

AXIS 5570e
AXIS 5670e
User's Manual

Safety notices

Take some time to read through the safety notices before installing the AXIS 5570e/AXIS 5670e. Please observe all safety markings and instructions when using this product.

Warning! - must be observed to avoid bodily injuries.

Caution! - must be observed to avoid loss of data or damage to your equipment.

Important: - must be observed to avoid operational impairment.

Do not proceed any of the above notices, until you have fully understood the implications.

Electromagnetic Compatibility (EMC) USA - This equipment generates and radiates radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference. Shielded cables should be used with this model to ensure compliance with the Class A limits.

Europe - This digital equipment fulfils the requirements for radiated emission according to limit B of EN55022/1998 and the requirements for immunity according to EN55024/1998 information technology equipment (Compliance is not valid for unshielded network and printer cables).

Liability - Every care has been taken in the preparation of this manual; if you detect any inaccuracies or omissions, please inform your local Axis office. Axis Communications AB cannot be held responsible for any technical or typographical errors and reserves the right to make changes to the product and manuals without prior notice. Axis Communications AB makes no warranty of any kind with regard to the material contained within this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Axis Communications AB shall not be liable nor responsible for incidental or consequential damages in connection with the furnishing, performance or use of this material.

Axis' Trademarks - AXIS ThinWizard, AXIS IPJumpStarter, AXIS PrintMonitor, axinstall

Other Trademark Acknowledgments - Adobe Acrobat Reader, Apple, Ethernet, EtherTalk, IBM, LAN Manager, LAN Server, Macintosh, Microsoft, Novell NetWare, OS/2, OS/400, AS/400, TokenTalk, UNIX, Windows, are registered trademarks of the respective holders.

Support Services - Should you require technical assistance, please contact your Axis

dealer. If your questions cannot be answered immediately, your Axis dealer will forward your queries through the appropriate channels to ensure you a rapid response.

On www.axis.com, you will find on-line manuals, technical support, software updates, application software and corporate information.

AXIS 5570e/AXIS 5670e User's Manual

Revision 1.0

Part no.20897

September 2003

Copyright © Axis Communications AB,2003

This manual applies to AXIS 5570e/AXIS 5670e with firmware version 6.42 and higher.

Preface

Thank you for purchasing the AXIS 5570e/AXIS 5670e Print Server. These products have been developed to connect your printers anywhere in your network, allowing all network users access to the shared printer resources.

About this manual

This manual provides introductory information as well as detailed instructions on how to set up and manage the AXIS 5570e/AXIS 5670e in various network environments. It is intended for everyone involved in installing and managing the AXIS 5570e/AXIS 5670e. To fully benefit from the manual, you should be familiar with basic networking principles.

This manual is applicable for the AXIS 5570e/AXIS 5670e, with firmware release 6.42 and higher.

About Axis

Axis Communications is dedicated to providing innovative solutions for network-connected computer peripherals. Since the start in 1984, it has been one of the fastest growing companies in the market and is now a leader in its field.

Support Services

Should you require any technical assistance, please contact your Axis dealer. If your questions cannot be answered immediately, your Axis dealer will forward your queries through the appropriate channels to ensure you a rapid response.

If you are connected to the Internet, you can find on-line manuals, technical support, firmware updates, application software, company information, on the addresses listed below.

<http://www.axis.com/techsup>

Table of Contents

	Table of Contents 5
Section 1	Introduction 9 Product Model Summary 9 Where to use it 10 How to use it 11 AXIS 5570e/AXIS 5670e Features and Benefits 12
Section 2	Product Overview 14 Hardware Inventory 14 Protocols and Datastreams 15 The AXIS 5570e Network Print Server 16 The AXIS 5670e Network Print Server 16
Section 3	Basic Installation 19 Getting Started 19 Connecting a printer to the Ethernet Network 20 Installation Guide 22 Setting the IP address 24
Section 4	Setting Up - AS/400 (iSeries) 35 SNA Printing - 5494 Mode 36 TN5250E printing (SCS over IP) 48 PPR/PPD Printing - IPDS data streams 51
Section 5	Setting Up - IBM Mainframe (zSeries) 59 SNA Printing 60 TCP/IP TN3270E Printing 70 PPR/PPD Printing - IPDS data streams 82
Section 6	Setting Up - Windows 101 Adding Printers in Windows 2000/ Windows XP over TCP/IP (LPR) 102 Adding Printers in Windows 2000/Windows XP using the Microsoft LPR Monitor 109

	Adding Printers in Windows NT 4 Using the Microsoft LPR Monitor	112
	AXIS Print Monitor Software	114
	Adding Printers over TCP/IP in Windows NT 4 using AXIS Print Monitor	115
	Adding NetBIOS/NetBEUI Printers in Windows 2000 using AXIS Print Monitor	116
	Adding Printers over NetBIOS/NetBEUI in Windows NT 4 using AXIS Print Monitor	117
	Adding Printers in Windows 98 and Me over TCP/IP using AXIS Print Monitor	119
	Adding Printers in Windows 98 and Me over NetBIOS/NetBEUI using AXIS Print Monitor	121 122
Section 7	Setting Up - NetWare	123
	Setup using NDPS	124
	Setup using iPrint	143
	Basic Setup with AXIS NetPilot	149
	Advanced Installation using AXIS NetPilot	150
	Basic Queue-based printing over IP	153
Section 8	Setting Up - Macintosh	158
	Installation in Mac OS X	158
	Installation on MacOS 9.1 or older, using AppleTalk	159
	Choosing a Printer	160
Section 9	Setting Up - UNIX	165
	Print Tools	165
	Typical Invocation via a Windows Manager	167
	Typical Invocation from a Terminal Window	167
	Debian 3.0	168
	Red Hat 7.3	169
	SuSE 8.0	172
	AXIS axinstall Script	173
	Print Methods on TCP/IP Networks	176

Section 10	Management and Configuration 180
	Using a Web browser 181
	Using AXIS ThinWizard for Print Server Management 189
	Using FTP for Print Server Management 192
	Using Telnet 195
	Using SNMP 199
	Using Novell Utilities 201
	Configuring the Print Server from an IBM host 203
Section 11	Configuration Possibilities 205
	Autodetect Printer Type 205
	AutoIP 206
	E-mail Notification 206
	IPP (Internet Printing Protocol) 207
	Logical Printers for Customized Printing 220
	Network Speed 230
	NetWare Packet Signature Level 1,2,3 230
	Flash Loading of Firmware over the Web 230
	Secure Web Services – SSL/TLS 231
Section 12	Upgrading the Firmware 236
	Upgrading the Firmware 236
	Obtaining the Software 239
Section 13	SNA Parameter Overview 240
	Communication Parameters 240
	Updating parameters 243
	Auto-configuration and Mapping 245
Section 14	SNA Gateways 247
Section 15	Extended IBM Printer Emulation 251
Section 16	IBM Fonts 255
Section 17	IBM Print Formatting 262

Section 18	IPDS Overview 268
	IPDS Parameter Settings 268
	IPDS System Languages 268
	IPDS Fonts 276
	Printer Resident Fonts 276
	Immediate Font Substitutions 277
	Unsupported Fonts 277
	Typographical Fonts 278
Section 19	DBCS Support 279
	Configuring the AS/400 Host, 5494 CU mode 279
	Configuring the AXIS 5570e/AXIS 5670e 280
	Verifying the Communications Link 281
	Amending Device Features 282
	Extended IBM Printer Emulation 283
	Font Tables 283
Section 20	Digital Copier Support 286
Section 21	Test Button 288
Section 22	Technical Specifications 290
Section 23	The Parameter List 295
	AXIS 5570e: 295
	AXIS 5670e: 324
Section 24	Glossary 362

Section 1 Introduction

Product Model Summary

The AXIS 5570e/AXIS 5670e is a LAN attached multi-protocol print server that prints IBM and ASCII data streams to any ASCII printer. Supporting IBM Mainframes, AS/400, NetWare, UNIX, LAN Server Manager, Windows and Apple EtherTalk, these products are ideal for IBM Mainframe and AS/400 sites that are migrating from pure IBM networks to LAN environments.

Where to use it

Supported Environments

The AXIS 5570e/AXIS 5670e is the ideal print server in mixed environments as it can communicate with all the major computer systems and network protocols including:

- IBM Mainframe and AS/400
- Windows
- NetWare
- UNIX
- Windows clients connected to LANtastic networks
- Macintosh
- Internet via any standard Web browser

How to use it

Installation and Integration

The installation of the AXIS 5570e/AXIS 5670e and its integration into the network is performed using the appropriate client software, provided with your print server or your operating system.

Note:

The AXIS 5570e/AXIS 5670e is designed for 10 Mbps Ethernet and 100 Mbps Fast Ethernet networks and connects to the network via a twisted pair RJ45 category 5 cable (10baseT and 100baseTX).

Configuration and Management

As the AXIS 5570e/AXIS 5670e comprises a built-in Web server, it can be configured and managed directly from its internal Web pages, using HTTP or HTTPS over TCP/IP.

Access to the AXIS 5570e/AXIS 5670e via any standard Web browser, offers you a platform-independent management tool that is suitable for all supported network environments.

Refer to the Parameter List document on www.axis.com for a complete description of the Axis print server parameters.

AXIS 5570e/AXIS 5670e Features and Benefits

- Reliability** The AXIS 5570e/AXIS 5670e print server provides high performance and reliability combined with low power consumption. The electronic circuits are based on the AXIS ETRAX 100LX chip, which comprises an integrated 32 bit RISC processor and associated network controllers.
- Flexibility** In the IBM Mainframe and AS/400 environment, the AXIS 5570e/AXIS 5670e can emulate IBM twinax and coax print and control functionality. This means that the AXIS 5570e/AXIS 5670e can effectively replace coax/twinax attached printers and control units on the LAN.
- It supports printing in all the major computer systems and environments, including five different print methods in the TCP/IP environment
- .Speed** The AXIS ETRAX 100LX chip has been specifically designed for LAN products. High speed Centronics communication such as ECP, Hewlett-Packard Fast Mode, High Speed and IBM Fast Byte is supported.
- Easy to Install** You can install the AXIS 5570e/AXIS 5670e in minutes, using a standard web browser.
- Security** You can assign a password to restrict login and printer access, disable protocols and force a secure mode over https. See "Secure Web Services – SSL/TLS" on page 231.

- Monitoring** The internal AXIS 5570e/AXIS 5670e Web pages allow you to continuously monitor printer status. Integrity of your printing is also monitored via interactive communication with the IBM host.
- The AXIS Print Monitor for Windows 98, Windows Me and Windows NT can be configured to display pop-up messages that show the status of peer-to-peer print jobs.
- The AXIS 5570e/AXIS 5670e additionally supports SNMP for remote monitoring.
- Futureproof** You can upgrade the AXIS 5570e/AXIS 5670e Flash memory over FTP, via the print server's web interface or using AXIS ThinWizard software.
- This allows you to quickly update and enhance the operational features of your AXIS 5570e/AXIS 5670e when new print server software becomes available. See "Upgrading the Firmware" on page 236.

Section 2 Product Overview

Unpack and check all the items using the following check list.
Contact your dealer if anything is missing or damaged. All packing materials are recyclable

Hardware Inventory

Item	Model/Title	Part number
AXIS 5570e	TCP/IP	0188
	IPDS SNA	0193
AXIS 5670e	TCP/IP	0189
	IPDS SNA	0194
Power Supply Type (PS-H)	Country	
	Europe	19108
	UK	19109
	Australia	19111
	USA/Japan	19110
CD	AXIS Product CD	rev 1.3 or later
Printed Material	AXIS 5570e/AXIS 5670e User's Guide	20896
Adhesive Holder & Clip*	ACC AXIS 5500 CLIPS K	20119
USB Cable*	70 cm	20208

* Only supplied with AXIS 5570e.

Protocols and Datastreams

The AXIS 5570e/AXIS 5670e are available in two versions; IPDS SNA and TCP/IP.

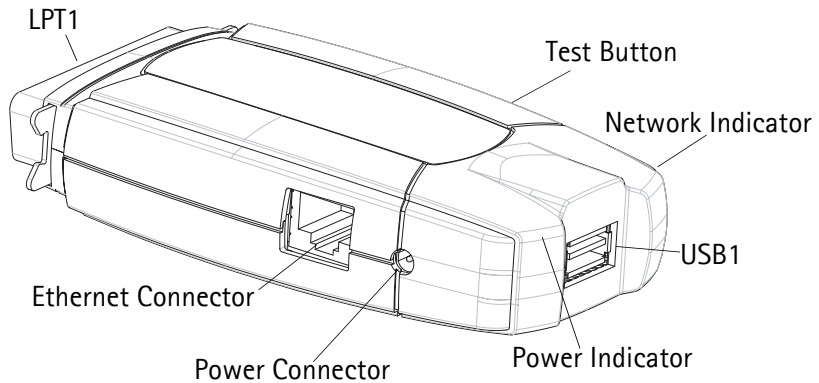
The table below displays the functionality of each version.

AXIS 5570e	IPDS SNA (part no. 0193)	TCP/IP (part no. 0188)
IPDS support	▪	
SCS support	▪	▪
3270DS support	▪	▪
TN3270E	▪	▪
TN5250E	▪	▪
SNA support	▪	
Digital Copier Support	▪	
AXIS 5670e	IPDS SNA (part no. 0194)	TCP/IP (part no. 0189)
IPDS support	▪	
SCS support	▪	▪
3270DS support	▪	▪
TN3270E	▪	▪
TN5250E	▪	▪
SNA support	▪	
Digital Copier Support	▪	

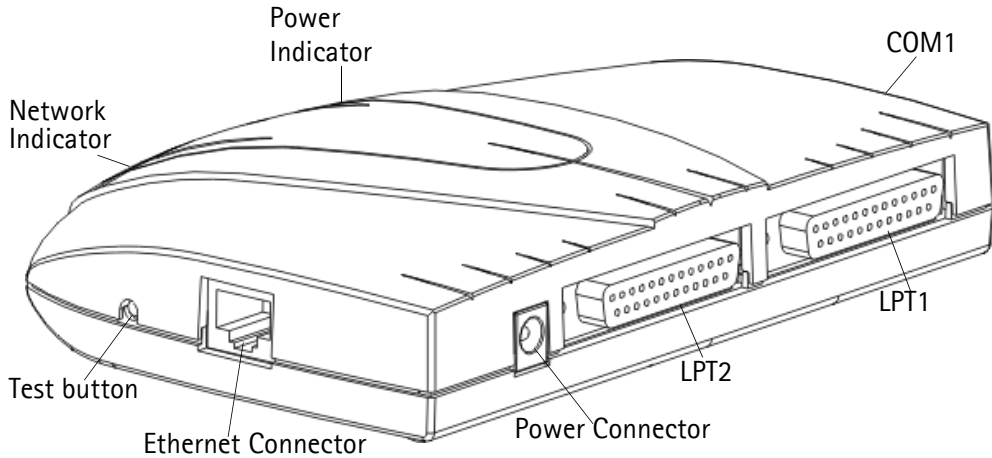
Note:

All models may not be available in all countries in which Axis operates. Please contact your local sales representative for more information.

