELP key pressed, exit to help facility and return.
343.00      C*      ---------------------------------------------------
344.00      C*
345.00      CSR          @@AID      IFEQ #FHELP
346.00      CSR                     CALL 'P00IELP'                  99
347.00      C*                      ---- ---------
348.00      CSR                     PARM                HS@@
349.00      CSR                     PARM                HE@@
350.00      CSR                     PARM                I00SC
351.00      CSR                     PARM                SRVFDS
352.00      CSR                     PARM                I00CSR
353.00      CSR                     GOTO ENDEXE
354.00      C*                      ---- ------
355.00      CSR                     END
356.00      C*
357.00      C*      If ROLL UP key pressed, load next page of subfile.
358.00      C*      ---------------------------------------------------
359.00      C*
360.00      CSR          @@AID      IFEQ #IROLU
361.00      CSR          $SEND      IFNE '1'
362.00      CSR                     MOVE ' '            VDSELC  1
363.00      CSR                     EXSR S004
364.00      C*                      ---- ----
365.00      CSR                     ELSE
366.00      CSR                     Z-ADD$SVI1          I1
367.00      CSR                     MOVE *BLANK         SFDLO1
368.00      CSR                     MOVE *BLANK         SFMCU
369.00      CSR                     MOVE *BLANK         SFRPO1
370.00      CSR                     MOVE *BLANK         SFRP02
371.00      CSR                     MOVE *BLANK         SHMCU
372.00      CSR          I1         ADD 1               #SFRNO
373.00      CSR                     DO   $PGSZ
374.00      CSR                     ADD  1              I1
375.00      CSR                     MOVEA*IN            SHIN
376.00      CSR                     WRITEVINDEXS
377.00      CSR                     END
378.00      CSR                     Z-ADDI1             $SVI1
379.00      CSR                     END
380.00      CSR                     GOTO ENDEXE
381.00      C*                      ---- ------
382.00      CSR                     END
383.00      C*
384.00      C*      If ROLL DOWN key pressed, reset subfile page display.
385.00      C*      -----------------------------------------------
386.00      C*
387.00      CSR          @@AID      IFEQ #FROLD
388.00      CSR                     MOVE $SVI1          #SFRNO
389.00      CSR                     GOTO ENDEXE
390.00      C*                      ---- ------
391.00      CSR                     END
392.00      C*
393.00      C*      If Clear screen pressed, clear screen and return.
394.00      C*      -------------------------------------------------
395.00      C*
396.00      CSR          @@AID      IFEQ #FCLR
397.00      CSR                     EXSR S001
398.00      C*                      ---- ----
399.00      CSR                     GOTO ENDEXE
400.00      C*                      ---- ------
401.00      CSR                     END
403.00      CSR          @AID       IFNE '1'
404.00      CSR                     SETON               0193
405.00      CSR                     GOTO ENDEXE
406.00      C*                      ---- ------
407.00      CSR                     END
409.00      CSR          ENDEXE     ENDSR
410.00      C*****************************************************************************
411.00      C*
```

```
412.00      C*       SUBROUTINE S00VL – Cursor Control Return Values
413.00      C*       ------------------------------------------------
414.00      C*
415.00      C*       By format, find the field to update and move in the
416.00      C*       returned value.  If the format is a subfile, the record
417.00      C*       to change is found in @@RRN.
418.00      C*
419.00      CSR           S00VL      BEGSR
420.00      C*            -----      -----
421.00      C*
422.00      CSR           ##RVAL     IFEQ '*BLANK'
423.00      CSR                      MOVE *BLANK          ##RVAL
424.00      CSR                      END
425.00      C*
426.00      C*       Return values for fields in format VINDEXC
427.00      C*
428.00      CSR           ##RFMT     IFEQ 'VINDEXC '
429.00      C*
430.00      CSR           ##FLDN     IFEQ 'ACTION  '
431.00      CSR                      MOVEL##RVAL          ACTION
432.00      CSR                      GOTO ENDOVL
433.00      C*                       ---- ------
434.00      C*                       END
435.00      C*
436.00      CSR           ##FLDN     IFEQ 'VDCO    '
437.00      CSR                      MOVEL##RVAL          VDCO
438.00      CSR                      MOVEL##RDSC          VC0001
439.00      CSR                      GOTO ENDOVL
440.00      C*                       ---- ------
441.00      CSR                      END
442.00      CSR                      END
443.00      C*
444.00      C*       Return values for fields in format VINDEXS
445.00      C*
446.00      CSR           ##RFMT     IFEQ 'VINDEXS '
447.00      CSR           @@RRN      ANDGTO
448.00      C*
449.00      CSR                      MOVEL##IN            SHIN
450.00      CSR           @@RRN      CHAINVINDEXS                      81
451.00      CSR           *IN81      IFEQ '0'
452.00      CSR                      MOVEASHIN            *IN,1
453.00      C*
454.00      C*
455.00      CSR           ##FLDN     IFEQ 'SFMCU   '
456.00      CSR                      MOVEL##RVAL          SFMCU
457.00      CSR                      GOTO T00VLA
458.00      C*                       ---- ------
459.00      CSR                      END
460.00      C*
461.00      CSR           ##FLDN     IFEQ 'SFDL01   '
462.00      CSR                      MOVEL##RVAL          SFDL01
463.00      CSR                      GOTO T00VLA
464.00      C*                       ---- ------
465.00      CSR                      END
466.00      C*
467.00      CSR           ##FLDN     IFEQ 'SFRP01  '
468.00      CSR                      MOVEL##RVAL          SFRP01
469.00      CSR                      GOTO T00VLA
470.00      C*                       ---- ------
471.00      CSR                      END
472.00      C*
473.00      CSR           ##FLDN     IFEQ 'SFRP02  '
474.00      CSR                      MOVEL##RVAL          SFRP02
475.00      CSR                      GOTO T00VLA
476.00      C*                       ---- ------
477.00      CSR                      END
478.00      CSR           T00VLA     TAG
479.00      C*            ------     ---
480.00      CSR                      SETON                             32
481.00      CSR                      MOVEA*IN             SHIN
482.00      CSR                      UPDATVINDEXS                        81
483.00      CSR                      END
484.00      CSR                      END
485.00      C*
486.00      C*       Return values for fields in format VINDEX1
487.00      C*
488.00      CSR           ##RFMT     IFEQ 'VINDEX1 '
489.00      CSR                      END
490.00      C*
491.00      CSR           ENDOVL     ENDS
492.00      C*************************************************************************
493.00      C*
494.00      C*       SUBROUTINE S001 – Clear Fields
```

```
495.00     C*       ---------------------------------------------
496.00     C*
497.00     C*       Processing:   1.  Reset all video screen and data file fields
498.00     C*                         for next transaction.
499.00     C*                     2.  Clear action code only if requested.
500.00     C*
501.00     CSR           S001       BEGSR
502.00     C*            -----      -----
503.00     CSR                      MOVE *BLANK          $1DL01
504.00     CSR                      MOVE *BLANK          $1RP01
505.00     CSR                      MOVE *BLANK          $1RP02
506.00     CSR                      Z-ADD*ZERO           ##RCOL
507.00     CSR                      Z-ADD*ZERO           ##RROW
508.00     CSR                      Z-ADD*ZERO           #SFRNO
509.00     CSR                      MOVE *BLANK          SFDL01
510.00     CSR                      MOVE *BLANK          SFMCU
511.00     CSR                      MOVE *BLANK          SFRP01
512.00     CSR                      MOVE *BLANK          SFRP02
513.00     CSR                      MOVE *BLANK          SHMCU
514.00     CSR                      MOVE *BLANK          VDCO
515.00     CSR                      MOVELSVL24M          VDL24
516.00     CSR                      MOVE '0'             SHIN37
517.00     C*-------------------------------------------------------------------------
518.00     C*
519.00     C*       Clear action code only if clear screen action.
520.00     C*
521.00     CSR           @@AID      IFEQ #FCLR
522.00     CSR                      MOVE *ALL'0'         $RESET
523.00     CSR                      MOVEA$RESET          *IN,41
524.00     CSR                      MOVE ' '             ACTION  1
525.00     CSR                      Z-ADD00000           #SFRNO
526.00     CSR                      SETON                          31
527.00     CSR                      WRITEVINDEXC                     99
528.00     CSR                      SETOF                          203193
529.00     CSR                      Z-ADDO               I1
530.00     CSR                      DO   $PGSZ
531.00     CSSR                     ADD  1               I1
532.00     CSR                      MOVEA*IN             SHIN
533.00     CRS                      WRITEVINDEXS                    81
534.00     CSR                      END
535.00     CSR                      Z-ADDI1              $SVI1
536.00     CSR                      MOVE *BLANK          $1CO
537.00     CSR                      MOVE *BLANK          $1MCU
538.00     CSR                      MOVE *BLANK          VC0001
539.00     CSR                      END
540.00     C*-------------------------------------------------------------------------
541.00     CSR           END001     ENDSR
542.00     C*************************************************************************
543.00     C*
544.00     C*       SUBROUTINE S003 - Edit Key
545.00     C*       --------------------------
546.00     C*
547.00     C*       Processing:   1.  Initialize error arrays and subfile.
548.00     C*                     2.  Load inquiry selection.
549.00     C*                     3.  Load subfile information.
550.00     C*                     3.  Monitor for empty subfile.
551.00     C*
552.00     CSR           S003       BEGSR
553.00     C*            ----       -----
554.00     C*
555.00     C*       Reset error indicators and arrays.
556.00     C*
557.00     CSR                      MOVE *ALL'0'         $RESET 39
558.00     CSR                      MOVE *BLANK          $REST1 63
559.00     CSR                      MOVEA$RESET          *IN,41
560.00     CSR                      MOVEA$RESET          @MK,2
561.00     CSR                      CLEAR@ER
562.00     C*
563.00     C*       Clear the user index to begin with; set flag.
564.00     C*       ==============================================
565.00     CSR                      CLEARDSIDX1
566.00     CSR                      MOVE 'Y'             $START  1
567.00     C*
569.00     C*       Load video input field for - Company
570.00     C*
571.00     CSR                      MOVEAVDCO            @NM
572.00     CSR                      EXSR C0012
573.00     C*                       ---- -----
574.00     CSR                      Z-ADD#NUMR           $WK5  50
575.00     CSR                      MOVE $WK5            $1CO
576.00     CSR                      MOVE $WK5            VDCO
577.00     C*-------------------------------------------------------------------------
```

Clear Data Structure containing record format for User Index

```
578.00      C*
579.00      C*       Determine if any entries exist for that company.
580.00      C*
581.00      CSR                  Z-ADD$1KEY2          PSKEYL
582.00      CSR                  Z-ADD$1RECL          PSRECL
583.00      CSR                  MOVELDSIDX1          PSKY
584.00      C*
585.00      CSR                  CALL 'X00IDX'
586.00      C*
587.00      CSR                  PARM                 $1IDX        Idx Name Lib
588.00      CSR                  PARM 'I'             PSACTN       Action Code
589.00      CSR                  PARM 'EQ'            PSRULE       Action Rule
590.00      CSR                  PARM                 PSKEYL       Key Length
591.00      CSR                  PARM                 PSKY         Key Fields
592.00      CSR                  PARM                 PSRECL       Entry Length
593.00      CSR                  PARM                 PSREC        Entry
594.00      CSR                  PARM                 PSSTS        Error Status
595.00      C*
596.00      C*       Error of trying to delete but not found.
597.00      C*
598.00      CSR       PSSTS      IFNE '0'                           Not Found
599.00      CSR       *IN23      COMP '1'                        41 *ERROR*
600.00      CSR                  END
601.00      C*
602.00      C*       If indicator 41 on, invalid key for action code.
603.00      C*
604.00      CSR           *IN41  IFEQ '1'
605.00      CSR                  MOVE'1'              @MK,2
606.00      CSR                  SETON                           93
607.00      CSR                  END
608.00      C*
609.00      C*       If indicator 99 on, record in use.
610.00      C*
611.00      CSR           *IN99  IFEQ '1'
612.00      CSR                  MOVE '1'             @MK,6
613.00      CSR                  SETON                           4193
614.00      CSR                  END
615.00      C*
616.00      C*       If not inquiry, skip remainder of subroutine.
617.00      C*
618.00      CSR           *IN24  CABEQ'0'             END003
619.00      C*                   -----                ------
620.00      C*
621.00      C*       If errors, skip remainder of subroutine.
622.00      C*
623.00      CSR           *IN93  CABEQ'1'             END003
624.00      C*                   -----                ------
625.00      C*
626.00      C*       Initialize subfile indexes.
627.00      C*
628.00      CSR                  Z-ADD0               I1       50
629.00      CSR                  Z-ADD0               $SVI1    50
630.00      CSR                  Z-ADD0               #SFRNO
631.00      CSR                  MOVE '0'             $SEND    1
632.00      C*
633.00      C*       Reinitialize subfile display
634.00      C*
635.00      CSR                  SETON                           31
636.00      CSR                  WRITEVINDEXC                      99
637.00      CSR                  SETOF                           31
638.00      C*
639.00      C*       Load subfile records.
640.00      C*
641.00      CSR                  EXSR S004
642.00      C*                   ---- ----
643.00      C*-------------------------------------------------------------------------
644.00      CSR           I1     IFLT $PGSZ
645.00      CSR           $PGSZ  SUB I1               #G
646.00      C*
647.00      CSR                  MOVE *BLANK          SFDL01
648.00      CSR                  MOVE *BLANK          SFMCU
649.00      CSR                  MOVE *BLANK          SFRP01
650.00      CSR                  MOVE *BLANK          SFRP02
651.00      CSR                  MOVE *BLANK          SHMCU
652.00      CSR                  DO   #G
653.00      CSR                  ADD  1               I1
654.00      CSR                  MOVEA*IN             SHIN
655.00      CSR                  WRITEVINDEXS
656.00      CSR                  END
657.00      CSR                  Z-ADDI1              $SVI1
658.00      CSR                  END
659.00      CSR           END003 ENDSR
```

Load key length, record length, and key with values

Call to User Index to inquire on an existing record

Check error status parameter to see if a record was found

```
660.00      C*****************************************************************************
661.00      C*
662.00      C*        Copy Common Subroutine – Right Justify Numeric Fields
663.00      C*
664.00      C/COPY JDECPY, C0012
665.00      C*****************************************************************************
666.00      C*
667.00      C*        SUBROUTINE S004 – Load Video Screen Data
668.00      C*         ------------------------------------
669.00      C*
670.00      C*       Processing:  1.  Move data base information to video screen.
671.00      C*                        All video screen fields are alpha and
672.00      C*                        therefore numeric information must be
673.00      C*                        processed through subroutine C0014 to set
674.00      C*                        proper decimals and provide editing for
675.00      C*                        display on screen.
676.00      C*
677.00      C*                        Date fields must be converted from their
678.00      C*                        internal format of month, day and year or
679.00      C*                        julian to the system format using program
680.00      C*                       X0028.
681.00      C*
682.00      CSR           S004       BEGSR
683.00      C*            ----       -----
684.00      C*
685.00      C*       Load data field dictionary parameters (one cycle only).
686.00      C*
687.00      CSR           $998       CASEQ' '             S998
688.00      C*                       -----                ----
689.00      CSR                      END
690.00      C*
691.00      C*       If subfile load completed, skip subroutine.
692.00      C*
693.00      CSR           $SEND      IFEQ '1'
694.00      CSR                      Z-ADD0               #SFRNO
695.00      CSR                      GOTO END004
696.00      CSR                      END
697.00      C*---------------------------------------------------------------------------
698.00      C*
699.00      C*       Save company number for comparison later.
700.00      C*        ======================================
701.00      C*
702.00      CSR                      MOVE $1CO            $$CO    5
703.00      C*---------------------------------------------------------------------------
704.00      C*
705.00      C*       Move to output - company description.
706.00      C*
711.02      CSR                      MOVE *BLANKS         PS@@
711.03      CSR                      MOVEL$1CO            KY@@
711.04      CSR                      CALL 'XS0010'                      81
711.05      C*                       ---- --------
711.06      CSR                      PARM                 PS@@
711.07      CSR                      PARM                 DS0010
711.08      C*
711.09      CSR                      MOVELCCNAME          VC0001
712.00      C*---------------------------------------------------------------------------
713.00      C*
714.00      C*       Initialize subfile page control and index.
715.00      C*
716.00      CSR                      Z-ADD0               $PG     30
717.00      CSR                      Z-ADD0               #SFRNO
718.00      CSR                      Z-ADD$SVI1           I1
719.00      C*---------------------------------------------------------------------------
720.00      C*
721.00      C*       Read user index until end or subfile page filled.
722.00      C*
723.00      CSR                      SETOF                      96
724.00      CSR           *IN96      DOWEQ'0'
725.00      C*
726.00      C*       First time through, have already read first record, so skip
727.00      C*       the index logic.  (First time through if $START = 'Y'
728.00      C*        ========================================================
729.00      C*
730.00      CSR           $START     IFEQ 'Y'
731.00      CSR                      MOVE ' '             $START
732.00      CSR                      ELSE
```

```
733.00      C*
734.00      C*       Successive times through, read next “greater” entry.
735.00      C*        ================================================
736.00      C*
737.00      CSR                 Z-ADD$1KEYL         PSKEYL
738.00      CSR                 Z-ADD$1RECL         PSRECL
739.00      CSR                 MOVELDSIDX1         PSKY
740.00      C*
741.00      CSR                 CALL 'X00IDX'
742.00      C*                  ---- --------
743.00      CSR                 PARM                $1IDX        Index Name
744.00      CSR                 PARM 'I'            PSACTN  1    Action Code
745.00      CSR                 PARM 'GT'           PSRULE       Action Rule
746.00      CSR                 PARM                PSKEYL       Key Length
747.00      CSR                 PARM                PSKY         Key Fields
748.00      CSR                 PARM                PSRECL       Entry Length
749.00      CSR                 PARM                PSREC        Entry
750.00      CSR                 PARM                PSSTS        Error Status
751.00      C*
752.00      CSR                 END                              $START
753.00      C*
754.00      C*           If status is '0' then assume not found.
755.00      C*           ======================================
756.00      C*
757.00      CSR                 SETOF                            96
758.00      CSR         PSSTS   COMP '0'                         96    IF GT '0'
759.00      C*
760.00      C*           Retrieve entry to load data structure.
761.00      C*           ======================================
762.00      C*
763.00      CSR                 MOVELPSREC          DSIDX1
764.00      C*
765.00      C*           Compare new company to inquiry : if changed, end.
766.00      C*           ================================================
767.00      C*
768.00      CSR          $1CO   IFNE $$CO
769.00      CSR                 SETON                            96
770.00      CSR                 END
771.00      C*
772.00      C*       At end of index, set subfile completion flag and set high
773.00      C*      intensity attribute on last subfile record.
774.00      C*
775.00      CSR          *IN96  IFEQ '1'
776.00      CSR                 MOVE '1'            $SEND
777.00      CSR                 MOVE ' '            @IN37    1
778.00      CSR                 GOTO END004
779.00      C*                  ---- ------
780.00      CSR                 END
781.00      C*****************************************************************************
782.00      C*
783.00      C*       Reset record selection flag ($SEL).
784.00      C*
785.00      CSR                 MOVE '1'            $SEL     1
786.00      C*****************************************************************************
787.00      C*
788.00      C*       Update subfile for selected records.
789.00      C*
790.00      CSR          $SEL   IFEQ '1'
791.00      C*****************************************************************************
792.00      C*
793.00      C*       Move to output - Description 01
794.00      C*
795.00      CSR                 MOVEL$1DL01         SFDL01
796.00      C*****************************************************************************
797.00      C*
798.00      C*       Move to output - Cost Center
799.00      C*
800.00      CSR                 MOVE *BLANK         #SINBR
801.00      CSR                 MOVEL$1MCU          #SINBR
802.00      CSR                 MOVE T@MCU          #DTYP
803.00      CSR                 MOVE W@MCU          #EWRD
804.00      CSR                 MOVE E@MCU          #EC
805.00      CSR                 MOVE F@MCU          #DSPD
806.00      CSR                 MOVE G@MCU          #DATD
807.00      CSR                 MOVE J@MCU          #ALR
808.00      CSR                 MOVE ' '            #ECOR
809.00      CSR                 MOVE ' '            #DCOR
810.00      CSR                 EXSR C00161
811.00      C*                  ---- ------
812.00      CSR          #ALR   IFEQ 'L'
813.00      CSR                 MOVEL#SINBR         SFMCU
814.00      CSR                 ELSE
815.00      CSR                 MOVE #SINBR         SFMCU
```

Load key length, record length, and key with values

Call to User Index to retrieve next record that is greater than current key value

Check error status parameter to see if a record was found.

```
816.00      CSR                     END
817.00      C*************************************************************************
818.00      C*
819.00      C*       Move to output - Category Code - Cost Center 01
820.00      C*
821.00      CSR                     MOVE *BLANK          #SINBR
822.00      CSR                     MOVEL$1RP01          #SINBR
823.00      CSR                     MOVE T@RP01          #DTYP
824.00      CSR                     MOVE W@RP01          #EWRD
825.00      CSR                     MOVE E@RP01          #EC
826.00      CSR                     MOVE F@RP01          #DSPD
827.00      CSR                     MOVE G@RP01          #DATD
828.00      CSR                     MOVE J@RP01          #ALR
829.00      CSR                     MOVE ' '             #ECOR
830.00      CSR                     MOVE ' '             #DCOR
831.00      CSR                     EXSR C00161
832.00      C*                      ---- ------
833.00      CSR           #ALR      IFEQ 'L'
834.00      CSR                     MOVEL#SINBR          SFRP01
835.00      CSR                     ELSE
836.00      CSR                     MOVE #SINBR          SFRP01
837.00      CSR                     END
838.00      C*************************************************************************
839.00      C*
840.00      C*       Move to output - Category Code - Cost Center 02
841.00      C*
842.00      CSR                     MOVE *BLANK          #SINBR
843.00      CSR                     MOVEL$1RP02          #SINBR
844.00      CSR                     MOVE T@RP02          #DTYP
845.00      CSR                     MOVE W@RP02          #EWRD
846.00      CSR                     MOVE E@RP02          #EC
847.00      CSR                     MOVE F@RP02          #DSPD
848.00      CSR                     MOVE G@RP02          #DATD
849.00      CSR                     MOVE J@RP01          #ALR
850.00      CSR                     MOVE ' '             #ECOR
851.00      CSR                     MOVE ' '             #DCOR
852.00      CSR                     EXSR C00161
853.00      C*                      ---- ------
854.00      CSR           #ALR      IFEQ 'L'
855.00      CSR                     MOVEL#SINBR          SFRP02
856.00      CSR                     ELSE
857.00      CSR                     MOVE #SINBR          SFRP02
858.00      CSR                     END
859.00      C*************************************************************************
860.00      C*
861.00      C*       Move to output - Cost Center
862.00      C*
863.00      CSR                     MOVE *BLANK          #SINBR
864.00      CSR                     MOVEL$1MCU           #SINBR
865.00      CSR                     MOVE T@MCU           #DTYP
866.00      CSR                     MOVE W@MCU           #EWRD
867.00      CSR                     MOVE E@MCU           #EC
868.00      CSR                     MOVE F@MCU           #DSPD
869.00      CSR                     MOVE G@MCU           #DATD
870.00      CSR                     MOVE J@MCU           #ALR
871.00      CSR                     MOVE ' '             #ECOR
872.00      CSR                     MOVE ' '             #DCOR
873.00      CSR                     EXSR C00161
874.00      C*                      ---- ------
875.00      CSR           #ALR      IFEQ 'L'
876.00      CSR                     MOVEL#SINBR          SHMCU
877.00      CSR                     ELSE
878.00      CSR                     MOVE #SINBR          SHMCU
879.00      CSR                     END
880.00      C*************************************************************************
881.00      C*************************************************************************
882.00      C*
883.00      C*       Increment subfile page control and index.
884.00      C*
885.00      CSR                     ADD  1               $PG
886.00      CSR                     ADD  1               I1
887.00      C*
888.00      C*       If subfile page display not set, set subfile page display.
889.00      C*
890.00      CSR           #SFRNO    IFEQ 0
891.00      CSR                     Z-ADDI1              #SFRNO
892.00      CSR                     END
893.00      C*
894.00      C*       Write subfile record and save current subfile index.
895.00      C*
896.00      CSR                     MOVEA*IN             SHIN
897.00      CSR                     WRITEVINDEXS                      99
```

```
898.00      CSR                     Z-ADDI1             $SVI1
899.00      C*
900.00      C*       If subfile page loaded, drop out of subroutine.
901.00      C*
902.00      CSR          $PG        CABEQ$PGSZ          END004
903.00      C*                      -----               ------
904.00      CSR                     END
905.00      CSR                     END
906.00      C*---------------------------------------------------------------------
907.00      CSR          END004     ENDSR
908.00      C*********************************************************************
909.00      C*
910.00      C*       Copy Common Subroutine - Format Numeric Fields for Output with Override
911.00      C*
912.00      C/COPY JDECPY,C00161
913.00      C*********************************************************************
914.00      C*
915.00      C*       SUBROUTINE S005 - Validate and update input data.
916.00      C*        ----------------------------------------------
917.00      C*
918.00      C*       Processing:  1.  Validate all video input.  Numeric data
919.00      C*                        must be processed thru subroutines C0012 &
920.00      C*                        C0015 to be converted to internal numeric
921.00      C*                        representation (15 digits 0 decimals).
922.00      C*                        Date fields must be converted from system
923.00      C*                        format to their internal format of month,
924.00      C*                        day and year or julian using program X0028.
925.00      C*                    2.  Update data fields from input and process
926.00      C*                        subfile transaction.
927.00      C*
928.00      CSR          S005       BEGSR
929.00      C*           ----       -----
930.00      C*
931.00      C*       If not addition or change, bypass subroutine
932.00      C*
933.00      CSR          *IN21      IFEQ '0'
934.00      CSR          *IN22      ANDEQ'0'
935.00      CSR                     GOTO END005
936.00      C*                      ---- ------
937.00      CSR                     END
938.00      C*
939.00      C*       Process all subfile transactions.
940.00      C*
941.00      CSR                     MOVE ' '            $WRT    1
942.00      CSR                     Z-ADD1              $$IX    70
943.00      CSR                     SETOF                               9699
944.00      CSR          *IN96      DOWEQ'0'
945.00      CSR          *IN99      ANDEQ'0'
946.00      CSR          $$IX       ANDLE$SVI1
947.00      CSR                     MOVEA$RESET         *IN,41
948.00      CSR          $$IX       CHAINVINDEXS                        9699
949.00      CSR          *IN96      IFEQ '0'
950.00      CSR          *IN99      ANDEQ'0'
951.00      C*
952.00      C*       Load video input field for - Cost Center
953.00      C*
954.00      CSR                     MOVEASHMCU          @FI
955.00      CSR                     EXSR C0042
956.00      C*                      ---- -----
957.00      CSR                     MOVE #RADJ          $1MCU
958.00      C*
959.00      C*       Determine if prior record existed in user index.
960.00      C*        ===============================================
961.00      C*
962.00      CSR                     Z-ADD$1KEYL         PSKEYL
963.00      CSR                     Z-ADD$1RECL         PSRECL
964.00      CSR                     MOVELDSIDX1         PSKY
965.00      C*
966.00      CSR                     CALL 'X00IDX'
967.00      C*
968.00      CSR                     PARM                $1IDX       Idx Name/Lib
969.00      CSR                     PARM '1'            PSACTN      Action Code
970.00      CSR                     PARM 'EQ'           PSRULE      Action Rule
971.00      CSR                     PARM                PSKEYL      Key Length
972.00      CSR                     PARM                PSKY        Key Fields
973.00      CSR                     PARM                PSRECL      Entry Length
974.00      CSR                     PARM                PSREC       Entry
975.00      CSR                     PARM                PSSTS       Error Status
976.00      C*
977.00      C*       If no data and prior record existed, delete old record.
978.00      C*        ===================================================
979.00      C*
```

Loading of parameters and call to User Index to see if a record exists

```
  980.00     CSR          PSSTS      IFEQ '0'
  981.00     CSR          SFMCU      ANDEQ*BLANK
  982.00     C*
  983.00     CSR
  984.00     C*
  985.00     CSR
  986.00     CSR
  987.00     CSR
  988.00     CSR
  989.00     CSR
  990.00     CSR
  991.00     CSR
  992.00     CSR
  993.00     C*
  994.00     CSR                     END
  995.00     C*
  996.00     C*       Process only non-blank records.
  997.00     C*
  998.00     CSR          SFMCU      IFNE *BLANK
  999.00     C*-------------------------------------------------------------------
 1000.00     C*
 1001.00     C*
 1002.00     C*     Scrub and edit - Description 01
 1003.00     C*
 1004.00     CSR                     MOVELSFDL01          $1DL01
 1005.00     C*
 1006.00     C*           Edit allowed values - Description 01
 1007.00     C*
 1008.00     CSR          A@DL01     IFEQ '*NB'
 1009.00     CSR          $1DL01     ANDEQ *BLANK
 1010.00     CSR                     MOVE '1'             @MK,03
 1011.00     CSR                     SETON                          4293
 1012.00     CSR                     END
 1013.00     C*-------------------------------------------------------------------
 1014.00     C*
 1015.00     C*     Scrub and edit - Cost Center
 1016.00     C*
 1017.00     CSR                     MOVEASFMCU           @FI                    A
 1018.00     CSR                     EXSR C0042
 1019.00     C*                      ---- -----
 1020.00     CSR                     MOVE #RADJ           $1MCU
 1021.00     C*-------------------------------------------------------------------
 1022.00     C*
 1023.00     C*     Scrub and edit - Category Code - Cost Center 01
 1024.00     C*
 1025.00     CSR                     MOVELSFRP01          $1RP01
 1026.00     C*
 1027.00     C*     Set default value - Category Code - Cost Center 01
 1028.00     C*
 1029.00     CSR          $1RP01     IFEQ *BLANK
 1030.00     CSR          D@RP01     IFNE *BLANK
 1031.00     CSR                     MOVEAD@RP01          @40
 1032.00     CSR                     MOVEA@40             $1RP01
 1033.00     CSR          @40,1      IFEQ ''''
 1034.00     CSR                     MOVE ' '             @40,1
 1035.00     CSR                     Z-ADD2               #M
 1036.00     CSR          #M         DOWLE40
 1037.00     CSR          @40,#M     IFEQ ''''
 1038.00     CSR                     MOVE ' '             @40,#M
 1039.00     CSR                     END
 1040.00     CSR                     ADD  1               #M
 1041.00     CSR                     END
 1042.00     CSR                     MOVEA@40,2           $1RP01
 1043.00     CSR                     END
 1045.00     CSR                     END
 1046.00     C*
 1047.00     C*     Edit allowed values - Category Code - Cost Center 01
 1048.00     C*
 1049.00     CSR          A@RP01     IFNE *BLANK
 1050.00     CSR                     MOVEAA@RP01          @40
 1051.00     CSR                     MOVE *HIVAL          @AV
 1052.00     CSR                     EXSR C997
 1053.00     C*                      ---- ----
 10@4.00     CSR                     MOVE ' '             $ERTST
 1055.00     CSR                     MOVE *BLANK          $WRK10 10
 1056.00     CSR                     MOVEL$1RP01          $WRK10
 1057.00     CSR          @AV,1      IFNE *HIVAL
 1058.00     CSR          $WRKl0     LOKUP@AV                       81
 1059.00     CSR          *IN8l      IFEQ '0'
 1060.00     CSR                     MOVE '1'             $ERTST
 1061.00     CSR                     END
 1062.00     CSR          $ERTST     IFEQ '1'
 1063.00     CSR                     MOVE '1'             @MK,07
```

Check error status parameter to see if record has found

Deletion of record from User Index

```
CALL 'X00IDX'
---- --------
PARM                 $1IDX        Idx Name/Lib
PARM 'D'             PSACTN       Action
PARM 'EQ'            PSRULE       Action Rule
PARM                 PSKEYL       Key Length
PARM                 PSKY         Key Fields
PARM                 PSRECL       Entry Length
PARM                 PSREC        Entry
PARM                 PSSTS        Error Status
```

```
1064.00     CSR                     SETON               4393
1065.00     CSR                     END
1066.00     CSR                     END
1067.00     CSR                     END
1068.00     C*
1069.00     C*     Edit upper and lower range – Category Code – Cost Center 01
1070.00     C*
1071.00     CSR          L@RP01     IFNE *BLANK
1072.00     CSR                     MOVE '1'            $ERTST
1073.00     CSR          $1RP01     IFGE L@RP01
1074.00     CSR          $1RP01     ANDLEU@RP01
1075.00     CSR                     MOVE ' '            $ERTST
1076.00     CSR                     END
1077.00     CSR          $ERTST     IFEQ '1'
1078.00     CSR                     MOVE '1'            @MK,07
1079.00     CSR                     SETON                           4393
1080.00     CSR                     END
1081.00     CSR                     END
1082.00     C*
1083.00     C*    Edit from descriptive titles – Category Code – Cost Center 01
1084.00     C*
1085.00     CSR          R@RP01     IFNE *BLANK
1086.00     CSR                     CLEARI0005U
1087.00     CSR                     MOVE ' '            $ERTST
1088.00     CSR                     MOVELS@RP01         #USY
1089.00     CSR                     MOVE R@RP01         #URT
1090.00     CSR                     MOVE $1RP01         #UKY
1091.00     CSR                     CALL 'X0005 '               81
1092.00     C*
1093.00     CSR                     PARM                I0005U
1094.00     CSR          #UERR      IFEQ '1'
1095.00     CSR                     MOVE '1'            @MK,09
1096.00     CSR                     SETON                           4393
1097.00     CSR                     END
1098.00     CSR                     END
1099.00     C*-------------------------------------------------------------------
1100.00     C*
1101.00     C*     Scrub and edit – Category Code – Cost Center 02
1102.00     C*
1103.00     CSR                     MOVELSFRP02         $1RP02
1104.00     C*
1105.00     C*     Set default value – Category Code – Cost Center 02
1106.00     C*
1107.00     CSR          $1RP02     IFEQ *BLANK
1108.00     CSR          D@RP02     IFNE *BLANK
1109.00     CSR                     MOVEAD@RP02         @40
1110.00     CSR                     MOVEA@40            $1RP02
1111.00     CSR          @40,1      IFEQ ' ' ' '
1112.00     CSR                     MOVE ' '            @40,1
1113.00     CSR                     Z-ADD2              #M
1114.00     CSR          #M         DOWLE@40
1115.00     CSR          @40,#M     IFEQ ' ' ' '
1116.00     CSR                     MOVE ' '            @40,#M
1117.00     CSR                     END
1118.00     CSR                     ADD  1              #M
1119.00     CSR                     END
1120.00     CSR                     MOVEA@40,2          $1RP02
1121.00     CSR                     END
1122.00     CSR                     END
1123.00     CSR                     END
1124.00     C*
1125.00     C*    Edit allowed values – Category Code – Cost Center 02
1126.00     C*
1127.00     CSR          A@RP02     IFNE *BLANK
1128.00     CSR                     MOVEAA@RP02         @40
1129.00     CSR                     MOVE *HIVAL         @AV
1130.00     CSR                     EXSR C997
1131.00     C*                      ---- ----
1132.00     CSR                     MOVE ' '            $ERTST
1133.00     CSR                     MOVE *BLANK         $WRKl0 10
1134.00     CSR                     MOVEL$1RP02         $WRKl0
1135.00     CSR          @AV,1      IFNE *HIVAL
1136.00     CSR          $WRKl0     LOKUP@AV
1137.00     CSR          *IN81      IFEQ '0'
1138.00     CSR                     MOVE '1'            $ERTST
1139.00     CSR                     END
1140.00     CSR          $ERTST     IFEQ '1'
1141.00     CSR                     MOVE '1'            @MK,07
1142.00     CSR                     SETON                           4493
1143.00     CSR                     END
1144.00     CSR                     END
1145.00     CSR                     END
```

```
1146.00     C*
1147.00     C*    Edit upper and lower range – Category Code – Cost Center 02
1148.00     C*
1149.00     CSR          L@RP02     IFNE *BLANK
1150.00     CSR                     MOVE '1'            $ERTST
1151.00     CSR          $1RP02     IFGE L@RPO2
1152.00     CSR          $1RP02     ANDLEU@RPO2
1153.00     CSR                     MOVE                $ERTST
1154.00     CSR                     END
1155.00     CSR          $ERTST     IFEQ '1'
1156.00     CSR                     MOVE '1'
1157.00     cSR                     SETON                          4493
1158.00     CSR                     END
1159.00     cSR                     END
1160.00     C*
1161.00     C*    Edit from descriptive titles – Category Code – Cost Center 02
1162.00     C*
1163.00     CSR          R@RP02     IFNE *BLANK
1164.00     CSR                     CLEARI0005U
1165.00     CSR                     MOVE ' '            $ERTST
1166.00     CSR                     MOVELS@RP02         #USY
1167.00     CSR                     MOVE R@RPO2         #URT
1168.00     CSR                     MOVE $1RP02         #UKY
1169.00     CSR                     CALL 'X0005                      81
1170.00     C*                      ---- ------
1171.00     CSR                     PARM                I0005U
1172.00     CSR          #UERR      IFEQ '1'
1173.00     CSR                     MOVE '1'            @MK,09
1174.00     CSR                     SETON                          4493
1175.00     CSR                     END
1176.00     CSR                     END
1177.00     C*-------------------------------------------------------------------
1178.00     C*
1179.00     C*     If no errors, update user index.
1180.00     C*     ================================
1181.00     C*
1182.00     CSR          *IN93      IFEQ '0'
1183.00     C*
1184.00     cSR                     Z-ADD$1KEYL         PSKEYL
1185.00     CSR                     Z-ADD$1RECL         PSRECL
1186.00     CSR                     MOVELDSIDX1         PSKY
1187.00     CSR                     MOVELDSIDX1         PSREC
1188.00     C*
1189.00     CSR          P$$TS      IFEQ '0'                       It Existed
1190.00     CSR          $1MCU      ANDEQSHMCU                     and same CC
1191.00     C*
1192.00     CSR                     CALL 'X00IDX'
1193.00     C*                      ---- --------
1194.00     CSR                     PARM                $1IDX      Index Name
1195.00     CSR                     PARM 'C'            PSACTN     Action Code
1196.00     CSR                     PARM                PSRULE     Function Rule
1197.00     CSR                     PARM                PSKEYL     Key Length
1198.00     CSR                     PARM                PSKY       Key
1199.00     CSR                     PARM                PSRECL     Recd Length
1200.00     CSR                     PARM                PSREC      Record
1201.00     CSR                     PARM                PSSTS      Status
1202.00     C*
1203.00     CSR                     ELSE
1204.00     C*
1205.00     CSR                     CALL 'X00IDX'
1206.00     C*                      ---- --------
1207.00     CSR                     PARM                $1IDX      Idx Name/Lib
1208.00     CSR                     PARM 'I'            PSACTN     Action Code
1209.00     CSR                     PARM 'EQ'           PSRULE     Action Rule
1210.00     CSR                     PARM                PSKEYL     Key Length
1211.00     CSR                     PARM                PSKY       Key Fields
1212.00     CSR                     PARM                PSRECL     Entry Length
1213.00     CSR                     PARM                PSREC      Entry
1214.00     CSR                     PARM                PSSTS      Error Status
1215.00     C*
1216.00     CSR          P$$TS      IFEQ '0'
1217.00     CSR                     MOVE '1'            @MK,2
1218.00     CSR                     SETON                      4193
1219.00     CSR                     ELSE
1220.00     C*
1221.00     CSR                     CALL 'X00IDX'
1222.00     C*                      ---- --------
1223.00     CSR                     PARM                $1IDX      Idx Name/Lib
1224.00     CSR                     PARM 'A'            PSACTN     Action Code
1225.00     CSR                     PARM                PSRULE     Action Rule
1226.00     CSR                     PARM                PSKEYL     Key Length
1227.00     CSR                     PARM                PSKY       Key Fields
1228.00     CSR                     PARM                PSRECL     Entry Length
1229.00     CSR                     PARM                PSREC      Entry
1230.00     CSR                     PARM                PSSTS      Error Status
```

Loading key length, record length, key and record for a change or addition

Check if record exists

Call to User Index to change a record

Inquire on a record

Check if record exists

Add a record to the User Index

