RESOURCE AND PATIENT MANAGEMENT SYSTEM

IHS ScriptPro Interface (APSS)

Technical Manual

Version 1.0
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Albuquerque, New Mexico

PREFACE

The purpose of this manual is to provide technical information about the Pharmacy ScriptPro Interface (APSS) package.

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1.0 Introduction

This manual provides IHS site managers with a technical description of the IHS Pharmacy ScriptPro Interface package routines, files, menus, cross references, globals, and other necessary information required to effectively manage the system.

All routines and files are namespaced starting with the letters 'APSS'.

2.0 Implementation and Maintenance

2.1 System Requirements

- Outpatient Pharmacy v7

2.2 System Configuration

The following steps must be performed to enable the interface:

1) Create an entry in the DEVICE file that represents the physical connection to the ScriptPro device and enter it in the DEVICE field of the APSS PARAMETERS file. Refer to Appendix A.

2) Make the following entries in the APSP CONTROL file.

    a. EXT INTERFACE HAS DRUG LOGIC (#800) field

        i. S X=$$CHKDRUG^APSSSPRO(RX)

    b. EXT INTERFACE CALL LOGIC (#900) field

        i. D EP1^APSSSPRO(RX,$G(REPRINT),.SGY,$G(RXF),$G(RXPI))

3) Set the value of the EXTERNAL INTERFACE field in the OUTPATIENT SITE NAME file to a 1 or 2.

4) If the list of drugs to be sent via the interface is to be restricted, then enter the allowable drugs into the APSS DRUG file and set the RESTRICT TO APSS DRUG FILE field in the APSS PARAMETERS file to YES.

5) Set the LINK ACTIVE field in the APSS PARAMETERS file to YES.

3.0 Routines

3.1 Routine List w/ Descriptions

Routine	Description
APSSSPRO	Handles the request to output prescription information to the ScriptPro device.

4.0 Files

4.1 File List

File Number	File Name
9009033.3	APSS COMMAND
9009033.2	APSS DRUG
9009033.1	APSS PARAMETERS

4.2 File Access

File Number	Global	DD	RD	WR	DEL	LAYGO
9009033.3	^APSSCOMD(	@	@	@	@	@
9009033.2	^APSSDRUG(	@	@	@	@	@
9009033.1	^APSSPARM(	@	@	@	@	@

4.3 Cross References

This package uses standard FileMan cross references.

4.4 File Definition

File: APSS COMMAND
Global: ^APSSCOMD(
File Number: 9009033.3

FIELD #	FIELD NAME	SUBSCRIPT	PIECE	TYPE
.01	COMMAND NAME	D0,0	1	F
1	DATA TAG (9009033.31)			
.01	DATA TAG	D0,1,D1,0	1	F
.02	SEQUENCE	D0,1,D1,0	2	N
.03	FILE/FIELD	D0,1,D1,0	3	F
.04	FORMAT	D0,1,D1,0	4	F
1	TRANSFORM	D0,1,D1,1	1	M
2	DESCRIPTION (9009033.312)			
.01	DESCRIPTION	D0,1,D1,2,D2,0	1	W

File: APSS DRUG
Global: ^APSSDRUG(
File Number: 9009033.2

FIELD #	FIELD NAME	SUBSCRIPT	PIECE	TYPE
.01	NAME	D0,0	1	P:50
.02	QUANTITY LIMIT	D0,0	2	N
.03	DEACTIVATION	D0,0	3	D

File: APSS PARAMETERS Global: ^APSSPARM(File Number: 9009033.1				
FIELD #	**FIELD NAME**	**SUBSCRIPT**	**PIECE**	**TYPE**
.01	FACILITY	D0,0	1	P:9999999.06
.02	LINK ACTIVE	D0,0	2	S
.03	DEVICE	D0,0	3	P:3.5
.04	SIG LINE LENGTH	D0,0	4	N
.05	RESTRICT TO APSS DRUG FILE	D0,0	5	S
.06	PROMPT TO SEND	D0,0	6	S
.07	LOG TRANSMISSION	D0,0	7	S
1	LOCATION PRIORITY			
.01	LOCATION	D0,1,D1,0	1	P:44
.02	PRIORITY	D0,1,D1,0	2	N

4.5 ScriptPro Commands

The FILL command is the only command supported in this version. The FILL command will transmit the following variable names and associated data to the device.

Variable Name
Chronic Medication
Dispense Units
Dispensed Drug NDC
Dispensed Drug Name
Dispensed Qty
Fill Date
Fill Priority Indicator
Instructions/SIG
Message Date / Time Stamp
Patient ID
Patient Name
Patient Date Of Birth
Pharmacist Initials
Physician Name
Refills Remaining
Retail Price
Safety Cap Indicator
Script Number
Technician Name

5.0 Internal Relations

There are no menu options to be assigned to users in this package.

6.0 External Relations

The following published entry points and options are delivered with this package.

6.1 Published Entry Points

Routine	Description
EP1^APSSSPRO	This is the main entry point and is called via the EXT INTERFACE CALL LOGIC field in the APSP CONTROL file.

6.2 Exported Options

There are no options delivered with this package.

7.0 Security Keys

There are no security keys delivered with this package.

8.0 Archiving and Purging

There is no purging or archiving functionality delivered with this package.

9.0 Generating Online Documentation

This section describes a few methods to generate technical documentation. These include, but are not limited to, the following:

- %INDEX
- Menu Management
- Inquire Option
- Print Option File
- VA FileMan
- Data Dictionary Utilities
- List File Attributes

Typing ? at the "Select . . . Option" prompt will provide online technical information.

- A single question mark (?) lists all options that can be accessed from the current option.
- Two question marks (??) list all options accessible from the current one, showing the formal name and lock for each.
- Three question marks (???) display a brief description for each option in a menu.
- An option name preceded by a question mark (?OPTION) shows extended help, if available, for that option.

For a more exhaustive option listing and further information about other utilities that supply online technical information, consult the Kernel Reference manual.

9.1 %INDEX

This option analyzes the structure of a routine to determine in part if the routine adheres to RPMS programming standards. The %INDEX output can include the following components:

- Compiled list of errors and warnings
- Routine listing
- Local variables
- Global variables
- Naked globals
- Label references
- External references

Running %INDEX for a specified set of routines, allows users to discover any deviations from RPMS programming standards that exist in the selected routines and to see how routines interact with one another (i.e., which routines call or are called by other routines).

To run %INDEX for the APSS package, type the APSS namespace at the Routine(s)? prompt.

9.2 Inquire Option

This menu management option provides the following information about a specified option:

- Option name
- Menu text
- Option description
- Type of option
- Lock (if any)

In addition, all items on the menu are listed for each menu option.

Print Option File

This utility generates a listing of options from the Option file (#19). Users can choose to print all of the entries in this file or specify a single option or range of options. For a list of APSS options, refer to the Exported Options section of this manual.

9.3 List File Attributes

This VA FileMan option allows users to generate documentation pertaining to files and file structure. Using the standard format of this option yields the following data dictionary information for a specified file:

- File name and description
- Identifiers
- Cross-references
- Files pointed to by the file specified
- Files that point to the file specified
- Input, print, and sort templates

In addition, the following applicable data is supplied for each field in the file:

- Field name, number, title, and description
- Global location
- Help prompt
- Cross-references
- Input transform
- Date last edited
- Notes

Using the Global Map format of this option generates an output that lists the following information:

- All cross-references for the file selected
- Global location of each field in the file
- Input, print, and sort templates

10.0 SAC Requirements / Exemptions

There are no exemptions to the SAC standards for this version.

11.0 Glossary

Callable Entry Points	Places in a routine that can be called from an application program.
Entry Point	Entry point within a routine that is referenced by a “DO” or “GOTO” command from a routine internal to a package.
File	A set of related records or entries treated as a single unit.
FileMan	The database management system for RPMS.
Global	In MUMPS, global refers to a variable stored on disk (global variable) or the array to which the global variable may belong (global array).
INDEX (%INDEX)	A Kernel utility used to verify routines and other MUMPS code associated with a package. Checking is done according to current ANSI MUMPS standards and RPMS programming standards. This tool can be invoked through an option or from direct mode (>D ^%INDEX).
Kernel	The set of MUMPS software utilities that function as an intermediary between the host operating system and application packages. The Kernel provides a standard and consistent user and programmer interface between application packages and the underlying MUMPS implementation. These utilities provide the foundation for RPMS.
Menu	A list of choices for computing activity. A menu is a type of option designed to identify a series of items (other options) for presentation to the user for selection. When displayed, menu-type options are preceded by the word “Select” and followed by the word “option” as in Select Menu Management option: (the menu’s select prompt).
Namespace	A unique set of 2 to 4 alpha characters that are assigned by the database administrator to a software application.
Option	An entry in the Option file. As an item on a menu, an option provides an opportunity for users to select it, thereby invoking the associated computing activity. Options may also be scheduled to run in the background, non-interactively, by TaskMan.

Routine	A program or sequence of instructions called by a program that may have some general or frequent use. MUMPS routines are groups of program lines that are saved, loaded, and called as a single unit via a specific name.
Up-Hat (^)	A circumflex, also know as a “hat” or “caret,” that is used as a piece delimiter in a global. The up-hat is denoted as “^” and is typed by pressing Shift+6 on the keyboard.

12.0 Contact Information

If you have any questions or comments regarding this distribution, please contact the OIT Help Desk by:

Phone: (505) 248-4371 or
(888) 830-7280

Fax: (505) 248-4363

Web: http://www.rpms.ihs.gov/TechSupp.asp

Email: ITSCHelp@mail.ihs.gov

13.0 Appendix A

The following screen captures describe how to configure a Unix device for use with the ScriptPro interface.

