FIELD
DEVELOPED
PROGRAM

Program Number 5798-NJK

SB30-0766-1

ONLINE SCREEN DESIGN

System/3
Online Screen Design Facility

Program Description/Operations Manual

This manual describes the capabilities of the system and the programs. Discussion of design assumptions and potential modification areas are included. Record and file layouts are described and primary processing procedures specified. This manual is both a system description and an installation and operations reference document.

This is a reprint of SB30-0766-0 incorporating changes released in the following technical newsletter: SN60-0078.

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Program Introduction

The effort necessary to develop and implement a 3270 screen design under Communications Control Program (CCP) can be a time consuming task which is susceptible to the possibility of programmer error.

The CCP Screen Design Facility was designed to ease the screen development task and minimize the possibility of programmer error. The Field Developed Program (FDP) accomplishes this by allowing the programmer to design screens directly on a 3270, automatically generate Display Format Facility (DFF) specifications, and give the programmer the opportunity to execute the screen format prior to performing a Display Format generation.

This FDP is a significant aid to increasing the productivity of those programmers developing new CCP applications for any System/3 using 3270 terminals.

Highlights

- THE FDP IS DESIGNED TO BE EASY TO LEARN AND EASY TO USE. All functions of the FDP are initiated from a menu screen. In addition, each individual function screen contains explanatory text.

- THE FDP IS DESIGNED AND WRITTEN TO OPERATE EFFICIENTLY. The programs are written as transaction oriented Program Request Under Format (PRUF) programs occupying a 14K CCP user task area. This design minimizes contention for CPU resources.

- THE FDP IS A DESIGN AID. The capability to layout the screen directly on a 3270 eliminates the need to use the display layout form. Also, the FDP assists the end-user in visualizing how the screen will communicate with the user during execution.

- THE FDP IS DESIGNED TO BE AN AID TO PROGRAMMER PRODUCTIVITY. The FDP automatically produces the necessary DFF specifications thereby helping to eliminate the possibility of programmer coding error. In addition, the capability to review and execute the finished screen will allow the programmer to catch screen execution errors prior to performing the Display Format Generation.

- THIS FDP IS A DOCUMENTATION AID. The FDP has an automatic self-documenting feature which enables the programmer to maintain current screen documentation. In addition, the FDP contains an off-line batch program that creates documentation of DFF specification that were generated prior to obtaining the FDP.

- THE FDP AIDS IN THE MAINTENANCE OF EXISTING SCREENS. The FDP provides maintenance capabilities by allowing the user to revise screen designs by adding, deleting and updating specifications. It performs this maintenance function by retaining the screen formats in a disk file.

- THE FDP SUPPORTS ALL MODELS OF THE SYSTEM/3 SUPPORTED BY CCP. The FDP runs on the System/3 Models 4, 8, 10, 12, and 15 requiring a minimum user task area of 14K.

- THE FDP CAN BE USED WITH SCREENS CREATED PRIOR TO THE FDP INSTALLLATION. A program is provided that allows the user to place DFF Specifications, contained on Cards, Diskette, on disk data file to the FORMAT file used by the FDP.

GENERAL SYSTEMS DESCRIPTION

This system is designed to assist the programmer in the design, creation, and maintenance of screen formats used with programs executing under the Communications Control Program (CCP) support for System/3. Since no programs remain resident in memory, the available resources can be shared while application CCP programs are executing. A minimum user task area of 14K bytes is required in addition to the DFF Control Routine overhead.

Functions provided:

On-line:

- Screen Creation
- Screen Modification
- Screen Deletion
- Screen Recall/Display
- Output DFF Specifications
- Print Image of Screen Entry
- Assign User Defined Names to DFF Specification Fields
- Output RPG Input/Output Specifications for Screens
- Screen Execution

Off-line:

- Create FORMAT File
- Reorganize FORMAT File
- Screen Documentation
- Load Existing DFF Specifications

DETAILED SYSTEMS DESCRIPTION

This screen creation aid was designed to ease the programmer's effort in designing, creating, maintaining and documenting 3270 screen formats for use with the Communications Control Program (CCP) support on System/3. Programs are provided to allow complete free form creation of 3270 formatted screens with the exception that line 1 pos 1-10 and pos 80 of each line is unusable.

In developing this aid it was necessary to determine how much function should be included. Too many options tend to make an aid too complicated, while too few will decrease its benefit to the user. So with this trade-off in mind, the major program functions were coded into tables where possible. This then allows the user to either increase or decrease the function or options easily by changing the tables.

One permanent disk file (FORMAT) is the only requirement for executing this aid. Once a screen is created, it will be contained in the FORMAT file and any further activity will access its image from this file. When a screen is created the FDP assigns a unique sequential ID to that screen. This is done to allow the operator access to a particular screen in the event that multiple screens are created with the same Screen Name.

For the Model 4 user or at the option of the person installing this sytem, two additional disk files will be used. The section 'Installing the System' has more ifnormation on these files.

SCREEN CREATION

Selecting this option will return a blank screen for use in screen design and creation. The operator has complete freedom of entry with the exception of line 1, pos 1-10, and pos 80 of all screen lines. The operator codes each field displayed based on type and function. The specific codes to be entered are contained in Table 1. The programs will interrogate the input from each line to determine what type of entry was made. Any characters entered that are not part of a generated literal and not a defined field specification type will be ignored (i.e., 1111 was entered on line, this would be ignored in creating any DFF Field Specifications.). The same is true in recognizing any non-defined character within a Non-Generated Field; the field will automatically be terminated by this character; (NNNNBAAA) would be decoded as a 4 pos numeric input field followed by a 3 pos alphabetic input field.

The operator has the option of duplicating a previous line by keying '*DUP*' in the first five positions for a line. The duplication can then be propagated by keying the same '*DUP*' on each suceeding line.

All fields with input characteristics will be generated with a default of Auto-skip-Yes. If the operator desires Autoskip-No option for a field, the field should be terminated with a concatonation sign (‡) rather than the normal termination. Normal termination for Input only fields or O/I Non-Generated fields is a blank ( ). Generated fields will have a termination character as defined in Table 1.

TABLE 1

		NORM-INT	HIGH-INT	NON-DISP
INPUT FIELDS:	ALPHAMERIC	AAAA	CCCC	....
	NUMERIC	NNNN	DDDD	////
OUTPUT FIELDS:	EXEC ALPHA	****	####	@@@@
	GEN ALPHA	< >	> <	? ?
O/I FIELDS:	EXEC ALPHA	XXXX	YYYY	ZZZZ
	EXEC NUM	0000	9999	
	GEN ALPHA	( )	) (	: :
	GEN NUM	= =	% %	

PRINT SCREEN FORMAT AND/OR OUTPUT DFF SPECIFICATIONS

With this option the operator can produce the DFF Specification records in a format ready to input to the DFF generator. The punched output includes the OCL for generation, specification records, and (/*) card. An image of the screen is also printed on the System Printer. If desired the DFF output can be placed on disk and the $MAINT utility executed to catalog the screen to the source library.

SCREEN DISPLAY

This option allows the operator to select from two options:

Name listing - a listing will be displayed of all active Screen Names and ID's. It is expected that this would be used to determine what screens are active or determine the specific names chosen or ID's assigned.

Screen Display - The selected screen will be displayed in the exact format as entered by the operator.

SCREEN MODIFICATION

With this option the operator is prompted to enter the selected Screen Name. The requested Screen is located on the FORMAT file and displayed to the operator on the 3270. Any modifications or corrections can then be entered and when the Enter key is pressed - the same functions are performed as described under screen creation. Following the completion of this option, both the original and new versions of the screen are active on the FORMAT file.

SCREEN DELETION

This option allows the operator to delete an active screen from the FORMAT file. This would be necessary following the Modify option to assure the old screen is no longer present. Obsolete or no longer desired screens should be deleted. As a means of providing additional safeguard against deleting an incorrect screen, the operator must enter both the Screen Name and ID to complete this function. An unknown ID can be obtained by using the Screen Display option.

ASSIGN NAMES TO DFF INPUT RECORDS

This option is used to assign user specified names to the generated DFF Specifications. The initial position of the Cursor can also be modified by this option.

OUTPUT RPG INPUT & OUTPUT SPECIFICATIONS

This option is used to produce the RPG records that would relate to the generated screens. The Control Card File Specifications for the CRT, Extension Specification for Parameter Array, Input and Output Specifications, and the Parameter Array are produced. Separate screens can be selected, if desired for the Input and Output Specifications. The intent is not to produce a complete program, but rather to aid the programmer with the routine coding that is normally required.

EXECUTE OPTION

This option allows the operator to select a Screen to be displayed on the CRT he is using or at his option display on another CRT. The format of the display is the same as if output from the execution of an application program. This will allow the testing of screen options like numeric or alpha fields, intensity of field displays, or autoskip options. Using this option to a CRT other than the entry device will also allow the testing of overlay screen formats.

DOCUMENTATION AID

A program is provided for the off-line documentation of DFF Specifications. This program will print the literal (Generated) fields as defined. The program output fields will appear as asterisks (*). Fields containing input to the program will overprint with periods (. .

LOAD EXISTING DFF SPECIFICATIONS

Existing DFF Specifications can be loaded to the FORMAT disk file used by this FDP. The Model 4 user will probably have to use a System/3 Model 8 or larger of another location to get his DFF Source statements from the Source Library to card, diskette, or disk data file media.

INSTALLING THE SYSTEM

INTRODUCTION

This section will provide the user with the necessary instructions for installing the Screen Design Facility and is subdividied into four parts. They are:

1. Installation Checklist
2. Installation Instructions
3. File Creation and Sizing
4. Sample problem.

Each one of these parts should be studied and their instructions followed to insure proper installation of the Screen Design Facility.

INSTALLATION CHECKLIST

This part of Installing the System is provided to give the user a list of tasks to be completed in order to successfully install the Screen Design Facility. These tasks are:

	TASKS	INSTRUCTIONS SECTIONS
1.	Copy object code for the programs and screens (Model 4 only) or compile the source code for the programs and screens (Models 8, 10, 12 & 15).	Installation Instructions
2.	Create the FORMAT File.	File Creations & Sizing Appendix A or B
3.	Execute appropriate Assignment Set (SETF).	Installation Instructions
4.	Familiarize yourself with the section Operating the System.	Operating the System
5.	Familiarize yourself with the function of each option on the 'Menu' (initial screen) by reading the Program Descriptions.	Program Descriptions
6.	Perform the Sample Problem.	Sample Problem.

INSTALLATION INSTRUCTIONS

The Screen Design Facility makes the following assumptions:

A. The Facility assumes the procedure to load the Display Format Generation Routine (DFGR) resides on unit R2 and that the formats should be compiled on unit R2.
To change this, the user must modify the OCL Array content in programs FORSC2 and FORSET.

B. The Facility will provide three RPG II File comment records when program FORSC7 is executed. If the user wants more or less RPG II File comment records, a modification to RPG II Calculation Specification (0144) is necessary.

C. The Facility has two programs that use unit record devices (FORSC5 & FORC7); therefore a CCP version of the RPG II Compiler (including) special unit record modules for CCP) must be used for the Models 4, 8, 10, 12 when compiling these programs.

D. The Facility assumes a 3270 configuration with a 3271 Control Unit and a 328X Printer attached. A 328X Printer is not required for the installation or operation of this system, but can be used if available. If your system is configured with a 3275 Control Unit/CRT and 3284 Printer you must make the modifications illustrated in APPENDIX-C titled 3275/3284.

The facility will be distributed from the Program Information Division (PID) by three methods:

1. Disk - 5444 (Model 4 only)
2. Diskette
3. Cards - 80 or 96 column

Procedure are cataloged for the Model 4 User and contained with the distribuiton disk. All other Users should refer to Appendix B and the Program Descriptions for the creation of required OCL.

The contents of these media are:

DISK DISTRIBUTION

1 All object code for the programs and screens for the Model 4 (no compiles required).

2 All source code for the programs and screens for the Model 4.

3 Assignment set for the Model 4 (source library entry 'SETF'). See APPENDIX-A for a listing of this entry.

The OCL necessary to copy the object code from the distribution pack to the unit where the Communications Control Program (CCP) expects them to reside can be found in APPENDIX-A.

The procedures necessary to execute the Communications Control Program (CCP), to copy the RPG II Specifications from file to the Source Library, and to copy the Display Format Facility (DFF) Specifications from file to the Source Library are provided in the procedure library of the distribution pack (see APPENDIX-A).

DISKETTE DISTRIBUTION:

1. Label 1 (FOR.RPG) - contains all the source programs with a // CALL RPG, // COMPILE OBJECT, and a // RUN record. The implementor must modify the // COMPILE OBJECT record and remove the LINKADD parameter if the System/3 is other than a Model 15.

2. Label 2 (FOR.DFF) - contains all the source for screens used by the Screen Design Facility and // CALL DFGR & // RUN records. The Screen Header Record (the C Specification) directs to the generated object to unit R2.

3. Label 3 (SETF.M15) - contains the assignment set (SETF) for the Model 15 and necessary OCL to execute the Assignment Set Generator ($CCPAS). (See APPENDIX-B).

4. Label 4 (SETF.MXX) - contains the assignment set (SETF) for the Models 8, 10, 12 and necessary OCL to execute the Assignment Set Generator ($CCPAS). (See APPENDIX-B).

5. Label 5 (FORXX7) - contains an alternate version of FORSC7 for use with disk output of RPG Specification records. Replace the standard version of FORSC7 with this source program only if you want disk output. The name in the RPG Header record should be changed to FORSC7 before compiling this program.

CARD DISTRIBUTION - 80 or 96 column cards will contain the same as the diskette distribution.

All source code for programs and screens must be compiled for Models 8, 10, 12, & 15 and placed on the unit where the Communication Control Program (CCP) expects them to reside. Before compiling, the implementor must decide if the Device Names are correct for their system and if the generated screens should reside on unit R2.

The source code distributed by PID on diskette and cards will have 'DISK45' as the disk device name and 'MFCU1/MFCU2 as the read/punch device name. If your system requires 'DISK' as the disk device name, you must replace the RPG II File Specifications records illustrated in APPENDIX-C, titled DISK45 - DISK. If your system requires an input or output device other than MFCU1/MFCU2, the implementor must replace the RPG II Specifications records illustrated in APPENDIX-C titled, MFCU-DISK or DISK45 and MFCU-DISKETTE.

FILE CREATION AND SIZING

File creation for the Screen Design Facility consists of creating the master file called 'FORMAT' and the work file called 'FORMATWK'. The master file 'FORMAT' must be created initially since all Display Format Facility (DFF) Specification records are placed there. The work file 'FORMATWK' is created only when the master file 'FORMAT' is to be reorganized. 'FORMAT & FORMATWK' are created by programs 'FORLOD & FOROR1' respectively. Refer to the Program Descriptions Section for sizing and APPENDIX A or B for the OCL to create these files.

Two additional files are required only by the Model 4 User or any User selecting disk output for the DFF and RPG Specifications. The file DFFCARDS is used to contain the card image of the DFF Specification records. The file RPGCARDS is used to contain the card image of the RPG Specification records. Each of these files is a Consecutive-Add file used by program FORSC5 and FORSC7 respectively. See Appendix A or B for the required OCL to copy the Specifications to the Source Library. The size of these files depend on the size and number of Specifications to be output during the execution of CCP. It is suggested that the User initially allocate 1000 records to each file.

