MFP	**TECHNICAL TIP**
TT-20200	

Models:	**MX-C311/MX-C401/MX-B401** **MX-2300N/MX-2600N/MX-2700N/MX-3100N** **MX-3500N/MX-3501N/MX-4100N/MX-4101N/MX-4501N/MX-5001N** **MX-5500N/MX-6200N/MX-6201N/MX-7000N/MX-7001N** **MX-M283N/MX-M363N/MX-M453N/MX-M503N/MX-M623N/MX-M753N** **MX-M350N/MX-M450N/MX-M550N/MX-M620N/MX-M700N** **MX-M850/MX-M950/MX-M1100**
Priority:	Medium
Date:	August 2010
Subject:	**AS/400 Remote Output Queue Setup**

Description: These are instructions for AS/400 to use a Remote Output Queue print to a Sharp MFP.

The IBM AS/400 can print to the Sharp MFP using these instructions.

- The Sharp MFP must have the LPD Print Port enabled.
- The AS/400 must not send the print jobs in IPDS format.

These instructions can be used as a training tool for a Sharp technician and could also be provided to the AS/400 administrator for use as a guide when installing a Sharp MFP.

Configuring a Remote Output Queue
for Sharp MFPs on the IBM AS400

This document contains information on configuring and using a remote output queue for sending *IBM AS400* print jobs to *Sharp* MFPs using the **LPR/LPD** 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.

A remote output queue is the easiest method to enable printing on the *AS400* and it is supported by all *Sharp* MFPs with a SoftNIC or an internal NIC card and the TCP/IP protocol enabled. LAN attached printers on the other hand require additional configuration and may not be supported on all *Sharp* models. **Please note that there are some differences in printing with a remote output queue rather than to a LAN attached printer. These differences are aspects of the AS400 operating system.**

1. The Page Range function is not supported like a LAN attached printer. *IBM* has an unsupported program available to address this but it is beyond the scope of this document.
2. There is no parameter to select the page size in the remote output queue description.
3. Some applications can only print to a LAN attached printer. This limitation can be overcome by creating a virtual (dummy) printer device for use in conjunction with the remote output queue. Therefore, it is recommended to always create a virtual printer device to use with a remote output queue for *Sharp* MFPs.

To create a remote output queue 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)
        CRTOUTQ – (Create Output Queue)
        DLTOUTQ – (Delete Output Queue)
        CRTDEVPRT – (Create Device Description – Printer)
        DLTDEVD – (Delete Device Description)
        STRRMTWTR – (Start Remote Writer)
        ENDWTR – (End Writer)
        WRKWTR WTR(*ALL) – (Work with All active Writers)
        WRKSPLF - (Work with Spooled Files)
        CHGOUTQ – (Change Output Queue)
        CHGUSRPRF – (Change User Profile)
        CHGPRF – (Change Profile)
        STRSEU – (Start Source Entry Utility)

The following steps should be taken to ensure that the Remote Output Queue printing method will be successful:

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 output queue parameters for *Sharp* MFPs.
5) Create and configure a remote output queue for a *Sharp* MFP.
6) Create a virtual printer device description.
7) Start the remote writer for the output queue.
8) Test remote output queue printing using spooled system files.
9) Apply a Work Station Customizing Object to the remote output queue.
10) Set the remote output queue for the Sharp MFP as the user's default printer.
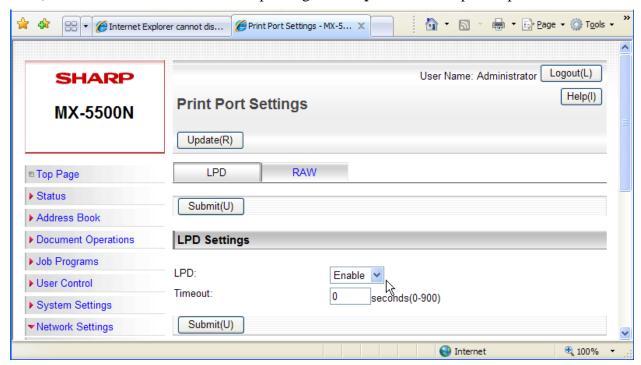11) Test user's default printer with application printing.