```
1231.00     C*
1232.00     CSR                     MOVE '1'            $WRT
1233.00     CSR                     END
1234.00     CSR                     END
1235.00     CSR                     END
1236.00     C*
1237.00     CSR          *IN93      IFEQ '1'
1238.00     CSR          #SFRNO     ANDEQ*ZERO
1239.00     CSR                     Z-ADDI1             #SFRNO
1240.00     CSR                     END
1241.00     C*
1242.00     CSR                     END
1243.00     C*
1244.00     C*    If errors, set subfile next change flag.
1245.00     C*
1246.00     CSR          *IN93      IFEQ '1'
1247.00     CSR                     SETON                          32
1248.00     CSR                     END
1249.00     C*
1250.00     C*     Update all subfile records read.
1251.00     C*
1252.00     CSR                     MOVEA*IN            SHIN
1253.00     CSR                     UPDATVINDEXS                    81
1254.00     CSR                     SETOF                          32
1255.00     C*
1256.00     C*     Read next subfile record.
1257.00     C*
1258.00     CSR                     ADD  1              $$IX
1259.00     CSR                     END
1260.00     CSR                     END
1261.00     C*
1262.00     C*     If error detected on a add, Change Action Code to 'C'
1263.00     C*
1264.00     CSR          *IN93      IFEQ '1'
1265.00     CSR          $WRT       ANDEQ'1'
1266.00     CSR                     MOVE 'C'            ACTION
1267.00     CSR                     END
1268.00     C*
1269.00     CSR          END005     ENDSR
1270.00     C*************************************************************
1271.00     C*
1272.00     C*     Copy Common Subroutine - Right Adjust Alphanumeric Field
1273.00     C*
1274.00     C/COPY/JDECPY,C0042
1275.00     C*************************************************************
1276.00     C
1277.00     C*    Copy Common Subroutine - Build Allowed Values Work Array
1278.00     C*
1279.00     C/COPY JDECPY,C997
1280.00     C*************************************************************
1281.00     C*
1282.00     C*     SUBROUTINE S010 - Update Data Base
1283.00     C*     ----------------------------------
1284.00     C*
1285.00     C*      Processing:  1.  Update data base file for delete action.
1286.00     C*
1287.00     CSR          S010       BEGSR
1288.00     C*           ----       -----
1289.00     C*
1290.00     C*      If delete action, delete all records by primary partial key.
1291.00     C*
1292.00     CSR          *IN23      IFEQ '1'
1293.00     CSR                     Z-ADD$1KEY2         PSKEYL
1294.00     CSR                     Z-ADD$1RECL         PSRECL
1295.00     C*
1296.00     CSR                     CALL 'X00IDX'
1297.00     C*                      ---- --------
1298.00     CSR                     PARM                $1IDX          Idx Name/Lib
1299.00     CSR                     PARM 'D'            PSACTN         Action
1300.00     CSR                     PARM 'EQ'           PSRULE         Action Rule
1301.00     CSR                     PARM                PSKEYL         Key Length
1302.00     CSR                     PARM                PSKY           Key Fields
1303.00     CSR                     PARM                PSRECL         Entry Length
1304.00     CSR                     PARM                PSREC          Entry
1305.00     CSR                     PARM                PSSTS          Error Status
1306.00     CSR                     END
1307.00     C*
1308.00     C*     Clear data field for next transaction
1309.00     C*
1310.00     CSR                     MOVE #FCLR          @@AID
1311.00     CSR                     EXSR S001
1312.00     C*                      ---- ----
1313.00     CSR          END010     ENDSR
```

Load key length and record length for deletion

Deletion of record from User Index

```
1314.00     C*************************************************************
1315.00     C*
1316.00     C*     SUBROUTINE S998 – Load dictionary parameters.
1317.00     C*     ---------------------------------------------
1318.00     C*
1319.00     CSR          S998       BEGSR
1320.00     C*           ----       -----
1321.00     C*
1322.00     C*
1323.00     C*    Dictionary parameters for – Description Ol
1324.00     C*
1325.00     CSR                     MOVE *BLANK          FRDTAI
1326.00     CSR                     MOVEL'DL01'          FRDTAI
1327.00     CSR                     CALL 'X9800E'                      81
1328.00     C*                      ---- --------
1329.00     CSR                     PARM                 19800E
1330.00     CSR          FRERR      IFEQ '0'
1331.00     CSR                     MOVE FRDSCR          B@DL01        40
1332.00     CSR                     MOVE FRDTAT          T@DL01         1
1333.00     CSR                     MOVE FREC            E@DL0l         1
1334.00     CSR                     MOVE ERDTAS          C@DL01         40
1335.00     CSR                     MOVE FRDTAD          G@DL01         10
1336.00     CSR                     MOVE FRCDEC          F@DL01         1
1337.00     CSR                     MOVELFRSY            S@DL01         4
1338.00     CSR                     MOVE FRRT            R@DL01         2
1339.00     CSR                     MOVE FRDVAL          D@DL01        40
1340.00     CSR                     MOVE FRVAL           A@DL01        40
1341.00     CSR                     MOVE FRLVAL          L@DL01        40
1342.00     CSR                     MOVE FRUVAL          U@DL01        40
1343.00     CSR                     MOVE FREDWR          W@DL01        30
1344.00     CSR                     MOVE FRLR            J@DL01         1
1345.00     CSR                     MOVE FRNNIX          N@DL01         20
1346.00     CSR                     Z–ADD1               #@DL01        110
1347.00     CSR                     MOVE F@DL01          #1
1348.00     CSR                     DO   #A
1349.00     CSR                     MULT 10              #@DL01
1350.00     CSR                     END
1351.00     CSR                     END
1352.00     C*-------------------------------------------------------------------------------
1353.00     C*
1354.00     C*     Dictionary parameters for – Cost Center
1355.00     C*
1356.00     CSR                     MOVE *BLANK          FRDTAI
1357.00     CSR                     MOVEL'MCU'           FRDTAI
1358.00     cSR                     CALL 'X9800E'                      81
1359.00     C*                      ---- -------
1360.00     CSR                     PARM                 I9800E
1361.00     CSR          FRERR      IFEQ '0'
1362.00     CSR                     MOVE FRDSCR          B@MCU         40
1363.00     CSR                     MOVE FRDTAT          T@MCU          1
1364.00     CSR                     MOVE FREC            E@MCU          1
1365.00     CSR                     MOVE FRDTAS          C@MCU          40
1366.00     CSR                     MOVE FRDTAD          G@MCU          10
1367.00     CSR                     MOVE FRCDEC          F@MCU          1
1368.00     CSR                     MOVELFRSY            S@MCU          4
1369.00     CSR                     MOVE FRRT            R@MCU          2
1370.00     CSR                     MOVE FRDVAL          D@MCU         40
1371.00     CSR                     MOVE FRVAL           A@MCU         40
1372.00     cSR                     MOVE FRLVAL          L@MCU         40
1373.00     CSR                     MOVE FRUVAL          U@MCU         40
1374.00     CSR                     MOVE FREDWR          W@MCU         30
1375.00     CSR                     MOVE FRLR            J@MCU          1
1376.00     CSR                     MOVE FRNNIX          N@MCU          20
1377.00     CSR                     Z–ADD1               #@MCU         110
1378.00     CSR                     MOVE F@MCU           #A
1379.00     CSR                     DO   #A
1380.00     CSR                     MULT 10              #@MCU
1381.00     CSR                     END
1382.00     CSR                     END
1383.00     C**-------------------------------------------------------------------------------
1384.00     C*
1385.00     C*     Dictionary parameters for – Category Code – Cost Center 01
1386.00     C*
1387.00     CSR                     MOVE *BLANK          FRDTAI
1388.00     CSR                     MOVEL'RP0l'          FRDTAI
1389.00     CSR                     CALL 'X9800E'                                  81
1390.00     C*                      ---- --------
1391.00     CSR                     PARM                 I9800E
1392.00     CSR          FRERR      IFEQ '0'
1393.00     CSR                     MOVE FRDSCR          B@RP01        40
1394.00     CSR                     MOVE FRDTAT          T@RP01         1
1395.00     CSR                     MOVE FREC            E@RP01         1
```

```
1396.00     CSR                     MOVE FRDTAS          C@RP01        40
1397.00     CSR                     MOVE FRDTAD          G@RP01        10
1398.00     CSR                     MOVE FRCDEC          F@RP01         1
1399.00     CSR                     MOVELFRSY            S@RP01         4
1400.00     CSR                     MOVE FRRT            R@RP0l         2
1401.00     CSR                     MOVE FRDVAL          D@RP01        40
1402.00     CSR                     MOVE FRVAL           A@RP01        40
1403.00     CSR                     MOVE FRLVAL          L@RP0l        40
1404.00     CSR                     MOVE FRUVAL          U@EP0l        40
1405.00     CSR                     MOVE FREDWR          W@RP01        30
1406.00     CSR                     MOVE FRLR            J@RP01         1
1407.00     CSR                     MOVE FRNNIX          N@RP01        20
1408.00     CSR                     Z-ADD1               #@RP01       110
1409.00     CSR                     MOVE F@RP01          #A
1410.00     CSR                     DO   #A
1411.00     CSR                     MULT 10              #@RP01
1412.00     CSP                     END
1413.00     CSR                     END
1414.00     C*---------------------------------------------------------------------
1415.00     C*
1416.00     C*     Dictionary parameters for - Category Code - Cost Center 02
1417.00     C*
1418.00     CSR                     MOVE *BLANK          FRDTAI
1419.00     CSR                     MOVEL'RP02'          FRDTAI
1420.00     CSR                     CALL 'X9800E'                       81
1421.00     C*                      ---- --------
1422.00     CSR                     PARM                 I9800E
1423.00     CSR          FRERR      IFEQ '0'
1424.00     CSR                     MOVE FRDSCR          B@RP02        40
1425.00     CSR                     MOVE FRDTAT          T@RP02         1
1426.00     CSR                     MOVE FREC            E@RP02         1
1427.00     CSR                     MOVE FRDTAS          C@RP02        40
1428.00     CSR                     MOVE FRDTAD          G@RP02        10
1429.00     CSR                     MOVE FRCDEC          F@RPO2         1
1430.00     CSR                     MOVELFRSY            S@RP02         4
1431.00     CSR                     MOVE FRRT            R@RPO2         2
1432.00     CSR                     MOVE FRDVAL          D@RP02        40
1433.00     CSR                     MOVE FRVAL           A@RP02        40
1434.00     CSR                     MOVE FRLVAL          L@RP02        40
1435.00     CSR                     MOVE FRUVAL          U@RP02        40
1436.00     CSR                     MOVE FREDWR          W@RP02        30
1437.00     CSR                     MOVE FRLR            J@RP02         1
1438.00     CSR                     MOVE FRNNIX          N@EP02        20
1439.00     CSR                     Z-ADD1               #@RP02       110
1440.00     CSR                     MOVE F@RP02          #A
1441.00     CSR                     DO   #A
1442.00     CSR                     MULT 10              #@RP02
1443.00     CSR                     END
1444.00     CSR                     END
1445.00     *---------------------------------------------------------------------
1446.00     C*
1447.00     C*          Dictionary parameters for - Company
1448.00     C*
1449.00     CSR                     MOVE *BLANK          FRDTAI
1450.00     CSR                     MOVEL'CO'            FRDTAI
1451.00     CSR                     CALL 'X9800E'                       81
1452.00     C*
1453.00     CSR                     PARM                 I9800E
1454.00     CSR          FRERR      IFEQ '0'
1455.00     CSR                     MOVE FRDSCR          B@C0          40
1456.00     CSR                     MOVE FROTAT          T@C0           1
1457.00     CSR                     MOVE FREC            E@C0           1
1458.00     CSR                     MOVE FRDTAS          C@C0          40
1459.00     CSR                     MOVE FRDTAD          G@C0          10
1460.00     CSR                     MOVE FRCDEC          F@C0           1
1461.00     CSR                     MOVELFRSY            S@C0           4
1462.00     CsR                     MOVE FRRT            R@C0           2
1463.00     CSR                     MOVE FRDVAL          D@C0          40
1464.00     CSR                     MOVE ERVAL           A@C0          40
1465.00     CSR                     MOVE FRLVAL          L@C0          40
1466.00     CSR                     MOVE FRUVAL          U@c0          40
1467.00     CSR                     MOVE FREDWR          W@C0          30
1468.00     CSR                     MOVE FRLR            J@C0           1
1469.00     CSR                     MOVE FRNNIX          N@C0          20
1470.00     CSR                     Z-ADD1               #@C0         110
1471.00     CSR                     MOVE F@CO
1472.00     CSR                     DO   #A
1473.00     CSR                     MULT 10              #@CO
1474.00     CSR                     END
```

```
1475.00     CSR                     END
1476.00     C*
1477.00     C*
1478.00     C*     Create or clear the Demonstration User Index
1479.00     C*     ============================================
1480.00     C*
1481.00     CSR                     MOVE *BLANKS         PSERR
1482.00     CSR                     CALL 'J98CKOBJ'                   99
1483.00     C*                      ---- ----------
1484.00     CSR                     PARM 'PINDEX         'PSOBJT 10
1485.00     CSR                     PARM 'QTEMP          'PSLIB  10
1486.00     CSR                     PARM '*USRIDX'        PSTYPE  7
1487.00     CSR                     PARM '*NONE          'PSMBR  10
1488.00     CSR                     PARM '*NONE          'PSAUT  10
1489.00     CSR                     PARM                  PSERR   1
1490.00     C*
1491.00     C*     If it doesn't exist, create it.
1492.00     C*
1493.00     CSR          PSERR      IFEQ '1'
1494.00     C*
1495.00     CSR                     CALL 'QUSCRTUI'                   99
1496.00     CSR                     ---- ----------
1497.00     CSR                     PARM                  $1IDX            Idx Name/Lib
1498.00     cSR                     PARM *BLANKS          PSATR  10         Extnd Attb
1499.00     CSR                     PARM 'F'              PSFXLN  1         Length Atrb
1500.00     CSR                     PARM                  $1RECL           Entry Length
1501.00     CSR                     PARM '1'              PSKIND  1         Key Insrtn
1502.00     CSR                     PARM                  $1KEYL           Key Length
1503.00     CSR                     PARM '0'              PSIMUP  1         Delay Update
1504.00     CSR                     PARM '0'              PSOPTM  1         Optz = randm
1505.00     CSR                     PARM '*ALL'           PSIDAU 10         Public Auth
1506.00     CSR                     PARM $1TEXT           PSTEXT 50         Index Descr
1507.00     C*
1508.00     C*     If it does exis, clear it.
1509.00     C*
1510.00     CSR                     ELSE
1511.00     C*
1512.00     CSR                     Z-ADD$1KEY1           PSKEYL
1513.00     CSR                     Z-ADD$1RECL           PSRECL
1514.00     CSR                     MOVE *BLANK           PSKY
1515.00     C*
1516.00     CSR                     CALL 'XOOIDX
1517.00     C*                      ---- -------
1518.00     CSR                     PARM                  $1IDX            Idx Name/Lib
1519.00     CSR                     PARM 'D'              PSACTN   1       Action
1520.00     CSR                     PARM 'EQ'             PSRULE   2       Action Rule
1521.00     CSR                     PARM                  PSKEYL   30      Key Length
1522.00     CSR                     PARM                  PSKY   120       Key Fields
1523.00     CSR                     PARM                  PSRECL   30      Entry Length
1524.00     CSR                     PARM                  PSREC  120       Entry
1525.00     CSR                     PARM                  PSSTS    1       Error Status
1526.00     C*
1527.00     CSR                     END
1528.00     C*-------------------------------------------------------------------------------
1529.00     C*
1530.00     C*     Set subroutine execution flag.
1531.00     C*
1532.00     CSR              MOVE '1'                  $998     1
1533.00     C*
1534.00     CSR          END998     ENDSR
1535.00     C*********************************************************************************
1536.00     C*
1537.00     C*     SUBROUTINE S999 - Housekeeping
1538.00     C*     ------------------------------
1539.00     C*
1540.00     C*           Processing:   1.  Load video screen text.
1541.00     C*                         2.  Retrieve screen title data area, test
1542.00     C*                             for unauthorized access, center video
1543.00     C*                             title and move to video screen.
1544.00     C*                         3.  Initialize key list.
1545.00     C*                         4.  Load roll keys.
1546.00     C*                         5.  Passed parameters.
1547.00     C*                         6.  Load error message array.
1548.00     C*                         7.  Initialize subfile display.
1549.00     C*
1550.00     CSR          S999       BEGSR
1551.00     C*           ----       -----
1552.00     C*
1553.00     C*     Required program parameters.
1554.00     C*
1555.00     C*      . . . No Parameters passed
1556.00     C*
```

Check to see if User Index already exists

Check error status parameter to see if User Index exists

Create User Index if User Index did not already exist

Load key length, record length, and key to clear User Index if it already exists

Delete all records from User Index

```
1557.00     C*     Test for auto inquiry function.
1558.00     C*
1559.00     CSR          $AUTO      IFNE *BLANK
1560.00     CSR                     MOVE '1'            $AUTO        1
1561.00     CSR                     END
1562.00     C*-------------------------------------------------------------------------
1563.00     C*
1564.00     C*     Load video screen text.
1565.00     C*
1566.00     CSR                     MOVEL@@FILE         PSKEY       10
1567.00     CSR                     Z-ADD006            PSVTX#       30
1568.00     C/COPY JDECPY,C00SC
1569.00     C*-------------------------------------------------------------------------
1570.00     C*
1571.00     C*     Load error messages array.
1572.00     C*
1573.00     CSR                     MOVE '0001'         EMK,01       Inv Action
1574.00     CSR                     MOVE '0002'         EMK,02       Inv Key
1575.00     CSR                     MOVE '0003'         EMK,03       Inv Blanks
1576.00     CSR                     MOVE '0004'         EMK,04       INV Date
1577.00     CSR                     MOVE '0005'         EMK,05       Inv Next Nbr
1578.00     CSR                     MOVE '0007'         EMK,06       In Use
1579.00     CSR                     MOVE '0025'         EMK,07       Inv Values
1580.00     CSR                     MOVE '0026'         EMK,08       Inv MCU
1581.00     CSR                     MOVE '0027'         EMK,09       Inv Desc Ttl
1582.00     C*-------------------------------------------------------------------------
1583.00     C*
1584.00     C*     Load invalid action code array.
1585.00     C*
1586.00     CSR                     MOVEA'     '        @NAC
1587.00     C*-------------------------------------------------------------------------
1588.00     C*
1589.00     C*     Initialize subfile display.
1590.00     C*
1591.00     CSR                     Z-ADD0              I1
1592.00     CSR                     Z-ADDl5             $PGSZ        30
1593.00     CSR                     DO   $PGSZ
1594.00     CSR                     ADD  1              I1
1595.00     CSR                     MOVEA*IN            SHIN
1596.00     CSR                     WRITEINDEXS                           99
1597.00     CSR                     END
1598.00     CSR                     Z-ADDI1             $SVI1
1599.00     C*-------------------------------------------------------------------------
1600.00     C*
1601.00     C*     Load system date.
1602.00     C*
1603.00     CSR                     TIME                $WRK12       120
1604.00     CSR                     MOVE $WRKl2         $$EDT         60
1605.00     C*-------------------------------------------------------------------------
1606.00     CSR          END999     ENDSR
```

Exercises

See the exercises for this chapter.

File Servers

About File Servers

File servers (sometimes called I/O servers) allow you to enhance the processing time of your program. In addition, they ease the maintenance of your programs by making your system more modular. There should be no reason to bypass the use of a server. Eventually, every program should perform database functions using either a file server or a functional server. Note that all logical files are accessed through servers by their based-on file. Embedded in one server, there may be many access paths available.

What is a File Server?

A file server, or I/O server, is a server that performs all RPG database operation codes.

This type of server has no effect on program logic, but it isolates the actual database from the application program. Once you implement a file server into a program, the file specification is no longer required.

Types of File Servers

There are three types of file servers you can use:

- XS____Input–Only/Caching Servers

  They should be used when you would otherwise use a simple CHAIN operation for input only. You may request descriptions only, or the entire record. They provide caching logic to decrease physical I/O for duplicate requests.

- XF_____Input/Output File Servers

  They will allow you to replace all RPG database operation codes for a given file with program calls. They can read, chain, setll, and so forth, to a file.

- X_____Special Scrub & Edit Servers

  They can accept the cost center or account numbers in any valid data entry or file format, convert them to any format, validate the existence of the master record, and optionally pass the master record back to the calling program.

What are the Advantages of Using a File Server?

The advantages of using a file server are:

- Minimizes maintenance of your software
- The ability to change a physical file without having to make changes to application programs that use the file, or even having to recompile them
- Using versions in future releases to allow programs from a previous release to run against a changed database
- The transition from an old database to a new database will be smoother. Instead of applying all new programs, you will only have to apply a new set of file servers.
- Ability to implement one file server at a time without affecting the rest of your system

What are the Disadvantages of Using a File Server?

The disadvantages of using a file server are:

- A file server is minutely slower because you are performing an external call to the server from your program.
- File server programs tend to be large.

File servers are designed to perform all database functions that can be performed directly.

How Does a File Server Function?

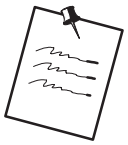
A file server performs all the interfaces between a program and file. First you will load the control parameters, which contain information about the record you are retrieving. The file server converts the control parameters and retrieves a record back to the program.

If you plan on using any of the file server programs and you are asking them to return the database record, you must use the record image /COPY member that the corresponding I/O server uses. The /COPY member has the following naming convention:

I(file name) (release level).

For example: The copy member for the F0101 record image should appear as:

I/COPY JDECPY, I010171



Some technical file servers (X9800E, X0005) have a /COPY member with the naming convention:

I(file name)(special character)

I/COPY JDECPY, I0005U

A file server is called with two parameters:

For example:

```
CALL     'XF0101'      81
- ---    -----
PARM     PS@@1
PARM     I0101
```

PARM	Explanation
PS@@1	Contains all of the control parameters. It is contained in copy module I00XFSRV, and it is common to all file servers.
I(file name)	Contains the record image for updates and writes specific for each I/O server. It is an exact duplicate of the record image. It is contained in the copy module I(file name) (release level).

What Are Control Parameters?

The parameter PS@@1 contains all the control parameters for the file server. All control parameters, except the format name, are cleared every time the server returns control to the calling program. You must set the parameter values every time the server is called unless you are satisfied with the default values.

PARM (Length)	Explanation
@@ACCS *(1)*	The type of access to the file. The valid values are K for Keyed access (default), R for relative record number access and S for sequential access (DREAM Writer).
@@OPER *(10)*	The operation to be performed to the file. The valid values are presented below: **Operation** — **Description** CHAIN — Chain by key list or RRN CLOSE — Close the access path DELET — Delete current record or by key or RRN EXIST — Test existence of record by key OPEN — Open access path (optional) READ — Read next record READE — Read next equal key READP — Read previous record REDPE — Read previous equal key SETGT — Set greater than key SETHV — Set greater than with *HIVAL SETLL — Set lower limit by key SETLV — Set lower limit with *LOVAL UPDAT — Update locked record UPDATC — Update current record WRITE — Write new record UNLCK — Unlock current record
@@LOCK (1)	Whether you do or do not want to lock the record. The valid values are Y to lock the record (default) or N to not lock the record. Note: This parameter is only valid for chain and read operations, and is ignored for all other operations. You should set it to N when reading records not to be updated.

PARM (Length)	Explanation
@@CHGR (1)	Servers allow records to be read without lock and then be updated (UPDATC). In this situation, the record will be re–read before it is updated and if it has changed since it was last read, action will have to be taken. This parameter determines what that action will be. The valid values are: N– Do not update the record. A return code (RC) is returned and it comes up to the program to determine what action to take. (default) O– Overlay the changed record with the values you are currently updating. This will cause the changes made by the other user to be lost. W– Call the Changed Record Window (P0000U) that will prompt you for what action to take. Use this option with interactive programs only.
@@KLST (10)	The key list that will be used for access. The calling program does not specify a logical file so that the application program is isolated from any database changes. A value must be specified unless you are accessing the file by relative record number or sequentially (@@ACCS = R or S). Note: The server maintains status information for each access path, so multiple paths can be accessed through the server in one program. The @@KLST parameter determines which access path is affected by the current call to the server.
@@KNUM (5,0)	Specifies how many key fields in the list will be used for the current operation. This allows you to perform a read equal by a partial key. The valid values are 1 through the number of fields in the key, and blank for operations not requiring a key.
@@FMT (10)	Specifies the release level the program is expecting. This field does not get cleared upon returning from the server, so it can be set once in S999.
@@#RRN (9,0)	The relative record number for RRN access.
I (file name)	Record image for updates and writes. This parameter is optional for OPEN, CLOSE, DELET, SETHV, SETLV, and UNLCK operations.

- Access paths are opened automatically when the first operation is performed. Therefore, it is not necessary to call the server with the OPEN operation.
- A server normally remains active as long as the calling program is active. If you know you will need a server for only a limited period of time and do not want it taking up space in the PAG, you can call the server the @@OPER parameter blank, this causes the server to return and end.

What Are Returned Parameters?

When the file server returns the record to the program, there are several parameters associated with it.

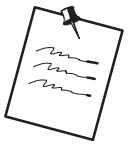
PARM (Length)	Explanation
@@IOR(3)	The I/O return code. The possible values are: blank –No errors NF – Record not found NE – Not equal for a READE operation EOF – End of file EQ – Equal for a SETLL operation BOF – Beginning of file RL – Record Locked, could not read RC – Record changed YES –Record found NO – Record not found ERR – Error, check error fields for explanation
@@ERR (10)	Short description of the cause of the problem (invalid, reclock, error, required, deleted, chgrec).
@@ERRS (10)	The subject causing the error. The value could be a parameter (KLST), an operation (OPEN), or a file name (Fxxxx). Used in combination with @ERR gives a good idea of what happened. The application program will generally only use @@IOR. @@ERR and @@ERRS are most useful for debugging purposes.
@@#RRN (9,0)	Returns the relative record number of the record just read (both input and output).
I (filename)	Returns an exact duplicate of the record image (both input and output).

Implementing a File Server

▶ To implement a file server

The following are generally the steps needed to set up a file server in a program. Some programs may differ.

1. Remove F-spec line for file being accessed through the server, and replace it with a comment mentioning access through the server.
2. Add clear statement in S999 (CLEAR PS@@1). You can optionally set @@FMT to "A71" so it does not have to be set on every call.
3. Copy in I-spec copy module I00XFSRV.
4. Copy in I-spec copy module for the required server, following the naming convention: I(file name) (release level). For example, I010171 .
5. Code call to server for each database access. Naming convention for server is X(file name). For example, XF0101 for F0101 and any of its logicals.
   - Load control parameters
   - Load record image if a write or update
   - Call the server
   - Check the return code
6. Remove any open statements and key lists for this file from S999.
7. Remove any output specifications dealing with EXCPT unlock statements at the bottom of the program. The server will handle all of the unlock and lock operations.



When reading sequentially (@@ACCS = S) through the physical file or through a DREAM Writer based-on file that is overridden to the physical, some operations are not available. Do not use: CHAIN, EXIST, READE, REDPE, UPDATC, SETLL, SETGT, SETHV, SETLV. Since UPDATC is not available and you are going to update a record, you need to read with lock.

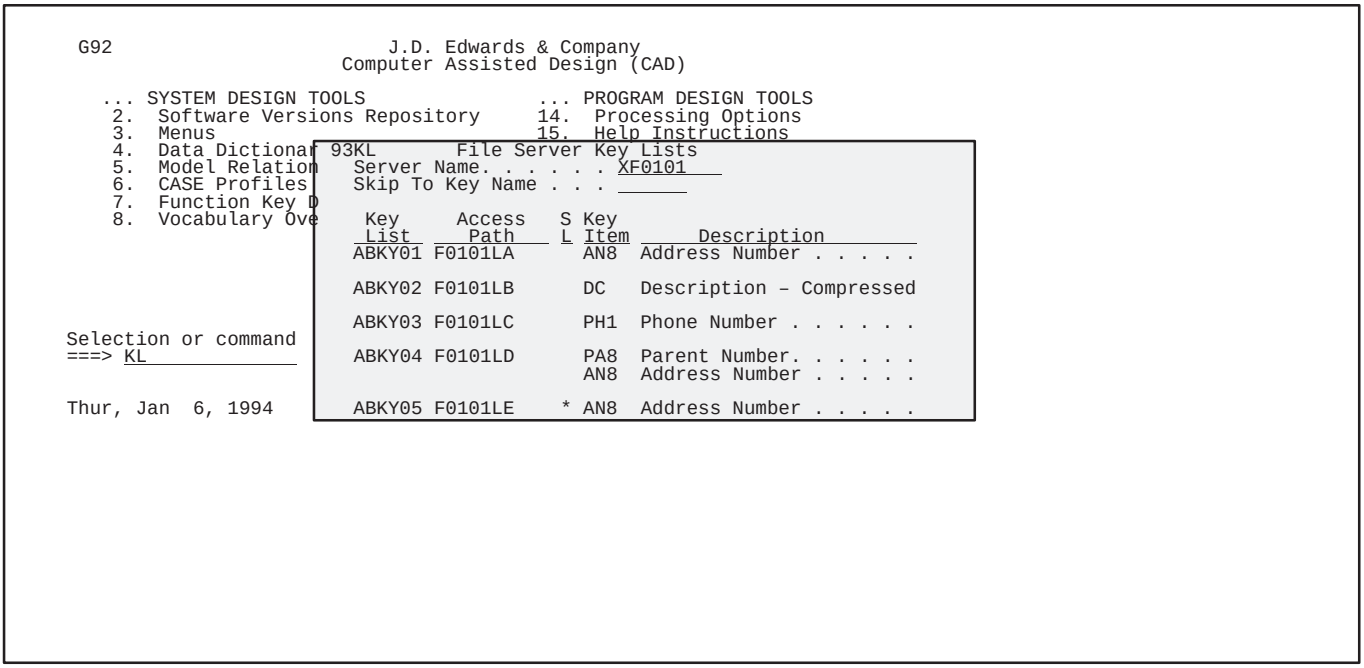
If the file you are accessing though the server is the DREAM Writer based on file, the Open Query Options on the DREAM Writer Additional Parameters screen need to be changed. Change all of the "Open for xxxxx" parameters to "Y".

Searching for Key Lists

When converting programs to use the file servers, make note of what logical files are being accessed, and what mode (update or input) and what each of the defined key lists for those access paths represent.

To search for Key Lists

1. Look up the corresponding server key list name using P93KL (fast path, KL).
2. Search for the format name for files that are accessed in the program.
3. Replace each instance of file access code with a call to the server with the correct parameters.



Tips when Using File Servers

The following tips can help when using file servers:

- When converting a program to use the file servers, always set the @@LOCK parameter to "N" when reading records through an access path that the program uses to open for input only.

  The reason for this is that all access paths are open for update in the server. This can cause record lock problems when a program opens multiple paths into the same file. Correct use of the @@LOCK parameter solves these problems.

- Some programs may be doing a CHAIN or EXCPT to unlock a record. Instead of replacing it with a CHAIN through the server, take advantage of the UNLCK operation. Performing an UNLCK on a file that does not have a record locked does not produce an error.
- Some programs perform a SETLL to validate that a record exists. The new operation EXIST is provided to handle this function. It returns a YES or NO in return code (@@IOR).
- There is only one instance in which a particular file server is active in your job at one time, so if one program calls another program that accesses the file through the same access path, they are actually sharing the same open data path. If it is possible that a call to another program could relocate a file pointer that could mess up the program, it would be a good idea to save the keys and reset the pointer (CHAIN or SETLL) upon returning.

File Server Examples

```
Seq No.U    C*-------------------------------------------------------------------------   Mod DC*e
  1.00      C*                                                                           09.11.92
  2.00      C*                                                                           10.11.92
  3.00      C*Index of Examples:                                                         10.11.92
  4.00      C*   -------------------                                                     10.11.92
  5.00      C*                                                                           10.11.92
  6.00      C*                 Scan For:   To Find:                                      10.11.92
  7.00      C*                 ---------   ------------------------------------        10.11.92
  8.00      C*                 1.1         File Server Calls                           10.11.92
  9.00      C*                 1.1.1        Chain                                      10.11.92
 10.00      C*                 1.1.2        Close                                      10.11.92
 11.00      C*                 1.1.3        Delete                                     10.11.92
 12.00      C*                 1.1.4        Existence Test                             10.11.92
 13.00      C*                 1.1.5        Open                                       10.11.92
 14.00      C*                 1.1.6        Read                                       10.11.92
 15.00      C*                 1.1.7        Read Equal                                 10.11.92
 16.00      C*                 1.1.8        Read Previous                              10.11.92
 1~.00      C*                 1.1.9        Read Previous Equal                        10.11.92
 13.00      C*                 1.1.10       Set Greater Than                           10.11.92
 19.00      C*                 1.1.11       Set Lover Level                            10.11.92
 20.00      C*                 1.1.12       Update                                     10.11.92
 21.00      C*                 1.1.13       Write                                      10.11.92
 22.00      C*                 1.1.14       Unlock                                     10.11.92
 23.00      C*                 2.1.1        X09031                                     19.01.93
 24.00      C*-------------------------------------------------------------------------------   10.11.92
 25.00      C*                                                                           10.11.92
 26.00      C*1.1  File Server Calls:                                                    10.11.92
 27.00      C*                                                                           09.11.92
 23.00      C*Determine from P93KL what the key list name is for the                     09.11.92
 29.00      C*access path being used; this name is moved to the @@KLST.                  09.11.92
 30.00      C*If the operation uses a key list, determine how many keys                  09.11.92
 31.00      C*the key list represents; this number is Z-ADDed to @@KNUM.                 09.11.92
 32.00      C*The format is the release level (A61) and can be moved to                  10.11.92
 33.00      C*@@FMT in S999 once for the rest of the calls.                              10.11.92
 34.00      C*-------------------------------------------------------------------       09.11.92
 35.00      C*                                                                           09.11.92
 36.00      C*     1.1.1  Chain:                                                         10.11.92
 3~.00      C*                                                                           10.11.92
 33.00      C*        Old Code:                                                          10.11.92
 39.00      CSR            ABKY02    CHAINI010lC             8199                      10.11.92
 40.00      C*                                                                           10.11.92
 41.00      C*        New Code:                                                          10.11.92
 42.00      CSR             MOVEL'A6l'      @@FMT                                      10.11.92
 43.00      CSR             MOVEL'ABKYO4'   @@KLST                                     10.11.92
 44.00      CSR             MOVEL'CHAIN'    @@0PER                                     10.11.92
 45.00      CSR             MOVE 'N'        @@LOCK                                     05.12.92
 46.00      CSR             Z-ADD2          @@KNUM                                     10.11.92
 47.00      CSR             CALL 'XF0101'                                              10.11.92
 48.00      C*                    ---- --------                                        10.11.92
 49.00      CSR            PARM            PS@@1                                       10.11.92
 50.00      CSR            PARM            I0101                                       10.11.92
 51.00      CSR      @@IOR     COMP 'RL'                    99                        10.11.92
 52.00      CSR      @@IOR     COMP 'NF'                    81                        10.11.92
 53.00      C*-------------------------------------------------------------------       10.11.92
 54.00      C*                                                                           10.11.92
 55.00      C*     1.1.2  Close:                                                        10.11.92
 56.00      C*                                                                           10.11.92
 57.00      C*         Old Code:                                                        10.11.92
 58.00      CSR             CLOSEF0902LD              99                               10.11.92
 59.00      C*                                                                           10.11.92
 60.00      C*         New Code:                                                        10.11.92
 61.00      CSR             MOVEL'A61'      @@FMT                                      10.11.92
 62.00      CSR             MoVEL'GLKY04'   @@KLST                                     10.11.92
 63.00      CSR             MOVEL'CLOSE'    @OPER                                      10.11.92
 64.00      CSR             CALL 'XF0902'                                              10.11.92
 65.00      C*                   ---- ------                                          10.11.92
 66.00      CSR                            PARM          PS@@1                       10.11.92
 67.00      CSR                            PARM          I0902                       10.11.92
 68.00      CSR                     @@OR   COMP 'ERR'                    99           10.11.92
 69.00      C*-------------------------------------------------------------------       10.11.92
 70.00      C*                                                                           10.11.92
 71.00      C*     1.1.3  Delete:                                                       10.11.92
 72.00      C*                                                                           10.11.92
 73.00      C*          Old Code:                                                       10.11.92
 74.00      CSR                            DELETI0101B               99                10.11.92
 75.00      C*                                                                           10.11.92
 76.00      C*          New Code:                                                       10.11.92
 77.00      CSR             MOVEL'A61'      @@FMT                                      10.11.92
 73.00      CSR             MOVEL'ABKY02'   @@KLST                                     10.11.92
 79.00      CSR             MOVEL'DELET'    @@OPER                                     10.11.92
```

```
 80.00      CSR                    CALL 'XF0101'                                  1~0o:l~l~:~2~
 81.00      C*
 82.00      CSR                    PARM            PS@@1                              10.11.92
 83.00      CSR                    PARM            I0101                              10.11.92
 84.00      CSR          @@IOR     COMP 'RL'                      99                  10.11.92
 85.00      C*                                                                       10.11.92
 86.00      C*      Old Code:                                                        10.11.92
 87.00      CSR           ABKYOB   DELETI0101B                  8399                  10.11.92
 88.00      C*                                                                       10.11.92
 89.00      C*      New Code:                                                        10.11.92
 90.00      CSR                    MOVEL'A6l'      @@FMT                              10.11.92
 91.00      CSR                    MOVEL'ABY02'    @@KLST                             10.11.92
 92.00      CSR                    MOVEL'DELET'    @@OPER                             10.11.92
 93.00      CSR                    Z-ADD3          @@KNUM                             10.11.92
 94.00      CSR                    CALL 'XF0101'                                      10.11.92
 95.00      C*                                                                       10.11.92
 96.00      CSR                    PARM            PS@@1                              10.11.92
 97.00      CSR                    PARM            I0101                              10.11.92
 98.00      CSR          @@IOR     COMP 'RL'                      99                  10.11.92
 99.00      CSR          @@IOR     COMP 'NF'                      83                  10.11.92
100.00      C*-------------------------------------------------------------------------10.11.92
101.00      C*                                                                       10.11.92
102.00      C*    1.1.4  Existence Test:                                             10.11.92
103.00      C*                                                                       09.11.92
104.00      C*      Old Code:                                                        09.11.92
105.00      CSR           ABKY02   SETLLI0l01D                  9982                  10.11.92
106.00      C*                                                                       09.11.92
107.00      C*      New Code:                                                        09.11.92
108.00      CSR                    MOVEL'A61'      @@FMT                              10.11.92
109.00      CSR                    MOVEL'RPKY01'   @@KLST                             10.11.92
110.00      CSR                    MOVEL'EXIST'    @@OPER                             10.11.92
111.00      CSR                    Z-ADD3          @@KNUM                             09.11.92
112.00      CSR                    CALL 'XF010l'                                      10.11.92
113.00      C*                                                                       09.11.92
114.00      CSR                    PARM            PS@@1                              09.11.92
115.00      CSR                                    I0101                              10.11.92
116.00      CSR          @@IOR     COMP 'YES'                      82                 10.11.92
117.00      CSR          @@IOR     COMP 'ERR'                      99                 11.12.92
118.00      C*-------------------------------------------------------------------------09.11.92
119.00      C*                                                                       10.11.92
120.00      C*      1.1.5  Open:                                                    10.11.92
121.00      C*                                                                       10.11.92
122.00      C*      Old Code:                                                        10.11.92
123.00      CSR                    OPEN F0006                                         10.11.92
124.00      C*                                                                       10.11.92
125.00      C*      New Code:                                                        10.11.92
126.00      CSR                    MOVEL'A6l'      @@FMT                              10.11.92
127.00      CSR                    MOVEL'MCKY0l'   @@KLST                             10.11.92
128.00      CsR                    MOVEL,'OPEN '   @@OPER                             10.11.92
129.00      CSR                    CALL 'YF0006'                                      10.11.92
130.00      C*                                                                       10.11.92
131.00      CSR                    PARM            PS@@1                              10.11.92
132.00      CSR                    PARM            I0006                              10.11.92
133.00      C*-------------------------------------------------------------------------10.11.92
134.00      C*                                                                       10.11.92
135.00      C*      1.1.6  Read:                                                    10.11.92
136.00      C*                                                                       10.11.92
137.00      C*      Old Code:                                                        10.11.92
138.00      CSR                    READ I0901A                   9982                  10.11.92
139.00      C*                                                                       10.11.92
140.00      C*      New Code:                                                        10.11.92
141.00      CSR                    MOVEL'A61'      @@FMT                              10.11.92
142.00      CSR                    MOVEL'GMKY0l'   @@KLST                             10.11.92
143.00      CSR                    MOVEL'READ '    @@OPER                             10.11.92
144.00      CSR                    MOVE 'N'        @@LOCK                             05.12.92
145.00      CSR                    CALL 'XF0901'                                      10.11.92
146.00      C*                     ----  -------                                      10.11.92
147.00      CSR                    PARM            PS@@1                              10.11.92
148.00      CSR                    PARM            I0901                              10.11.92
149.00      CSR          @@IOR     COMP 'EOF'                      82                 10.11.92
150.00      CSR          @@IOR     COMP 'RL'                       99                 10.11.92
151.00      C*-------------------------------------------------------------------------10.11.92
152.00      C*                                                                       10.11.92
153.00      C*    1.1.7  Read Equal:                                                 17.11.92
154.00      C*                                                                       10.11.92
155.00      C*      Old Code:                                                        10.11.92
156.00      CSR           ABKY03   READEI0101C                  9987                  10.11.92
157.00      C*                                                                       10.11.92
153.00      C*      New Code:                                                        10.11.92
159.00      CSR                    MOVEL'A6l'      @@FMT                              10.11.92
160.00      CSR                    MOVEL'ABKY03'   @@KLST                             10.11.92
161.00      CSR                    MOVEL'READE'    @@OPER                             10.11.92
162.00      CSR                    MDVE 'N'        @@LOCK                             05.12.92
```