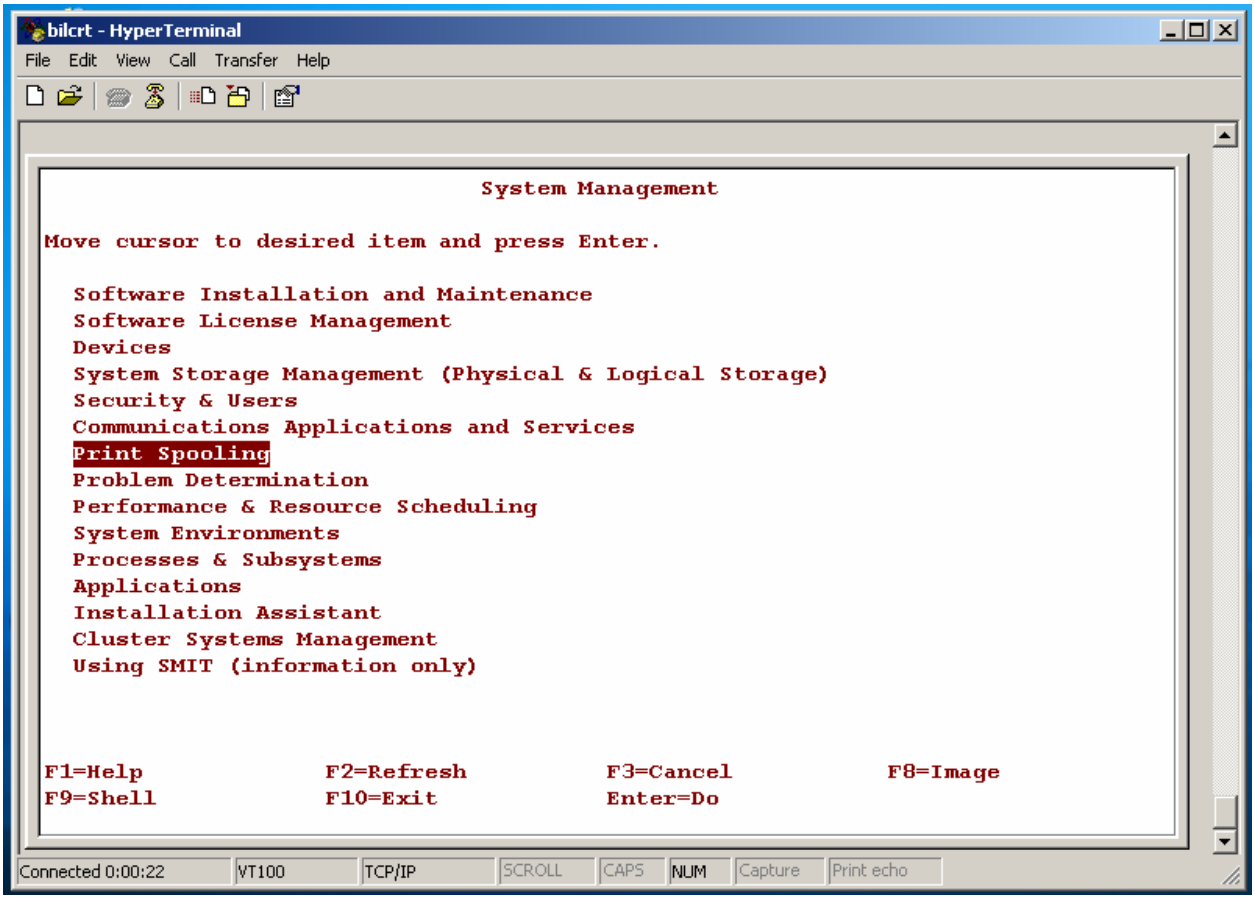

Figure 1

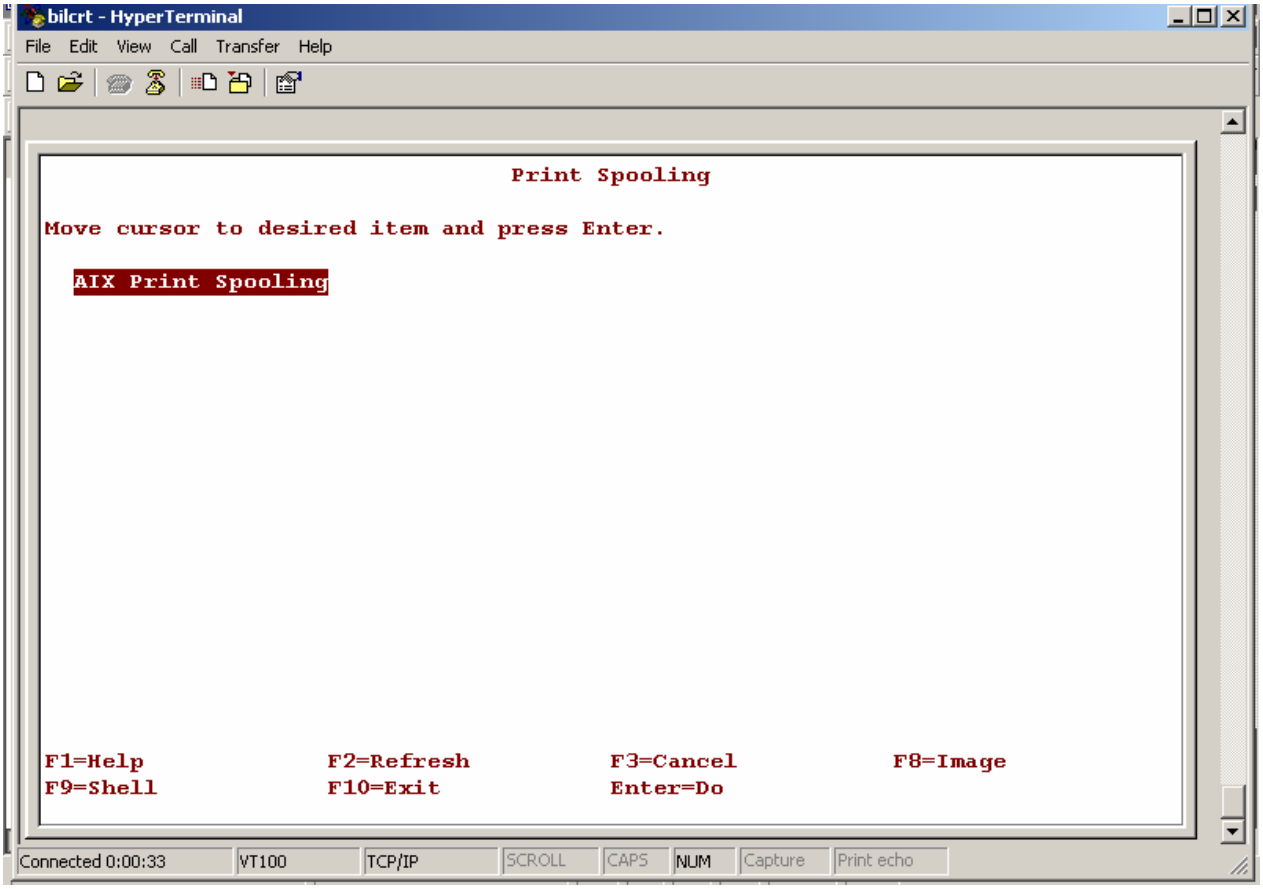
bilcrt - HyperTerminal
File Edit View Call Transfer Help
Print Spooling
Move cursor to desired item and press Enter.
AIX Print Spooling
F1=Help F2=Refresh F3=Cancel F8=Image
F9=Shell F10=Exit Enter=Do
Connected 0:00:33 VT100 TCP/IP SCROLL CAPS NUM Capture Print echo

Figure 2

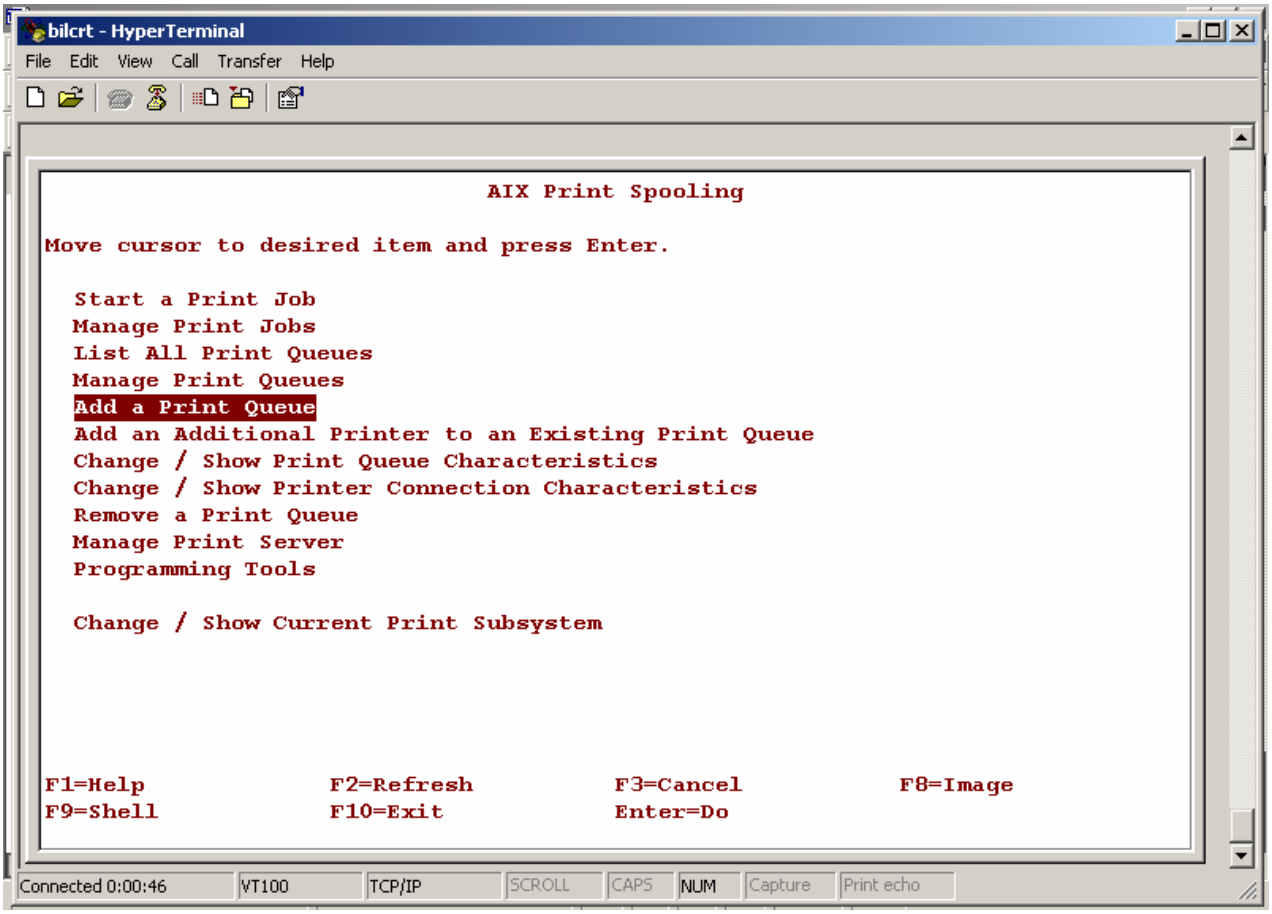
bilcrt - HyperTerminal
File Edit View Call Transfer Help
AIX Print Spooling
Move cursor to desired item and press Enter.
Start a Print Job
Manage Print Jobs
List All Print Queues
Manage Print Queues
Add a Print Queue
Add an Additional Printer to an Existing Print Queue
Change / Show Print Queue Characteristics
Change / Show Printer Connection Characteristics
Remove a Print Queue
Manage Print Server
Programming Tools
Change / Show Current Print Subsystem
F1=Help F2=Refresh F3=Cancel F8=Image
F9=Shell F10=Exit Enter=Do
Connected 0:00:46 VT100 TCP/IP SCROLL CAPS NUM Capture Print echo