The AXIS 5570e Network Print Server



The AXIS 5670e Network Print Server



Backside label on print server

Serial number →



Printer Ports

AXIS 5570e is equipped with one USB port that is USB 1.1 and 2.0 low and full speed compliant, and one high-speed IEEE 1284 compatible parallel port

AXIS 5670e is equipped with two high-speed IEEE 1284 compatible parallel ports and one RS232 serial port.

Test Button

The test button is used for:

- **printing a test page** to check the connection to the printer
- **printing the parameter list** showing the print server settings
- **performing a Factory Default** of the print server, which will restore all parameters and settings to their factory default values.

See Performing a Factory Default, on page 288

Network Connector

The **AXIS 5570e/AXIS 5670e** are designed for 10baseT Ethernet or 100base TX Fast Ethernet networks and is connected to the network via a standard RJ-45 (Category 5 twisted pair) cable.

Network Indicator

The network indicator flashes to indicate network activity.

Power Indicator

The power indicator is lit while power is applied. If it is not lit, or if it flashes, there is a problem with the print server or its Power Adapter.

Configuration and Management

The print server can be configured and managed from its internal Web pages, using HTTP as well as HTTPS in the secure mode. The print server's internal Web pages offer you a platform independent management tool that is suitable for all supported network environments. See *Using a Web browser*, on page 181

AXIS Product CD

The AXIS Product CD provides an easy-to-use electronic catalog, that includes Axis software, user documentation, etc. All documents presented on the CD are in PDF format.

Note:

If Adobe Acrobat Reader is not installed on to your computer, you cannot open pdf files. Go to www.adobe.com to download free Acrobat Reader software.

Secure Management

You can assign a password to restrict login and printer access, disable protocols and force a secure mode over https. See *Secure Web Services – SSL/TLS*, on page 231, on page 205

Supported Printers

Any standard printer can be connected for network printing, **except host-based printers, e.g. Windows GDI printers.**

Section 3 Basic Installation

Getting Started

After you have verified that no items in Product Overview, on page 14, are missing from the package, you are ready to install your AXIS 5570e/AXIS 5670e.

Follow the instructions below to install the AXIS 5570e/AXIS 5670e in your environment:

1. Start the procedure by connecting the AXIS 5570e/AXIS 5670e to your network and printer. Refer to Connecting a printer to the Ethernet Network, on page 20.
2. When the AXIS 5570e/AXIS 5670e is successfully connected, proceed to the Installation Guide, on page 22, where you will find further information about how to install and integrate the AXIS 5570e/AXIS 5670e in your network environments.

Connecting a printer to the Ethernet Network

Follow the instructions below to connect a printer to the network via the AXIS 5570e/AXIS 5670e print server.



Important:

Make sure that the AXIS 5570e/AXIS 5670e external power supply is marked with the correct voltage!

1. Switch off the printer(s) and disconnect the AXIS 5570e/AXIS 5670e external power supply.
2. Locate the **serial** number, found on the backside label of the print server, and write it down. You will need this number during the network configuration.
3. Connect the print server to the printer(s).
4. Connect the print server to the network using a twisted pair RJ45 cable (of category 5 or better).
5. Switch on the printer(s) and connect the external power supply to the AXIS 5570e/AXIS 5670e. The power indicator lights up. If the network indicator starts to flash, the print server is correctly connected to the network.
6. Press and release the test button on the print server to print a test page.
If the print server is correctly connected to the printer(s), a test page will be printed.

Mounting the AXIS 5570e

Using the supplied clip and holder, the AXIS 5570e can be mounted e.g. on the back of the printer or on a wall.

Adhesive Clip		Fasten to print server by peeling off adhesive tape.
Adhesive Holder		Fasten to mounting surface by peeling off adhesive tape.

The print server can now be installed in your network using one of the methods detailed in the Installation Guide, on page 22.

Notes:

- The test page includes a list of the most important parameters, including the network speed and the firmware version number.
- Each print server is pre-configured with a unique node address that is identical to the serial number. The node address can be changed using any standard Web browser. Please refer to **Management and Configuration, on page 180**, for more information.
- The AXIS 5570e/AXIS 5670e uses high speed Centronics communication. For use with older printers not supporting high speed, this function can be disabled by using any standard Web browser. Please refer to **Section 10 Management and Configuration, on page 180**, for more information.

Installation Guide

After connecting the AXIS 5570e/AXIS 5670e to your network, you are now ready to perform the basic setup procedures. The method of installation that you choose should be dictated by your printing requirements and the type of network into which you are integrating.

1. Start out with setting an IP address on the print server, described in *Setting the IP address*, on page 24.
2. Refer to the table below to determine which setup procedures that are relevant to your network environment.

Environment	Data Stream	Network Configuration	Actions
AS/400	SCS / IPDS	SNA	<i>SNA Printing - 5494 Mode</i> , on page 36
	SCS	TN5250E (TCP/IP)	<i>TN5250E printing (SCS over IP)</i> , on page 48
	IPDS	PPR/PPD (TCP/IP)	<i>PPR/PPD Printing - IPDS data streams</i> , on page 51
IBM Mainframe	SCS / IPDS	SNA	<i>SNA Printing</i> , on page 60
	SCS / IPDS	TN3270E (TCP/IP)	<i>TCP/IP TN3270E Printing</i> , on page 70
	IPDS	PPR/PPD (TCP/IP)	<i>PPR/PPD Printing - IPDS data streams</i> , on page 82
NetWare		TCP/IP and IPX/SPX	<i>Setting Up - NetWare</i> , on page 123
Windows 98/NT/Me 2000/XP		TCP/IP, NetBIOS/NetBEUI	<i>Setting Up - Windows</i> , on page 101
Macintosh		TCP/IP, AppleTalk	<i>Setting Up - Macintosh</i> , on page 158
UNIX		TCP/IP	<i>Setting Up - UNIX</i> , on page 165

Installation Tools

The recommended installation tools and management methods for the AXIS 5570e/AXIS 5670e are summarized here:

Protocols	Operating Systems	Configuration method	Management method
TCP/IP	Windows 2000/XP	Windows Standard Add Printer Wizard	Web Browser, FTP, Telnet, SNMP AXIS ThinWizard
TCP/IP	Windows 98/NT/Me	AXIS Print Monitor software and Windows Add Printer Wizard	Web Browser, FTP, Telnet, SNMP
TCP/IP	Mac OS X	Native MacOSX tool	Web browser
TCP/IP	UNIX	Native UNIX/Linux tools	Web Browser, FTP, Telnet, SNMP
IPX/SPX	NetWare	Novell Utilities	Novell Utilities
NetBIOS NetBEUI	Windows 95/98/NT/Me/2000	AXIS Print Monitor	Web browser. FTP, Telnet, SNMP
AppleTalk	Macintosh	Web browser, Mac-FTP	Web browser, Mac-FTP

Recommended installation tools for the AXIS 5570e/AXIS 5670e

- * A shareware LPR spooler is available for Windows for Workgroups. You can download this software from <http://www.axis.com/techsup>

Setting the IP address

Dynamic IP Address Assignment

<i>Method</i>	<i>Server required</i>	<i>Comment</i>
DHCP	DHCP server	Dynamic assignment of IP addresses. See Dynamic IP Address Assignment, on page 24
RARP	RARP server	Static assignment of IP addresses. Cannot be used over routers. See Dynamic IP Address Assignment, on page 24
BOOTP	BOOTP server	Static assignment of IP addresses. See Dynamic IP Address Assignment, on page 24
AutoIP	No server required.	Automatic assignment of IP addresses for Windows environments. See Dynamic IP Address Assignment, on page 24

Manual IP Address Assignment

<i>Method</i>	<i>Platform</i>	<i>Comment</i>	<i>See</i>
ARP/Ping	Windows	Requires the IP address for each device to be downloaded individually. Cannot be used over routers.	Setting the IP address using ARP/Ping, on page 28
	UNIX/Mac OS X	You must define the Default Router and Subnet Mask . Log in to the print server's web pages and select Admin Network Settings Detailed View TCP/IP Default Router and Subnet Mask . DHCP, Auto-IP, BOOTP and RARP must first be set to No	Setting the IP address using ARP/Ping, on page 28
AXIS IP JumpStarter	Windows	Axis software that allows you to find print servers in your network and assign an IP address to them. This software is recommended for small offices and local networks.	Setting the IP address using AXIS IP JumpStarter, on page 27
AXIS ThinWizard	Windows 2000/XP	Axis software that assists in setting the IP address of multiple print servers simultaneously. This software is recommended for large organizations and enterprise networks.	Using AXIS ThinWizard for Print Server Management, on page 189

Dynamic IP address Assignment

Obtaining an IP address through DHCP

- If you have a DHCP server on your network, your print server will receive an IP address automatically. The IP address will then appear on the **test page** printed when you press the test button once.
You should now be able to access the print server's internal web pages as described on Accessing the Web Pages, on page 182
- If you are not working in a DHCP network, you need to set the IP address of the print server manually. See "Manual IP Address Assignment" on page 24.

Obtaining an IP Address through AutoIP

AutoIP may be used to set the IP address automatically in the absence of a DHCP server.

The default AutoIP address structure is: **169.254.xxx.xxx**.

Important: The AutoIP function will only function when the DHCP parameter is enabled in the print server.

This function is enabled automatically upon installation of a brand new print server. If you perform a Factory Default using the test button on the print server and you do not have a DHCP server on your network, AutoIP will automatically set the IP address of the print server.

The **DHCP Enabled** parameter is enabled/disabled in the print server's web pages: **Admin => Network Settings => Detailed View => TCP/IP => DHCP Enabled: Yes/No.**

Notes:

- Use a Web browser with JavaScript support and Java enabled.
- The AXIS 5570e/AXIS 5670e supports WINS (Windows Internet Name Service), which is recommended when setting the IP address using DHCP in Windows environments.
- If you are working in a WINS/ DDNS network, you can access the print server's web pages using its default host name: In the Web browser's **Location/Address** field, enter the default print server name **AXISxxxxxx** (xxxxxx are the last six digits of the serial number, found on the print server's underside label). **Example:** If the serial number is 00 40 8c 18 16 36, type **AXIS181636** and press **Enter**.
- DHCP, RARP and BOOTP can be used to set the IP address in UNIX.
- If you are working in a network that does **not** use dynamic IP address assignment, refer to **Manual IP address assignment**, on page 26 to assign an IP address to the print server manually.

Manual IP address assignment

To establish communication with the TCP/IP network, an IP Address must be assigned to your AXIS 5570e/AXIS 5670e. Choose the appropriate method according to your network:

- **AXIS IP JumpStarter™** software is an easy-to-use Windows application that allows you to assign an IP address to your print server and find print servers already installed in your network. Refer to *Setting the IP address using AXIS IP JumpStarter*, on page 27.
- **ARP/Ping** - use this method to set the IP address for each new print server individually.
This method cannot be used over routers.
Refer to *Setting the IP address using ARP/Ping*, on page 28.
- **AXIS ThinWizard™** software is the primary recommended tool for large organizations.
It can set IP addresses, discover and group print servers, install new firmware and configure multiple Axis products concurrently.
Refer to *Using AXIS ThinWizard for Print Server Management*, on page 189

Note:

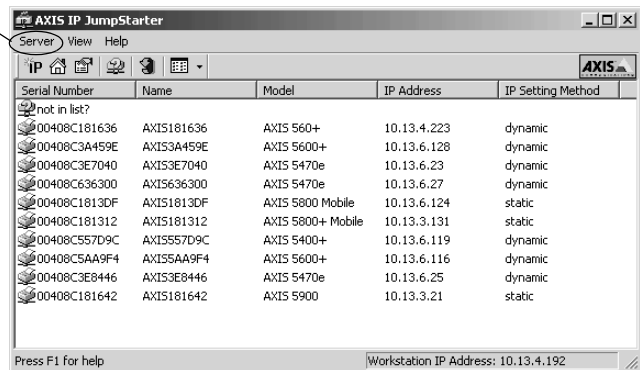
If you are using host names, you can map a unique host name to the IP address. Refer to your system manuals for instructions on how this is performed on your system.

Setting the IP address using AXIS IP JumpStarter

First, install AXIS IP JumpStarter which is available free of charge on www.axis.com

1. Select the required server from the serial number list in the IP JumpStarter dialog window.

Server menu



2. From the Server menu, select Set IP Address.
3. Click the radio button that corresponds to your choice of IP setting method.
4. Click OK to save your settings.
5. Enter the server root password (by default set to pass), and click OK.
6. The AXIS 5570e/AXIS 5670e will appear in the list with the assigned IP address.

- To access the print server's web pages, highlight the AXIS 5570e/AXIS 5670e in the list and select **Server Home Page** from the **Server** menu.

Note:

If your print server does not appear in the serial number list, refer to the AXIS IP JumpStarter online help files.

Setting the IP address using ARP/Ping Refer to the appropriate section below to assign an IP address to your AXIS 5570e/AXIS 5670e using ARP/Ping:

Windows

Open a Command Prompt and enter the following syntax:

Syntax

- arp -s <Internet address> <Ethernet address>
- ping <Internet address>

Example

```
arp -s 192.168.3.191 00-40-8c-18-16-36
ping 192.168.3.191
```

The host will return **reply from 192.168.3.191**, or a similar message. This indicates that the address has been set and that communication is established. You are now ready to print.

UNIX, Mac OS X

Open a Terminal and enter the following syntax:

Syntax

- arp -s <Internet address> <Ethernet address>
- ping <Internet address>

Example

```
arp -s 192.168.3.191:00:40:8c:18:16:36
ping 192.168.3.191
```

The host will return **psname is alive**, or a similar message. This indicates that the address has been set and that communication is established. You are now ready to print.

Important!

You must define the **Default Router** and **Subnet Mask** when you set a static IP address. Log in to the print server's web pages and select **Admin | Network Settings | Detailed View | TCP/IP | Default Router and Subnet Mask**.
DHCP, Auto-IP, BOOTP and RARP must first be set to No!

Notes:

- The Ethernet address is equal to the serial number, which is located on the underside label of the AXIS 5470e.
- The ARP command varies between different UNIX systems. Some BSD type systems expect the host name and node address in reverse order. Furthermore IBM AIX systems will require the additional argument ether.
Example:
arp -s ether <host name> 00:40:8c:10:00:86 temp
- When you execute the ping command for the first time, you may experience a significantly longer response time than usual.

Using RARP in UNIX

Follow the instructions below to set the IP address using RARP:

1. Append the following line to your Ethernet Address table. This is typically located in the `/etc/ethers` file:

```
<Ethernet address> <host name>
```

Example:

```
00:40:8c:10:00:86 npsname
```

2. Update, if necessary, your host table and alias name databases, as required by your system.
3. If it is not already running, start the RARP daemon. This is typically performed using the `rarpd -a` command.
4. Restart the AXIS 5570e/AXIS 5670e to download the IP address.

Notes:

- The Ethernet address is equal to the serial number, which can be found on the underside label of the AXIS 5570e/AXIS 5670e.
- If you are a IBM AIX user, you will probably not have access to a RARP daemon. If this is the case, you can use either the ARP or BOOTP methods instead.