```
163.00      CSR                     CALL 'XF0101'                                       10.11.92
164.00      C*                      ---- --------                                       10.11.92
165.00      CSR                     PARM           PS@@1                               10.11.92
166.00      CSR                     PARM           I0101                               10.11.92
167.00      CSR           @@IOR     COMP 'NE'                      87                   10.11.92
168.00      CSR           @@IOR     COMP 'RL'                      99                   10.11.92
169.00      C*-------------------------------------------------------------------------- 10.11.92
170.00      C*                                                                          17.11.92
171.00      C*      1.1.8  Read Previous:                                               17.11.92
172.00      C*                                                                          17.11.92
173.00      C*       Old Code:                                                          17.11.92
174.00      CSR                     READPI0901B                 9982                    17.11.92
175.00      C*                                                                          17.11.92
176.00      C*       New Code:                                                          17.11.92
177.00      CSR                     MOVEL'A61'       @@FMT                              17.11.92
173.00      CSR                     MOVEL'GMKY02'    @@KLST                             17.11.92
179.00      CSR                     MOVEL'READP'     @@OPER                             17.11.92
180.00      CSR                     MOVE 'N'         @@LOCK                             05.12.92
181.00      CSR                     CALL 'XF0901'                                       17.11.92
182.00      C*                      ---- --------                                       17.11.92
183.00      CSR                     PARM             PS@@1                              17.11.92
184.00      CSR                     PARM             I0901                              17.11.92
185.00      CSR           @@IOR     COMP 'BOF'                     82                   17.11.92
186.00      CSR           @@IOR     COMP 'RL'                      99                   17.11.92
187.00      C*-------------------------------------------------------------------------- 17.11.92
188.00      C*                                                                          10.11.92
189.00      C*       1.1.9  Read Previous Equal:                                        10.11.92
190.00      C*                                                                          10.11.92
191.00      C*      Old Code:                                                           10.11.92
192.00      CSR           ABKY04    REDPEI0l0lC                 9987                    10.11.92
193.00      C*                                                                          10.11.92
194.00      C*          New Code:                                                       10.11.92
195.00      CSR                     MOVEL'A61'       @@FMT                              10.11.92
196.00      CSR                     MOVEL'ABKY03'    @@KLST                             10.11.92
197.00      CSR                     MOVEL'REDPE'     @@0PER                             10.11.92
193.00      CSR                     MOVE 'N'         @@LOCK                             05.12.92
199.00      CSR                     CALL 'XF0101'                                       10.11.92
200.00      C*                      ----  -------                                       10.11.92
201.00      CSR                     PARM             PS@@1                              10.11.92
202.00      CSR                     PARM             I0101                              10.11.92
203.00      CSR           @@IOR     COMP 'NE'                      87                   10.11.92
204.00      CSR           @@IOR     COMP 'RI'                      99                   10.11.92
205.00      C*-------------------------------------------------------------------------- 10.11.92
206.00      C*                                                                          10.11.92
207.00      C*      1.1.10  Set Greater Than:                                           10.11.92
203.00      C*                                                                          10.11.92
209.00      C*          Old Code:                                                       10.11.92
210.00      CSR             GBKEY   SETGTI0902A                 8498                    10.11.92
211.00      C*                                                                          10.11.92
212.00      C*           New Code:                                                      10.11.92
213.00      CSR                     MOVEL'A61'       @@FMT                              10.11.92
214.00      CSR                     MOVEL'GBKY01'    @@KLST                             10.11.92
215.00      CSR                     MOVEL'SETGT'     @@OPER                             10.11.92
216.00      CSR                     2-ADD3           @@KNUM                             10.11.92
217.00      CSR                     CALL 'XF0902'                                       10.11.92
213.00      C*                      ----  -------                                       10.11.92
219.00      CSR                     PARM             PS@@1                              10.11.92
220.00      CSR                     PARM             I0902                              10.11.92
221.00      CSR           @@IOR     COMP 'NF'                      84                   10.11.92
222.00      CSR           @@IOR     COMP 'ERR'                     98                   10.11.92
223.00      C*                                                                          10.11.92
224.00      C*          Old Code:                                                       10.11.92
225.00      CSR            *HIVAL   SETGTI0902A                 99                      10.11.92
226.00      C*                                                                          10.11.92
227.00      C*          New Code:                                                       10.11.92
223.00      CSR                     MOVEL'A61'       @@FMT                              10.11.92
229.00      CSR                     MOVEL'GBKY01'    @@KLST                             10.11.92
230.00      CSR                     MOVEL'SETEE"     @@OPER                             10.11.92
231.00      CSR                     CALL 'XF0902'                                       10.11.92
232.00      C*                      ---- --------                                       10.11.92
233.00      CSR                     PARM             PS@@1                              10.11.92
234.00      CSR                     PARM             I0902                              10.11.92
235.00      CSR           @@IOR     COMP 'ERR'                     99                   10.11.92
236.00      C*-------------------------------------------------------------------------- 10.11.92
237.00      C*                                                                          10.11.92
288.00      C*        1.1.11  Set Lower Limit:                                         10.11.92
239.00      C*                                                                          10.11.92
240.00      C*          Old Code:                                                       10.11.92
241.00      CSR            ABK01    SETLLI0l0lC               849985                    10.11.92
242.00      C*                                                                          10.11.92
243.00      C*           New Code:                                                      10.11.92
244.00      CSR                     MOVEL'A61'       @@FMT                              10.11.92
245.00      CSR                     MOVEL'ABKY03'    @@KLST                             10.11.92
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246.00      CSR                     MDVEL'SETILL'   @@OPER                          10.11.92
247.00      CSR                     Z-ADDl          @@KNUM                          10.11.92
248.00      CSR                     CALL 'XF0101'                                   10.11.92
249.00      C*                      ----  -------                                   10.11.92
250.00      CSR                     PARM            PS@@1                           10.11.92
251.00      CSR                     PARM            I0101                           10.11.92
252.00      CSR           @@IOR     COMP 'EOF'                      84              10.11.92
253.00      CSR           @@IOR     COMP 'EQ'                       85              10.11.92
254.00      CSR           @@IOR     COMP 'ERR'                      99              10.11.92
255.00      C*                                                                      10.11.92
256.00      C*         Old Code:                                                    10.11.92
257.00      CSR           *LOVAL    SETLLI0101C                     99              10.11.92
253.00      a*                                                                      10.11.92
259.00      C*         New Code:                                                    10.11.92
260.00      CSR                     MOVIL'A61'      @@FMT                           10.11.92
261.00      CSR                     MOVfl'ABKY03'   @@KLST                          10.11.92
262.00      CSR                     MOVEL'SETLV'    @@OPER                          10.11.92
263.00      CSR                     CALL'XF0101'                                    10.11.92
264.00      C*                      ---- ------                                     10.11.92
265.00      CSR                     PARM            PS@@1                           10.11.92
266.00      CSR                     PARM            I0101                           10.11.92
267.00      CSR           @@I0R     COMP 'ERR'                      99              10.11.92
263.00      C*--------------------------------------------------------------------------10.11.92
269.00      C*                                                                      10.11.92
270.00      C*   1.1.12  Update:                                                    10.11.92
271.00      C*                                                                      10.11.92
272.00      C*         Old Code:                                                    10.11.92
273.00      CSR                     UPDATI0902A                     99              10.11.92
274.00      C*                                                                      10.11.92
275.00      C*         New Code:                                                    10.11.92
276.00      CSR                     MOVEL'A6l'      @@FMT                           10.11.92
277.00      CSR                     MDVEL'BBKY01'   @@KLST                          10.11.92
273.00      CSR                     MDVEL'UPDAT'    @@OPER                          10.11.92
279.00      CSR                     CALL 'XF0902'                                   10.11.92
230.00      C*                      ----  -------                                   10.11.92
231.00      CSR                     PARM            PS@@1                           10.11.92
232.00      CSR                     PARM            I0902                           10.11.92
233.00      CSR           @@1OR     COMP 'ERR'                      99              10.11.92
234.00      C*                                                                      10.11.92
235.00      C*         Old Code:                                                    10.11.92
236.00      C*                      Read...                                         10.11.92
237.00      C*                      Unlock...                                       10.11.92
233.00      C*                      Chain...                        82              10.11.92
239.00      C*                                                                      10.11.92
290.00      CSR                     UPDATI0902A                     99              10.11.92
291.00      C*                                                                      10.11.92
292.00      C*         New Code:                                                    10.11.92
293.00      C*                      Read with no lock...                            10.11.92
294.00      C*                                                                      10.11.92
295.00      CSR                     MOVEL'A61'      @@FMT                           10.11.92
296.00      CSR                     MOVEL'GBKY0l'   @@KLST                          10.11.92
297.00      CSR                     MOVEL'UPDTC'    @@OPER                          10.11.92
298.00      CSR                     Z-ADD4          @@KNUM                          10.11.92
299.00      CSR                     CALL 'XF0902'                                   10.11.92
300.00      C*                      ----  -------                                   10.11.92
301.00      CSR                     PARM            PS@@1                           10.11.92
302.00      CSR                     PARM            I0902                           10.11.92
303.00      CSR           @@IOR     COMP 'NF'                       82              10.11.92
304.00      CSR           @@IOR     COMP 'ERR'                      99              10.11.92
305.00      C*--------------------------------------------------------------------------10.11.92
306.00      C*                                                                      09.11.92
307.00      C*    1.1.13  Write:                                                   10.11.92
308.00      C*                                                                      09.11.92
309.00      C*         Old Code:                                                    09.11.92
310.00      CSR                     WRITEI0101K                     99              10.11.92
311.00      C*                                                                      09.11.92
312.00      C*         New Code:                                                    09.11.92
313.00      CSR                     MDVEL'A6l'      @@FMT                           10.11.92
314.00      CSR                     MDVIL'ABKY11'   @@KLST                          10.11.92
315.00      CSR                     MDVEL'WRITE'    @@OPER                          10.11.92
316.00      CSR                     CALL 'XF0101'                                   10.11.92
317.00      C*                      ---- --------                                   09.11.92
313.00      CSR                     PARM            PS@@1                           09.11.92
319.00      CSR                     PARM            I0101                           10.11.92
320.00      CSR           @@IOR     COMP 'ERR'                      99              10.11.92
321.00      C*--------------------------------------------------------------------------09.11.92
322.00      C*                                                                      09.11.92
323.00      C*   1.1.14  Unlock:                                                    10.11.92
324.00      C*                                                                      09.11.92
325.00      C*         Old Code:                                                    09.11.92
326.00      CSR                     EXCPTUNLOCK                                     10.11.92
327.00      C*                           :                                          10.11.92
328.00      OI0101A   E                UNLOCK                                       10.11.92
```

```
329.00      C*                                                                                09.11.92
330.00      C*         New Code:                                                              09.11.92
331.00      CSR                      MOVEL'A6l'       @@FMT                                 10.11.92
332.00      CSR                      MOVEL'ABKY0l'    @@KLST                                10.11.92
333.00      CSR                      MOVEL'UNLCK'     @@OPER                                10.11.92
334.00      CSR                      CALL 'XF0101'                                          09.11.92
335.00      C*                       ----  -------                                          09.11.92
336.00      CSR                      PARM             PS@@1                                 09.11.92
337.00      CSR                      PARN             I0101                                 10.11.92
338.00      CSR            @@IOR     COMP 'ERR'                       99                   10.11.92
339.00      C*-------------------------------------------------------------------------------09.11.92
340.00      C*                                                                               10.11.93
341.00      C*     2.1.1    X0903l:                                                          19.01.93
342.00      C*                                                                               19.01.93
343.00      CSR                      CALL 'X0903l'                                          19.01.93
344.00      C*                                                                               19.01.93
345.00      CSR                      PARM '2'         #CALC 1                               19.01.93
346.00      CSR                      PARM             #CO   5                                 19.01.93
347.00      CSR                      PARM             #DG   60                                19.01.93
348.00      CSR                      PARM             #PN   20                                19.01.93
349.00      CSR                      PARM             #FY   20                                19.01.93
350.00      CSR                      PARM             #CTY  20                                19.01.93
351.00      CSR                      PRAM             #EDT  1                                 19.01.93
352.00      CSR                      PARM '1'         #DGSY 1                                 19.01.93
353.00      C*                                                                               19.01.93
354.00      C*-------------------------------------------------------------------------------19.01.93
355.00      C*                                                                               19.01.93
356.00      C*     2.2.1  X0901:                                                            19.01.93
357.00      C*                                                                               19.01.93
358.00      CSR                      CALL 'X0901'                                           19.01.93
359.00      C*                       ----  -------                                          19.01.93
360.00      CSR                      PARM '1'         PSSYM  1                              19.01.93
361.00      CSR                      PARM RPAM        PSOMOD 1                              19.01.93
362.00      CSR                      PARM '1'         PSIMOD 1                              19.01.93
363.00      CSR                      PARM RPGLBA      PSANI 29                              19.01.93
364.00      CSR                      PARM *BLAMK      PSMCU 12                              19.01.93
365.00      CSR                      PARM *BLANK      PSOBJ  6                              19.01.93
366.00      CSR                      PARM *BLANK      PSSUB  8                              19.01.93
367.00      CSR                      PARM             PSERRM 4                              19.01.93
368.00      C*                                                                               19.01.93
369.00      C*-------------------------------------------------------------------------------19.01.93
370.00      C*                                                                               19.01.93
371.00      C*     2.3.1   X0006:                                                           19.01.93
372.00      C*                                                                               19.01.93
373.00      CSR                      CALL 'X0006'                                           19.01.93
374.00      C*                       ---- -------                                           19.01.93
375.00      CSR                      PARM 'I'         PSOMOD 1                output mode    19.01.93
376.00      CSR                      PARM             PSIMOD 1                input mode     19.01.93
377.00      CSR                      PARM SFMCU       PSMCU 12                cost center    19.01.93
373.00      CSR                      PARM             PSERRM 4                error flag     19.01.93
379.00      CSR                      PARM             I0006                   F0006 record   19.01.93
380.00      C*                                                                               19.01.93
381.00      C*-------------------------------------------------------------------------------19.01.93
```

Commonly Used File Servers

The following is a list of commonly used file servers:

File Server	Description	Notes
X0005	User Defined Codes Server	Retrieve Only
X0006	Retrieve Cost Center Master	Retrieve & Scrub
XF0006	Cost Center I/O	Add/Change/Delete
X0010	Automatic Next Numbering	Retrieve & Increment
X9203	DD Alpha Description	Retrieve Only
X9800E	Data Dictionary Info	Editing Info
XF0101	Address Book I/O	Add/Change/Delete
XS0101LA	Address Book	Retrieve Only
X0901	Account Master	Retrieve & Formats
XF0901	Account Master I/O	Add/Change/Delete
X41LOCN	Location Format	
X41LOT	Lot Number Assignment	
X41DUP	Lot Master Duplicate	Edits
X4101	Item Master	Retrieve & Edit
X4108	Lot Master Update	Creates & Updates
X4111	Write to Item Ledger	Writes Only
XF4111	CARDEX I/O	Retrieve Only
XF42119	Sales History I/O	Add/Change/Delete
XF42199	Sales Detail Ledger I/O	Add/Change/Delete
XF43199	Purchasing History I/O	Add/Change/Delete

Functional Servers

About Functional Servers

A functional server allows you to enhance the processing and maintenance of your application programs. Functional servers provide a central location for standard business rules about entering documents, such as vouchers, invoices, and journal entries. These business rules establish the following:

- Data Dictionary default values
- Field edits and valid values
- Error processing
- Relationships between fields or applications

To work with functional servers you should understand:

- What functional servers are
- What the advantages of using them are
- How to set up the business rules
- How they function

What Are Functional Servers?

A functional server is a server that performs all transaction validation and database updates.

This type of server is designed to relieve application programs from the burden of performing edit and update operations. This functionality is removed from the application program and placed into a server.

A functional server is a called program. The application program calling the server must tell the server what action is to be performed for every transaction. In turn, the functional server will return error messages, record error flags, and record update flags to the application program to use when determining the result of a call to a server.

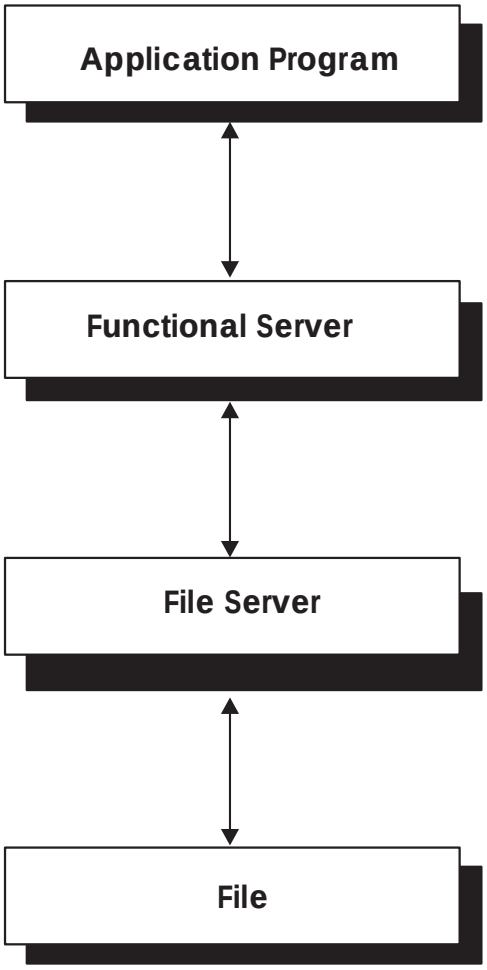
Functional Servers have the following naming convention:

XT (file name) (server version)

For example: The function server for the F0411 file should appear as:

XT0411Z1

The following diagram depicts the flow of a typical program using a functional server:



What Are the Advantages of Using a Functional Server?

The following is a list of advantages in using a functional server:

- Minimizes maintenance and versioning of your software.
- Data editing routines and actual file updates can be isolated.
- Provide greater flexibility. Multiple programs can use the same functional server.
- The transition from an old database to a new database will be smoother. Instead of applying all new programs, you will only have to apply a new set of functional servers.
- Ability to implement one functional server at a time without affecting the rest of your system.

What Are the Disadvantages of Using a Functional Server?

The following is a list of disadvantages in using a functional server:

- A functional server is minutely slower because you are performing an external call to the server from your program.
- Functional server programs tend to be large.

Setting Up Business Rules for an Entry Program

▶ To set up business rules for an entry program

1. Create a DREAM Writer version for a specific functional server program (for example, XT0411Z1 for voucher entry).
2. Set the processing options within the version according to your company requirements.
3. Specify the version you want the entry program to use in the processing options for that entry program.

You can have all your entry programs use the same DREAM Writer version (and thus, use the same rules) or you can set up different DREAM Writer versions. J.D. Edwards provides DREAM Writer version ZJDE0001 as the default functional server version for your entry programs.

Only the person responsible for system-wide setup should make changes to the functional server version. For more information about how to set up DREAM Writer versions, see the *Technical Foundation Guide.*

How Does a Functional Server Function?

When a functional server is called, an entire transaction is processed.

- Generally, once a functional server is called, it will receive the data entered by you and load it into a user space.
- It will then perform its functionality on the data.
- Finally, it will return the requested data back to the calling program via the user space. If any errors occur, they will be loaded into a user index.

Three interfaces are used to communicate with the functional server. They are:

- The call parameters
- The control fields within each user space line

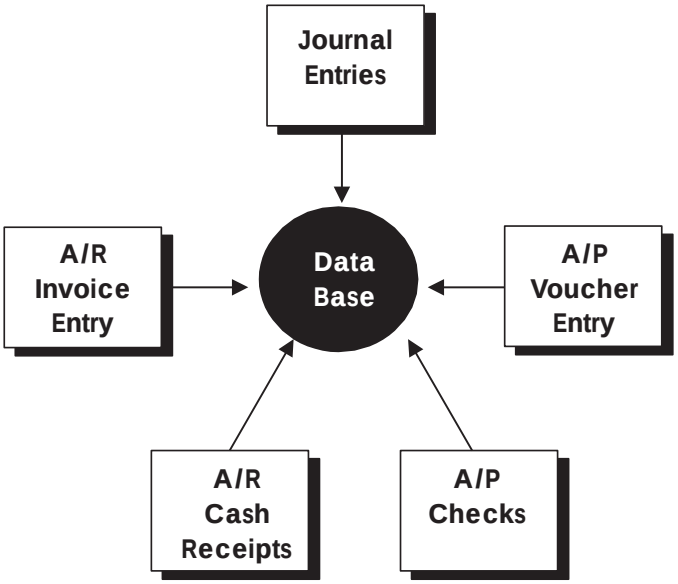
- The error index

Functional Server Highlights

The following is a list of highlights of a functional server:

- Provides all editing for a transaction
- Provides field default values
- Provides all database updates
- Performs inquiry for an entire transaction
- Runs interactively or in batch
- Supports a multitude of user interfaces

Basic Accounting Transactions



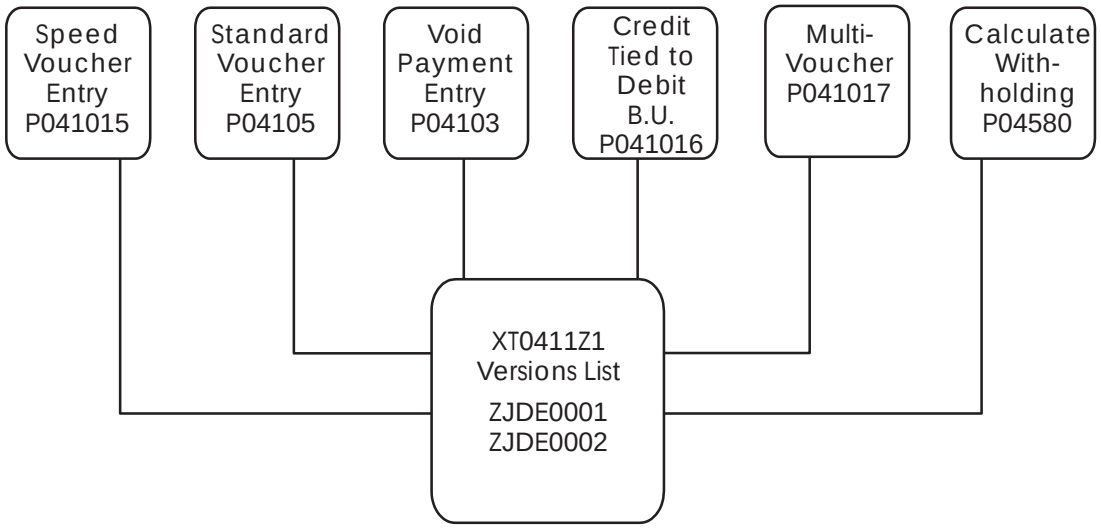
In the Financial System there are five basic transactions:

- Journal Entries
- A/P Voucher Entry
- A/P Checks
- A/R Invoice Entry
- A/R Cash Receipts

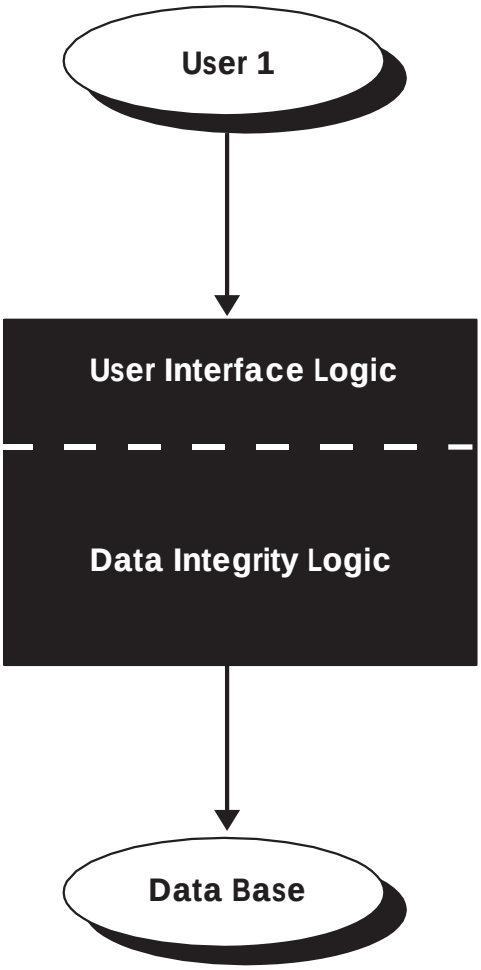
J.D. Edwards uses one program for each part or transaction of the system.

Example: Voucher Processing Functional Server

The following graphic shows the programs that use the voucher processing functional server. J.D. Edwards provides two demo versions of the functional server, ZJDE0001 and ZJDE0002.



Program Example – Traditional Architecture



Each program contains both the User Interface Logic and the Data Integrity Logic. You would access this one program to interface with the database.

User Interface Logic

The following are aspects of the user interface logic:

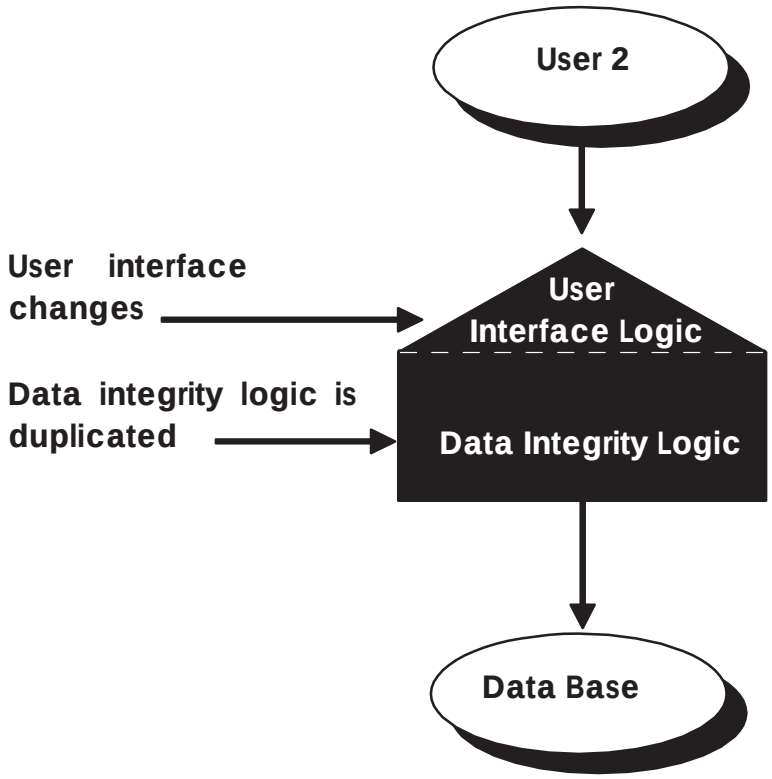
- Screen format
- Skip to and section
- Fill screen
- Field formatting
- Help functions
- Error message display
- Touch and feel

Data Integrity Logic

The following are aspects of the data integrity logic:

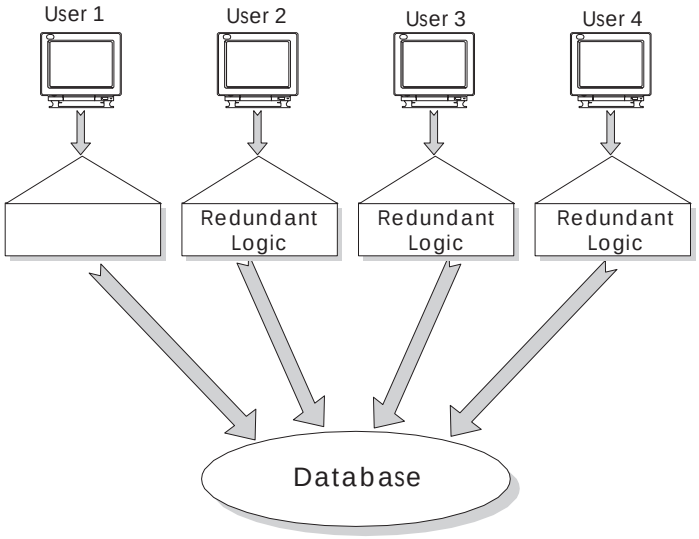
- Field editing
- Multi–field editing
- Transaction editing
- Default logic
- Error message selection
- Tax processing
- Currency processing
- Database update

Example – Traditional Architecture . . .
. . . Alternative Method of Entry



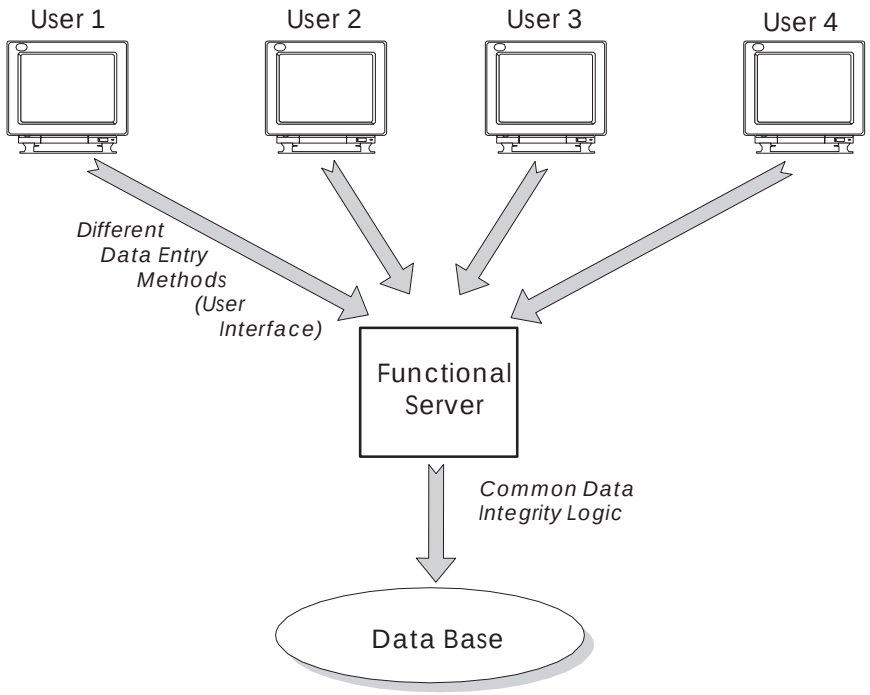
If a user wanted the screen to look different, the User Interface Logic would have to change. The Data Integrity Logic remained the same as it was duplicated.

Example – Traditional Architecture . . .
. . . Various Entry Methods



Several users each wanted their own User Integrity logic. The Data Integrity Logic remained the same and was duplicated too many times.

Example – JDE Open Application Architecture . . .
. . . Various Entry Methods

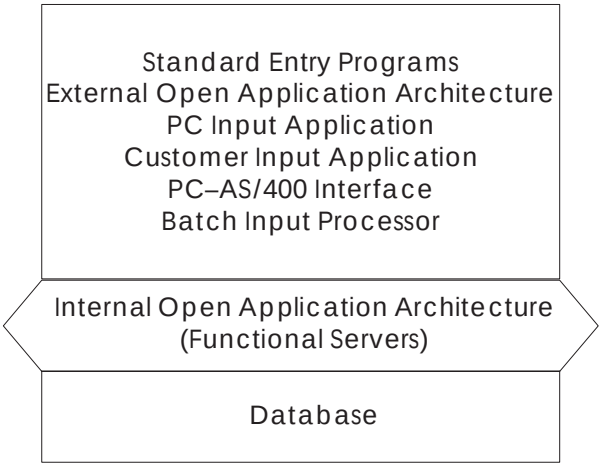


The creation of a Functional Server allows you to maintain the Data Integrity Logic in one common program. The Functional Server becomes separated from each User Integrity Logic program. All of the User Integrity Logic programs access one Functional Server to interface with the database. This concept is called an Open Application Architecture.

Open Application Architecture

In the Open Application Architecture, the database is separated from each User Integrity Logic program by the Functional Server. The advantages of the Open Application Architecture are:

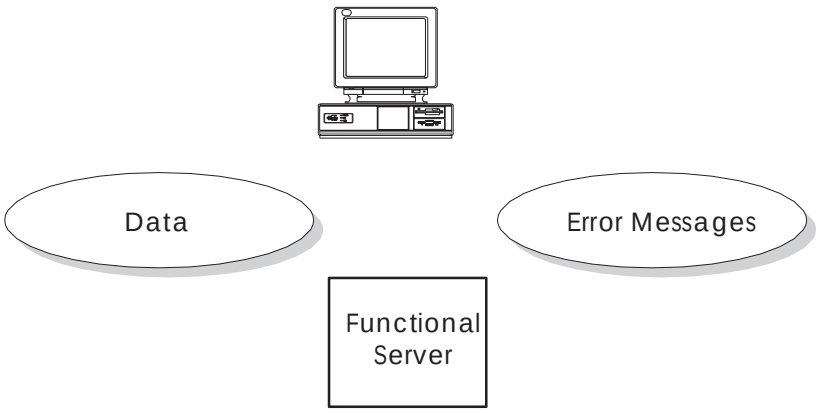
- Automatic Consistency
- Reduced Maintenance Burden
- Stability of Custom Code
- Separation of Development Efforts
- Performance Enhancements



Functional Server Interface

A Functional Server must handle two basic components:

- Data
- Error messages



Functional Server Transaction Data

Arithmetic:

1) Full transaction passed to server at one time

2) A single transaction can have more than 1,000 lines

3) Each line from 500 to 1,000 characters long

= A lot of space

Story Problem:

How can program A pass program B a one thousand line transaction without using a 1–meg parameter?

Functional Server Error Messages

Arithmetic:

1) Each field can have an error

2) Each line can have 150 or more fields

3) Each transaction can have hundreds of lines

= A lot of space

Story Problem:

How can program A pass program B a one thousand line transaction without using a 1–meg parameter?

Answers

#1. User Space

#2 User Index

Functional Server Interface

A Functional Server can interact with a User Space and a User Index by passing and receiving parameters.

Functional Server Parameters

Single data structure defined in /COPY module

Two sections: fixed and application specific

- Fixed parameters
  - Action code (edit, update, inquire)
  - Number of lines in transactions
  - DREAM Writer version of Functional Server
- Application specific parameters
  - Contains header information for a transaction
  - Document number of transaction
  - Total amount of transaction
  - Batch number of transaction

Functional Server User Space

Single data structure defined in /COPY module

- One big data area
- Maximum of 16 meg
- Beginning 100 bytes of user space reserved
- Data portion of user space contains formatted lines
  - User space lines defined by /COPY module
  - Each line contains three sections

    Control section

    Application specific section

    Record format section

Functional Server User Index

Single data structure defined in /COPY module

- One big keyed data area
- Used to pass error messages back to application
- User index entry defined using a /COPY module
- Each user index entry contains two sections
  - Key

    Application ID

    Line number (assigned by application program)

    Data item in error

    Error code

  - Data - value of erroneous data

Functional Server /COPY Modules

Repository for all user space and user index formats

- All User Space and User Index formats contained in /COPY modules
- All database record formats contained in /COPY modules
- /COPY module I00FS@@ contains generic data structures and constants
- Each Functional Server has its own I00FSxx /COPY module to define application specific data structures

Creating User Space and User Index

When you create user space and user index formats, use the following tools:

- OS/400 APIs
- X00991
  - Called once for each Functional Server an application program intends to use
  - Creates user space and user index for each Functional Server
  - Returns name and library where user space exists
  - Returns the length each user space line should be

Accessing the User Space

- Writing to the user space X98CHGUS
  - J.D. Edwards version of QUSCHGUS API
  - Updates a user space beginning at offset x for length
  - Similar to CHGDTAARA command
- Reading from the user space QUSRTVUS
  - API
  - Retrieves data from a user space beginning at offset x for length
  - Similar to RTVDTAARA command
- Application responsibilities
  - Remember number of lines written to user space
  - Increment user space offset

Accessing the User Index

- User Index written to by Functional Server
- Reading from the User Index
  - C00RIX/COPY module reads the User Index
  - C00RIX returns formatted error message defined by /COPY module
  - First execution of C00RIX reads first entry in User Index
  - Subsequent executions of C00RIX do read nexts
  - Uses X00IDX under the covers
- Application responsibilities
  - Remember the value of your Application ID (typically program name)
  - Set flag for initial read of User Index by C00RIX
  - Use the data item name and line number in error to set on screen indicators

Interactive Program Cycle Using a Functional Server

- Mainline - no change
- S001 - no change
- S003
  - No change for add, change, or delete
  - Call Functional Server to perform an inquiry
- S004 – Retrieve records from User Space for display on screen
- S005:
  - Application program performs “scrubs” only
  - Write data records to User Space
  - Call Functional Server to perform edits
  - Read each line from User Space to redisplay defaulted information
  - Execute C00RIX to determine each data item in error so that screen error indicators may be set ON
- S010 – call Functional Server to perform an update

The Call Parameters for the Functional Server

The call parameters provide commands to the functional server which apply to all transaction lines in the input user space.

PARM (Length)	Explanation
#PFUNC (1)	Specifies a function code. The valid values are: 0 Edit and Update 1 Edit only 2 Update only I Inquire
#PVERS (3) (10 as of A6)	The DREAM Writer version number you are executing. This parameter uses the version number to retrieve processing options for the server. The default version number will be 001. This allows global processing options to be set at the server level, instead of for each program.
#PSPCN (20)	The name of the user space which the program has used. The user space contains the modified database records. Characters 1–10 contain the space name, and characters 11–20 contain the library name.
#PSPCB (9,0)	The byte position within the user space where the application data begins. Characters in the space prior to this position contain header information used by the functional server.
#PNBRL (5,0)	The number of lines in the input user space which the application program has loaded. When inquiring, this contains the number of lines output to the user space.
#PWARN (1)	This parameter contains a code explaining how you want warnings to be handled. The valid values are: 0 Normal warning processing 1 Treat warnings as errors 2 Ignore warnings
#PCYCL (1)	This parameter is only used if the #PWARN parameter specifies normal warning processing. The valid values are: 0 No cycle, all cycle processing ignored 1 First cycle, all warning messages are sent to the program 2 Second cycle, only warning messages not previously sent are sent to the program
#PDFTC (1)	Specifies how you want field values to be defaulted. 0 will default field values for add lines only and 1 will default field values for change or add lines.
#PXATP (3)	The application specific transaction type.

PARM (Length)	Explanation
#PLVL (1)	The transaction level. 0 implies that each detail record to be updated or added has been sent in the input user space. 1 applies only to changes or deletions because only one record is sent in the input user space and the server will change or delete all other records for that transaction.
#PPROG (10)	The name of the calling program. This is used by the server to update the program name field in the updated database records.
#PAPPL (10)	The application ID value used for writing entries to the error index. Generally, this may be the same value as the calling program.
#PFLDS (4,0)	The number of fields which have been loaded to the Field Names Array parameter.
#PFMT (10)	The record format identifier the application program has used. This is used for versioning, allowing the database to change without the need for recompiling the application program.
#PEDIT (1)	Indicates the overall result of edits performed against all transaction lines. 0 implies that the edits went OK, 1 means there were some warnings, 2 is errors occurred.
#PUPDT (5,0)	The number of database updates which occurred. This will allow the program to know whether any updates actually occurred.
#PERR (4)	Specifies any errors that occurred within the server. A non–blank value indicates a fatal error occurred.
#PFERR (4)	Contains the first error message found during editing.
#PFDTA (4)	Contains the data item of the first field which had an error during editing.
#P#MDE (1)	For currency translations, this contains the mode of entry. If this value is passed as blank, the server will output the default mode of entry.
#PCRCD (3)	For currency translations, this contains the currency code of entry. If this value is passed as blank, the server will output the default currency code.
#PCRR (15,7)	For currency translations, this contains the currency exchange rate of entry. If this value is passed as zero, the server will output the default currency rate.
#PIDXN (20)	The name of the user index which the functional server will use to return error messages to the program. Characters 1–10 contain the index name, and characters 11–20 contain the library name.
#PSPCL (5,0)	The total length of each user space record. This includes both the user space control fields and the database record format.

PARM (Length)	Explanation
#0SPSPEC (100)	This is a data structure which is redefined by each server. Generally, this will contain the key fields which a specific server uses.
VariableVary	An array of field names which the program has used. Only fields in this array will be updated in the database. If the first element contains *ALL, then all fields will be used. The number of field names parameter should contain the number of entries loaded into this array.

Control Fields within the User Space

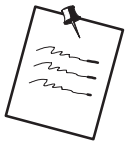
The input user space can contain multiple lines for each control field.

PARM (Length)	Explanation
#SPCAC (1)	The line action code. The valid values are: A Add the record D Delete the record C Change the record U Change the record if it already exists, otherwise add the record V Void the record
#SPCID (15,0)	Used by the program to uniquely identify each line in the user space. (optional)
#SPCER (1)	The line error code. X = the line is OK 1 = some warnings 2 = errors.
#SPCUP (1)	The line update code. 0 = the line was not updated 1 = updated.
#SPCRR (9,0)	Contains the database relative record number which corresponds to this user space record. For adds, this is only loaded following an update operation. For changes and deletes, this is updated following an edit operation.
#SPCMN (2,0)	Contains the database physical file member number which corresponds to this user space record. For adds, this is only loaded following an update operation. For changes and deletes, this is updated following an edit operation.
#SPCPG (12)	Allows the program to store up to 12 bytes of information with each user space record.
#SPCAP (100)	Any application specific information which must be passed to the server for each transaction line, but is not contained within the transaction record format.
VariableVary	Externally described record format for the transaction record.

Error Message Index Line (C00RIX)

The output error message index contains warning and error messages issued for each line in the user space. The structure of the message index line is as follows:

Field (Length)	Explanation
#IDXAP (10)	The application identifier from the input parameter. Allows a program to access only its error messages.
#IDXID (15,0)	The line identifier from the input user space.
#IDXFN (10)	The data item portion of the field name.
#IDXER (4)	Contains the data dictionary error message code.
#IDXMD (88)	Contains the error message substitution data. Generally, this is the value of the field which caused the error.



Interactive programs using a functional server must include a call to P0000EX (in addition to P0000E) in S00EX when the F7 (Display Errors) key is pressed. P0000EX will retrieve and display the error messages contained in the Error Message Index (C00RIX).

Example – Functional Server Program Sections

```
E*********************************************
E*    Copy Composite Member for Functional Server
E*
E/COPY JDECPY,E00FS@@
E*********************************************
```

Copy module containing generic data structures for functional server.

