SHARP

MFP		
TT-073113_1		**TECHNICAL TIP**

Models: All MX Models

Priority   Medium

Date: July 2013

Subject: **Creating a LAN Attached Printer Device Description for Sharp MFPs on the IBM AS400**

This document contains information on creating and configuring a LAN attached printer for sending IBM AS400 print jobs to Sharp MFPs using the RAW (port) printing protocol. It is intended as a training aid for users with little or no experience with the IBM OS400 operating system or advanced users unfamiliar with setting up printing to Sharp MFPs. Printing to a LAN attached printer is the preferred printing method for the IBM AS400 as it supports functions not possible with the LPR/LPD protocol used with a remote output queue:

1. Bi-directional communications with Sharp MFPs is supported.
2. The Page Range printing function is supported.
3. The page size can be included in the printer device description.

NOTE: While all current Sharp non GDI MFPs support the RAW printing protocol, not all older Sharp models are supported. Check the documentation for the specific Sharp MFP to determine if it supports the RAW (port) printing protocol before attempting to create a printer device description,

To create a printer device description for a Sharp MFP on the AS400, you must log into the AS400 with a user account with sufficient administrative rights to use the following CL (Command Line) programs:

- VFYTCPCNN - (Verify TCP/IP Connection) or
- PING - (Verify TCP/IP Connection)
- CRTDEVPRT – (Create Device Description – Printer)
- DLTDEVD – (Delete Device Description)
- VRYCFG – (Vary Configuration)
- WRKCFGSTS – (Work with Configuration Status)
- STRPRTWTR – (Start Printer Writer)
- ENDWTR – (End Writer)
- WRKSPLF – (Work with Spooled Files)
- CHGDEVPRT – (Change Device Description – Printer)
- CHGUSRPRF – (Change User Profile)
- CHGPRF – (Change Profile)
- STRSEU – (Start Source Entry Utility)

The following steps must be taken to ensure that the Printing Device Description will successfully print to the Sharp MFP:

1) Configure the Sharp MFP with the correct information for the AS400 network.
2) Log into the AS400 using a telnet session with a Terminal Emulation Program.

3) Verify network connectivity from the AS400 to the Sharp MFP.
4) Review required printer device description parameters for Sharp MFPs.
5) Create and configure a printer device description for the Sharp MFP.
6) Start the printer device description and the writer for the printer.
7) Test the printer using spooled system files.
8) Apply a Workstation Customizing Object to the printer device description.
9) Set the printer device description for the Sharp MFP as the user's default printer.
10) Test user's default printer with application printing.

1) Configure the Sharp MFP

a) Configure the Sharp MFP with the correct TCP/IP information that is to be connected to the AS400 network. Record the information below:
Sharp Model: _____
IP address: _____
Subnet Mask: _____
Gateway: _____

b) Ensure that the RAW printing protocol is enabled on Sharp models with printer port control. If you are using either the *IBMPJLDRV or the *HPPJLDRV system driver check the bidirectional communications box. (NOTE: These system drivers are NOT recommended as the use an outmoded PJL USTATUS command that is not supported by newer Sharp MFP models for bidirectional communications. Definitions for the 3 system drivers supported by various Sharp MFPs are covered in Section 4, Item 19).
c) Port numbers can vary from model to model or can be changed by the operator. Record the port number that the MFP uses for RAW and record below:
Port Number: _____

MX-5500N

Print Port Settings

Update(R)

| LPD | RAW |

Submit(U)

Raw Print Settings

Raw Print: Enable ▾

Port Number: 9100   (0-65535)

Timeout: 90   seconds(0-120)

☑ Use Bidirectional

Submit(U)

Navigation menu:
- Top Page
- ▸ Status
- ▸ Address Book
- ▸ Document Operations
- ▸ Job Programs
- ▸ User Control
- ▸ System Settings
- ▾ Network Settings
  - ▫ Quick Settings
  - ▫ General Settings
  - ▫ Protocol Settings

d) If you are planning on using the *IBMSNMPDRV system driver (or unsure which system driver you will be using), make sure that the SNMP protocol is enabled and that the Get Community and TRAP Community names are set to "public". (See Section 4, Item 19 for further information.) The *IBMSNMPDRV can be used with most Sharp MFPs and it is the recommended system driver for all newer models.

| WINS | SMTP | SNMP | |
| Kerberos | SNTP | mDNS | DNS |

Submit(U)

SNMP v1 Settings

SNMP v1 Settings: Enable ▾

Access Method   ⦿ Read-write Access

           ○ Read-only Access (Use "public" for the GET Community Name)

GET Community: public   (Up to 15 characters)

SET Community: ●●●●●●●●●●●●●●●● (Up to 15 characters)

           ☐ Change SET Community

TRAP Community: public   (Up to 15 characters)

2) Log into the AS400 Server

a) To log into the AS400 Server, you must have an IBM 5250 compatible terminal emulation program. There are numerous terminal programs available including IBM's Client Access which includes other tools. A low cost alternative is the MochaSoft TN5250 Terminal Emulation Program. Whatever terminal emulation program you use, it must be configured with the IP address or host name of the AS400 server you are

connecting to. You will also need a user account with sufficient rights and permissions to create objects and change system settings. Record the required information below:

IP address/Host Name of AS400: _____

User Name: _____

Password: _____

b) Start the terminal emulation program and the login screen will appear as shown below. Enter your user name and press the <TAB> key to move to the password field and enter your password. (Note: User names and passwords are not case sensitive on the AS400.) Leave all other fields blank and press the <Enter> key when done. (Note: With the IBM Remote Console Program, the right hand <Ctrl> key is used for the <Enter> key.)

```
                            Sign On
                                       System  . . . . . :   AS400
                                       Subsystem . . . . :   QINTER
                                       Display . . . . . :   QPADEV0005

                 User  . . . . . . . . . . . . .     PATRICK
                 Password  . . . . . . . . . . .     _____
                 Program/procedure . . . . . . . .
                 Menu  . . . . . . . . . . . . . .
                 Current library . . . . . . . . .
```
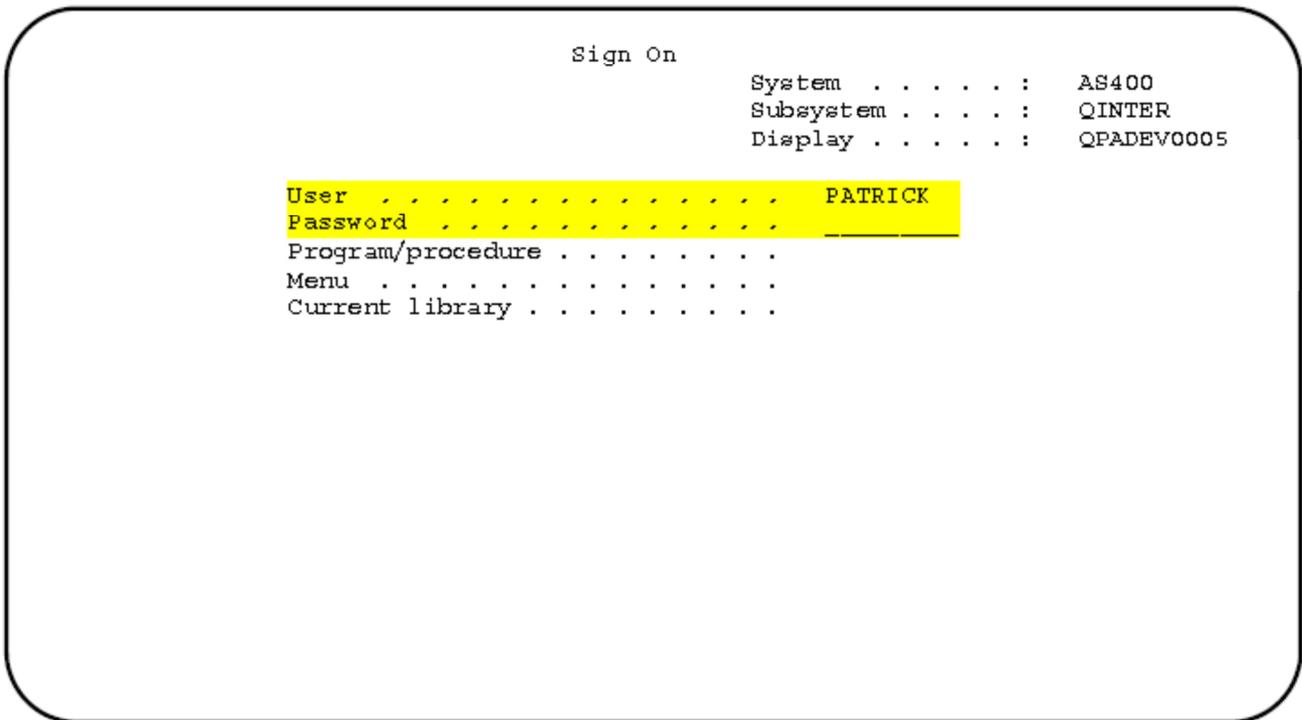
c) If the user was previously logged in, the following screen will appear. Press the <Enter> key to continue.

```
                        Sign-on Information
                                              System:     AS400
  Previous sign-on . . . . . . . . . . . . . :    09/12/08   04:05:55
```
```
  Press Enter to continue.

  F3=Exit sign-on request    F9=Change password
```

d) The next screen that appears will depend on how the administrator has your account set up. Typically, it will be a menu screen similar to the one shown below.

```
  MAIN                          OS/400 Main Menu
                                                  System:     AS400
    Select one of the following:

        1. User tasks
        2. Office tasks

        4. Files, libraries, and folders

        6. Communications

        8. Problem handling
        9. Display a menu

       11. Client Access/400 tasks

       90. Sign off

  Selection or command
  ===>_____
  _____
  F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F23=Set initial menu
```

A few general notes about the terminal console window and the keys used in it: In the above screen, the cursor is placed on the command line. Menu numbers, options or Command Line (CL) commands are typed

on this line. Below the command line, the function keys that can be used for this screen are shown. These will vary depending on the screen that is displayed. The IBM AS400 keyboard has 24 function keys rather than the 12 function keys found on PC keyboards. To access function keys higher than 12, you must use the <Shift> key in conjunction with the function key, i.e. <Shift> + <F1> = <F13>, <Shift> + <F2> = <F14> ~ <Shift> + <F12> = <F24>. The action taken by a specific function key can vary between different screens so it is important to read the prompts associated with the key before pressing it. However, the <F4> key is always used as a "prompt" key on the command line as well as a "list" key for field values when indicated. System messages are shown at the bottom of the screen to display error messages or the results of a command. Use the <TAB>key to move between screen fields and the command line. The Windows mouse pointer can also be used to move the cursor between fields. If there is more information than can be displayed on one screen, a prompt "More…" will appear in the lower right hand corner. To move to the next screen, press the <PgDn> key. Press the <PgUp> key to return to the previous screen.