The file DFFCARDS can also be used for input to the program FORPRT.

The files DFFCARDS and RPGCARDS should be deleted following their copy to the Source Library and/or the execution of FORPRT.

SAMPLE PROBLEM

This section will take you through most of the options available with this aid. It is suggested that this sample problem be followed step by step prior to proceding with the installation and the use of this system.

1. Perform the steps outlined in the section 'Installing the System'.
2. Thoroughly review the section 'Operating the System'.
3. Initiate the procedure FORCCP (Model 4) to bring up CCP.
   Select Assignment Set: F.
4. Sign on your terminal.
5. Enter the word FORMAT in the first six positions of screen.

The program FORPRT is not contained as part of the sample problem. This is an off-line, non-CCP program, provided to assist in documenting DFF specification records. Review its function and execute as required. All of the screen printouts contained in this section were produced with the aid of this program.

Shutdown CCP and proceed with the following steps to complete the sample problem. Select the condition below that applies:

A. Card or Diskette output of DFF Specifications and RPG Input/Output Specifications.
   1. Generate the screen ($ZFOR2) by placing the DFF Specifications obtained from Option 2 into the System Reader.
   2. Review or list the RPG Input/Output Specifications obtained from Option 7.

B. Disk output of DFF Specifications and RPG Input/Output Specifications.
   1. Call the procedure FORDFF to catalog the DFF Specifications to Source Library.
   2. Call the procedure FORRPG to catalog the RPG Specifications to Source Library using the selected name of PROG01.
   3. Generate the screen ($ZTST2) from Soure Library.
   4. Copy the Source Library entry PROG01 to Printer using $MAINT and verify its content.

```
SCREEN NAME-$ZFORX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX.
X                                SCREEN OPTIONS
X
X   SELECT THE DESIRED OPTION BY PLACING AN 'X' IN FRONT OF SELECTION--
X
X   ?    1. CREATE A NEW SCREEN FORMAT-
X
X                                               NORM-INT    HIGH-INT    NON-DISP
X           INPUT FIELDS:     ALPHAMERIC          AAAA        CCCC        ....
X                             NUMERIC             NNNN        DDDD        ////
X           OUTPUT FIELDS:    EXEC ALPHA          ****        ####        @@@@
X                             GEN ALPHA          <    >      >    <      ?    ?
X           O/I FIELDS:       EXEC ALPHA          XXXX        YYYY        ZZZZ
X                             EXEC NUM            0000        9999
X                             GEN ALPHA          (    )      )    (      :    :
X                             GEN NUM            =    =      %    %
X   ?    2. PRINT SCREEN FORMAT AND/OR OUTPUT OFF INPUT RECORDS-
X   ?    3. DISPLAY A SCREEN OR OBTAIN LIST OF ACTIVE FORMATS-
X   ?    4. MODIFY EXISTING FORMAT-     ** THE REVISED SCREEN WILL NOT BE DELETED
X                                         AUTOMATICALLY-- USE OPTION 5
X   ?    5. DELETION OF AN ACTIVE FORMAT-
X   ?    6. ASSIGN NAMES TO OFF INPUT RECORD FIELDS-
X   ?    7. OUTPUT RPG INPUT & OUTPUT SPECS-
X   ?    8. EXECUTE SCREEN--
X                       ** PF1 WILL COPY THIS SCREEN TO 328X **
X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

- Select option No. 1 from the menu screen.
- Press enter key.

```
.EEN NAME-$ZTST1
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X                                                                              X
X                                                                              X
X                         <CUSTOMER INQUIRY>                                   X
X                                                                              X
X                                                                              X
X                                                                              X
X        <CUST NAME----->     ********************                             X
X        <CUST ADDRESS-->     ********************                             X
X        <CITY/STATE---->     **************   **                              X
X        <ZIP CODE------>     *****                                            X
X                                                                              X
X        <SALESMAN------>     **************                                   X
X        <CREDIT LIMIT-->     *********                                        X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
                                                                               X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

- Make the above entries on the blank screen that is displayed.
- Press enter key.

The entries from this screen are interrogated by program FORSC2 as the first step of the screen creation. The screen contained on the following page will then be displayed to complete this option.

```
SCREEN NAME-$ZFOR2
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X
X
X                    SCREEN COMPLETION
X
X
X     1  WILL THIS SCREEN INITIATE A PRUF PROGRAM?
X        IF SO, GIVE THE PROGRAM NAME--     ......
X
X     2  ENTER SIX POSITION NAME OF SCREEN--      $ZTST1
X
X     3  SHOULD THE SCREEN BE ERASED BEFORE
X        OUTPUTTING THIS SCREEN? Y/N--     Y
X
X
X
X
X         IF YOU ARE COMPLETING A MODIFY SCREEN FUNCTION OR WANT NAMES FROM
X         ANOTHER SCREEN USED WITH THIS SCREEN--
X         ENTER THE SCREEN NAME & ID (OPTIONAL) BELOW
X
X                        SCREEN- ......  ID-
X
X
X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

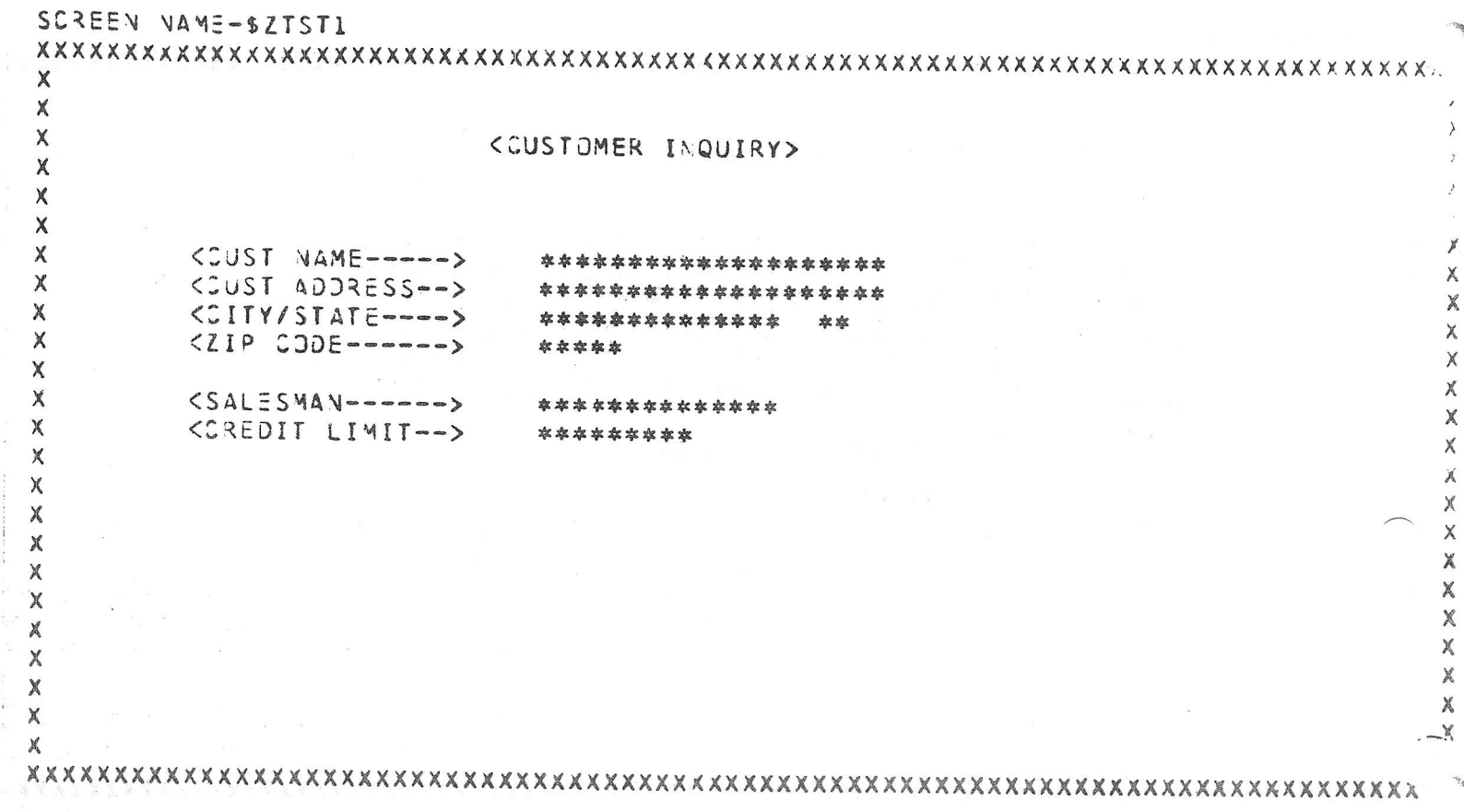
. Enter $ZTST1 for the screen name.

. Press enter key.

The screen creation function will be completed and the menu screen displayed.

```
REEN NAME-$ZFOR4

                    ** DISPLAY FUNCTION **

     SELECT THE 'ID' NUMBER AND SCREEN NAME THAT YOU
     WANT TO DISPLAY. IF BOTH DON'T MATCH FOR A SCREEN
     CONTAINED ON THE WORK FILE, A MESSAGE WILL BE
     DISPLAYED SAYING THAT THE SCREEN WAS NOT FOUND.
     IF 'ID' ISN'T ENTERED, THE FIRST NAME MATCH WILL DISPLAY.
     SCREEN & ID BLANK WILL GIVE SCREEN NAME LISTING

                    SCREEN-      $ZTST1

                    ID NO.-      .
```

- Select option 3 on the menu screen (not shown).
- Press enter key.
- Enter $ZTST1 for screen name.
- Press enter key.



- Review the displayed screen. It should be identical to the one previously created.

- Press enter key to return to menu screen.

```
.EEN NAME-$ZFOR7

                    ** MODIFY FUNCTION **

        SELECT THE 'ID' NUMBER AND SCREEN NAME THAT YOU
        WANT TO MODIFY. IF BOTH DON'T MATCH FOR A SCREEN
        CONTAINED ON THE WORK FILE, A MESSAGE WILL BE
        DISPLAYED SAYING THAT THE SCREEN WAS NOT FOUND
        IF 'ID' ISN'T ENTERED, THE FIRST NAME MATCH WILL DISPLAY

                    SCREEN-      $ZTST1

                    ID NO.-      ..
```

- Select option 4 from the menu screen (not shown).
- Press enter key.
- Enter $ZTST1 for screen name.
- Press enter key.

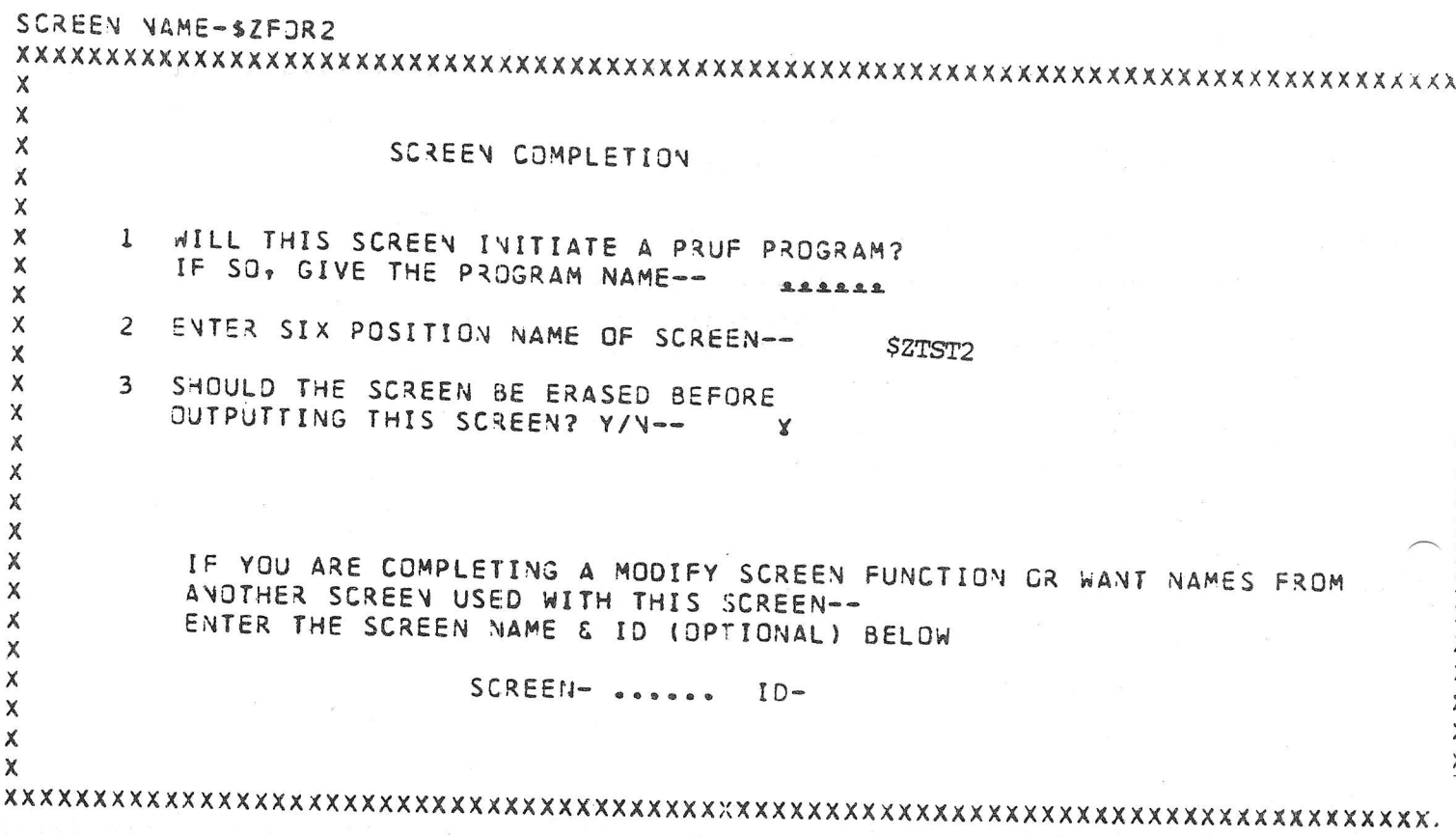
```
SCREEN NAME-$ZTST1
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X                                                                              X
X                                                                              X
X                       <CUSTOMER INQUIRY>                                     X
X                                                                              X
X                                                                              X
X                                                                              X
X        <CUST NAME----->    ********************                              X
X        <CUST ADDRESS-->    ********************                              X
X        <CITY/STATE---->    ***************   **                              X
X        <ZIP CODE------>    *****                                             X
X                                                                              X
X        <SALESMAN------>    ***************                                   X
X        <CREDIT LIMIT-->    *********                                         X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