```
I/COPY JDECPY,I00XFSRV
```

Contains control parameter list for file servers

```
I/COPY JDECPY,I010161
```

Contains record image of F0101 version A6.1 for file servers.

```
CLEARPS@@
MOVEL$SVCO     KY@@
CALL 'XS0010'                81
---- --------
PARM           PS@@
PARM           DS0010
```

Call to file server XS0010 to retrieve company currency code.

```
*IN81     IFEQ '0'
RT@@      ANDEQ' '
          MOVE *BLANKS   PS@@
          MOVELCCCRCD    KY@@
          CALL 'XS0013'                81
          ---- --------
          PARM           PS@@
DS0013    PARM DS0013    PS0013
RT@@      IFNE 'N'
CVCDEC    ANDNE*BLANK
          MOVE CVCDEC    $CDO
          ENDIF
          ENDIF
```

Call to file server XS0013 to retrieve display decimals.

```
          MOVEL'A61'     @@FMT
          MOVEL'ABKY01'  @@KLST
          MOVEL'CHAIN'   @@OPER
          MOVE 'Y'       @@LOCK
          Z-ADD1         @@KNUM
          CALL 'XF0101'
          ---- --------
          PARM           PS@@1
          PARM           I0101
@@IOR     COMP 'NF'                    81
```

Call to file server XF0101 to retrieve record

```
*IN81     IFEQ '0'
          ADD  $#FC       ABAFCY
          MOVEL'A61'      @@FMT
          MOVEL'ABKY01'   @@KLST
          MOVEL'UPDAT'    @@OPER
          CALL 'XF0101'
          ---- --------
          PARM            PS@@1
          PARM            I0101
@@IOR     COMP 'ERR'                    98
```

Call to file server XF0101 to update record

```
Load AR Specific Parameters

                MOVE #GLDCT    #ARDCT
                MOVE $SVKCO    #ARKCO
                Z-ADD#GLDOC    #ARDOC
                Z-ADD#GLICU    #ARICU
                MOVE #GLICT    #ARICT
                MOVE *BLANK    #ARSPL

Load functional server parms for edit/update.

                MOVEL#XIDXN    #PIDXN          index name
                MOVEL#SPAR     #PSPEC          applicatio
                MOVE ##EDUP    #PFUNC          function
                MOVEL$#311     #PVERS          DW version
                Z-ADD1         #PNBRL          number of lines
                Z-ADD$#ARBG    #PSPCB          space offset
                MOVE ##IGNW    #PWARN          warning handler
                MOVE ##OFF     #PLVL           detail level
                MOVE ##OFF     #PDFTC          default on chg
                MOVE ##PROG    #PPROG          program name
                MOVE 'INV'     #PXATP          type
                MOVE #ARSN     #PSPCN          space name
                Z-ADD#ARSL     #PSPCL          space length
                Z-ADD$@AR      #PFLDS          number of field
                MOVE *BLANKS   #PFMT
                MOVE ##AR1     #PFMT           format name

                CALL 'XT0311Z1'            81
                ---- --------
                PARM           #PPARM
                PARM           @ARN
```

Call functional server XT0311Z1

```
User space description
                MOVEL#SUGL      #SSPCD
Current user space offset

                Z-ADD$#GLBG     #SPCOF
Set update flag
                MOVE ##OFF      #SPCUP
General Ledger record
                MOVEAGL01       @#SSPC
Application specific line data
                MOVEL#SSGL      #SPCAP
Write record to user space
                CALL 'X98CHGUS'#PCHUS       81
                ENDIF                           ##edit
```

Write records to user space for functional server.

```
Load G/L Functional Server Specific Parameters

                MOVE *ZERO      #GLDOC          One-to-One Rel
                MOVE 'RF'       #GLDCT          Document Type
                MOVE $SVKCO     #GLKCO          Document Co.
                Z-ADD$GLDG      #GLDG           G/L Date
                Z-ADD$GLDG#     #GLDG#          G/L Date
      $FICU     IFEQ ' '
                Z-ADD*ZERO      #GLICU          Batch Number
                ELSE
                Z-ADD$ICU       #GLICU          Batch Number
                ENDIF
                MOVE 'I'        #GLICT          Batch Type
                MOVE $SVCO      #GLCO           Company
                MOVE *BLANKS    #GLMOD          Add a Model
                MOVE *BLANKS    #GLIMD          Change a Model
                MOVE *BLANKS    #GLRDI          Redistribute JE
                MOVE #ARSN      #GLCSN          A/R Spc Name
                MOVE ##AR1      #GLCFM          A/R Spc Fmt
                MOVE #ARSL      #GLCLN          A/R Spc Length
                MOVE ##OFF      #GLCDG
                MOVE *ZERO      #GLCD
                MOVE ##ON       #GLONE          One-to-One Rel

------------------------------------------------------------

Call functional server - XT0911Z1 -  Edit and Update
---------------------------------

Load functional server parms for edit and update

                MOVE $GACTN     #PFUNC          Action Code
                MOVEL$#911      #PVERS          DW version
                MOVE #GLSN      #PSPCN          space name
                Z-ADD$#GLBG     #PSPCB          space offset
                Z-ADD1          #PNBRL          number of lines
                MOVE ##IGNW     #PWARN          warning handler
                Z-ADD*ZERO      #PCRR           Exchange Rate
                MOVE ##OFF      #PCYCL          cycle       nes
                MOVE ##OFF      #PDFTC          default on chg
                MOVE 'INV'      #PXATP          type
                MOVE ##OFF      #PLVL           detail level
                MOVE ##PROG     #PPROG          program name
                Z-ADD$@GL       #PFLDS          number of field
                MOVE *BLANKS    #PFMT
                MOVEL##GL1      #PFMT           format name
                MOVE *BLANKS    #P#MDE          mode of entry
                MOVE *BLANKS    #PCRCD          currency code
                MOVE *BLANKS    #PCRR           exchange rate
                MOVEL#XIDXN     #PIDXN          index name
                Z-ADD#GLSL      #PSPCL          space length
                MOVEL#SPGL      #PSPEC          application par

                CALL 'XT0911Z1'             81
                ---- --------
                PARM            #PPARM
                PARM            @GLN
```

Call functional server XT0911Z1

```
  User space description

                MOVEL#SUAR      #SSPCD

  Current user space offset

                Z-ADD$#ARBG     #SPCOF

  Read record from user space

                CALL 'QUSRTVUS'#PRTUS       81
                ---- ----------
```

Retrieve record from user space.

```
Create Functional Server Objects for XT0311Z1

                CLEAR#PCRT
                MOVE ##AD       #PCRTF
                MOVE *BLANK     #PCRTN
                MOVEL'XT0311Z1'#PCRTN

                CALL 'X00991  '             81
                                      ----  ----------
          -
                PARM            #PCRT
```

Create user space and user index for XT0311Z1.

```
Create Functional Server Objects for XT0911Z1

                CLEAR#PCRT
                MOVE ##AD       #PCRTF
                MOVE *BLANK     #PCRTN
                MOVEL'XT0911Z1'#PCRTN

                CALL 'X00991  '             81
                                      ----  ----------
          -
                PARM            #PCRT
```

Create user space and use index for XT0911Z1.

Available Functional Servers

Funct. Server	Description	Notes
XT0006Z1	Cost Center Master	
XT0101Z1	Address Book	
XT0311Z1	Accounts Receivable	
XT0311Z1E	Accounts Receivable	User Exit
XT0411Z1	Accounts Payable	
XT0411Z1E	Accounts Payable	User Exit
XT0411Z2	Accounts Payable Check	
XT06116Z1	Payroll Time Entry	
XT0901Z1	Account Master	
XT0911Z1	Journal Entry	
XT0911Z1E	Journal Entry	User Exit
XT4102Z1	Item Balance	

Exercises

See the exercises for this chapter.

Source Debugger

About Source Debugger

There are two types of programs that can be executed under the J.D. Edwards Source Debugger - interactive and batch. The only difference when running the Source Debugger on an interactive program compared to a batch program is the initial execution statements. Once the Source Debugger has begun, all of the features are the same for both interactive and batch programs.

The J.D. Edwards Source Debugger is a tool designed to help you determine where a bug exists in your program. You can apply the Source Debugger to any program, whether it is in production or development. Since the Source Debugger displays source code, you must have the source code installed on your machine.

The source code you see while running the Source Debugger is displayed in SEU Browse mode, so you can not change a line within the program. However, you may display or change the value of any field, variable, or indicator within the program. In addition, you can add or remove a breakpoint anywhere in the program.

Before You Begin

❑ If you are not accessing the J.D. Edwards training machine, you must recompile programs into your student object library or your client object library, CLTOBJ or DEVOBJ before executing JDEDBG.

- This ensures that the program is observable and therefore, accessible to the Source Debugger.

❑ If you are accessing the J.D. Edwards training machine, you may execute the JDEDBG command on any of the following programs: P92801, J928401, and P928401. You can also recompile any desired program in JDFOBJ to run in the Source Debugger.

Using Debugger with an Interactive Program

The program can exist in your production environment, your development environment, or both. To use Debugger complete the following tasks:

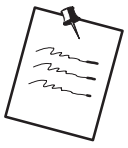
- Determine the program environment
- Initiate the J.D. Edwards Source Debugger
- Execute the program being debugged

▶ To determine the program environment

1. From the Computer Assisted Design menu (G92), select Software Versions Repository.

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  P01051
Description. . .  Address Book Information
Function Code. .  RPG   RPG Programs
Function Use . .  111     File Maintenance
System Code. . .  01    Address Book
Reporting System  01    Address Book
Base Member Name  P01051____                File Prefix. . .
Maint/RSTDSP . .  _     Omit Option. . .  _   Generation Sev .
Copy Data (Y/N).  N   Optional File. .  N   Common File. . .  N
                  DREAM Writer Form Exists
O  Source      Object      Source       SAR     Version     S D     User       Date
P  Library     Library     File         Number    ID        C P      ID      Modified
__ JDFSRC71    JDFOBJ71    JDESRC       678866  A71         1 _ DM904413    07/20/95
__ ____________ ____________ __________ ________ __________ _ _
__ ____________ ____________ __________ ________ __________ _ _
__ ____________ ____________ __________ ________ __________ _
__ ____________ ____________ __________ ________ __________ _
__ ____________ ____________ __________ ________ __________ _
__ ____________ ____________ __________ ________ __________ _
__ ____________ ____________ __________ ________ __________ _

  Opt:  1=Browse 2=Edit 3=Copy 5=SAR 8=Print 9=Dlt 10=Design 14=Crt  F24=More
```

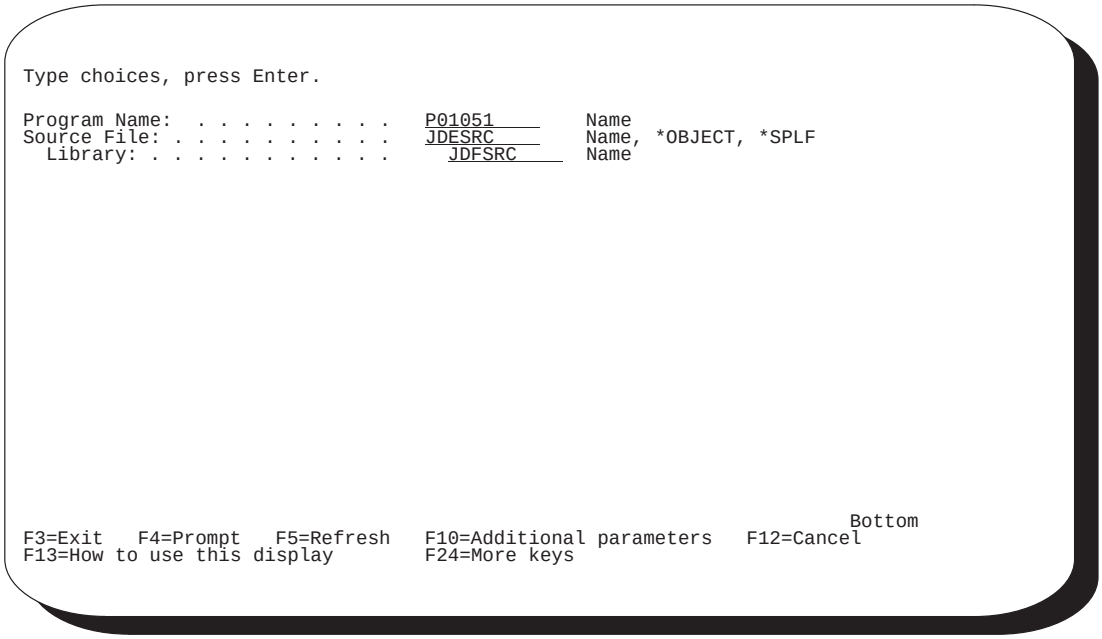
2. Locate the program on which you want to run the Source Debugger, to determine in what environments the program exists.



If the program exists in several environments (production and development), you must determine against which program environment to run the Source Debugger.

To initiate the J.D. Edwards Source Debugger

1. Type the J.D. Edwards debug command (JDEDBG) and press F4.



Field	Description
Program Name	Type your program name
Source File	Type the file name that contains the source code of your program. Generally, this is JDESRC.
Library	Type the name of the library that contains the source file. Generally, this is JDFSRC for your production environment or DEVSRC for your development environment.

2. Enter the correct values in the proper fields and press Enter to start the Source Debugger.

   - Now, any time the program being debugged is executed, the source code will display in debug mode, until you end the Source Debugger.

To execute the program being debugged

Because it is an interactive program, you can either call the program from a command line or select the menu option that will execute the program.

- Call program name ("parameters")
- Selection/Menu

  After you have executed the program, the first thing you will see is the program source code.

```
3701                          JDE Visual Debug         JDESRC     JDFSRC
Scan:                                                             P01051
     Current Breakpoint:  /0001
01.00       H/TITLE P01051    - Address Book - Who's Who
02.00       H* ------------------------------------------------------------
03.00       H*
04.00       H*    Copyright (c) 1985,1986
05.00       H*    J. D. Edwards & Company
06.00       H*
07.00       H*        This unpublished material is proprietary to
08.00       H*        J. D. Edwards & Company.  All rights reserved.
09.00       H*        The methods and techniques described herein are
10.00       H*        considered trade secrets and/or confidential.
11.00       H*        Reproduction or distribution, in whole or in part,
12.00       H*        is forbidden except by express written permission
13.00       H*        of J. D. Edwards & Company.
14.00       H*
15.00       H* ------------------------------------------------------------
16.00       H*
17.00       F*
18.00       F*    PROGRAM REVISION LOG

  F2=JDE Command Line  F5=ADDBKP  F6=ADDBKP w/prompt  F7=DSPPGMVAR
  F8=CHGPGMVAR  F13=Display Indicators  F16/15=Scan Fwd/Bkwd  F24=More
```

The source code is displayed in browse mode, so you cannot edit or change any code.

Using Debugger with a Batch Program

The program may exist in your production environment, your development environment, or both.

To use Debugger with a batch program you should complete the following tasks:

- Determine the program environment
- Initiate the J.D. Edwards Source Debugger
- Execute the program
- Set the break point
- Continue execution

▶ To determine the program environment

This step is the same as the first one for an interactive program.

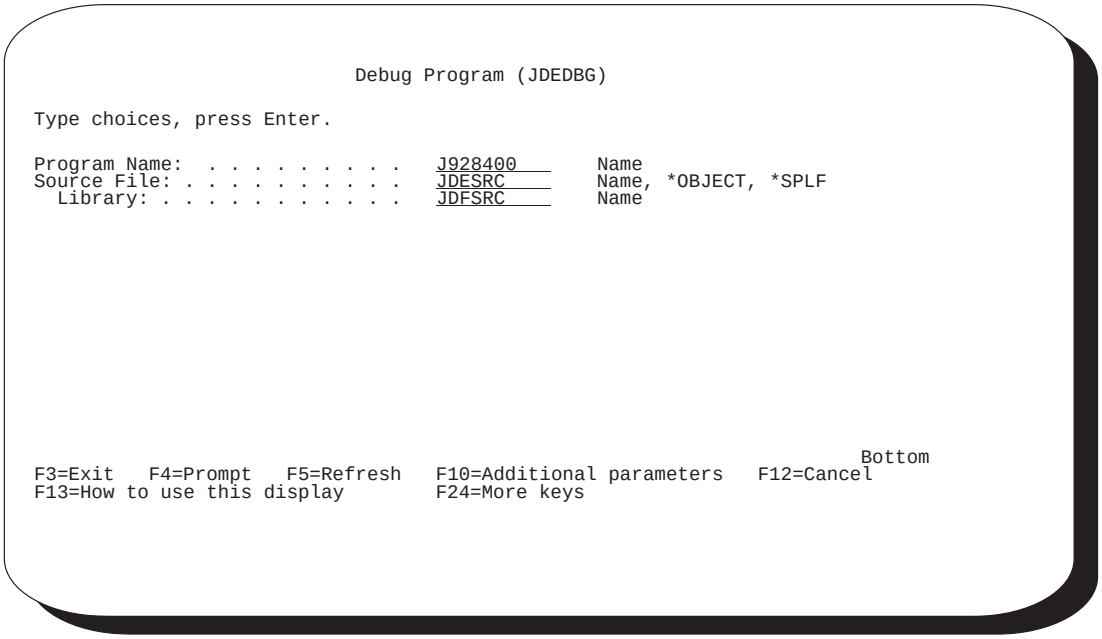
1. Go to the Software Versions Repository and inquire on your program, to determine against which environment the Source Debugger will be run.

▶ To initiate the J.D. Edwards Source Debugger

This step is similar to debugging an interactive program. The difference is that you must enter the debug command twice**.**

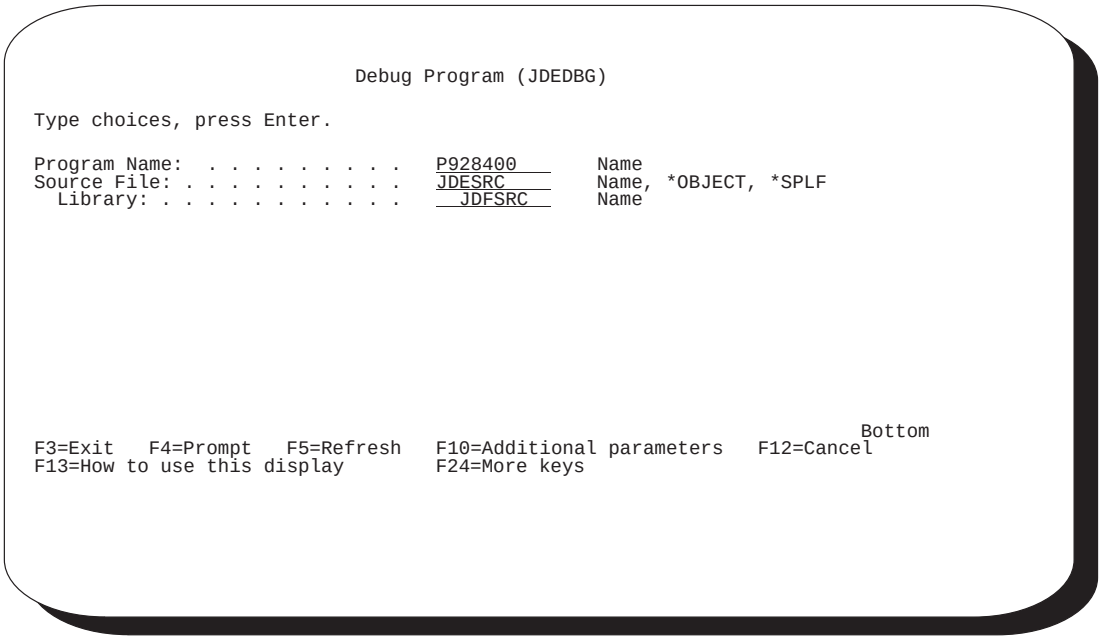
The first time you initiate J.D. Edwards Source Debugger (JDEDBG - F4), the Program Name will be the CL Program.

1. Enter the correct values in the proper fields on the Debug Program form and press Enter.



2. Enter the J.D. Edwards Source Debugger command (JDEDBG - F4) again, but this time change the Program Name to the RPG Program Name.

   - The reason for this is, you cannot run the Source Debugger on a program that is submitted and executed in a subsystem. You must "trick" the Source Debugger into thinking that your batch program is actually an interactive program.

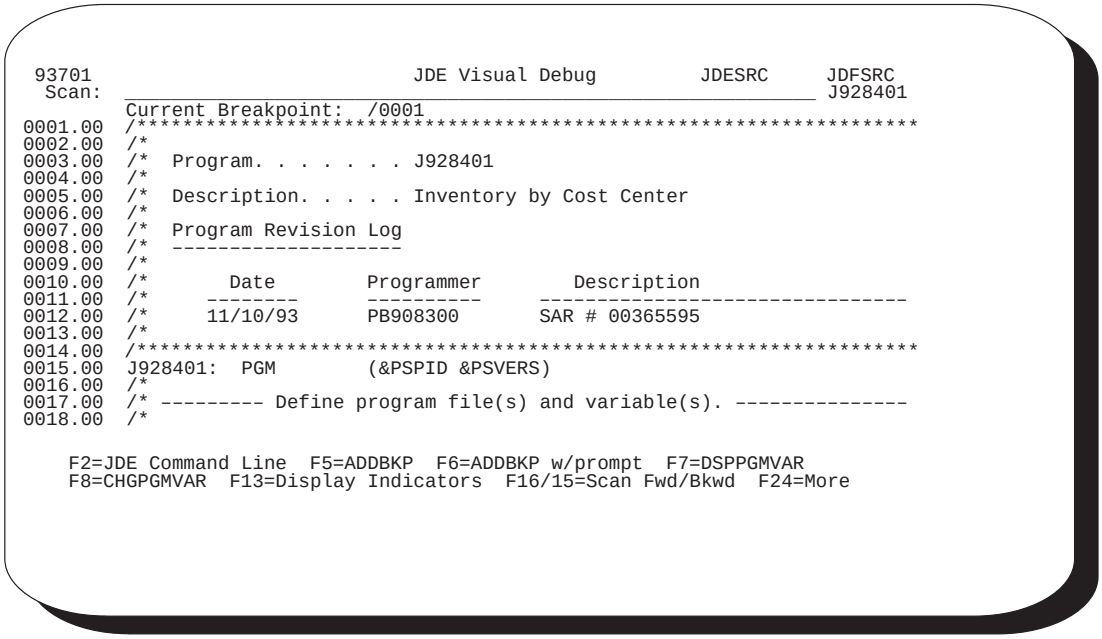


To execute the program

Since you are executing a batch program interactively, you must call the CL Program from a command line.

call CL program (“program name” “version”)

The CL Program source code appears.

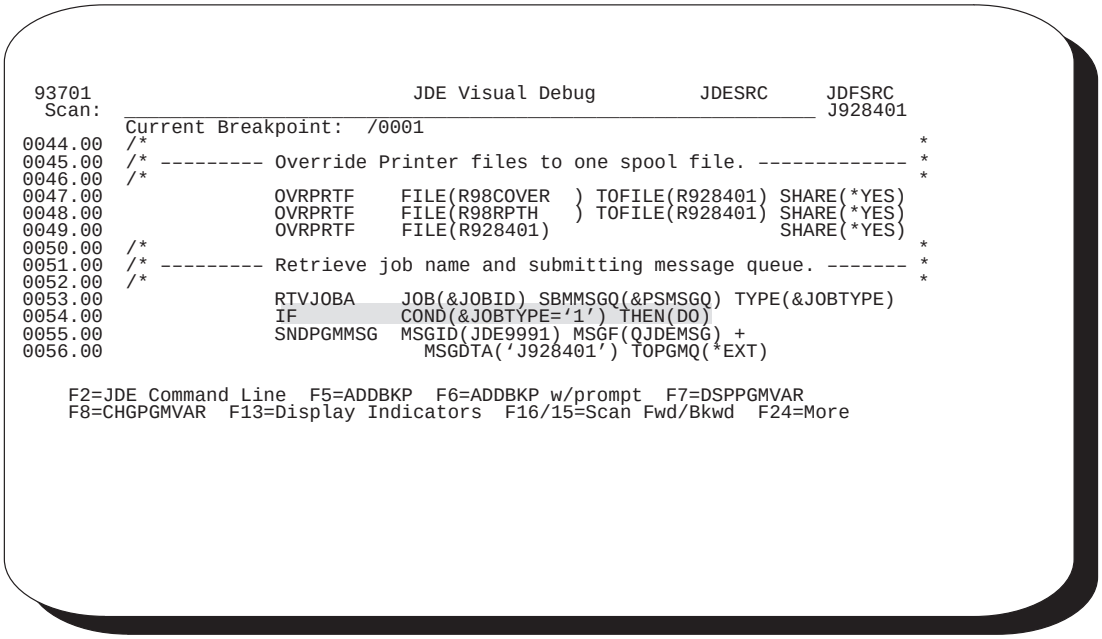


The source code is displayed in browse mode, so you cannot edit or change any code.

To set the break point

Set a break point on the line testing the job type in order to change a variable in the CL. The variable &JOBTYPE normally edits against a batch program being executed by calling it from a command line.

1. Find the line of code that contains the variable &JOBTYPE.



2. Press F5 anywhere on the line containing &JOBTYPE to set the breakpoint.
   - The line is highlighted, indicating that a breakpoint has been set on that line.

To continue execution

1. Allow your program to continue executing. Press F3 to continue to a breakpoint.
   - The line on which you set the breakpoint will display in reverse image. This indicates that the program has reached this point in the CL program and is ready to execute this line.
   - You must change the value of &JOBTYPE to something other than 1, and other than the value specified in the CL program.
2. To change the value of &JOBTYPE, press F8 to access the Change Program Variable form.

```
                    Change Program Variable (CHGPGMVAR)

Type choices, press Enter.

Program variables:
  Program variable . . . . . .   '&JOBTYPE'
_
_ Basing pointer variable  . . .
_
_              + for more values
_
New value  . . . . . . . . . . .   '2'
Program  . . . . . . . . . . . . > J928401     Name, *DFTPGM
```

3. Complete the Change Program Variable form and press enter.
   - The value of &JOBTYPE is now changed to your specified value.
4. Press F3 to allow the CL program to continue processing.
   - The RPG program source is displayed next.

Features of the J.D. Edwards Source Debugger

F2 – J.D. Edwards Command Line Window

To display a J.D. Edwards command line window, press F2.

F3 – Continue processing

Once the program hits a breakpoint or when you first enter the source, F3 will allow the program to continue processing.

F5 – Add breakpoint

Position the cursor on an executable line and press F5 to add a breakpoint. You cannot add breakpoints to a comment line, only to executable lines. Once the breakpoint is set, the line will be highlighted. If the program executes a line with a breakpoint set on it, the line will appear in reverse image and the program will pause before executing the line.

```
 93701                          JDE Visual Debug         JDESRC     JDFSRC
  Scan:  ____________________________________________________________ P01051
        Current Breakpoint:  /0001
0319.00       C*
0320.00       C            $AUTO     CASEQ'1'       S003           24
0321.00       C*                     -----          ----
0322.00       C                      END
0323.00       C*
0324.00       C*    Begin normal program processing.
0325.00       C*    --------------------------------
0326.00       C*
0327.00       C            *INLR     DOWEQ'0'
0328.00       C*
0329.00       C*    If subfile page display not set, set subfile page display.
0330.00       C*
0331.00       C            #SFRNO    IFLE 0
0332.00       C                      Z-ADD1         #SFRNO
0333.00       C                      END
0334.00       C*
0335.00       C*    Write video screen.
0336.00       C*       @$MEMO determines which format is written

    F2=JDE Command Line  F5=ADDBKP  F6=ADDBKP w/prompt  F7=DSPPGMVAR
    F8=CHGPGMVAR  F13=Display Indicators  F16/15=Scan Fwd/Bkwd  F24=More
```

F6 – Add breakpoint with prompt

Position the cursor on an executable line and press F6 to add a breakpoint with a prompt. You cannot add breakpoints to a comment line, only to executable lines. Once the breakpoint is set, the line will highlight. If the program executes a line with a breakpoint set on it, the line will reverse image and the program will pause before executing the line.

```
                          Add Breakpoint (ADDBKP)

Type choices, press Enter.

Statement identifier . . . . . > 62100_____    Character value
              + for more values
Program variables:
  Program variable . . . . . .   *NONE
_
_
  Basing pointer variable  . . .
_
_
              + for more values

_
_
              + for more values
Output format  . . . . . .   *CHAR_____    *CHAR, *HEX
Program  . . . . . . . . . . > P01051____    Name, *DFTPGM

                                                                    More...
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

Use the prompt, after pressing F10, to assign a skip value or breakpoint conditions.

F7 – Display Program Variable

Position the cursor on an executable line and press F7 to display the values of all of the variables on that line. Breakpoints within copy modules will stop at the correct source sequence number.

```
                          Display Program Variables

 Program . . . . . . . . . . . . . . . : P01051
 Recursion level . . . . . . . . . . . : 1
 Start position  . . . . . . . . . . . : 1
 Format  . . . . . . . . . . . . . . . : *CHAR
 Length  . . . . . . . . . . . . . . . : *DCL

 Variable  . . . . . . . . . . . . . . : *IN99
   Type  . . . . . . . . . . . . . . . :   CHARACTER
   Length  . . . . . . . . . . . . . . :   1
   *...+....1....+....2....+....3....+....4....+....5
  '0'

 Variable  . . . . . . . . . . . . . . : *IN93
   Type  . . . . . . . . . . . . . . . :   CHARACTER
   Length  . . . . . . . . . . . . . . :   1
   *...+....1....+....2....+....3....+....4....+....5
  '0'

Press Enter to continue.

F3=Exit    F12=Cancel
```

F8 – Change Program Variable

To change the value of a variable, press F8 and type the correct values in the prompt screen.

```
                      Change Program Variable (CHGPGMVAR)

Type choices, press Enter.

Program variables:
  Program variable . . . . . . .
_
_ Basing pointer variable  . . .
_
_              + for more values
_
_
New value  . . . . . . . . . . .
Program  . . . . . . . . . . . . > P01051         Name, *DFTPGM




                                                                        Bottom
F3=Exit   F4=Prompt   F5=Refresh   F10=Additional parameters   F12=Cancel
F13=How to use this display        F24=More keys
```

F10 – Move Line to Top of Page

F12 – Remove Current Breakpoint

From anywhere on the screen, press F12 to remove the current breakpoint. The line is no longer highlighted, indicating the line is no longer set as a breakpoint. The program will immediately continue processing.

F13 – Display Indicator Values

To display the current values of all indicators, press F13.

```
                        Display Program Variables

 Program . . . . . . . . . . . . . . . : P01051
 Recursion level . . . . . . . . . . . : 1
 Start position  . . . . . . . . . . . : 1
 Format  . . . . . . . . . . . . . . . : *CHAR
 Length  . . . . . . . . . . . . . . . : *DCL

 Variable  . . . . . . . . . . . . . . : *IN
   Lower/upper bounds  . . . . . . . . :   (1:99)
   Type  . . . . . . . . . . . . . . . :   CHARACTER
   Length  . . . . . . . . . . . . . . :   1
   Element      ---------------------Values----------------------
           1  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'
          11  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'
          21  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'
          31  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'
          41  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'
          51  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'  '0'

Press Enter to continue.

F3=Exit   F12=Cancel
```

F15 – Scan Backward

Type in a value on the Scan Line at the top of the screen and press F15 to scan backward from the point you are at to the end of the source code. If a match is found, the line containing the matching value will be displayed. To continue scanning backward, press F15 again.

F16 – Scan Forward

Type in a value on the Scan Line at the top of the screen and press F16 to scan forward from the point you are at to the beginning of the source code. If a match is found, the line containing the matching value will be displayed. To continue scanning forward, press F16 again.

F21 – Command Line Window

To display a command line, press F21.

ENDDBG End Debug

To stop the J.D. Edwards Source Debugger, enter ENDDBG from a command line. You can not enter ENDDBG while displaying the source code of a program in debug. This command will end debug mode for all programs in the Debugger at that point.

You can remove a single program from debug mode by using the RMVPGM (remove program) command.

Exercises

See the exercises for this chapter.

Software Scan and Replace

About Software Scan and Replace

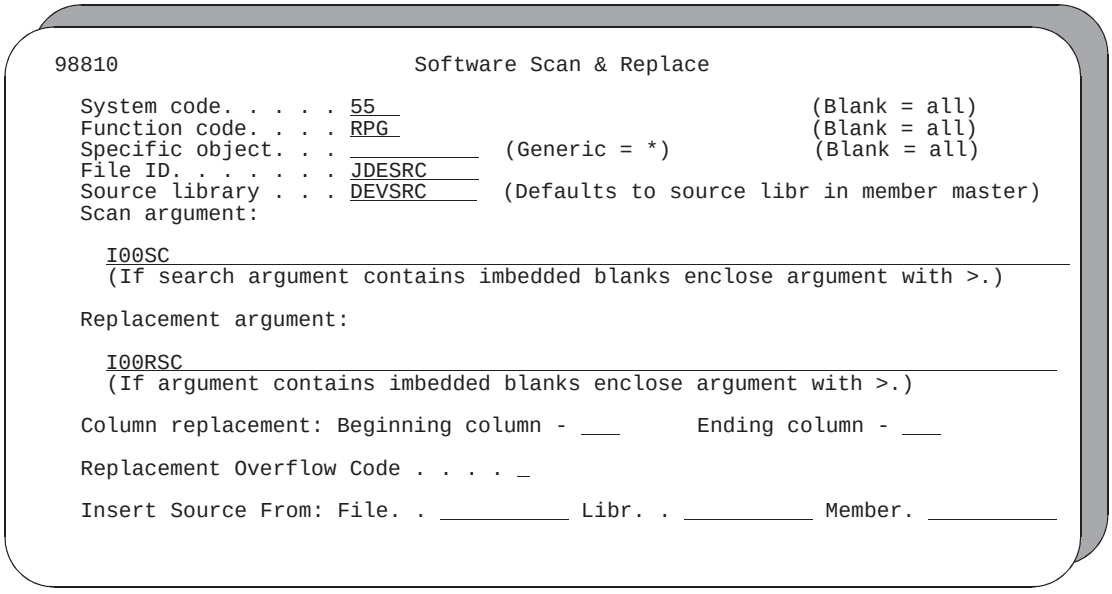
The Software Scan and Replace feature lets you scan source members to accomplish the following:

- Scan for a particular item and replace it with a new item
- Produce a list of all members that meet the search criteria
- Scan for a particular item and insert a source file after each occurrence

Because you can potentially replace source code across all systems, this job is submitted to batch and held in the job queue until you release it.

To Work with Software Scan and Replace

1. From the Computer Assisted Programming menu, select Developer's Workbench. From the Developer's Workbench menu, select Software Scan and Replace.



The previous screen illustrates how you replace the copy module I00SC with the copy module I00RSC for all RPG members coded to install system code 55.

2. Complete the form and press Enter.
   - The job submits to batch and a message displays. The job is held on the job queue.
3. When you are ready to process the job, go to the Work with Submitted Jobs form (hidden selection 33) and release the job.

Report

When the job completes, it produces a report that indicates those objects where the scan and replace occurred.

```
98810                          J. D. Edwards & Company                          1
                                 Scan Software Source                      4/01/91



    System  55
  Function: RPG
    Object:
      File: JDESRC
Source Lib: DEVSRC
  Argument: "I00SC"
Replace By: "I00RSC"
Column End: 000
Column End: 000
Allow Ovrf:
Insert Frm- File:           Libr:           Memb:
Action    : Replacement    Scan/Replace Characters= 05/06
 5501G     - Item Maintenance - Gregg                    1st Occurrence at   010200
P5501X     - Item Maintenance                            1st Occurrence at   010200
P55011X    - Item Information Update                     1st Occurrence at   009200
```

Guidelines

If you leave the Replacement argument field blank, the utility produces a listing of all source members that meet the search criteria.

Because this job could be used to update all code across systems and could severely impact processing, it is automatically held.

Use this job to replace a copy module across systems or determine a listing of members that meet certain criteria. Use with caution.

Performance Issues

About Performance Issues

Following are some performance issues you should consider when executing J.D. Edwards software, changing current J.D. Edwards programs or writing new programs:

- Purge your files on a regular basis to avoid excess, unnecessary records existing in files.
- Minimize the number of open files in a program. If a file may not be used, define it as a User Controlled Open file.
- Use User Spaces and User Indexes wherever possible.
- Use File Servers and Functional Servers wherever possible.
- Minimize the number of subroutine calls within your program.
- Weigh the advantages of inter-program calls. Although this method is very modular in design, you should consider the effect on performance.
- Substitute the comparison of a literal with the comparison of a variable.

  For example: Use *ON and *OFF to set an indicator on and off rather that a 1 and 0.

- Consider flexibility versus performance when using User Defined Codes, Vocabulary Overrides, and loading Data Dictionary values extensively

Group Jobs

Objectives

- Work with the J.D. Edwards Group Job Form
- Work with J.D. Edwards group jobs
- Work with non–J.D. Edwards group jobs
- Work with the J.D. Edwards Attention MENU Form
- Use IBM Pass–Through with group jobs

About Group Jobs

The Group Jobs form allows you to perform a number of tasks from a single form, saving you both time and effort. You can perform the following functions from this form:

- Run up to 16 jobs under a single signon
- Execute (or run) CL and fast path commands from a single command line
- Execute (or run) J.D. Edwards Hidden Selections

In addition to the added convenience, the Group Jobs function keeps the files for each of the jobs selected opened, whether they are currently active or not.

Perform the following tasks:

- ❑ Access the .J.D. Edwards Group Job Form
- ❑ Create New Group Jobs
- ❑ Activate Suspended Group Jobs
- ❑ Terminate Job Groups
- ❑ Change to Non-Group Mode
- ❑ Sign Off with Suspended Group Jobs

Access the J.D. Edwards Group Job Form

About the J.D. Edwards Group Job Form

You can perform several operations using the J.D. Edwards Group Jobs Form, including:

- Create new group jobs
- Activate suspended group jobs
- Terminate group jobs
- Change to non-group mode
- Sign off with suspended group jobs
- Work with non-J.D. Edwards group jobs

Before You Begin

For a user to access the J.D. Edwards Group Job Form at any time, the ATTN key program should be set to call the J. D. Edwards Group Job Form program (P98GRP).

▶ To set the ATTN key program

1. From the Security Officer Menu, select User Information.