Using BOOTP in UNIX

Follow the instructions below to set the IP address using BOOTP:

1. Append the following entry to your boot table. This is typically performed by editing the file: `/etc/bootptab`

```
<host name>:ht=<hardware type>:vm=<vendor magic>:\  
:ha=<hardware address>:ip=<IP address>:\  
:sm=<subnet mask>:gw=<gateway field>
```

Example:

```
npsname:ht=ether:vm=rfc1048:\  
:ha=00408c100086:ip=192.168.3.191:\  
:sm=255.255.255.0:gw=192.168.1.1
```

The AXIS 5570e/AXIS 5670e can automatically download a customized config file from a TFTP server. Just add the name of the config file and the TFTP server's IP address to your boot table. The config file is downloaded immediately after the AXIS 5570e/AXIS 5670e receives its IP address.

Notes:

- The AXIS 5570e/AXIS 5670e supports WINS (Windows Internet Name Service), which is recommended when setting the IP address using DHCP in Windows environments.
- The Ethernet Address is the same as the serial number, found on the print server's underside label. Enter the Ethernet Address in the same format as in the example above.
- Setting the IP address with `arp` and `ping` is only possible in the first ten minutes after re-booting the print server.
- When you execute the `ping` command for the first time, you may experience a significantly longer response time than usual.
- The `arp` command varies between different UNIX systems.
- You need root privileges on your UNIX system in order to execute the `arp` command and run `axinstall`.
- Some BSD type systems expect the host name and serial number in reverse order. Furthermore IBM AIX systems will require the additional argument `ether`.

Example: `arp -s ether <host name> <Ethernet Address> temp`

Managing DHCP

Follow the instructions below to download the IP address using DHCP:

1. Edit or create a scope in the DHCP manager of the DHCP daemon. The entries included in this scope should contain the following parameters:
 - range of IP addresses
 - subnet mask
 - default router IP address
 - WINS server IP address(es)
 - lease duration
2. Activate the scope.

The AXIS 5570e/AXIS 5670e will automatically download the DHCP parameters.

If you are using WINS, you must include at least one WINS server IP address in the DHCP scope. Immediately after the IP address has been received, the AXIS 5570e/AXIS 5670e registers its host name and IP address on the WINS server.

The AXIS 5570e/AXIS 5670e can automatically download a customized config file from a TFTP server. Just add the name of the config file and the TFTP server's IP address to your DHCP scope. The config file is downloaded immediately after the AXIS 5570e/AXIS 5670e receives its IP address.

System privileges You need root privileges on your UNIX system, or administrator privileges on a Windows NT server.

Ethernet address You need to know the Ethernet address of your AXIS 5570e/AXIS 5670e to perform the installation. The Ethernet address is based upon the serial number of your print server. This means, for example, that a print server with the serial number 00408C100086, will have the corresponding Ethernet address of 00 40 8C 10 00 86. The serial number is located on the backside label of the print server.

IP address If you do not have a DHCP server on your network, you must obtain an unused IP address from your network administrator.

Important:

DO NOT use the IP addresses used in the following examples when installing your AXIS 5570e/AXIS 5670e. Always consult your network administrator before assigning an IP address to your AXIS 5570e/AXIS 5670e.

Registering and Resolving Host Names

In order to register the host name of the AXIS 5570e/AXIS 5670e in networks with dynamic IP address settings, WINS (Windows Internet Name Service) and DDNS (Dynamic Domain Naming System) are supported. It is recommended that at least one of these methods be used when setting the IP address of the AXIS 5570e/AXIS 5670e using DHCP.

The host name of the AXIS 5570e/AXIS 5670e is specified by the PS_NAME parameter. Refer to The Parameter List, on page 295.

WINS host name rules

WINS only supports 15 character long host names. If your host name is longer than 15 characters, the AXIS 5570e/AXIS 5670e truncates the host name to 15 characters when registering with a WINS server. You can view the AXIS 5570e/AXIS 5670e host name that is registered at a WINS server, in the print server's Web interface. Refer to Section 10 Management and Configuration, on page 180.

DDNS host name rules

DDNS supports 53 character long host names, but they can only consist of the characters 'A-Z', 'a-z' and '-'. If your host name consists of any other characters, they are converted to '-', when registering with a DDNS server. You can view the AXIS 5570e/AXIS 5670e host name that is registered at a DDNS server, in the print server's Web interface. Refer to Section 10 Management and Configuration, on page 180.

If the host name matches another entry in the DDNS data base, the AXIS 5570e/AXIS 5670e deletes the entry before registering.

Notes:

- The host name limitations conclude that if you want to register the same host name at a WINS server and a DDNS server, the host name should be no longer than 15 characters and it should only contain the characters: 'A - Z', 'a-z' and '-'
- Refer to your system manuals or to your network administrator for instructions on how host name resolutions are performed on your system.
- If the host name has not been mapped to the IP address, you can still perform the following instructions on how to download the IP address. In this case, simply replace the host name entry with the IP address wherever required.

Section 4 Setting Up – AS/400 (iSeries)

This section describes how to configure the AXIS 5570e/AXIS 5670e for printing SCS and IPDS data streams using SNA and TCP/IP transport protocols in the AS/400 (iSeries) environment.

Note:

SNA is only available for print server models with the SNA option installed. Please refer to *Product Model Summary*, on page 9

A number of protocols and print methods are available. Looking at SCS over TCP/IP printing, we strongly recommend the TN5250E alternative. This print method offers superior control and management features as well as automatic configuration and high throughput using the AXIS 5570e/AXIS 5670e.

If you have decided to use SNA, we recommend the 5494 mode. Compared to the 3174 mode, this alternative yields better text formatting options as well as automatic configuration.

Proceed to the setup section that is relevant to your network environment, as described in the table below:

Printing protocol	Data streams	Action	Comment
SNA – 5494 Mode	SCS	<i>SNA Printing – 5494 Mode</i> , on page 36	Recommended method for SNA
	IPDS		
TN5250E (TCP/IP)	SCS	<i>TN5250E printing (SCS over IP)</i> , on page 48	Recommended method for SCS over TCP/IP
PPR/PPD (TCP/IP)	IPDS	<i>PPR/PPD Printing – IPDS data streams</i> , on page 51	Recommended method for IPDS over TCP/IP

If you intend to operate your AXIS 5570e/AXIS 5670e in a multi-protocol environment, you should also proceed to the other relevant sections in this manual:

Section 5 Setting Up - IBM Mainframe (zSeries), on page 59

Section 7 Setting Up - NetWare, on page 123

Section 6 Setting Up - Windows, on page 101

Section 8 Setting Up - OS/2, on page 117

Section 8 Setting Up - Macintosh, on page 158

Section 9 Setting Up - UNIX, on page 165

SNA Printing - 5494 Mode

The 5494 mode provides a significantly richer set of features for formatting text and is the recommended emulation mode in AS/400 environments.

The 5494 mode supports DBCS which accommodates printing from AS/400 host systems using languages that employ double-byte character sets, namely Chinese, Japanese and Korean. Refer to *DBCS Support*, on page 279 for further information.

The AXIS print server supports printing SCS and IPDS data streams via the SNA transport protocol.

Note:

SNA is only available for print server models with the SNA option installed. Please refer to *Product Model Summary*, on page 9.

Configuring for SNA printing in 5494 Mode is described in three separate stages:

- The AS/400 Host System Checklist
- Configuring the AXIS 5570e/AXIS 5670e
- Verifying the communication

The AS/400 Host System Checklist

If you are using AS/400 Version 3 Release 1 or higher, the AS/400 host in 5494 CU mode is automatically configured. The instructions in this section describe this automated configuration procedure.

If you are using a pre-version 3 release, you must perform the configuration procedure manually. If this is the case, please refer to the Axis Web site for further documentation.

Note:

You will find an AS/400 Parameter checklist in the AXIS 5570e/AXIS 5670e User's Guide where you can enter the values described in this section for future reference.

1. Type **DSPNETA** on the AS/400 command line and press **Enter**. For future reference, note the values of the `Local network ID` and `Default local location` parameters. Press **F3**.

Example:

```
DSPNETA

Display Network Attributes

System:      S1032BB0
Current system name . . . . . : S1032BB0
Pending system name . . . . . :
Local network ID . . . . . : > APPN
Local control point name . . . . . : S1032BB0
Default local location . . . . . : > S1032BB0
Default mode . . . . . : BLANK
APPN node type . . . . . : *ENDNODE
Data compression . . . . . : *NONE
Intermediate data compression . . . . . : *NONE
Maximum number of intermediate sessions . . . . . : 200
Route addition resistance . . . . . : 128
Server network ID/control point name . . . . . : *LCLNETID
*ANY

Press Enter to continue.                               More...

F3=Exit   F12=Cancel
```

The required parameter values are highlighted in bold.

2. Type **WRKLIND *ELAN** and press **Enter**: to get a list of all line descriptions on the system. Type **5** in front of the line description and press **Enter**.

3. Press F11 to display keywords.

Display Line	Description	S44A6643
Line description	LIND	ETHLINE
Option	OPTION	*BASIC
Category of line		*ELAN
Resource name	RSRCNAME	LIN061
Online at IPL	ONLINE	*YES
Vary on wait	VRYWAIT	*NOWAIT
Network controller . . .	NETCTL	ETHLINET
Local adapter address :	ADPTADR	08005AB77D49
Exchange identifier . . .	EXCHID	056A6643
Ethernet standard . . .	ETHSTD	*ALL
Line speed	LINESPEED	10M
Enable only for TCP/IP:	TCPONLY	*NO
Current line speed . . .		10M
Duplex	DUPLEX	*HALF
Current duplex		*HALF
Maximum controllers . . .	MAXCTL	50
Press Enter to continue.		More...
F3=Exit	F11=NonDisplay keywords	F12=Cancel

4. For future reference, note the values of the Local Adapter Address (ADPTADR) and Maximum Controllers (MAXCTL) parameters. Press Enter to view the active switched controllers display.

```

Display Line Description                S44A6643

Line description . . : LIND      ETHERNET
Option . . . . . : OPTION    *ACTSWTCTL
Category of line . . :          *ELAN

-----Active Switched Controllers-----
CONTROLLER1
CONTROLLER2
CONTROLLER3

Press Enter to continue.                Bottom

F3=Exit   F11= Nondisplay keywords   F12=Cancel
    
```

5. Press **Enter** to display the SSAP list. Make sure that there is at least one SSAP entry dedicated for SNA. For your future reference, note the SSAP value for this entry.
Verify that the number of controllers displayed on this screen does not exceed the value for maximum controllers (MAXCTL) from above.

```

Display Line Description                               S44A6643

Line description .: LIND           ETHLINE
Option . . . . . : OPTION        *SSAP
Category of line .:              *ELAN
SSAP List. . . . .: SSAP

----Source Service Access Points-----
SSAP      Maximum Frame      Type
04          1496          *SNA
12          1496          *NONSNA
AA          1496          *NONSNA
C8          1496          *HPR
08          1496          *SNA

Press Enter to continue.                               Bottom

F3=Exit   F11=Nondisplay keywords   F12=Cancel

```

Note:

The SNA entry is normally set to SSAP 04.

- Press **Enter** to display the Autocreate controller (AUTOCRTCTL) parameter. Ensure that the AUTOCRTCTL parameter is set to *YES. Press **F3** to return to the command line.

```

Display Line Description                                     S44A6643

Line description . . . : LIND          ETHERNET
Option . . . . . : OPTION          *APN
Category of line . . . :              *ELAN

Link speed . . . . . : LINKSPEED     10M
Cost/connect time . . : COSTCNN       0
Cost/byte . . . . . : COSTBYTE       0
Security for line. . . : SECURITY      *NONSECURE
Propagation delay. . . : PRPDLY       *MIN
User-defined 1 . . . : USRDFN1        128
User-defined 2 . . . : USRDFN2        128
User-defined 3 . . . : USRDFN3        128
Autocreate controller: AUTOCRTCTL    *YES
Autodelete controller: AUTODLTCTL    1440

Press Enter to continue.                                Bottom
    
```

F3=Exit F11=Nondisplay keywords F12=Cancel

- Type **DSPSYSVAL QCHRID** on the command line and press **Enter**. Note the code page for future reference. Press **F3** to exit.
- Type **DSPSYSVAL QAUTOCFG** on the command line and press **Enter**. Make sure the Autoconfigure device parameter is turned on (1). Press **F3** to exit.

```

Display System Value

System value . . . . . : QAUTOCFG
Description . . . . . : Autoconfigure devices

Autoconfigure device . : 1           0=Off
                                   1=On
    
```

9. Type **DSPSYSVAL QAUTORMT** on a command line and press **Enter**. Make sure the Autoconfigure remote controller parameter is turned on(1). Press **F3** to exit.

```

Display System Value

System value . . . . . : QAUTORMT
Description . . . . . : Autoconfigure of remote controllers

Autoconfigure remote controller : 1          0=Off
                                      1=On

```

10. Type **DSPMODD QRMTWSC** on the command line and press **Enter**. Press **F11** to display the keywords. Verify that the mode description exists on the system and that it is configured as presented in the example below. Use the command **WRKMODD QRMTWSC** if you need to change a value. Press **F3**.

```

Display Mode Description                                     S44A6643

Mode description . . . . . :MODD          QRMTWSC

Class-of-service . . . . . :COS          #CONNECT
Maximum sessions . . . . . :MAXSSN      57
Maximum conversations . . . :MAXCNV      57
Locally controlled sessions. . :LCLCTLSSN 56
Pre-established sessions. . . :PREESTSSN 0
Maximum inbound pacing value. . :MAXINPAC *CALC
Inbound pacing value . . . . . :INPACING 7
Outbound pacing value . . . . . :OUTPACING 7
Maximum length of request unit. :MAXLENRU *CALC
Data compression . . . . . :DTACPR      *NETATR
Inbound data compression . . . :INDTACPR *RLE
Outbound data compression . . . :OUTDTACPR *RLE
Session level encryption . . . :SLE      *NONE
Text . . . . . :TEXT          This Mode
is IBM Supplied

Press Enter to continue.                                     Bottom

F3= Exit  F11=Nondisplay keywords  F12=Cancel

```

11. Type `DSPUSRPRF QUSER` and press **Enter**. Make sure that the `QUSER` Status is ***ENABLED**.

```

Display User Profile - Basic

User profile . . . . . : QUSER
Previous sign-on . . . . . :
Sign-on attempts not valid . . . . . : 0
Status . . . . . : *ENABLED
Date password last changed . . . . . : 08/08/00
Password expiration interval . . . . . : *SYSVAL
Set password to expired . . . . . : *NO
User class . . . . . : *USER
Special authority . . . . . : *NONE
Group profile . . . . . : *NONE
Owner . . . . . : *USRPRF
Group authority . . . . . : *NONE
Group authority type . . . . . : *PRIVATE
Supplemental groups . . . . . : *NONE
Assistance level . . . . . : *SYSVAL
Current library . . . . . : *CRTDFT

More...
    
```

12. Page forward to the next screen by pressing **Enter** and verify that the `Maximum Storage Allowed` parameter is set to ***NOMAX**. Press **F3**.

```

Display User Profile - Basic

User profile . . . . . : QUSER

Initial program . . . . . : *NONE
  Library . . . . . :
Initial menu . . . . . : MAIN
  Library . . . . . : *LIBL
Limit capabilities . . . . . : *NO
Text . . . . . : Work Station User

Display sign-on information . . . . . : *SYSVAL
Limit device sessions . . . . . : *SYSVAL
Keyboard buffering . . . . . : *SYSVAL
Maximum storage allowed . . . . . : *NOMAX
  Storage used . . . . . : 832
Highest scheduling priority . . . . . : 3
Job description . . . . . : QDFTJOB
  Library . . . . . : QGPL

More...
Press Enter to continue.

F3=Exit  F12=Cancel
    
```