3) Verify network connectivity to the Sharp MFP

a) Before creating a printer device description, verify that the Sharp MFP is powered on and connected to the AS400 network.
b) Place your cursor on the start of the command line and type "VFYTCPCNN" and press the <F4> key. (As an alternative, the "PING" command can be used in place of the "VFYTCPCNN" command.)

```
  MAIN                          OS/400 Main Menu
                                                       System:    AS400

     Select one of the following:

          1. User tasks
          2. Office tasks

          4. Files, libraries, and folders

          6. Communications

          8. Problem handling
          9. Display a menu

         11. Client Access/400 tasks

         90. Sign off

     Selection or command
     ===> VFYTCPCNN_____
     _____
     F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F23=Set initial menu
```

c) When the following screen appears, type in the IP address or host name of the Sharp MFP with leading and trailing single quote marks (') and then press the <Enter> key.

```
              Verify TCP/IP Connection (VFYTCPCNN)

  Type choices, press Enter.

  Remote system  . . . . . . . . .    '172.29.104.150'
  _____
  _____






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

d) The screen below will be displayed showing the system message: Verifying connection to host system xxx.xxx.xxx.xxx. The plus sign (+) indicates there are additional message lines to display.

```
  MAIN                        OS/400 Main Menu
                                                         System:   AS400
  Select one of the following:

        1. User tasks
        2. Office tasks

        4. Files, libraries, and folders

        6. Communications

        8. Problem handling
        9. Display a menu

       11. Client Access/400 tasks

       90. Sign off

  Selection or command
  ===>_____
  _____
  F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F23=Set initial menu

  Verifying connection to host system 172.29.104.150                        +
```

e) The VFYTCPCNN or PING command issues a Ping 5 times when it is executed. Click on the plus sign (+) with your mouse and press the <PgDn> key to display the results of the Ping.

```
MAIN                          OS/400 Main Menu
                                                    System:    AS400
Select one of the following:

        1. User tasks
        2. Office tasks

        4. Files, libraries, and folders

        6. Communications

        8. Problem handling
        9. Display a menu

       11. Client Access/400 tasks

       90. Sign off

Selection or command
===>_____


F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F23=Set initial menu

PING reply 1 from 172.29.104.150 took 2 ms. 256 bytes. TTL 255.          +
```

If the Sharp MFP is available on the network, the message line will change as shown below each time the <PgDn> key is pressed:

  PING reply 2 from 172.29.104.150 took 2 ms. 256 bytes. TTL 255. +
  PING reply 3 from 172.29.104.150 took 2 ms. 256 bytes. TTL 255. +
  PING reply 4 from 172.29.104.150 took 2 ms. 256 bytes. TTL 255. +
  PING reply 5 from 172.29.104.150 took 2 ms. 256 bytes. TTL 255. +
  Round-trip (in milliseconds) min/avg/max = 1/1/2
  Connection verification statistics: 5 of 5 successful (100 %).

f) If the connection to the MFP is not confirmed, correct the problem before proceeding.

4) Review required printer device description parameters for Sharp MFPs.

While AS400 printer device descriptions created with the CRTDEVPRT command have a number of parameters, not all parameters need to be changed from the system defaults for Sharp MFPs. Listed below are only the parameters that are required or recommended for use with Sharp MFPs in the printer device description. All other values can be left at the system defaults.
NOTE: All descriptions shown are from Version V5R1 of the OS400 operating system. Other versions descriptions may vary slightly from those shown below.

1. Device description – The name of the printer is required. It can be any name you desire unless a printer device description already exists with that name.
2. Device class – This defines how the print device is attached to the network. Printers (such as Sharp MFPs) that are connected directly to the AS400 network by an Ethernet cable must use *LAN as the device class.
3. Device type – This defines what types of data streams are supported by the print device. The IBM AS400 can send EBCDIC (Extended Binary Coded Decimal Interchange Code) or ASCII (American Standard Code for Information Interchange) data streams to printers. Different types of IBM printers are assigned different numbers depending on the data streams they can use. Non IBM page printers that support ASCII are defined as type 3812 by IBM. As Sharp MFPs use ASCII data streams, enter 3812 for the device type.

4. Device model – This number defines the operational characteristics of the device combined with the device type. Type 3812 printers (such as Sharp MFPs) can only have a model value of 1 which indicates they support PJL and SNMP communications.

5. LAN attachment – This needs to be set to *IP as the AS400 will communicate with the Sharp MFP using the TCP/IP protocol. The default value is *LEXMARK.

6. Port number – Typically, this value is set to 9100 but the port number must be set to the same value as the port number used by the Sharp MFP.

7. Font: Identifier – Normally this value is set to 11, which is the default 10 CPI font. A font ID is required to create the device description. Unless there is a special requirement in your operation for a different font, set this value to 11.

8. Form feed – The default value is set to *TYPE. However this value must be set to *Autocut for all Sharp MFPs.

9. Printer error message – This defaults to *INQ but IBM recommends that this value should be set to *INFO so the printer's message queue will receive informational messages whenever possible. If this is set to *INQ and a problem occurs on the MFP (for example, off line or in a paper jam) a message will be sent to the printer's message queue that must be answered before printing can continue. Often, this can also cause the writer to end while in the middle of a spooled file.

10. Activation timer – The activation timer refers to the amount of time to wait for the LANattached printer device to respond. The printer device is considered not available, and an error message is posted if there is no connection before this timer expires. This defaults to 170 (seconds) which should be sufficient for normal operations but can be set from any value from 1 to *NOMAX.

11. Inactivity timer – This value determines when the print driver closes the connection to the printer (freeing it up to received spooled output from another source) once there are no operating system spooled files left in RDY (ready) status. While this value defaults to *ATTACH, IBM recommends that this be set to *SEC15 so the operating system will free up the printer 15 seconds after all RDY (Ready) spooled files have been processed.

12. Host Print Transform – This needs to be set to *YES so the AS400 Host Print Transform (HPT) function will convert both SCS (SNA Character Stream - a text-based, EBCDIC data stream) and AFPDS (Advance Function Presentation Data Stream) spooled files to the printer's data stream.

13. Manufacturer type and model – The IBM AS400 ships with predefined printer descriptions from a number of manufacturers, but Sharp does not provide one. For basic printing functionality, set this value to *HP8000. Sharp MFPs closely match this model but not exactly. For full functionality, a modified Workstation Customizing Object for the specific Sharp model would be used. In that case, this value would be set to *WSCST.

14. Paper source 1 – By convention, this is set to *LETTER for the paper size when creating the printer device description. It can later be modified to reflect the paper size in Tray 1.

15. Paper source 2 – This is also set to *LETTER for the paper size when creating the printer device description. It can later be modified to reflect the actual paper size in Tray 2.

16. Envelope source – As Sharp MFPs normally do not offer an envelope feeder option, the recommended value should be set to *NONE.

17. Remote location: Name or address – This parameter must be set to the Sharp MFP's TCP/IP address or DNS name if a DNS server is being used. If a TCP/IP address is used, it should be entered without leading zeros (for example, use '172.29.105.97' instead of '172.029.105.097'). Whether using an IP address or a DNS name, the entries should be delimited with a single quote mark (').

18. Data transform program – Ensure that this value is set to *NONE when using the Host Print Transform function.

19. System driver program – This driver determines the bidirectional communications protocol used by the AS400 to get information from the Sharp MFP. Currently, there are 3 systems drivers that can be used by Sharp MFPs. The system driver selected to use with the Sharp MFP is dependent on the network infrastructure and end user preferences.

   a. *IBMSNMPDRV – This driver uses the SNMP (Simple Network Management Protocol) for communications with the Sharp MFP. This driver does not require that bidirectional communications be enabled for RAW printing. However, SNMP must be enabled with the Get Community and TRAP Community names set to "public". This allows the printer device description to check the status of the Sharp MFP using the SNMP port rather than the RAW printing port. Again, this is the recommended system driver for newer Sharp MFPs.
   b. *IBMPJLDRV – This driver written by IBM uses the HP PJL USTATUS command to query the status of printers before sending a print job on the port used for printing. NOTE: While older Sharp models can use this system driver, newer MFP models do not support the PJL USTATUS command so it is not recommended.)
   c. c. *HPPJLDRV – This driver is written specifically for HP printers but it is functionally identical to the *IBMPJLDRV system driver. As with the *IBMPJLDRV, this system driver is not recommended

20. Publishing Information – This is not required, but it is a good practice to include this information about the Sharp MFP capabilities:
21. Workstation Customizing Object – Set this value to *NONE if the Manufacturer Type and Model is set to *HP8000. Otherwise if it is set to *WSCST, fill in the name of the workstation customizing object (WSCST) for the specific Sharp model being used.

5) Create and configure the Printer Device Description for the Sharp MFP.

The following example for creating a printer device description with the Create Device Description – Printer (**CRTDEVPRT**) command is based on using a *Sharp MX-5500N* with the Port for RAW printing set to 9100 at an IP address of 172.29.104.150. Record the values that you will need to use to create your own printer device description.

Device description _____

Port Number: _____

Host/DNS name (if used) _____

IP address: _____

System driver program _____

a) Place your cursor on the start of the command line and type "**CRTDEVPRT**" and press the **<F4>** key and the following screen will appear:

```
                    Create Device Desc (Printer) (CRTDEVPRT)

    Type choices, press Enter.

    Device description . . . . . . .     _____     Name
    Device class . . . . . . . . . .     _____          *LCL, *RMT, *VRT, *SNPT, *LAN
    Device type  . . . . . . . . . .     _____          3287, 3812, 4019, 4201...
    Device model . . . . . . . . . .     _____          0, 1, 2, 3, 4, 10, 13, 301...