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 LPD is enabled for printing on *Sharp* models with printer port control.

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:
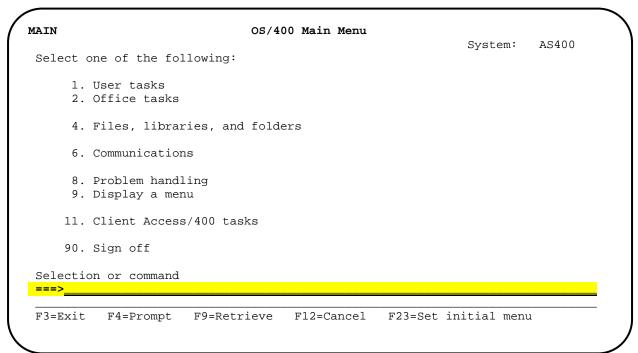
IP address/Host Name of *AS400*:   _____

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 remote output queue, 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 press the <**Enter**> key.

```
                    Verify TCP/IP Connection (VFYTCPCNN)

 Type choices, press Enter.

 Remote system  . . . . . . . . .    '172.29.105.97'      _____
 _____
 _____













                                                                    Bottom
  F3=Exit    F4=Prompt    F5=Refresh    F10=Additional parameters    F12=Cancel
  F13=How to use this display        F24=More keys
```
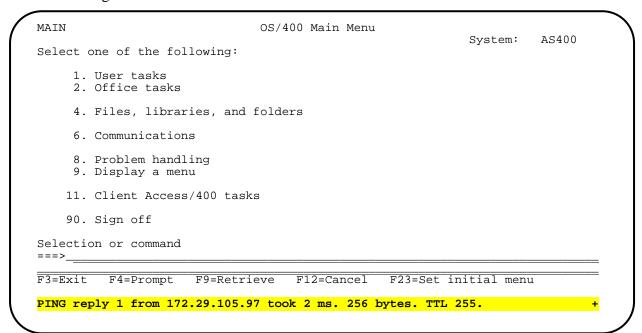
d) The screen below will be displayed showing the system message:

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 172.29.105.97                           +
```

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 172.29.105.97 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 1 from 172.29.105.97 took 2 ms. 256 bytes. TTL 255.      +
PING reply 2 from 172.29.105.97 took 2 ms. 256 bytes. TTL 255.      +
PING reply 3 from 172.29.105.97 took 2 ms. 256 bytes. TTL 255.      +
PING reply 4 from 172.29.105.97 took 2 ms. 256 bytes. TTL 255.      +
PING reply 5 from 172.29.105.97 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 output queue parameters for Sharp MFPs.

While *AS400* remote output queues created with the **CRTOUTQ** 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 need to be checked or changed for use with *Sharp* MFPs in the output queue description. All other values can be left at the system defaults:

1. *Output queue* – the name of the output queue is required. It can be any name you desire unless an output queue already exists with that name.

2. *Library* – A "Library" is analogous to a directory in DOS. The default value for the output queue library is ***CURLIB** (Current Library). This needs to be changed to **QUSRSYS** for creating a virtual printer device description for use with the output queue.

3. *Remote system* – Set this parameter to ***INTNETADR** when using the IP address of the *Sharp* MFP. If a host or DNS name is used, enter that name here using leading and trailing single quote (') marks.

4. *Remote Printer Queue* – This specifies the LPR queue name used by the *Sharp* MFP and varies by the type of network controller on the unit. Names are case sensitive and must be spelled correctly. The following are the LPR queue names used by the various *Sharp* interfaces:

Network Controller	LPR Queue Name
AR-NC1D	**PORT1**
AR-NC3D	**PORT1**
AR-NC4T	**PORT1**
AR-NC5J	**lp**
SoftNIC	**lp**
EFI Fiery	**print**

5. *Writers to autostart* – Specifies the number of remote writers that will be started automatically by the system. The default value is set to ***NONE** but should be set to **1** so the remote writer will automatically be started after a restart of the *AS400* system or after making a change to the output queue description. If not, the writer will have to be started manually using the Start Remote Writer (**STRRMTWTR**) command.

6. *Connection Type* – This needs to be set to ***IP** as the output queue will communicate with the *Sharp* MFP using TCP/IP.

7. *Destination Type* – This needs to be set to ***OTHER** for all Sharp MFPs.

8. *Host Print Transform* – This needs to be set to ***YES** so the *AS400* Host Print Transform (HPT) function will convert both **SCS** (**S**NA **C**haracter **S**tream - a text-based, **EBCDIC** data stream) and **AFPDS** (**A**dvance **F**unction **P**resentation **D**ata **S**tream) spooled files to the printer's data stream.

9. *User Data Transform and Library* – Set this value to ***NONE** when using the Host Print Transform function.

10. *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 Work Station Customizing Object for the specific *Sharp* model would be used. In that case, this value would be set to ***WSCST**.

11. *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.

12. *Internet Address* - The *Internet Address* parameter must be set to the *Sharp* MFP's TCP/IP address when the *Remote System* parameter has been set to ***INTNETADR**. The

TCP/IP address should be entered without leading zeros (for example, use '**172.29.105.97**' instead of '**172.029.105.097**').

13. *Destination options* – **IBM** recommends that this value should be set to **'XAIX'** (all uppercase) but there are times when it should not be used. The **'XAIX'** value specifies that the remote writer is to send the spooled file to the printer multiple times if the number of copies is greater than 1. This method is required for printers that start printing the data right away. However, there are some printers that will close the connection after the first copy is sent. This is an unexpected close, resulting in retrying to send from the beginning which will cause the remote writer to loop forever and will cause the spooled file to be printed indefinitely. In this case, **'XAIX'** should not be used.

14. *Text 'description'* – While not a requirement, it is always a good idea to have a statement to show the model of the *Sharp* MFP and accessories being used. Make sure to use leading and trailing single quote marks (') around the text.

5) Create and configure a Remote Output Queue for a Sharp MFP.

The following example for creating a remote output queue with the Create Output Queue (**CRTOUTQ**) command is based on using a *Sharp MX-5500* MFP with a *SoftNIC* network controller at IP address 172.29.105.97. Record the values that you will need to use to create your own remote output queue.

Output queue: _____

Remote printer queue: _____

Host/DNS name (if used)   _____

IP address: _____

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

```
                    Create Output Queue (CRTOUTQ)

 Type choices, press Enter.

 Output queue . . . . . . . . . .               Name
   Library  . . . . . . . . . .     *CURLIB     Name, *CURLIB
 Maximum spooled file size:      _
   Number of pages  . . . . . . .   *NONE       Number, *NONE
   Starting time  . . . . . . . .               Time
   Ending time  . . . . . . . . .               Time
            + for more values
 Order of files on queue  . . . .   *FIFO       *FIFO, *JOBNBR
 Remote system  . . . . . . . . .   *NONE




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

 Parameter DEVD required.                                          +
```

b) Type in the name of your output queue, tab to the *Library* field, type in "**QUSRSYS"** and then press the <**F9**> key to display all parameters of the remote output queue. Tab to the *Remote system* field, type in "***INTNETADR**". Tab to the *Remote printer queue* field and type in the queue name for the *Sharp* network controller using leading and trailing single quote (**'**) marks. (See the table in *Section 4*), *Item 4* for queue names.) **NOTE:** The caret symbol (**>**) on the screen shows the fields that are changed from their default values.