The selected screen, $ZTST1, is retrieved and displayed for operator modifications. For this sample problem one literal and one input field is added and all execution output fields are changed to output/input type fields. The desired changes are shown on the following page.

```
.EEN NAME-$ZTST2
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X                                                                              X
X                                                                              X
X                         <CUSTOMER INQUIRY>                                   X
X                                                                              X
X                <ENTER PASSWORD->    ......                                   X
X                                                                              X
X        <CUST NAME----->     YYYYYYYYYYYYYYYYYYYY                             X
X        <CUST ADDRESS-->     XXXXXXXXXXXXXXXXXXXX                             X
X        <CITY/STATE---->     XXXXXXXXXXXXXX  XX                               X
X        <ZIP CODE------>     00000                                            X
X                                                                              X
X        <SALESMAN------>     XXXXXXXXXXXXXX                                   X
X        <CREDIT LIMIT-->     000000000                                        X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

- Make the modifications so your screen looks like the one above.
- Press enter key.

The entries from this screen are interrogated by program FORSC2 as the first step of the screen modification. The screen contained on the following page will then be displayed to complete this option.

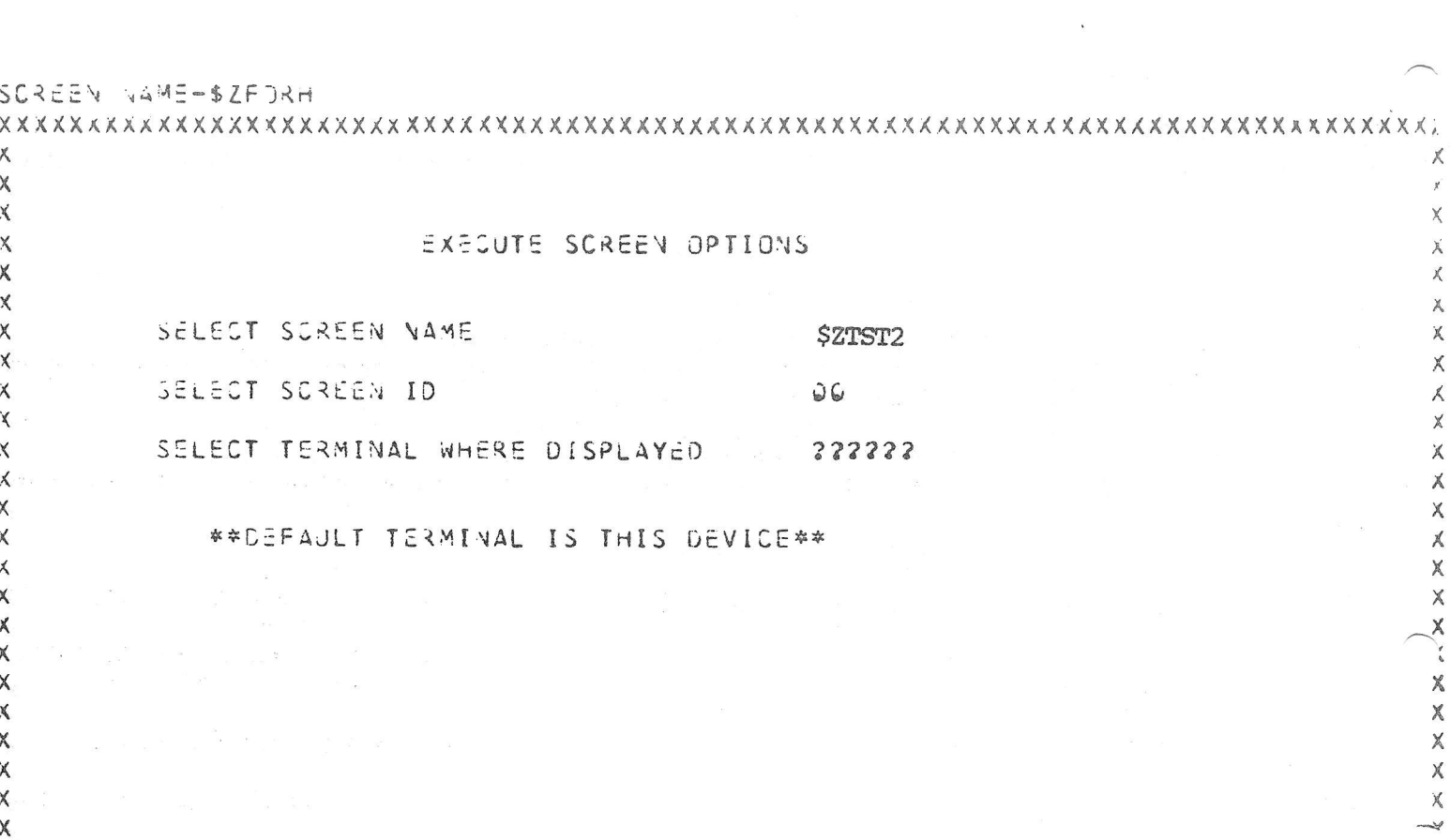


- Enter $ZTST2 for the screen name.
- Press enter key.

The screen modification will be completed and the menu screen displayed.

```
EEN NAME-$ZFOR4

                       ** DISPLAY FUNCTION **

          SELECT THE 'ID' NUMBER AND SCREEN NAME THAT YOU
          WANT TO DISPLAY. IF BOTH DON'T MATCH FOR A SCREEN
          CONTAINED ON THE WORK FILE, A MESSAGE WILL BE
          DISPLAYED SAYING THAT THE SCREEN WAS NOT FOUND.
          IF 'ID' ISN'T ENTERED, THE FIRST NAME MATCH WILL DISPLAY.
          SCREEN & ID BLANK WILL GIVE SCREEN NAME LISTING

                    SCREEN-     ......

                    ID NO.-     ..
```

- Select option 3 on the menu screen (not shown).
- Press enter key.
  - The above screen will be displayed, leave the requested fields blank.
- Press enter key.
- Review the list of screen names displayed. Verify that $ZTST1 and $ZTST2 are present.
- Press enter key to return to menu screen.



. Select Option 8 on Menu Screen (not shown).

. Press Enter Key.

. Enter $ZTST2 for the Screen Name. Leave the other fields with no entries.

. Press Enter Key.

. Verify the content of the screen displayed
   - Password Entry should be non-display.
   - Alpha entries in the zip code and credit limit fields should be prevented.
   - Name field should be in high intensity.

. Press Clear Key.

. Enter FORMAT in first six positions of screen to obtain Menu Screen.

. Press Enter Key.

```
.REEN NAME-$ZFORA
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X              $ZTST2   00                                                 .  X
               SCREEN   ID                                                    X
                                                                              X
                YOU HAVE SELECTED THE OPTION OF CHANGING FIELD                X
                NAMES CONTAINED WITHIN THE GENERATED FORMAT--                 X
                SELECT A SCREEN NAME AND ID (OPTIONAL) ABOVE                  X
                AND THE FOLLOWING THREE SCREENS WILL BE PRESENTED-            X
                                                                              X
                     1. INPUT & O/I FIELDS--                                  X
                     2. OUTPUT NON-GENERATED FIELDS--                         X
                     3. OUTPUT GENERATED FIELDS--                             X
                                                                              X
                ENTER FIELD NAME CHANGES AS DESIRED OR IF DESIRED             X
                PF1 KEY WILL TERMINATE THIS OPTION AND RETURN MENU            X
                                                                              X
                                                                              X
                                                                              X
                                                                              X
                                                                              X
                                                                              X
                                                                              X
                                                                              X
                                                                              X
                                                                              X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

- Select option 6 on menu screen (not shown).
- Press enter key.
- Enter $ZTST2 for screen name.
- Press enter key.

```
SCREEN NAME-
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X                                                                              X
X                                                                              X
X     INPUT FIELDS- ENTER ANY FIELD NAME CHANGES DESIRED AND PRESS ENTER.      X
X                   FOR NUMERIC FIELDS THE NO OF DECIMAL POSITIONS CAN BE      X
X                   DEFINED BY ENTERING THE VALUE.  TO CHANGE A CURSOR PO-     X
X                   SITION, THE FIELD SELECTED MUST BE ONE DISPLAYED.          X
X                                                                              X
X      POS   LEN TYP NAME DEC      POS   LEN TYP NAME DEC      POS   LEN TYP NAME DEC X
X      05-37 06 I- LN0537          07-29 20 UE LN0729          08-29 20 UE LN0829 X
X      09-29 14 UE LN0929          09-45 02 UE LN0945          10-29 05 UE LN1029 0 X
X      12-29 14 UE LN1229          13-29 09 UE LN1329 0                           X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                      CURSOR POSITION-  LN0729                                X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

The above screen will display showing the generated names for the fields contained on screen $ZTST2. Any fields that are numeric will display the decimal positions and also allow for operator changes. Proceed to the next page and make the entries shown.

Note: The field names may not appear exactly as shown above. These names were generated based on the starting position of the fields.

```
 :EEN NAME-
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X                                                                              X
X                                                                              X
X     INPUT FIELDS- ENTER ANY FIELD NAME CHANGES DESIRED AND PRESS ENTER.      X
X                   FOR NUMERIC FIELDS THE NO OF DECIMAL POSITIONS CAN BE      X
X                   DEFINED BY ENTERING THE VALUE.  TO CHANGE A CURSOR PO-     X
X                   SITION, THE FIELD SELECTED MUST BE ONE DISPLAYED.          X
X                                                                              X
X      POS   LEN TYP NAME DEC      POS   LEN TYP NAME DEC      POS   LEN TYP NAME DEC X
X      05-37 06 I-  PASWRD         07-29 20 UE NAME            08-29 20 UE ADDR      X
X      09-29 14 UE CITY            09-45 02 UE STATE           10-29 05 UE ZIP    0  X
X      12-29 14 UE SLSMN           13-29 09 UE CRLIM  2                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                      CURSOR POSITION-  PASWRD                                X
X                                                                              X
X                                                                              X
X                                                                              X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

- Enter the field name changes shown above.
- Change the decimal positions for 'CRLIM' to 2.
- Enter 'PASWRD' for cursor position.
- Press enter key.

```
SCREEN NAME-
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X                                                                              X
X                                                                              X
X    OUTPUT FIELDS- ENTER ANY FIELD NAME CHANGES DESIRED AND PRESS ENTER.      X
X                   ENTERING A NAME FOR 'U' TYPE FIELD WILL ASSIGN A '2ND      X
X                   NAME.  AN '*' FOLLOWING NAME INDICATES THIS PRIOR ASSIGN-  X
X                   MENT.  TO DELETE ENTER '*      ' IN THE NAME FIELD         X
X                                                                              X
X     POS   LEN TYP NAME 2ND       POS   LEN TYP NAME 2ND       POS   LEN TYP NAME 2ND X
X     07-29 20 UE NAME             08-29 20 UE ADDR             09-29 14 UE CITY       X
X     09-45 02 UE STATE            10-29 05 UE ZIP     .        12-29 14 UE SLSMN      X
X     13-29 09 UE CRLIM                                                        X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

Following the display of input fields:

The above screen will be displayed showing the output fields. Notice that all fields are output/input and have acquired the names entered on the prior screen. Different or '2nd Names' will be entered for all the fields displayed. Go to the next page and make the field name entries shown.

```
EEN NAME-
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                                                                                X
                                                                                X
 OUTPUT FIELDS- ENTER ANY FIELD NAME CHANGES DESIRED AND PRESS ENTER.           X
                ENTERING A NAME FOR 'U' TYPE FIELD WILL ASSIGN A '2ND           X
                NAME.  AN '*' FOLLOWING NAME INDICATES THIS PRIOR ASSIGN-       X
                MENT.  TO DELETE ENTER '*      ' IN THE NAME FIELD              X
                                                                                X
   POS   LEN TYP NAME 2ND       POS   LEN TYP NAME 2ND       POS   LEN TYP NAME 2ND X
   07-29 20 UE NAME2            08-29 20 UE ADDR2            09-29 14 UE CITY2    X
   09-45 02 UE STATE2           10-29 05 UE ZIP2             12-29 14 UE SLSMN2   X
   13-29 09 UE CRLIM2                                                           X
                                                                                X
                                                                                X
                                                                                X
                                                                                X
                                                                                X
                                                                                X
                                                                                X
                                                                                X
                                                                                X
                                                                                X
                                                                                X
                                                                                X
                                                                                X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

- Enter the above field names as shown.

- Press enter key.

```
SCREEN NAME-
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X
X
X    GEN FIELDS--- ENTER ANY FIELD NAME CHANGES DESIRED AND PRESS ENTER.
X                  ALL FIELDS OF THIS TYPE WERE CREATED WITH AN 'F' GEN
X                  CODE, CHANGING AN NAME WILL ALSO CHANGE THIS TO 'G' TYPE
X                  *ALL FIELDS DISPLAYED HAVE NO INPUT OR OUTPUT TO PROGRAM*
X
X      POS  LEN TYP NAME          POS  LEN TYP NAME          POS  LEN TYP NAME
X      03-27 16 OF LN0327        05-18 15 OF LN0518        07-10 14 OF LN0710
X      08-10 14 OF LN0810        09-10 14 OF LN0910        10-10 14 OF LN1010
X      12-10 14 OF LN1210        13-10 14 OF LN1310
X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X                                                                              X
X
X
X
X
X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

Following the display of output fields:

The above screen will be displayed showing the output only generated fields. There are no changes to these names for the sample problem.

- Press enter key.

  - The menu screen will display.

```
.EEN NAME-$ZFOR3

        THIS PROGRAM WILL OUTPUT YOUR DFF FORMAT RECORDS
        AND PRINT THE SCREEN PICTURE ON THE SYSTEM PRINTER

                                                     $ZTST2
            ENTER THE SCREEN NAME SELECTION-         $Z????       ID- ..
            IF LEFT BLANK, ALL FORMATS WILL BE SELECTED    (OPTIONAL)

            ENTER AN 'X' TO PREVENT FORMAT FROM PRINTING      ?

            ENTER AN 'X' TO PREVENT FORMAT CARDS FROM PUNCHING      ?
```

- Select option 2 on menu screen (not shown).
- Press enter key.
- Enter $ZTST2 for the screen name selection.
- Press enter key.
- Assure that the system printer and output device for the DFF specifications is available and ready. If the DFF specifications is to card or diskette, save for later generation. If this output is to disk, the $MAINT procedure, FORDFF, should be executed later with CCP shutdown and then the screen generated directly from the source library.

The menu screen will be displayed following the completion of this option.

```
SCREEN NAME-$ZFORG

              R P G II  SPECIFICATIONS OPTION


     SPECIFY THE SCREEN NAME THAT YOU WANT INPUT SPECS.
                 SCREEN NAME-    $ZTST2
                 SCREEN ID-     ..          $ZTST2

     IF YOU WANT COMMENT CALCULATION RECORDS INSERTED,
     SPECIFY THE NUMBER DESIRED--     00
                                            05
     SPECIFY THE SCREEN NAME THAT YOU WANT OUTPUT SPECS.
                 SCREEN NAME-    $ZTST2
                 SCREEN ID-     ..          $ZTST2

     SPECIFY THE PROGRAM NAME FOR THESE SPECS.
                 PROGRAM NAME-  ......
                                            PROG01
```

- Select Option 7 on Menu Screen (not shown).
- Press Enter Key.
- Enter $ZTST2 for both screen names select five (5) comment calculations. Enter a program name of 'PROG01'.
- Press Enter Key.
- Assure that output device for the RPG Specifications is available and ready. If the output is to card or diskette, save for later verification. If the output is to disk, the $MAINT procedure, FORRPG, will be executed later with CCP shutdown to catalog this entry in the source library.

The MENU screen will be displayed following the completion of this option.