Figure 3

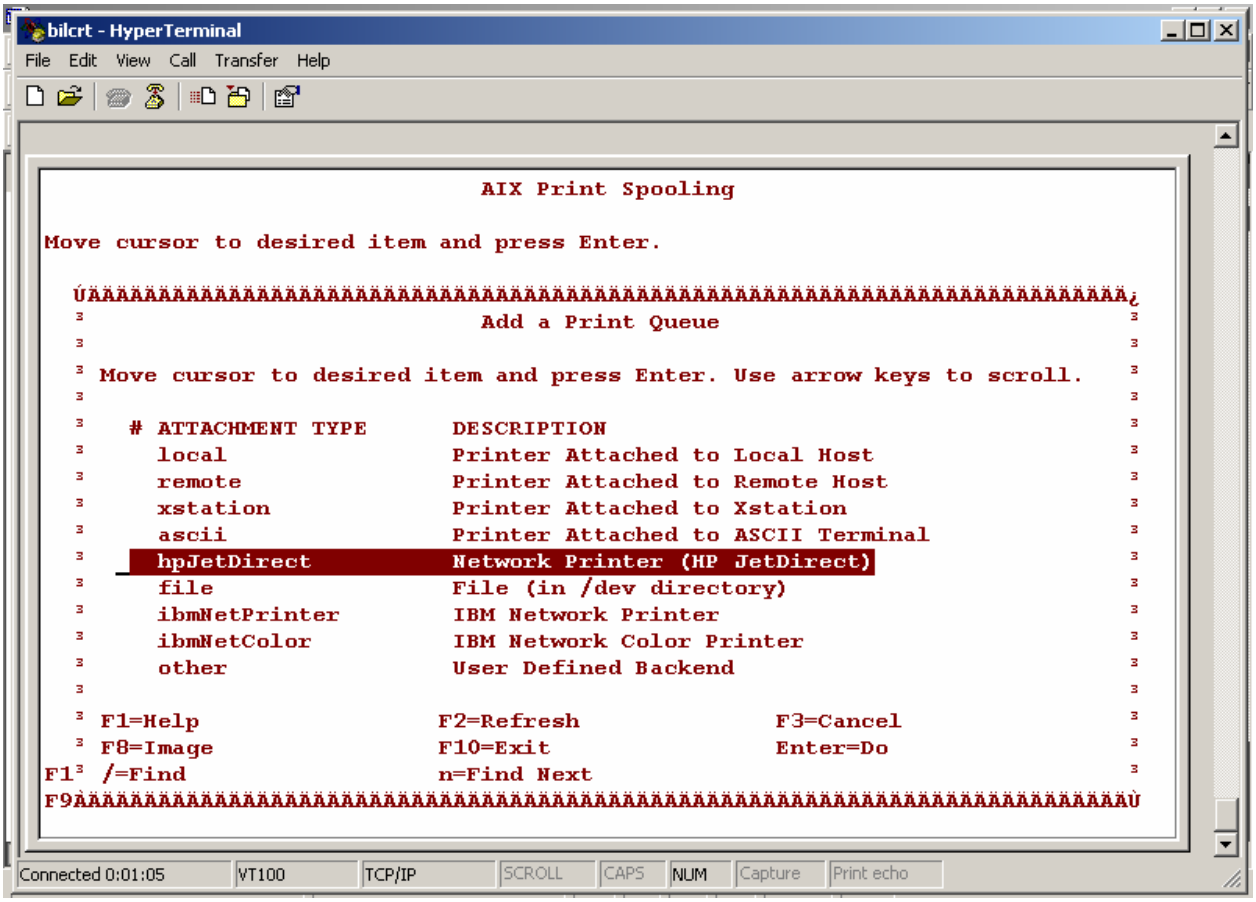
bilcrt - HyperTerminal
File Edit View Call Transfer Help
AIX Print Spooling
Move cursor to desired item and press Enter.
Add a Print Queue
Move cursor to desired item and press Enter. Use arrow keys to scroll.
ATTACHMENT TYPE DESCRIPTION
local Printer Attached to Local Host
remote Printer Attached to Remote Host
xstation Printer Attached to Xstation
ascii Printer Attached to ASCII Terminal
hpJetDirect Network Printer (HP JetDirect)
file File (in /dev directory)
ibmNetPrinter IBM Network Printer
ibmNetColor IBM Network Color Printer
other User Defined Backend
F1=Help F2=Refresh F3=Cancel
F8=Image F10=Exit Enter=Do
F1 /=Find n=Find Next
F9
Connected 0:01:05 VT100 TCP/IP SCROLL CAPS NUM Capture Print echo

Figure 4

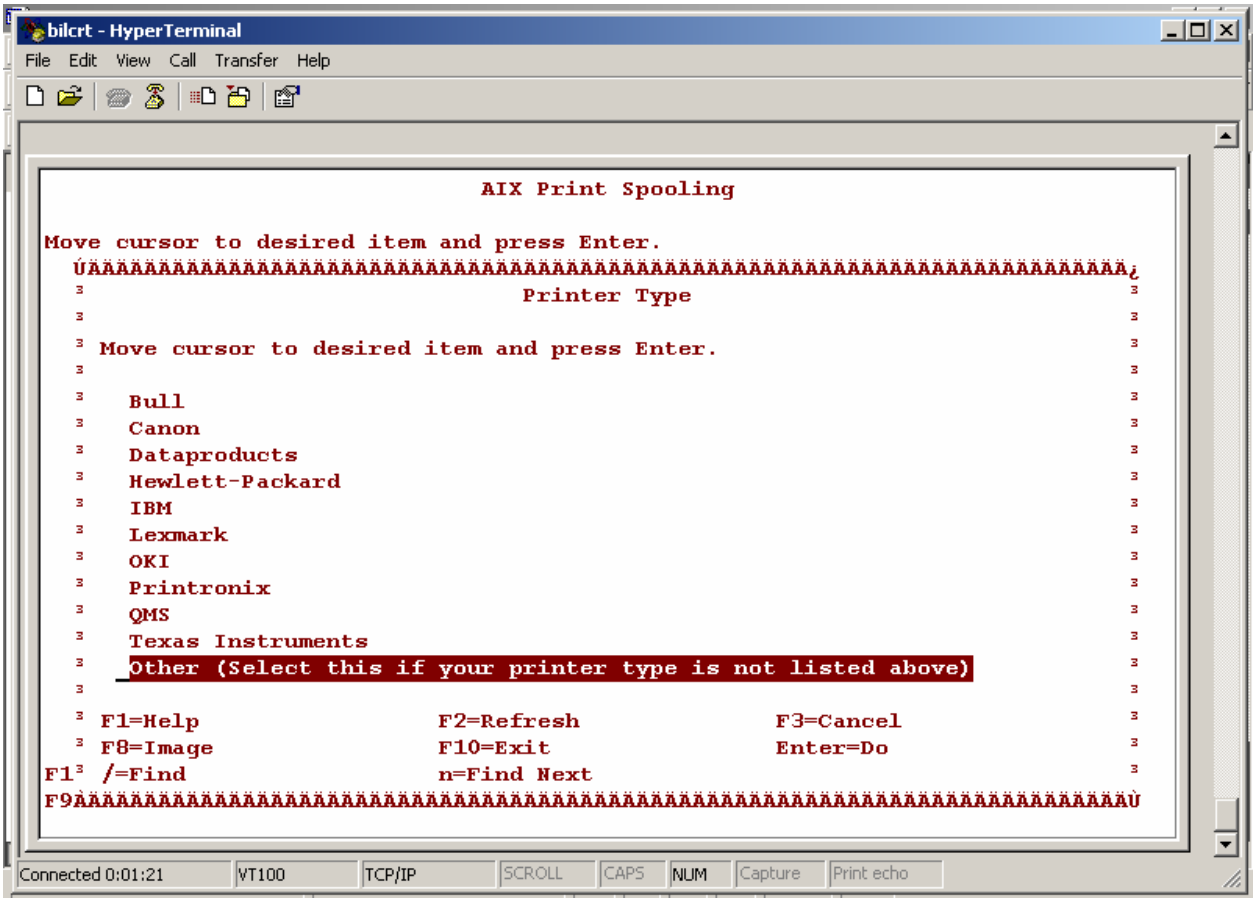
bilcrt - HyperTerminal
File Edit View Call Transfer Help
AIX Print Spooling
Move cursor to desired item and press Enter.
Printer Type
Move cursor to desired item and press Enter.
Bull
Canon
Dataproducts
Hewlett-Packard
IBM
Lexmark
OKI
Printronix
QMS
Texas Instruments
Other (Select this if your printer type is not listed above)
F1=Help
F2=Refresh
F3=Cancel
F8=Image
F10=Exit
Enter=Do
/=Find
n=Find Next
Connected 0:01:21
VT100
TCP/IP
SCROLL
CAPS
NUM
Capture
Print echo