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

b) Type in the desired name of your printer in the Device description field and then press the <F9> key to display all the parameters for the printer device description. Fill in the values for the following fields: Device class > *LAN, Device type > 3812, Device model > 1 and LAN attachment > *IP. Tab to the Port number field and enter the RAW port number of your Sharp MFP.

```
                    Create Device Desc (Printer) (CRTDEVPRT)

    Type choices, press Enter.

    Device description . . . . . . . > MX5500        Name
    Device class . . . . . . . . . . > *LAN          *LCL, *RMT, *VRT, *SNPT, *LAN
    Device type  . . . . . . . . . . > 3812          3287, 3812, 4019, 4201...
    Device model . . . . . . . . . . > 1             0, 1, 2, 3, 4, 10, 13, 301...
    LAN attachment . . . . . . . . . > *IP           *LEXLINK, *IP, *USRDFN
    Switched line list . . . . . . .                 Name
                   + for more values
    LAN remote adapter address . . .                000000000001-FFFFFFFFFFFE
    Adapter type . . . . . . . . . .    *INTERNAL    *INTERNAL, *EXTERNAL
    Adapter connection type  . . . .    *PARALLEL    *PARALLEL, *SERIAL
    Emulated twinaxial device  . . .                 3812, 5219, 5224, 5256
    Advanced function printing . . .    *NO          *NO, *YES
    AFP attachment . . . . . . . . .    *WSC         *WSC, *APPC
    Port number  . . . . . . . . . . > 9100          0-65535
    Switch setting . . . . . . . . .                 0, 1, 2, 3, 4, 5, 6
    Local location address . . . . .                 00-FE
                                                                      More...
    F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
    F24=More keys
```

d) When the following screen appears, ensure that the Activation timer is set to 170 and the Inactivity timer is set to *SEC15. Press the <PgDn> key to move to the next screen.

```
                    Create Device Desc (Printer) (CRTDEVPRT)

     Type choices, press Enter.

     Message queue  . . . . . . . . .    *CTLD          Name, *CTLD, *SYSOPR, QSYSOPR
       Library  . . . . . . . . . .                     Name, *LIBL, *CURLIB
     Maximum length of request unit      *CALC          *CALC
     Application type . . . . . . . .    *NONE          *NONE, *NRF, *DEVINIT...
     Activation timer . . . . . . . .    170            1-2550, *NOMAX
     Inactivity timer . . . . . . . . >  *SEC15         1-30, *ATTACH, *NOMAX...
     SNA pass-through device desc . .    *NONE          Name, *NONE
     SNA pass-through group name  . .    *NONE          Name, *NONE
     Host signon/logon command  . . .    *NONE_____
     _____
     _____
     Pacing . . . . . . . . . . . . .    7              1-7
     Line speed . . . . . . . . . . .    *TYPE          *TYPE, 150, 300, 600, 1200...
     Word length  . . . . . . . . . .    *TYPE          *TYPE, 7, 8
     Type of parity . . . . . . . . . >  *NONE          *TYPE, *EVEN, *ODD, *NONE...
                                                                          More...
     F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel   F13=How to use this display
     F24=More keys
```

e) Fill in the values for the following fields: Host print transform > *YES, and Manufacturer type and model > *HP8000. The recommended values for the paper and envelope sources are: Paper source 1> *LETTER, Paper source 2> *LETTER and Envelope source > *NONE. Press the <PgDn> key to move to the next screen.

```
                    Create Device Desc (Printer) (CRTDEVPRT)

     Type choices, press Enter.

     Stop bits  . . . . . . . . . . . >  1              *TYPE, 1, 2
     Host print transform . . . . . . >  *YES           *NO, *YES
     Manufacturer type and model  . . >  *HP8000
     Paper source 1 . . . . . . . . . >  *LETTER        *MFRTYPMDL, *LETTER...
     Paper source 2 . . . . . . . . . >  *LETTER        *MFRTYPMDL, *LETTER...
     Envelope source  . . . . . . . . >  *NONE          *MFRTYPMDL, *MONARCH...
     ASCII code page 899 support  . .    *NO            *NO, *YES
     Image configuration  . . . . . .    *NONE          *NONE, *IMGA01, *IMGA02...
     Maximum pending requests . . . .    6              1-31
     Print while converting . . . . .    *YES           *NO, *YES
     Print request timer  . . . . . .    *NOMAX         1-3600, *NOMAX
     Form definition  . . . . . . . .    F1C10110       Name
       Library  . . . . . . . . . .       *LIBL         Name, *LIBL, *CURLIB
     Character identifier:
       Graphic character set  . . . .    *SYSVAL        1-32767, *SYSVAL
       Code page  . . . . . . . . . .                   1-32767
                                                                          More...
     F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel   F13=How to use this display
     F24=More keys
```

f) For the Remote location: Name or address field, enter the DNS name or the IP address of the Sharp MFP delimited with single quote marks ('). Ensure that the Data transform program field is set to *NONE. Press the <PgDn> key when finished

```
                   Create Device Desc (Printer) (CRTDEVPRT)

   Type choices, press Enter.

   Remote location:
     Name or address  . . . . . . . > '172.29.104.150'_____
   _____
   _____
   _____
   _____
   Local location . . . . . . . . .   *NETATR       Name, *NETATR
   Mode . . . . . . . . . . . . . .   QSPWTR        Name, QSPWTR, *NETATR
   User-defined options . . . . . .   *NONE         Character value, *NONE
                   + for more values
   User-defined object:
     Object . . . . . . . . . . .     *NONE         Name, *NONE
       Library  . . . . . . . . . .                 Name, *LIBL, *CURLIB
     Object type  . . . . . . . . .                 *DTAARA, *DTAQ, *FILE...
   Data transform program . . . . .   *NONE         Name, *NONE
     Library  . . . . . . . . . . .                 Name, *LIBL, *CURLIB

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

g) In the System driver program field, enter the system driver to be used with the Sharp MFP. This value is determined by the network environment and user preferences and can be: *IBMSNMPDRV, *IBMPJLDRV or *HPPJLDRV. Fill in Publishing information appropriate for the Sharp MFP being installed. Press the <PgDn> key when completed.

```
                   Create Device Desc (Printer) (CRTDEVPRT)

   Type choices, press Enter.

   User-defined driver program  . .    *NONE         Name, *NONE
     Library  . . . . . . . . . . .                  Name, *LIBL, *CURLIB
   System driver program  . . . . . > *IBMSNMPDRV
   Publishing information:
     Support duplex . . . . . . . . > *DUPLEX        *UNKNOWN, *SIMPLEX, *DUPLEX
     Support color  . . . . . . . . > *COLOR         *UNKNOWN, *NOCOLOR, *COLOR
     Pages per minute black . . . . > 55             1-32767, *UNKNOWN
     Pages per minute color . . . . > 45             1-32767, *UNKNOWN
     Location . . . . . . . . . . . > '5th floor room 512'
   Text 'description' . . . . . . . > 'Sharp Color & Black & White MFP MX-5500N'

   Dependent location name  . . . .    *NONE         Name, *NONE

                             Additional Parameters

   Remote network identifier  . . .    *NETATR       Name, *NETATR, *NONE
                                                                      More...
   F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
   F24=More keys
```

h) Since a standard Manufacturer type and model has been used for this device description (*HP8000), ensure that the Workstation customizing object field is set to *NONE.

```
                    Create Device Desc (Printer) (CRTDEVPRT)

  Type choices, press Enter.

  Workstation customizing object      *NONE          Name, *NONE
    Library . . . . . . . . . . .    _____      Name, *LIBL, *CURLIB
  Authority . . . . . . . . . . .    *LIBCRTAUT      Name, *LIBCRTAUT, *CHANGE...




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

i) Use the <PgUp> and <PgDn> keys to review all of your entries. When you are satisfied they are all correct, press the <Enter> key to create the printer device description. Assuming all information has been entered correctly, the following system message will be displayed:
Description for device {device_description_name} created. If you receive an error message at this point, press the <F9> key to recall the last command issued (CRTDEVPRT) and press the <F4> (prompt key). This will re enter all previous values for the printer device description. Be sure to press the <F9> key to display all parameters and make any corrections that are needed. Press the <Enter> key to resubmit the corrected information. If you have successfully created the printer device description but want to review the information before proceeding to the next step, type "CHGDEVPRT" (Change Device Description – Printer) at the command line and press the <F4> key. Type in the name of the printer device you just created and press the <F9> key to display all parameters. Review all information and make any corrections as needed. Press the <Enter> key and the following system message will be displayed: Description for device {device_description_name} changed.

6) Start the printer device description and the writer for the printer.

Before you can print to the Sharp MFP, the newly created printer device description as well as its associated print writer must be started. Use the steps below to prepare for printing to the MFP.

a) To start the printer device description, at a command line, type 'VRYCFG' (Vary Configuration) and press the <Enter> key. Fill in the values shown for the following fields: Configuration object > {device_description_name}, Type > *DEV and Status > *ON.

```
                        Vary Configuration (VRYCFG)

  Type choices, press Enter.


     Configuration object . . . . . . > MX5500            Name, generic*, *ANYNW...
                      + for more values
     Type . . . . . . . . . . . . . > *DEV               *NWS, *NWI, *LIN, *CTL...
     Status . . . . . . . . . . . . > *ON                *ON, *OFF, *RESET...






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

b) Press the <Enter> key and the following system message will be displayed: Vary on completed for device {device_description_name}.

c) When the printer device description was created, a corresponding print writer object was also created with the same name. The writer must also be started before attempting to print to the MFP. In addition to outputting the data stream from the AS400 to the MFP, the writer also controls other important aspects of the printing process. Of note are two optional parameters of the Start Print Writer Command. The first, Allow direct print, controls whether non spooled files can be printed directly to the MFP. The second, Align page, determines whether a page alignment message must be answered before printing can occur. To start the writer as well as set optional parameters, type "STRPRTWTR" (Start Print Writer) at a command line and press the <F4> key. Press the <F9> to display all parameters and enter your printer device description name in the Printer field. Next, tab to the Message option field and type in *INFOMSG.

```
                    Start Printer Writer (STRPRTWTR)

 Type choices, press Enter.