Use the command **WRKCFGSTS *CTL xxxx*** (where **xxxx** is the first 4 characters of the AXIS 5570e/AXIS 5670e 5494 LU Name) and press **Enter** to delete any previously created Controller and Device descriptions specific to your AXIS 5570e/AXIS 5670e. Delete the Device Descriptions (indented text) first and then the Controllers. Print a test page if you are unsure of the AXIS 5570e/AXIS 5670e 5494 LU Name.

```

Work with Configuration Status                S1032BB0

Position to . . . . .           Starting characters

Type options, press Enter.
  1=Vary on   2=Vary off   5=Work with job   8=Work with description
  9=Display mode status   13=Work with APPN status...

Opt  Description      Status      -----Job-----
      FSIOP           ACTIVE
      ETHERNET        ACTIVE
      AXIS11          ACTIVE
      AXIS11          ACTIVE
      AXIS11          ACTIVE/TARGET   SHEILA   QUSER   010190
      AXIS11          ACTIVE/SOURCE   SHEILA   QUSER   010190
      AXIS11          ACTIVE/SOURCE   SHEILA   QUSER   010190
      AXIS11          ACTIVE/SOURCE   SHEILA   QUSER   010190

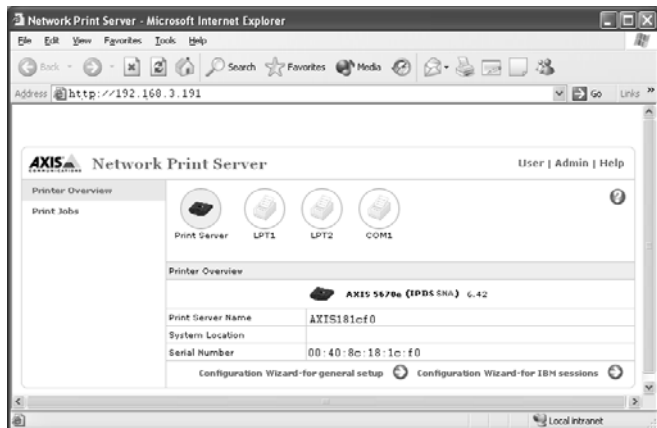
```

Configuring the
AXIS 5570e/AXIS
5670e

To perform the instructions presented in this section, you should first assign an IP address to your AXIS 5570e/AXIS 5670e using one of the methods presented in **Setting the IP address**, on page 24.

After you have completed the procedures in the AS/400 Host system checklist above, follow the instructions below to configure the AXIS 5570e/AXIS 5670e for SNA printing in the AS/400 environment using a Web browser:

1. Start a Web browser, e.g. Internet Explorer or Netscape Navigator.
2. Enter the IP address or the host name of the AXIS 5570e/AXIS 5670e in the location field and press the **Enter** key on your keyboard. The internal Web pages of the AXIS 5570e/AXIS 5670e will appear.



Note:

To protect the **Admin** pages and the **Configuration Wizard** from unauthorized use, enter a password (default Pass) in the **Root Password** field under **Admin | General Settings**.

3. Click the **Configuration Wizard for IBM sessions** button.

4. Click the **Add Session** button. This will start the **Configuration Wizard** which is a step-by-step guide through the required IBM configuration settings.

Notes for SCS printing:

- In the Configuration Wizard's IBM Printer Emulation window, 38xx is the value used for LaserWriter printers and all other values are used for matrix printers.
- In the Configuration Wizard Printer Driver window, PCL is used for Laser-Writer printers, all other values apply to matrix printers.

Note for IPDS printing:

In the Configuration Wizard, you can choose between PCL or PostScript printing. Choose the printer language that corresponds to your printer.

Verifying the
Communication Link

1. Type **WRKCFGSTS *CTL xxxx*** on the AS/400 command line (**xxxx** is the first four characters of the AXIS 5570e/AXIS 5670e 5494 LU Name) and press **Enter**. After a couple of minutes, ensure that the following items are displayed:
 - One APPC controller with the same name as the AXIS 5570e/AXIS 5670e 5494 LU Name.
 - One APPC device with the same name as the AXIS 5570e/AXIS 5670e 5494 LU Name, one controller session (QRMTWSC) and the currently active printer sessions (QRMTWSC).
 - One twinax controller named **xxxxxRMT**, where **xxxxx** are the first five characters of the AXIS 5570e/AXIS 5670e 5494 LU Name.
 - One, two or three twinax printer device named **xxxxPRT0z** (**xxxx** are the first four characters of the AXIS 5570e/AXIS 5670e 5494 LU Name and **z** is the printer device number).

The status of all items should now be **ACTIVE** or **VARIED ON**.

2. Type **STRPRTWTR xxxxPRT0z** on the AS/400 command line (**xxxxPRT0z** is the printer device name) and press **Enter**. This command starts the writer for this printer device.
3. Press the AXIS 5570e/AXIS 5670e test button once to print a test page. Ensure that the SNA status is defined on the test page as **Idle**, **Actv** or **LU-4**.

TN5250E printing (SCS over IP)

TN5250E is the recommended protocol to use when printing SCS data streams over TCP/IP. This print method offers superior control, management and throughput for the AXIS 5570e/AXIS 5670e.

Before you begin

Make sure that the AS/400 host is running OS/400 V3R2 or higher with TCP/IP support installed and configured.

Make sure that the latest PTFs are installed. Information about which PTFs to use can be obtained from:

<http://as400service.rochester.ibm.com/>

The AS/400 Host System Checklist

You will find an AS/400 Parameter checklist in the AXIS 5570e/AXIS 5670e User's Guide where you can enter the values described in this section for future reference.

1. Type **WRKCTLD *VWS** on the AS/400 command line and press **Enter** to determine the number of auto-configured virtual devices on your AS/400 system. Press **F3**.
2. Type **DSPSYSVAL QAUTOVRT** and press **Enter**. Make sure that the value of the **QAUTOVRT** parameter is greater than the number of auto-configured virtual devices. Press **F3**.
3. Type **DSPSYSVAL QCHRID** and press **Enter**. Note the system language (code page) for future reference. Press **F3**.
4. Type **WRKTCPSTS OPTION *IFC** and press **Enter** to determine the IP address of the AS/400 server. Press **F3**.

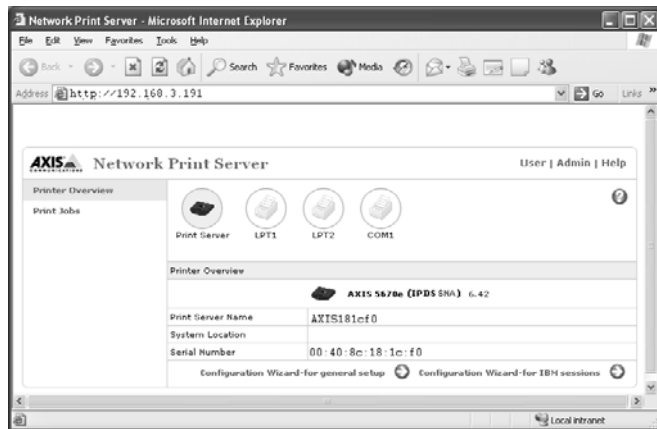
Configuring the
AXIS 5570e/AXIS
5670e

Follow the instructions below to configure the AXIS 5570e/AXIS 5670e for TN5250E printing using a Web browser:

1. Start a Web browser, e.g. Internet Explorer or Netscape Navigator.
2. Enter the IP address or the host name of the AXIS 5570e/AXIS 5670e in the location field and press the **Enter** key on your keyboard. The internal Web pages of the AXIS 5570e/AXIS 5670e will appear.

Important:

To protect the admin pages and the Configuration Wizard from unauthorized use, enter a password (default Pass) in the Root Password field under admin | General Settings.



3. Click the **Configuration Wizard for IBM sessions** button.
4. Click the **Add Session** button. This takes you to the **Configuration Wizard** which is a step-by-step guide through the required configuration settings.

Notes:

- In the Configuration Wizard, you must choose a new and unused name for the printer (in the 'Printer Name' field) when in the 'TN5250E Protocol Configuration' window.
- In the Configuration Wizard's 'Printer Driver' window, PCL is used for LaserWriter printers, all other values apply to matrix printers.

Verifying the communication link

1. Type **WRKCFGSTS *DEV xxxx***, where **xxxx** are the first four characters of the printer device name, on the AS/400 command line and press **Enter**. A list of printer devices will be displayed. Make sure that a virtual printer device is active.
2. Direct a printout to this printer device to check the integrity of the communication link.
3. Press the test button on the AXIS 5570e/AXIS 5670e once to print a test page. Make sure that the TN5250E status is defined on the test page as **Idle**, **Actv** or **LU-1**.

PPR/PPD Printing – IPDS data streams

Note:

IPDS is only available for AXIS 5570e/AXIS 5670e models with the IPDS option installed. For more information, refer to *Product Model Summary*, on page 9.

The configuration procedures presented in this section are divided into three separate steps:

- Configuring the AS/400 host
- Configuring the AXIS 5570e/AXIS 5670e
- Verifying the communication between the AXIS 5570e/AXIS 5670e and the AS/400

Before you begin

Make sure that the AS/400 host is running OS/400 V3R6 or higher with TCP/IP support installed and configured.

Make sure that the latest PTFs are installed. Information about which PTFs to use can be obtained from:

<http://as400service.rochester.ibm.com/>

Configuring the AS/400 Host System

When configuring the AS/400 host system you can:

- create a PSF configuration
- create a printer device description

Creating a PSF Configuration

The system uses default values but you can optionally create a PSF configuration by following the instructions below:

1. Issue the command **CRTPSFCFG**.
2. Press **F11** to display keywords.

3. Select a name for the PSF configuration and enter it at the `PSF configuration (PSFCFG)` line. The name may comprise the letters A-Z and the numerals 0-9, but must begin with a letter. A maximum of 10 characters are allowed.
4. Enter `QGPL` at the `Library` line.
5. Enter `*YES` at the `IPDS pass through (IPDSPASTHR)` line.
6. Enter `*NORDYF` at the `Activate release timer (ACTRLSTMR)` line.
7. Enter `*NOMAX` at the `Release timer (RLSTMR)` line.
8. Press the **Enter** key on your keyboard to create the PSF configuration.

Many of the settings presented in the following panel example can be left at their default settings. However, the settings that you must change are highlighted in **bold** text and the settings that you must enter exactly as shown in the example are highlighted in **bold** text.

Example:

```

Create PSF Configuration (CRTPSFCFG)

Type choices, press Enter.

PSF configuration. . . . . PSFCFG           > AXISPR1
   Library . . . . .                   > QGPL
User resource library list . . . USRRSCLIBL  *JOBLIBL
Device resource library list . . DEVRSCLIBL  *DFT
                                     + for more values
IPDS pass through. . . . . IPDSPASTHR      > *YES
Activate release timer . . . . ACTRLSTMR    > *NORDYF
Release timer. . . . . RLSTMR              > *NOMAX
Restart timer. . . . . RESTRTMR           *IMMED
APPC and TCP/IP retry count. . . RETRY      15
Delay between APPC retries . . . RETRYDLY   90
Automatic session recovery . . . UAUTOSSNRCY *NO
Acknowledgment frequency . . . ACKFRQ      100
Text 'description' . . . . . TEXT          *BLANK
                                           Bottom

```

Creating a Printer
Device Description

Create a printer device description by following the instructions below:

1. Issue the command **CRTDEVPRT** and press **Enter**.
2. Press **F11** to display keywords.
3. Select a name for the printer device and enter it at the `Device Description (DEV D)` line. The name may comprise the letters A-Z and the numerals 0-9, but must begin with a letter. A maximum of 10 characters are allowed. In the following instructions the printer device name will be referred to as `AXISPR1`.
4. Enter `*LAN` at the `Device class (DEVCLS)` line.
5. Enter `*IPDS` at the `Device type (TYPE)` line.
6. Enter `0` at the `Device model (MODEL)` line.
7. Enter `*IP` at the `LAN attachment (LANATTACH)` line.
8. Enter a port number at the `Port number (PORT)` line. The Axis print server is pre-configured with the port numbers 5001, 5002 and 5003 for IPDS printing.
9. Enter a FGID number at the `Font Identifier (FONT)` line, e.g. 11 (Courier).
10. Define the `Remote location (RMTLOCNAME)`. Use the IP address of the AXIS 5470e/670e.
11. (Optional) Enter the name of the previously created PSF configuration at the `User-defined object (USRDFNOBJ): Object` line.
12. (Optional) Enter the library of the previously created PSF configuration at the `User-defined object (USRDFNOBJ): Library` line.
13. (Optional) Enter `*PSFCFG` at the `User-defined object (USRDFNOBJ): Object type` line.
14. Press the **Enter** key on your keyboard to create the printer device description.

Many of the settings presented in the following panel example can be left at their default settings. However, the settings that you must change are highlighted in **bold** text and the settings that you must enter exactly as shown in the example are highlighted in **bold underlined** text.

```

Create Device Desc (Printer) (CRTDEVPRT)

Type choices, press Enter.

Device description . . . . . DEVD                > AXISPR1
Device class . . . . . DEVCLS                   > *LAN
Device type . . . . . TYPE                       > *IPDS
Device model . . . . . MODEL                     > 0
LAN attachment . . . . . LANATTACH              > *IP
Advanced function printing . . . AFP             *YES
Port number . . . . . PORT                       > 5001
Online at IPL . . . . . ONLINE                  *YES
Font:
  Identifier . . . . . FONT                       > 11
  Point size . . . . .                          *NONE
Form feed. . . . . FORMFEED                     *FILE
Separator drawer . . . . . SEPDRAWER            *FILE
Separator program . . . . . SEPPGM              *NONE
  Library . . . . .
Printer error message . . . . . PRTERMSG        *INQ
                                         More...

Message queue . . . . . MSGQ                    QSYSOPR
  Library . . . . .                              *LIBL
Activation timer . . . . . ACTTMR                170
Image configuration. . . . . IMGCFG              *NONE
Maximum pending requests . . . . . MAXPNDRQS    6
Print while converting . . . . . PRTCVT         *YES
Print request timer. . . . . PRTRQSTMR         *NOMAX
Form definition. . . . . FORMDF                 F1C10110
  Library. . . . .                              *LIBL
Remote location: . . . . . RMTLOCNAME
  Name or address. . . . .                       > '192.168.5.23'

User-defined options . . . . . USRDFNOPT        *NONE
                                         + for more values
                                         More...
    
```

```
User-defined objects . . . . . USRDFNOBJ
  Object . . . . . > AXISPR1
  Library . . . . . > QGPL
  Object type. . . . . > *PSFCFG
Data transform program . . . . . USRDTATFM  *NONE
  Library. . . . .
User-defined driver program. . . USRDRVPGM  *NONE
  Library. . . . .
Text 'description' . . . . . TEXT          IPDS over PPR/PPD

More...
```

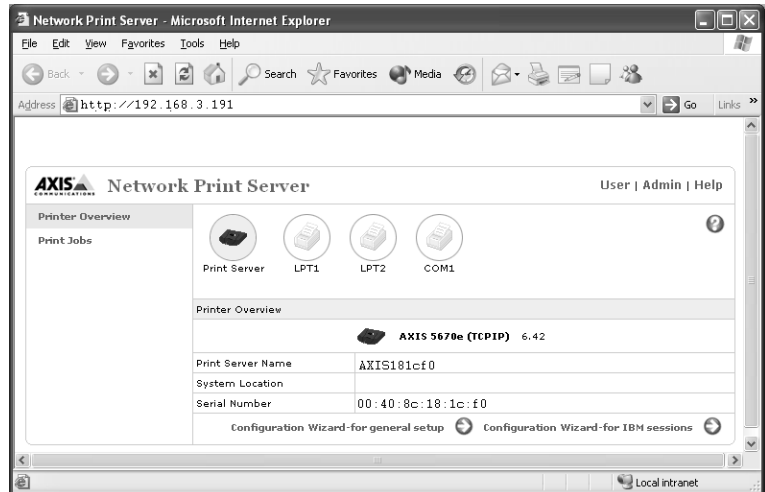

Configuring the AXIS 5470e

Follow the instructions below to configure your AXIS 5570e/AXIS 5670e using a standard Web browser:

1. Start a Web browser, e.g. Internet Explorer or Netscape Navigator.
2. Enter the IP address or the host name of the AXIS 5570e/AXIS 5670e in the location field and press the **Enter** key on your keyboard. The internal Web pages of the AXIS 5570e/AXIS 5670e will appear.