Figure 5

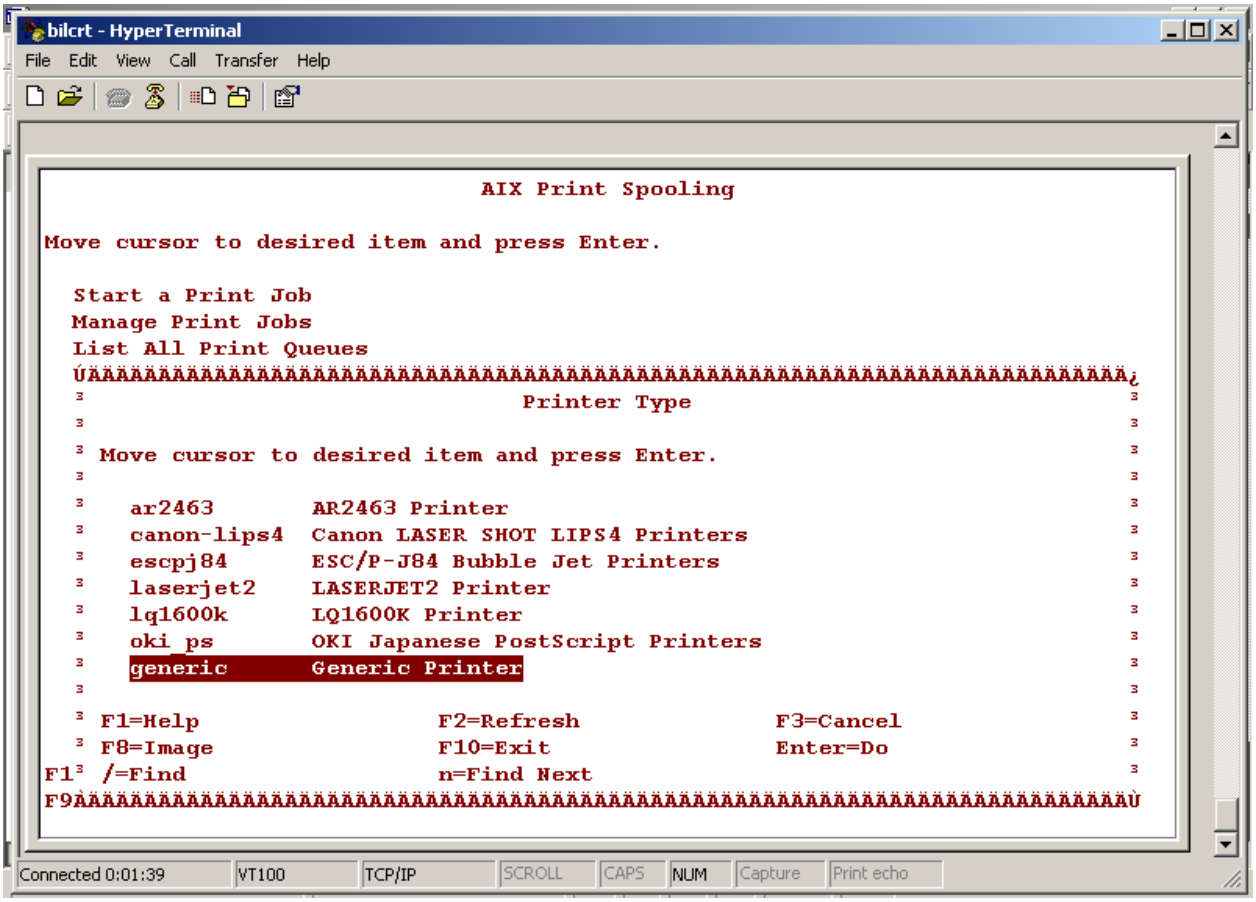
bilcrt - HyperTerminal
File Edit View Call Transfer Help
AIX Print Spooling
Move cursor to desired item and press Enter.
Start a Print Job
Manage Print Jobs
List All Print Queues
Printer Type
Move cursor to desired item and press Enter.
ar2463 AR2463 Printer
canon-lips4 Canon LASER SHOT LIPS4 Printers
escpj84 ESC/P-J84 Bubble Jet Printers
laserjet2 LASERJET2 Printer
lq1600k LQ1600K Printer
oki_ps OKI Japanese PostScript Printers
generic Generic Printer
F1=Help F2=Refresh F3=Cancel
F8=Image F10=Exit Enter=Do
F1 /=Find n=Find Next
F9
Connected 0:01:39 VT100 TCP/IP SCROLL CAPS NUM Capture Print echo

Figure 6

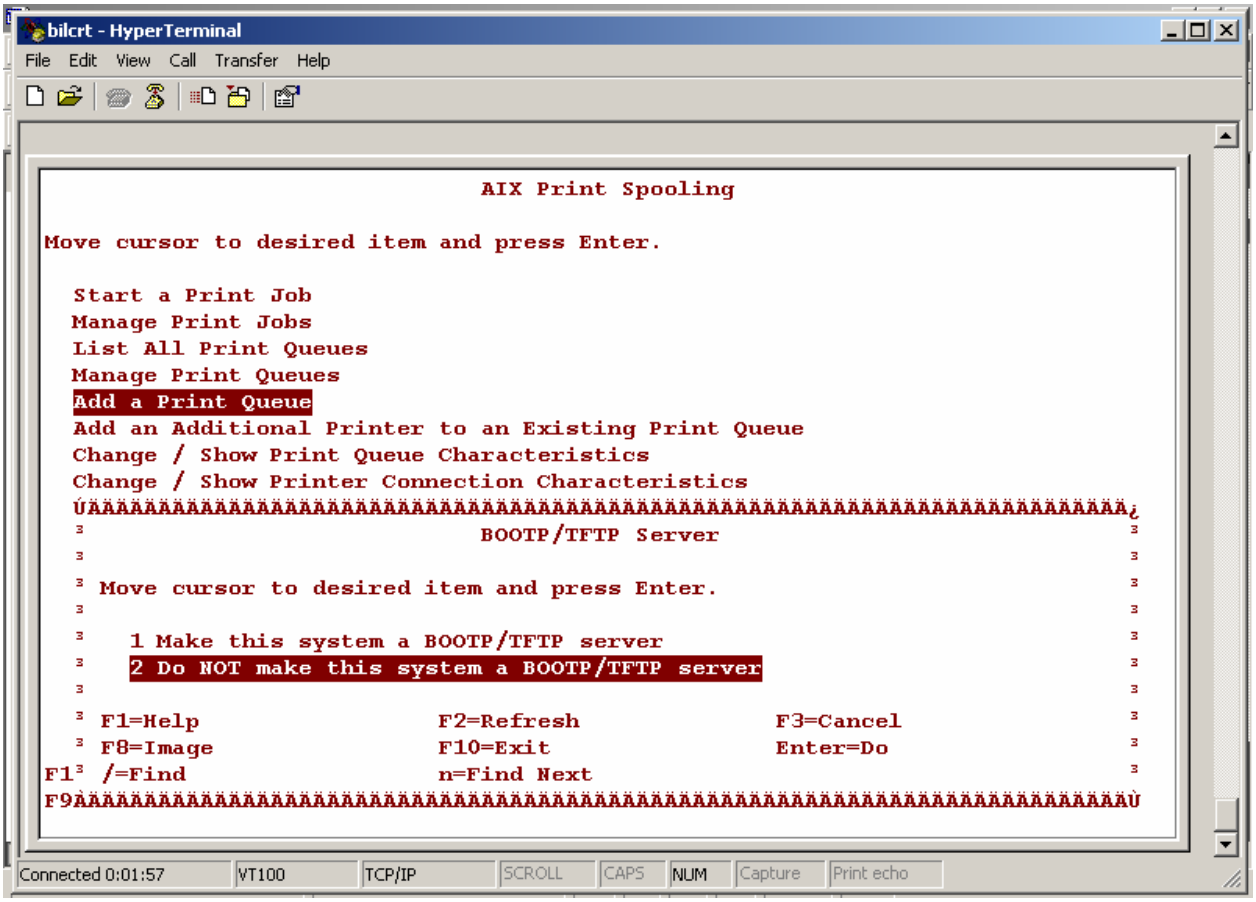
bilcrt - HyperTerminal
File Edit View Call Transfer Help
AIX Print Spooling
Move cursor to desired item and press Enter.
Start a Print Job
Manage Print Jobs
List All Print Queues
Manage Print Queues
Add a Print Queue
Add an Additional Printer to an Existing Print Queue
Change / Show Print Queue Characteristics
Change / Show Printer Connection Characteristics
BOOTP/TFTP Server
Move cursor to desired item and press Enter.
1 Make this system a BOOTP/TFTP server
2 Do NOT make this system a BOOTP/TFTP server
F1=Help F2=Refresh F3=Cancel
F8=Image F10=Exit Enter=Do
F1 /=Find n=Find Next
F9
Connected 0:01:57 VT100 TCP/IP SCROLL CAPS NUM Capture Print echo