   Printer . . . . . . . . . . . . . > MX5500____      Name, *ALL, *SYSVAL
   Output queue . . . . . . . . . .   *DEV            Name, *DEV
     Library . . . . . . . . . . .                    Name, *LIBL, *CURLIB
   Queue for writer messages  . . .   *DEVD           Name, *DEVD, *REQUESTER
     Library . . . . . . . . . . .                    Name, *LIBL, *CURLIB
   Form type options:
     Form type . . . . . . . . . .    *ALL            Form type, *ALL, *STD, *FORMS
     Message option . . . . . . . > *INFOMSG____      *INQMSG, *MSG, *NOMSG...
   File separators  . . . . . . . .   *FILE           0-9, *FILE
   Drawer for separators  . . . . .   *DEVD           1-255, *DEVD, *FILE

                        Additional Parameters

   Writer . . . . . . . . . . . . .   *DEV            Name, *DEV


                                                                   More...

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

d) Press the <PgDn> key and fill in the following values: Allow direct print > *YES and
Align page > *File. With the Allow direct print parameter set to *YES, non-spooled files can print directly to
the MFP which can increase the output speed. The Align page parameter was originally intended for use
with line printers to alert the user to position paper to the print head or to load a pre printed form before
printing to ensure that data was printed in the correct position on the page. With this parameter set to
*FILE and the Message option parameter set to *INFOMSG, printing can start without having to answer an
alert message first.

```
                    Start Printer Writer (STRPRTWTR)

  Type choices, press Enter.

  Auto-end options:
    Automatically end writer . . .     *NO          *NO, *YES
    If yes, when to end  . . . . .     *NORDYF      *NORDYF, *FILEEND
  Allow direct print . . . . . . . >   *YES         *NO, *YES
  Align page . . . . . . . . . . . >   *FILE        *FILE, *WTR, *FIRST
  Initialize printer . . . . . . .     *WTR         *WTR, *FIRST, *ALL
  Spooled file . . . . . . . . . .     *NONE        Name, *NONE, *LAST
  Job name . . . . . . . . . . . .     *            Name, *
    User . . . . . . . . . . . . .                  Name
    Number . . . . . . . . . . . .                  000000-999999
  Spooled file number  . . . . . .     *ONLY        1-999999, *ONLY, *LAST
  Starting page  . . . . . . . . .     *BEGIN       Number, *BEGIN



                                                                 Bottom

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

NOTE: Do not start the writer until the printer device description is varied on

e) Press the <Enter> key and the following system message will appear:
Reader or writer XXXXXX/QSPLJOB/{device_description_name} submitted to job queue QSPL in lib…

7) Test the printer using spooled system files.

Once the printer device description and the print writer have both been started, you can then test basic printing to the Sharp MFP using spooled system files. Changing the attributes of a spooled file allows you to change certain parameters of the file including the printer to print to, the output queue, paper source, single sided or double sided prints, etc. As the print device description you created is using the HP8000 printer description, the printed output may not be as expected. However, it will let you know whether the print device description you created is configured correctly. To test basic printing, follow the steps outlined below:
a) At a command line, type WRKSPLF (Work with All Spooled Files) and press the <Enter> key. A list of all spooled files for your user profile will be displayed as shown:

```
                        Work with All Spooled Files

  Type options, press Enter.
    1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
    8=Attributes          9=Work with printing status


                                Device or                    Total    Cur
  Opt   File        User        Queue       User Data   Sts  Pages    Page   Copy
    _   SEPPAG      PATRICK     PRT_01                   RDY   44             1
    _   SEPPAG      PATRICK     PRT_01                   RDY   14             1
    _   SEPPAGNEW   PATRICK     PRT_01                   RDY   14             1
    _   QPSECQ      PATRICK     PRT_01      PRTQAUT      RDY    3             1
    2   QPJOBLOG    PATRICK     QEZJOBLOG   QPADEV0005   RDY    6             1
    _   QPJOBLOG    PATRICK     QEZJOBLOG   QPADEV0005   RDY    1             1
    _   QPDSPJOB    PATRICK     QEZDEBUG                 RDY    7             1
    _   QPSRVDMP    PATRICK     QEZDEBUG                 RDY    5             1
    _   QPJOBLOG    PATRICK     QEZJOBLOG   QPADEV0005   RDY    2             1
                                                                   More...
  Parameters for options 1, 2, 3 or command
  ===>  _____
  F3=Exit    F10=View 4    F11=View 2    F12=Cancel    F22=Printers    F24=More keys
```

b) Place the cursor in the Opt (Option) field for the file you wish to print and type "2" (change) and press the <Enter> key. Then press the <F9> key to display all of the parameters of the spooled file. Tab to the Printer field and enter the name of your printer device description.

```
                   Change Spooled File Attributes (CHGSPLFA)

  Type choices, press Enter.

  Spooled file . . . . . . . . . . . >  QPJOBLOG      Name, *SELECT
  Job name . . . . . . . . . . . . . >  QPADEV0005    Name, *
    User . . . . . . . . . . . . . . >    PATRICK     Name
    Number . . . . . . . . . . . . . >    043388      000000-999999
  Spooled file number  . . . . . . . >  1            1-999999, *ONLY, *LAST
  Select files for:
    User . . . . . . . . . . . . .      *CURRENT      Name, *CURRENT, *ALL
    Print device . . . . . . . . .      *ALL          Name, *ALL, *OUTQ
    Form type  . . . . . . . . . .      *ALL          Form type, *ALL, *STD
    User data  . . . . . . . . . .      *ALL          User data, *ALL
  Printer  . . . . . . . . . . . . . >  MX5500        Name, *SAME, *OUTQ
  Print sequence . . . . . . . . .      *SAME         *SAME, *NEXT
  Form type  . . . . . . . . . . .      *STD          Form type, *SAME, *STD
  Copies . . . . . . . . . . . . .      1             1-255, *SAME
  Restart printing . . . . . . . .      *STRPAGE      Number, *SAME, *STRPAGE...
  Volume . . . . . . . . . . . . .      *SAME         Identifier, *SAME, *NONE
                                                                   More...
  F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
  F24=More keys
```

c) Press the <PgDn> and enter "*DEV" in the Output queue field. Tab to the Save file field and type in *YES so this file can be used for printing again.

```
              Change Spooled File Attributes (CHGSPLFA)

 Type choices, press Enter.

 Diskette label . . . . . . . . .      *SAME        Character value, *SAME

                          Additional Parameters

 Output queue . . . . . . . . . . > *DEV          Name, *SAME, *DEV
   Library  . . . . . . . . . . .                 Name, *LIBL, *CURLIB
 File separators  . . . . . . . .    0            0-9, *SAME
 Page range to print:
   Starting page  . . . . . . . .    1            Number, *SAME, *ENDPAGE
   Ending page  . . . . . . . . .    *END         Number, *SAME, *END
 File becomes available . . . . .    *FILEEND     *SAME, *JOBEND, *FILEEND...
 Save file  . . . . . . . . . . . > *YES          *SAME, *NO, *YES
 Output priority  . . . . . . . .    5            1-9, *SAME, *JOB
 User data  . . . . . . . . . . .    'QPADEV0005' User data, *SAME
 Align page . . . . . . . . . . .    *NO          *SAME, *NO, *YES
 Print quality  . . . . . . . . .    *STD         *SAME, *STD, *DEVD, *DRAFT...
                                                                 More...

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

d) Press the <Enter> key to submit the spool file to your print device description and you will be returned to the Work with All Spool Files screen. The job you submitted to your printer will display a status of "*CHG" (changed).

```
                        Work with All Spooled Files

  Type options, press Enter.
    1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
    8=Attributes        9=Work with printing status


                            Device or                    Total    Cur
  Opt   File       User      Queue      User Data   Sts  Pages   Page   Copy
   _    SEPPAG     PATRICK   PRT_01                 RDY    44             1
   _    SEPPAG     PATRICK   PRT_01                 RDY    14             1
   _    SEPPAGNEW  PATRICK   PRT_01                 RDY    14             1
   _    QPSECQ     PATRICK   PRT_01     PRTQAUT     RDY     3             1
   _    QPJOBLOG   PATRICK   MX5500     QPADEV0005  *CHG    6             1
   _    QPJOBLOG   PATRICK   QEZJOBLOG  QPADEV0005  RDY     1             1
   _    QPDSPJOB   PATRICK   QEZDEBUG               RDY     7             1
   _    QPSRVDMP   PATRICK   QEZDEBUG               RDY     5             1
   _    QPJOBLOG   PATRICK   QEZJOBLOG  QPADEV0005  RDY     2             1
                                                                 More...
  Parameters for options 1, 2, 3 or command
  ===> _____
  F3=Exit   F10=View 4   F11=View 2   F12=Cancel   F22=Printers   F24=More keys
```

e) To check the status of the job you just submitted, press the <F5> key several times to refresh the screen. If the Sts (Status) field changes to "MSGW" (Message Waiting), a response to the message or a

corrective action on the MFP is required before printing can occur. Type "7" in the Opt field to display the message.

```
                    Work with All Spooled Files

 Type options, press Enter.
   1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
   8=Attributes          9=Work with printing status


                            Device or                      Total     Cur
 Opt   File       User      Queue       User Data   Sts    Pages     Page   Copy
  7    QPJOBLOG   PATRICK   MX5500      QPADEV0005  MSGW      6              1
  _    SEPPAG     PATRICK   PRT_01                  RDY      44              1
  _    SEPPAG     PATRICK   PRT_01                  RDY      14              1
  _    SEPPAGNEW  PATRICK   PRT_01                  RDY      14              1
  _    QPSECQ     PATRICK   PRT_01      PRTQAUT     RDY       3              1
  _    QPJOBLOG   PATRICK   QEZJOBLOG   QPADEV0005  RDY       1              1
  _    QPDSPJOB   PATRICK   QEZDEBUG                RDY       7              1
  _    QPSRVDMP   PATRICK   QEZDEBUG                RDY       5              1
  _    QPJOBLOG   PATRICK   QEZJOBLOG   QPADEV0005  RDY       2              1
                                                                        More...
 Parameters for options 1, 2, 3 or command
 ===> _____
 F3=Exit    F10=View 4    F11=View 2    F12=Cancel    F22=Printers    F24=More keys
```