Note:

To protect the **Admin** pages and the Configuration Wizard from unauthorized use, enter a password (default Pass) in the Root Password field under **Admin | General Settings**.



Note for IPDS printing:

In the Configuration Wizard, you can choose between PCL or PostScript printing. Choose the printer language that corresponds to your printer.

3. Click the **Configuration Wizard for IBM sessions** button.
4. Click the **Add Session** button. This takes you to the **Configuration Wizard** which is a step-by-step guide through the required configuration settings.

Verifying the communication

Follow the instructions below to verify the communication by sending a print job to the AXIS 5570e/AXIS 5670e:

AXISPR1 is an example. Refer to *Creating a Printer Device Description*, on page 53 for details.

1. Type **WRKCFGSTS *DEV AXISPR1** on the AS/400 command line and press **Enter** to display the previously created printer device. The status of the printer device should be **VARIED OFF**.
2. Vary on the printer device by typing **1** in the **Opt** field. Press **ENTER**.
3. Press **F5** to refresh the display. The printer device should now be **VARIED ON**.
4. Start the printer writer by typing **STRPRTWTR AXISPR1** on the AS/400 command line. Press **Enter**.
5. Press **F5** to refresh the display. The printer device should now be **ACTIVE/WRITER**.
6. Direct a printout to this printer device. A successful printout verifies the communication link between the AS/400 and the AXIS 5570e/AXIS 5670e.

The AXIS 5570e/AXIS 5670e is now ready for printing in the AS/400 environment.

Section 5 Setting Up – IBM Mainframe (zSeries)

This section describes how to configure the AXIS 5570e/AXIS 5670e for printing SCS, 3270 and IPDS data streams using SNA and TCP/IP transport protocols in the IBM Mainframe (zSeries) environment.

Proceed to the setup section that is relevant to your network environment, as described in the table below:

Printing protocol	Data streams	Action
SNA	SCS	<i>SNA Printing, on page 60</i>
	3270DS	
	IPDS	
TN3270E (TCP/IP)	SCS	<i>TCP/IP TN3270E Printing, on page 70</i>
	3270DS	
	IPDS	
PPR/PPD (TCP/IP)	IPDS	<i>PPR/PPD Printing - IPDS data streams, on page 82</i>

Notes:

- IPDS is only available for print server models with the IPDS option installed. Please refer to **Product Model Summary, on page 9**.
- SNA is only available for print server models with the SNA option installed. Please refer to **Product Model Summary, on page 9**.

If you intend to operate your AXIS 5570e/AXIS 5670e in a multi-protocol environment, you should also proceed to the other relevant sections in this manual, namely:

Section 4 Setting Up – AS/400 (iSeries)

Section 7 Setting Up – NetWare

Section 6 Setting Up – Windows

Section 8 Setting Up – OS/2

Section 8 Setting Up – Macintosh

Section 9 Setting Up – UNIX

SNA Printing

The AXIS 5570e/AXIS 5670e supports printing of SCS, 3270 and IPDS data streams via the SNA transport protocol.

Important:

The AXIS 5570e/AXIS 5670e must be set up to emulate an IBM 3174 (3174 CU mode) in the Mainframe/VTAM environment.

Configuring for SNA printing in 3174 CU Mode is described in three separate stages:

- Configuring the IBM Mainframe Host system
- Configuring the AXIS 5570e/AXIS 5670e
- Verifying the communication

Configuring the Mainframe Host System

These procedures are compulsory for printing in the IBM Mainframe environment.

Configuring the host system requires you to do the following:

- Make sure that a VTAM Logon-mode entry is available for your AXIS 5570e/AXIS 5670e.
- Create the VTAM Definition for the Major Node where the Print Server definition is to be placed.

Before you begin

Make note of the AXIS 5570e/AXIS 5670e serial number that is found on the backside label of the print server.

Important:

When using a concentrator gateway between the host and your print server, it is not necessary to define separate VTAM Major Node and PU definitions for the AXIS 5570e/AXIS 5670e. You will instead be working with the gateway VTAM definitions. Since the AXIS 5570e/AXIS 5670e will appear to the host as one or several LU's attached to the gateway PU, you need only add LU definitions to the gateway major node definition and then proceed to item 3 below.

1. Define a VTAM Major Node Definition where the Print Server definitions will be placed. Using a channel attached 3174 as a gateway to the host, this definition is typically defined as a Local Major Node. If you are using a remotely attached gateway via a 37X5 communications controller or a LAN attached 3172, you will be working with a Switched Major Node definition.

2. Add the Print Server PU and LU definitions to the major node definition.

For Switched Major Node definitions you need to:

- Add the IDBLK (default = E07) and IDNUM (default = last 5 digits of the AXIS 5570e/AXIS 5670e MAC address) entries to the PU definition.
- Code a PATH definition using the unit's full 12 digit MAC address.

Example: An AXIS 5570e/AXIS 5670e with a MAC/node address of 00408C100086 will be defined as:

```
PA5570e1  PATH  DIALNO=010400408C100086,
GID=1, FID=1, GRPNM=gggggg
```

Note:

'GRPNM' specifies the symbolic name of a GROUP statement in an NCP major node. That GROUP statement defines a logical group of SDLC switched lines or token-ring switched lines.

3. Make sure that the corresponding VTAM Logon-mode entries are available and that the appropriate LU session types (LU1 or LU3) are used.
4. Vary ACTIVE the VTAM Major Node definition for the AXIS 5570e/AXIS 5670e.

Sample Sessions The examples below are based on samples given in VTAM Customization (IBM part no: SC23-0112), with some changes to optimize use for AXIS 5570e/AXIS 5670e.

VTAM for MVS is assumed, although the configuration for VM and VSE is similar.

Switched major
node definitions

The example below shows how the print server PU, PATH, and LU
definitions may be coded in a switched major node definition.

```

* PU definition
* E07xxxxxx is the node ID set in AXIS 5570e/AXIS 5670e.
*
PU5570e1      PUADDR=04,                X
              PUTYPE=2,                 X
              IDBLK=E07,                X
              IDNUM=nnnnn,              X
              MAXPATH=1,                 X
              SSCPFM=USSSCS,            X
              USSTAB=USSMAST,           X
              VPACING=(0)
*
* Path definition
* xxxxxxxxxxxx is the 12 last digits of the MAC
* address of the AXIS 5570e/AXIS 5670e
*
PA5570e1      PATHDIALNO=0104xxxxxxxxxxx, X
              GID=1,                    X
              PID=1,                    X
              GRPNM=gggggg
*
* LU definitions. Use either LU5570e1 or LU5570e3
*
* LU type 1 (SCS)
*
LU5570e1      LULOCADDR=2,              X
              DLOGMOD=SCS5570e,        X
              VPACING=7,                 X
              PACING=3
*
* LU type 3 (3270DS)
*
LU5570e3      LULOCADDR=2,              X
              DLOGMOD=DSC5570e,        X
              VPACING=7,                 X
              PACING=3

```


Note:

In the PU definition, IDNUM should be set to the five last digits of the AXIS 5570e/AXIS 5670e node address, NODE_ADDR. By default NODE_ADDR stands for the five last digits of the AXIS 5570e/AXIS 5670e serial number.

In the path definition, PATH_DIALNO should be comprised with its first two digits equal to the place holder, the next two set to the SAP and the remaining twelve digits set to the AXIS 5570e/AXIS 5670e Ethernet or Node address. By default the Ethernet/Node address is identical to the AXIS 5570e/AXIS 5670e serial number. A valid GRPNM must also be supplied.

In the LU definition, the LOCADDR number maps to the Logical Printer number of the AXIS 5570e/AXIS 5670e. The first eight Local Addresses pass the printout through Logical Printer 1-8. However, some IBM systems do not allow Local Address 1 to be used for printing. Refer to *Section 13 Using Logical Printers*, on page 170 for more information about logical printers.

Node Definitions The example below shows how the print server PU and LU definitions may be coded in a local major node definition:

```
* 5570e DSPU DEFINITION
DSPU5570e5570e PU CUADDR=E31, X
      MODETAB=MODE3290, X
      PUTYPE=2, ISTATUS=ACTIVE, MAXBFRU=1
DSPULU02 LU LOCADDR=2 X
      SSCPFM=USSSCS, X
      USSTAB=USSTAB, X
      PACING=1, X
      VPACING=2, X
      ISTATUS=ACTIVE, X
      LOGAPPL=MWTC, X
      DLOGMOD=SCS5570e
DSPULU03 LU LOCADDR=3, X
      SSCPFM=USSSCS, X
      USSTAB=USSTAB, X
      PACING=1, X
      VPACING=2, X
      ISTATUS=ACTIVE, X
      LOGAPPL=MWTC, X
      DLOGMOD=SCS5570e
```

Note:

If the LAN media at the remote (Print Server) location differs from that at the host location (e.g. Remote LAN = Ethernet and Host LAN = Token Ring), the MAC address definitions must be modified, as outlined below:

Print Server Modifications:

The AXIS 5570e/AXIS 5670e Host MAC address (H1_MAC_ADDR) must be bit-order reversed for each byte, e.g. if the host address is 08005AB77D49 the converted address will be 10005AEDBE92

Host Modifications:

The required Host modifications are dependent upon the VTAM definition for the Major Node where the Print Server definition is placed.

Case 1:

VTAM Major Node definition is a Switched Major Node.

The MAC address of the AXIS 5570e/AXIS 5670e must be bit-order reversed in the PATH entry. An AXIS 5570e/AXIS 5670e with a MAC/node address of 00408C1B06D4 will be defined using the MAC/node address 000231D8602B as follows:

Case 2:

VTAM Major Node definition is a Local Major Node.

When using a channel attached controller as gateway to the host, the MAC address of the AXIS 5570e/AXIS 5670e is configured in the gateway. The address must be reversed, as in case 1 above.

Configuring the
AXIS 5570e/AXIS
5670e

To perform the instructions presented in this section, you should first assign an IP address to your AXIS 5570e/AXIS 5670e using one of the methods presented in **Setting the IP address**, on page 24.

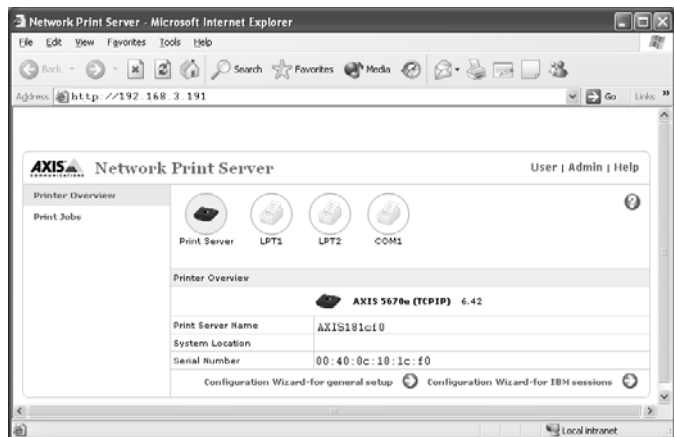
The purpose of the configuration of the AXIS 5570e/AXIS 5670e is to emulate a LAN attached IBM 3174 Control Unit running SNA PU.0.

Follow the instructions below to configure the AXIS 5570e/AXIS 5670e using a Web browser:

1. Start a Web browser, e.g. Internet Explorer or Netscape Navigator.
2. Enter the IP address or the host name of the AXIS 5570e/AXIS 5670e in the location field and press the **Enter** key on your keyboard. The internal Web pages of the AXIS 5570e/AXIS 5670e will appear.

Important:

To protect the Admin pages and the Configuration Wizard from unauthorized use, enter a password (default Pass) in the Root Password field under **Admin | General Settings**.



3. Click the **Configuration Wizard for IBM sessions** button.

4. Click the **Add Session** button. This will start the **Configuration Wizard** which is a step-by-step guide through the required configuration settings.

Notes for SCS printing:

- In the Configuration Wizard's IBM Printer Emulation window, 38xx is the value used for LaserWriter printers and all other values are used for matrix printers.
- In the Configuration Wizard Printer Driver window, PCL is used for Laser-Writer printers, all other values apply to matrix printers.

Note for IPDS printing:

In the Configuration Wizard, you can choose between PCL or PostScript printing. Choose the printer language that corresponds to your printer.

Verifying the Communication Link The easiest way to test the communication is by sending a print job to the AXIS 5570e/AXIS 5670e. If there are problems, press the test button once to print the test page where you can find the present SNA link status.

- Procedures**
1. Power on the Print Server and wait for 2 minutes.
 2. Press the test button once to print a test page and make sure that the SNA status line is defined as either:
 - Idle
 - Actv
 - LU-1
 - LU-3

Note:

Please refer to the Parameter List and FAQ on the Axis Web site, if the status line indicates that the SNA link is not active.

The AXIS 5570e/AXIS 5670e is now ready for use in the SNA environment.

TCP/IP TN3270E Printing

The following procedures describe how to configure the AXIS 5570e/AXIS 5670e for SCS, 3270DS and IPDS printing, using TCP/IP TN3270E.

This is achieved by establishing communication between the AXIS 5570e/AXIS 5670e and Mainframe host via a TN3270E server, using the TCP/IP transport protocol for the SCS, 3270 and IPDS data streams, as illustrated below:



IPDS is only available for print server models with the IPDS option installed. Please refer to **Product Model Summary, on page 9**

Configuring for TN3270E printing is described in four separate stages:

- Configuring the IBM Mainframe Host system
- Configuring the AXIS 5570e/AXIS 5670e
- Configuring the TN3270E server
- Verifying the communication

Configuring the Mainframe host

Consult your TN3270E server documentation and make sure that the appropriate VTAM host system definitions are set up for mainframe-to-TN3270E server SNA communication.