Figure 7

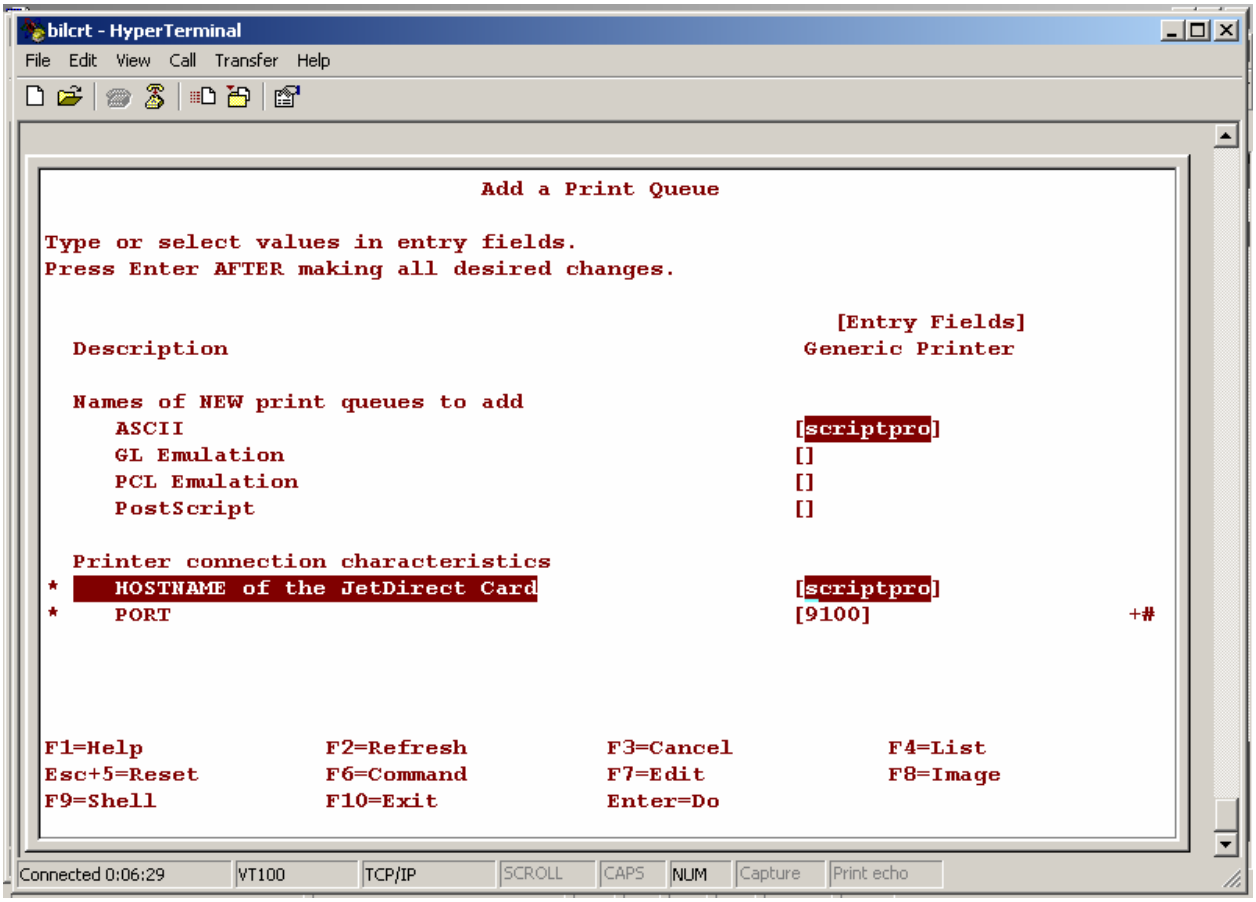
bilcrt - HyperTerminal
File Edit View Call Transfer Help
Add a Print Queue
Type or select values in entry fields.
Press Enter AFTER making all desired changes.
[Entry Fields]
Description
Generic Printer
Names of NEW print queues to add
ASCII
[scriptpro]
GL Emulation
[]
PCL Emulation
[]
PostScript
[]
Printer connection characteristics
* HOSTNAME of the JetDirect Card
[scriptpro]
* PORT
[9100]
+#
F1=Help
F2=Refresh
F3=Cancel
F4=List
Esc+5=Reset
F6=Command
F7=Edit
F8=Image
F9=Shell
F10=Exit
Enter=Do
Connected 0:06:29
VT100
TCP/IP
SCROLL
CAPS
NUM
Capture
Print echo

Figure 8

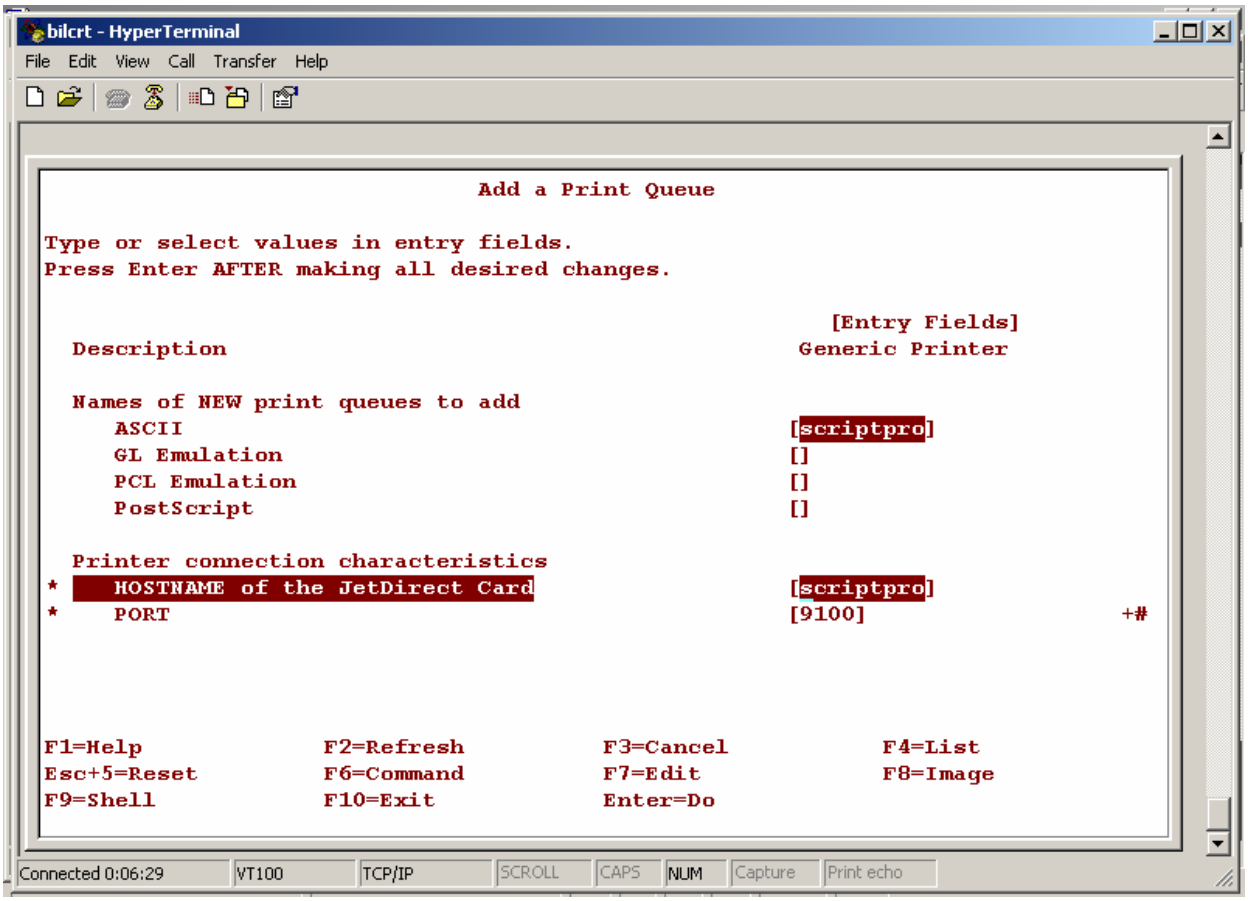
bilcrt - HyperTerminal
File Edit View Call Transfer Help
Add a Print Queue
Type or select values in entry fields.
Press Enter AFTER making all desired changes.
[Entry Fields]
Description
Generic Printer
Names of NEW print queues to add
ASCII
[scriptpro]
GL Emulation
[]
PCL Emulation
[]
PostScript
[]
Printer connection characteristics
* HOSTNAME of the JetDirect Card
[scriptpro]
* PORT
[9100]
+#
F1=Help
F2=Refresh
F3=Cancel
F4=List
Esc+5=Reset
F6=Command
F7=Edit
F8=Image
F9=Shell
F10=Exit
Enter=Do
Connected 0:06:29
VT100
TCP/IP
SCROLL
CAPS
NUM
Capture
Print echo