```
0092                  User Information                Action Code. . . . . I

  User ID. . . . . .  TEACH
  Library List . . .  QTEMP JDFOBJ COMMON PRODDATA JDFSRC QGPL


  User Security:                  A J K DP F
      User Key . . . . . .        _ _ _ __ _   Allow Command Entry (Y/N). Y
      Initial Menu to Execute. .  A            Allow Menu Traveling (Y/N) Y
      Initial Program to Execute  _            Allow Fast Path (Y/N). . . Y
 Menu Level. . . . . .            _
  User Type. . . . . .            TEACHER
  User Class/Group . . .          _
  Batch Job Queue. . . .          QBATCH
  Job Scheduling Priority.        5 5
  Logging(level/severity/messages)4  00  *NOLIST
  Output Queue . . . . .          P4B
  Optional Printer File Library.  _
  Current Library. . . .          _
  Employee Address Number (PPAT)  _
  Set Attention Program. . .      P98GRP
  F6=Display/Lang Pref   F9=Library Inquiry   F21=Print Lib List   F24=More Keys
```

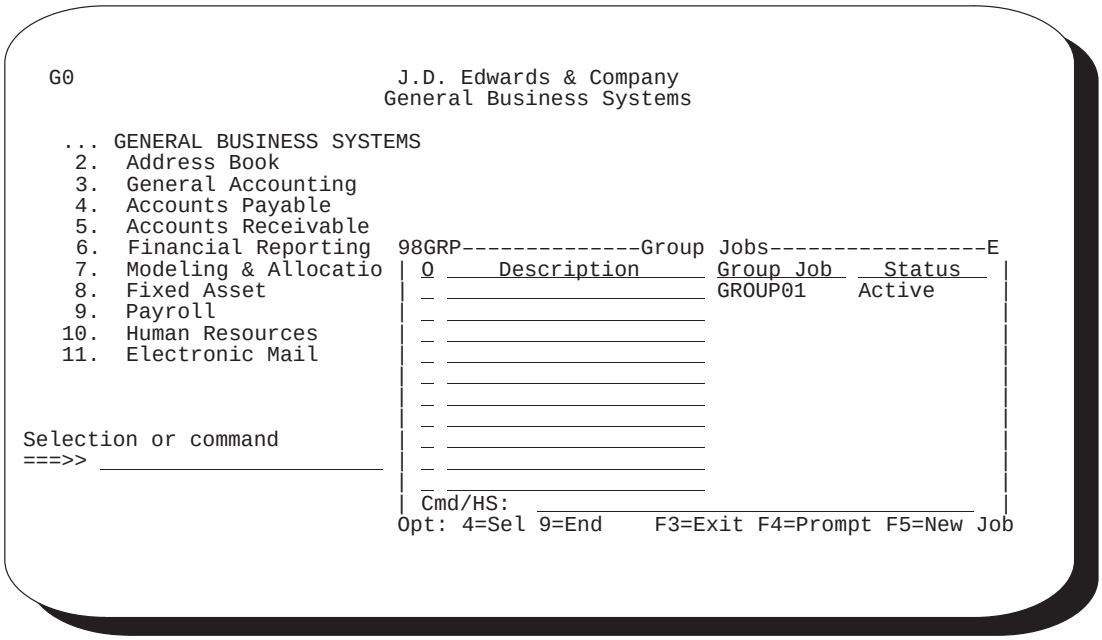
2. Enter the J.D. Edwards Group Job Form program ID (P98GRP) in the *Set Attention Program* field.

Accessing the J.D. Edwards Group Job Form

After the ATTN Key program has been set up in the J.D. Edwards software, you can access the Group Job Form.

▶ To access the J.D. Edwards Group Job Form

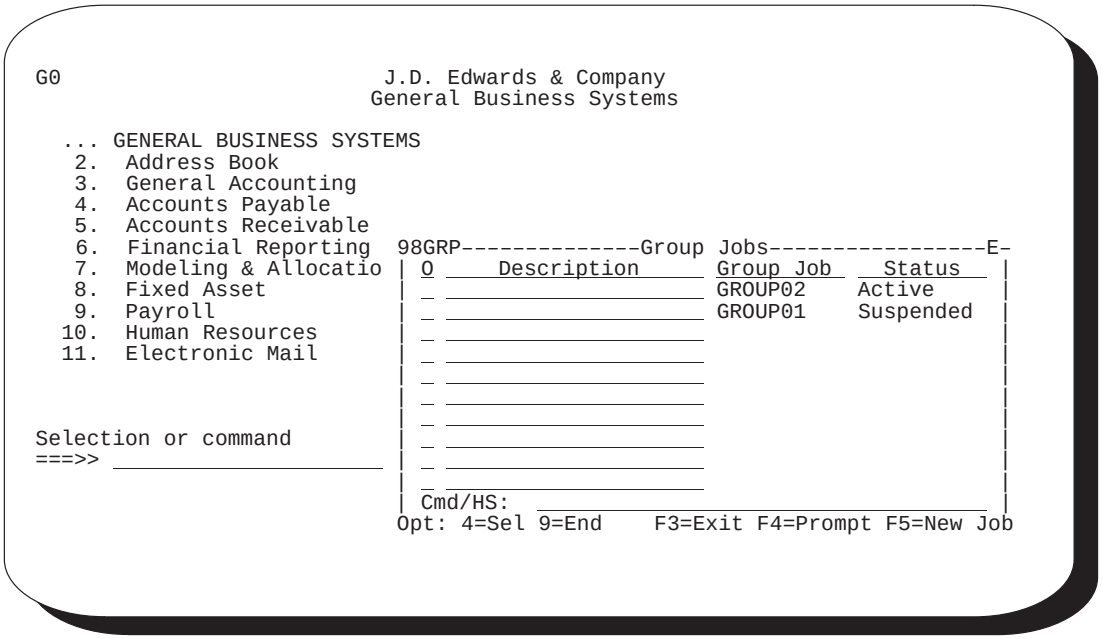
1. Sign off and sign back on to reset the ATTN key program within the J.D. Edwards Menu Driver.
2. Press the ATTN key and the following is displayed.



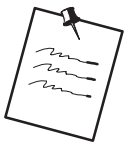
Creating New Group Jobs

To create new group jobs

1. Press F4 on the Group Jobs form for New Job.
2. When the J.D. Edwards Menu Driver is displayed, press the ATTN key and the following is displayed.



The new group job GROUP02 is now in process. The group job GROUP01 was suspended when the function key F5 was pressed.



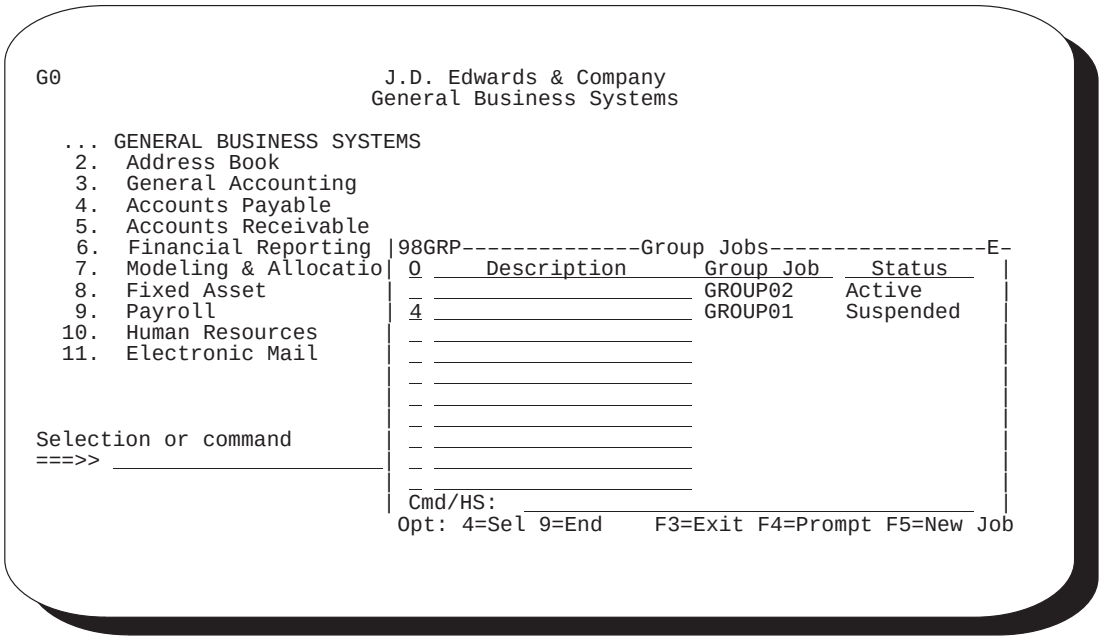
If you are set up to access J.D. Edwards software by J98INITA, your library list selection list will appear. Select an environment and then you will be able to display the J.D. Edwards Group Job Form.

Activating Suspended Group Jobs

▶ To activate suspended group jobs

Press the ATTN key to display the J.D. Edwards Group Job Form and enter option 4 next the the job you want to activate.

- All suspended group jobs is displayed in the form.
- Any suspended group job can be activated, as illustrated below.

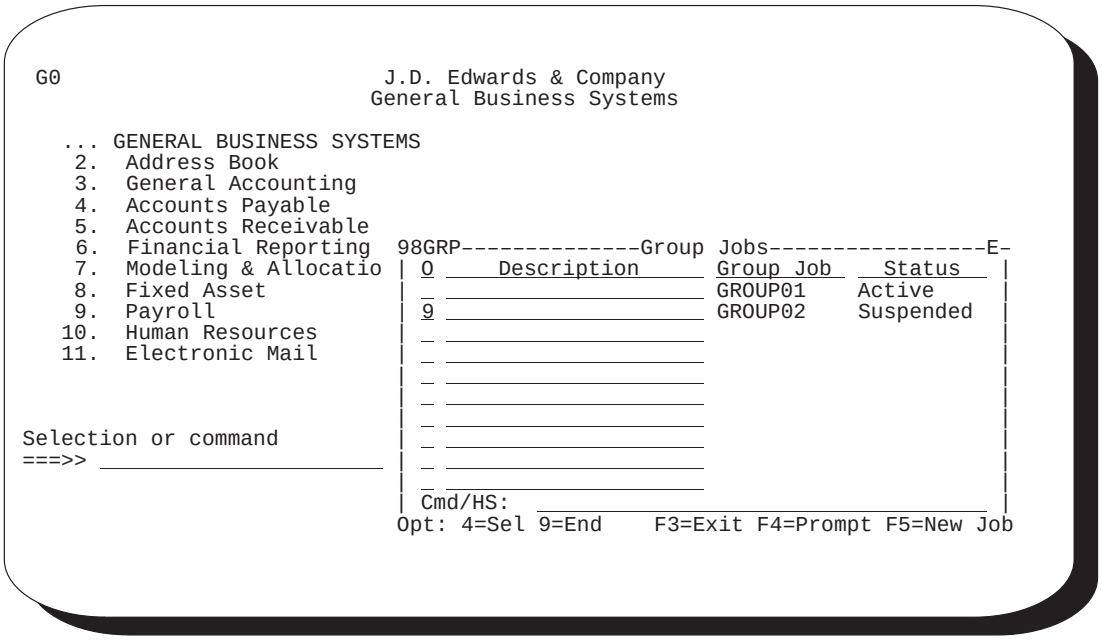


Terminating Group Jobs

Any group job, active or suspended, may be terminated from the J.D. Edwards Group Job Form.

▶ To terminate group jobs

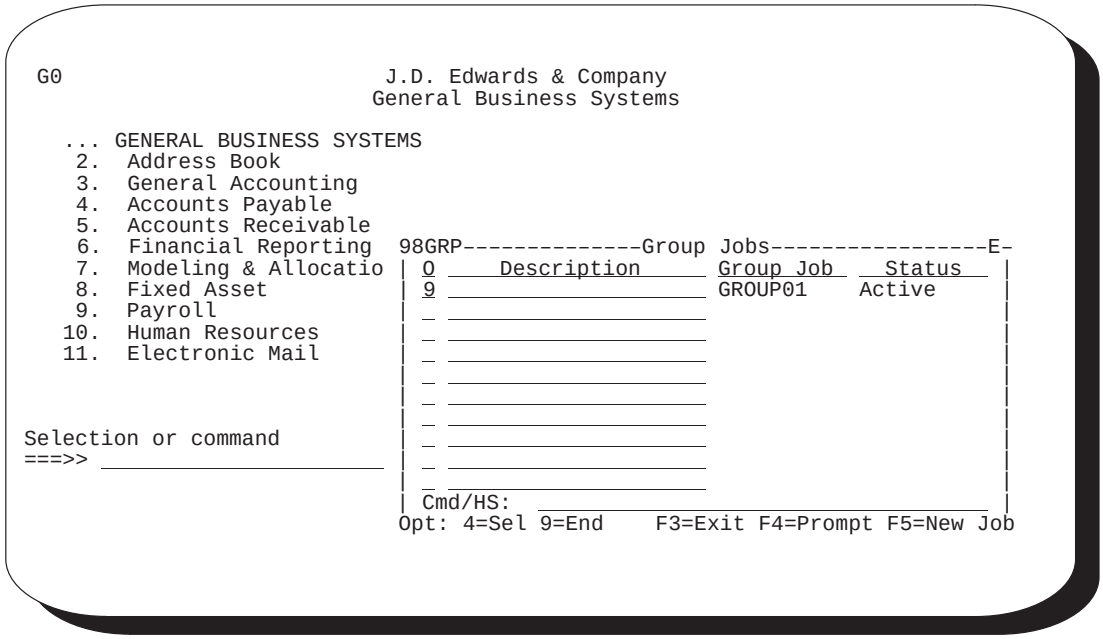
Enter option 9 next to the group job you want to terminate.



Changing to Non-Group Mode

▶ To change to non-group mode

Enter option 9 beside all active and suspended group jobs.



Signing Off with Suspended Group Jobs

You can use two different methods to sign off with suspended group jobs.

▶ To sign off with suspended group jobs

Select one of the following methods:

- Press F18 within the J.D. Edwards Group Job Form.
- Enter SIGNOFF, 90, or ".." on any J.D. Edwards Menu.

Because group jobs are created under one signon, all group jobs are terminated when the signoff command is executed.

Work with Non-J.D. Edwards Group Jobs

▶ To work with non-J.D. Edwards group jobs

To create group jobs that call a program outside the J.D. Edwards software, the J.D. Edwards Group Job Form allows an external program to be executed. In addition, the ATTN Key can be pressed within the external program and still allow access to the J.D. Edwards group jobs.

1. To call an external program, press F11 within the J.D. Edwards Group Job Form.

   The following illustrates what will be displayed when F11 is pressed.

```
                          Change Library List (CHGLIBL)

    Type choices, press Enter.

    Libraries for current job  . . . > QTEMP          Name, *SAME, *NONE
                                      > TCA302OBJ
                                      > JDFOBJ
                                      > TCA302DTA
                                      > A3SHARE
                                      > TRNSHARE
                                      > TCA302SRC
                                      > JDFSRC
                                      > VAPAY2JLIB
                                      > VBPAY2JLIB
                                      > VCPAY2JLIB
                                      > VPAYLIB
                                      > QPRT5225
                    + for more values > QGPL
    Current library  . . . . . .      *SAME          Name, *SAME, *CRTDFT

Bottom
  F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
    F24=More keys
```

2. Complete the Change Library List form.

You can enter libraries related to the external program. Libraries currently in the library list can be removed if desired. However, the following libraries *must* be left in the library list to retain the link to the J.D. Edwards group jobs:

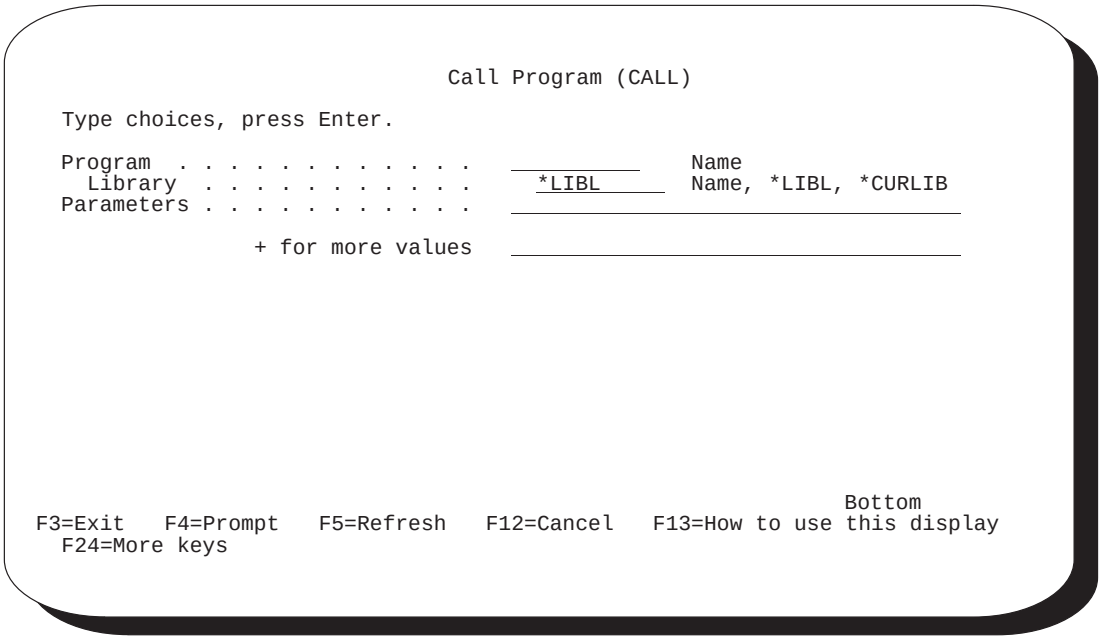
- QTEMP
- Library containing F9220 (J.D. Edwards Group Job Form Vocabulary Overrides)
- Library containing F0090 (J.D. Edwards Hidden Selections)
- Library containing F0092 (J.D. Edwards User Information)

- Library containing J.D. Edwards Objects (For example, RPG, CL, DSPF)

After the CHGLIBL command has been executed, the CALL command prompt is displayed.

3. Enter the external program.

The following illustrates the CALL command prompt.



When the CALL command is executed, the external program will be executed.

- To work with a J.D. Edwards group job, the ATTN Key can be pressed to display the J.D. Edwards Group Job Form.
- Any suspended group job can be activated from the J.D. Edwards Group Job Form.

Advanced Functions of the J.D. Edwards Group Job Form

J.D. Edwards Hidden Selections

Hidden Selections are commands and features of the J.D. Edwards products that are not available through a menu selection.

- Most J.D. Edwards Hidden Selections (31+) can be executed from the command line at the bottom of the J.D. Edwards Group Job Form.
- The J.D. Edwards Hidden Selection Form (HS) can be used to display and execute hidden selections.
- J.D. Edwards Hidden Selection Security is used when users execute hidden selections.
- No J.D. Edwards Menus or J.D. Edwards Hidden Selection related to menus are allowed.

Entering Commands

You can enter any command on the command line at the bottom of the J.D. Edwards Group Job Form.

- You can press F4 to prompt for a command
- You can place a "?" in front of a command to prompt
- You can press F9 to retrieve previous commands
- Any parameters you enter while in prompt mode are not retrieved
  - The last 10 previous commands are saved.
  - Only successfully executed commands are saved.
  - When you exit by pressing F3, previous commands are lost
- J.D. Edwards Fast Path Commands from User Defined Code 00/FP can be executed. F13 to display all Fast Path Commands.

- To retain all commands entered and retrieve parameters entered in prompt mode, access the IBM Command Entry Form from the J.D. Edwards Group Job Form (For example, J.D. Edwards Hidden Selection 36) and enter commands.
- Commands can only be executed if there is a value of "Y" or " " in the Allow Command Entry (Y/N) field defined in the J.D. Edwards User Information option found on A94.

J.D. Edwards Group Job Form Summary

The program allows you to:

- Create up to 16 jobs per signon
- Execute commands, J.D. Edwards hidden selections, J.D. Edwards Fast Path Command, and J.D. Edwards Fast Path Menu Execution

Available Function Keys

- F3 = Exit the J.D. Edwards Group Job Form
- F4 = Prompt a command
- F5 = Create a new J.D. Edwards group job
- F6 = Submit job to batch
- F8 = J.D. Edwards Menu Word Search
- F9 = Retrieve previous command
- F11 = Create a new Non–J.D. Edwards group job
- F13 = Display all fast path commands
- F18 = SIGNOFF all group jobs

Available Selection Exits

- 4 = Activate a suspended group job
- 9 = End a group job

J.D. Edwards Group Job Form is not accessible when using

- SysReq (Source Machine Only)
- A program that has reset the ATTN Key program (For example, OFFICE/400)

Work with the Attention MENU Form

About the Attention MENU Form

The J.D. Edwards Attention Menu Form program is a generic program that allows you to access up to 15 predefined programs via the ATTN Key. The 15 predefined programs are associated with options on a J.D. Edwards Menu.

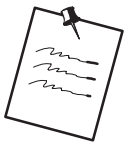
- Each user can be assigned a different J.D. Edwards Menu
- The program was available in Release A4.1 PTF00 – – – – – –1

Before You Begin

To access the J.D. Edwards Attention Menu Form at any time, the ATTN Key program should be set to call some other J.D. Edwards Menu. For example G92.

The following illustrates how the ATTN Key program is set in the J.D. Edwards software. The User Information screen can be accessed from the Security Officers Menu).

```
0092                  User Information                 Action Code. . . . . I

 User ID. . . . . .  TEACH

 Library List . . . . . .  QTEMP JDFOBJ COMMON PRODDATA JDFSRC QGPL


 User Security:                      A J K DP F
     User Key . . . . . .  _ _ _ __ _  Allow Command Entry (Y/N). Y
     Initial Menu to Execute. . . .  A          Allow Menu Traveling (Y/N) Y
     Initial Program to Execute . .  __________ Allow Fast Path (Y/N). . . Y
Menu Level. . . . . .  _
 User Type. . . . . .  TEACHER
 User Class/Group . . . . . .  __________
 Batch Job Queue. . . . . .  QBATCH
 Job Scheduling Priority. . . . . .  5 5
 Logging(level/severity/messages) . .  4   00   *NOLIST
 Output Queue . . . . . .  P4B
 Optional Printer File Library. . . .  __________
 Current Library. . . . . .  __________
 Employee Address Number (PPAT) . . .  _________
 Set Attention Program. . . . . .  *G92
 F6=Display/Lang Pref   F9=Library Inquiry   F21=Print Lib List   F24=More Keys
```



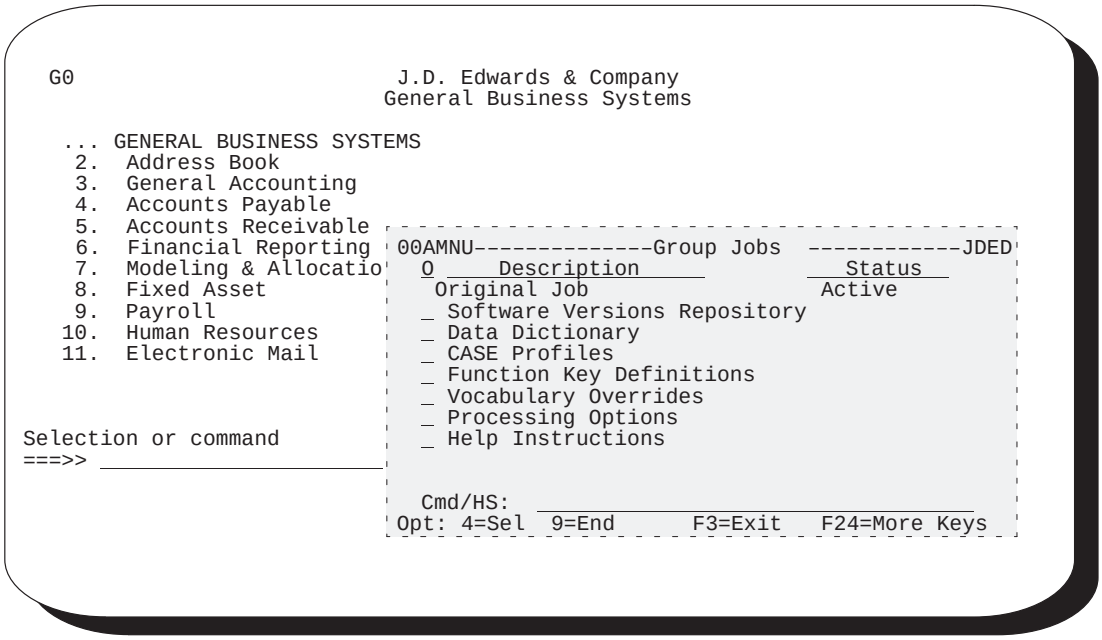
An *(asterisk) must precede the menu name.

Accessing the J.D. Edwards Attention Menu Form

After the ATTN Key program has been setup for you the J.D. Edwards software you can access the J.D. Edwards attention menu form.

▶ To access the J.D. Edwards attention menu form

1. Sign off and sign back on to reset the ATTN key program within the J.D. Edwards Menu Driver.
   - SETATNPGM PGM(P00AMNU) SET(*ON).
2. Press the ATTN key and the menu options for the menu will be displayed as follows.



Original Job refers to the current job that has been converted to a group job. The remaining jobs refer to the first 15 interactive programs on the menu which the user is authorized to.

Summary of J.D. Edwards Attention Menu Form Functions

The program allows you to:

- Access 15 predefined programs via the ATTN Key
- Execute commands, J.D. Edwards Hidden Selections, J.D. Edwards Fast Path Commands, and J.D. Edwards Fast Path Menu Executions

Available Function Keys

- F3 = Exit the J.D. Edwards Attention Menu Form
- F4 = Prompt a command
- F6 = Submit a job to batch
- F8 = J.D. Edwards Menu Word Search
- F9 = Retrieve previous command
- F13 = Display all fast path commands
- F18 = SIGNOFF all group jobs

Available Selection Exits

- 4 = Activate a group job
- 9 = End a group job

J.D. Edwards Attention Menu Form is not accessible while using

- SysReq (Source Machine Only)
- a program that has reset the ATTN Key program (i.e. OFFICE/400)

Work with IBM Pass-Through

About Working with IBM Pass-Through

To create group jobs on remote locations and still retain a link to the group jobs created on the source machine, use IBM Pass-Through. Perform the following tasks:

- ❑ Set up access to remote locations
- ❑ Use IBM Pass-Through with Group Jobs

Setting Up Access to Remote Locations

▶ To setup access to remote locations

1. To setup access to remote locations, go to the DREAM Writer versions list for Form ID P98GRP5.

```
 98300                          Versions List                    Form P98GRP5

Skip to Version:


O  Version     Description                                  User      Chg Date
_  XJDE0001    Denver A                                     DEMO      08/23/93
_  XJDE0002    Denver C                                     DEMO      08/23/93
_  XJDE0003    Denver D                                     DEMO      08/23/93
_  XJDE0004    Denver E                                     DEMO      08/23/93
_  XJDE0005    Denver I                                     DEMO      08/23/93
_  XJDE0006    Atlanta                                      DEMO      11/13/91
_  XJDE0007    Chicago                                      DEMO      11/13/91
_  XJDE0008    New York                                     DEMO      11/13/91
_  XJDE0009    Dallas                                       DEMO      11/13/91
_  XJDE0010    Houston                                      DEMO      11/13/91
_  XJDE0011    San Francisco                                DEMO      11/13/91
_  XJDE0012    Washington DC                                DEMO      11/13/91


 Opt: 1=Run 2=Chg 3=Add 4=Rpt Dist 5=Cover 6=Prt Ovr 8=Repair 9=Dlt F13=Form
```

The processing options for each version provides setup on exactly how to access the remote location. The following illustrates the processing options.

```
  98312                Processing Options Revisions  Form ID. . . . P98GRP5
                                                     Version. . . . 0002
Denver C

This job has various options described  below. Enter the desired values and
press ENTER to continue.

Destination Virtual Control Unit                    V5251

Enter ONE of the following:

  1)  Destination Location:                         JDEC
      (If APPN routing can be used.)

  2)  APPC Device(s):
        Communication Device 1:
        Communication Device 2:

      (If S/38's are involved, an APPN
       cannot be used.)

                                  Bottom                                +

                        F5=Printer Overrides
```

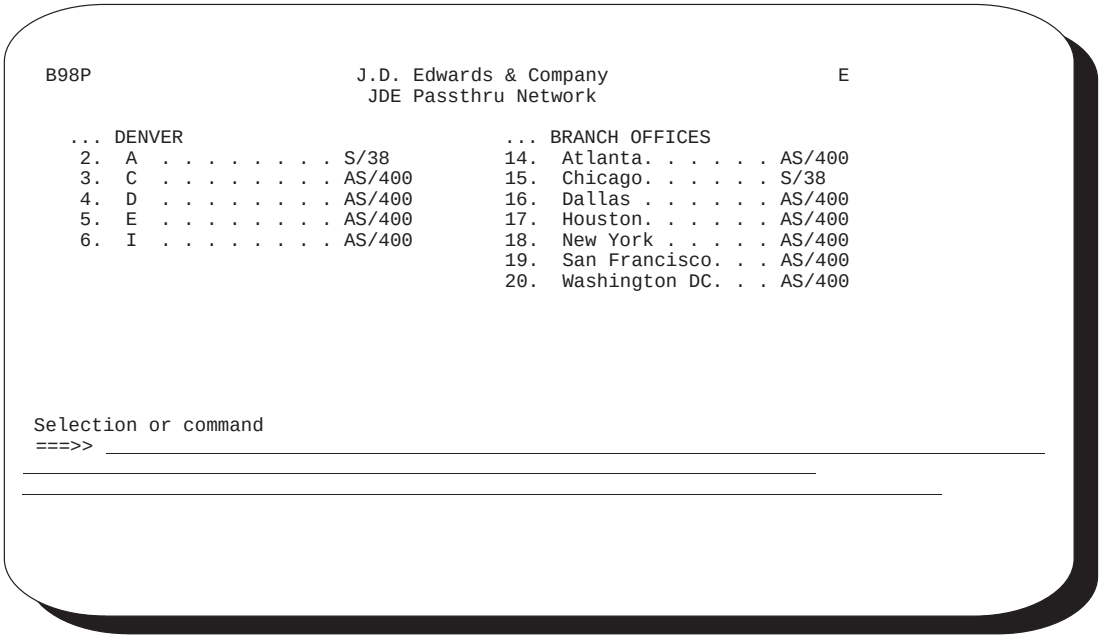
Option	Description
Destination Virtual Control Unit	This is the control unit that the user will connect to at the remote location. The first available device on the control unit will be selected.
Destination Location (Used in AS/400 Environment)	This is the APPN network name for the remote location.
APPC Device(s) (Used in S/38 Environment)	These are the APPC devices that identify the route to the remote location. • Only one intermediate node is supported.

Using IBM Pass-Through with Group Jobs

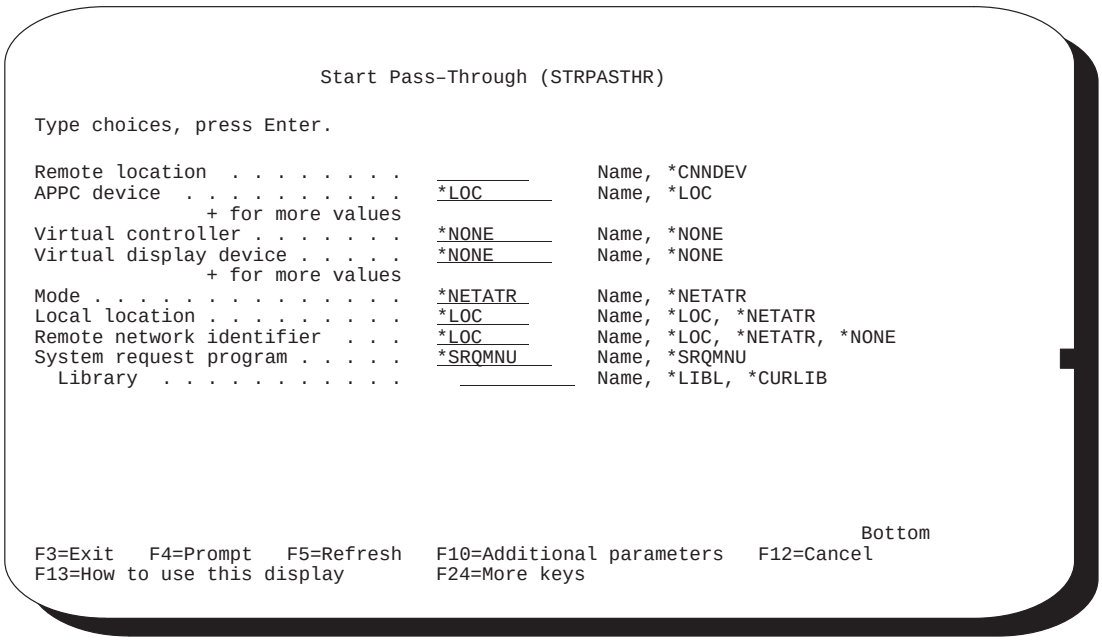
To use IBM Pass-Through with Group Jobs

1. Use the J.D. Edwards menu B98P to start an IBM Pass-Through session to a remote machine.
2. Use the J.D. Edwards Menu Design Aid (G92) to attach your user defined DREAM Writer Form ID P98GRP5 versions to menu B98P.

When an option is selected on the menu, the IBM Start Pass-Through command will be executed to the remote machine, and still retain a link to the source machine group jobs.



The mechanism used to attach remote locations to the J.D. Edwards Group Job Form on the source machine is a parameter on the STRPASTHR (Start Pass-Through) command. The following illustrates the link to the source machine.



The SRQ10PGM (SysReq 10) parameter allows a program to be called on the source machine from the remote location. By entering the J.D. Edwards Group Job Form program (P98GRP) in this parameter, the J.D. Edwards Group Job Form can be displayed on the remote location by pressing SysReq 10, NOT the ATTN Key. This allows access to all suspended group jobs on the source machine and other remote locations.

Universal File Converter

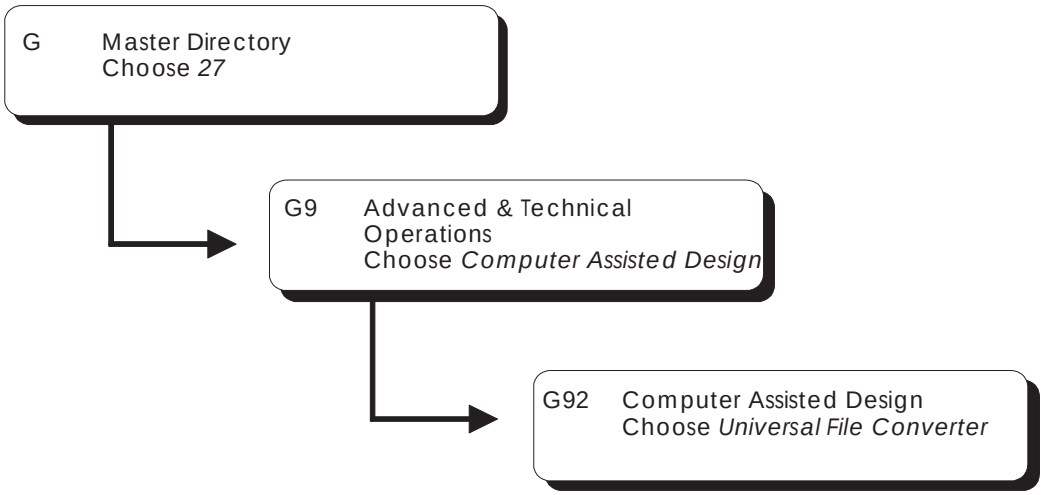
Objectives

- Initially convert existing client files to J.D. Edwards data files
- Create recurring interfaces or bridges between J.D. Edwards and non-J.D. Edwards application systems

About Universal File Converter

There is constant change in data processing. For example, when you upgrade your J.D. Edwards software, you are changing several pieces of the software. Your data files may be greatly impacted when you upgrade. J.D. Edwards Universal File Converter will assist you in converting your data files.

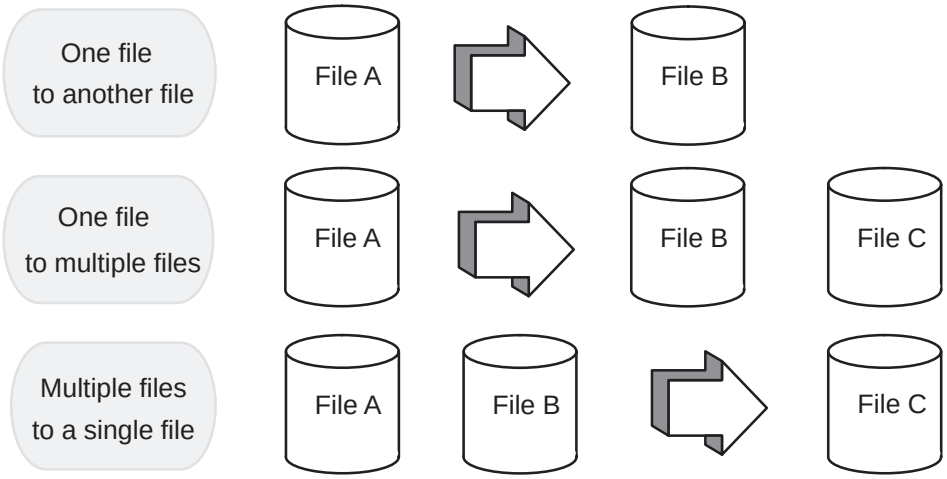
Universal File Converter allows you to store conversion information for future conversions. It automatically matches data fields to be converted together.



J.D. Edwards Universal File Converter accesses standing instruction files and transfers data in fields:

- From one file to another file
- From one file to multiple files
- From multiple files to a single file

The instruction file defines the association between two files and includes data field information.



Step 1

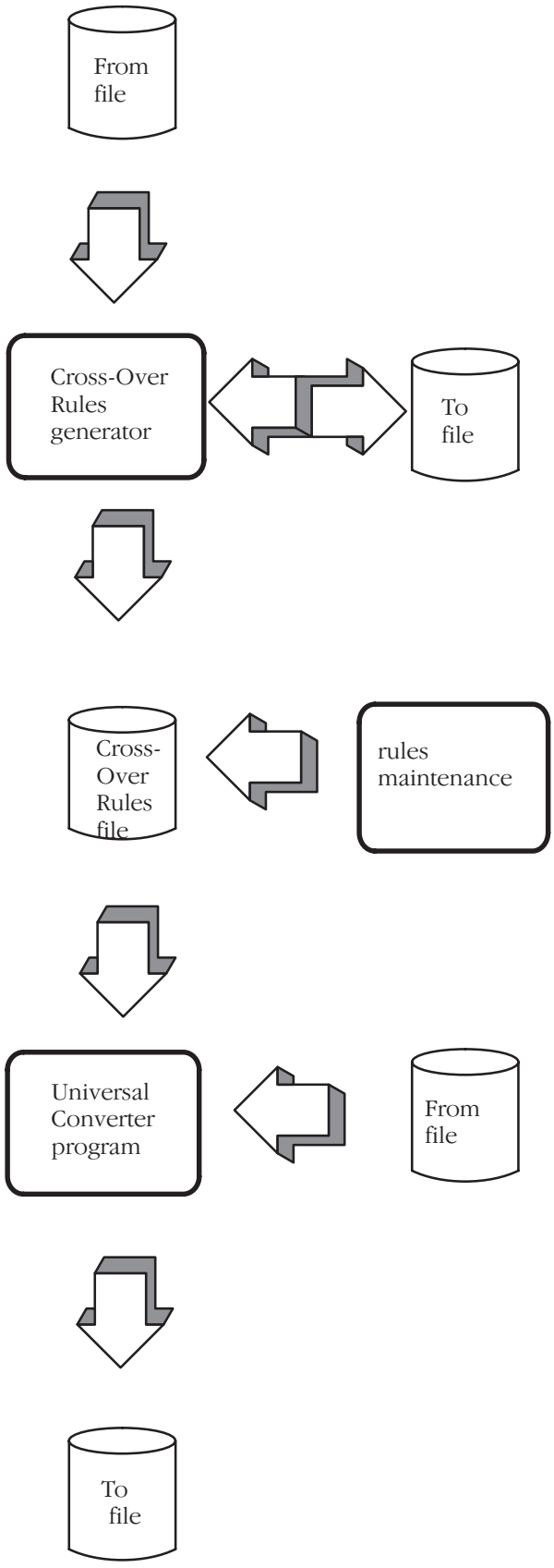
You specify *From* files and *To* files through DREAM Writer processing options. You can specify up to four To files. If you require multiple From files, specify a join logical as the From file in the DREAM Writer "based on" file. The system returns file field information and pre-loads the Cross-Over Rules file with field name, length, size, type and reference (data dictionary name). The system pre-loads information in the Cross-Over Rules file for all fields that have the same reference (data dictionary field name) as the From file.

Step 2

You must manually associate the fields that were not automatically loaded in the Cross-Over Rules file. If you need special calculations for a field, you can specify special processing key words in the Conversion Rule field. You can also add the calculations into an external program that can be called from the converter program. The external program needs several parameters that are sent and passed back to the converter program. These parameters are: data, error, From field name, To field name, and number of To file records. You must specify the external program in the Conversion Rule field in the Cross-Over Rules file.

Step 3

In this step you specify the form ID and the version you selected in the first step. The From and To files should be the same (or exact equivalent) as the files specified in Step 1. The converter program accesses the cross-over instructions for the "From/To" combination and loads the information to arrays. The system then processes the arrays for each field that has an association. Finally, the system transfers the value in the From file to the To file.



Special Processing

Special processing procedures are available to help you in the conversion of one field to another.

To execute any of the special processing procedures listed below, you must type the appropriate key word into the From or To Conversion Rule field. This is explained in *Detail Cross Over Rules*, later in this guide. There are special keywords for the following.

Dates	The converter uses a keyword to decide what date translation is necessary.
Numeric Fields	The converter translates non-packed numeric data to packed data or vice versa, depending on your need. It also maintains decimal alignment, performing rounding or zero padding if required. Alphanumeric representations of numeric fields can be translated to numeric fields. Numeric fields can be translated into alphanumeric fields.
Business Unit	The converter processes the field through the Business Unit scrub routine. This routine right adjusts and fills the field with blanks.
Data Dictionary Default	The converter uses the reference field in the To file to access the data dictionary and retrieve the default value for the field.
Initialization	Fields in the To file are initialized to blanks for alphanumerics and zeros for numerics if no fields are defined to map to them.
Next Number	You can specify to have a next number value assigned to a field.
Check Data Dictionary	You can specify to have the value of the field validated against the data dictionary values, ranges, and user defined codes.
User Defined Code Lookup	Use the fields in the From file to look up a user defined code (UDC) and return the associated value in the Description 1 field as the To field value.

Default Constant	Specify constant value, up to six characters, for the To field value.

Database Considerations

The system creates new records in the Cross-Over Rules file for each version of cross-over rules you specify. This file contains information explaining the fields in the From file and the To file and how the two files are associated.

If the field lengths or characteristics of the files that the cross-over rules have been built upon change, you must redefine the cross-over rules. Otherwise, the rules are based on the erroneous descriptions.

The system handles extra calculations through called programs specified in the Cross-Over Rules file for each field.

User Responsibilities

You are responsible for developing and maintaining the cross-over instruction rules. If the From file or To file definition of the cross-over instructions changes, you must revise the Cross-Over Rules.

Perform the following tasks:

- ❑ Set Up Universal File Converter
- ❑ Work with Crossover Rules
- ❑ Work with File Conversion
- ❑ Print a Report
- ❑ Create Conversion Forms
- ❑ Work with the Data Dictionary Glossary by File

Set Up Universal File Converter

About Universal File Converter

If you have more than one file to convert, you can set up a separate version for each type of conversion required. The Universal File Conversion Setup program loads information to the Crossover Rules file (F0031) about the fields in the files you are converting.

The system uses the information in the Crossover Rules file to transfer the data from a field in one file to a field in another file, or to a field in multiple files.

This program also has processing options that let you convert data from both J.D. Edwards and non-J.D. Edwards files.

Before You Begin

❑ Before you run the setup procedure make sure the To files exist.

Do not attempt to use the Universal File Converter on a file that contains "double byte" data. The converter program may corrupt the integrity of the bracketing "shift in" and "shift out" characters that are automatically inserted by double byte terminals.

Understanding the Universal File Converter Setup

The setup program is the first part of a three-part conversion process. Specify a From file and a To file through the DREAM Writer processing options. You can specify up to four To files. If you require multiple From files, specify a join logical as the From file. This join logical is over all the files you select for the From file. Use the name of the join logical in the first processing option.

The program retrieves field information for all fields in the From file and loads this information to the Crossover Rules file.

The program then retrieves field information for the To files. If the Reference (data dictionary) field in the To file matches the From file Reference field, the program makes an association between the two fields. The system writes information for the To file to the record in the Crossover Rules file associated with the From file field.

**FILLER conversions are automatically generated for From file fields with no corresponding To file fields and for To file fields with no corresponding From file fields. You can override a **FILLER entry with the appropriate field name, position, and characteristics if the field exists in the file but has a different field name.

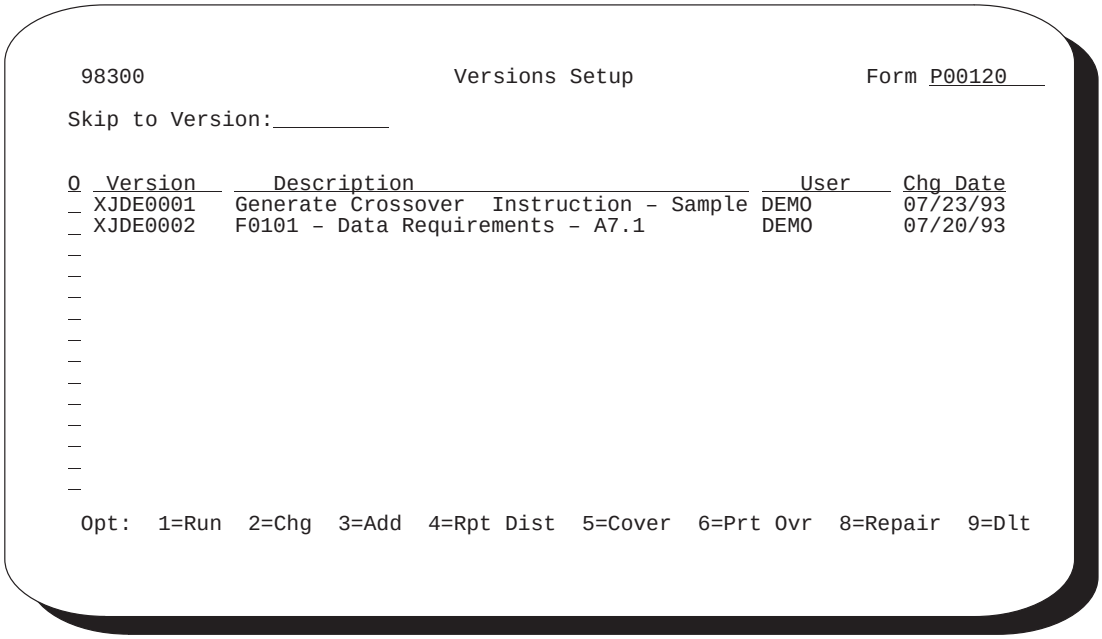
If there are any other associations you need, do them manually using the Crossover Rules selection on the menu.

Setting Up Universal File Converter