f) The following screen shows the message you will receive if the Align page parameter is not set to *FILE in the STRPRTWTR (Start Printer Writer) command.

```
                    Additional Message Information

 Message ID . . . . . . . :   CPA3394        Severity . . . . . . . . :    99
 Message type . . . . . :     Inquiry
 Date sent  . . . . . . :      09/04/08       Time sent  . . . . . . :    10:53:46

 Message . . . . :    Load form type '*STD' device MX5500 writer MX5500.   (G B I
   H R C)
 Cause . . . . . . :    The file on output queue MX5500 in library QUSRSYS
   requires form type '*STD' to be loaded on device MX5500. The form type for
   the file was all blanks when '' appears as the form type.
 Possible choices for replying to message . . . . . . . . . . . . . . . . :
   G -- Begin processing the current file after loading the form type.
   B -- Begin processing the current file after loading and aligning the form
     type (no alignment message is sent - same as option 1 on System/36).
   I -- Ignore the request to load the form type.  Print the file on the
     current formtype (same as option 0 on System/36).
                                                                        More...
 Type reply below, then press Enter.
 Reply  . . . .  _____

 F3=Exit    F6=Print    F9=Display message details    F12=Cancel
 F21=Select assistance level
```

g) The message in this case is an alert to load a form into the printer and requires a response to the message before printing can commence. Additional information may be displayed by pressing the <PgDn> key. The possible reply to this message is G, B, I, H, R and C.

```
                    Additional Message Information

Message ID . . . . . . . :    CPA3394        Severity . . . . . . . . :     99
Message type . . . . . :    Inquiry

   H -- Hold the file and print the next file on the output queue.
   R -- Search the output queue for the first available file with the correct
        form type.  Reply value R is useful after using the Change Writer (CHGWTR)
        command to change the form type or the output queue of the writer.
        *FILEEND must be specified for the option (OPTION) parameter on the CHGWTR
        command for the change to take effect.
   C -- Cancel the writer (same as option 2 on System/36).

                                                                        Bottom
Type reply below, then press Enter.
Reply  . . . .    I_____

F3=Exit    F6=Print    F9=Display message details    F12=Cancel
F21=Select assistance level
```

h) No action is required at the MFP as this is an alert and not a critical error. Print output will continue once a reply is sent to the message. For this type of message, type "I" (Ignore) in the Reply field and press the <Enter> key. Other messages indicating a problem with the MFP (out of paper, off line, out of toner) require no response and printing will start automatically after the required action is taken on the MFP.

```
                    Work with All Spooled Files

Type options, press Enter.
   1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
   8=Attributes          9=Work with printing status


                              Device or                       Total    Cur
Opt   File       User         Queue        User Data    Sts   Pages    Page   Copy
  9   QPJOBLOG   PATRICK      MX5500       QPADEV0005   MSGW     6               1
  _   SEPPAG     PATRICK      PRT_01                    RDY     44               1
  _   SEPPAG     PATRICK      PRT_01                    RDY     14               1
  _   SEPPAGNEW  PATRICK      PRT_01                    RDY     14               1
  _   QPSECQ     PATRICK      PRT_01       PRTQAUT      RDY      3               1
  _   QPJOBLOG   PATRICK      QEZJOBLOG    QPADEV0005   RDY      1               1
  _   QPDSPJOB   PATRICK      QEZDEBUG                  RDY      7               1
  _   QPSRVDMP   PATRICK      QEZDEBUG                  RDY      5               1
  _   QPJOBLOG   PATRICK      QEZJOBLOG    QPADEV0005   RDY      2               1
                                                                        More...
Parameters for options 1, 2, 3 or command
  ===> _____
F3=Exit    F10=View 4    F11=View 2    F12=Cancel    F22=Printers    F24=More keys
```

i) When the following screen is displayed, press the <F5> key several times to refresh the status of the job.

```
                    Work with Printing Status

Job  . . . . . . . . . :    QPADEV0005      File . . . . . . . . . :    QPJOBLOG
  User . . . . . . . . :    PATRICK           Number . . . . . . . :      1
  Number . . . . . . . :    043388          User data  . . . . . :    QPADEV0005

Type options, press Enter.
  2=Change status    5=Display detailed description

Opt     Status Description
  (Status is pending)




                                                                        Bottom
  Command
  === >  _____
  F3=Exit    F4=Prompt    F5=Refresh    F9=Retrieve    F12=Cancel
```

j) If no message is generated, the status should show that the job was printed and saved as the *SAVE option was selected in the spool file attributes. If a different status is shown ("This file is not associated with a started printer" for instance), ensure that the printer device was varied on and the print writer was started.

```
                    Work with Printing Status

Job  . . . . . . . . . :    QPADEV0005      File . . . . . . . . . :    QPJOBLOG
  User . . . . . . . . :    PATRICK           Number . . . . . . . :      1
  Number . . . . . . . :    043388          User data  . . . . . :    QPADEV0005

Type options, press Enter.
  2=Change status    5=Display detailed description

Opt     Status Description
  _       This file was printed and saved.




                                                                        Bottom
  Command
  === >  _____
  F3=Exit    F4=Prompt    F5=Refresh    F9=Retrieve    F12=Cancel
```

Check the MFP and ensure that the job printed out. If letter sized paper was not loaded in Tray 2, the print job will be in the MFPs job queue displaying a message to load letter size paper. Since this printer used the

*HP8000 description file, the job just printed should have been printed in simplex mode from Tray 2 even though the job attributes show that Tray 1 was selected for paper feed.. This is because there are some differences between the Sharp and HP specific PCL printer commands. While this might work for users who require only basic printing, other users might require other features such as duplex printing from a different feed tray. To test whether the print device description needs to include a
Workstation Customizing Object for the user, we will make further changes to the same spooled file and reprint the job.

k) If you are still on the Work with Printing Status screen, press the <Enter> key to return to the Work with All Spooled Files screen. Otherwise, type "WRKSPLF" at a command line. Then type "2" into the Opt field of the file just printed and press the <Enter> key.

```
                      Work with All Spooled Files

   Type options, press Enter.
     1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
     8=Attributes          9=Work with printing status


                              Device or                    Total      Cur
     Opt   File        User        Queue        User Data   Sts   Pages     Page   Copy
      2    QPJOBLOG    PATRICK     MX5500       QPADEV0005   SAV       6               1
      _    SEPPAG      PATRICK     PRT_01                    RDY      44               1
      _    SEPPAG      PATRICK     PRT_01                    RDY      14               1
      _    SEPPAGNEW   PATRICK     PRT_01                    RDY      14               1
      _    QPSECQ      PATRICK     PRT_01       PRTQAUT      RDY       3               1
      _    QPJOBLOG    PATRICK     QEZJOBLOG    QPADEV0005   RDY       1               1
      _    QPDSPJOB    PATRICK     QEZDEBUG                  RDY       7               1
      _    QPSRVDMP    PATRICK     QEZDEBUG                  RDY       5               1
      _    QPJOBLOG    PATRICK     QEZJOBLOG    QPADEV0005   RDY       2               1
                                                                            More...
   Parameters for options 1, 2, 3 or command
   ===> _____
   F3=Exit    F10=View 4    F11=View 2    F12=Cancel    F22=Printers    F24=More keys
```

l) Press the <F9> key to display all parameters. Press the <PgDn> key twice to access the following screen. Tab to the Source drawer field and change the default value from "1" to "2" to feed from the second cassette. Next, Tab to the Print on both sides field and change the default value from *NO to *YES. Before proceeding, remove paper from Tray 2 on the Sharp MFP and ensure that letter size paper is placed in Tray 1.

```
            Change Spooled File Attributes (CHGSPLFA)

   Type choices, press Enter.

   Form feed . . . . . . . . . . . .   *DEVD        *SAME, *DEVD, *CONT, *CUT...
   Source drawer . . . . . . . . . > 2             1-255, *SAME, *E1, *FORMDF
   Print fidelity . . . . . . . . . .  *CONTENT     *SAME, *ABSOLUTE, *CONTENT
   Print on both sides . . . . . . > *YES           *SAME, *NO, *YES, *TUMBLE...
   Pages per side . . . . . . . . .    1            1-4, *SAME
   Page definition . . . . . . . .     *SAME        Name, *SAME, *NONE
     Library . . . . . . . . . . .                  Name, *LIBL, *CURLIB
   Form definition . . . . . . . .     *NONE        Name, *SAME, *NONE, *DEVD...
     Library . . . . . . . . . . .                  Name, *LIBL, *CURLIB
   AFP Characters . . . . . . . . .    *SAME        Coded font name, *SAME, *NONE
   Front side overlay:
     Overlay . . . . . . . . . . .     *NONE        Name, *NONE, *SAME
       Library . . . . . . . . . .                  Name, *LIBL, *CURLIB
     Offset down . . . . . . . . .                  0.00-57.79, *SAME
     Offset across . . . . . . . .                  0.00-57.79, *SAME

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

m) After ensuring that the Sharp MFP is setup as described, submit the changes to the spooled file by pressing the <Enter> key. Next, type "9" (Printing status) in the Opt field of the job and press the <Enter> key.

```
                       Work with All Spooled Files

   Type options, press Enter.
     1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
     8=Attributes         9=Work with printing status


                            Device or                      Total      Cur
   Opt   File      User     Queue       User Data    Sts   Pages    Page   Copy
         QPSECQ    PATRICK  M355N       PRTQAUT      SAV     2               1
         QPSUPRTF  PATRICK  MX5500Q                  SAV     12              1
         QPSUPRTF  PATRICK  MX5500Q     corrected    SAV     12              1
    9    QPJOBLOG  PATRICK  MX5500      QPADEV0005   *CHG    6               1




                                                                      Bottom
   Parameters for options 1, 2, 3 or command
   ===> _____
   F3=Exit    F10=View 4    F11=View 2    F12=Cancel    F22=Printers    F24=More keys
```

n) Type "2" (Change status) in the Opt field and press the <Enter> key. When the Change Status window appears, type "1" in the Selection field and press the <Enter> key to resubmit the job for printing. After the job is printed, press the <F12> (Cancel) key to

return to the Work with All Spooled Files screen.