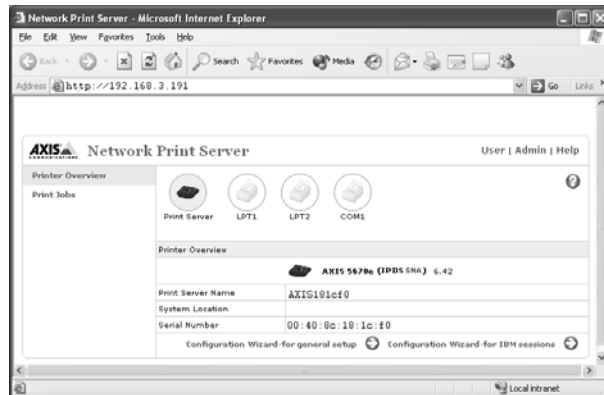
Configuring the
 AXIS 5570e/AXIS
 5670e

Follow instructions below to configure the AXIS 5570e/AXIS 5670e using a Web browser:

1. Start a Web browser, e.g. Internet Explorer or Netscape Navigator.
2. Enter the IP address or the host name of the AXIS 5570e/AXIS 5670e in the location field and press the **Enter** key on your keyboard. The internal Web pages of the AXIS 5570e/AXIS 5670e will appear.

Important:

To protect the Admin pages and the Configuration Wizard from unauthorized use, enter a password (default Pass) in the Root Password field under **Admin | General Settings**.



3. Click the **Configuration Wizard for IBM sessions** button.
4. Click the **Add Session** button. This will start the **Configuration Wizard** which is a step-by-step guide through the required configuration settings.

Notes for SCS printing:

- In the Configuration Wizard, Non-IPDS Printer Emulation uses value structure 38xx for LaserWriter printers. All other values can be used for matrix printers.
- In the Configuration Wizard's Printer Driver window, PCL is used for LaserWriter printers, all other values apply to matrix printers.

Note for IPDS printing:

- The AXIS 5570e/AXIS 5670e supports eight concurrent TN3270E host sessions.
- In the Configuration Wizard, you can choose between PCL or PostScript printing. Choose the printer language that corresponds to your printer.

Configuring the TN3270E server

The TN3270E server may be implemented as a software package running on the mainframe itself, a router or other server hardware.

Configuration examples for two popular TN3270E-capable servers are described below, namely:

- Microsoft SNA Server
- Novell NetWare for SAA.



Typical AXIS 5570e/AXIS 5670e TCP/IP TN3270E Network Configuration

Note:

- Configuration procedures can differ from other TN3270E servers.
- For additional information about configuring other TN3270E servers, refer to the Support pages on www.axis.com

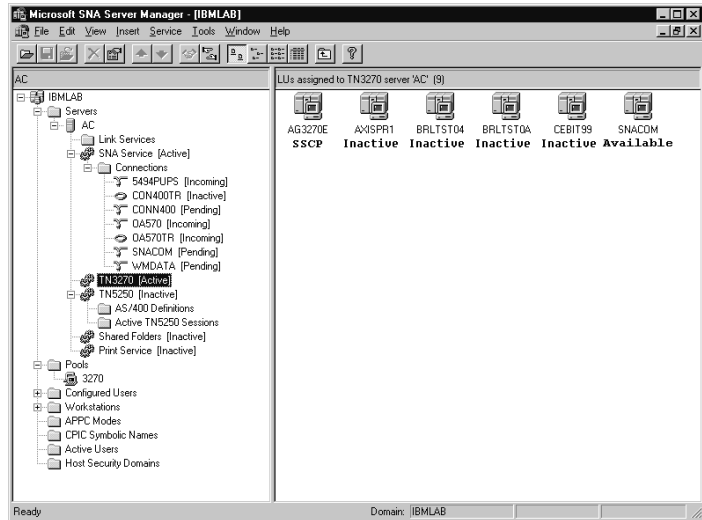
Microsoft SNA Server Communication is established in two separate stages, SNA Server-to-Host connection and SNA Server to AXIS 5570e/AXIS 5670e connection, as described below:

SNA Server-to-Host Connection

Follow the steps below to set-up a SNA Server-to-Host connection for the AXIS 5570e/AXIS 5670e:

1. Start Microsoft SNA Server Manager and click the Servers folder. The Main SNA Server Manager Window is featured in the illustration below.
2. Insert a new Connection to the host under Connections. Refer to the online help for assistance on how to configure the connection.
3. Select the new connection and Insert a 3270 Application LU (LUA) to this connection.
4. Set the LU Number to the LU Number specified in the host.
5. Set the LU Name to the name you want to use for the printer device. This is the same name that you specify in the TN3270E Printer Name parameter of the AXIS 5570e/AXIS 5670e.

6. Click OK.



SNA Server Manager Main Window

SNA Server – AXIS 5570e/AXIS 5670e connection

1. Select the new LUA and drag it to the TN3270 connection definition (highlighted in the SNA Server Manager Window above).
2. Select the properties of the LUA.
3. Click the TN3270 tab in the properties popup window.
4. Select Generic Printer Type.
5. Click the IP Address List tab.
6. Specify the IP Address of the client(s) that you want to assign to this LU. This is the IP address of the AXIS 5570e/AXIS 5670e, i.e. the same as the INT_ADDR parameter in the Print Server.
7. Click OK.

Verifying the Communication:

1. Activate the connection you created in step 2 of the above *SNA Server – AXIS 5570e/AXIS 5670e connection* procedures. The status of the connection should be "active".
2. Make sure the corresponding LU in the host is activated.
3. Activate the TN3270 connection to the AXIS 5570e/AXIS 5670e. The LUA should change status to SSCP.
4. Check that the printer is connected to the AXIS 5570e/AXIS 5670e.
5. Send a print job from the host.

The AXIS 5570e/AXIS 5670e is now ready for use.

Notes:

- You can check the status of the TN3270E connection by printing a test page from the Print Server. This is done by pressing the test button once. Make sure the TN3270E status (St:) line for your server connection is defined as either:
 - SSCP
 - LU-1
 - LU-3
- For additional information about configuring other TN3270E servers, refer to the Technical Notes on www.axis.com

NetWare for SAA Server

To set-up a TN3270E connection to the AXIS 5570e/AXIS 5670e you have to set up PU and LU definitions. This is done by following the steps below:

1. Start the NWSAA Administrator.
2. Double-click the NWSAA Node. The panel below will appear.
3. Enter the Node ID for the host.

4. Leave the rest at their default settings.

NetWare for SAA Version:	2.20.10
Number of installed user licenses:	125
Peer PU profile default setting	
Profile Name:	NWSAA
SNA network ID:	SEEDB
Peripheral node CP name:	CPNAME
Node ID (block/PU ID):	05D 66204 hex
Local/partner SAP for independent LUs:	04 hex

Ok Cancel Help

Peer PU profile

5. Click the TN3270 icon. The panel below will appear.
6. Select All Available Host PU profiles.
7. Enter the user name, from the User List, that you want all TN3270 clients to use.
8. Specify the maximum number of TELNET connections you want to allow each TN3270 client.
9. Leave the rest at their default settings and click OK.

PU profile name:	NWSAAPU
Number of dependent LUs:	8
Starting dependent LU number:	4
Peripheral node control point name:	NWSAAPU
Node ID (block/PU ID):	05D 66204 hex
<input type="checkbox"/> Offline test mode	
<input checked="" type="checkbox"/> Assign only LUs activated by the host	
<input type="checkbox"/> Call host on workstation attach	
<input type="checkbox"/> SDDLU support	
Logical adapter name:	E100B_1
Adapter Settings	
Maximum frame size to transmit inbound:	0521
802.2 remote node address:	0200 66800000 hex
802.2 remote service access point:	04 hex
802.2 local service access point:	04 hex
<input checked="" type="checkbox"/> Enable PU profile at startup	

Ok Cancel Help

PU profile name and Logical adapter

10. Press the "insert" key to create a new Host PU Profile. Choose Host PU Profile from the list displayed in the dialog. Then the panel below will appear.

Printer LU

11. Enter a unique name as PU profile name.
12. Enter the number of dependent LUs you want for this PU.
13. Enter the starting LU number.
14. Enter the Node ID (the same ID as for item 3 above).
15. Choose logical adapter.
16. Set maximum frame size to transmit inbound to match the MAXDATA in the host definition.
17. Enter the host node address.
18. Leave the rest at their default settings.
19. Click the LU Defaults icon. The panel below will appear
20. Set Default LU category to Public.

21. Set Default LU type to `Printer` (LU type 1 or 3).
22. Specify the VTAM LU name prefix. Click OK.

Notes:

- When the LUs are created the default names for the Printer Devices will be <name prefix> followed by a two digit number starting at the number you entered in the starting dependent LU number field.
- In the example below, eight LUs are created automatically. The LU names created will be BRLTST04 through to BRLTST0B. These names must correspond to the Printer Names you specify for the TN3270E sessions in the Print Server.

You can now generate a configuration report from NW for SAA. To do this, simply mark the server icon in the left window and select `Generate Server Configuration Report` from the function menu.

The following table is a summary of a report generated by this command for the example above.

Profile Name	NWSAA
SNA Network ID:	SEEDB
Peripheral node control point name:	CPNAME
Block ID/PU ID:	05D 66204
Local/Partner SAP for ILUs:	04
Logical Adapter:	E100B_1
PU Profile:	NWSAAPU
Adapter Name	E100B_1
Adapter Type:	LLC 802.2
Terminate peer link if no active APPC sessions:	No
Logical adapter number:	0

Profile Name	NWSAA	
Number of local service access points:	2	
Enable adapter at startup:	Yes	
PU Profile Name	NWSAAPU	
Number of dependent LUs:	8	
Starting dependent LU number:	4	
Peripheral node control point name:	NWSAAPU	
Node ID (block/PU ID):	66204	05D
Offline test mode:	No	
Assign only LUs activated by the host:	Yes	
Enable SDDL Support:	No	
Adapter Name:	E100B_1	
Adapter Type:	802.2	LLC
Maximum Session Count:	9	
VTAM Name Prefix:	BRLTST	
Default LU Type:	1	
Default Model Number:	2	
Default LU Category:	Public	
Maximum frame size to transmit inbound:	0521	
Remote node address:	020066800000	
Remote Service Access Point:	04	
Local Service Access Point:	04	

Profile Name			NWSAA		
Enable PU profile at startup:			Yes		
LU id	Category	VTAM LU Name	Type	Mod	Termination Method
0	Public		14	2	TSELF
4	Public	BRLTST04	1	2	TSELF
5	Public	BRLTST05	1	2	TSELF
6	Public	BRLTST06	1	2	TSELF
7	Public	BRLTST07	1	2	TSELF
8	Public	BRLTST08	1	2	TSELF
9	Public	BRLTST09	1	2	TSELF
10	Public	BRLTST0A	1	2	TSELF
11	Public	BRLTST0B	1	2	TSELF
PU Profile Names			NetWare SAA		
Maximum connections per client			5		
Use IP client name			No		
TN3270 NetWare User ID			Admin		
Client Response Timer			120		
Printer End of Job Timer			9999		

Summary of a report generated by Generate Server Configuration Report (bold text = not default).

Verifying the Communication:

Follow the steps below to test the communication by sending a print job to the AXIS 5570e/AXIS 5670e.

1. Make sure the printer is connected to the AXIS 5570e/AXIS 5670e and the corresponding LU in the host is activated.

2. Send a print job from the host.

The AXIS 5570e/AXIS 5670e is now ready for use. If needed, it can be further adapted to your system using the Web-based configuration pages or IBM Printer Emulation. Please refer to *Extended IBM Printer Emulation*, on page 251.

You can check the status of the TN3270E connection by printing a test page from the Print Server. This is done by pressing the test button once. Make sure the TN3270E status (St:) line for your server connection is defined as either:

- SSCP
- LU-1
- LU-3

For additional information about configuring other TN3270E servers, refer to the Technical Notes on www.axis.com

PPR/PPD Printing – IPDS data streams

Important:

IPDS is only available for print server models with the IPDS option installed. Please refer to Product Model Summary, on page 9.

Before you begin

In order to use the AXIS 5570e/AXIS 5670e to print IPDS data using TCP/IP as the transport protocol, the following software must be installed and configured on your MVS:

- PSF/MVS Version 2 release 2.0 with APAR OW15599.
- MVS Scheduler APAR OW12236 to support the two new `PRINTDEV` keywords: `IPADDR` and `PORTNO`.
- TCP/IP version 3 release 1, or higher

Configuration Procedures

The configuration procedures presented in this section are divided into seven separate steps:

1. Specifying the TCP/IP address space name
2. Defining the MVS control unit
3. Modifying the TCP/IP profile on your MVS system, if necessary
4. Configuring the AXIS 5570e/AXIS 5670e
5. Verifying the communication between the AXIS 5570e/AXIS 5670e and the IBM Mainframe
6. Defining the AXIS 5570e/AXIS 5670e as a writer-controlled printer to JES
7. Defining the printer to PSF with a `PRINTDEV` statement, including the IP address and port number.

Specifying the TCP/IP
address space name

To specify a TCP/IP address space name you should enter the following EXEC statement in the appropriate PSF writer procedure:

```
//STEP01 EXEC
PGM=APSPPIEP,REGION=4096K,PARM=(,,,tcpip_name)
```

where `tcpip_name` is the name of the TCP/IP address space. If this parameter is not coded, PSF uses the default name `TCPIP`. For a full description of the `PARM` parameter refer to IBM's user documentation covering the print service facility.

Defining the
MVS control unit

If you have not already done so, you must define the communications control unit, e.g. the 3172 control unit or the 3745 control unit, to MVS. The tool to use is dependent on your MVS version:

- When using a version earlier than MVS 4.1.0, you should use an MVS Configuration Program (MVSCP).
- When using a version of MVS 4.1.0 or higher, you can use a HardWare Configuration Definition (HCD) or an MVSCP.

For more information about using these methods, please refer to one of the following publications:

- MVS/ESA Planning: Dynamic I/O Configuration
- OS/390 HCD Planning
- HCD User's Guide

Modifying the TCP/IP profile

The TCP/IP profile contains system configuration statements used to initialize the TCP/IP address space. Among those statements, the following are subject to special considerations when you are printing from PSF on TCP/IP-attached printers:

- DATABUFFERPOOLSIZ
- SMALLDATABUFFERPOOLSIZ
- TINYDATABUFFERPOOLSIZ
- KEEPALIVEOPTIONS
- GATEWAY

Below is an excerpt from an example TCP/IP Profile (not a complete profile) . Examples of the statements above are printed in bold:

```

ACBPOOLSIZ           1000
ADDRSTRANSLATIOPOLSIZ 1500
CCBPOOLSIZ           150
DATABUFFERPOOLSIZ    160   32768
ENVELOPEPOOLSIZ      750
IPROUTEPOOLSIZ       300
LARGEENVELOPEPOOLSIZ 50
RCBPOOLSIZ           50
SCBPOOLSIZ           256
SKCBPOOLSIZ          256
SMALLDATABUFFERPOOLSIZ  256
TCBPOOLSIZ           512
TINYDATABUFFERPOOLSIZ  256
UCBPOOLSIZ           100

KEEPALIVEOPTIONS  INTERVAL 10 SENDGARBAGE  FALSE  ENDKEEPALIVEOPTIONS
GATEWAY
; * Network      First Hop   Linkname  Packet Size Subnet mask  Subnet value
   10             =           BCPLAN    2000      255.255.255.0 10.10.12.0
   DEFAULTNET 10.10.12.1 BPCLAN   2000      255.255.255.0 0

```

Note:

If you change any of the values in the TCP/IP profile, you must restart TCP/IP to activate the new settings.