```
                        Create Output Queue (CRTOUTQ)

  Type choices, press Enter.

  Output queue . . . . . . . . . .   > MX5500Q      Name
    Library  . . . . . . . . . . .   >    QUSRSYS    Name, *CURLIB
  Maximum spooled file size:         _
    Number of pages  . . . . . . .    *NONE         Number, *NONE
    Starting time  . . . . . . . .                  Time
    Ending time  . . . . . . . . .                  Time
                 + for more values
  Order of files on queue  . . . .    *FIFO         *FIFO, *JOBNBR
  Remote system  . . . . . . . . .   > *INTNETADR_____


  Remote printer queue . . . . . . > 'lp'_____



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

  Parameter DEVD required.                                                   +
```

c) Press the <**PgDn**> key to access the next entry screen and fill in the values for the following fields: *Writers to autostart* > **1**, *Connection Type* > ***IP**, *Destination type* > ***OTHER**, *Manufacturer type and model* > ***HP8000** and *Internet address* > the IP address of the *Sharp* MFP. Use the <**Tab**> key to move between fields and leave all other values at default. Press the <**PgDn**> key to move to the next screen.

```
                        Create Output Queue (CRTOUTQ)

  Writers to autostart . . . . . . > 1_____        1-10, *NONE
  Queue for writer messages  . . .   QSYSOPR        Name
    Library  . . . . . . . . . . .        *LIBL     Name, *LIBL, *CURLIB
  Connection type  . . . . . . . . > *IP            *SNA, *IP, *IPX, *USRDFN
  Destination type . . . . . . . . > *OTHER         *OS400, *OS400V2, *PSF2...
  Host print transform . . . . . .   *YES           *YES, *NO
  User data transform  . . . . . .   *NONE          Name, *NONE
    Library  . . . . . . . . . . .                  Name, *LIBL, *CURLIB
  Manufacturer type and model  . . > *HP8000_____
  Workstation customizing object     *NONE          Name, *NONE
    Library  . . . . . . . . . . .                  Name, *LIBL, *CURLIB
  Image configuration  . . . . . .   *NONE          *NONE, *IMGA01, *IMGA02...
  Internet address . . . . . . . . > '172.29.105.97'__
  VM/MVS class . . . . . . . . . .   A              A, B, C, D, E, F, G, H, I...
  Forms Control Buffer . . . . . .   *NONE          Character value, *NONE...

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

d) When the following screen appears, enter "**'XAIX'**" for the *Destination options field* and enter an appropriate comment in the *Text 'description' field*. No other parameters need to be entered.

```
                        Create Output Queue (CRTOUTQ)

Destination options  . . . . . .   'XAIX'_____
_____
Print separator page . . . . . .   *YES          *YES, *NO
User defined option  . . . . . .   *NONE         Option, *NONE
             + for more values
User defined object:
  Object . . . . . . . . . . . .   *NONE         Name, *NONE
    Library  . . . . . . . . . .                 Name, *LIBL, *CURLIB
  Object type  . . . . . . . . .                 *DTAARA, *DTAQ, *FILE...
User driver program  . . . . . .   *NONE         Name, *NONE
  Library  . . . . . . . . . . .                 Name, *LIBL, *CURLIB
Spooled file ASP . . . . . . . .   *SYSTEM       *SYSTEM, *OUTQASP
Text 'description' . . . . . . .   Color and Black & White Sharp MX-5500N_____


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

e) Use the <**PgUp**> key to review all of your entries. When you are satisfied they are all correct, press the <**Enter**> key to create the remote output queue. The following system message will be displayed:

Object MX5500Q type *OUTQ created in library QUSRSYS.