```
G9841                      J.D. Edwards & Company                    JDEG
Programmers              Universal File Converter
   ... DATA FILE CONVERSION
    2. Version Setup
    3. Crossover Rules
    4. File Conversion
    5. Report


Selection or command
===>
```

To access Versions Setup

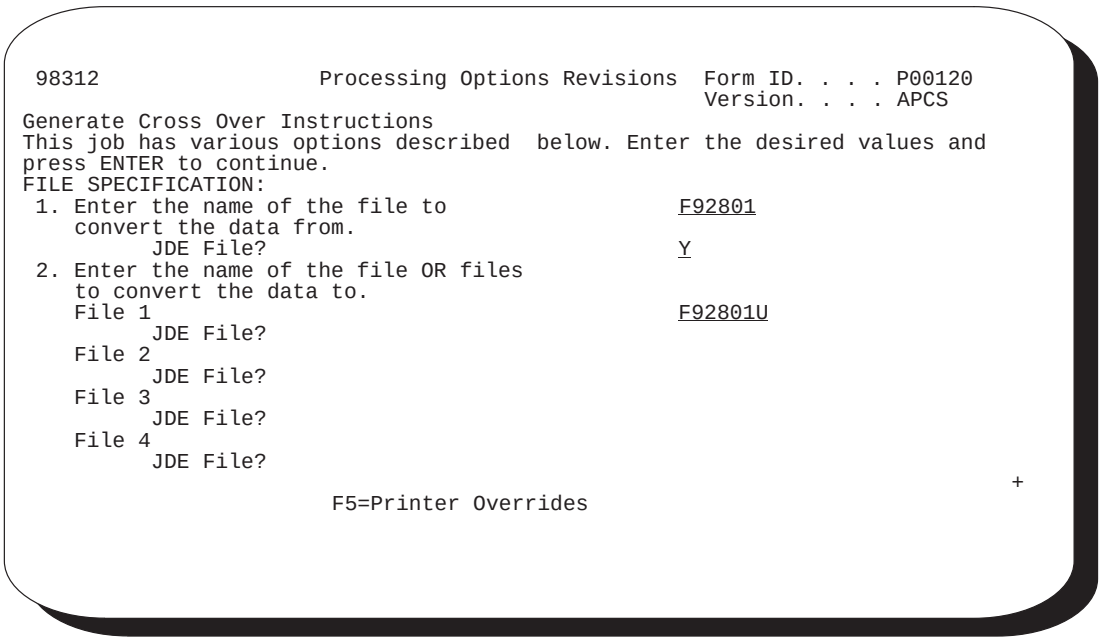
1. From the Universal File Converter menu (G9841), choose Versions Setup.



The Versions Setup form appears. The examples shown are for illustrative purposes only.

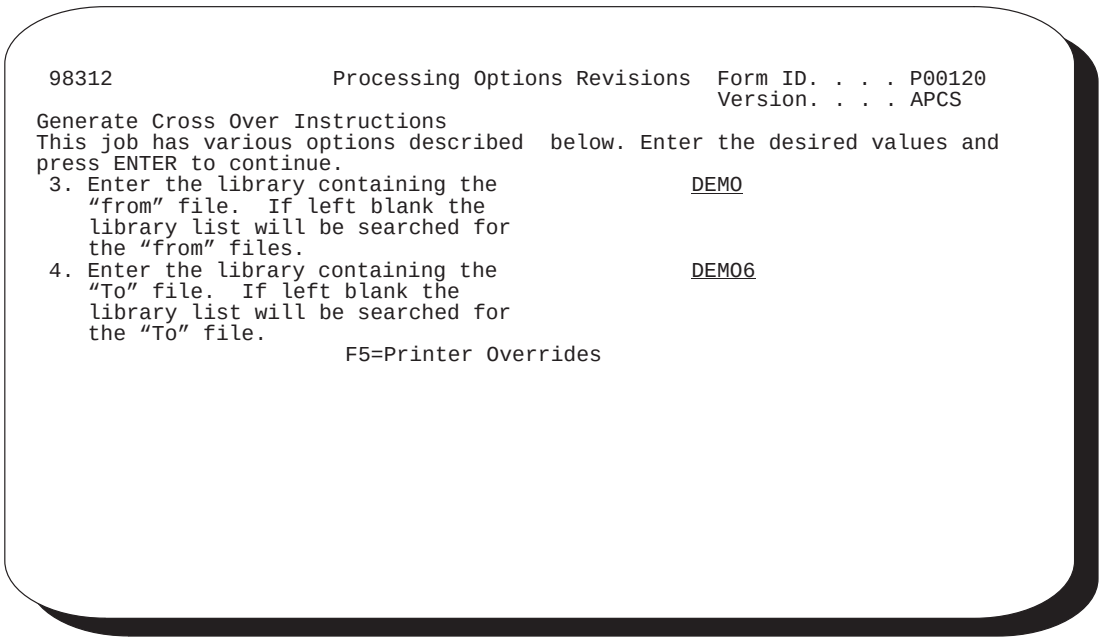
- This program loads information into the Crossover Rules File (F0031) about the fields in the files you are converting. The system uses the information in the Crossover Rules File to transfer the data from a field in one file to a field in another file or to a field in multiple files.

2. Add your own version from a Demo version and go to the processing options of your new version.
3. Once you have displayed the processing options, you must specify a *From* file and a *To* file. You can specify up to four *To* files. If you require multiple *From* files, specify a join logical as the *based on* file for your version. The join logical will encompass all the files you wish to use for the *From* file.



```
 98312                Processing Options Revisions  Form ID. . . . P00120
                                                    Version. . . . APCS
Generate Cross Over Instructions
This job has various options described  below. Enter the desired values and
press ENTER to continue.
FILE SPECIFICATION:
 1. Enter the name of the file to                   F92801
    convert the data from.
       JDE File?                                    Y
 2. Enter the name of the file OR files
    to convert the data to.
    File 1                                          F92801U
       JDE File?
    File 2
       JDE File?
    File 3
       JDE File?
    File 4
       JDE File?
                                                                          +
                       F5=Printer Overrides
```

Option	Description
Enter the name of the file	The name of the *From* file to convert the data from.
JDE File?	Y if the *From* file is a JDE file, or N if it is not
Enter the name of the file OR files to convert the data to.	The name(s) of the *To* file(s) in the spaces provided
JDE File?	Y if the *To* file is a JDE file, or N if it is not



Option	Description
Enter the library containing the from file.	The name of the *From* file library, or leave blank to search your library list
Enter the library containing the to file.	The name of the *To* file library, or leave blank to search your library list

Work with Crossover Rules

Working with the Crossover Rules Form

The Crossover Rules form lets you add, change, and delete crossover rules used in the Universal File Converter process. Use this form to set up or maintain associations between fields in the From file and the To file.

Using filler fields, you can view From file fields with no corresponding To file fields. You can also view To file fields with no corresponding From file fields.

▶ To work with the Crossover Rules form

1. From the Universal File converter menu, choose Crossover Rules.

```
0031                                  Crossover Rules
Action Code. . . . . I
Form Id. . . . . . . P00120          From File . . . . F4001Z
Version. . . . . . . 0001
To File Name . . . . F4011Z
Skip to . .     From                 To. .

   From File . . . . .                        To File  . . . .  .

Field       T Begin    ... Field ...      Field       T  Begin    ... Field ...   O
Name        _ Pos      Bytes Dig Dec      Name        _  Pos      Bytes Dig Dec   _
**FILLER    A     1        1  00  00      SZACOM      A    988        1  00  00   _
**FILLER    A     1        1  00  00      SZAEXP      P    593        8  15  02   _
**FILLER    A     1        1  00  00      SZAID       A   1039        8  00  00   _
**FILLER    A     1        1  00  00      SZAISL      A   1131        8  00  00   _
**FILLER    A     1        1  00  00      SZAITM      A    316       25  00  00   _
**FILLER    A     1        1  00  00      SZANI       A   1010       29  00  00   _
**FILLER    A     1        1  00  00      SZAOPN      P    601        8  15  02   _
**FILLER    A     1        1  00  00      SZAPTS      A    755        1  00  00   _
**FILLER    A     1        1  00  00      SZATXT      A    750        1  00  00   _
**FILLER    A     1        1  00  00      SZBIN       A   1139        8  00  00   _
**FILLER    A     1        1  00  00      SZCADC      P    685        4  07  03   _
**FILLER    A     1        1  00  00      SZCDCD      A    756       15  00  00   _
  Opt:  9=Del  F4=Detl  F6=Add  F8=From Fill  F9=To Fill  F13=File  F14=Text
```

The form above displays illustrative data only. The From files appear on the left. The To files display on the right.

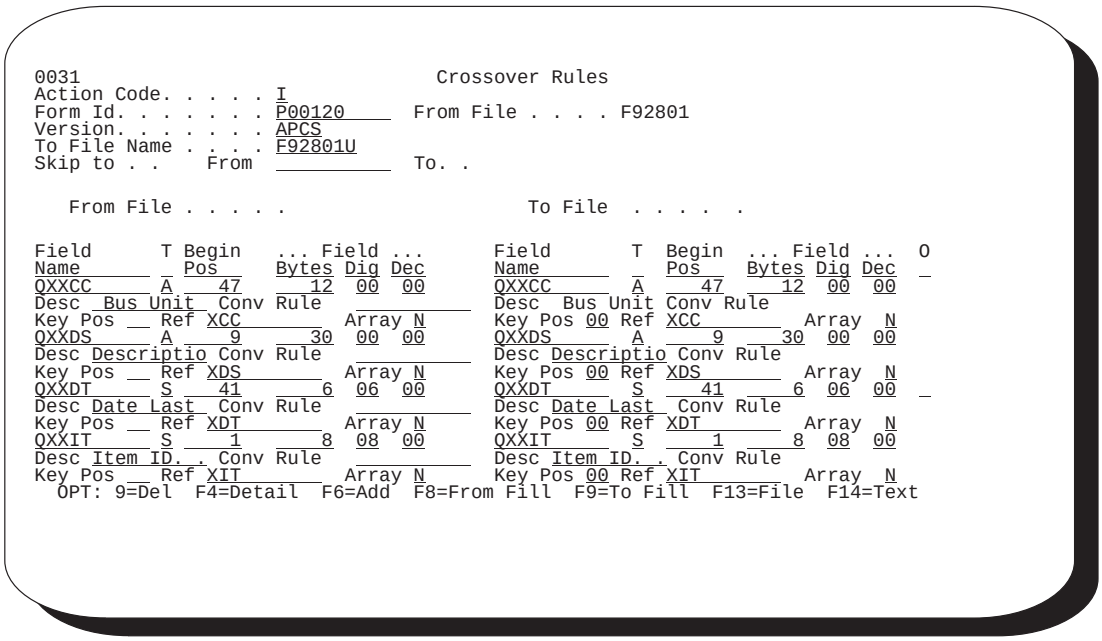
2. Complete the Crossover Rules form.
   - F8 and F9 are toggles. Press them to suppress or activate the display of the **FILLER fields in the From and To files.

- F14 is cursor-sensitive. If you are on a From file field, press F14 to enter text for that field. When the cursor is on a To file field name, press F14 and the Generic Text Form opens for that To file field name. You can also enter text for the From file and To file by placing the cursor on the appropriate field. The field name is highlighted on V0031 if generic text exists. For additional information refer to the *Advanced Functions Reference Guide*.
- Press F4 to display detail information in the fold area.

Field	Explanation
Form Id	For World, the RPG program name defined in the Software Versions Repository Master table. See also J.D. Edwards Standards. T SS XXX T Specific member ID number SS System number (for example, 01 for Address Book) XXX Member type (for example, P for Program, R for Report, and so on) For OneWorld, the name of the OneWorld batch or interactive application (APPL or UBE object).
To File Name	The file that data is being transfered "to" in the file conversion process.
Field Name	The field that data is being transferred "from" in the file conversion process.
Field Name	The field that data is being transferred "to" in the file conversion process.

Field	Explanation
Program ID	For World, the RPG program name defined in the Software Versions Repository Master table. See also JD Edwards Standards. T SS XXX T Specific member ID number SS System number, for example, 01 for Address Book XXX Member type, for example, P for Program, R for Report, and so on For OneWorld, the name of the OneWorld batch or interactive application. (APPL or UBE object)
Foreign File Name	The file that data is being transfered "to" in the file conversion process.

Field	Explanation
Domestic Field Name	The field that data is being transferred “from” in the file conversion process.
Foreign Field Name	The field that data is being transferred “to” in the file conversion process.



Field	Explanation
From File	Allows you to skip to a field in either the From file to the To file. Pressing F1 in one of these two fields will display the File Field Descriptions Window.
Version	For World, identifies a group of items that the system can process together, such as reports, business units, or subledgers. For OneWorld, the name of the version. It is created when the version is added. . . . . . *Form-specific information* . . . . . . Inquire on either a version number or the from/to tables.
Type	The data dictionary data type.
Begin Pos	The number of the beginning position of the field.
Bytes	The number of bytes in the field.
Dig	Actual number of digits in the field. In a non–packed field, this number is the same as the number of bytes.

Field	Explanation
Dec	The number of decimal positions in the field. (Future Use).
Type	The type of data of the field in the "to" file. The data item types are defined in User Defined Codes, system code '98', record type 'DT'.
Begin Pos	The beginning position of the field in the "to" file.
Bytes	The number of file bytes for the field in the "to" file.
Dig	The actual number of digits in the "to" file field. In a non-packed field this is the same as the number of bytes.
Dec	The number of decimal positions in the "to" file field.
O	Option 9 = Delete the line.
Description	The description of the file field.
Domestic File Name	The file that data is being transfered "from" in the file conversion process.
Version	For World, identifies a group of items that the system can process together, such as reports, business units, or subledgers. For OneWorld, the name of the version. It is created when the version is added. . . . . . *Form-specific information* . . . . . . Inquire on either a version number or the from/to tables.
Domestic Field Data Type	The type of data of the field in the "from" file. The data item types are defined in User Defined Codes, system code '98', record type 'DT'.
Domestic Field Begin Pos	The beginning position of the field in the "from" file.
Domestic Field Size In Bytes	The number of file bytes for the field in the "from" file.
Domestic Number of Digits	The actual number of digits in the "from" file field. In a non-packed field this is the same as the number of bytes.
Domestic Field Decimal Positions	The number of decimal positions in the "from" file field.
Foreign Field Data Type	The type of data of the field in the "to" file. The data item types are defined in User Defined Codes, system code '98', record type 'DT'.
Foreign Field Begin Pos	The beginning position of the field in the "to" file.
Foreign Field Size In Bytes	The number of file bytes for the field in the "to" file.

Foreign Number of Digits	The actual number of digits in the “to” file field. In a non-packed field this is the same as the number of bytes.
Foreign Field Decimal Positions	The number of decimal positions in the “to” file field.
Selection Exits	Selection exit codes are options and function keys that are used to perform a specific function for a selected line or form of data. The most commonly used selection exits for each program are displayed in highlighted text at the bottom of the form. To display all available selection exits, press F24. Press F1 in the Option field to display all available Options for the program.
Domestic Field Description	The description of the “from” file field.
Domestic Conversion Rule	Specifies a keyword or external program that is used for special calculations to the “from” file field before transfer of data to the “to” file. Valid keywords are listed below: Date Conversion *MDY, *DMY, *YMD, *JUL, *SYSVAL Initialization *BLANKS, *ZEROES Business Unit *RAB, right adjust blank fill Default from Dictionary *DEF User Defined Code Lookup *UDCssssrr, where ssss is System, rr is Code Type Default Constant *DFTcccccc, where cccccc is the constant. Next Number *NNssssxx, where ssss is System, xx is Number Check Data Dictionary *CHK, edits field for DD values and ranges. Alpha translation *TRANxx, where xx is language to translate to In addition to the above keywords, user developed external programs can be specified. These external programs must begin with the letter X. Refer to the Universal File Convertor Reference Manual for more information.
Foreign Field Description	The description of the “to” file field.

Foreign Conversion Rule	Specifies a keyword or external program that is used for special calculations to the "from" file field before transfer of data to the "to" file. Valid keywords are listed below: Date Conversion – *MDY, *DMY, *YMD, *JUL, *SYSVAL Initialization – *BLANKS, *ZEROES Business Unit – *RAB, right adjust blank fill Default from Dictionary – *DEF User Defined Code Lookup – *UDCssssrr, where ssss is System, rr is Code Type Default Constant – *DFTcccccc, where cccccc is the constant. Next Number – *NNssssxx, where ssss is System, xx is Number Check Data Dictionary – *CHK, edits field for DD values and ranges. Alpha translation – *TRANxx where xx is language to translate to In addition to the above keywords, user developed external programs can be specified. These external programs must begin with the letter X. Refer to the Universal File Convertor Reference Manual for more information.
Domestic Key Position	Specifies the position in the key list for the field in the "from" file. **For future use***
Domestic Reference Field	The field name in the "from" file with the prefix removed. This is used for automatically pre-loading the associations between the "from" and "to" file fields.
Domestic Field Type Array	Designates the field as part of an array. **This field is for future use**
Foreign Key Position	Specifies the position in the key list for the field in the "to" file. **For future use***
Foreign Reference Field	The field name in the "to" file with the prefix removed. This is used for automatically pre-loading the associations between the "from" and "to" file fields.
Foreign Field Type Array	Designates the field as part of an array. **This field is for future use**

```
Field      T Begin   ... Field ...      Field       T  Begin  ... Field ...  O
Name       _ Pos     Bytes Dig Dec      Name        _  Pos    Bytes Dig Dec  _
**FILLER   A   1       1  00  00       SZACOM      A   988     1  00  00  _
Desc FILLER     Conv Rule              Desc Apply Comm Conv Rule
Key Pos __ Ref FILLER     Array N      Key Pos 00 Ref ACOM       Array  N
```

The left side of the form contains information about the From file.

The right side of the form contains information about the To file fields. If the setup program made associations with the To file fields, they display in the right columns when you inquire on a Form ID. Otherwise, these columns contain **FILLER information.

What You Should Know About

You should be aware of the following rules when you work with crossover rules.

- To review a specific set of crossover rules, enter the DREAM Writer version you used to create the rules.
- To update information on Crossover Rules form, enter the To file field, type, beginning position, number of bytes, and number of digits and decimals, if applicable. Required information is name, type, beginning position and number of bytes.
- Two "skip to" capabilities are available on this form. You can skip to a field in either the From file or the To file.

Displaying Field Descriptions

▶ To display field descriptions

1. Press F13 in the Field Name column for the From or To file.
   - The File Field Descriptions form appears, as shown below.

```
98FFD          File Field Descriptions            S/FMT
  File and Libr:__F4011Z    __PGFDTA71    PF
  _ I4011Z      - Batch Receiver File - Order De
  _ SZEDTY      Record Type. . . . . A      1        1
  _ SZEDSQ      Record Sequence. . . P      2 0      2
  _ SZEKCO      Document Key Company A      5        4
  _ SZEDOC      Document Number. . . S      9 0      9
  _ SZEDCT      Document Type. . . . A      2       18
  _ SZEDLN      Line Number. . . . . P      7 0     20
  _ SZEDST      Transaction Set. . . A      6       24
  _ SZEDFT      Translation Format . A     10       30
  _ SZEDDT      EDI - Transmission D S      6 0     40
 Opt:  2=Dictionary  4=Sel  F15=Resequence  F3=Return
```

- When you use option 4 to select a field from the form, the program returns the name, type, number of bytes, number of decimals, number of

digits, description, reference, and key position to the appropriate fields on the form. For Crossovers on the File Field Descriptions window, refer to the *Computed Assisted Design Reference Guide*.

- For details on the Data Dictionary Repository form, the Glossary form, and the Cross Reference options on the File Field Description form, refer to the *Advanced Functions Reference Guide*.

2. Enter 4 in the option field. The program returns the field description to the associated field as shown in this example.

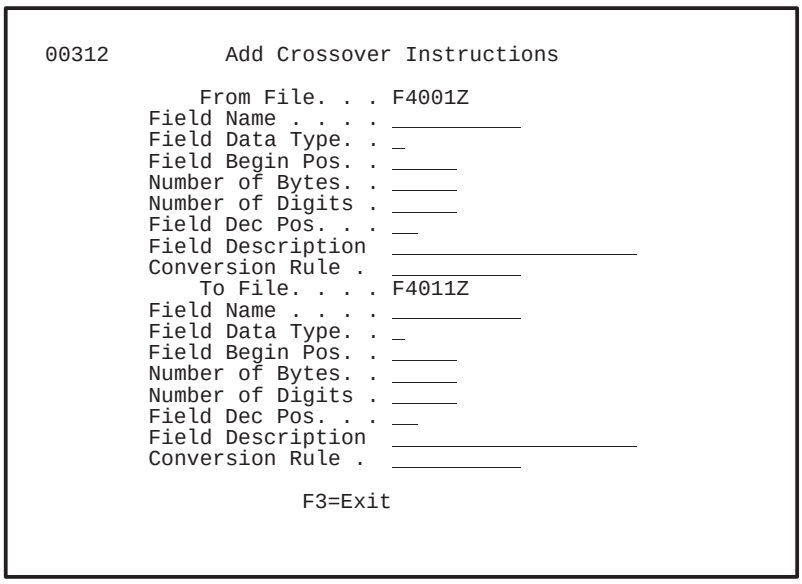
2. Enter 4 in the option field. The program returns the field description to the associated field.

```
0031                              Crossover Rules
Action Code. . . . . I
Form Id. . . . . . . P00120      From File . . . . F4001Z
Version. . . . . . . 0001
To File Name . . . . F4011Z
Skip to . .    From ___________  To. .___________

   From File . . . . .                    To File  . . . . .

Field      T Begin    ... Field ...      Field       T  Begin  ... Field ...  O
Name       _ Pos      Bytes Dig Dec      Name        _  Pos    Bytes Dig Dec  _
**FILLER   A     1        1  00  00      SZACOM      A  00004  00001 00  00  _
**FILLER   A     1        1  00  00      SZAEXP      P   593      8 15  02  _
**FILLER   A     1        1  00  00      SZAID       A  1039      8 00  00  _
**FILLER   A     1        1  00  00      SZAISL      A  1131      8 00  00  _
**FILLER   A     1        1  00  00      SZAITM      A   316     25 00  00  _
**FILLER   A     1        1  00  00      SZANI       A  1010     29 00  00  _
**FILLER   A     1        1  00  00      SZAOPN      P   601      8 15  02  _
**FILLER   A     1        1  00  00      SZAPTS      A   755      1 00  00  _
**FILLER   A     1        1  00  00      SZATXT      A   750      1 00  00  _
**FILLER   A     1        1  00  00      SZBIN       A  1139      8 00  00  _
**FILLER   A     1        1  00  00      SZCADC      P   685      4 07  03  _
**FILLER   A     1        1  00  00      SZCDCD      A   756     15 00  00  _
  Opt:  9=Del  F4=Detl  F6=Add  F8=From Fill  F9=To Fill  F13=File  F14=Text
```

Adding Fields

▶ To add a field

1. Press F6 to open the Add Crossover Instructions form.



2. With the cursor in the Field Name field, press F13 to open the File Field Descriptions form.
   - After you press Enter, the program returns field information to the Field Name when you exit the form.
   - The required fields for adding a field are:
     - From field name, type, number of bytes, and beginning position
     - To field name, type, number of bytes, and beginning position

The add function is available to associate a single field in the From file with multiple fields in the To file and to break apart a From field into multiple fields.

A field can exist in the To file and have nothing associated with it in the From file. In this case, the To file field is initialized as described in the section *Special Processing* in the *Introduction* of this guide.

Deleting Records

▶ To delete a record

Choose option 9 to delete records from the Crossover Rules file.

- This cancels the From-To relationship so that no conversion takes place.
- If you blank out the To file field name, the program does not delete the record from the Crossover Rules file, but only clears the To file field information. The converter program looks only at records that have both a From and To file field name.

NOTE: You do not need to delete lines with blank (**FILLER) To file field names, they are automatically omitted.

Keywords

Keywords in the Conversion Rule field (in the fold area) trigger special processing for a field before the data is transferred. Following are the keywords that are available and a brief explanation of what processing they trigger.

With the exception of the date keywords listed below, specify conversion rules for either From field or To field, never for both.

Dates – *MDY, *DMY, *YMD, *JUL, *SYSVAL

These keywords activate a date conversion between the From file field and the To file field. You must type keywords into both the From file Conversion Rule field and the To file Conversion Rule field. Each keyword on the From field specifies how the field is stored in the From file. The keyword on the To field conveys the output format on the To field. NOTE: This does not work on packed fields.

Business Unit – *RAB.

This keyword activates the business unit scrub of right adjust and blank fill to the From file field before moving it to the To field.

Initialize – *ZEROES, *BLANKS

These keywords move either zeroes or blanks to the From file field before it is transferred. With the initialization rules, these keywords are not required unless you want to initialize an alphanumeric field to zeroes.

Data Dictionary Default – *DEF

This keyword retrieves the Data Dictionary default for the To file field, using the Reference field in the Data Dictionary, and loads it to the From file field before it is transferred.

User Defined Code Looiup – *UDC*ssssrr*

This keyword retrieves the definition of the user defined code used in a specific system and loads it to the To field. When typing your request, *ssss* is the system and *rr* is the user defined code.

Default Constant - *DFT*cccccc*

This keyword loads a default constant to the To field. When typing your request, *cccccc* is the default constant.

Terminal ID – *TID

This keyword loads the terminal ID to the To field.

Next Number - *NN*ssssxx*.	This keyword computes a next number and loads it to the To field. When typing your request, *ssss* is the system and *xx* is the number.
Check Data Dictionary - *CHK.	This keyword lets you edit a field against Data Dictionary values and ranges. The results of the edit print on the File Conversion report whenever any errors are detected.

About the Conversion Rule Program

Besides specifying the use of keywords in the conversion rule, you can specify an external program that runs before the data is transferred to the To file field. You must name the external program beginning with an X. For example, use an "X" program to determine a range of valid values in a From file field, excluding records based on a given field. Other examples include writing multiple To file records based on a single From file record, or manipulating the data before it is transferred.

The external program requires five parameters:

First parameter

Must be 50 bytes and contains the value of the field being processed. Use it to pass back the value to the converter program when the "X" program is done with it.

Second parameter

One-byte error flag. If the error flag returns blank, the data in parameter 1 from the "X" program is placed in the To file.

- If the error flag returns with 2, the *data* in parameter 1 is not transferred to the To file. Use this error if you are writing multiple To file records and different From file fields are used for a single field in the To file.
- If the error flag returns with 3, a *record* will not be written to the To file. Use this error if you do not want to write a record when the value of a certain field in parameter 1 is blank, zero, or not valid for your purposes.

Third parameter

Four-byte alphanumeric field for the number of the To file records. The field always has numeric characters and is zero-filled. This lets your "X" program know which record the converter program will write when you are writing multiple To file records.

Fourth parameter

Ten-byte field for the From file field name. This lets your "X" program know which field you are processing if multiple fields in the From file are updating a single To file field.

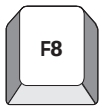
Fifth parameter Ten-byte field for the To file field name. This lets your "X" program know which field you are processing if multiple fields in the From file are updating a single To file field.

Available Functions and Options

F6 – Add Instructions

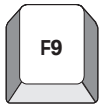
F6. To add fields to be converted, press F6 to access the Add Cross Over Instructions Form. The required fields for adding a field are *Field Name, Field Data Type, Field Beginning Position,* and *Number of Bytes.*