The table below provides more information about the statements.

Statement	Explanation
DATABUFFERPOOLSIZE	Defines the number and size of the data buffers. It is recommended that you specify at least 160 data buffers and a buffer size of 32768 bytes
SMALLDATABUFFERPOOLSIZE	Defines the number of small data buffers. It is recommended that you specify at least 256 small data buffers
TINYDATABUFFERPOOLSIZE	Defines the number of tiny data buffers. It is recommended that you specify at least 256 tiny data buffers
KEEPALIVEOPTIONS	<p>PSF relies on TCP to detect when a connection with a TCP/IP-attached printer or an AXIS 5570e/AXIS 5670e is no longer available. When no data has been exchanged between PSF and its connection partner, TCP sends keep-alive probes to the connection partner periodically. These periodic probes, called keep-alive transmissions, enable TCP to discover when a connection is no longer usable even if the connection partner is abruptly powered off or is no longer accessible through the network.</p> <p>The frequency of keep-alive transmissions is controlled by the INTERVAL parameter on the KEEPALIVEOPTIONS statement. The frequency applies to all TCP applications that direct TCP to send keep alive transmissions. The default frequency is after about two hours of inactivity. We recommend that you specify a shorter interval than the default, such as 10 minutes, for the interval between keep-alive transmissions.</p> <p>Also, if any target host on you network requires that the keep-alive packet contains data, specify SENDGARBAGE TRUE</p>
GATEWAY	<p>The Packet_size parameter of the GATEWAY statement defines the maximum transmission unit (MTU) for the MVS host. The MTU size must not exceed the maximum size that can be sent through the control unit; if it does, transmission problems will occur.</p> <p>The MTU size should be 2000 bytes and the MTU size for the MVS host should be the same as the MTU size for the printer.</p> <p>For values in the GATEWAY statement other than the packet size, specify the values that are correct for your installation.</p>

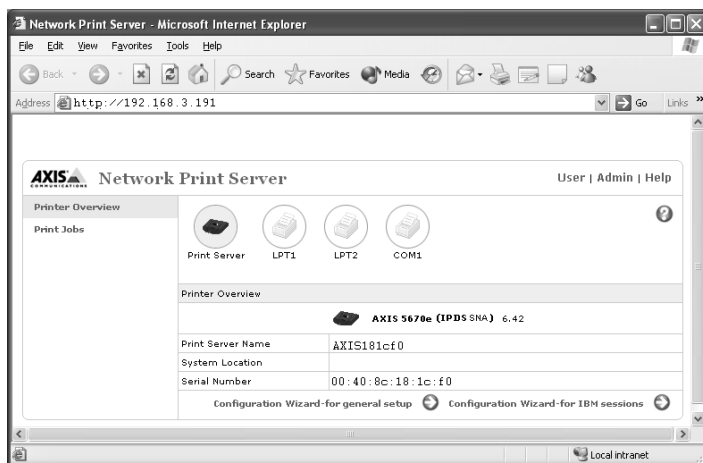
For more information about the TCP/IP profile and the statements described in this section, please refer to:

- IBM TCP/IP MVS Customization and Administration Guide
- IBM TCP/IP Performance and Tuning Guide

Configuring the AXIS 5570e/AXIS 5670e

Follow the instructions below to configure your AXIS 5570e/AXIS 5670e using a standard Web browser:

1. Start a Web browser, e.g. Internet Explorer or Netscape Navigator.
2. Enter the IP address or the host name of the AXIS 5570e/AXIS 5670e in the location field and press the **Enter** key on your keyboard. The internal Web pages of the AXIS 5570e/AXIS 5670e will appear.



Note:

To protect the Admin pages and the Configuration Wizard from unauthorized use, enter a password (default Pass) in the Root Password field under Admin | General Settings.

Note for IPDS printing:

In the Configuration Wizard, you can choose between PCL or PostScript printing. Choose the printer language that corresponds to your printer.

3. Click the **Configuration Wizard for IBM sessions** button.
4. Click the **Add Session** button. This will start the **Configuration Wizard** which is a step-by-step guide through the required IBM configuration settings.

Verifying the communication

You can verify the communication between the MVS system and the AXIS 5570e/AXIS 5670e by pinging the print server from the MVS system. A successful ping indicates that the MVS system can communicate with the AXIS 5570e/AXIS 5670e.

From an TSO session, enter the following command:

```
TSO PING <IP_address>
```

Note:

The IP address is the IP address of the AXIS 5570e/AXIS 5670e.

In JES2, enter the following command from the System Display and Search Facility (SDSF) menu 6:

```
ping <IP_address>
```

Note:

The IP address is the IP address of the AXIS 5570e/AXIS 5670e.

Here is an example of a successful ping:

```
EZA0458I Ping V3R1: Pinging host 10.50.45.200
(Use ATTN to interrupt.)
EZA0463I PING: Ping #1 response took 0.055 seconds
Successes so far = 1
```

And here is an example of an unsuccessful ping:

```
EZA0458I Ping V3R1: Pinging host 10.50.45.200
(Use ATTN to interrupt.)
EZA0464I PING: Ping #1 timed out
```

If the ping is not successful make sure the AXIS 5570e/AXIS 5670e is configured according to the instructions in **Setting the IP address**, on page 24 and in **Configuring the AXIS 5570e/AXIS 5670e**, on page 71. If these items are all in order, consult your TCP/IP network administrator.

JES definitions

When a TCP-attached printer is to be used with JES, it must be defined for deferred-printing mode. To use a PSF printer for deferred printing under JES, you must first code JES initialization statements to define FSSs and FSAs for PSF printers. For JES2, the FSS is defined by an `FSS` statement, and the FSA is defined by a `PRTnnnn` statement. For JES3, the FSS is defined by an `FSSDEF` statement, and the FSA is defined by a `DEVICE` statement.

The maximum number of FSSs and FSAs that are supported are:

- FSSs = 2000
- FSAs per FSS = 64

The actual number of FSAs per FSS depends on several factors like:

- The virtual region size below the 16-megabyte line
- The number and the size of form definitions and page definitions
- The number of buffers specified (`BUFNO`) for channel-attached printers
- The block sizes of the font, page segment, overlay, form definition, and page definition libraries

JES2 Initialization

The example below shows a sample JES2 statements for a TCP/IP-attached AXIS 5570e/AXIS 5670e:

```
FSS (FSS1) PROC=SAMPPROC,HASPFSSM=HASPFSSM
PRT1      FSS=FSS1,MODE=FSS,PRMODE=(LINE,PAGE, ),
          CLASS=C,UCS=0,SEP=NO,SEPDS=NO,CKPTPAGE=100
          START=YES,MARK=NO,TRKCELL=YES
```

Note:

This is only an example. For specific coding for JES parameters, refer to the JES publication for the level of JES you are using.

The following paragraphs describe the JES2 initialization statements shown above, which are typical of the JES2 statements used with PSF. For more detailed descriptions of all JES2 initialization statements, refer to the JES2 initialization and tuning publication for your operating system.

FSS Statement:

The `FSS` initialization statement is optional but recommended. If it is omitted, JES2 generates a default FSS for that device. The `FSS` initialization statement defines an FSS to JES2. The `FSS` statement is associated with one or more `PRTnnnn` statements that define each printer FSA. For a description of all FSS parameters, refer to the JES2 initialization and tuning publication for your operating system. The FSS statement contains the following parameters for PSF:

FSS Statement	Explanation
FSS (fasname)	Specifies the unique 1- to 8-character name of a particular FSS. This name is referenced in the <code>PRTnnnn</code> statement for each printer FSA that is associated with this FSS. When you start the first printer that has an FSA definition for that FSS, an FSS address space is created for PSF. PSF manages this FSS and the printer FSA for the first printer. If you start a second printer with an FSA definition for the same FSS, PSF manages a separate FSA for the second printer in that FSS.
PROC	Specifies a procedure for starting the PSF FSS. The procedure, which must be defined before that FSS is started, is a member of either <code>SYS1.PROCLIB</code> or a library concatenated to <code>SYS1.PROCLIB</code> .
HASPFSSM	Specifies the 1- to 8-character name of the load module that is loaded into the PSF FSS address space. This load module contains the various FSI service routines that JES2 supplies. For PSF, specify the default value (<code>HASPFSSM=HASPFSSM</code>).

PRTnnnn Statement:

A `PRTnnnn` statement, which is required to define each printer `nnnn` statement FSA, is associated with an `FSS` statement. Each printer FSA should have a unique `PRTnnnn` name that must match the label on the `CNTL`, `ENDCNTL`, and `PRINTDEV` statements for the PSF startup procedure specified in the `PROC` parameter.

Note:

The label on the `PRINTDEV` statement must be 8 characters or fewer. PSF accepts the `PRTnnnn`, `PRINTnn`, and `PRINTERn` formats. `PRTnnnn` is the recommended format.

The `PRTnnnn` parameters create JES2 default values that are used unless other values are specified in the application program JCL. The `PRTnnnn` statement contains the following parameters:

PRTnnnn Statement	Explanation
CKPTPAGE	Specifies the number of pages between data-set checkpoints. If checkpoint intervals are too frequent, printer performance is significantly reduced. If intervals are too infrequent, and a PSF error occurs, the job has to be reprocessed from the last checkpoint. In this case, printer performance is significantly reduced if PSF errors continue to occur. The recommended starting value is 100.
CLASS	Specifies the output classes processed by the printer. By defining print classes you can handle disabled mechanisms.
FSS	Specifies the FSS for this device and must match the FSA name specified in the corresponding FSS statement. This parameter is required.
MARK	Enables form markings to be placed on the job trailer pages. For the AXIS 5570e/AXIS 5670e you should set this parameter to NO. Note: This parameter is new in JES2 and replaces the MARK NOMARK parameter.
MODE	Specifies that the printer is managed by an FSS. This parameter is required.

PRTnnnn Statement	Explanation
PRMODE	Specifies the data-set processing modes supported for the printer. It lists all the PRMODE values that the printer accepts. If the AXIS 5570e/AXIS 5670e is connected to a PostScript printer, the correct setting is PRMODE=(PAGE , LINE ,) .. This setting indicates that composed-page and line data sets can be printed.
SEP	Enables job-header and job-trailer separator pages to be produced. Note1: If the Distributed Print Function (DPF) of PSF/2 is installed, you may need to set this parameter to YES. Note2: This parameter is new in JES2 and replaces the SEP NOSEP parameter.
SEPDS	Enables formatted data-set header separator pages to be produced. Note: This parameter is new in JES2 and replaces the SEPDS NOSEPDS parameter.
START	Specifies the way that the printer is started. The parameter value NO specifies that the printer is to be started by an operator command. The parameter value YES specifies that the printer, if it is ready, is to start automatically when JES2 starts processing. Note: This parameter is new in JES2 and replaces the DRAIN START parameter.
TRKCELL	Specifies whether track-cell despooling is to be used or not. It is recommended to set this parameter to YES.
UCS	Specifies a default font. If you want to select a font in the startup procedure instead of the JES2 default font, you should set this parameter to 0.

JES3 Initialization

Below is sample JES3 statements for an TCP/IP attached AXIS 5570e/AXIS 5670e. In the example the JNAME=PRT1 has been used.

```
FSSDEF ,TYPE=WTR ,FSSNAME=FSS3 ,PNAME=SAMPPRO3 ,SYSTEM=SYS1 ,TERM=NO
DEVICE ,DTYPE=PRTAFP1 ,JNAME=PRT1 ,JUNIT=( ,SYS1 , ,ON) ,FSSNAME=FSS3
MODE=FSS ,PM=( LINE ,PAGE , ) ,CHARS=( YES ,GT12) ,
CARRIAGE=( TES ,A868) ,CKPNTPG=100 ,HEADER=YES ,WC=( C)
```

Note:

This is only an example. For specific coding for JES parameters, refer to the JES publication for the level of JES you are using.

The following paragraphs describe the JES3 initialization statements shown above, which are typical of the JES3 statements used with PSF. For more detailed descriptions of all JES3 initialization statements, refer to the JES3 initialization and tuning publication for your operating system.

FSSDEF Statement:

The FSSDEF initialization statement is optional but recommended. If it is omitted, JES3 generates a default FSS for the printer being invoked.

The FSSDEF statement can contain the following parameters:

FSSDEF Statement	Explanation
TYPE	Specifies that the FSS is an output writer for deferred printing. This parameter is required.
FSSNAME	Specifies the unique name of a particular FSS. This parameter is required.
PNAME	Specifies a procedure for starting a specific PSF FSS. The procedure, which must be defined before the FSS is started, is a member of the procedure library defined by the STCPROC parameter of the STANDARDS statement or of the IATPLBST procedure library. Different FSSDEF initialization statements can refer to the same startup procedure. The PNAME parameter specifies either a startup procedure supplied with PSF, or one of your organization's procedures.
SYSTEM	Specifies the JES3 processor on which the FSS is run. The name must match the NAME parameter in the MAINPROC statement for the processor.
TERM	Specifies the way that the FSS is terminated. The parameter value YES indicates that the FSS is terminated if the JES3 global address space is terminated by a *RETURN or *DUMP operator command.

DEVICE Statement:

A DEVICE statement is required for each printer. The DEVICE parameters create JES3 default values that are used unless other values are specified in the JCL application program. The DEVICE statement can contain the following parameters:

Device Statement	Explanation
CARRIAGE	<p>Specifies the JES default page definition.</p> <p>The value YES specifies that the page definition can be changed during startup procedures.</p> <p>The value NO specifies that the page definition cannot be changed during startup procedures.</p> <p>The value aaaa specifies that the un-prefixed name, 1 to 4 characters long, of the page definition is to be used as default. The name specified here, or the JES3 system default, is the PSF default page definition.</p>
CHARS	Specifies a default JES3 font.
CKPNTPG	Specifies the number of pages between data-set checkpoints. If checkpoint intervals are too frequent, printer performance is significantly reduced. If intervals are too infrequent, and a PSF error occurs, the job has to be reprocessed from the last checkpoint. In this case, printer performance is significantly reduced if PSF errors continue to occur. The recommended starting value is 100.
DTYPE	Identifies the printer device type. For the AXIS 5570e/AXIS 5670e you should specify the parameter value <code>PRTAFFP1</code> . This parameter is required.
FSSNAME	Specifies a unique FSS for this printer DEVICE statement. The value must match the value coded for the FSSNAME parameter in the corresponding FSSDEF statement.
HEADER	Specifies if job and data set header pages are printed. If DPF is installed, you may need to specify <code>HEADER=YES</code> .
JNAME	Specifies the name of the printer FSA. Each printer FSA should have a unique JNAME. This unique JNAME is 8 characters or fewer and must correspond to its label on the <code>CNTL</code> , <code>ENDCNTL</code> , and <code>PRINTDEV</code> statements for the PSF startup procedure specified in the <code>PNAME</code> parameter. This parameter is required.