```
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
 Object MX5500Q type *OUTQ created in library QUSRSYS.
```

As a virtual printer device description will be used with this remote output queue, ensure that the library shown is **QUSRSYS** as this is the library that printer device descriptions must reside in.

6) Create a Virtual Printer Device Description.

Virtual (dummy) printer device descriptions are typically used when printing from applications that do not support printing directly to an output queue, but only to a printer device description. Therefore it is necessary to create a dummy printer device description for use with the newly created remote output queue for the *Sharp* MFP. As this is not a "real" printer device description, some precautions need to be taken:

1. Do not use the Vary Configuration (**VRYCFG**) or the Work with Configuration Status (**WRKCFGSTS**) commands to vary on the dummy printer device description.
2. Do not use the Start Print Writer (**STRPRTWTR**) command or **Option 1 (Start)** from the Work with Writers (**WRKWTR**) command to start the writer. Use the Start Remote Writer (**STRRMTWTR**) command instead to start a writer using the remote output queue.
3. The remote output queue and dummy printer device description should be thoroughly documented as a system save and system restore can cause the remote output queue to change to a normal output queue.

Follow the steps below to create a dummy printer device description and associate it with the remote output queue for the *Sharp* MFP.

a) When the output queue was created, a writer with the same name was created by the *AS400* system. Before a dummy printer device description is a created, the writer for the queue must be stopped to properly associate the device with the queue. At the command line, type "**ENDWTR**" and press the <**F4**> key. Type in the name of your remote output queue in the *Writer* field, press the <**TAB**> key to move to the *When to end writer* field and type in "*IMMED*".

```
                          End Writer (ENDWTR)

 Type choices, press Enter.

 Writer . . . . . . . . . . . . . > MX5500Q        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 and system message

   Writer XXXXXX/WSPLJOB/{*output queue name*} in the process of ending.

   if the writer is active, otherwise, the system message would read:

   Writer {*output queue name*} not active nor on job queue.

```
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 044792/QSPLJOB/MX5500Q in process of ending.
```

c) At a command prompt, type "**CRTDEVPRT**" and press the <**F4**> key.

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

d) Type in the name of the remote output queue in the **Device description** field and press the
<**F9**> key. Fill in the values for the following fields: **Device class** > ***VRT**, **Device type >
3812,** and **Device model > 1**. This defines the printer as a virtual device that emulates an
IBM printer which supports the ASCII data stream and the PJL language.

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

 Type choices, press Enter.

 Device description . . . . . . . > MX5500Q       Name
 Device class . . . . . . . . . . > *VRT          *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 . . . . . . . . .   *LEXLINK      *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  . . . . . . . . . .                 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
```

e) Press the <**PgDn**> key to access the next parameters screen. Fill in the values for the
following fields: **Online at IPL > *NO, Font: Identifier > 11**.

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

 Type choices, press Enter.

 Auxiliary printer  . . . . . . .                     *YES, *NO
 Emulating ASCII device . . . . .   *NO               *NO, *YES
 Physical attachment  . . . . . .                     *DIRECT, *PTT, *MODEM...
 Online at IPL  . . . . . . . . . > *NO               *YES, *NO
 Attached controller  . . . . . .                     Name
 Language type  . . . . . . . . .   *SYSVAL           *SYSVAL, AGB, AGI, ALI...
 Print quality  . . . . . . . . .   *STD              *STD, *DRAFT, *NLQ
 Font:
   Identifier . . . . . . . . . . > 11                3, 5, 11, 12, 13, 18, 19...
   Point size . . . . . . . . . .   *NONE             000.1-999.9, *NONE
 Form feed  . . . . . . . . . . .   *AUTOCUT          *TYPE, *CONT, *CONT2, *CUT...
 Separator drawer . . . . . . . .   *FILE             1-255, *FILE
 Separator program  . . . . . . .   *NONE             Name, *NONE
   Library  . . . . . . . . . . .                     Name, *LIBL, *CURLIB
 Number of drawers  . . . . . . .                     1, 2, 3
 Printer error message  . . . . .   *INFO             *INQ, *INFO
                                                                      More...

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

f) Press the <**Enter**> key and the following system message should appear:

`Output queue {`*output queue name*`} in QUSRSYS already exists.` Press the <**PgDn**> key to view the rest of the message which should read:

`Description for device {`*output queue name*`} created.`