```
EEN NAME-$ZFOR9

                 ** DELETE FUNCTION **

      SELECT THE 'ID' NUMBER AND SCREEN NAME THAT YOU
      WANT TO DELETE. IF BOTH DON'T MATCH FOR A SCREEN
      CONTAINED ON THE WORK FILE, A MESSAGE WILL BE
      DISPLAYED SAYING THAT THE SCREEN WAS NOT FOUND

                 SCREEN-      $ZTST1

                 ID NO.-      22  01
```

- Select option 5 on menu screen (not displayed).
- Press enter key.
- Enter $ZTST1 in screen name and 01 in ID fields.
- Press enter key.
    - The program will return a message stating that the screen was deleted.
- Press enter key to return to menu screen.

SAMPLE OUTPUT LISTING
(OPTION 7)

```
// CALL RPG,F1
// COMPILE OBJECT-R2
// RUN
00010H    C                                                                                  PROG01
00020FTERMIN  IP          105               SPECIAL        SUBR92                            PROG01
00030F                                                    KPL                               PROG01
00040FTERMOUT O           104               SPECIAL        SUBR92                            PROG01
00050F                                                    KPL                               PROG01
00060F*                                                                                      PROG01
00070F*                                                                                      PROG01
00080F*                                                                                      PROG01
00090E                      PL         5    5   6                                            PROG01
00100ITERMIN  NS  01  15 C'                                                                  PROG01
00110I                                              1   20INTRN                              PROG01
00120I                                              3   40OUTRTN                             PROG01
00130I                                              5   80LENGTH                             PROG01
00140I                                              9  14 TMNAME                             PROG01
00150I                                             15  15 AID                                PROG01
00160I                                             16  21 PASWRD                             PROG01
00170I                                             22  41 NAME                               PROG01
00180I                                             42  61 ADDR                               PROG01
00190I                                             62  75 CITY                               PROG01
00200I                                             76  77 STATE                              PROG01
00210I                                             78  820ZIP                                PROG01
00220I                                             83  96 SLSMN                              PROG01
00230I                                             97 1052CRLIM                              PROG01
00240I        NS  02                                                                         PROG01
00250C*                                                                                      PROG01
00260C*                                                                                      PROG01
00270C*                                                                                      PROG01
00280C*                                                                                      PROG01
00290C*                                                                                      PROG01
00300OTERMOUT D        01                                                                    PROG01
00310O                                          4 'GB'                                       PROG01
00320O                                          8 ' 104'                                     PROG01
00330O                          TMNAME         14                                            PROG01
00340O                                         20 '$ZTST2'                                   PROG01
00350O                          NAME2          40                                            PROG01
00360O                          ADDR2          60                                            PROG01
00370O                          CITY2          74                                            PROG01
00380O                          STATE2         76                                            PROG01
00390O                          ZIP2           81                                            PROG01
00400O                          SLSMN2         95                                            PROG01
00410O                          CRLIM2        104                                            PROG01
**   ACCEPT INPUT OP CODE AND MAXIMUN INPUT LENGTH
          D          105
/*
```

NO INPUT SPECS SELECTED
(OPTION 7)

```
// CALL RPG,F1
// COMPILE OBJECT-R2
// RUN
00010H    C
00020FTERMIN  IP           ??                SPECIAL         SUBR92                    PROG02
00030F                                                     KPL                         PROG02
00040FTERMOUT O        104                   SPECIAL         SUBR92                    PROG02
00050F                                                     KPL                         PROG02
00060F*                                                                                PROG02
00070F*                                                                                PROG02
00080F*                                                                                PROG02
00090E                     PL        5    5  6                                         PROG02
00100ITERMIN   NS   01   15 C'                                                         PROG02
00110I                                               1    20INTRN                      PROG02
00120I                                               3    40OUTRTN                     PROG02
00130I                                               5    80LENGTH                     PROG02
00140I                                               9  14 TMNAME                      PROG02
00150I                                              15  15 AID                         PROG02
001600TERMOUT D          01                                                            PROG02
001700                                          4 'GB'                                 PROG02
001800                                          8 ' 104'                               PROG02
001900                          TMNAME         14                                      PROG02
002000                                         20 '$ZTST2'                             PROG02
002100                          NAME2          40                                      PROG02
002200                          ADDR2          60                                      PROG02
002300                          CITY2          74                                      PROG02
002400                          STATE2         76                                      PROG02
002500                          ZIP2           81                                      PROG02
002600                          SLSMN2         95                                      PROG02
002700                          CRLIM2        104                                      PROG02
**   ACCEPT INPUT OP CODE AND MAXIMUN INPUT LENGTH
           D            ??
/*
```

NO OUTPUT SPECS SELECTED
(OPTION 7)