```
                    Work with Printing Status

Job  . . . . . . . . . :    QPADEV0005      File . . . . . . . . :    QPJOBLOG
   User . . . . . . . :      PATRICK          Number . . . . . . :       1
   Number . . . . . . :      043388         User data  . . . . . :    QPADEV0005

  Type options, press Enter.
    2=Change status    5=Display detailed description
  ...................................................................
Opt :                           Change Status                       :
 2  :                                                                :
    :   Select one of the following:                                 :
    :                                                                :
    :        1. Print this file and save it again                    :
    :        2. Print this file and delete it                        :
    :                                                                :
    :                                                                :
    :                                                                :
    :                                                                :
    :   Selection                                                    :
    :        1                                                       :
Com :                                                                :
=== :   F6=Display details    F12=Cancel                             :
F3= :                                                                :
  ...................................................................
```

If you have followed the instructions correctly, you will find that the job printed on both sides of the page from Tray 1 rather than Tray 2 as expected. This indicates that a Workstation Customizing Object should be used with the print device description. A workstation customization object (WSCST) is a modification of a standard manufacturer type and model description supplied with the operating system. The following example shows using a pre compiled WSCST in place of the *HP8000 type and model description.
(For complete instructions on creating and modifying WSCSTs, see the document "Creating and Compiling WSCST for Sharp MFPs on the AS400")

8) Apply a Workstation Customizing Object to the Print device description.

a) Before a print device description can be modified, the print writer must be stopped and the printer device description varied off. At a command line, type "ENDWTR" and press the <F4> key. Type in the name of your print device description in the Writer field, tab to the When to end writer field, type in "*IMMED".

```
                         End Writer (ENDWTR)

  Type choices, press Enter.


  Writer . . . . . . . . . . . . . . >  MX5500         Name, *SYSVAL, *ALL
  When to end writer . . . . . . . >  *IMMED         *CNTRLD, *IMMED, *PAGEEND













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

b) Press the <Enter> key to end the writer.

```
  MAIN                           OS/400 Main Menu
                                                         System:    AS400
    Select one of the following:

          1. User tasks
          2. Office tasks

          4. Files, libraries, and folders

          6. Communications

          8. Problem handling
          9. Display a menu

         11. Client Access/400 tasks

         90. Sign off

  Selection or command
  ===>_____
  _____
  F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F23=Set initial menu

  Writer 044419/QSPLJOB/MX5500 in process of ending.
```

c) Next, at the command line, type "VRYCFG" and press the <Enter> key. Fill in the values shown for the following fields: Configuration object > {printer device_description_name}, Type > *DEV and Status > *OFF.

```
                        Vary Configuration (VRYCFG)

    Type choices, press Enter.

    Configuration object . . . . . . > MX5500        Name, generic*, *ANYNW...
                      + for more values
    Type . . . . . . . . . . . . . . > *DEV          *NWS, *NWI, *LIN, *CTL...
    Status . . . . . . . . . . . . . > *OFF          *ON, *OFF, *RESET...











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

d) Press the <Enter> key to vary off the printer device description.

```
    MAIN                          OS/400 Main Menu
                                                         System:   AS400
      Select one of the following:

            1. User tasks
            2. Office tasks

            4. Files, libraries, and folders

            6. Communications

            8. Problem handling
            9. Display a menu

           11. Client Access/400 tasks

           90. Sign off

    Selection or command
    ===> _____
    _____
    F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F23=Set initial menu

    Vary off completed for device MX5500.
```

e) At the command line, type "CHGDEVPRT", press the <F4> key and then enter in name of the printer device. Press the <F9> key to display all of the parameters for the print device description. Press the <PgDn> key twice, tab to the Manufacturer type and model field and enter "*WSCST".

```
                Change Device Desc (Printer) (CHGDEVPRT)

  Type choices, press Enter.

  Host signon/logon command . . .    *SAME



  Pacing . . . . . . . . . . . . .   *SAME       1-7, *SAME
  Line speed . . . . . . . . . . .   19200       *SAME, *TYPE, 150, 300...
  Word length  . . . . . . . . . .   8           *SAME, *TYPE, 7, 8
  Type of parity . . . . . . . . .   *NONE       *SAME, *TYPE, *EVEN, *ODD...
  Stop bits  . . . . . . . . . . .   1           *SAME, *TYPE, 1, 2
  Host print transform . . . . . .   *YES        *SAME, *NO, *YES
  Manufacturer type and model  . .   *WSCST
  Paper source 1 . . . . . . . . .   *LETTER     *SAME, *MFRTYPMDL, *LETTER...
  Paper source 2 . . . . . . . . .   *LETTER     *SAME, *MFRTYPMDL, *LETTER...
  Envelope source  . . . . . . . .   *NONE       *SAME, *MFRTYPMDL...
  ASCII code page 899 support  . .   *NO         *SAME, *NO, *YES
  Image configuration  . . . . . .   *NONE       *SAME, *NONE, *IMGA01...
                                                                    More...

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

f) Press the <PgDn> key 3 times, tab to the Workstation Customizing object field and enter "ALLSHARP" (or the name of an existing, compiled WSCST). Tab to the Library field and enter "QGPL" as this is the default location for compiled WSCSTs.

```
                Change Device Desc (Printer) (CHGDEVPRT)

  Type choices, press Enter.

  Publishing information:
    Support duplex . . . . . . . .    *DUPLEX      *SAME, *SIMPLEX, *DUPLEX...
    Support color  . . . . . . . .    *COLOR       *SAME, *NOCOLOR, *COLOR...
    Pages per minute black . . . .    55           1-32767, *SAME, *UNKNOWN
    Pages per minute color . . . .    45           1-32767, *SAME, *UNKNOWN
    Location . . . . . . . . . . .    *BLANK
  Text 'description' . . . . . . .    'SHARP Color & Black & White MFP MX-5500N'


                          Additional Parameters

  Remote network identifier  . . .    *SAME        Name, *SAME, *NETATR, *NONE
  Workstation customizing object   >  ALLSHARP     Name, *SAME, *NONE
    Library . . . . . . . . . . . >     QGPL       Name, *LIBL, *CURLIB



                                                                    Bottom

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

g) Press the <Enter> key to apply the changes to the printer device description.

```
MAIN                        OS/400 Main Menu
                                                    System:     AS400
  Select one of the following:

       1. User tasks
       2. Office tasks

       4. Files, libraries, and folders

       6. Communications

       8. Problem handling
       9. Display a menu

      11. Client Access/400 tasks

      90. Sign off

  Selection or command
  ===>_____

  F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F23=Set initial menu

  Description for device MX5500 changed.
```

h) The printer device description must be restarted (varied on) after applying the work station customizing object. At the command line, type 'VRYCFG' (Vary Configuration) and press the <Enter> key. Fill in the values shown for the following fields: Configuration object > {device_description_name}, Type > *DEV and Status > *ON. Press the <Enter> key to vary on the printer.

```
                        Vary Configuration (VRYCFG)

  Type choices, press Enter.


  Configuration object . . . . . . > MX5500        Name, generic*, *ANYNW...
                + for more values
  Type . . . . . . . . . . . . . . > *DEV          *NWS, *NWI, *LIN, *CTL...
  Status . . . . . . . . . . . . . > *ON           *ON, *OFF, *RESET...



















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

i) As with the printer device description, the printer writer must also be restarted. (NOTE: When the writer is ended and restarted, all of its parameters will be reset to defaults.) Type "STRPRTWTR" (Start Print Writer) at a command line and press the <F4> key. Press the <F9> to display all parameters and enter your printer device description name in the Printer field and *INFOMSG in the Message option field.

```
                    Start Printer Writer (STRPRTWTR)

    Type choices, press Enter.

    Printer  . . . . . . . . . . . . > MX5500          Name, *ALL, *SYSVAL
    Output queue . . . . . . . . . .   *DEV            Name, *DEV
      Library  . . . . . . . . . . .                   Name, *LIBL, *CURLIB
    Queue for writer messages  . . .   *DEVD           Name, *DEVD, *REQUESTER
      Library  . . . . . . . . . . .                   Name, *LIBL, *CURLIB
    Form type options:
      Form type  . . . . . . . . . .   *ALL            Form type, *ALL, *STD, *FORMS
      Message option . . . . . . . . > *INFOMSG        *INQMSG, *MSG, *NOMSG...
    File separators  . . . . . . . .   *FILE           0-9, *FILE
    Drawer for separators  . . . . .   *DEVD           1-255, *DEVD, *FILE

                          Additional Parameters

    Writer . . . . . . . . . . . . .   *DEV            Name, *DEV


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

j) Press the <PgDn> key and set Allow direct print to*YES and Align page to *File. Press the <Enter> to start the writer.

```
                    Start Printer Writer (STRPRTWTR)

    Type choices, press Enter.

    Auto-end options:
      Automatically end writer . . .   *NO             *NO, *YES
      If yes, when to end  . . . . .   *NORDYF         *NORDYF, *FILEEND
    Allow direct print . . . . . . . > *YES            *NO, *YES
    Align page . . . . . . . . . . . > *FILE           *FILE, *WTR, *FIRST
    Initialize printer . . . . . . .   *WTR            *WTR, *FIRST, *ALL
    Spooled file . . . . . . . . . .   *NONE           Name, *NONE, *LAST
    Job name . . . . . . . . . . . .   *               Name, *
      User . . . . . . . . . . . . .                   Name
      Number . . . . . . . . . . . .                   000000-999999
    Spooled file number  . . . . . .   *ONLY           1-999999, *ONLY, *LAST
    Starting page  . . . . . . . . .   *BEGIN          Number, *BEGIN


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

k) At the command line, type "WRKSPLF". When the list of spooled files is displayed, type "9" (Printing status) in the Opt field of the same file you printed previously and press the <Enter> key.

```
                    Work with All Spooled Files

 Type options, press Enter.
   1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
   8=Attributes          9=Work with printing status


                           Device or                      Total    Cur
 Opt   File      User      Queue       User Data   Sts    Pages    Page  Copy
       QPSECQ    PATRICK   M3 55N      PRTQAUT     SAV       2              1
       QPSUPRTF  PATRICK   MX5500Q                 SAV      12              1
       QPSUPRTF  PATRICK   MX5500Q     corrected   SAV      12              1
   9   QPJOBLOG  PATRICK   MX5500      QPADEV0005  SAV       6              1




                                                                  Bottom
 Parameters for options 1, 2, 3 or command
 ===> _____
 F3=Exit    F10=View 4    F11=View 2    F12=Cancel    F22=Printers    F24=More keys
```

l) Next, type "2" (Change status) in the Opt field and press the <Enter> key. Type "1" in the Selection field and press the <Enter> key to resubmit the job for printing. After the job is printed, press the <F12> (Cancel) key and then the <Enter> key.

```
                    Work with Printing Status

 Job . . . . . . . . . :   QPADEV0005       File . . . . . . . . . :   QPJOBLOG
   User . . . . . . . :     PATRICK           Number . . . . . . . :     1
   Number . . . . . . :     043388           User data . . . . . :     QPADEV0005

 Type options, press Enter.
   2=Change status    5=Display detailed description

 Opt :.............................................................:
  2  :                      Change Status                          :
     :                                                             :
     :   Select one of the following:                              :
     :                                                             :
     :        1. Print this file and save it again                 :
     :        2. Print this file and delete it                     :
     :                                                             :
     :                                                             :
     :                                                             :
     :   Selection                                                 :
     :        1                                                    :
 Com :                                                             :
 === :   F6=Display details    F12=Cancel                          :
 F3= :                                                             :
     :.............................................................:
```

m) Check the job status of the Sharp MFP. If you left the MFP in the same condition as the previous print job, you will now find that the MFP will be displaying a message to "Add paper to Tray 2". After adding 8 ½ x 11 paper into Tray 2, the job will then print from Tray 2, indicating that the source drawer commands are now customized correctly for the Sharp MFP. Again, the printed documents should be printed on both sides.