```
  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

  Output queue MX5500Q in QUSRSYS already exists                        +
```

g) If the above messages are not seen, then the remote output queue was not created in the **QUSRSYS** library. It will be necessary to stop the writer and delete the printer device description and output queue typing the commands shown below in the order given on the command line:

  (1)   **ENDWTR** ({*output queue name*})

  (2)   **DLTDEVD** ({*output queue name*})

  (3)   **DLTOUTQ** ({*output queue name*})

  Begin again from step **4)** above.

7) Start the Remote Writer for the output queue.

a) If you successfully created a dummy printer device and the remote output queue was configured with *Writers to autostart > 1*, the remote writer should have restarted. To check the status of the writer, use the Work with Writers, All Writers command. At the command line, type "**WRKWTR WTR(*ALL)**" and press the <**Enter**> key. This command will show only the active writers as shown below:

```
                         Work with All Writers

  Type options, press Enter.
    2=Change   3=Hold   4=End   5=Work with   6=Release   7=Display messages
    8=Work with output queue

  Opt   Writer      Type  Device      Queue       Library      Status   Form Type
    _   MX5500Q     RMT               MX5500Q     QUSRSYS       STR      *ALL




                                                                    Bottom
  Parameters for options 2, 3, 4, 6 or command
  ===>
  F3=Exit   F4=Prompt   F12=Cancel   F22=Start printer writer   F24=More keys
```

b) If the writer for the remote output queue you created is not shown, the writer did not restart. At the command line, type "**STRRMTWTR** (*output queue name*)" and press the <**Enter**> key. The following system message should appear if the writer was not active:

Reader or writer 042290/QSPLJOB/{*output queue name*} submitted to job queue…

If the writer was already active, the following system message would appear:

Writer /{*output queue name*} already started.

```
 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

 Reader or writer 042290/QSPLJOB/MX5500Q lsubmitted to job queue QSPL in li. . .
```

8) Test remote output queue printing using spooled system files.

Once the writer for the remote output queue has 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 remote output queue you created is using a **HP8000** printer description, the printed output may not be as expected but it will let you know whether the remote output queue you created is configured correctly. To test basic printing, follow the steps below:

a) At a command line, type **WRKSPLF** and press the <**Enter**> key. A list of spooled files for your user profile will be displayed as shown below:

```
                          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 output queue.

```
                  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  . . . . . . . . . . . > MX5500Q          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 remote output queue 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, type "**9**" (Work with printing status) in the **Opt** field 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
  7   QPJOBLOG   PATRICK   MX5500Q      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 will appear if the remote output queue was created correctly. In this case, the file was printed and saved. If any problems were encounter, an error message would be displayed.

```
                    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
```

g) To print the job again, type "**2**" (Change status) in the *Opt* field and press the <**Enter**>
    key. Type "**1**" in the *Selection* field and press 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 :                          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= :                                                                               :
     ....................................................................................
```

h) 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
```

i) The status should now show that the job was printed and saved again.

```
                        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
```

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 differences between the *Sharp* and *HP* PCL printer command structure. 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 remote output queue needs to include a Work Station Customizing Object for the user, we will make further changes to the same spooled file and reprint the job.
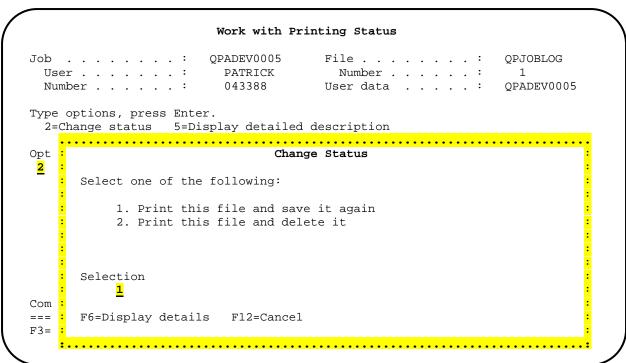
j) If you are still on the Work with Printing Status screen, press the <**Enter**> key to return to the Work with All Spooled Files screen. Then, type "**2**" into the *Opt* field of the file just printed and press the <**Enter**> key.