```
0031                              Crossover Rules
Action Code. . . ..
Form Id. . . . .  00312         Add Cross Over Instructions
Version. . . . .
To File Name . .                    From File. . .
Skip to . .  From                Field Name . . . . __________
                                 Field Data Type. . _
   From File . .                 Field Begin Pos. . _____
                                 Number of Bytes. . _____
Field      T Begi                Number of Digits . _____                  eld ...  O
Name_______ __Pos_               Field Dec Pos. . . __                     Dig Dec  _
                                 Field Description  ____________________    __  __
                                 Conversion Rule .  __________              __  __
                                     To File. . . .                         __  __
                                 Field Name . . . . __________              __  __
                                 Field Data Type. . _                       __  __
                                 Field Begin Pos. . _____                   __  __
                                 Number of Bytes. . _____                   __  __
                                 Number of Digits . _____                   __  __
                                 Field Dec Pos. . . __                      __  __
                                 Field Description  ____________________    __  __
                                 Conversion Rule .  __________              __  __
                                                                            __  __
            OPT:                          F3=Exit
```



F8 – Suppress From **FILLER Fields

F8. Will not display those lines with **FILLER values in the *From* field



F9 – Suppress To **FILLER Fields

F9. Will not display those lines with **FILLER values in the *To* field

F13 – File Field Description

F13. Place cursor on any *Field Name* field and press F13 to display the File Field Description form.

F14 – User Defined Text

F14. This allows text to be entered about information on this form. The field will highlight to indicate that there is generic text associated with this field.

- Press F14 in the top area of the form to enter text about the conversion.
- Press F14 in the *From Field* area (left side of the form) to enter text describing the *From Field*.
- Press F14 in the *To Field* area (right side of the form) to obtain text describing the *To Field*.
    - The field will highlight to indicate that there is generic text associated with this field.

Option 9 – Delete Records

To delete records so that no conversion takes place, enter Option 9. If you blank out the *To File* Field Name, the program does not delete the record from the Cross Over Rules file (F0031), but only clears the *To File* Field information. The converter program will only look at records that have both a *from* and *to file* field name.

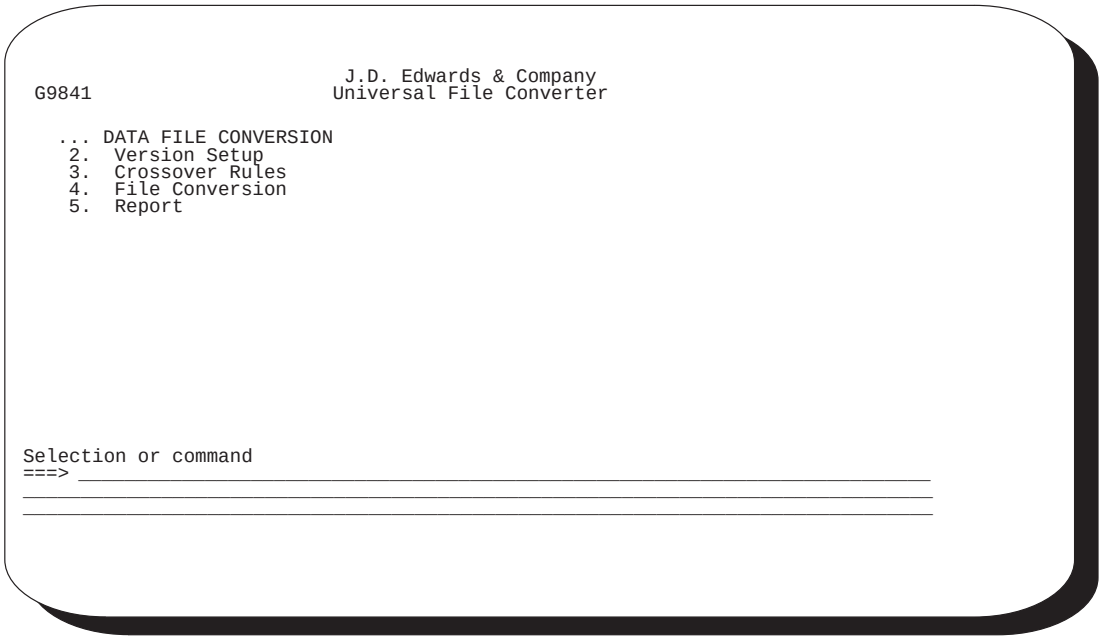
Work with File Conversion

Working with File Conversion

The File Conversion program accesses the Crossover Rules file (F0031) and transfers data fields from one file to another, from one file to multiple files, or from multiple files to one file.

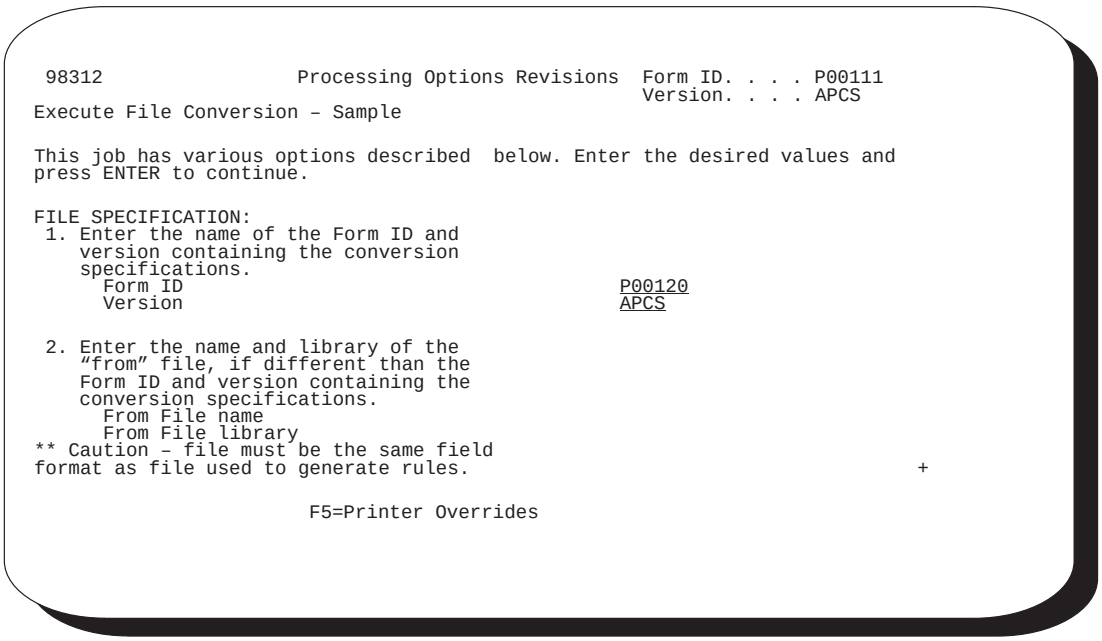
▶ To run File Conversion

1. From the Universal File Converter menu (G9841), choose File Conversion.



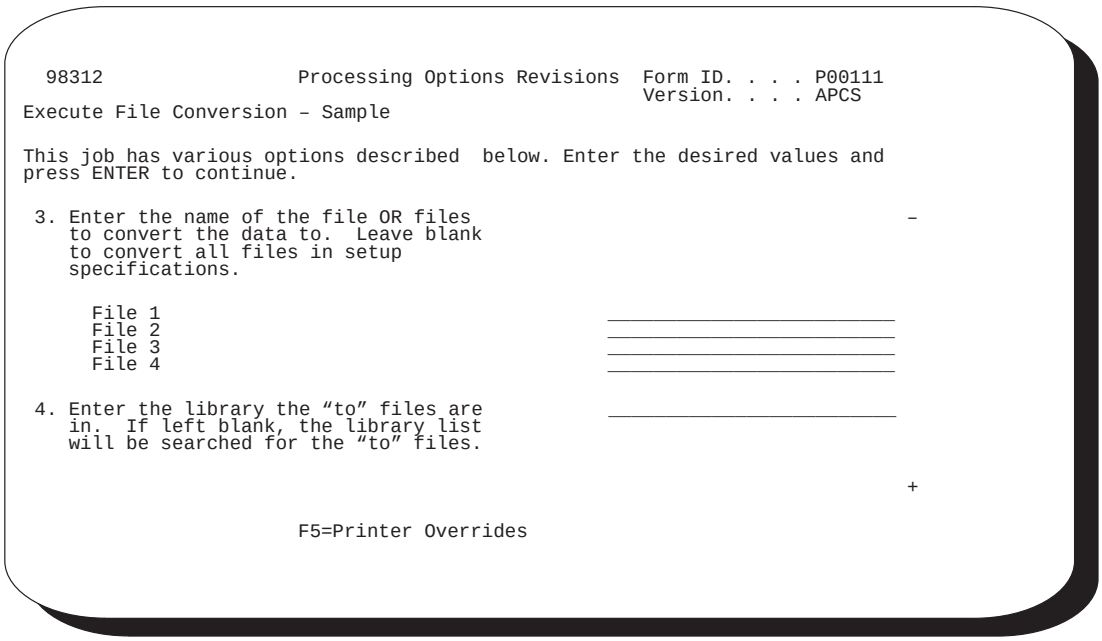
When creating an execution form, be sure the Based on File and the Format Name fields contain your *From File* name. In addition, the Data Selection and Data Sequence forms should display fields from your *From File*.

2. Add your own version from a Demo version and go to the processing options of your new version.

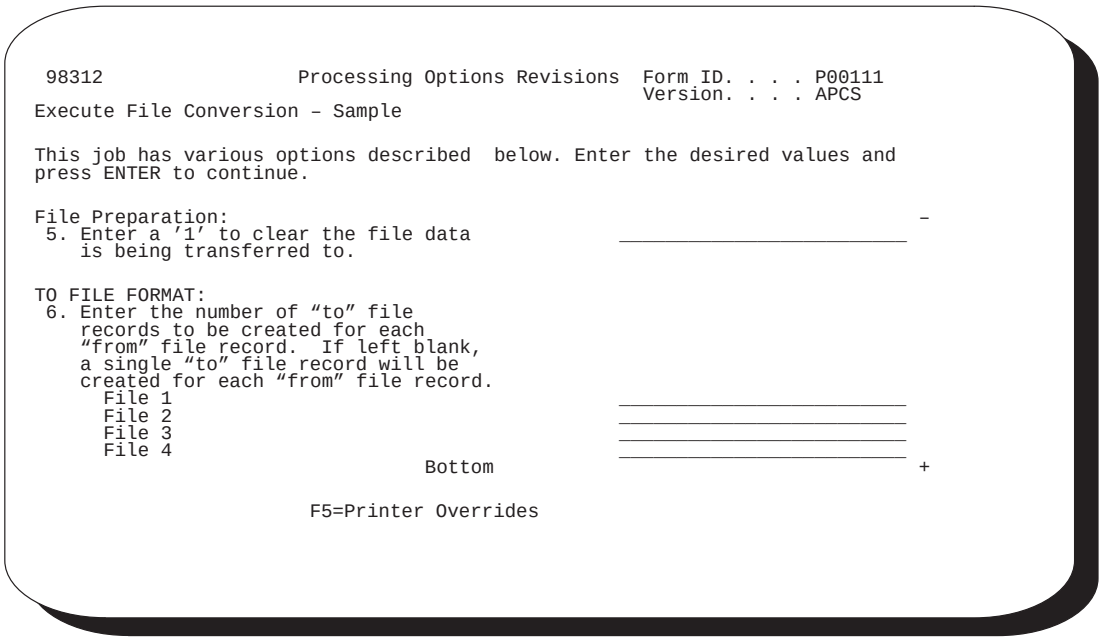


```
 98312                Processing Options Revisions  Form ID. . . . P00111
                                                    Version. . . . APCS
Execute File Conversion – Sample

This job has various options described  below. Enter the desired values and
press ENTER to continue.

FILE SPECIFICATION:
 1. Enter the name of the Form ID and
    version containing the conversion
    specifications.
      Form ID                                       P00120
      Version                                       APCS

 2. Enter the name and library of the
    "from" file, if different than the
    Form ID and version containing the
    conversion specifications.
      From File name
      From File library
** Caution – file must be the same field
format as file used to generate rules.                                    +

                        F5=Printer Overrides
```

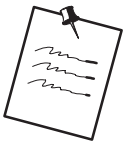
Option	Explanation
Enter the name of the Form ID and version containing the Initial Setup step.	Type your Form ID and version from the conversion specifications.
Enter the name and library of "from" file, if different than the Form ID and version specified.	Type the name of the From file and library, if it is different than the From file and library in the Form ID and version specified above.



Option	Explanation
Enter the name of the file OR files to convert the data to.	Type the name(s) of the *To* file(s). Up to four files can be specified. If these fields are left blank, all files entered in the setup version are converted.
Enter the library the to files are in.	Type the name of the library containing the *To* file(s), or leave blank to have the library list searched.



Option	Explanation
Enter a "1" to clear the file data is being transferred to.	Enter "1" to clear the *To* file. The *To* file will be filled only with converted records. If this field is left blank, the converted data records are added to the *To* file.
Enter the number of to file records to be created for each from file record.	Enter the number of *To* file records you want to create for each *From* file record. If this field is left blank, only a single *To* file record will be created for each *From* file record.



- If you are using multiple *From* file(s), remember to create a join logical over all the *From* files you wish to use.
- When adding a new version, you should check to see that the format name under Additional Parameters is correct for the based on file.

3. Enter the correct values on Processing Options and submit your version to complete the conversion process.

What You Should Know About

- If you are using multiple From files, remember to create a join logical over all the From files you want to use.
- When adding a new version, check to see that the format name for the based-on file is correct for the file. The default is lxxxx and may not be appropriate.
- The From file name and the To file names should be the same as used to set up the conversion rules in Step 1.
- You can use DREAM Writer data selection to specify which records in the Fro file are to be converted. For example, convert one branch or one company only.
- A printed report lists error conditions detected by *CHK keyword and lists the total number of records read and number of records converted. The report lists the description of the errors. Depending on the error condition, you may need to correct the values in the incoming data and rerun the conversion.

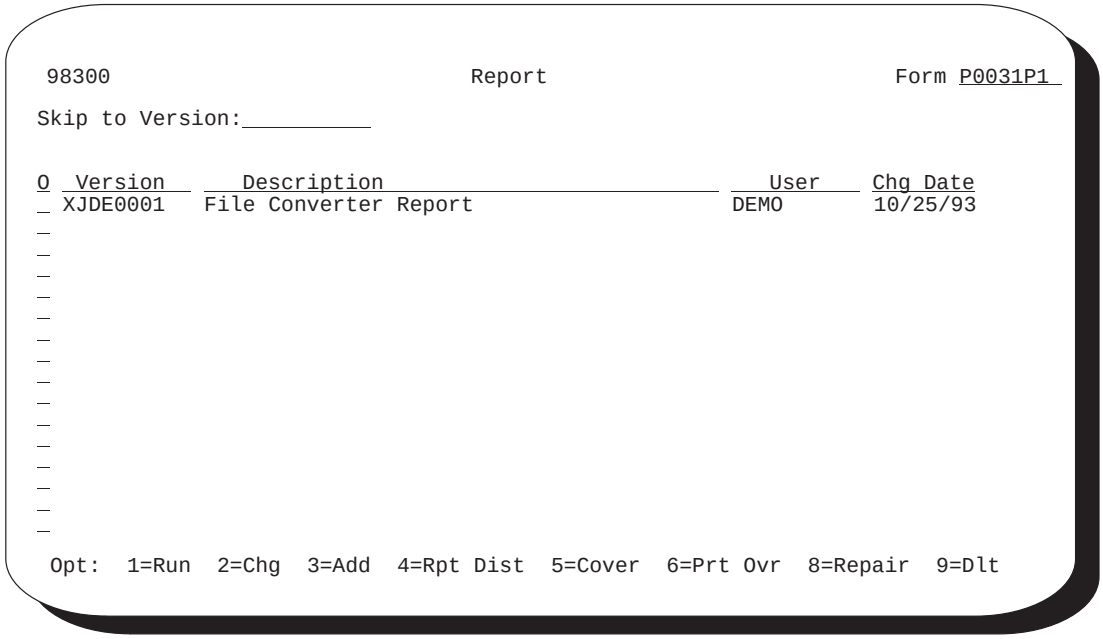
Print a Report

Printing a Report

You can print a report that displays the Cross Over Rules and any associated generic text.

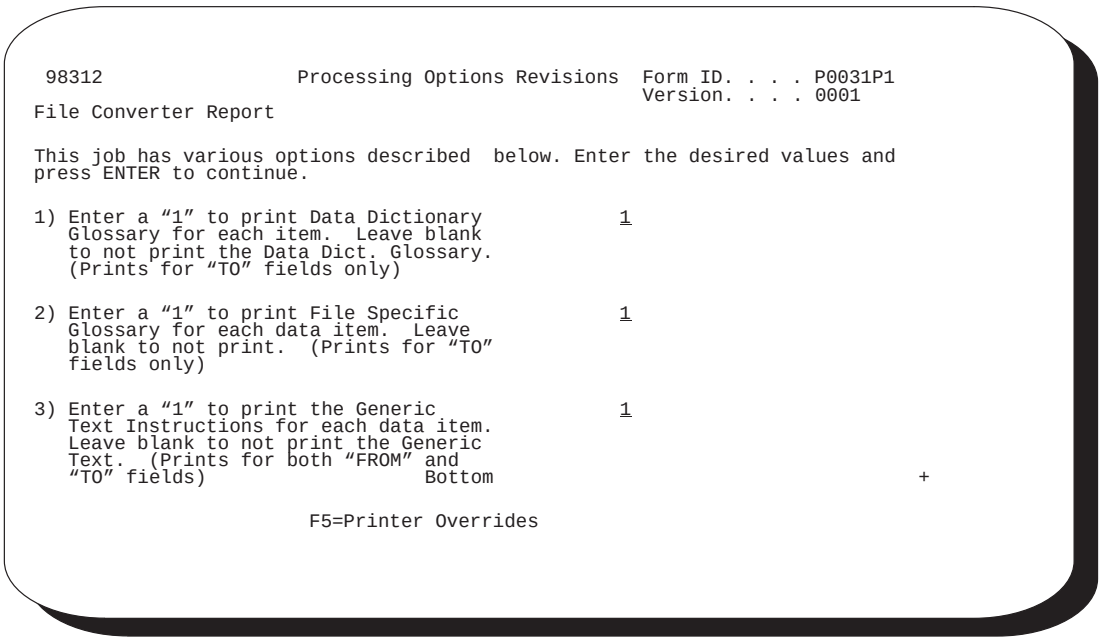
▶ To print a report

1. From Universal File Converter, choose Report



The form can list different versions of the File Converter Report. The example shown is for illustrative purposes only.

2. On the Data Selection form, specify your Form ID and version.



```
 98312                Processing Options Revisions  Form ID. . . . P0031P1
                                                    Version. . . . 0001
File Converter Report

This job has various options described  below. Enter the desired values and
press ENTER to continue.

1) Enter a "1" to print Data Dictionary            1
   Glossary for each item.  Leave blank
   to not print the Data Dict. Glossary.
   (Prints for "TO" fields only)

2) Enter a "1" to print File Specific              1
   Glossary for each data item.  Leave
   blank to not print.  (Prints for "TO"
   fields only)

3) Enter a "1" to print the Generic                1
   Text Instructions for each data item.
   Leave blank to not print the Generic
   Text.  (Prints for both "FROM" and
   "TO" fields)                  Bottom                                    +

                       F5=Printer Overrides
```

3. Select one of the following print options.

Field	Explanation
Enter a "1" to print Data Dictionary Glossary for each item.	Prints Data Dictionary Glossary for each To field.
Enter "1" to print File Specific Glossary for each item.	Prints file specific glossary from Generic Text file (F00163) for each *To* file.
Enter "1" to print generic text instructions for each item	Prints any generic text associated with either *To* fields or *From* fields.

Create Conversion Forms

Creating Conversion Forms

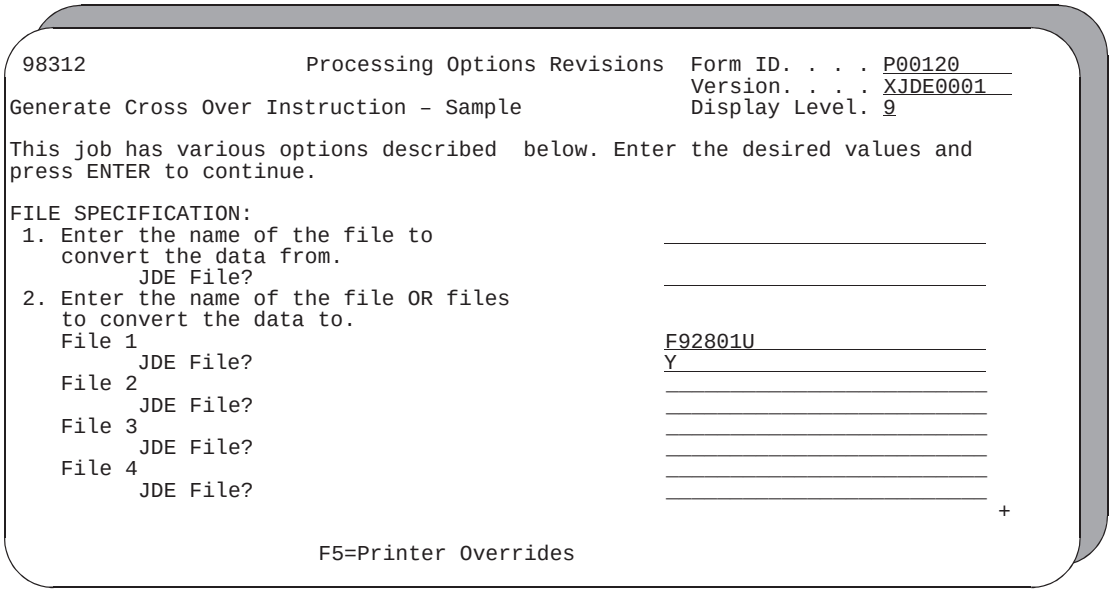
The Universal File Converter helps you create conversion forms that you may want to use for planning purposes when you convert your non-JDE files into JDE files.

- Start by creating a form that specifies the major file in the "Convert to" file. The name of the file you convert from is intentionally left blank. This lets you create a blank set of conversion rules which you can print using the Report selection.
- JDE supplies a special Data Dictionary glossary relating to specific fields in specific files in your JDE Data Dictionary text. You can also create new field descriptions that better correspond to your system by pressing F14 for generic text in the crossover rules revisions.
- If you decide to use the blank version (described above) for actual file conversion, type the From file specifications corresponding to the appropriate To field using the Crossover Rules. Be sure to override the From file before you execute the conversion program.

Creating Conversion Forms

▶ To create a conversion form

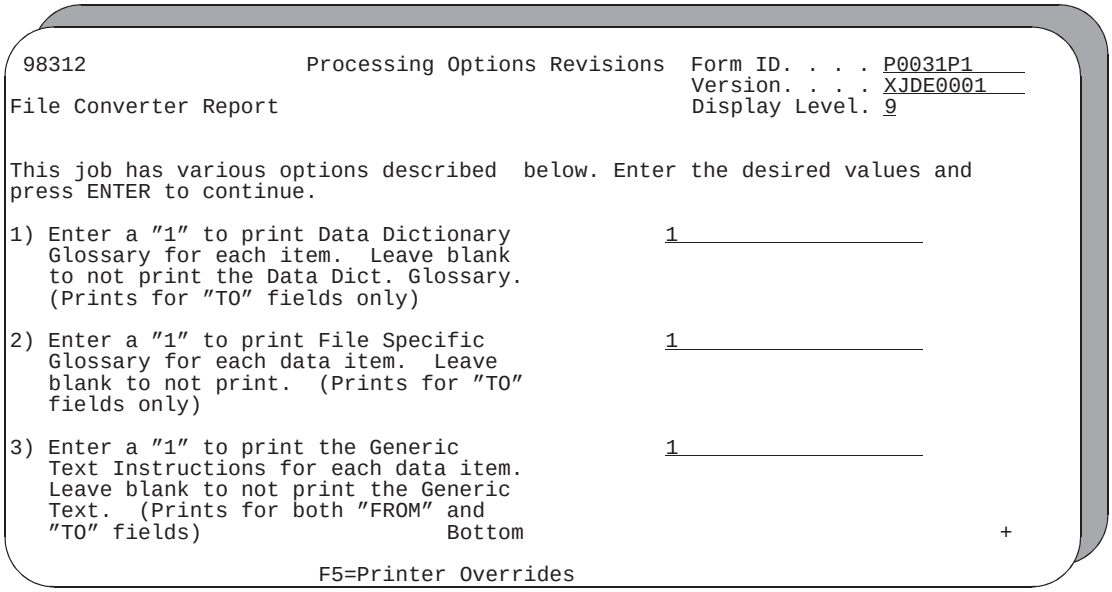
1. From the Universal File Converter menu, select either Versions Setup or Report.



```
98312                Processing Options Revisions  Form ID. . . P00120
                                                   Version. . . XJDE0001
Generate Cross Over Instruction – Sample           Display Level. 9

This job has various options described  below. Enter the desired values and
press ENTER to continue.

FILE SPECIFICATION:
 1. Enter the name of the file to                  ____________________
    convert the data from.
       JDE File?                                   ____________________
 2. Enter the name of the file OR files
    to convert the data to.
    File 1                                         F92801U_____________
       JDE File?                                   Y___________________
    File 2                                         ____________________
       JDE File?                                   ____________________
    File 3                                         ____________________
       JDE File?                                   ____________________
    File 4                                         ____________________
       JDE File?                                   ____________________
                                                                       +

                      F5=Printer Overrides
```

2. Complete the Processing Options Revisions form

   - If you selected Versions Setup, be sure to leave the first processing option blank under File Conversion.
   - In the second option, type the name of the files you want to convert, and then Y if they are JDE files or N if they are not.



- If you select Report, type 1 next to all three options as shown above.

Work with the Data Dictionary Glossary by File

About Working with the Data Dictionary Glossary by File

When using the Universal File Converter, small details often differ for each file. Keeping these details clear, especially when the conversion form might be used by another department, is a potential problem. To remedy this, J.D. Edwards has made it possible to attach Data Dictionary glossary text to each data item that explains the details particular to that specific file.

To work with the Data Dictionary Glossary by file perform the following tasks:

- ❑ Access the Data Dictionary Glossary by file
- ❑ Add a file specific glossary item
- ❑ Print the Data Dictionary Glossary information

Accessing the Data Dictionary Glossary by File

To access the Data Dictionary Glossary by file

1. From the Universal File Converter menu, type DD and press Enter.
   - The Data Dictionary Repository screen appears.

```
9201                          Data Dictionary          Rls Last Chg A61
 Action Code. . . . I                                  Item Parent.
 Data Item. . . . . MCU
 Glossary Group . . D
 - - - - - - - - - - - - -     General Information     - - - - - - - - - - - - - -
 Alpha Desc . . . . Business Unit
 Reporting System . 09
 System Code. . . . 09          Type . A  Size . 12      Data File Decimals __
 Data Item Class. . COSTCTRSEC  Item Occurrences ___     Display Decimals . _

 - - - - - - - - - - - - -        Descriptions         - - - - - - - - - - - - -
 Row Description. . Business Unit
 Column Title . . .   Business
                        Unit

 - - - - - - - - - -   Default and Display/Edit Rules    - - - - - - - - - - -
 Default Value. . . _____________________________________
 Data Display Rules *RAB                                 Justify. _
 Data Edit Rules. . SERVER X0006
                    ____________________________________

 Search Program . . __________
 Next Nbr System. . ____   Next Number Index . . __

  F4=Search  F8=UDC  F9=Prev  F10=Glossary   F11=Descriptions  F15=Where Used
```

2. Press F10 to display the glossary definition of the data item you selected.

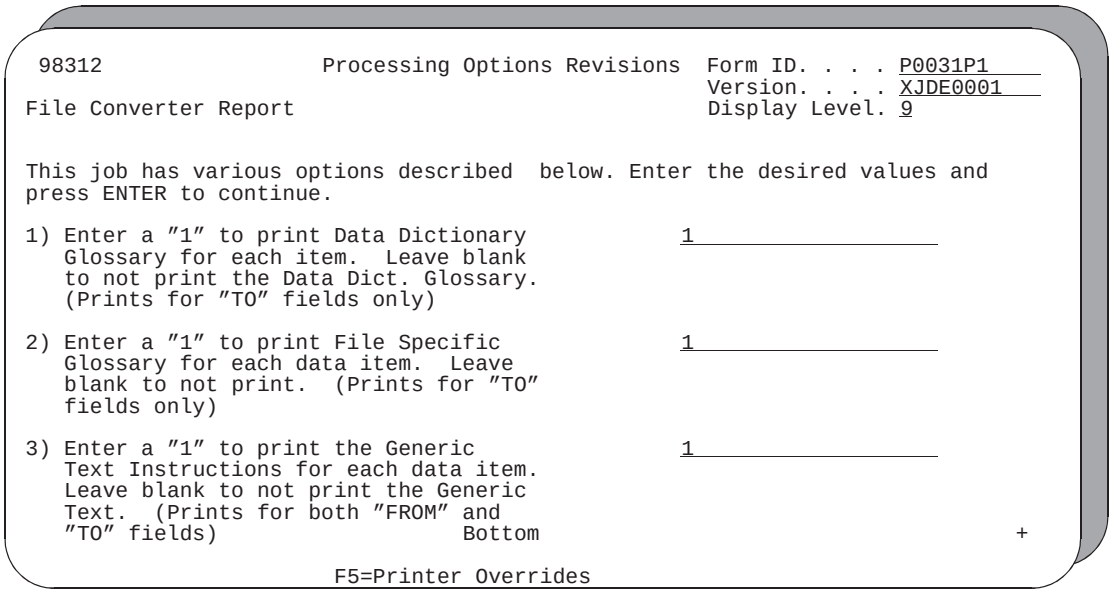
```
92001                    Data Item Glossary Revisions   Language         . ___
                                                        Applic Override    ___
                                                        Scrn/Rpt . F4102   ____

 Action Code. . . . . I
 Data Item. . . . . . MCU          Desc Business Unit
 System Code. . . . . 09           Reporting System Code. 09
 Glossary Group . . . D

Identifies a separate entity within a business for which you wish to track
costs, for example, a warehouse location, job, project, work center, or
branch/plant. The business unit field is alphanumeric.

You can assign a business unit to a voucher, invoice, fixed asset, and so forth,
for responsibility reporting.  The system provides reports of open A/P and A/R
by business units, for example, to track equipment by responsible department.

Business Unit security can prevent you from inquiring on business units for which
you have no authority.

In the Inventory Management System, MCU represents a branch or plant

     F4=Search     F9=Redisplay Prev     F19/F20=Prev/Next Item     F24=More
```

Use the Data Item Glossary Revisions form to change the glossary text for a Data Dictionary item or to add a File-Specific glossary item.

Adding a File Specific Glossary Item

To add a File Specific Glossary item

1. Type A in the Action Code field.
2. Type the file name in the Scrn/Rpt field.
3. Type the new text and press Enter.



Printing the Data Dictionary Glossary Information

To print the Data Dictionary Glossary information

1. Select Report.
2. Complete the Processing Options Revisions form.
   - Type 1 next to all three options to print the Data Dictionary glossary.
   - Option 2 prints the File-Specific glossary text.

Appendices

Appendix A - Common & Production Library Files

This appendix lists the files that are automatically created in the common and production libraries during the installation process.

Chart A - Common Library Files Automatically Created by J.D. Edwards Build Programs

The following chart contains files automatically generated as a result of a build program that J.D. Edwards offers from a menu. It is recommended that these files be maintained in your common library.

File Name	File Description	System Code
F98FRF@	Field Reference - "@" Data Items	98
F98FRF$	Field Reference - "$" Data Items	98
F98FRFA thru	Field Reference - "A" Data Items through	98
F98FRFZ	Field Reference - "Z" Data Items	98

Chart B - Physical and Logical Files Created in a Common Library

The following chart shows the physical and the logical files that were created in a Common Library if one was specified for the Create User Data Libraries selection on menu A9645. Logical Files contain no data. Therefore, data copied is N.

File Name	File Description	Copy Data
F0002	Next Numbers - Automatic	Y
F0004	User Defined Code Types	Y
F0004D	User Defined Codes - Alternate Language Desc	Y
F0005	User Defined Codes	Y
F0005D	User Defined Codes - Alternate Language Desc	Y
F0005LA	LF - System Code, Desc Title Type, Desc., Desc Title	N
F0016	Generic Text File	N
F00161	Generic Text Window Definition File	Y
F00162	Generic Text Key Definition File	Y
F00163	Generic Text Key Index File	N
F00163LA	Generic Text Key Index File - LF By Key Serial Number	N
F00164	Generic Text Key Index File (120 character key)	N
F00164LA	Generic Text Key Index File - LF by Key Serial Number	N
F0082	Menu Master	Y
F00821	Menu Selection Detail	Y
F0083	Menu Selection Text	Y
F0082H	Menu Selection History	N
F0090HL@	LF - Combined Sequences	N
F0090L@	LF - Job To Execute	N
F009141	Word Search Occurrences Master	Y
F009141S	Word Search Occurrences Master - Dist Supplemental	N
F009190	Word Search Occurrences Master	Y
F009191	Question & Answer Search Occurrence Master	Y
F009198	Question & Answer Search Occurrence Master	Y
F0095	Open File Directory	Y

File Name	File Description	Copy Data
F009690	Menu Word Search Master	Y
F009690LA	LF - By Key and Search Word	N
F009691	Question & Answer Word Search Master	Y
F009691LA	LF - By Key and Search Word	N
F009698	Word Search Master - Question and Answer Data Base	N
F009698LA	LF - By Key and Search Word	N
F009790	Word Search Verbs	Y
F0098	ASI Master File	Y
F0098LA	LF - System Code, Job to Execute	N
F0098LB	LF - Release, Type, System Code	N
F12601	WF - STAR	Y
F12601LA	LF - SK01 through SK09	N
F12601LB	LF - STAR Logical Over Workfile	N
F12603	STAR General Specifications Master File	Y
F12603LA	LF - STAR General Specifications Master File	N
F12604	STAR - Column Specification Master File	Y
F12605	STAR - Row Specifications Master File	Y
F12606	STAR - Cell Specifications Master File	Y
F12607	STAR - Row Creation File	Y
F12608	WF - STAR - Balance Auditor	Y
F12609	STAR - Print Image File	Y
F81900	DREAM Writer - Performance Statistics Master	Y
F81900LA	DREAM Writer - Performance Statistics	N
F81901	DREAM Writer Statistics Detail	Y
F81901LA	LF - File and Keys	N
F81902	DREAM Writer - Statistics Detail Accumulator	Y
F83JOIN	FASTR - Format File for Open Query Dynamic Join	Y
F83JOINA	FASTR - Format File for Open Query Dynamic Join	Y
F83JOINB	FASTR - Format File for Open Query Dynamic Join	Y
F83WORK	FASTR - Work File Save Data	Y

File Name	File Description	Copy Data
F83WORKB	FASTR - Work File Save Data	Y
F8301	WF - FASTR	Y
F8302	WF - Level of Detail	Y
F8303	FASTR General Specifications Master File	Y
F8303LA	LF - FASTR General Specifications Master File	N
F8304	FASTR - Column Specifications Master File	Y
F8305	FASTR - Row Specifications Master File	Y
F8306	FASTR - Cell Specifications Master File	Y
F8307	FASTR - Row Creation File	Y
F8308	WF - FASTR - Balance Auditor	Y
F8309	FASTR - Print Image File	Y
F8310	WF - FASTR - Balance Auditor	Y
F8350	FASTR - Cost Center Organizational Chart	Y
F8410	DDP Routing Master	Y
F8415	DDP Transfer File Setup	Y
F9200	Data Item Master	Y
F9200JA	JF - Data Item (F9203 F9200)	N
F9200JB	JF - Data Item (F9200 F9205) Error Messages Only	N
F9200JC	JF - Data Item (F9203 F9200)	N
F9200JD	JF - Data ITem (F9201 F9200)	N
F9200LA	LF - Glossary Group, Data Item	N
F9200LB	LF - System Code, Data Item	N
F9201	Data Field Specifications	Y
F9201JA	JF - Data Item (F9202 F9201)	N
F9201LA	LF - Data Edit Rule, ER Spec 1, ER Spec 2	N
F9201LB	LF - Data Item Class, Data Item	N
F9202	Data Field Display Text	Y
F9203	Data Item Alpha Descriptions	Y
F9204	Data Item Aliases	Y
F9204LA	LF - Alias Type, Alias, Data Item	Y

File Name	File Description	Copy Data
F9205	Data Dictionary - Error Message Program ID	Y
F9220	Screen/Report Text Master	Y
T9220	Screen/Report Text Master	Y
F92710	Action Diagramming Translation Master	Y
F93000	Model Program Definition Master	Y
F93000LA	LF - Model Program Definition - X–Ref	N
F93001	Source Code Inventory Master	Y
F93001LA	LF - Primary Source Key	N
F93002	Additional Help/Modifications Master	N
F93002LA	LF - Primary, Secondary and Serial Number	N
F93003	WF - Source Merge Monitor	N
F93004	User Defined Entry Point Source Code Master	Y
F93101	General Purpose/Type Parameters	N
F93101LA	LF - Program ID by Program Type	N
F93102	File Specifications	N
F93103	Data Base Format Parameters	N
F93103LA	LF - Program ID, Format Name, File Name	N
F93104	Program Exit Parameters	N
F93105	Detail Program Logic Parameters	N
F93105LA	LF - Program ID, Data Field Name	N
F93105LB	LF - Program ID, File Name, Key Position	N
F93105LC	LF - Program ID, Clear After, Field Name	N
F93105LD	LF - Program ID, Field Type, Field Name	N
F93105LE	LF - Program ID, Data Field Name	N
F93105LF	LF - Program ID, Data Field Name	N
F93105LG	LF - Program ID, Data Field Name	N
F93105LH	LF - Data Field Parameters LF - #DDICT, #DDFTY	N
F93105LI	LF - Program ID, Parameter Sequence	N
F93105LJ	LF - Program ID, Field Name	N
F93105LK	LF - Program ID, Field Name, File Name	N

File Name	File Description	Copy Data
F93105LL	LF - Program ID, Data Item	N
F93106	Automatic Accounting Instruction Parameters	N
F93107	Print Control Parameters	N
F93108	Operation Code to Logic Module X–Ref	Y
F93109	User Defined Procedures	N
F93110	User Defined Procedures Detail	N
F93111	User Defined Procedures Work Field Definition	N
F93112	User Defined Entry Point Definition	N
F93201	Key List File Maintenance	Y
F9501	Unattended Operations Scheduling Master	N
F9501LA	LF - System, Pgm ID, Library, User	N
F9501LB	LF - Pgm ID, Library, User	N
F9501LC	LF - Library, Pgm ID, User	N
F9501LD	LF - User, Pgm ID, Library	N
F9501LE	LF - Execution Date, Execution Time	N
F9601	Function Key Translation Master	Y
F9601D	Function Key Definitions - Alternate Language Desc	Y
F9611	Function Key Translation Detail	Y
F9611LA	LF - Function Key Field Name, Screen Name	N
F9612	Function Key Security	N
F9612LA	LF - Function Key Security	N
F9620	Cursor Sensitive Control Master	Y
F9620LA	LF - File, Field, and Format	N
F9620LB	LF - File, Format, and Field	N
F9621	Cursor Control Format Master Maintenance	Y
F9621LA	LF - By Formats	N
F9701	ASI SAR Information Master File	Y
F98HELP	Help Instructions Master File	Y
F98HEPLA	LF - Help Instructions Master File	N
F9800Y	Data Dictionary (Field Reference)	Y

File Name	File Description	Copy Data
F98001	Cross-Reference Relationships	N
F98001LA	LF - Cross-Reference Relationships	N
F98001LB	LF - Cross-Reference Relationships	N
F98001LC	LF - Cross-Reference Relationships	N
F98001LD	LF - Cross-Reference Relationships	N
F98002	Cross-Reference File Information	N
F98002LA	LF - Cross-Reference Relationships	N
F98002LB	LF - Cross-Reference Relationships	N
F98002LC	LF - Cross-Reference Relationships	N
F98003	Cross-Program Field Information	N
F98003LA	LF - Cross-Reference Program Field Information	N
F98003LB	LF - Cross-Reference Program Field Information	N
F98003LC	LF - Cross-Reference Program Field Information	N
F98009	CASE Profiles File	N
F9801	Software Versions Repository Master	Y
F9801JA	JF - Member ID (F9801, F9802)	N
F9801L@	LF - Functional Usage/System/Function/Member ID	N
F9801LA	LF - Future Planning - Software Inventory Master	N
F9801LB	LF - Functional Usage/System/Function/Member ID	N
F9801LC	Software Inventory Master Logical-Sys, Base, MID	N
F9801LD	LF - Function Code, Member ID	N
F9801LE	LF - File Prefix, Member ID	N
F9801LF	LF - Function Code, System Code, Member ID	N
F9801LG	LF - Member ID	N
F9801LH	LF - Member Suffix, Member ID	N
F9801LI	LF - Reporting System, Member Suffix, Member ID	N
F9801LJ	LF - Member ID (System Code=2 bytes)	N
F98012	SVR Member Category Codes	N
F98013	SVR Member Parm/Key List	N
F9802	Software Versions Repository Detail	Y

File Name	File Description	Copy Data
F9802LA	LF - SAR/MID	N
F9802LB	LF - Version/Type	N
F9805	Printer File Creation Parameters	Y
F98100	Report Writer Combined Versions List	Y
F9816	Data Dictionary Generic Text File	N
F98163	Data Dictionary Generic Text Key Index File	N
F98163LA	DD Generic Text Key Index File - LF by Key Serial Num	N
F98200	Report Writer Version Selection Definition	Y
F98301	DREAM Writer Master Parameter	Y
F98301LA	LF - Record Type, Program, Version and Sequence No	N
F98301LB	LF - Program ID, Version, Type, Prompt Line - Window	N
F98301LC	LF - Program ID, Version, Option #	N
F98301LD	LF - Key on Form Id & FldName	N
F98302	DREAM Writer - Processing Options (Language Pref)	Y
F98302LA	DREAM Writer - Processing Options (Language Pref)	Y
F98303	DREAM Writer - Version Headings (Language Pref)	Y
F9831	DREAM Writer Values Parameter	Y
F98311	DREAM Writer - Headings File	Y
F98312	DREAM Writer - Printer Overrides	Y
F98501	Dialogue Description Master	Y
F98501LA	LF - Dialogue Type, Member, Data Item	N
F98501LB	LF - Data Item, Member ID	N
F98510	Dialogue Question Master	Y
F98511	Dialogue Question Responses	Y
F98511LA	LF - Keys: Mid, Dtai, Nxts	N
F98519	Dialogue *LIST Responses	Y
F98520	Quiz History Master	N
F98521	Quiz History Detail	N

Chart C - Physical and Logical Files Created in Production Library with Data

The following chart shows the physical and the logical files that were created in Production Library with data. Logical files contain no data, therefore data copied is N.

File Name	File Description	Copy Data
F0009	General Constants	Y
F0010	Company Constants	Y
F0012	Automatic Accounting Instructions Master	Y
F0012LA	LF - Sequence No., Item No., Company	N
F0012LB	LF - System, Sequence No., Item No., Com	N
F06211	Payroll Cycle Version File	Y
F063920	Payroll Archive Version File	Y
F06723	W-2 Audit Report File	Y
F06723LA	W-2 Audit Report File (vers)	Y
F069016	Tax Area Constant	Y
F069016A	LF - Tax Area Code	N
F069016B	LF - Tax Area Code	N
F069016C	LF - Statutory Code, Tax Type	N
F069027	Table Unit of Measure File	Y
F06917	Tax Payment Schedule File	Y
F126JOIN	STAR - Join format file for F1201 & F1202	Y
F1510	Property Management Constants	Y
F200001	Energy Constants Revisions	Y
F200002	Interest Type Constants	Y
F200003	Product Codes Constants	Y
F200004	Revenue/Prod Trans Typ Constants	Y
F230001	WPT Inflation Factor Constants	Y
F230002	Tax and Deduction Profile Constants	Y
F230003	Tax Rates Constants	Y
F230003A	LF - Tax Code, Effective Date	N

File Name	File Description	Copy Data
F230004	Sliding Scale Tax Rates Constants	Y
F40096	Default Print Queues	Y
F40105	Subsystem Control Parameters	Y
F4090	Distribution/Manufacturing - AAI Master File	Y
F4091	Category Code Key Position File	Y
F48090	Work Order Supplemental Data Types	Y
F4849	Available Data Items	Y
F4849LA	Available Data Items	Y
F4849LB	Available Data Items	Y
F4857	Retrieval Code Definition	Y
F5192	Inquiry Columns	Y
F5193	Inquiry Formats	Y
F5194	Inquiry Paths	Y
F82013	World Writer Multi-Currency File	Y
F82100	Query Header File	Y
F82101	Query Data File Selections	Y
F82102	Query Data File Join Fields	Y
F82103	Query Output Print Fields	Y
F82104	Query Output Print Field Calculations	Y
F82105	Query Data Selection Fields	Y
F82106	Query Data Selection Values	Y
F82107	Query Sort Fields	Y
F82108	Query Field Summary Functions	Y
F82109	Query File Update Specifications	Y

Appendix B - Upgrading Customized Source Code

J.D. Edwards provides you access to several complementary products. If you have customized J.D. Edwards source code, the following products will help you upgrade your source code.

S/Compare

Overall, S/Compare is a valuable aid used to:

- Identify differences between any two programs
- Simplify the task of documenting program changes
- Simplify the task of consolidating your custom changes into new releases of programs
- Identify differences between the names of the programs in two different files to quickly locate added or deleted programs in the new release

The S/Compare utility is specifically designed to compare two versions of source code. It will locate inserted, deleted, changed, or moved records in a source program. Processing options are provided to include or exclude comment lines, blank lines, and formatting differences. S/Compare's output clearly identifies differences between two source members on a composite list of both programs. An option allows the records that are the same in the programs to be omitted from the listing to produce a report of only the differences between the files. This option also allows a given number of matching records on each side of a mismatch to be listed to help in identifying the section of source code.

Features of S/Compare

Some of the features and capabilities of S/Compare are:

- Flags are used in the composite listing to clearly mark statements or blocks of statements that have been inserted, deleted, or moved.
- Records that are moved from one location in the original file to another in the new program are indicated by source and target locations.
- Printing large blocks of identical code can be eliminated by a processing option. Only the differences will be printed and you can control the number of matching lines that are listed before and after each block of mismatched code.
- Differences between your program and the new program can be listed in an edit program.
- There is a processing option that can eliminate mismatches being printed because of spacing between words.

Harmonizer

Harmonizer adds to the capabilities of S/Compare by allowing the comparison of 3 to 16 program versions. Like S/Compare, the comparison results are written in a format that clearly depicts the differences between source members. In addition, Harmonizer has the capability of merging program versions to generate a composite source member. You can control what is written to the composite source member when potential conflicts are found.

Features and Capabilities of Harmonizer

Some of the features and capabilities of Harmonizer are:

- The comparison of 3 to 16 versions of a program.
- Two report formats are available. The MULTI-Compare report compares 3 to 16 programs. The TRI-Compare report is specifically designed for 3 programs.
- Statements from the original file that have been replaced, inserted, or deleted are noted on the comparison reports.
- All of the features of S/Compare are supported by Harmonizer when 3 programs are being compared, except the creation of an edit program which has been replaced by the creation a composite output program.
- The composite program may be compiled immediately or it may be edited. The ScmpEdit utility can be used to remove specified code in the composite program.
- The HARMONIZER command can be used to execute S/Compare and Harmonizer making the utilities easier to use.

Harmonizer Added to S/Compare

- You can incorporate your program changes into new releases easier. Harmonizer can compare the J.D. Edwards original program, the J.D. Edwards new release, and your customized program to produce a composite source file and a composite report. The composite report notifies you of discrepancies in the replacement, insertion, or deletion of code.
- The Source File Synopsis report produces a comparison of the program names in the J.D. Edwards original source file,the J.D. Edwards new source file, and your source file to determine any additions or deletions of programs.
- You can merge the development work of several programmers working on the same program.

About Harmonizer Plus

Harmonizer Plus adds to the capabilities of S/Compare and Harmonizer by helping you manage the ENTIRE process of building a new software release.

About the Project Manager Feature

The Project Manager feature will display an up-to-the-minute status of every program in your upgrade project. It shows:

- Which merged objects need a programmer review due to conflicts between local changes and vendor changes.
- Modified objects that are already created and ones that need to be created.
- Objects that are ready for production.
- Unmodified objects that must be recreated because they are dependent on modified objects.
- Objects that must be present before the object you are working with can be created.

Additional Functions

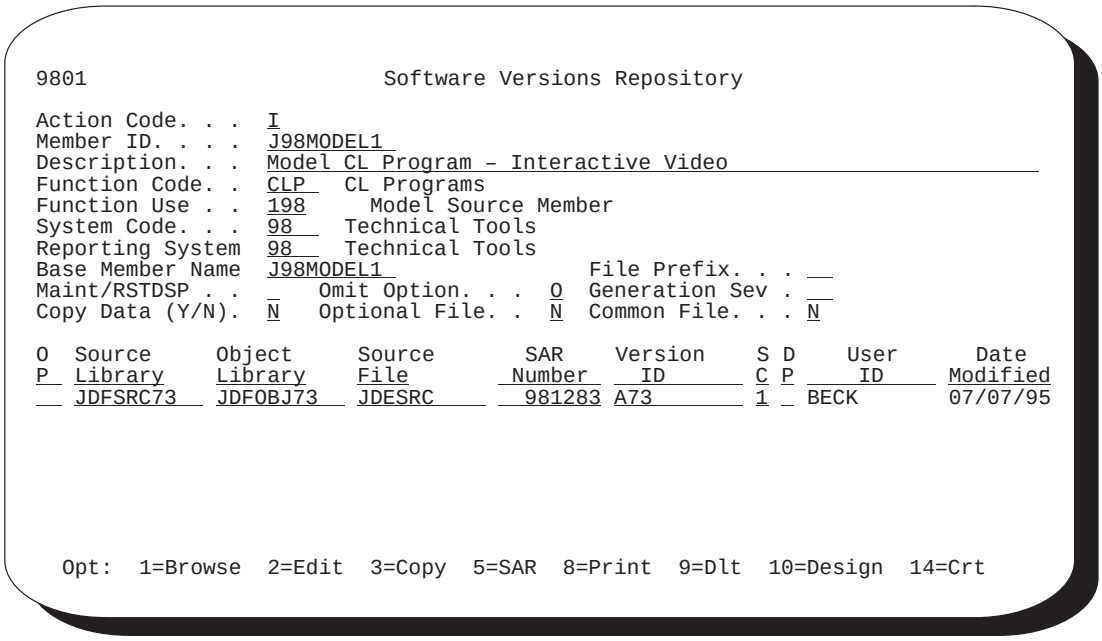
Harmonizer Plus provides a workbench for programmers to perform a variety of functions. Given the proper authority, a programmer can:

- Directly access SEU for editing programs.
- Mass compile entire groups of programs.
- Selectively compile individual programs.
- Selectively create all objects dependent on a modified object.
- Add or delete programs from the new production version.

Harmonizer Plus identifies unchanged modules that must be recompiled due to changes in prerequisite objects. For example, if you have modified DDS, Harmonizer Plus can identify programs that reference the related files. It can then recompile those programs. All you need to do is test and move the new libraries into production.

Appendix C - CL Models

J98MODEL1 - Interactive Video



J98MODEL2 - Batch DREAM Writer without Printer File

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  J98MODEL2
Description. . .  Model CL Program - Batch DREAM Writer without Printer File
Function Code. .  CLP   CL Programs
Function Use . .  198     Model Source Member
System Code. . .  98    Technical Tools
Reporting System  98    Technical Tools
Base Member Name  J98MODEL2               File Prefix. . .
Maint/RSTDSP . .      Omit Option. . .  O  Generation Sev .
Copy Data (Y/N).  N   Optional File. .  N  Common File. . .  N

O  Source     Object     Source       SAR    Version    S D    User      Date
P  Library    Library    File        Number   ID        C P    ID      Modified
   JDFSRC73   JDFOBJ73   JDESRC      867923  A73        1        BECK    07/07/95

  Opt:  1=Browse  2=Edit  3=Copy  5=SAR  8=Print  9=Dlt  10=Design  14=Crt
```