9) Set the print device description for the Sharp MFP as the user's default printer.

Typically, most AS400 print jobs are sent to a spool rather than directly to a printer. This allows further formatting of the file or allows the job to be redirected to a different output device. However, for some users and jobs, it is more efficient to directly print out the job on a known printer. In a large network environment with multiple printers, users are assigned default printers by their administrator. If they have sufficient rights, users can assign a printer to themselves. Both methods are shown below:

Administrative Method

a) Log into the AS400 with the administrator account. At the command line, type CHGUSRPRF and press the <F4> key. Type in the user account name and press the <F9> key to display all of the parameters.

```
                    Change User Profile (CHGUSRPRF)

   Type choices, press Enter.

   User profile . . . . . . . . . . > JERRY         Name
   User password  . . . . . . . . .   *SAME         Character value, *SAME, *NONE
   Set password to expired  . . . .   *NO           *SAME, *NO, *YES
   Status . . . . . . . . . . . . .   *ENABLED      *SAME, *ENABLED, *DISABLED
   User class . . . . . . . . . . .   *SECOFR       *SAME, *USER, *SYSOPR...
   Assistance level . . . . . . . .   *ADVANCED     *SAME, *SYSVAL, *BASIC...
   Current library  . . . . . . . .   *CRTDFT       Name, *SAME, *CRTDFT
   Initial program to call  . . . .   *NONE         Name, *SAME, *NONE
     Library  . . . . . . . . . . .                 Name, *LIBL, *CURLIB
   Initial menu . . . . . . . . . .   MAJOR         Name, *SAME, *SIGNOFF
     Library  . . . . . . . . . . .    *LIBL        Name, *LIBL, *CURLIB
   Limit capabilities . . . . . . .   *NO           *SAME, *NO, *PARTIAL, *YES
   Text 'description' . . . . . . .   'Privileged  User'


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

b) Press the <PgDn> key twice. For the Print device type in the name of the print device description desired for the user and *DEV for the Output queue fields. Press the <Enter> key when done.

```
                    Change User Profile (CHGUSRPRF)

 Type choices, press Enter.


 Owner  . . . . . . . . . . . . . .     *USRPRF        *SAME, *USRPRF, *GRPPRF
 Group authority  . . . . . . . . .     *ALL           *SAME, *NONE, *ALL...
 Group authority type . . . . . .       *PRIVATE       *PRIVATE, *PGP, *SAME
 Supplemental groups  . . . . . .       *NONE          Name, *SAME, *NONE
               + for more values
 Accounting code  . . . . . . . .       *BLANK
 Document password  . . . . . . .       *SAME          Name, *SAME, *NONE
 Message queue  . . . . . . . . .       JERRY          Name, *SAME, *USRPRF
   Library  . . . . . . . . . . .         QUSRSYS      Name, *LIBL, *CURLIB
 Delivery . . . . . . . . . . . .       *NOTIFY        *SAME, *NOTIFY, *BREAK...
 Severity code filter . . . . . .       0              0-99, *SAME
 Print device . . . . . . . . . . > MX5500             Name, *SAME, *WRKSTN, *SYSVAL
 Output queue . . . . . . . . . . > *DEV               Name, *SAME, *WRKSTN, *DEV
   Library  . . . . . . . . . . .                      Name, *LIBL, *CURLIB
 Attention program  . . . . . . .       *SYSVAL        Name, *SAME, *SYSVAL...
   Library  . . . . . . . . . . .                      Name, *LIBL, *CURLIB
                                                                        More...
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys
```

c) The user has now been assigned the print device description as his default printer when the following system message appears.

User profile {username} changed.

```
 MAJOR                     Major Command Groups
                                                    System:   AS400
   Select one of the following:

        1. Select Command by Name                        SLTCMD
        2. Verb Commands                                 VERB
        3. Subject Commands                              SUBJECT
        4. Object Management Commands                    CMDOBJMGT
        5. File Commands                                 CMDFILE
        6. Save and Restore Commands                     CMDSAVRST
        7. Work Management Commands                       CMDWRKMGT
        8. Data Management Commands                      CMDDTAMGT
        9. Security Commands                             CMDSEC
       10. Print Commands                                CMDPRT
       11. Spooling Commands                             CMDSPL
       12. System Control Commands                       CMDSYSCTL
       13. Program Commands                              CMDPGM
                                                             More...
   Selection or command
   ===> _____
   _____
   F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F13=Information Assistant
   F16=AS/400 Main menu
   User profile JERRY changed.
```

User Method

a) Log into the AS400 with your user account. Type CHGPRF on the command line and press the <F4> key. Press the <F9> key to display all parameters

```
                         Change Profile (CHGPRF)

 Type choices, press Enter.

 Assistance level . . . . . . . . .   *SYSVAL       *SAME, *SYSVAL, *BASIC...
 Current library  . . . . . . . . .   *CRTDFT       Name, *SAME, *CRTDFT
 Initial program to call  . . . . .   *NONE         Name, *SAME, *NONE
   Library  . . . . . . . . . . .                   Name, *LIBL, *CURLIB
 Initial menu . . . . . . . . . . .   MAIN          Name, *SAME, *SIGNOFF
   Library  . . . . . . . . . . .       *LIBL       Name, *LIBL, *CURLIB
 Text 'description' . . . . . . . .   'Privileged user'


                         Additional Parameters

 Keyboard buffering . . . . . . . .   *SYSVAL       *SAME, *SYSVAL, *NO...
 Job description  . . . . . . . . .   QDFTJOBD      Name, *SAME
   Library  . . . . . . . . . . .       QGPL        Name, *LIBL, *CURLIB
 Document password  . . . . . . . .   *SAME         Name, *SAME, *NONE

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

b) Press the <PgDn> key once. For the Print device type in the name of the print device description desired for the user and *DEV for the Output queue fields. Press the <Enter> key when done.

```
                         Change Profile (CHGPRF)

 Type choices, press Enter.

 Message queue  . . . . . . . . . . >  PATRICK      Name, *SAME, *USRPRF
   Library  . . . . . . . . . . . . >    QUSRSYS    Name, *LIBL, *CURLIB
 Delivery . . . . . . . . . . . . .   *NOTIFY       *SAME, *NOTIFY, *BREAK...
 Severity code filter . . . . . . .   0             0-99, *SAME
 Print device . . . . . . . . . . . >  MX5500       Name, *SAME, *WRKSTN, *SYSVAL
 Output queue . . . . . . . . . . . >  *DEV         Name, *SAME, *WRKSTN, *DEV
   Library  . . . . . . . . . . .                   Name, *LIBL, *CURLIB
 Attention program  . . . . . . . .   *SYSVAL       Name, *SAME, *NONE...
   Library  . . . . . . . . . . .                   Name, *LIBL, *CURLIB
 Sort sequence  . . . . . . . . . .   *SYSVAL       Name, *SAME, *SYSVAL, *HEX...
   Library  . . . . . . . . . . .                   Name, *LIBL, *CURLIB
 Language ID  . . . . . . . . . . .   *SYSVAL       *SAME, *SYSVAL...
 Country ID . . . . . . . . . . . .   *SYSVAL       *SAME, *SYSVAL...
 Coded character set ID . . . . . .   *SYSVAL       *SAME, *SYSVAL, *HEX...
 Character identifier control . .     *SYSVAL       *SAME, *SYSVAL, *DEVD...

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

d) You have assigned the print device description as your default printer when the following system message appears:

User profile {your name} changed.

```
 MAIN                          OS/400 Main Menu
                                                    System:     AS400
   Select one of the following:

         1. User tasks
         2. Office tasks

         4. Files, libraries, and folders

         6. Communications

         8. Problem handling
         9. Display a menu

        11. Client Access/400 tasks

        90. Sign off

   Selection or command
   ===> _____
   _____
   F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F13=Information Assistant
   F16=AS/400 Main menu
   User profile PATRICK changed.
```

Test user's default printer with application printing

To ensure that the print device description has been assigned to your user account, you will need to select an application that allows you to print directly print to the printer. For this exercise, use the Source Entry Utility as it allows source code to be printed as an option. Note that the printer file used for this has been modified so that the job will be printed in duplex mode from Tray 1 and the print job will be printed and saved as a spooled file. Use the following procedure to test your user account:

a) At the command line, type in STRSEU (Start Source Entry Utility) and press the <F4> key. Fill in the following values for the parameters shown: Source file: > QTXTSRC, Library:> QGPL, Source member > *SELECT and Source type: > TXT. Press the <Enter > key when done:

```
                    Start Source Entry Utility (STRSEU)

     Type choices, press Enter.