```
                    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   MX5500Q    QPADEV0005  *CHG    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
```

k) 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
```

l)   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, type "**2**" (Change status) in the *Opt* field and "**1**" in the *Selection* field to resubmit the job for printing. After the job is printed, press the <**F12**> (Cancel) key and then the <**Enter**> 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 Work Station Customizing Object should be used with the remote output queue. The following example shows using a pre compiled **WSCST** (Work Station Customizing Object) in place of the ***HP8000** description. (For complete instructions on creating and modifying **WSCST**s, see the document "***Creating and Compiling Work Station Customizing Objects for Sharp MFPs on the AS400***")

9) Apply a Work Station Customizing Object to the Remote Output Queue.

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

```
                           End Writer (ENDWTR)

 Type choices, press Enter.

 Writer . . . . . . . . . . . . . > MX5500Q          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 and the following system message should appear:

Writer XXXXXX/QSPLJOB/{*remote output queue name*}in process of ending.

c) At the command line, type "**CHGOUTQ ({*remote output queue name*}**", press the <**F4**> key and then the <**F9**> key to display all of the parameters for the remote output queue. Press the <**PgDn**> key once and make the following changes to the fields indicated:

Manufacturer type and model   > ***WSCST**

Workstation Customizing object   > **SHARPPJL**

 Library   > **QUSRSYS**

```
                    Change Output Queue (CHGOUTQ)

Writers to autostart . . . . . . > 1            1-10, *NONE
Queue for writer messages  . . .   QSYSOPR      Name
  Library  . . . . . . . . . . .     *LIBL      Name, *LIBL, *CURLIB
Connection type  . . . . . . . . > *IP          *SNA, *IP, *IPX, *USRDFN
Destination type . . . . . . . . > *OTHER       *OS400, *OS400V2, *PSF2...
Host print transform . . . . . .   *YES         *YES, *NO
User data transform  . . . . . .   *NONE        Name, *NONE
  Library  . . . . . . . . . . .              Name, *LIBL, *CURLIB
Manufacturer type and model  . . > *WSCST       
Workstation customizing object   > SHARPPJL     Name, *NONE
  Library  . . . . . . . . . .   . > QUSRSYS    Name, *LIBL, *CURLIB
Image configuration  . . . . . .   *NONE        *NONE, *IMGA01, *IMGA02...
Internet address . . . . . . . . > '172.29.105.97'
VM/MVS class . . . . . . . . . .   A            A, B, C, D, E, F, G, H, I...
Forms Control Buffer . . . . . .   *NONE        Character value, *NONE...

                                                             More...
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```
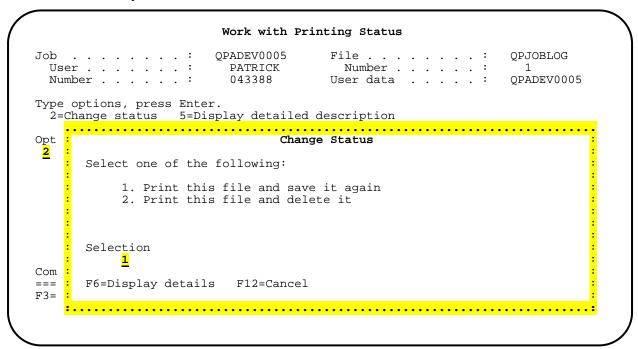
d) Press the <**Enter**> key when done.