J98MODEL3 - Interactive Video Prompt

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  J98MODEL3
Description. . .  Model CL Program - Interactive Video Prompt
Function Code. .  CLP   CL Programs
Function Use . .  198     Model Source Member
System Code. . .  98    Technical Tools
Reporting System  98    Technical Tools
Base Member Name  J98MODEL3               File Prefix. . .
Maint/RSTDSP . .      Omit Option. . .  O  Generation Sev .
Copy Data (Y/N).  N   Optional File. .  N  Common File. . .  N

O  Source     Object     Source       SAR    Version    S D    User      Date
P  Library    Library    File        Number   ID        C P    ID      Modified
   JDFSRC73   JDFOBJ73   JDESRC      867923  A73        1        BECK    07/07/95

  Opt:  1=Browse  2=Edit  3=Copy  5=SAR  8=Print  9=Dlt  10=Design  14=Crt
```

J98MODEL4 – Interactive/Batch with Processing Options

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  J98MODEL4
Description. . .  Model CL Program – Interactive/Batch with Processing Options
Function Code. .  CLP   CL Programs
Function Use . .  198     Model Source Member
System Code. . .  98    Technical Tools
Reporting System  98    Technical Tools
Base Member Name  J98MODEL4                File Prefix. . .
Maint/RSTDSP . .      Omit Option. . .  O  Generation Sev .
Copy Data (Y/N).  N   Optional File. .  N  Common File. . .  N

O  Source     Object     Source       SAR    Version    S D    User      Date
P  Library    Library    File        Number   ID        C P     ID     Modified
   JDFSRC73   JDFOBJ73   JDESRC      867923  A73        1       BECK     07/07/95

  Opt:  1=Browse  2=Edit  3=Copy  5=SAR  8=Print  9=Dlt  10=Design  14=Crt
```

J98MODEL5 – Batch Report Writer – No DDS File

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  J98MODEL5
Description. . .  Model CL Program – Batch Report Writer – No DDS File
Function Code. .  CLP   CL Programs
Function Use . .  198     Model Source Member
System Code. . .  98    Technical Tools
Reporting System  98    Technical Tools
Base Member Name  J98MODEL5                File Prefix. . .
Maint/RSTDSP . .      Omit Option. . .  O  Generation Sev .
Copy Data (Y/N).  N   Optional File. .  N  Common File. . .  N

O  Source     Object     Source       SAR    Version    S D    User      Date
P  Library    Library    File        Number   ID        C P     ID     Modified
   JDFSRC73   JDFOBJ73   JDESRC      867923  A73        1       BECK     07/07/95

  Opt:  1=Browse  2=Edit  3=Copy  5=SAR  8=Print  9=Dlt  10=Design  14=Crt
```

J98MODEL6 – Batch Report Writer OPNQRYF

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  J98MODEL6
Description. . .  Model CL Program – Batch Report Writer OPNQRYF
Function Code. .  CLP   CL Programs
Function Use . .  198     Model Source Member
System Code. . .  98    Technical Tools
Reporting System  98    Technical Tools
Base Member Name  J98MODEL6               File Prefix. . __
Maint/RSTDSP . .  _     Omit Option. . .  O  Generation Sev . __
Copy Data (Y/N).  N     Optional File. .  N  Common File. . . N

O  Source     Object     Source       SAR    Version    S D    User      Date
P  Library    Library    File        Number   ID        C P    ID      Modified
__ JDFSRC73   JDFOBJ73   JDESRC      867923 A73          1 _ BECK      07/07/95




  Opt:  1=Browse  2=Edit  3=Copy  5=SAR  8=Print  9=Dlt  10=Design  14=Crt
```

J98MODEL7 – Batch Report Writer OPNQRYF w/OQF Reset

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  J98MODEL7
Description. . .  Model CL Program – Batch Report Writer OPNQRYF w/OQF Reset
Function Code. .  CLP   CL Programs
Function Use . .  198     Model Source Member
System Code. . .  98    Technical Tools
Reporting System  98    Technical Tools
Base Member Name  J98MODEL7               File Prefix. . __
Maint/RSTDSP . .  _     Omit Option. . .  O  Generation Sev . __
Copy Data (Y/N).  N     Optional File. .  N  Common File. . . N

O  Source     Object     Source       SAR    Version    S D    User      Date
P  Library    Library    File        Number   ID        C P    ID      Modified
__ JDFSRC73   JDFOBJ73   JDESRC      867923 A73          1 _ BECK      07/07/95




  Opt:  1=Browse  2=Edit  3=Copy  5=SAR  8=Print  9=Dlt  10=Design  14=Crt
```

J98MODEL8 – Control File Driven Batch Process

```
9801                        Software Versions Repository

Action Code. . .  I
Member ID. . . .  J98MODEL8
Description. . .  Model CL Program – Control File Driven Batch Process
Function Code. .  CLP   CL Programs
Function Use . .  198     Model Source Member
System Code. . .  98    Technical Tools
Reporting System  98    Technical Tools
Base Member Name  J98MODEL8                File Prefix. . __
Maint/RSTDSP . .  _     Omit Option. . .  O  Generation Sev . __
Copy Data (Y/N).  N     Optional File. .  N  Common File. . . N

O  Source      Object      Source        SAR     Version     S D     User       Date
P  Library     Library     File         Number    ID         C P    ID       Modified
__ JDFSRC73    JDFOBJ73    JDESRC       867923  A73         1 _  BECK        07/07/95




  Opt:  1=Browse  2=Edit  3=Copy  5=SAR  8=Print  9=Dlt  10=Design  14=Crt
```

Glossary

Glossary

This glossary defines terms in the context of your use of J.D. Edwards systems and the accompanying user guide.

AAI. See Automatic Accounting Instructions.

access. To get to the information or functions provided by the system through menus, screens, and reports.

activity levels. The activity level of a storage pool is the number of jobs that can run at the same time in a storage pool. The machine manages the control of this level. Often during processing in a job, a program waits for a system resource or a response from a work station user. During such waits, a job gives up its use of the storage pools in order that another job that is ready to be processed can take its place.

A/D Cycle. Application Development Cycle.

advanced operating system. A single integrated operating system which contains: relational database, display manager, storage manager, communication manager, work manager, security manager and other managers.

AEC. Architectural, Engineering and Construction group.

allocating pools. If the system cannot allocate all the requested storage, it allocates as much storage as is available and allocates all the other as storage becomes available.

alphabetic character. Represents data by using letters and other symbols from the keyboard (such as *&#). Contrast with *numeric character*.

alphanumeric character. Represents data in a combination of letters, numbers, and other symbols (such as *&#).

ANSI. American National Standards Institute.

answers. Remember the online education system on the AS/400. All you need to remember is the command, *GO SUPPORT.*

AP. Accounts Payable.

APD. Application Program Driver.

API. An application programming interface describes the means by which a programmer can access the features provided by the interfaced object.

APPC. Advanced Program to Program Communications.

application. A collection of computer programs that allows you to perform specific business tasks. Some examples of applications are accounts payable, inventory, and order processing. Synonymous with *system.*

APPN. Advanced Peer-to-Peer Networking.

AS/400. Application System/400.

AS/400 Office. An IBM word processing program.

ASCII. American Standard Code for Information Interchange.

ASPs. Auxiliary Storage Pools.

attributes. To regard as belonging.

attribute byte. First character on a display field. This character controls how the field is displayed.

audit trail. The detailed, verifiable history of a processed transaction. The history consists of the original documents, transaction entries, and posting of records, and usually concludes with a report.

authority. The right to do some thing on the system or to use an object in the system, such as a file or a program.

automatic accounting instruction (AAI). A code that points to an account in the chart of accounts. AAIs define rules for programs that automatically generate journal entries. This includes interfaces between Accounts Payable, Accounts Receivable, and Financial Reporting and the General Accounting system. Each system that interfaces with the General Accounting system has AAIs. For example, AAIs can direct the Post to General Ledger program to post a debit to a certain expense account and an automatic credit to a certain accounts payable account.

autostart job entry. A job is automatically started each time the subsystem is started.

ATC. Area Training Coordinator.

AR. Accounts Receivable.

backup copy. A copy of original data preserved on a magnetic tape or diskette as protection against destruction or loss.

BAPR. Approved Budget Field Description.

BASIC. Beginners Application Software Introduction Class.

batch. A group of like records or transactions that the computer treats as a single unit during processing. For identification purposes, the system usually assigns each batch a unique identifier, known as a "batch number."

batch header. Information the computer uses as identification and control for a group of transactions or records in a batch.

batch job. A task or group of tasks you submit for processing that the system treats as a single unit during processing, for example, printing reports and purging files. The computer performs these tasks with little or no user interaction.

batch processing. A method by which the computer selects jobs from the job queue, processes them, and writes output to the outqueue. Contrast with *interactive processing.*

batch type. A code that designates which J.D. Edwards system the associated transactions pertain to, thus controlling what records are selected for processing. For example, in the Post General Journal process, only unposted transaction batches with a batch type of G for General Accounting are selected for posting.

bit. Binary digit. Either a zero or a one at the MI level.

Bomb. Fail.

Boolean logic operand. In J.D. Edwards DREAM Writer, the parameter of the Relationship field. The Boolean logic operand tells the system to perform a mathematical calculation on certain records or parameters. Available operands are:

EQ = Equal To
LT = Less Than
LE = Less Than or Equal To
GT = Greater Than
GE = Greater Than or Equal To
NE = Not Equal To
NL = Not Less Than
NG = Not Greater Than

BORG. Original/Beginning Budget Field BPC *v.* Budget Pattern Code.

BREQ. Requested Budget Field Description.

B/S. Balance Sheet.

buffer. A reserved memory area used for performing input/output operations.

business unit. Formerly cost center.

Caching. Refers to the use of a technique to locally store the results of input and output operations to minimize the use of slower accesses to disk drives and other storage devices.

CAD/CAP. Computer Assisted Design/ Computer Assisted Programming. A set of automated programming tools for designing and developing applications. These tools automate system design, generate source code and documentation, enforce design standards, and help to ensure consistency throughout all J.D. Edwards systems.

category code. In user defined codes, a temporary title for an undefined category. For example, if you are adding a code that designates different sales regions, you could change *category code 4* to *Sales Region*, and define E (East), W (West), N (North), and S (South) as the valid codes. Category codes were formerly known as *reporting codes*.

CC. Cost center. *Now known as Business Unit.*

CC.OBJ.SUB. Cost Center.Object.Subsidiary (J.D. Edwards Account Code Structure).

character. Any letter, number, or other symbol that a computer can read, write, and store.

character, special. Representation of data in symbols that are neither letters nor numbers. Some examples are: *&#/.

CLONE. Crazy Logic Only Nerds Enjoy. (Old term for the Program Generator.)

COBOL. Common Business Oriented Language.

Column. *See field*.

command. A character, word, phrase, or combination of keys you use to tell the computer to perform a defined activity.

compile. To change source code into computer readable code.

constants. Parameters or codes that rarely change. The computer uses constants to standardize information processing by an associated system. Some examples of constants are allowing or disallowing out-of-balance postings and having the system perform currency conversions on all amounts. Once you set constants such as these, the system follows these rules until you change the constants.

Core. The central and foundational systems of J.D. Edwards software, including General Accounting, Accounts Payable, Accounts Receivable, Address Book, Financial Reporting, Financial Modeling and Allocations, and Back Office. Now called Financials.

CPG. Complementary Products Group.

CRP. Capacity Requirements Planning.

CRP. Conference Room Pilot. A simulation of the client's business in a conference room environment.

CUA. Common User Access. IBM's specification of a user interface definition across applications.

CUM. A representation of changes to J.D. Edwards software, which your organization receives on magnetic tapes or diskettes.

current library. Specifies a single library that is searched before any other user libraries in the library list. A current library is optional and can be different for each user or job. On displays, the current library is represented by the value *CURLIB.

cursor. The blinking underscore or rectangle on your screen that indicates where the next keystroke appears.

cursor sensitive help. See *field help.*

data. Numbers, letters, or symbols that represent facts, definitions, conditions, and situations, that a computer can read, write, and store.

data item. A code which represents a field, file, program, menu message, error message or help text stored in the data dictionary. Each piece of information within the database is defined by a data item. Data item name definition is limited to four characters in the J.D. Edwards systems to allow for program manipulation of the item.

database. A continuously updated collection of all information a system uses and stores. Databases make it possible to create, store, index, and cross-reference information online.

data character. A pattern of 8 bits.

data dictionary. A database file consisting of the definitions, structures, and guidelines for the usage of fields, messages, and help text. The data dictionary file does not contain the actual data itself.

data field. A collection of data characters.

data Integrity. Refers to checking the relationships between data items (fields) and being sure that values correlate correctly.

data validation. Determining if data is correct when compared to a set of conditions.

DDE. Dynamic Data Exchange.

DDM. Distributed Data Management.

DDP. Distributed Data Processing.

DDS. Data Description Specifications.

default. A code, number, or parameter the system supplies when you do not enter one. For example, if an input field's default is N and the you do not enter something in that field, the system supplies an N.

descriptive title. See *user defined code*.

detail. The individual pieces of information and data that make up a record or transaction. Contrast with *summary*.

DFU. Data File Utility. An IBM product.

DIF. Data Interchange Format.

display. (1) To cause the computer to show information on a terminal's screen. (2) A specific set of fields and information that a J.D. Edwards system might show on a screen. Some screens can show more than one display when you press a specified function key.

display field. A field of information on a screen that contains a system-provided code or parameter that you cannot change. Contrast with *input field.*

DMA. Direct Memory Access.

DNS. Do Not Spread.

DOS. Disk Operating System.

DREAM Writer. Data Record Extraction And Management Writer. A flexible data manipulator and cataloging tool. You use this tool to select and sequence the data that is to appear on a programmed report.

DRP. Distribution Requirements Planning.

Dynamic. Is constantly changing.

DASD. Data Auxiliary Storage Device.

ECS. Electronic Customer Support.

edit. (1) To make changes to a file by adding, changing, or removing information. (2) The program function of highlighting fields into which you have entered inadequate or incorrect data.

EDI. Electronic Data Interchange. The transmission of business documents among computers of independent organizations.

EFT. Electronic Fund Transfer.

ElS. Executive Information System.

Engagement letter. A letter identifying the mutual understandings and initial expectation of the client and J.D. Edwards.

environment. The list of files required by a user to perform certain tasks. For example, a programmer has access to a test environment and an environment which includes live data. Each environment utilizes a different set of files.

execute. See *run*.

exit. (1) To interrupt or leave a computer program by pressing a specific key or a sequence of keys. (2) An option or function key displayed on a screen that allows you to access another screen.

facility. A collection of computer language statements or programs that provides a specialized function throughout a system or throughout all integrated systems. Some examples DREAM Writer and FASTR.

Fast Path Mnemonics. A method of using a UDC to define execution to a J.D. Edwards program.

FASTR. Financial Analysis Spreadsheet Tool and Report Writer. A report writer that lets you design your own report specifications using the general ledger database.

FDA. File Design Aid. A J.D. Edwards design tool.

field. (1) An area on a screen where you type in data, values, or characters. (2) A defined area, usually within a record, which can contain a specific piece of information such as name, document type or amount. For example, a vendor record consists of the fields Vendor Name, Vendor Address and Telephone Number. The field Vendor Name contains only the name of the vendor. See *input field* and *display field. Also known as column.*

field help. J.D. Edwards online Help function, which lets you view a description of a field, its purpose and, when applicable, a list of the valid codes that you can enter. You access this information by pressing F1 with the cursor positioned in the field.

file. A collection of related data records organized for a specific use and electronically stored by the computer. *Also known as table.*

financial systems. The central and foundational systems of J.D. Edwards software, including General Accounting, Accounts Payable, Accounts Receivable, Address Book, Financial Reporting, Financial Modeling and Allocations, and Back Office. *Previously known as core.*

fold area. An area of a screen, accessed by pressing F4, that displays additional information associated with the records or data items displayed on the screen.

function. A separate feature within a facility that allows you to perform a specific task, for example, the field help function.

function key. A key you press to perform a system operation or action. For example, you press F4 to have the system display the fold area of a screen.

Form. One World term for video.

glossary. The collection of text related to specific data items. The glossary contains help text and message text.

GL. General Ledger.

GA. General Accounting.

GST. Goods & Service Tax.

GUI. Graphical User Interface.

hard code. Program instructions which can only be altered by a programmer. The altered instructions must then recompiled so the computer can understand them.

hard copy. A presentation of computer information printed on paper. Synonymous with *printout*.

header. Information at the beginning of a file. This information is used to identify or provide control information for the group of records that follows.

help instructions. Online documentation or explanations of fields that you access by pressing the Help key or by pressing F1 with your cursor in a particular field.

helps. See *help instructions*.

hidden selections. Menu selections you cannot see until you enter HS in a menu's Selection field. Although you cannot see these selections, they are available from any menu. They include such items as Display Submitted Jobs (33), Display User Job Queue (42), and Display User Print Queue

(43). The Hidden Selections window displays three categories of selections: user tools, operator tools, and programmer tools.

HMC. Horizontal Microcode.

HS. J.D. Edwards Hidden Selections.

ICCC. InterCompany Cost Center. *Now known as business unit.*

ICF. Intersystem Communication Function.

ICH. InterCompany Hub.

IDDU. Interactive Data Definition Utility – IBM Product.

IMP. Internal Microprogram Load.

IMPI. Internal Microprogramming Interface.

Implementation Methodology. Nine steps to provide J.D. Edwards consulting staff with a guide for implementing the software in a thorough and consistent manner.

input. Information you enter in the input fields on a screen or that the computer enters from other programs, then edits and stores in files.

input field. An area on a screen, distinguished by underscores (_ _), where you type data, values, or characters. A field represents a specific type of information such as name, document type, or amount. Contrast with *display field*.

install system code. The four–character identifier of a J.D. Edwards system. For example, 01 for the Address Book system, 04 for the Accounts Payable system, and 09 for the General Accounting system. *Now known as system code.*

integrity. Soundness, completeness.

interactive job. An interactive job starts when **a** user signs on **a** display station and ends when the user signs off. During the job, the user interacts with the system.

interactive processing. A job the computer performs in response to commands you enter from a terminal. During interactive processing, you are in direct communication with the computer, and it might prompt you for additional information during the processing of your request. See *online*. Contrast with *batch processing.*

interface. A link between two or more J.D. Edwards systems that allows these systems to send information to and receive information from one another.

I/O. Input/Output.

IPL. Initial Program Load.

ITF. Interactive Terminal Facility.

JDE. Jack, Dan and Ed. Founders of JD Edwards & Co.

jargon. A J.D. Edwards term for system-specific text. You base your jargon help text on a specific reporting code you designate in the Data Dictionary Glossary. You can display this text as part of online help. You create your jargon text descriptions and titles for data items through the Data Dictionary, menu and vocabulary overrides record using a reporting system code. Jargon text descriptions and titles for data items display on screens as field names.

job. A single identifiable set of processing actions you tell the computer to perform. You start jobs by choosing menu selections, entering commands, or pressing designated function keys. An example of a computer job is check printing in the Accounts Payable system.

job description. An object consisting of a set of specifications about a computer job and its executing environment.

job log. A job log is a record of requests (such as commands) submitted by the system by a job, the messages related to the requirements and the actions performed by the system on the job.

job queue. A group of jobs waiting to enter a subsystem.

Join logical file. Presents composite records consisting of fields extracted from two or more physical records from two or more physical files.

justify. To shift information you enter in an input field to the right or left side of the field. Many of the facilities within J.D. Edwards systems justify information. The system does this only after you press Enter.

KBG. Knowledge-Based Generator. See *program generator.*

key field. A series of identifying or controlling characters a computer uses to retrieve related information tied to the key. An employee number, for example, is a key field consisting of references to other files in the system that contain information about the given employee.

Key General Ledger Account (Key G/L). See *automatic accounting instructions.*

LAN. Local Area Network.

leading zeros. A series of zeros that certain facilities in J.D. Edwards systems place in front of a value you enter. This normally occurs when you enter a value that is smaller than the specified length of the field. For example, if you enter 4567 in a field that accommodates eight numbers, the facility places four zeros in front of the four numbers you enter. The result would look like this: 00004567.

level check. A mechanism of the OS/400 that assures that a file version and program using that file are in sync with one another.

level of detail. (1) The degree of difficulty of a menu in J.D. Edwards software. The levels of detail for menus are as follows:

A=Major Product Directories
B=Product Groups
1=Daily Operations
2=Periodic Operations
3=Adv/Tech Operations
4=Computer Operations
5=Programmers
6=Advanced Programmers

Also known as *menu levels.* (2) The degree to which account information in the General Accounting system is summarized. The highest level of detail is 1 (least detailed) and the lowest level of detail is 9 (most detailed).

library. A library groups objects. A library is an object itself. Similar to directory on a PC.

library list. An ordered list of libraries used for locating objects. Similar to path on a PC.

LIOM. Line Input/Output Manager.

LOD. Level of Detail.

logical file. Contains no data, but provides a view of one or more physical files upon which it is based.

master file. A computer file that a system uses to store data and information which is permanent and necessary to the system's operation. Master files might contain data or information such as paid tax amounts and vendor names and addresses.

MDA. Menu Design Aid. A J.D. Edwards design tool.

menu. A screen that displays numbered selections. Each of these selections represents a program. To access a selection from a menu, type the selection number and then press Enter.

menu levels. See *level of detail.*

menu masking. A security feature of J.D. Edwards systems that allows you to prevent individual users from accessing specified menus or menu selections. When this security is in effect for a user, the selections that have been secured do not appear on the screen.

menu message. Text that appears on a screen after you make a menu selection. It displays a warning, caution, or information about the requested selection.

menu traveling. A method of moving between menus by typing the menu identifier in the selection field of the screen.

MI. Machine Interface.

MRP. Manufacturing Resource Planning.

MRPx. J.D. Edwards Manufacturing Software.

MVS. Multiple Virtual Storage.

next number facility. A J.D. Edwards software facility you use to control the automatic numbering of such items as new G/L accounts, vouchers, and addresses. It lets you specify your desired numbering system and provides a method to increment numbers to reduce transposition and typing errors.

non-join logical file. Presents records that are composed of fields extracted from just one physical record, but can effectively merge two or more physical files.

numeric character. Represents data using the numbers 0 through 9. Contrast with *alphabetic character* and *alphanumeric character*.

object. A discrete entity.

object existence. The right to delete an object from the system.

object management. The right to change the name or library of an object, for physical files, the right to create a logical file over it.

object operational. The right to display the description of an object and the right to the general use of that object.

object orientation. Everything on the AS\400 system that can be stored or retrieved is contained in an object.

offline. Computer functions that are not under the continuous control of the system. For example, if you were to run a certain job on a personal computer and then transfer the results to a host computer, that job would be considered an offline function. Contrast with *online*.

One Step Install. A method developed to make our software easier to install.

online. Computer functions over which the system has continuous control. Each time you work with a J.D. Edwards system-provided screen, you are online with the system. Contrast with *offline*. See *interactive processing*.

online information. Information the system retrieves, usually at your request, and immediately displays on the screen. This information includes items such as database information, documentation, and messages.

Open Application Architecture. An architectures that uses a functional server to allow the various blocks of user interface logic to **access** the same block of data integrity logic.

operand. See *Boolean logic operand.*

option. A numbered selection from a J.D. Edwards screen that performs a particular function or task. To select an option, you enter its number in the Option field next to the item you want the function performed on. When available, for example, option 4 lets you return to a prior screen with a value from the current screen.

OS/400. Operating system for the AS/400.

OS/2. Operating system for the IBM personal computer.

OSI. Open Systems Interconnection.

output. Information the computer transfers from internal storage to an external device, such as a printer or a computer screen.

output queue. A group of spool files waiting to be attached to a writer.

override. The process of entering a code or parameter other than the one provided by the system. Many J.D. Edwards systems offer screens that provide default field values when they appear. By typing a new value over the default code, you can *override* the default. See *default*.

PACO. Posted After Cutoff.

parameter. A number, code, or character string you specify in association with a command or program. The computer uses parameters as additional input or to control the actions of the command or program.

password. A unique group of characters that you enter when you sign on to the system that the computer uses to identify you as a valid user.

PBCO. Posted Before Cutoff.

PC. Personal computer.

PDM. Program Development Manager. IBM design tool.

PDM. Product Data Management – a module of J.D. Edwards software.

physical file. A file that contains actual data records. Mas a maximum record length of 32K, maximum fields per record is 8000.

Plug-&-Go. A 2/18/92 announcement where J.D. Edwards selects PROGRESS to develop client applications for the AS/4O0. The plug–&–go format offers clients the J.D. Edwards Core financial solutions on the IBM AS/400 E series model.

PPAT. People, Places and Things.

printout. A presentation of computer information printed on paper. Synonymous with *hard copy*.

print queue. A group of items waiting to be printed. See *output queue*.

processing options. A feature of the J.D. Edwards DREAM Writer that lets you supply parameters to direct the functions of a program. For example, processing options allow you to specify defaults for certain screen displays, control the format in which information gets printed on reports, change the way a screen displays information, and enter "as of" dates.

product library. A library containing programs and related data needed for IBM licensed programs that are installed on your system.

production library. A production library is a library you create to contain your live J.D. Edwards data files.

production environment. A list of libraries that contains "live" programs and data.

program. A collection of computer statements that tells the computer to perform a specific task or group of tasks.

Progress. A software corporation that is a partner with J.D. Edwards. They are a leading supplier of 4th generation application development systems.

program generator. The World CASE system of programs which create a new program based upon user specifications.

program help. J.D. Edwards online facility which displays information about a program's use and functionality.

program-specific help text. Glossary text written to describe the function of a field within the context of the program.

prompt. (1) A reminder or request for information displayed by the system. When a prompt appears, you must respond in order to proceed. (2) A list of codes or parameters or a request for information provided by the system as a reminder of the type of information you should enter or action you should take.

PTF. *See CUM.*

purge. The process of removing records or data from a file.

PYEB. Post Year End Balance.

P&L. Profit and Loss Statements.

PG. Program Generator.

QA. Quality Assurance.

QJDF data area. A space within the system to hold the system values information for the J.D. Edwards software. This area is referenced at sign-on and during installs and reinstalls for critical system information, such as security codes and initial libraries.

QSECOFR. The security officer of the AS/400.

query. A fast means to select and display (or print) information from a database. An IBM utility for databases.

queue. A list of things to be used in an order. See *job queue, output queue*, and *print queue.*

RAID. Redundant Array of inexpensive disks.

RAM. Random Access Memory.

RDA. Report Design Aid. A J.D. Edwards design tool.

read only. A type of access to data that allows it to be read but not copied, printed or modified.

rebuild. The process of sequencing files, integrating recently added data.

record. A collection of related, consecutive fields of data the system treats as a single unit of information. For example, a vendor record consists of information such as the vendor's name, address, and telephone number. *Also known as row.*

record format. The definition of how data is structured in the records contained in a file.

record level locking. Prevents two people from simultaneously updating the same data base information.

REP. Rapidly, Economically and Predictably.

reply list. A system wide automatic message handler for the system.

recursive. In DREAM Writer, the ability to create a unique version from the original, process the new version and delete it, leaving the original intact.

re–engineering modules. Programs written for the purpose of changing many existing programs in mass.

reporting system code. The four–character identifier of a J.D. Edwards system that uses an object for reporting.

REQIO. Request Input/Output.

reverse image. Screen text that displays in the opposite color combination of characters and background from what the screen typically displays (for example, black on green instead of green on black).

RIBA. Ricevuta Bancaria Elettronica –– common way for vendors to receive payments from their customers in Italy.

ROM. Read Only Memory.

ROW. *See record*.

RPG. Report Program Generator. A programming language developed by IBM.

Rumba. A PC Emulator for the AS/400.

run. To cause the computer to perform a routine, process a batch of transactions, or carry out computer program instructions.

SAA. Systems Application Architecture.

SAR. See *Software Action Request.*

server. A program that speeds the flow of data between screens, reports and the data files. These programs can also be used to edit data fields.

scroll. To use the roll keys to move screen information up or down a screen at a time. When you press the Rollup key, for instance, the system replaces the currently displayed text with the next screen of text if more text is available.

SDA. Screen Design Aid Utility. An IBM product.

selection. Found on J.D. Edwards menus, selections represent functions that you can access from a given menu. To make a selection, you type its associated number in the Selection field and press Enter.

SEU. Source Entry Utility.

SIC. Standard Industry Code.

SIOM. Station Input/Output Manager.

Ski Slope. Reflects the analogy between the diverse nature of a ski slope and the diverse nature of our software. S levels: Basic, Intermediate, Advanced, Computer Operations and Program Modifications.

SNA. Systems Network Architecture.

SNADS. Systems Network Architecture Distribution Services.

Sleeper. A subsystem which activates jobs set to run during off-peak hours.

softcoding. A J.D. Edwards term that describes an entire family of features that lets you customize and adapt J.D. Edwards software to your business environment. These features lessen the need for you to use computer programmers when your data processing needs change.

software. The operating system and application programs that tell the computer how and what tasks to perform.

Software Action Request. A record which identifies an activity, such as the development of a new program or maintenance of an existing program.

Software Security Code. A code that restricts user access to software.

special character. Representation of data in symbols that are neither letters nor numbers. Some examples are * & # /.

spool. Simultaneous Peripheral Operations On Line. The function by which the system puts generated output into a storage area to await printing or processing.

spooled file. A holding file for output data waiting to be printed or input data waiting to be processed.

SQL. Structure Query Language.

STAR. Spreadsheet Tool for Asset Reporting.

subfile. An area on the screen where the system displays detailed information related to the header information at the top of the screen. Subfiles might contain more information than the screen can display in the subfile area. If so, use the roll keys to display the next screen of information. See *scroll*.

submit. See *run*.

subsystem. An operating environment where jobs are run.

summary. The presentation of data or information in a cumulative or totaled manner in which most of the details have been removed. Many of the J.D. Edwards systems offer screens and reports that are summaries of the information stored in certain files.

SVR. Software Versions Repository.

system. A collection of computer programs that lets you perform a specific business function, such as Accounts Payable, Inventory, or Order Processing. Synonymous with *application*.

system library. Lists libraries containing objects, such as user profiles, that are used by the system. This part of a library list is defined by the system value QSYSLIBL and is usually the same for all jobs.

Simplified Install. J.D. Edwards new way to install J.D. Edwards software. Also called one step Install.

SME. Subject Matter Expert.

T/B. Trial Balance.

Table. One World term for a file.

UNIX. A multi-user, multi-tasking operating system.

Unscheduled PTF. A form of PTF that includes fixed for a particular system.

UPS. Uninterruptible power source.

user class/group. Place to enter group profiles associated with J.D. Edwards Users.

user defined code. The individual codes you create and define within a user defined code type. Code types are used by programs to edit data and allow only defined codes. These codes might consist of a single character or a set of characters that represents a word, phrase, or definition. These characters can be alphabetic, alphanumeric, or numeric. For example, in the user defined code type table ST (Search Type), a few codes are C for Customers, E for Employees, and V for Vendors.

user defined code (type). The identifier for a table of codes with a meaning you define for the system (for example, ST for the Search Type codes table in Address Book). J.D. Edwards systems provide a number of these tables and allow you to create and define tables of your own. User defined codes were formerly known as *descriptive titles.*

user index. An object that stores data, allows search functions, and automatically sorts data based upon a key value.

user identification (user ID). The unique name you enter when you sign on to a J.D. Edwards system to identify yourself to the system. This ID can be up to 10 characters long and can consist of alphabetic, alphanumeric, and numeric characters.

user library. A libraries that contains objects, such as files and programs used by the user.

user profile. A file of information which identifies the user to the J.D. Edwards system. This file is used to validate the users authority within the system.

user space. An object made up of a collection of bytes used for storing user-defined information.

user type. A code which identifies a list of files which remain open while the user is signed on to the system.

valid codes. The allowed codes, amounts, or types of data that you can enter in a specific input field. The system checks, or edits, user defined code fields for accuracy against the list of valid codes.

version. A specific release of software. Usually numbered in ascending order.

VCS. Version Control System.

Vertex. Callable routines and tables that calculate US PIR taxes.

video. The display of information on your monitor screen. Normally referred to as the *screen*.

VM. Virtual Machine.

VMC. Vertical Microcode.

vocabulary overrides. A J.D. Edwards facility that lets you override field, row, or column title text on a screen-by-screen or report- by-report basis.

WACO. Way After Cutoff.

WAN. Wide Area Network.

window. A software feature that allows a part of your screen to function as if it were a screen in itself. Windows serve a dedicated purpose within a facility, such as searching for a specific valid code for a field.

writer. A J.D. Edwards printer attached to an outqueue.

World Vision. A complementary product that converts graphical user interfaces to J.D. Edwards business applications for the AS400.

World VISTA. A windows–based direct access to J.D. Edwards data on the AS/400.

WW. World Writer. A J.D. Edwards software product.

XREF. Cross reference tool for J.D. Edwards software.

YTD. Year to Date.

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