```
// CALL RPG,F1
// COMPILE OBJECT-R2
// RUN
00010H    C                                                                              PROG
00020FTERMIN  IP        105             SPECIAL       SUBR92                             PRO
00030F                                               KPL                                 PROG
00040FTERMOUT O          ??             SPECIAL       SUBR92                             PROC
00050F                                               KPL                                 PROG
00060F*                                                                                  PROG
00070F*                                                                                  PROG
00080F*                                                                                  PR
00090E                   PL       5    5  6                                              PRO
00100ITERMIN  NS  01  15 C'                                                              PROG
00110I                                            1    20INTRN                           PRO
00120I                                            3    40OUTRTN                          PROG
00130I                                            5    80LENGTH                          PROG03
00140I                                            9   14 TMNAME                          PROG03
00150I                                           15   15 AID                             PROG03
00160I                                           16   21 PASWRD                          PROG
00170I                                           22   41 NAME                            PROG0
00180I                                           42   61 ADDR                            PROG03
00190I                                           62   75 CITY                            PROG0
00200I                                           76   77 STATE                           PROG03
00210I                                           78   820ZIP                             PROG0
00220I                                           83   96 SLSMN                           PROG0
00230I                                           97 1052CRLIM                            PRO
00240I        NS  02                                                                     PROG
00250C*                                                                                  PROG
00260C*                                                                                  PROG03
00270C*                                                                                  PROG03
00280C*                                                                                  PROG03
00290C*                                                                                  PROG0
**  ACCEPT INPUT OP CODE AND 'AXIMUN INPUT LENGTH
          D           105
/*
```

OPERATING THE SYSTEM

OPERATING THE SYSTEM

Once the sample problem has been run and a few additional screens created, the user should feel comfortable with the use of this FDP.

Erase EOF Key

There is one function performed by the 3270 hardware that the user should be aware of. Since the 3270 is a teleprocessing device, it will attempt to keep the amount of data transmitted to the CPU to a minimum. Therefore, unused and unaltered portions of the screen may not transmitted. The device recognizes these screen positions by the presence of a 'null' character (X '00'). So the hardware scans the screen or buffer positions for these characters and bypasses the transmission of any found.

The programs are written to place blanks (X '40') in all entry positions of the Create and Modify Entry screens. So if the cursor positioning key (→) is used to bypass screen positions, the original blank characters still remain on the screen and will be transmitted; the correct positions of fields within a line is maintained.

A possible problem can arise if the operator uses the 'ERASE EOF' key at the beginning or within the screen line. This key will clear that field or line to 'null' characters. If the cursor advance key (→) key is then used to bypass some positions on that line, the 'null' characters will remain. Any following fields will then be moved to the left and give an incorrect position for those entries. For Example:

Operator keys:	AAAA	
Erase EOF Key pressed:		
Operator moves cursor 10 pos.		
Operator keys		NNNN
Displayed on screen:	AAAA	NNNN
Transmitted to CPU:	AAAANNNN	

To eliminate this condition the operator should be careful to use the space key to advance the cursor following the use of the 'ERASE EOF' key. This will place the desired blank characters in the correct screen positions.

If the 'ERASE EOF' key is not used, the (→) key can be used as desired.

Screen ID

All of the selection options prompt the operator to enter both a Screen Name and ID to retrieve the desired screen format. This ID is a two position sequential number assigned by the FDP to all new screen formats. It is included to allow multiple versions of a screen format with the same name on the FORMAT disk file. The operator can then select a particular version by also entering the ID reference along with the Screen Name. If no ID is entered, all the programs have been written to select only the first Screen Name match found in the FORMAT disk file. (see Program Description for FORSC5 for an exception to this). So only in the case of multiple screen formats with the same name should the operator be concerned with Screen ID.

328x Printer

Screens being created or modified can be copied to a 328x printer at any time by pressing the PF1 key. A printer of this type is not required for the successful installation or operation of this system, but can be used if available. The MENU screen can also be printed on a 328x printer if desired by pressing the PF1 key.

Program Function Keys

The only Program Funtion key used is PF1 as described above.

Model 8, 10, 12 Users

The System Operator will have to allocate the Printer and MFCU/3741 to the CCP partition for the execution of FORSC5 and FORSC7. The suggested Assignment Set provided includes this allocation in the // SYSTEM Statement. If a batch program level is also active, these devices must then be allocated to OTHER for use in this program level.

i.e.
```
ALLOCATE PRINTER, CCP
        or
ALLOCATE PRINTER, OTHER
```

See your System Operator's Guide for these commands.

RETURNING TO MENU SCREEN

The user can normally return to the MENU Screen following the successful completion of each option by pressing the Enter key. An exception to this is Option 8 where the user must press the Clear key and enter the program name FORMAT.

Also, anytime an error message is presented (i.e., Screen Not Found, Truncated Screen, etc.), the user is given the opportunity for retry. To return to the MENU Screen after an error if no retry is desired, press the Clear key and enter the program name FORMAT.

PROGRAM DESCRIPTIONS

SUMMARY OF PROGRAMS

Non CCP Programs:

FORLOD	File Creation Program
FOROR1	File Reorganize Program 1
FOROR2*	File Reorginize Program 2
FORPRT*	Screen Documentation Aid
FORSET*	Load Existing DFF Specifications

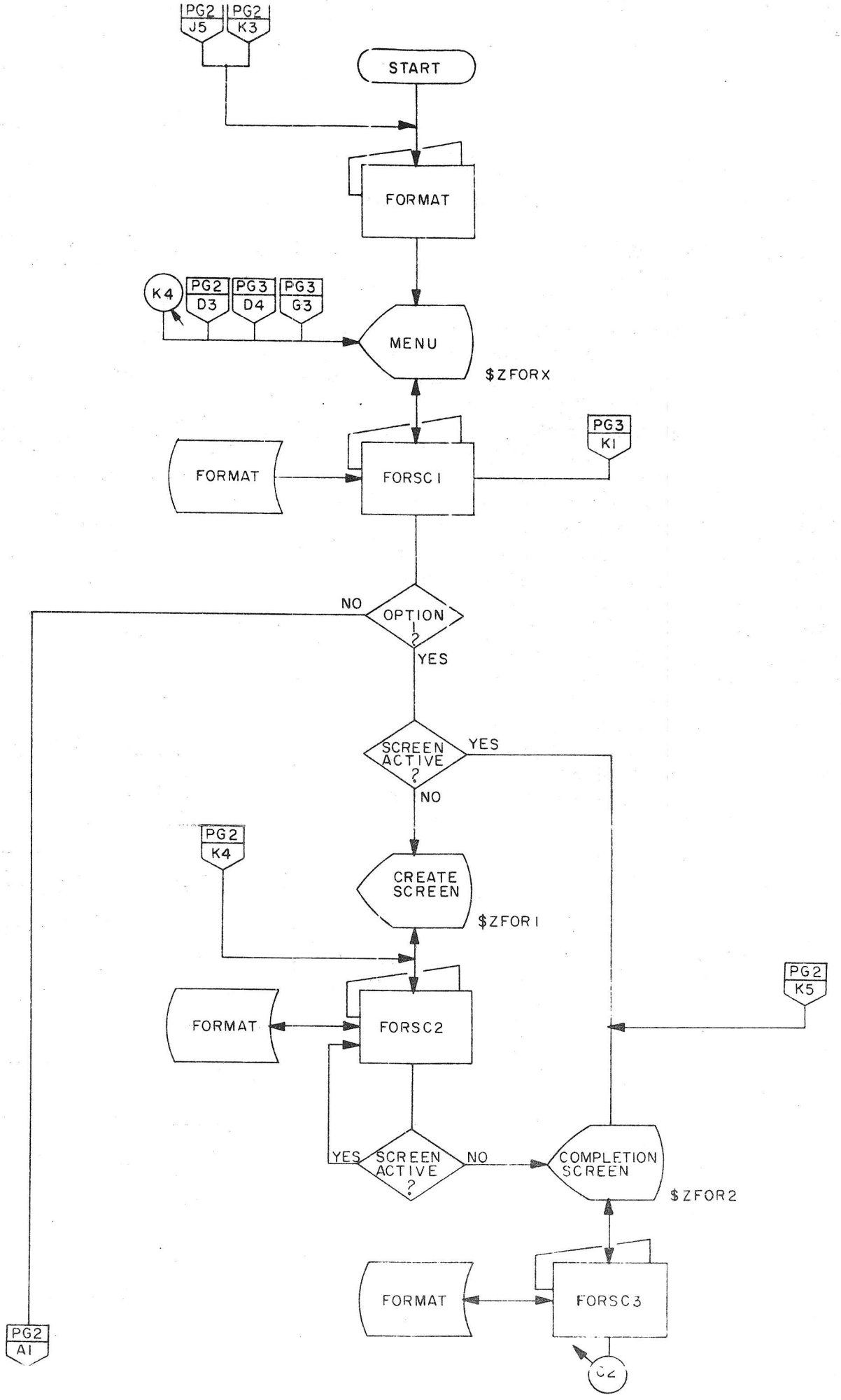
CCP Programs:

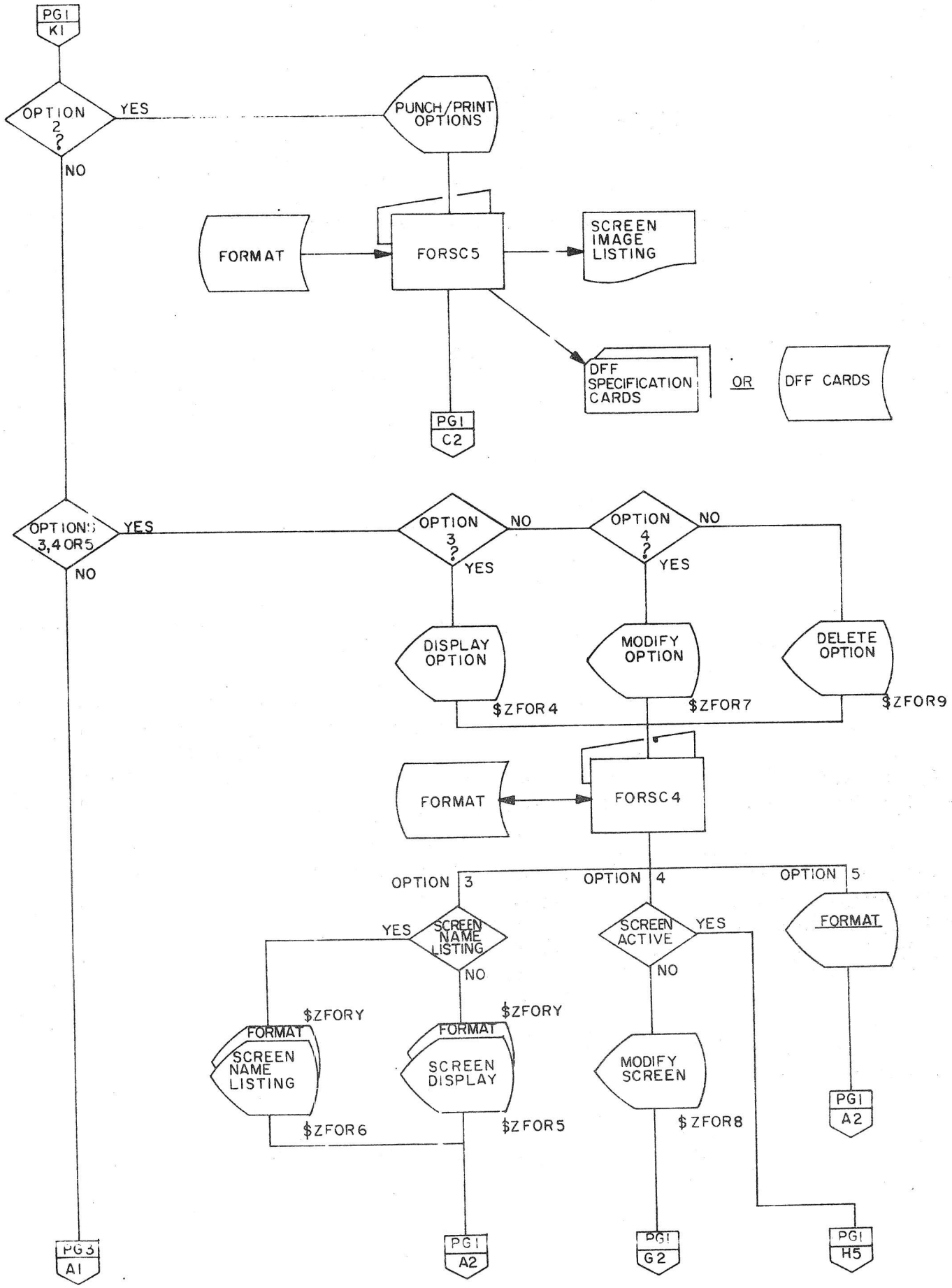
FORMAT	Display Menu
FORSC1	Process Options
FORSC2	Screen Generation
FORSC3	Screen Completion
FORSC4	Display, Modify, Delete Options
FORSC5*	Display Screen/Output DFF Specs
FORSC6	Assign Field Names
FORSC7*	Punch RPG Specification
FORSC8	Execute Screen

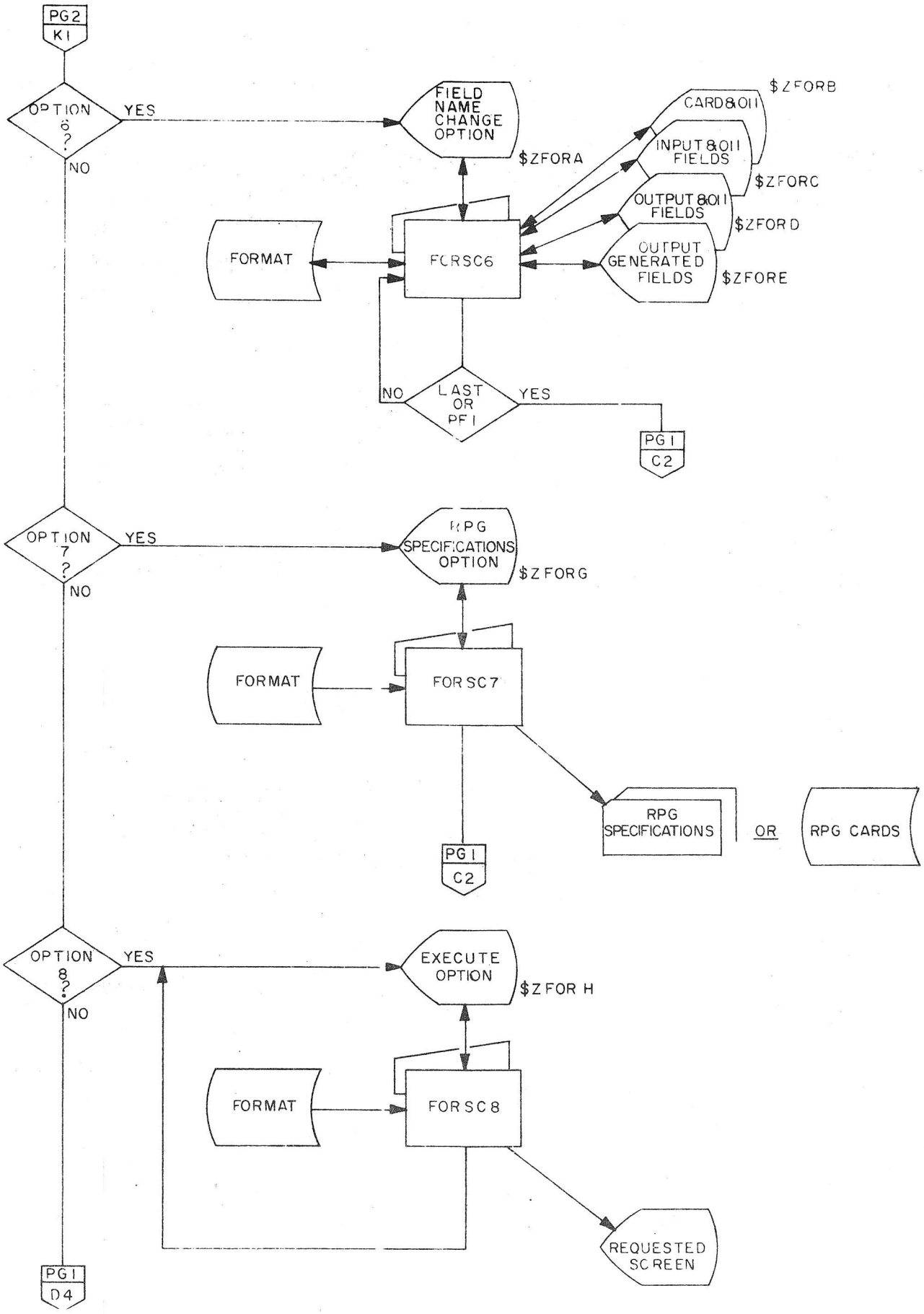
The above programs with an asterisk following their name require Unit Record modules (Printer, MFCU, etc.) for execution. Assure that the normal RPG compiler is used for the non-CCP programs and that the CCP RPG compiler is used for the CCP programs.

SUMMARY OF SCREENS

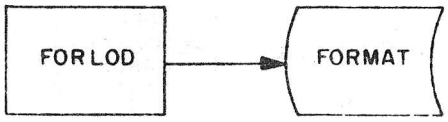
Name	Function
$ZFOR1	Screen creation input.
$ZFOR2	Completion information prompt.
$ZFOR3	Print screen image/output RPG specs.
$ZFOR4	Display option prompt.
$ZFOR5	Display screen.
$ZFOR6	Screen names display.
$ZFOR7	Modify function prompt.
$ZFOR8	Modify entry screen.
$ZFOR9	Delete function prompt.
$ZFORA	Field name changes prompt.
$ZFORB	Field name changes common.
$ZFORC	Input field names.
$ZFORD	Output field names.
$ZFORE	Output gen field names.
$ZFORG	RPG specifications prompt.
$ZFORJ	Blank screen.
$ZFORH	Execute option prompt.
$ZFORW	Error Message Line.
$ZFORX	MENU Screen.
$ZFORY	Linkage To FORMAT Program.


PG2 J5
PG2 K3
START
FORMAT
K4
PG2 D3
PG3 D4
PG3 G3
MENU
$ZFORX
FORMAT
FORSC1
PG3 K1
NO
OPTION ?
YES
SCREEN ACTIVE ?
YES
NO
PG2 K4
CREATE SCREEN
$ZFOR1
PG2 K5
FORMAT
FORSC2
YES
SCREEN ACTIVE ?
NO
COMPLETION SCREEN
$ZFOR2
FORMAT
FORSC3
C2
PG2 A1

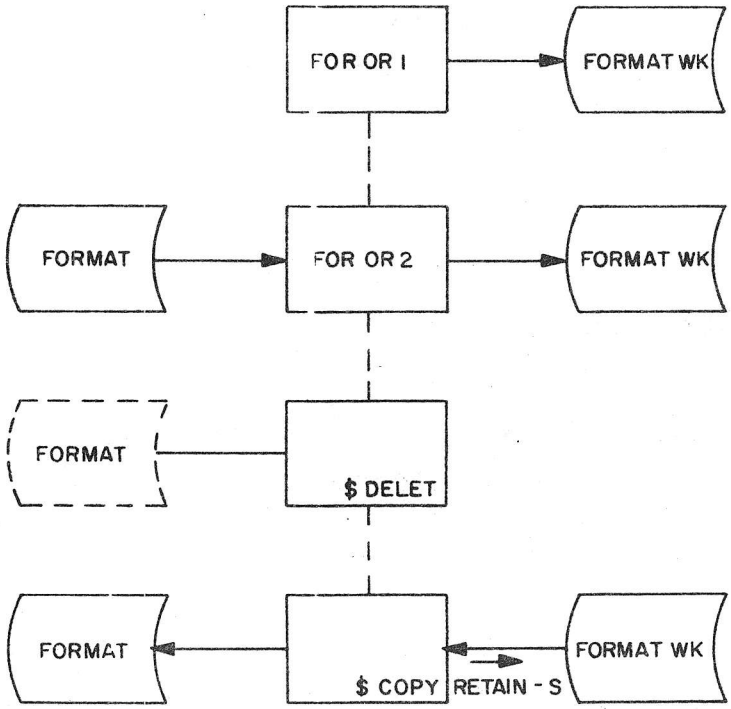

PG1
K1
OPTION 2 ?
YES
NO
PUNCH/PRINT OPTIONS
FORMAT
FORSC5
SCREEN IMAGE LISTING
DFF SPECIFICATION CARDS
OR
DFF CARDS
PG1
C2
OPTIONS 3,4 OR 5
YES
NO
OPTION 3 ?
NO
YES
OPTION 4 ?
NO
YES
DISPLAY OPTION
MODIFY OPTION
DELETE OPTION
$ZFOR4
$ZFOR7
$ZFOR9
FORMAT
FORSC4
OPTION 3
OPTION 4
OPTION 5
YES
SCREEN NAME LISTING
NO
SCREEN ACTIVE
YES
NO
FORMAT
$ZFORY
$ZFORY
FORMAT
SCREEN NAME LISTING
FORMAT
SCREEN DISPLAY
MODIFY SCREEN
$ZFOR6
$ZFOR5
$ZFOR8
PG1
A2
PG3
A1
PG1
A2
PG1
G2
PG1
H5

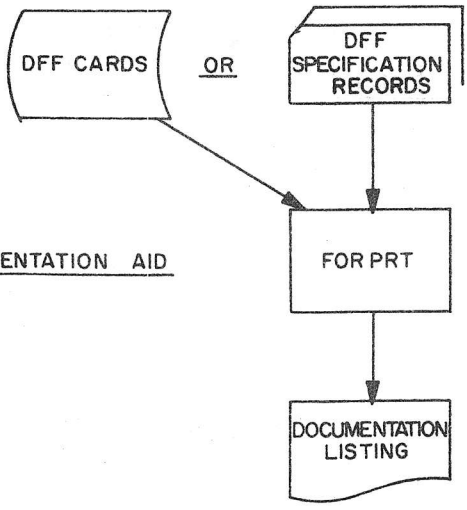

PG2
K1
OPTION 6 ?
YES
NO
FIELD NAME CHANGE OPTION
$ZFORA
CARD&OII
INPUT&OII FIELDS
OUTPUT&OII FIELDS
OUTPUT GENERATED FIELDS
$ZFORB
$ZFORC
$ZFORD
$ZFORE
FORMAT
FORSC6
NO
LAST OR PF1
YES
PG1
C2
OPTION 7 ?
YES
NO
RPG SPECIFICATIONS OPTION
$ZFORG
FORMAT
FORSC7
RPG SPECIFICATIONS
OR
RPG CARDS
PG1
C2
OPTION 8 ?
YES
NO
EXECUTE OPTION
$ZFOR H
FORMAT
FORSC8
REQUESTED SCREEN
PG1
D4

CREATE FORMAT FILE



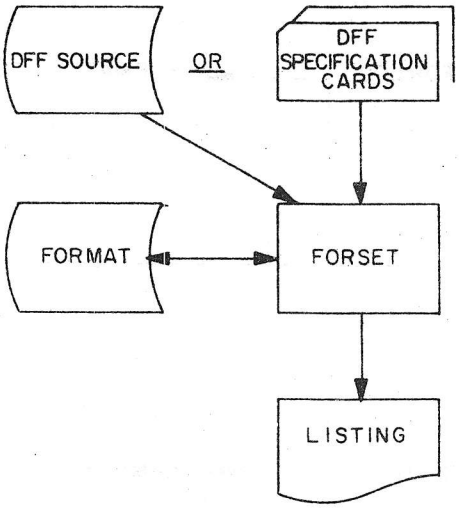
REORGINIZE FORMAT FILE



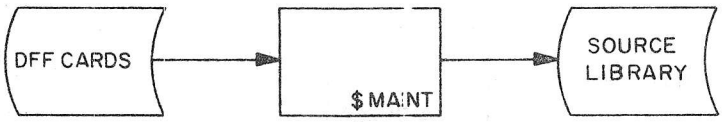


DOCUMENTATION AID

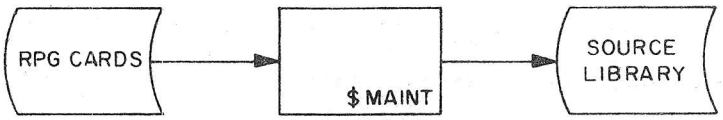
LOAD DFF SPECS TO DISK



PROCEDURE NAME: FORDFF



PROCEDURE NAME: FORRPG



FORLOD

This program is executed initially to create the disk file (FORMAT) used for screen preparation and maintenance. The size of the format file is a user decision depending on the number and size screen formats to be created.

For each screen format created the file will contain the following records:

4 records	header and OCL
24 records	screen image
? records	DFF specifications

The number of records created for DFF specifications will depend on the content of the screen. A reasonable average number of records for each screen format is 100.

OCL Required

```
// LOAD FORLOD,R2   (MODIFY IF NECESSARY)
// FILE NAME-FORMAT,UNIT-??,PACK-??????,RECORDS-????
// RUN
```

FOROR1

This program is used to create a direct file. This file (FORMATWK) is used as a work file during reorganization of the FORMAT file. Care should be taken to insure that this file is large enough to hold all the records from the FORMAT file minus the deleted screens. This is an off-line program to be used in conjunction with FOROR2 program.

OCL Required

```
// LOAD FOROR1,R2    (MODIFY IF NECESSARY)
// FILE NAME-FORMATWK,UNIT-??,PACK-??????,RECORDS-????
// RUN
```

FOROR2

This program is used to reorganize the FORMAT file. With this aid, reorganization means the removal of deleted screens from the FORMAT file and restructuring the identification numbers and the forward and backward pointers in the header records after the removal of deleted screens.

This program reads the FORMAT file as an input file and uses the FORMATWK file created by the FOROR1 program as an output hold file. As the program executes, a listing on the System's Printer will show all the screen names in the FORMAT file and indicates the ones that are being removed. The total number of screens along with the number of records used in the new FORMAT file will be shown at the completion of execution. The old FORMAT file should be scratched and the FORMATWK file should be copied back as the new FORMAT file.

FOROR2

OCL Required