e) As long as the remote output queue was configured with *Autostart writers > 1*, the writer should start after the remote output queue is reconfigured. However, to ensure that it the writer is ready, on the command line type "**STRRMTWTR** ({*output queue name}*)" and press the <**Enter**> key. The following system message should appear if the writer was not active:

Reader or writer XXXXXX/QSPLJOB/{*output queue name***} submitted to job queue…**

If the writer was already active, the following system message would appear:

Writer /{*output queue name***} already started.**

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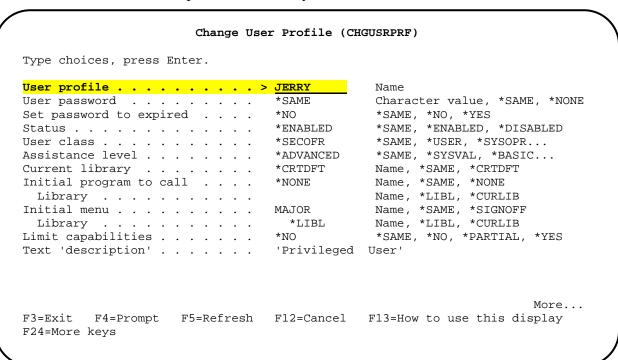
g) Check the job status of the *Sharp* MFP. If you left the MFP in the same condition as the previous print job, you will now find that the MFP will be displaying a message to "Add paper to Tray 2". After adding 8 ½ x 11 paper into **Tray 2**, the job will then print from **Tray 2**, indicating that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

10) Set the remote output queue 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.

```
                     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) 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
```

c) Press the <**PgDn**> key twice. For the *Print device,* type in the name of the remote output queue 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 . . . . . . . . . > MX5500Q           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
```

d) The user has now been assigned the remote output queue 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 remote output queue 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 . . . . . . . . . > MX5500Q          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
```

e) You have assigned the remote output queue as your default printer when the following system message appears.

User profile {*your name*} 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 PATRICK changed.
```

11) Test user's default printer.

To ensure that the remote output queue has been assigned to your user account, a print job must be sent directly to the printer rather than to a spool file. The following example uses the *AS400* source entry utility as it has a selection to print out a file.

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 and press the <**Enter** > key when done:

Source file: **QTXTSRC**

Library: **QGPL**

Source member: ***SELECT**

Source type: **TXT**

```
                    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 remote output queue you created. The job will be formatted, printed and saved in the spool folder depending on the options selected in the print file for this job. A sample of the printout is shown below. Press the <**F3**> key to exit the source entry utility.

```
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 remote output queue to the *Sharp* MFP but do not plan on using it for production, take the following housekeeping steps:

a) Delete any spooled files that are using your remote output queue. At a command line, enter "**WRKSPLF**" and press the <**Enter**> key. Type "**4**" (Delete) in the *Opt* field of the spooled file using your remote output queue 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
  4    QPSUPRTF   PATRICK    MX5500Q                  SAV     12            1
  _    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**({*remote output queue*}) **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
   _   QPJOBLOG   PATRICK    MX5500      QPADEV0005   SAV      6            1




                                                                  Bottom
 Parameters for options 1, 2, 3 or command
 ===> ENDWTR WTR(MX5500Q) OPTION(*IMMED)_____
 F3=Exit   F10=View 4   F11=View 2   F12=Cancel   F22=Printers   F24=More keys
```

c) Enter "**DLTDEVD DEVD(**{*remote output queue*}**)** at a command line and press the <**Enter**> key to delete both the dummy printer device description and the remote output queue. **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
 _    QPJOBLOG   PATRICK   MX5500      QPADEV0005 SAV    6              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
```

d) 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 outqueue.

```
                         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
 _    QPJOBLOG   PATRICK   MX5500      QPADEV0005 SAV    6              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
```

e) 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
   _   QPJOBLOG    PATRICK     MX5500      QPADEV0005 SAV      6          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
```

f) Exit the terminal emulation program.