Figure 9

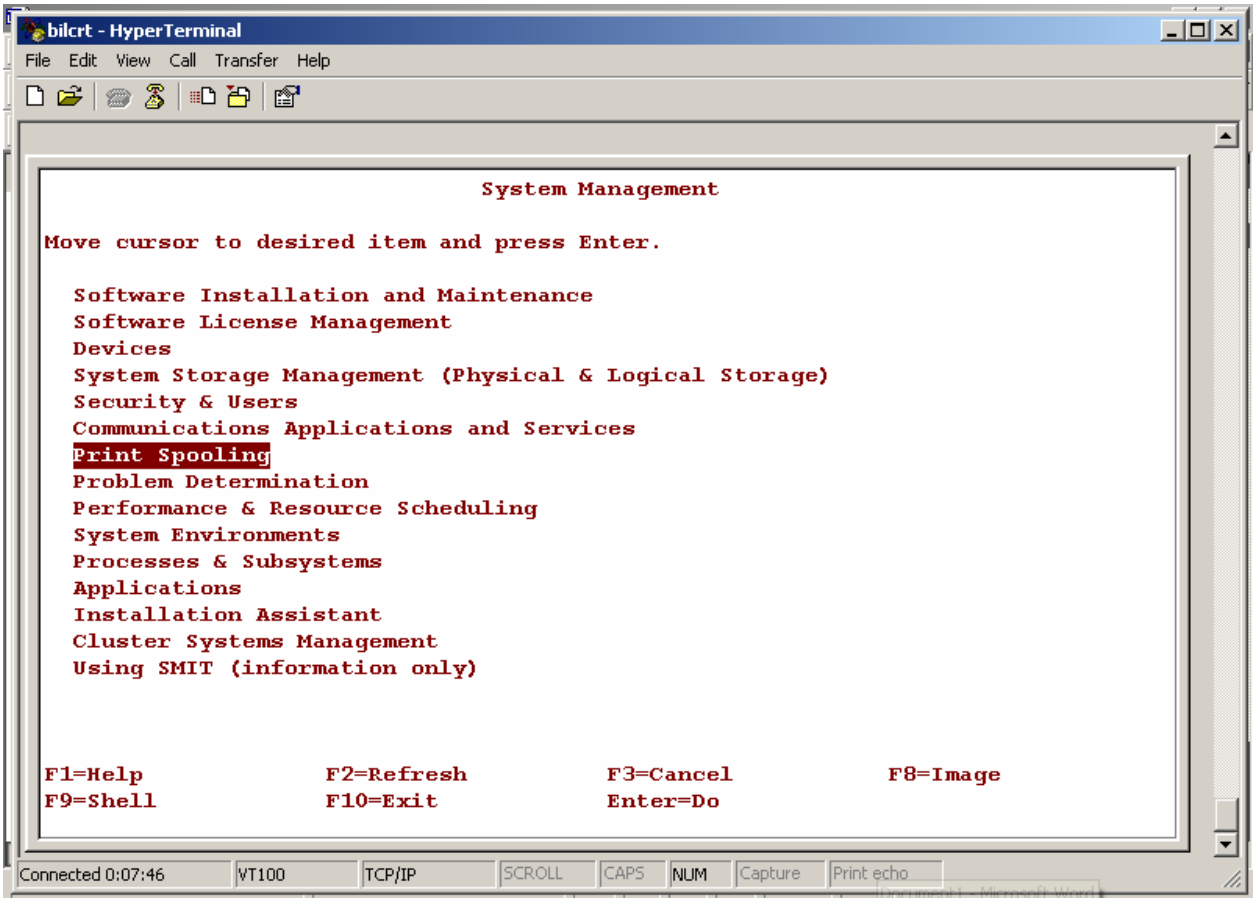
bilcrt - HyperTerminal
File Edit View Call Transfer Help
System Management
Move cursor to desired item and press Enter.
Software Installation and Maintenance
Software License Management
Devices
System Storage Management (Physical & Logical Storage)
Security & Users
Communications Applications and Services
Print Spooling
Problem Determination
Performance & Resource Scheduling
System Environments
Processes & Subsystems
Applications
Installation Assistant
Cluster Systems Management
Using SMIT (information only)
F1=Help F2=Refresh F3=Cancel F8=Image
F9=Shell F10=Exit Enter=Do
Connected 0:07:46 VT100 TCP/IP SCROLL CAPS NUM Capture Print echo

Figure 10

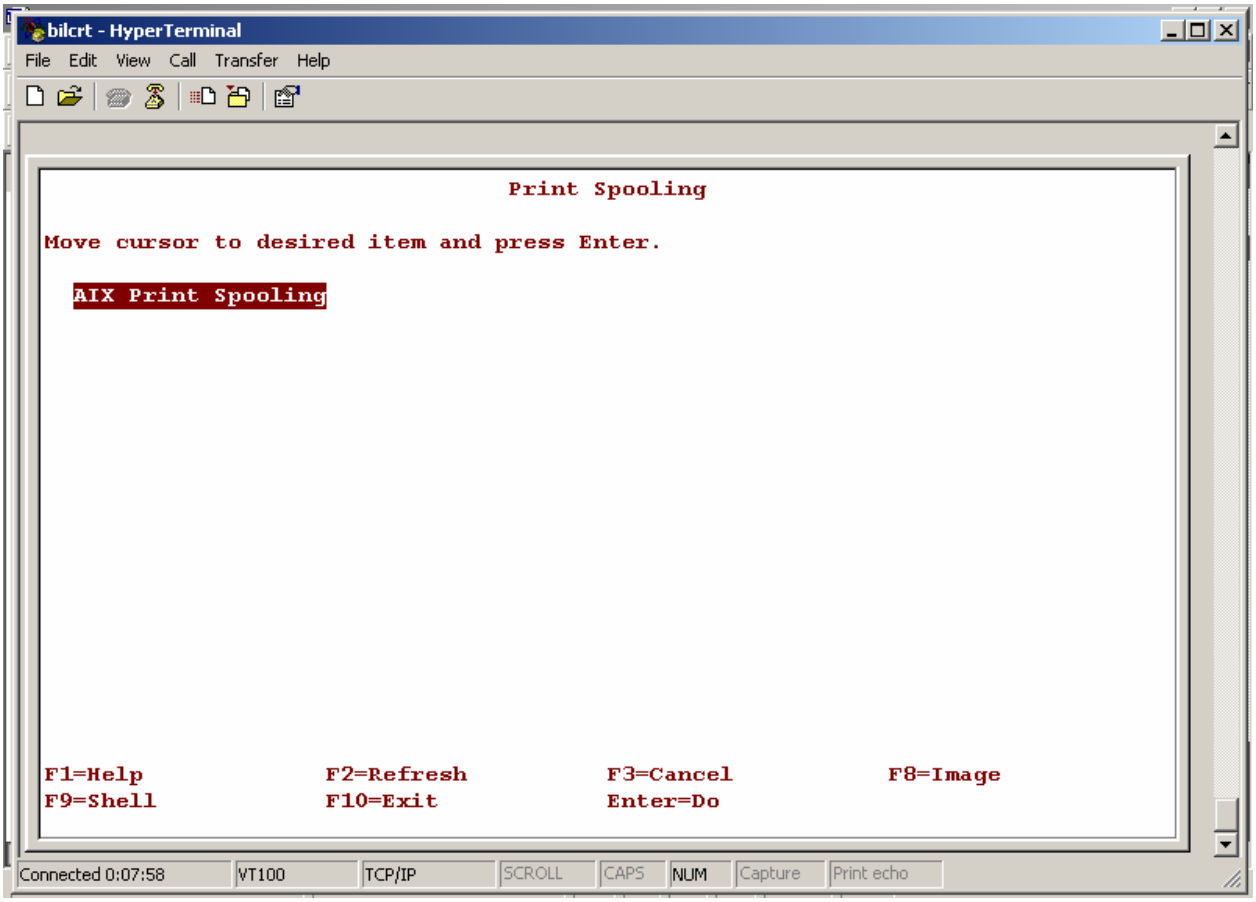
bilcrt - HyperTerminal
File Edit View Call Transfer Help
Print Spooling
Move cursor to desired item and press Enter.
AIX Print Spooling
F1=Help F2=Refresh F3=Cancel F8=Image
F9=Shell F10=Exit Enter=Do
Connected 0:07:58 VT100 TCP/IP SCROLL CAPS NUM Capture Print echo