```
// LOAD FOROR2,R2   (MODIFY IF NECESSARY)
// FILE NAME-FORMAT,UNIT-??,PACK-??????
// FILE NAME-FORMATWK,UNIT-??,PACK-??????
// RUN
```

FORPRT

This program is executed in a batch mode and is used to produce supporting documentation from the DFF specification records. Separate arrays are used to print the output and input functions for a screen. This allows overprinting for fields defined as output/input.

The field is first tested for generated data. If it is a generated field, the data is moved to a working array (LN). For non generated Output Fields the field type is looked up in a table (TABA for output fields and TABE for output/input fields) and the resulting table entry (TABB or TABF) is then moved to the working array. The positions of the array (LN) are then individually moved to output line array (LNO).

Fields with input characteristics are then looked up in array TABC and the resulting table entry (TABD) moved to the working array (LN). The elements of this array are similarily moved to the input line array (LNI).

Each of these arrays (LNO, LNI) is then moved to the output and input arrays (IN and OUT). On recognizing the control card record, a cycle is initiated to print the resulting display.

The program is distributed so that all Output Non Generated fields will print an asterisk (*) and all Input field types will print a period (.). This can be be altered by modifying the table entries if desired.

External Switch 1 Option - allows documenting overlay screens.

Program Halt (H1) - Partial Line Duplication - invalid.

OCL required -
```
// LOAD FORPRT,R2    (MODIFY IF NECESSARY)
// RUN
```

*If disk is used for the output of DFF specifications, an additional File OCL should be added:

```
// FILE NAME-DFFCARDS,UNIT-??,PACK-??????
```

FORSET

This program is executed in a batch mode and is used to list and output existing DFF Specifications to the FORMAT disk file. Both the screen image and DFF Specifications are written to disk on the same format as produced by the on-line Creation Program, FORSC2. The characters used to represent the screen image are consistent with those of FORSC2. The following arrays are used to determine the characters to represent the fields:

TYP - Possible field types (1-8).
OE - Output Execution Field characters.
OG - Output Generated Field Start & Stop Characters
I - Input Field characters.
OIE - Output/Input Execution characters.
OIG - Output/Input Generated Fields Start & Stop characters.

The Field Type for each Specification is used to LOKUP in the array TYP, then the resulting Index is used to compare the entry in the corresponding array (OE, OG, I, etc.) for a blank. If either the entry is blank or the Field Type is not found in the TYP array, the default Field Type (1) is used for the field. The field defining characters or in the case of a Generated Field, the literal is moved to the array OUT for later output to disk.

It is possible that valid DFF Specifications may be present that are not valid with the use of this aid. The following is a list of possible errors and the resulting program action.

- Partial Line or Field Duplication Specifications: the specification is dropped.
- Field starting in Line 1, Pos 1-10: No screen image is created but DFF Specification is written to disk.
- Invalid Field Type: Default used.
- Generated Field starting in the first position of a line: the Starting Field Character is dropped in screen image.
- Field extending past position 79 of a line: the field is truncated at position 79.
- The FORMAT file has an Active Screen not completed by FORSC3: program terminated and remainder of the input is bypassed.
- The FORMAT file is full: program terminated and the remainder of the input is bypassed.
- Complete Line Duplication Specification: the correct screen image is produced, the Specification is written to disk, and the Screen Header is marked with the 'Truncated Flag'. This flag will prevent the output of either the DFF or RPG Specifications. The User should execute the Modify Function and the System will produce screen entries usable by all functions.

Since the program will bypass any input records without a C or F in column 1, the OCL can remain with the input on executing this program. Multiple screens can be written to disk by removing any /* cards between decks.

OCL Required -

```
// LOAD FORSET,R2    (MODIFY IF NECESSARY)
// FILE NAME-FORMAT,UNIT-??,PACK-??????
// RUN
```

FORMAT

This program outputs the basic MENU screen ($ZFORX) to the 3275/3277. The user then selects from the options on this screen to initiate the selected programs. This is the only CCP program name that this operator must remember and enter.

FORSC1

This program is loaded with input from the basic MENU screen ($ZFORX). Tests are made to assure that only one selection was made and that the work file (FORMAT) is not full. If a screen is 'active', initiated but not completed with FORSC3, the screen $ZFOR2 is forced out to request the required completion information. If the above edit tests are successful, the following options and screen selections result:

Option	Screen	Function
1	$ZFOR1	Screen creation input
2	$ZFOR3	Print screen image/output RPG specs
3	$ZFOR4	Display option prompt.
4	$ZFOR7	Modify function prompt
5	$ZFOR9	Delete function prompt
6	$ZFORA	Field name changes prompt
7	$ZFORG	RPG specifications prompt
8	$ZFORH	Execute option prompt

PF1 key will print the displayed screen on the 328X printer defined in the assignment set with the name PRINT1.

FORSC2

This program is loaded with input from either the creation screen ($ZFOR1) or modify entry screen ($ZFOR8). The input fields to the program consist of the 24 lines of screen input. A test is first made to assure that a prior format isn't partially completed or the disk file (FORMAT) full. In the case of a format partially completed, the keyboard is restored with no additional processing. This will occur only when this aid is being used simultaneously from two or more terminals. When the other terminal completes its screen, this entry will be honored.

The program output to the format file consists of 24 lines of screen image followed by the three entries from the array OCL . The specific entries from the screen are then interrogated to produce the field specification records. Three resulting tables are used to produce the field specifications:

TABA - Field starting character
TABB - Field enging character
TABC - Field starting character
TABD - Type of field; input, output, output/input
TABE - Field starting character
TABF - Field type specification

The presence of a field terminating character in TABB defines this field as a generated field.

If a generated field is started but the termination character not properly entered to terminate the field, the field will be automatically terminated at the last possible position (79) of that line.

When a non-generated field is started the program tests to insure that the same starting character is propagated. A character different from the original will terminate the field.

All fields with input characteristics will be generated with autoskip - yes. The user can code a concatonation sign (/) in place of the normal termination character to obtain the Autoskip-No option.

The program interrogates the first five positions of lines 3-24 for the characters '*DUP*'. On recognizing this entry, the previous line is duplicated to the current line.

If the PF1 key is pressed rather than the Enter Key, the screen image will be copied to the 328x printer with the terminal name 'PRINT1'.

A count is maintained of the total length for both the input and output fields. This count is writted to the screen's header record for use with program FORSC7.

FORSC3

This program is loaded with input from the 'Screen Creation' screen ($ZFOR2). Input fields to this program are: PRUF Program definition, Screen Name, Erase Option, and a Screen Name and ID (optional) to be used for the DFF Field Name Specifications. If a Screen Name/ID is entered for Field Names, the field specifications are located and the following is saved (Array-FLD) for each field (MAX=150): screen location, length, and type definition. Any fields from the current screen matching all this information will acquire the field names (Array-NAM) from the selected fields. If a PRUF Program Name is entered, a field specification record is activated. If room doesn't exist in the disk file (FORMAT) to contain all required specifications. FORSC3 issues an operator message for a 'Truncated Screen'. Position 15 of the header record is also updated with an asterisk indicated that this screen is 'Truncated'. Format file record #1 and the current and next header records are updated with the forward and backward pointers.

FORSC4

This program is loaded and used for all of the following screen options: Display Function ($ZFOR4), Modify Function ($ZFOR7), and Delete Function ($ZFOR9). A screen code (pos 23 of input) defines the function selected. The following fields are input to the program: Last ID (used for screen overflow of names listing), Screen Name, and Screen ID. If no screen name is entered with the display function, a list of active screens along with next record to be used is displayed ($ZFOR6). If more than 30 names are active, a Put-Overide is used to update screen 'Last ID' field and instruct the opeator to continue.

With a screen name entered, this name and the ID (optional) are used to locate the correct screen in the format file and output one of the following:

Function	Screen Code	Output Screen
Display	D	$ZFOR5
Modify	M	$ZFOR8
Delete	X	Put override message.

The delete function requires that both screen name and ID must be entered. The operator will be issued a message confirming the deletion.

Following the completion of each function except modify, the screen ($ZFORY) will be output. This screen will complete the linkage back to the Menu Screen ($ZFORX) on the next depression of the Enter key.

FORSC5

This program is loaded with input from screen $ZFOR3 and is used to output the DFF Specification Records. The image of the Screen Input is also printed on the System Printer. Input fields to the program include Screen Name, ID, Print Option, and Punch Option. The program first checks the print and punch options for an X indicating that this function is not to be performed. If no Screen Name is entered, all active screens will be selected. Otherwise the Screen Name and ID (optional) are used to locate the selected format and output the request. If multiple screen format entries exist with the same Name and no ID was entered, all versions with a matching name will be selected.

If the screen Header Record has the Truncated Flag on (pos 15 is an asterisk), an operator message will be used and no DFF specifications will be output. If no errors are found, the menu screen ($ZFORX) will be output prior to program termination. With the No Screens Active or 'Truncated Screen' messages the screen $ZFORY will be output. This screen will complete the linkage back to the MENU screen ($ZFORX) on the next depression of the Enter key.

FORSC6

This program is initated with option 6 and is loaded from any of the following program screens:

Initial Screen	$ZFORA
Input Fields	$ZFORC
Output Fields	$ZFORD
Generated Output only fields	$ZFORE

FORSC1 outputs the initial screen ($ZFORA) which requests the operator to enter the Screen Name and ID (optional) selection. The next three screens are presented in a sequence most logical to interface the Field Names to an RPG program. Each of the screens is preceeded by a common screen ($ZFORD) presenting the field locations, length and types. The common screen is used to keep the largest field descripter table and text length smaller to reduce the program size.

The array SEL is filled with the Relative Record Number, Name, and decimal positions ($ZFORC only) for each of the possible 30 fields for display. Each field is interrogated for Numeric and if so, the decimal field is changed from Type 6 to Type 3 with a Put-override to allow operator changes. The operator can also enter changes to the cursor position if desired, but the field selected must be displayed. Entering a '* ' for the cursor position will delete a cursor position.

The screen for output fields ($ZFORD) will reflect any prior names entered on the Input Fields Screen ($ZFORC) for Ouptut Input fields (represented as type U). Any name changes entered on the Ouptut screen for Output/Input fields will produce a '2nd Name' for that field. This '2nd Name' will not be used on the DFF Specifications but only with option 7, RPG II Output Specs. Entering '* ' in the Name field will delete a '2nd Name' if present.

PF1 key or completion of all screens will output the MENU Screen ($ZFORX).

The listing produced by selecting MENU Option 2 will assist the User in relating the generated field names to the actual screen entries.

FORSC7

This program writes to disk or diskette or punches to cards RPG II Specifications derived from selected screen names.

The execution of FORSC7 begins with selecting option number seven from the MENU screen. This selection will display the RPG II Specification Options Screen ($ZFORG). The RPG II Specification Options Screen has six parameters which may or may not be chosen.

Parameters number one and two ask for the Screen Name and ID (optional) that records are to be created from as RPG II Input specifications. If a Screen Name is specified, FORSC7 will search the selected Screen for all Input and Output/Input Display Format Facility (DFF) specifications and create RPG II Input records for those fields. If you bypass this option, FORSC7 will not provide RPG II Input specification for any Screen. However, FORSC7 will provide a RPG II File specification for input along with the standard five fields (first fifteen position of the RPG II input area) used with the Communication Control Program (CCP).

Parameter number three asks for the number of RPG II Calculation Specification comment records to be inserted between the RPG II Input and Output specification records. If this option is bypassed, there will not be any RPG II Calculation comment records inserted.

Parameters number four and five ask for Screen Name and ID (optional) that records are to be created for as RPG II Output specifications. If a Screen Name is specified, FORSC7 will search the selected Screen for all Execution Output Display Format Facility (DFF) specifications and create RPG II Output records for those fields. If you bypass this option, FORSC7 will not provide RPG II Output Specification for any screen nor will it provide any of the standard RPG II Output Specifications used with the Communication Control Programs (CCP) output operations.

Parameter number six asks for a name that FORSC7 can use as a program name in the RPG II Specifications being created from the selected Screens. If this parameter is bypass, FORSC7 will use blanks for the program name.

Refer to SAMPLE PROBLEM for examples.

FORSC8

This program is used to execute the Display Format Facility (DFF) specifications in the FORMAT file.

The execution of FORSC8 begins with selecting option number eight from the MENU screen. This selection will display the Execution Options Screen ($ZFORH) . This screen has three parameters which may or may not be chosen.

Parameter number one which will always be completed, asks for the screen name you wish to execute.

Parameter number two asks for the screen identification number in case there are duplicate format names in the file. If this parameter is bypassed, the default is to execute the first screen name found in the file matching the screen name entered in parameter number one.

Parameter number three asks for the symbolic name of a device to display the selected screen. If this parameter is bypassed, the screen selected will be executed on the device making the request. If a symbolic device name is entered, the screen selected will be executed on that device provided it is signed off or is classified in the assignment set as a data terminal. This parameter allows the user to place multiple screens on other devices.

FORSC8 returns two error messages to the user. One message is that the screen cannot be found. The second message is that the screen is Truncated. In both cases the user will want to examine the screen name selected.

FILE DESCRIPTIONS

FILE DESCRIPTIONS

File Name: FORMAT (FORMATWK)

Purpose: Contains the screen image and DFF Specification records for screen formats created.

Creation: FORLOD

Updated: FORSC2,FORSC3,FORSC4,FORSC6 .FORSET

File Media: Disk file

Organization: DIRECT

Record length: 80

Record Type	Field Name	Description	From-To	No of Bytes	Field Length
MASTER	--	Unused	1-6	6	--
	NEXT	Next Header Rec.@	7-10	4	4,0
	WORK	Open Header Rec.@	11-14	4	4,0
	ACTIVE	Active Format Flag	15-15	1	1
	CURSOR	Temp. Cursor Pos Save	16-21	6	6
	--	Unused	22-79	58	--
	RECCOD	Rec. Code 'M'	80-80	1	1
HEADER	ID	Screen ID	1-2	2	2,0
	PREV	Previous Header@	3-6	4	4,0
	NEXT	Next Header@	7-10	4	4,0
	--	Unused	11-14	4	--
	TRUNC	Truncated Flag	15-15	1	1
	SCRNID	Screen Name	16-21	6	6
	CURPOS	Cursor Pos.	22-27	6	6
	INLTH	Input Text Length	28-31	4	4,0
	OUTLTH	Output Text Length	32-35	4	4,0
	--	Unused	36-78	43	--
	DELET	Delete Flag	79-79	1	1
	RECCOD	Record Code 'H'	80-80	1	1
OCL/Screen Lines	--	Record Image	1-80	80	80
DFF Specs	--	Record Image	1-72	72	72
	NAME2	2nd Name	73-78	6	6
	DECPOS	Dec. Pos.	79-79	1	1,0
	DELETE	Delete Flag	80-80	1	1

FILE DESCRIPTIONS

File Name: DFFCARDS

Purpose: Contains card Image of DFF Specification Records and OCL.

Creation: Not required.

Added To: FORSC5

File Media: Cards, Diskette, Disk File

Record Length: 96 (last 16 pos not used)

File Name: RPGCARDS

Purpose: Contains card image of RPG Specification Records and OCL.

Creation: Not required.

Added To: FORSC7

File Media: Cards, Diskette, Disk File

Record Length: 96 (last 16 pos not used)

APPENDIX A

(MODEL 4)