        Source file  . . . . . . . . . . >  QTXTSRC       Name, *PRV
          Library  . . . . . . . . . . . >    QGPL        Name, *LIBL, *CURLIB, *PRV
        Source member  . . . . . . . . . >  *SELECT       Name, *PRV, *SELECT
        Source type  . . . . . . . . . . >  TXT           Name, *SAME, BAS, BASP...
        Option . . . . . . . . . . . . .    *BLANK        *BLANK, ' ', 2, 5, 6
        Text 'description' . . . . . . .    *BLANK








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

b) A list of text source code files for Workstation Customizing Objects will be shown similar to the following screen. Type "6" (Print) in the Opt field for any of the files and press the <Enter> key.

```
                      Work with Members Using SEU

     Source file . . . . . .   QTXTSRC              Library . . . . .   QGPL
     Position to . . . . . . . . . . . . . . . . . . . . . . . . . .
     New member  . . . . . . . . . . . . . . . . . . . . . . . . . .
       Type for new member . . . . . . . . . . . . . . . . . . . . .   TXT
       Text  . . . . . . . . .


     Type options, press Enter.
         2=Edit       4=Delete       5=Browse          6=Print


     Opt  Member      Type      Text
      6   ALLSHARP              Master template source code for Sharp MFPs
      _   ARM355MFP1            Source code modified from HP8000
      _   AR275N                AR275 source code
      _   BOB                   Custom folder for 'bob'
      _   CDRAGON1              Color Dragon
      _   CDRAGON2              Color Dragon with Finisher
      _   CUSTFLDR              CUSTOM FOLDER
      _   DUP                   Master template source code for Sharp MFPs
                                                                       More...
     F3=Exit          F5=Refresh       F12=Cancel          F14=Display date
     F15=Sort by date                  F17=Subset
     Member ALLSHARP has been printed.
```

c) If all information has been entered correctly, the selected file will print directly to your default printer using the print device description you created. The job will be formatted, printed and saved in the spooler using the options selected in the printer file for this job.

(For more information on using AS400 printer files, see the document "Modifying AS400 Printer Files for use with Sharp MFPs"). Press the <F3> key to exit the source entry utility. A sample of the printout is shown below:

```
5722WDS V5R1M0  010525                    SEU SOURCE LISTING
SOURCE FILE . . . . . . .    QGPL/QTXTSRC
MEMBER   . . . . . . . . .    ALLSHARP
SEQNBR*...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
   100 :WSCST DEVCLASS=TRANSFORM.  /** SHARP GENERIC WSCST **/
   200 /** MODIFY AS NEEDED FOR SPECIFIC MODELS **/
   300     :TRNSFRMTBL.
   400     :PRTDTASTRM
   500       DATASTREAM=HPPCL5.
   600     :NOPRTBDR
   700       OPTION=TOP
   800       ORIENT=PORTRAIT
   900       DATA =  240.
  1000     :NOPRTBDR
  1100       OPTION=LEFT
  1200       ORIENT=PORTRAIT
  1300       DATA =  360.
  1400     :NOPRTBDR
  1500       OPTION=RIGHT
  1600       ORIENT=PORTRAIT
  1700       DATA =  360.
  1800     :NOPRTBDR
  1900       OPTION=BOTTOM
  2000       ORIENT=PORTRAIT
  2100       DATA =  240.
  2200     :NOPRTBDR
  2300       OPTION=TOP
  2400       ORIENT=LANDSCAPE
  2500       DATA =  240.
  2600     :NOPRTBDR
  2700       OPTION=LEFT
  2800       ORIENT=LANDSCAPE
  2900       DATA =  288.
  3000     :NOPRTBDR
  3100       OPTION=RIGHT
  3200       ORIENT=LANDSCAPE
  3300       DATA =  288.
  3400     :NOPRTBDR
  3500       OPTION=BOTTOM
  3600       ORIENT=LANDSCAPE
  3700       DATA =  240.
  3800     :INITPRT
  3900       DATA ='1B45'X.
  4000     :RESETPRT
  4100       DATA ='1B45'X.
  4200     :BELL
  4300       DATA ='07'X.
  4400     :SPACE
  4500       DATA ='20'X.
  4600     :CARRTN
  4700       DATA ='0D'X.
  4800     :FORMFEED
  4900       DATA ='0C'X.
  5000     :LINEFEED
  5100       DATA ='0A'X.
  5200     :VERRMOV
  5300       DIRECTION=UP
```

If you have successfully created and tested the LAN attached printer but do not plan on using it for production, take the following housekeeping steps:

a) Delete any spooled files that are using your printer device description. At a command line, enter "WRKSPLF" and press the <Enter> key. Type "4" (Delete) in the Opt field of the spooled file using your

printer device description and press the <Enter> key. Press the <Enter> key again to confirm deletion of the file. Repeat for all spooled files using your printer.

```
                         Work with All Spooled Files

     Type options, press Enter.
       1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
       8=Attributes          9=Work with printing status


                                   Device or              Total    Cur
     Opt   File       User         Queue     User Data  Sts  Pages    Page   Copy
       _   QPSECQ     PATRICK      M355N     PRTQAUT    SAV    2              1
       _   QPSUPRTF   PATRICK      MX5500Q              SAV    12             1
       _   QPSUPRTF   PATRICK      MX5500Q   corrected  SAV    12             1
       4   QPJOBLOG   PATRICK      MX5500    QPADEV0005 SAV     6             1




                                                                       Bottom
     Parameters for options 1, 2, 3 or command
     ===> _____
     F3=Exit    F10=View 4    F11=View 2    F12=Cancel    F22=Printers    F24=More keys
```

b) Enter "ENDWTR WTR({printer device description}) OPTION(*IMMED)" at a command line and press the <Enter> key to end the printer writer.

```
                         Work with All Spooled Files

     Type options, press Enter.
       1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
       8=Attributes          9=Work with printing status


                                   Device or              Total    Cur
     Opt   File       User         Queue     User Data  Sts  Pages    Page   Copy
           QPSECQ     PATRICK      M355N     PRTQAUT    SAV    2              1
           QPSUPRTF   PATRICK      MX5500Q              SAV    12             1
           QPSUPRTF   PATRICK      MX5500Q   corrected  SAV    12             1




                                                                       Bottom
     Parameters for options 1, 2, 3 or command
     ===> ENDWTR WTR(MX5500) OPTION(*IMMED)_____
     F3=Exit    F10=View 4    F11=View 2    F12=Cancel    F22=Printers    F24=More keys
```

c) At a command line, enter "VRYCFG CFGOBJ({printer device description}) CFGTYPE(*DEV) STATUS(*OFF)" and press the <Enter> key to vary off the printer.

NOTE: if you receive a system error message "Unable to obtain lock on device {printer device description}.", the writer is still active. Repeat step b) above.

```
                        Work with All Spooled Files

   Type options, press Enter.
     1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
     8=Attributes          9=Work with printing status


                              Device or                    Total    Cur
   Opt   File       User      Queue       User Data   Sts  Pages    Page   Copy
     _   QPSECQ     PATRICK   M355N       PRTQAUT     SAV    2              1
     _   QPSUPRTF   PATRICK   MX5500Q                 SAV   12              1
     _   QPSUPRTF   PATRICK   MX5500Q     corrected   SAV   12              1




                                                                   Bottom
   Parameters for options 1, 2, 3 or command
   ===> VRYCFG CFGOBJ(MX5500) CFGTYPE(*DEV) STATUS(*OFF)
   F3=Exit    F10=View 4    F11=View 2    F12=Cancel    F22=Printers    F24=More keys
```

d) Enter "DLTDEVD DEVD({printer device description}) at a command line and press the <Enter> key to delete the printer device description you created. In addition to the device description, you will also delete the associated output queue and writer. NOTE: if you receive a system error message "Device Description {printer device description} not deleted. Device in use.", the printer is still being used by a spooled file. Repeat step a) above.

```
                        Work with All Spooled Files

   Type options, press Enter.
     1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
     8=Attributes          9=Work with printing status


                              Device or                    Total    Cur
   Opt   File       User      Queue       User Data   Sts  Pages    Page   Copy
     _   QPSECQ     PATRICK   M355N       PRTQAUT     SAV    2              1
     _   QPSUPRTF   PATRICK   MX5500Q                 SAV   12              1
     _   QPSUPRTF   PATRICK   MX5500Q     corrected   SAV   12              1




                                                                   Bottom
   Parameters for options 1, 2, 3 or command
   ===> DLTDEVD DEVD (MX5500)
   F3=Exit    F10=View 4    F11=View 2    F12=Cancel    F22=Printers    F24=More keys
```

e) At a command line, type "CHGPRF PRTDEV(*WRKSTN) OUTQ(*WRKSTN)" and press the <Enter> key to restore your user profile to its default values for the print device and out queue.

```
                    Work with All Spooled Files

 Type options, press Enter.
   1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
   8=Attributes          9=Work with printing status


                            Device or                     Total    Cur
 Opt   File        User    Queue       User Data   Sts    Pages    Page   Copy
   _   QPSECQ      PATRICK  M355N       PRTQAUT     SAV      2             1
   _   QPSUPRTF    PATRICK  MX5500Q                 SAV     12             1
   _   QPSUPRTF    PATRICK  MX5500Q     corrected   SAV     12             1




                                                                    Bottom
 Parameters for options 1, 2, 3 or command
 ===> CHGPRF PRTDEV(*WRKSTN) OUTQ(*WRKSTN)
 F3=Exit    F10=View 4    F11=View 2    F12=Cancel    F22=Printers    F24=More keys
```

f) Enter "SIGNOFF" at a command line and press the <Enter> key to log off of the AS400.

```
                    Work with All Spooled Files

 Type options, press Enter.
   1=Send    2=Change    3=Hold    4=Delete    5=Display    6=Release    7=Messages
   8=Attributes          9=Work with printing status


                            Device or                     Total    Cur
 Opt   File        User    Queue       User Data   Sts    Pages    Page   Copy
   _   QPSECQ      PATRICK  M355N       PRTQAUT     SAV      2             1
   _   QPSUPRTF    PATRICK  MX5500Q                 SAV     12             1
   _   QPSUPRTF    PATRICK  MX5500Q     corrected   SAV     12             1




                                                                    Bottom
 Parameters for options 1, 2, 3 or command
 ===> SIGNOFF
 F3=Exit    F10=View 4    F11=View 2    F12=Cancel    F22=Printers    F24=More keys
```

g) Exit the terminal emulation program.