Figure 11

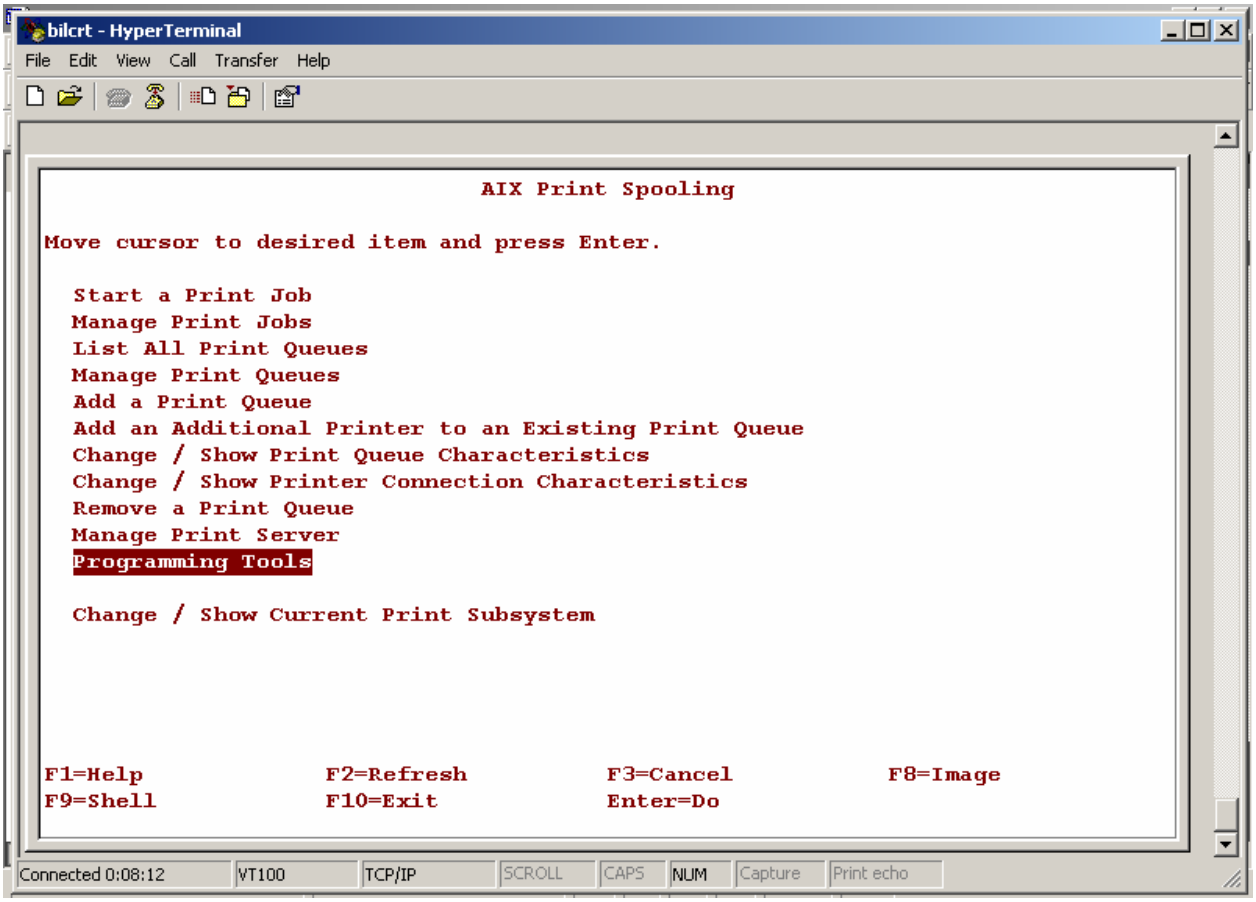
bilcrt - HyperTerminal
File Edit View Call Transfer Help
AIX Print Spooling
Move cursor to desired item and press Enter.
Start a Print Job
Manage Print Jobs
List All Print Queues
Manage Print Queues
Add a Print Queue
Add an Additional Printer to an Existing Print Queue
Change / Show Print Queue Characteristics
Change / Show Printer Connection Characteristics
Remove a Print Queue
Manage Print Server
Programming Tools
Change / Show Current Print Subsystem
F1=Help F2=Refresh F3=Cancel F8=Image
F9=Shell F10=Exit Enter=Do
Connected 0:08:12 VT100 TCP/IP SCROLL CAPS NUM Capture Print echo

Figure 12

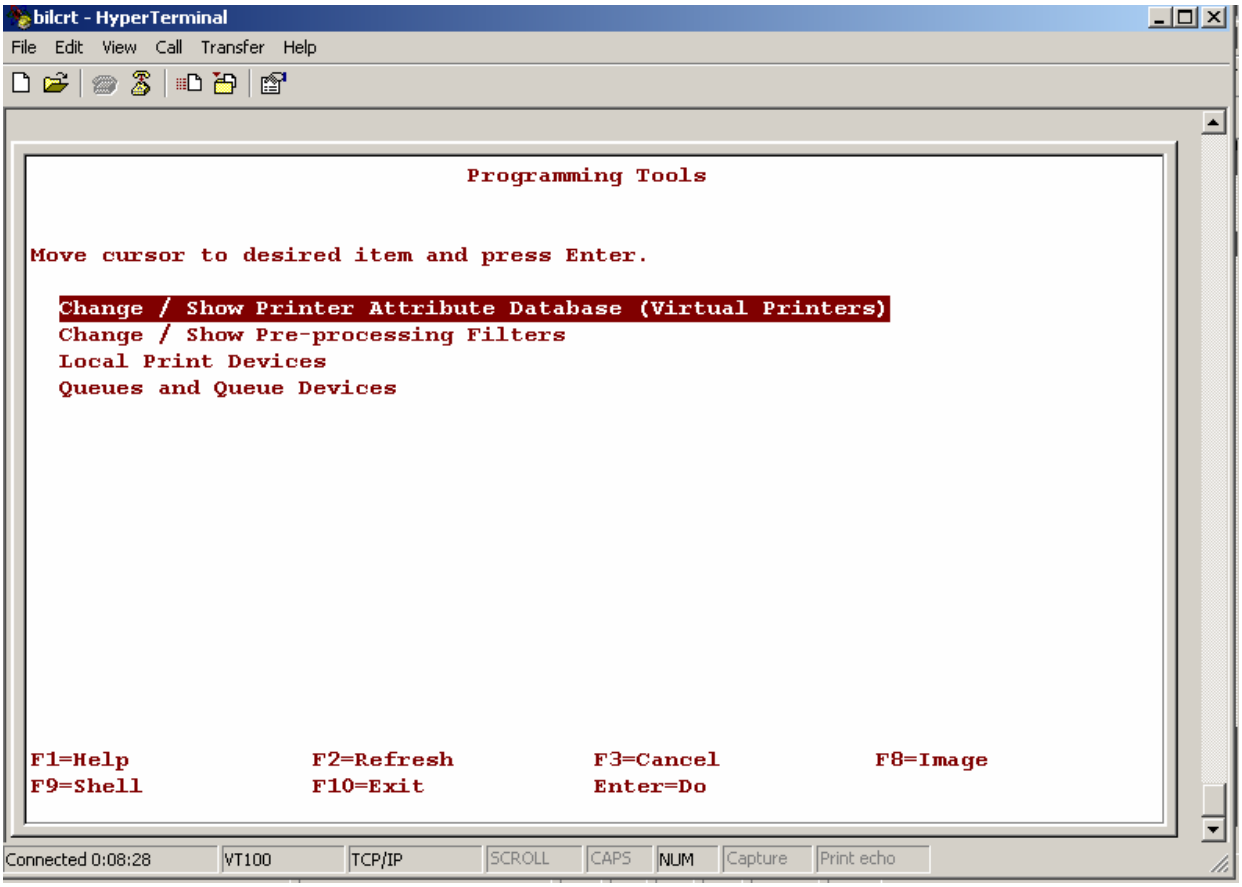
bilcrt - HyperTerminal
File Edit View Call Transfer Help
Programming Tools
Move cursor to desired item and press Enter.
Change / Show Printer Attribute Database (Virtual Printers)
Change / Show Pre-processing Filters
Local Print Devices
Queues and Queue Devices
F1=Help
F2=Refresh
F3=Cancel
F8=Image
F9=Shell
F10=Exit
Enter=Do
Connected 0:08:28
VT100
TCP/IP
SCROLL
CAPS
NUM
Capture
Print echo

Figure 13

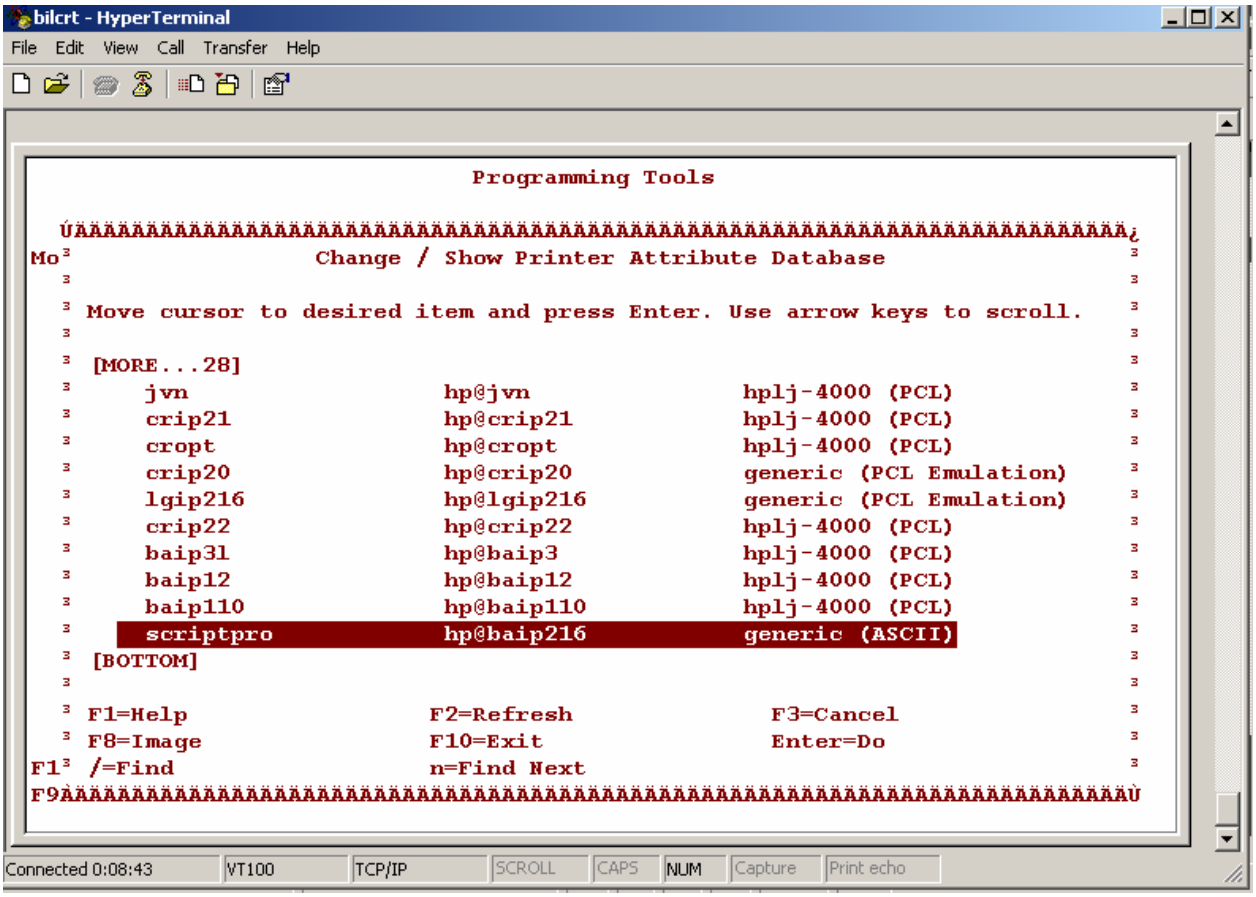
bilcrt - HyperTerminal
File Edit View Call Transfer Help
Programming Tools
Change / Show Printer Attribute Database
Move cursor to desired item and press Enter. Use arrow keys to scroll.
[MORE...28]
jvn hp@jvn hplj-4000 (PCL)
crip21 hp@crip21 hplj-4000 (PCL)
cropt hp@cropt hplj-4000 (PCL)
crip20 hp@crip20 generic (PCL Emulation)
lgip216 hp@lgip216 generic (PCL Emulation)
crip22 hp@crip22 hplj-4000 (PCL)
baip31 hp@baip3 hplj-4000 (PCL)
baip12 hp@baip12 hplj-4000 (PCL)
baip110 hp@baip110 hplj-4000 (PCL)
scriptpro hp@baip216 generic (ASCII)
[BOTTOM]
F1=Help F2=Refresh F3=Cancel
F8=Image F10=Exit Enter=Do
/=Find n=Find Next
Connected 0:08:43 VT100 TCP/IP SCROLL CAPS NUM Capture Print echo