```
**************************************************************************
*                                                                        *
*  CCL TO COPY SCREEN DESIGN FACILITY OBJECT PROGRAMS - SCREENS AND      *
*  PROCEDURES FROM THE DISTRIBUTION PACK TO UNIT WHERE C C P             *
*  EXPECTS THEM TO RESIDE                                                *
*                                                                        *
**************************************************************************
// LOAD $MAINT,F1
// RUN
// COPY FROM-R1,LIBRARY-O,NAME-FOR.ALL,RETAIN-P,TO-??
// COPY FROM-R1,LIBRARY-O,NAME-$ZFOR.ALL,RETAIN-P,UNIT-??
// COPY FROM-R1,LIBRARY-P,NAME-ALL,RETAIN-P,TO-??
// END
```

```
*****************************************************************
*                                                               *
*                        BRINGING UP CCP--                      *
*                                                               *
*****************************************************************

// LOAD $CCP,??      *FORCCP*
// FILE NAME-FORMAT,UNIT-??,PACK-??????
// FILE NAME-DFFCARDS,JNIT-??,PACK-??????,RECORDS-????          DISK
// FILE NAME-RPGCARDS,JNIT-??,PACK-??????,RECORDS-????         OPTIONS
// RUN


*****************************************************************
*                                                               *
*   DISK OPTION - COPY THE DFF SPECIFICATIONS TO SOURCE LIBRARY  *
*                                                               *
*****************************************************************

// LOAD $MAINT,F1    *FORDFF*
// FILE NAME-DFFCARDS,UNIT-??,PACK-??????,RETAIN-S
// RUN
// COPY FROM-DISK,FILE-DFFCARDS,RECL-96,TO-??,RETAIN-P
// END


*****************************************************************
*                                                               *
*   DISK OPTION - COPY THE RPG SPECIFICATIONS TO SOURCE LIBRARY  *
*                                                               *
*****************************************************************

// LOAD $MAINT,F1    *FORRPG*
// FILE NAME-RPGCARDS,UNIT-??,PACK-??????,RETAIN-S
// RUN
// COPY FROM-DISK,FILE-RPGCARDS,RECL-96,TO-??,RETAIN-P
// END


*****************************************************************
*                                                               *
*   DISK OPTION -  DOCUMENTATION OF SCREENS WITH 'FORPRT'--      *
*                                                               *
*****************************************************************

// LOAD FORPRT,??    *FORPRT*
// FILE NAME-DFFCARDS,UNIT-??,PACK-??????
// RUN
```

```
*************************************************************************
*                                                                       *
*                        CREATE THE 'FORMAT' FILE                       *
*                                                                       *
*************************************************************************

// LOAD FORLOD,??    *FORLOD*
// FILE NAME-FORMAT,UNIT-??,PACK-??????,RECORDS-????,RETAIN-P
// RUN


*************************************************************************
*                                                                       *
*                    REORGINIZE THE 'FORMAT' FILE-                      *
*                                                                       *
*************************************************************************

// LOAD FOROR1,??    *FOROR1*
// FILE NAME-FORMATWK,UNIT-??,PACK-??????,RECORDS-????
// RUN

// LOAD FOROR2,??    *FOROR2*
// FILE NAME-FORMAT,UNIT-??,PACK-??????
// FILE NAME-FORMATWK,UNIT-??,PACK-??????
// RUN

// LOAD $DELET,F1    *FOROR3*
// RUN
// SCRATCH PACK-??????,UNIT-??,LABEL-FORMAT
// END

// LOAD $COPY,F1     *FOROR4*
// FILE NAME-COPYIN,UNIT-??,PACK-??????,LABEL-FORMATWK,RETAIN-S
// FILE NAME-COPYO,UNIT-??,PACK-??????,RETAIN-P,RECORDS-????,
//        LABEL-FORMAT
// RUN
// COPYFILE OUTPUT-DISK
// END


*************************************************************************
*                                                                       *
*                LOAD EXISTING DFF SPECS. TO 'FORMAT' FILE              *
*                                                                       *
*************************************************************************

// LOAD FORSET,??    *FORSET*
// RUN
```

```
*****************************************************************************
*                                                                           *
*                          MODEL 04 ASSIGNMENT SET                          *
*                                                                           *
*****************************************************************************
// SET ID-F,ACTION-REPLACE,DFLTEXEC-NO                                      0001
// SYSTEM MINUPA-17.25K,MINTPBUF-2560,                                      0002
//        PGMREQL-20,COMMANDL-50,TRACEBLK-2,                                0003
//        DFFPACK-PROGRAM                                                   0004
// TERMATTR ATTRID-1,TRANSLAT-YES,UPCASE-YES,BLKL-512,                      0005
//        DATAFORM-MESSAGE,DFF3270-YES                                      0006
// TERMATTR ATTRID-2,TRANSLAT-YES,UPCASE-YES,BLKL-512,                      0007
//        DATAFORM-MESSAGE,DFF3270-NO                                       0008
// BSCALINE TYPE-CS,POLLLIST-'01,02',LINENUM-2                              0009
// BSCATERM TERMID-01,TYPE-3277M2,ATTRID-'1,2',                             0010
//        COMMAND-YES,OFFACTN-HOLD,                                         0011
//        ADDRCHAR-*6060C1C1*,POLLCHAR-*4040C1C1*                           0012
// BSCATERM TERMID-02,TYPE-3286M2,ATTRID-'1',                               0013
//        COMMAND-NO,                                                       00
//        ADDRCHAR-*6060C2C2*,POLLCHAR-*4040C2C2*                           0015
** TERMNAME NAME-TERM01,TERMID-00                                          0016
// TERMNAME NAME-TERM02,TERMID-01                                           0017
// TERMNAME NAME-PRINT1,TERMID-02                                           0018
// DISKFILE NAME-FORMAT,ORG-D,RECL-80                                       0019
// DISKFILE NAME-DFFCARDS,ORG-C,RECL-96                                     0020
// DISKFILE NAME-RPGCARDS,ORG-C,RECL-96                                     0021
// PROGRAM NAME-FORMAT,ENDMSG-NO,                                           0022
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-256,PGMDATA-NO,                       002
//        PACK-PROGRAM                                                      0024
// PROGRAM NAME-FORSC1,ENDMSG-NO,                                           0025
//        FILES-'FORMAT/DG/NOSHR',                                          0026
//        DFFMTERM-2,DFFNDF-8,DFFSFDT-400,PGMDATA-YES,                      0027
//        PRUF$Z-$ZFORX,PRUFLNG-64,                                         0028
//        PACK-PROGRAM                                                      0029
// PROGRAM NAME-FORSC2,ENDMSG-NO,                                           0030
//        FILES-'FORMAT/DU/NOSHR',                                          0031
//        DFFMTERM-2,DFFNDF-3,DFFSFDT-400,                                  0032
//        PRUF$Z-$ZFOR1,PRUFLNG-1974,                                       00
//        PACK-PROGRAM                                                      0034
// PROGRAM NAME-FORSC3,ENDMSG-NO,                                           0035
//        PRUF$Z-$ZFOR2,PRUFLNG-64,                                         0036
//        FILES-'FORMAT/DU/NOSHR',                                          0037
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-256,                                  0038
//        PACK-PROGRAM                                                      0039
// PROGRAM NAME-FORSC4,ENDMSG-NO,                                           0040
//        FILES-'FORMAT/DU/NOSHR',                                          0041
//        DFFMTERM-1,DFFNDF-3,DFFSFDT-450,PGMDATA-YES,                      0042
//        PRUF$Z-$ZFOR4,PRUFLNG-64,                                         0043
//        PACK-PROGRAM                                                      0044
```

```
// PROGRAM NAME-FORSC5,ENDMSG-NO,                                    00450
        FILES-'FORMAT/DG/NOSHR,DFFCARDS/CA/NOSHR',                   00460
        PRINTER-YES,PGMDATA-YES,                                     00470
//      DFFMTERM-1,DFFNDF-1,DFFSFDT-400,                             00480
//      PRUF$Z-$ZFOR3,PRUFLNG-64,                                    00490
//      PACK-PROGRAM                                                 00500
// PROGRAM NAME-FORSC6,ENDMSG-NO,                                    00510
//      FILES-'FORMAT/DU/NOSHR',                                     00520
//      PGMDATA-YES,                                                 00530
//      DFFMTERM-1,DFFNDF-1,DFFSFDT-1434,                            00540
//      PRUF$Z-$ZFORC,PRUFLNG-869,                                   00550
//      PACK-PROGRAM                                                 00560
// PROGRAM NAME-FORSC7,ENDMSG-NO,                                    00570
//      FILES-'FORMAT/DG/NOSHR,RPGCARDS/CA/NOSHR',                   00580
//      DFFMTERM-1,DFFNDF-1,DFFSFDT-128,                             00590
//      PRUF$Z-$ZFORG,PRUFLNG-256                                    00600
// PROGRAM NAME-FORSC8,ENDMSG-NO,                                    00610
//      FILES-'FORMAT/DG/NOSHR',                                     00620
        DFFMTERM-1,DFFNDF-1,DFFSFDT-128,                             00630
//      PRUF$Z-$ZFORH,PRUFLNG-256                                    00640
/*
```

APPENDIX B

(MODELS 8, 10, 12, 15)

```
*****************************************************************
*                                                               *
*                        BRINGING UP CCP--                      *
*                                                               *
*****************************************************************

// LOAD $CCP,??      *FORCCP*
// FILE NAME-FORMAT,UNIT-??,PACK-??????
// FILE NAME-DFFCARDS,UNIT-??,PACK-??????,RECORDS-????          DISK
// FILE NAME-RPGCARDS,UNIT-??,PACK-??????,RECORDS-????         OPTIONS
// RUN


*****************************************************************
*                                                               *
*   DISK OPTION - COPY THE DFF SPECIFICATIONS TO SOURCE LIBRARY  *
*                                                               *
*****************************************************************

// LOAD $MAINT,F1    *FORDFF*
// FILE NAME-DFFCARDS,UNIT-??,PACK-??????,RETAIN-S
// RUN
// COPY FROM-DISK,FILE-DFFCARDS,RECL-96,TO-??,RETAIN-P
// END


*****************************************************************
*                                                               *
*   DISK OPTION - COPY THE RPG SPECIFICATIONS TO SOURCE LIBRARY  *
*                                                               *
*****************************************************************

// LOAD $MAINT,F1    *FORRPG*
// FILE NAME-RPGCARDS,UNIT-??,PACK-??????,RETAIN-S
// RUN
// COPY FROM-DISK,FILE-RPGCARDS,RECL-96,TO-??,RETAIN-P
// END


*****************************************************************
*                                                               *
*   DISK OPTION -  DOCUMENTATION OF SCREENS WITH 'FORPRT'--      *
*                                                               *
*****************************************************************

// LOAD FORPRT,??    *FORPRT*
// FILE NAME-DFFCARDS,UNIT-??,PACK-??????
// RUN
```

```
*****************************************************************************
*                                                                           *
*                          CREATE THE 'FORMAT' FILE                         *
*                                                                           *
*****************************************************************************

// LOAD FORLOD,??    *FORLOD*
// FILE NAME-FORMAT,UNIT-??,PACK-??????,RECORDS-????,RETAIN-P
// RUN


*****************************************************************************
*                                                                           *
*                       REORGINIZE THE 'FORMAT' FILE-                       *
*                                                                           *
*****************************************************************************

// LOAD FOROR1,??    *FOROR1*
// FILE NAME-FORMATWK,UNIT-??,PACK-??????,RECORDS-????
// RUN

// LOAD FOROR2,??    *FOROR2*
// FILE NAME-FORMAT,UNIT-??,PACK-??????
// FILE NAME-FORMATWK,UNIT-??,PACK-??????
// RUN

// LOAD $DELET,F1    *FOROR3*
// RUN
// SCRATCH PACK-??????,UNIT-??,LABEL-FORMAT
// END

// LOAD $COPY,F1     *FOROR4*
// FILE NAME-COPYIN,UNIT-??,PACK-??????,LABEL-FORMATWK,RETAIN-S
// FILE NAME-COPYO,UNIT-??,PACK-??????,RETAIN-P,RECORDS-????,
//       LABEL-FORMAT
// RUN
// COPYFILE OUTPUT-DISK
// END


*****************************************************************************
*                                                                           *
*                 LOAD EXISTING DFF SPECS. TO 'FORMAT' FILE                 *
*                                                                           *
*****************************************************************************


// LOAD FORSET,??    *FORSET*
// RUN
```

```
*****************************************************************************00010
*                                                                           *00020
*                    MODEL 8/10/12 ASSIGNMENT SET                           *00030
*                                                                           *00040
*****************************************************************************00050
*                                                                            00060
// PAUSE   ***  MODEL 8/10/12  ***                                          00070
*                                                                            00080
// LOAD $CCPAS,R2                ************ $CCPAS ************             00090
// FILE NAME-$CCPFILE,UNIT-R2,PACK-CCPACK                                    00100
// FILE NAME-$CCPWORK,UNIT-F1,PACK-F1F1F1,TRACKS-5,RETAIN-S                  00110
// RUN                                                                       00120
// SET ID-F,ACTION-REPLACE,DFLTEXEC-NO                                       00130
  SYSTEM MINUPA-18.00K,MINTPBUF-3089,                                       00140
//       PGMREQL-20,COMMANDL-80,PRINTER-YES,MFCU-YES,                       00150
//       DFFPACK-PROGRAM                                                    00160
// TERMATTR ATTRID-1,TRANSLAT-YES,UPCASE-YES,BLKL-768,                       00170
//       DATAFORM-MESSAGE,DFF3270-YES                                       00180
// TERMATTR ATTRID-2,TRANSLAT-YES,UPCASE-YES,BLKL-512,                       00190
//       DATAFORM-MESSAGE,DFF3270-NO                                        00200
// BSCALINE TYPE-CS,POLLLIST-'00,01,02'                                      00210
// BSCATERM TERMID-00,TYPE-3277M2,ATTRID-'1,2',                              00220
//       COMMAND-YES,OFFACTN-HOLD,                                          00230
//       ADDRCHAR-*60604040*,POLLCHAR-*40404040*                            00240
// BSCATERM TERMID-01,TYPE-3277M2,ATTRID-'1,2',                              00250
//       COMMAND-YES,OFFACTN-HOLD,                                          00260
//       ADDRCHAR-*6060C1C1*,POLLCHAR-*4040C1C1*                            00270
// BSCATERM TERMID-02,TYPE-3286M2,ATTRID-'1',                                00280
//       COMMAND-NO,                                                        00290
//       ADDRCHAR-*6060C2C2*,POLLCHAR-*4040C2C2*                            00300
// TERMNAME NAME-TERM01,TERMID-00                                            00310
// TERMNAME NAME-TERM02,TERMID-01                                            00320
// TERMNAME NAME-PRINT1,TERMID-02                                            00330
// DISKFILE NAME-FORMAT,ORG-D,RECL-80,DEVICE-5445          (5444)            00340
**  ADD THE FOLLOWING TWO CARDS FOR DISK OPTIONS-                           00350
** DISKFILE NAME-DFFCARDS,ORG-C,RECL-96,DEVICE-5445        (5444)           00360
** DISKFILE NAME-RPGCARDS,ORG-C,RECL-96,DEVICE-5445        (5444)           00370
// PROGRAM NAME-FORMAT,ENDMSG-NO,LANGUAGE-RPGII,                             00380
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-256,PGMDATA-NO,                        00390
//        PACK-PROGRAM                                                       00400
// PROGRAM NAME-FORSC1,ENDMSG-NO,LANGUAGE-RPGII,                             00410
//        FILES-'FORMAT/DG/NOSHR',                                           00420
//        DFFMTERM-2,DFFNDF-8,DFFSFDT-400,PGMDATA-YES,                       00430
//        PRUF$Z-$ZFORX,PRUFLNG-64,                                          00440
//        PACK-PROGRAM                                                       00450
// PROGRAM NAME-FORSC2,ENDMSG-NO,LANGUAGE-RPGII,                             00460
//        FILES-'FORMAT/DU/NOSHR',                                           00470
//        DFFMTERM-2,DFFNDF-3,DFFSFDT-400,                                   00480
//        PRUF$Z-$ZFOR1,PRUFLNG-1974,                                        00490
//        PACK-PROGRAM                                                       00500
```

```
// PROGRAM NAME-FORSC3,ENDMSG-NO,LANGUAGE-RPGII,                    00510
//        PRUF$Z-$ZFOR2,PRUFLNG-64,                                 00520
//        FILES-'FORMAT/DU/NOSHR',                                  00530
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-256,                          00540
//        PACK-PROGRAM                                              00550
// PROGRAM NAME-FORSC4,ENDMSG-NO,LANGUAGE-RPGII,                    00560
//        FILES-'FORMAT/DU/NOSHR',                                  00570
//        DFFMTERM-1,DFFNDF-3,DFFSFDT-450,PGMDATA-YES,              00580
//        PRUF$Z-$ZFOR4,PRUFLNG-64,                                 00590
//        PACK-PROGRAM                                              00600
// PROGRAM NAME-FORSC5,ENDMSG-NO,LANGUAGE-RPGII,                    00610
//        FILES-'FORMAT/DG/NOSHR',MFCU-YES,                         00620
//        PRINTER-YES,PGMDATA-YES,                                  00630
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-400,                          00640
//        PRUF$Z-$ZFOR3,PRUFLNG-64,                                 00650
//        PACK-PROGRAM                                              00660
**  REPLACE SEQ NO. 00620 WITH ONE OF THE FOLLOWING IF DISKET       006
**  OR DISK OUTPUT WILL BE USED FOR DFF SPECIFICATIONS RECORDS--     00680
**        FILES-'FORMAT/DG/NOSHR',N3741-P,                          00690
**        FILES-'FORMAT/DG/NOSHR,DFFCARDS/CA/NOSHR',                00700
// PROGRAM NAME-FORSC6,ENDMSG-NO,LANGUAGE-RPGII,                    00710
//        FILES-'FORMAT/DU/NOSHR',                                  00720
//        PGMDATA-YES,                                              00730
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-1434,                         00740
//        PRUF$Z-$ZFORC,PRUFLNG-869,                                00750
//        PACK-PROGRAM                                              00760
// PROGRAM NAME-FORSC7,ENDMSG-NO,LANGUAGE-RPGII,                    00770
//        FILES-'FORMAT/DG/NOSHR',MFCU-YES,                         00780
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-123,                          00790
//        PRUF$Z-$ZFORG,PRUFLNG-256,                                00800
//        PACK-PROGRAM                                              00810
** REPLACE SEQ NO. 00780 WITH ONE OF THE FOLLOWING IF DISKET        00820
**  OR DISK OUTPUT WILL BE USED FOR RPG SPECIFICATIONS RECORDS--     00830
**        FILES-'FORMAT/DG/NOSHR',N3741-P,                          00840
**        FILES-'FORMAT/DG/NOSHR,RPGCARDS/CA/NOSHR',                00850
// PROGRAM NAME-FORSC8,ENDMSG-NO,LANGUAGE-RPGII,                    008
//        FILES-'FORMAT/DG/NOSHR',                                  008
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-123,                          00880
//        PRUF$Z-$ZFORH,PRUFLNG-256,                                00890
//        PACK-PROGRAM                                              00900
/*        (SLASH ASTERISK)                                          00910
```

```
*************************************************************************
*                                                                       *
*                         MODEL 15 ASSIGNMENT SET                       *
*                                                                       *
*************************************************************************
*
// PAUSE   ***  MODEL 15   ***
*
// LOAD $CCPAS,R2                  ************ $CCPAS ************
// FILE NAME-$CCPFILE,UNIT-R2,PACK-M15CCP
// FILE NAME-$CCPWORK,UNIT-F1,PACK-F1F1F1,TRACKS-5,RETAIN-S
// RUN
// SET ID-F,ACTION-REPLACE,DFLTEXEC-NO
// SYSTEM MINUPA-14K,MINTPBUF-3089,
//        PGMREQL-20,COMMANDL-80,
//        DFFPACK-PROGRAM
// TERMATTR ATTRID-1,TRANSLAT-YES,UPCASE-YES,BLKL-768,
//        DATAFORM-MESSAGE,DFF3270-YES
// TERMATTR ATTRID-2,TRANSLAT-YES,UPCASE-YES,BLKL-512,
//        DATAFORM-MESSAGE,DFF3270-NO
// BSCALINE TYPE-CS,POLLLIST-'00,01,02'
// BSCATERM TERMID-00,TYPE-3277M2,ATTRID-'1,2',
//        COMMAND-YES,OFFACTN-HOLD,
//        ADDRCHAR-*60604040*,POLLCHAR-*40404040*
// BSCATERM TERMID-01,TYPE-3277M2,ATTRID-'1,2',
//        COMMAND-YES,OFFACTN-HOLD,
//        ADDRCHAR-*6060C1C1*,POLLCHAR-*4040C1C1*
// BSCATERM TERMID-02,TYPE-3286M2,ATTRID-'1',
//        COMMAND-NO,
//        ADDRCHAR-*6060C2C2*,POLLCHAR-*4040C2C2*
// TERMNAME NAME-TERM01,TERMID-00
// TERMNAME NAME-TERM02,TERMID-01
// TERMNAME NAME-PRINT1,TERMID-02
// DISKFILE NAME-FORMAT,ORG-D,RECL-80
**  ADD THE FOLLOWING TWO CARDS FOR DISK OPTIONS-
** DISKFILE NAME-DFFCARDS,ORG-C,RECL-96
** DISKFILE NAME-RPGCARDS,ORG-C,RECL-96
// PROGRAM NAME-FORMAT,ENDMSG-NO,
//         DFFMTERM-1,DFFNDF-1,DFFSFDT-256,PGMDATA-NO,
//         PACK-PROGRAM
// PROGRAM NAME-FORSC1,ENDMSG-NO,
//         FILES-'FORMAT/DG/NOSHR',
//         DFFMTERM-2,DFFNDF-8,DFFSFDT-400,PGMDATA-YES,
//         PRUF$Z-$ZFORX,PRUFLNG-64,
//         PACK-PROGRAM
// PROGRAM NAME-FORSC2,ENDMSG-NO,
//         FILES-'FORMAT/DU/NOSHR',
//         DFFMTERM-2,DFFNDF-3,DFFSFDT-400,
//         PRUF$Z-$ZFOR1,PRUFLNG-1974,
//         PACK-PROGRAM
```

```
// PROGRAM NAME-FORSC3,ENDMSG-NO,                                    00530
//        PRUF$Z-$ZFOR2,PRUFLNG-64,                                  00540
//        FILES-'FORMAT/DU/NOSHR',                                   00550
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-256,                           00560
//        PACK-PROGRAM                                               00570
// PROGRAM NAME-FORSC4,ENDMSG-NO,                                    00580
//        FILES-'FORMAT/DU/NOSHR',                                   00590
//        DFFMTERM-1,DFFNDF-3,DFFSFDT-450,PGMDATA-YES,               00600
//        PRUF$Z-$ZFOR4,PRUFLNG-64,                                  00610
//        PACK-PROGRAM                                               00620
// PROGRAM NAME-FORSC5,ENDMSG-NO,                                    00630
//        FILES-'FORMAT/DG/NOSHR',MFCU2-P,                           00640
//        PRINTER-YES,PGMDATA-YES,                                   00650
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-400,                           00660
//        PRUF$Z-$ZFOR3,PRUFLNG-64,                                  00670
//        PACK-PROGRAM                                               00680
**  REPLACE SEQ NO. 00620 WITH ONE OF THE FOLLOWING IF DISKET        00690
**  OR DISK OUTPUT WILL BE USED FOR DFF SPECIFICATIONS RECORDS--      00700
**        FILES-'FORMAT/DG/NOSHR',N3741-P,                           00710
**        FILES-'FORMAT/DG/NOSHR,DFFCARDS/CA/NOSHR',                 00720
// PROGRAM NAME-FORSC6,ENDMSG-NO,                                    00730
//        FILES-'FORMAT/DU/NOSHR',                                   00740
//        PGMDATA-YES,                                               00750
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-1434,                          00760
//        PRUF$Z-$ZFORC,PRUFLNG-869,                                 00770
//        PACK-PROGRAM                                               00780
// PROGRAM NAME-FORSC7,ENDMSG-NO,                                    00790
//        FILES-'FORMAT/DG/NOSHR',MFCU2-P,                           00800
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-128,                           00810
//        PRUF$Z-$ZFORG,PRUFLNG-256,                                 00820
//        PACK-PROGRAM                                               00830
** REPLACE SEQ NO. 00780 WITH ONE OF THE FOLLOWING IF DISKET         00840
**  OR DISK OUTPUT WILL BE USED FOR RPG SPECIFICATIONS RECORDS--      00850
**        FILES-'FORMAT/DG/NOSHR',N3741-P,                           00860
**        FILES-'FORMAT/DG/NOSHR,RPGCARDS/CA/NOSHR',                 00870
// PROGRAM NAME-FORSC8,ENDMSG-NO,                                    00880
//        FILES-'FORMAT/DG/NOSHR',                                   00890
//        DFFMTERM-1,DFFNDF-1,DFFSFDT-128,                           00900
//        PRUF$Z-$ZFORH,PRUFLNG-256,                                 00910
//        PACK-PROGRAM                                               00920
/*        (SLASH ASTERISK)                                           00930
```

APPENDIX C

(DEVICE MODIFICATIONS)

```
*****************************************************************************
*                                                                           *
*                             DISK45 - DISK                                 *
*                                                                           *
*    IF YOU WILL BE USING 5444 DISK OR SIMULATION AREA ON A 3340 PACK-      *
*    REPLACE THE PROVIDED SOURCE CARDS WITH THE FOLLOWING BEFORE            *
*    COMPILING THE PROGRAMS.                                                *
*                                                                           *
*****************************************************************************
```

```
0011 FFORMAT   OC   F   80   80R           DISK                    FORLOD

0011 FFORMATWKOC             80R           DISK                    FOROR1

0010 FFORMAT   IP      800   80            DISK                    FOROR2
0011 FFORMATWKUC        80   80R           DISK                    FOROR2

0011 FFORMAT   UC   F   80   80R           DISK                    FORS

0014 FFORMAT   IC   F   80   80R           DISK                    FORSC1

0014 FFORMAT   UC   F   80   80R           DISK                    FORSC2

0014 FFORMAT   UC   F   80   80R           DISK                    FORSC3

0012 FFORMAT   UC   F   80   80R           DISK                    FORSC

0012 FFORMAT   IC   F   80   80R           DISK                    FORSC5

0012 FFORMAT   UC   F   80   80R           DISK                    FORSC6

0014 FFORMAT   IC   F   80   80R           DISK                    FORSC7

0012 FFORMAT   IC   F   80   80R           DISK                    FORSC8
```

```
*****************************************************************************
*                                                                           *
*                          MFCU - DISK OR DISK45                            *
*                                                                           *
*   TO USE DISK OUTPUT FOR THE DFF SPECIFICATION RECORDS--                  *
*   REPLACE THE PROVIDED SOURCE CARDS WITH THE FOLLOWING BEFORE             *
*   COMPILING THE PROGRAMS.  TO USE DISK FOR RPG SPECIFICATIONS -           *
*   SELECT THE 2ND VERSION OF FORSC7 (FORXX7) RATHER THAN THE               *
*   ORIGINAL.                                                               *
*                                                                           *
*   FOR 5444 DISK TYPE - USE DEVICE NAME 'DISK   ' FOR THE                  *
*   FOLLOWING-      FORSC5   SEQ NO. 0016                                   *
*                   FORPRT   SEQ NO. 0011                                   *
*                   FORSC7   SEQ NO. 0015                                   *
*                                                                           *
*****************************************************************************

0015 F*FFCARDSO   F  96  96     2        MFCU2                               FORSC5
0016 FDFFCARDSO   F  96  96     2        DISK45                    A         FORSC5

0081 C            KEY       ADD  2         KEY                              FORSC5
0090 C            TEST      COMP '/*'                    86                 FORSC5

0118 ODFFCARDSEADD      83 85N96                                             FORSC5
0119 O                                      23 '// COPY FROM-READER,LIB'     FORSC5
 120 O                                      44 'RARY-S,RETAIN-P,NAME-'       FORSC5
 121 O                          SCRNID      50                               FORSC5
0123 O*FFCARDSE         83N96                                               FORSC5
0124 ODFFCARDSEADD      83N96                                               FORSC5


0010 F*FFCARDSIP  F  96  96     2        MFCU1                               FORPRT
0011 FDFFCARDSIP  F  96  96              DISK45                              FORPRT
```

```
*****************************************************************************
*                                                                           *
*                          MFCU - DISKET                                    *
*                                                                           *
*   IF YOU WILL BE USING 3741 RATHER THAN MFCU FOR THE DFF & RPG            *
*   SPECIFICATIONS -- REPLACE THE FOLLOWING SOURCE CARDS BEFORE             *
*   COMPILING THE PROGRAMS.                                                 *
*                                                                           *
*****************************************************************************

0015 FDFFCARDSO   F  96  96              DISKET                              FORSC5

 015 FRPGCARDSO      96  96              DISKET                              FORSC7

001  FDFFCARDSIP  F  96  96              DISKET                              FORPRT
```

```
*****************************************************************************
*                                                                           *
*                                  3275/3284                                *
*                                                                           *
*    IF YOU WILL BE USING A 3275/3284 CONFIGURATION RATHER THAN             *
*    A 328X PRINTER ATTACHED DIRECTLY OR THRU A 3271,  MAKE THE             *
*    FOLLOWING CHANGES TO THE ORIGINAL SOURCE PROGRAMS BEFORE               *
*    COMPILING.  **328X PRINTER IS OPTIONAL & NOT REQUIRED**                *
*                                                                           *
*****************************************************************************


0094 O                                      4 ' HGB'                    FORSC1
0095 O                                      8 '0024'                    FORSC1
0096 O                          PL,5       14                           FORSC1
0097 O                                     15 ':'                       FORSC1
0098 O                                     21 'PROGID'                  FORSC1
0099 O                                     24 '7  '                     FORSC1
0100 O*                                                                 FOR. 1
0101 O*                                                                 FORSC1
0102 O*                                                                 FORSC1


0271 O                                     24 ':PROGID7  '              FORSC2
0272 O*         D       LR 01                                           FORSC2
0273 O*                                     4 'AI'                      FOR
0274 O*                                     8 '0001'                    FOR.
0275 O*                                    14 'PRINT1'                  FORSC2
0276 O*         D       LR 01                                           FORSC2
0277 O*                                     4 'DB'                      FORSC2
0278 O*                                     8 '0021'                    FORSC2
0279 O*                                    14 'PRINT1'                  FORSC2
0280 O*                         PL,5       20                           FORSC2
0281 O*                                    21 '#'                       FORSC2
```

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