Figure 14

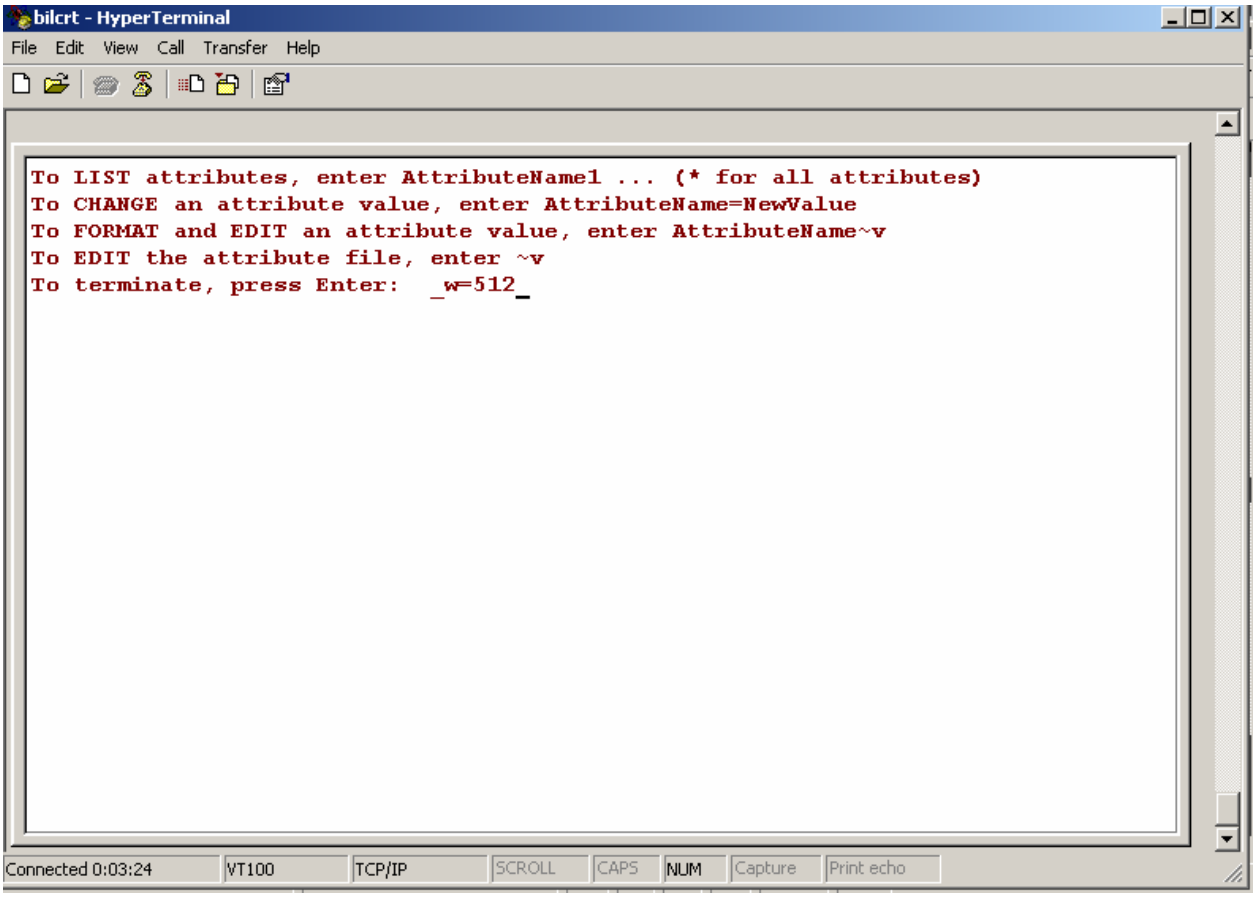
bilcrt - HyperTerminal
File Edit View Call Transfer Help
To LIST attributes, enter AttributeName1 ... (* for all attributes)
To CHANGE an attribute value, enter AttributeName=NewValue
To FORMAT and EDIT an attribute value, enter AttributeName~v
To EDIT the attribute file, enter ~v
To terminate, press Enter: _w=512_
Connected 0:03:24
VT100
TCP/IP
SCROLL
CAPS
NUM
Capture
Print echo

Figure 15

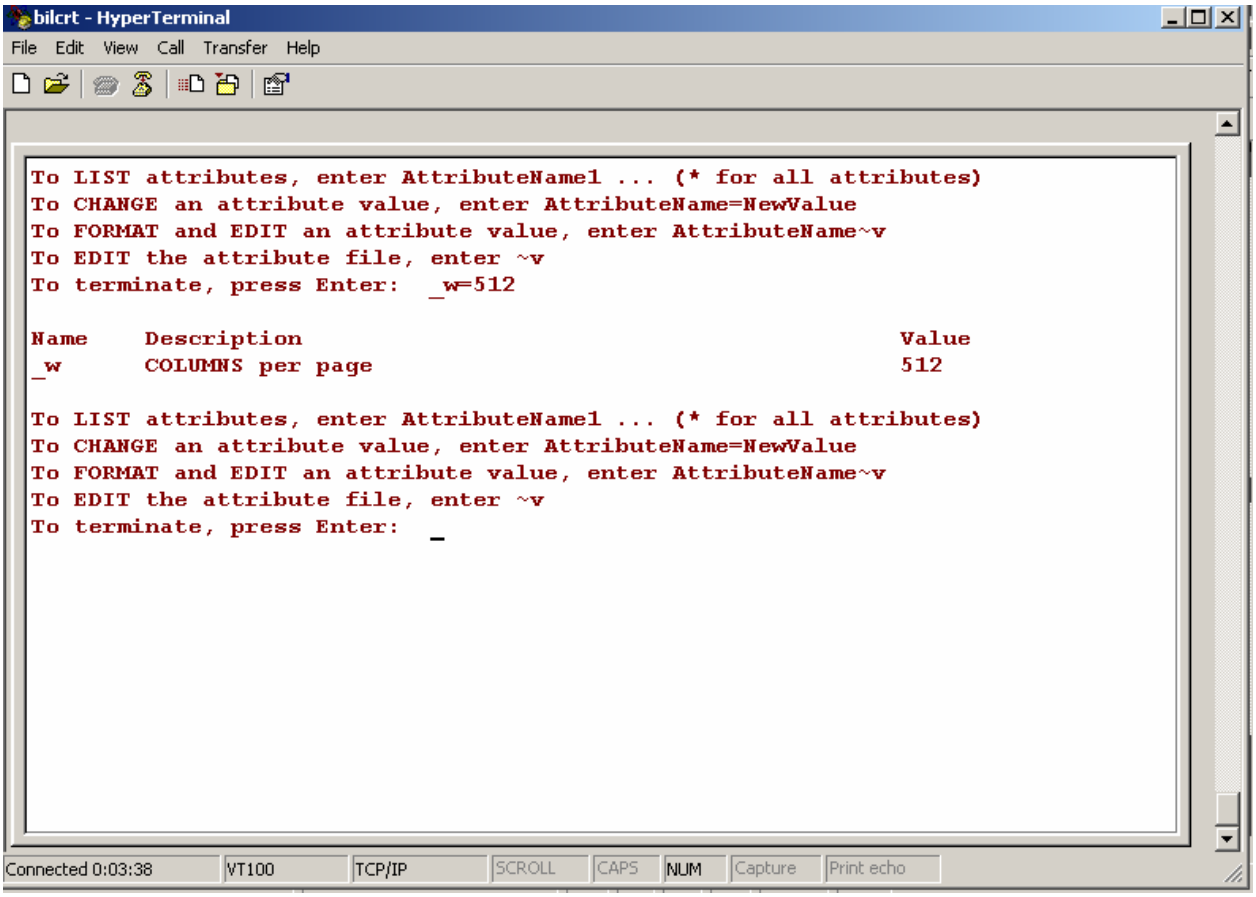

Figure 16

Device File entry:

NAME: PHARMACY SCRIPT PRO
$I: lp -d scriptpro
ASK DEVICE: NO
ASK PARAMETERS: NO
VOLUME SET(CPU): BFW
SIGN-ON/SYSTEM DEVICE: NO
LOCATION OF TERMINAL: PHARMACY
LOCAL SYNONYM: SP
ASK HOST FILE: NO
MARGIN WIDTH: 256 ← Value restricted by the Device File. Unix device should be set to 512.
OPEN PARAMETERS: "QW"
SUBTYPE: P-OTHER
TYPE: OTHER