Device Statement	Explanation
JUNIT	<p>Specifies:</p> <ol style="list-style-type: none"> 1. The device address (host-connected, channel-attached, non-SNA printers only). Do not specify a device address for the AXIS 5570e/AXIS 5670e when using TCP/IP attachment. 2. The name of the processor to which the device is attached 3. A destination class for messages about the device 4. Whether the device is initially online or offline <p>This parameter is required.</p>
MODE	Specifies that the printer is managed by an FSS. This parameter is required.
PM	Specifies which data-set processing mode is supported. For the AXIS 5570e/AXIS 5670e attached to Postscript printers, the correct setting is <code>PRMODE=(LINE,PAGE,)</code> , indicating that composed-page and line data sets can be printed.
WC	Specifies the print output class that the printer is to process. You may want to consider handling disabled mechanisms by defining print classes.

Defining the printer to PSF

Each AXIS 5570e/AXIS 5670e must be defined to PSF with a PRINTDEV statement in the PSF startup procedure. The following keywords are required on the PRINTDEV statement:

- IPADDR='xxx.xxx.xxx.xxx'
- PORTNO='xxx'

The IPADDR parameter specifies the IP address of the AXIS 5570e/AXIS 5670e in dotted-decimal notation.

Note:

Do not specify a host name in place of the dotted-decimal address.

The PORTNO keyword specifies the TCP/IP port to use for the print session. This port number must match the port number set up for the AXIS 5570e/AXIS 5670e in **Configuring the AXIS 5570e/AXIS 5670e**, on page 71.

Below is a sample procedure, `APSWPROT`, which you can modify to suit your installation. The `PRINTDEV` statement includes the required `IPADDR` and `PORTNO` keywords. In the `PRINTDEV` example below, the TCP/IP port number 5100 is used, but any port, larger than 1024, can be used as long as the same port is set up in the AXIS 5570e/AXIS 5670e.

The `APSWPROT` procedure contains JCL parameters to produce a startup procedure for either 240-pel and 300-pel printers, but the references to 300-pel resolution are commented out. To create separate startup procedures, make two copies of `APSWPROT`, and then follow the commented instructions in `APSWPROT`. Keep one unchanged copy as your startup procedure for a resolution of 120 or 240 pels. In the second copy, delete or comment out all references to 240-pel resolution, and make all references to 300-pel resolution active. This changed copy is your startup procedure for 300-pel resolution.

If you want to print both 240-pel and 300-pel AFP/IPDS jobs, create two separate FSAs, one for jobs with resolution of 120 or 240, and one for jobs with resolution of 300 pels. The 240-pel resolution FSA uses 240-pel resources, and the 300-pel resolution FSA uses 300-pel resources. Both FSAs are defined to drive the same printer; however, only one FSA can be active at one time for a given printer. You should define separate classes or destinations for each FSA. Your installation must route the appropriate jobs to the appropriate class or destination. The two FSAs can be defined in the same or in separate startup procedures.

```
//APSWPROT PROC
//***** THE PSF TCP/IP WRITER PROCEDURE *****
/**
/**01* MODULE-NAME = APSWPROT
/** $MOD(APSWPROT) COMP(APS) PROD(PSF) : RELEASE 2.2.0
/**
/**01* DESCRIPTIVE-NAME = START PROCEDURE FOR PSF:
/**
/**                                TCP/IP ATTACHED DEVICES
/**
/**01* STATUS = VERSION 2, RELEASE 2, LEVEL 0
/**
/**01* FUNCTION = THIS PROCEDURE IS COPIED FROM THE
/**                DISTRIBUTION LIBRARY TO SYS1.PROCLIB.
/**                THIS COPY IS PERFORMED BY MACRO 'SGAP55PR'.
/**
/**01* NOTES = THE FULL NAME OF THE DEFAULT PAGEDEF IS
/**                P1A06462.
/**                THE FULL NAME OF THE DEFAULT FORMDEF IS
/**                F1A10110.
/**                THE FULL NAMES OF THE DEFAULT FONTS ARE
/**                X0GF10, X0GS10, X0TU10, AND X0GU10
/**                THE FULL NAME OF THE SEPARATOR PAGE PAGEDEF IS
/**                P1V06483
/**                THE FULL NAME OF THE SEPARATOR PAGE FONT IS
/**                X0GT15
/**
```


Example continues

```

CONT...

/** REQUIRED ACTIONS =
/**   RESOLUTION - THIS START PROCEDURE IS SET UP FOR DRIVING
/**   A TCP/IP DEVICE AT 240 PEL RESOLUTION. TO CHANGE IT
/**   TO DRIVE 300 PEL RESOLUTION TCP/IP ATTACHED DEVICES:
/**
/**   A) COMMENT OUT THE FIRST PRINTDEV STATEMENT AND UNCOMMENT
/**   THE SECOND PRINTDEV STATEMENT
/**
/**   B) THE FONT02 DATA SET MUST CONTAIN THE CONVERTED
/**   DEFAULT FONTS LISTED IN THE PRINTDEV.
/**   THE FONTS ARE CONVERTED USING THE FONT
/**   CONVERSION UTILITY APSRCF30. SEE THE PSF
/**   SYSTEM PROGRAMMING GUIDE.
/**
/**01* CHANGE-ACTIVITY :
/** $H1=LAPS0001, HAF1103, 080195 DKULJAU : TCP/IP SUPPORT
/**
/**** END OF SPECIFICATIONS ****/
//STEP01 EXEC PGM=APSPPIEP,REGION=4096K
//JOBHDR OUTPUT PAGEDEF=V06483, /* JOB SEPARATOR PAGEDEF */
// FORMDEF=A10110,CHARS=GT15 /* JOB SEPARATOR FORMDEF */
//JOBTLR OUTPUT PAGEDEF=V06483, /* JOB SEPARATOR PAGEDEF */
// FORMDEF=A10110,CHARS=GT15 /* JOB SEPARATOR FORMDEF */
//DSHDR OUTPUT PAGEDEF=V06483, /* DS SEPARATOR PAGEDEF */
// FORMDEF=A10110,CHARS=GT15 /* DS SEPARATOR FORMDEF */
//MSGDS OUTPUT PAGEDEF=V06462, /* MESSAGE DATASET PAGEDEF */
// FORMDEF=A10110 /* MESSAGE DATASET FORMDEF */
//FONT01 DD DSN=SYS1.FONTLIBB, /* SYSTEM FONTS - 240 PEL */
// DISP=SHR
//FONT02 DD DSN=SYS1.FONT300, /* SYSTEM FONTS - 300 PEL */
// DISP=SHR
//PSEG01 DD DSN=SYS1.PSEGLIB, /* SYSTEM PAGE SEGMENTS */
// DISP=SHR
//OLAY01 DD DSN=SYS1.OVERLIB, /* SYSTEM MEDIUM OVERLAYS */
// DISP=SHR
//PDEF01 DD DSN=SYS1.PDEFLIB, /* SYSTEM PAGEDEFS */
// DISP=SHR
//FDEF01 DD DSN=SYS1.FDEFLIB, /* SYSTEM FORMDEFS */
// DISP=SHR
    
```

Example continues

```

CONT . . .

/* ***** */
/*          PRINTDEV
/* ***** */
//PRT1      CNTL
//PRT1      PRINTDEV FONTPDD=*.FONT01, /* 240 PEL FONT LIBRARY DD */
/*          /* <-- SEE REQUIRED ACTIONS */
/*          /* ABOVE */
/*PRT1      PRINTDEV FONRDD=*.FONT02, /* 300 PEL FONT LIBRARY DD */
/*          /* <-- SEE REQUIRED ACTIONS */
/*          /* ABOVE */
//          OVLYDD=*.OLAY01, /* OVERLAY LIBRARY DD */
//          PSEGDD=*.PSEG01, /* SEGMENT LIBRARY DD */
//          PDEFDD=*.PDEF01, /* PAGEDEF LIBRARY DD */
//          FDEFDD=*.FDEF01, /* FORMDEF LIBRARY DD */
//          JOBHDR=*.JOBHDR, /* JOB HEADER SEPARATOR */
/*          /* OUTPUT */
//          JOBTRLR=*.JOBTRLR, /* JOB TRAILER SEPARATOR */
/*          /* OUTPUT */
//          DSHDR=*.DSHDR, /* DATA SET HEADER */
/*          /* SEPARATOR */
//          MESSAGE=*.MSGDS, /* MESSAGE DATA SET OUTPUT */
//          BUFNO=5, /* NUMBER OF WRITE DATA BUFFERS*/
//          PAGEDEF=A06462, /* DEVICE PAGEDEF DEFAULT */
//          FORMDEF=A10110, /* DEVICE FORMDEF DEFAULT */
//          CHARS=(GF10, /* DEVICE */
//          GS10,TU10,GU10), /* DEFAULT FONT SET */
//          PIMSG=YES, /* ACCUMULATE DATA SET */
/*          /* MESSAGES */
//          DATAK=BLOCK, /* REPORT ALL DATA-CHECK */
/*          /* ERRORS */
//          TRACE=NO, /* CREATE INTERNAL TRACE */
//          FAILURE=WCONNECT, /* PSF ACTION ON PRINTER */
/*          /* FAILURE */
//          TIMEOUT=REDRIVE, /* PSF ACTION ON TIMEOUT */
//          MGMTMODE=IMMED, /* PRINTER MANAGEMENT MODE */
//          DISCINTV=40, /* DISCONNECT INTERVAL IN */
/*          /* SECONDS */
//          IPADDR='xxx.xxx.xxx.xxx' /* AXIS 5570e/AXIS 5670e IP
ADDRESS */
//          PORTNO='5100', /* TCP/IP PORTO */
//PRT1      ENDCNTL

```

Although it is not recommended, it is possible to drive the printer with just one FSA, if one of the following conditions are met:

- All the resources in the resource libraries are resolution-independent, and all the jobs that use inline resources or user libraries contain resources that are resolution-independent.
- All jobs that request a resolution that is different from the resolution-dependent resources in the PSF system and security libraries contain the resources at the requested resolution, either as inline resources or in the user's library.

Even if a PSF user requests 120-pel resolution for an AFP print job being sent to the printer, PSF requires 240-pel resources from the library. Do not store 120-pel resources in the library.

Starting and stopping the PSF/MVS printer

When operating the AXIS 5570e/AXIS 5670e when emulating a TCP/IP attached IPDS printer, you should use JES operator commands, just as if the printer were channel-attached or SNA-attached.

Starting the printer

To start a TCP/IP-attached printer, do the following:

1. Start TCP/IP.
2. Power on the printer(s).
3. Power on the AXIS 5570e/AXIS 5670e.
4. Start the printer FSA as indicated below.

Before starting a PSF FSS, you must have a cataloged startup procedure in SYS1.PROCLIB or any other system procedure library. This procedure specifies PSF initialization parameters and libraries that contain system and installation resources. The name of this procedure can be specified in the FSSDEF statement of the JES initialization deck. If the name is omitted, JES3 supplies a default name, that is chosen for the defined printer.

When you install PSF, you must create or update the required libraries referenced by the startup procedure, and you should consider any need to increase the region size, as specified in the EXEC statement, to accommodate resources and an increased number of printer FSAs. The startup procedure can also specify defaults that cannot be set with JES initialization statements for printer FSA definitions.

Stopping the printer You can stop a TCP/IP-attached printer in several ways but this is the recommended method:

Stop the PSF FSA for the printer by entering the following command from the MVS console.

JES2:

```
$Pprinter-name
```

JES3:

```
*VARY printer-name, OFF  
*CANCEL printer-name
```

The variable `printer-name` specifies the name of the printer FSA as defined in **JES definitions**, on page 88.

You can now disconnect the power supply from the AXIS 5570e/AXIS 5670e.

Section 6 Setting Up - Windows

Having connected the AXIS 5570e/AXIS 5670e to your network, as described in *Connecting a printer to the Ethernet Network*, on page 20, this section describes how to install the AXIS 5570e/AXIS 5670e in the Windows environment. Identify your Windows platform and follow the installing instructions from the list below. Overview of installation methods

Refer to the table below to determine the most appropriate installation method according to your computer environment:

<i>Windows Platform</i>	<i>Printing Protocol</i>	<i>Method</i>	<i>See...</i>
Windows 2000 Windows XP	TCP/IP (LPR)	Standard Windows Add Printer Wizard	<i>Adding Printers in Windows 2000/Windows XP over TCP/IP (LPR)</i> , on page 102
		Microsoft LPR Monitor	<i>Adding Printers in Windows 2000/Windows XP using the Microsoft LPR Monitor</i> , on page 109
Windows 2000	NetBIOS/NetBEUI	AXIS Print Monitor software	<i>Adding Printers in Windows NT 4 Using the Microsoft LPR Monitor</i> , on page 112
Windows NT	TCP/IP (LPR)	AXIS Print Monitor software	<i>Adding Printers over TCP/IP in Windows NT 4 using AXIS Print Monitor</i> , on page 115
	NetBIOS/NetBEUI	AXIS Print Monitor software	<i>Adding NetBIOS/NetBEUI Printers in Windows 2000 using AXIS Print Monitor</i> , on page 116
Windows 98 Windows Me	TCP/IP (LPR)	AXIS Print Monitor software	<i>Adding Printers in Windows 98 and Me over TCP/IP using AXIS Print Monitor</i> , on page 119
	NetBIOS/NetBEUI		<i>Adding Printers in Windows 98 and Me over NetBIOS/NetBEUI using AXIS Print Monitor</i> , on page 121

If you intend to use the AXIS 5570e/AXIS 5670e in a multiprotocol environment, you should also refer to the following sections:

Section 7 Setting Up - NetWare, on page 123

Section 8 Setting Up - OS/2, on page 117

Section 8 Setting Up - Macintosh, on page 158

Section 9 Setting Up - UNIX, on page 165

Adding Printers in Windows 2000/ Windows XP over TCP/IP (LPR)

Follow the instructions below to use the standard Windows method for adding a network printer in Windows 2000/ Windows XP (Windows XP Professional is described in this example).

Windows XP:

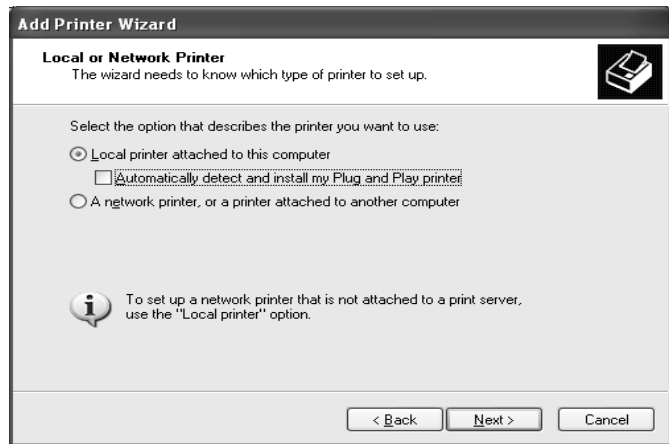
1. Go to **Start | Printers and Faxes** and click the **Add a Printer** icon to start the Add Printer Wizard. Click **Next**.

(Windows XP Home Edition: Choose **Start | Control Panel | Printers and Faxes | Add a Printer** to start the Windows Add Printer Wizard)

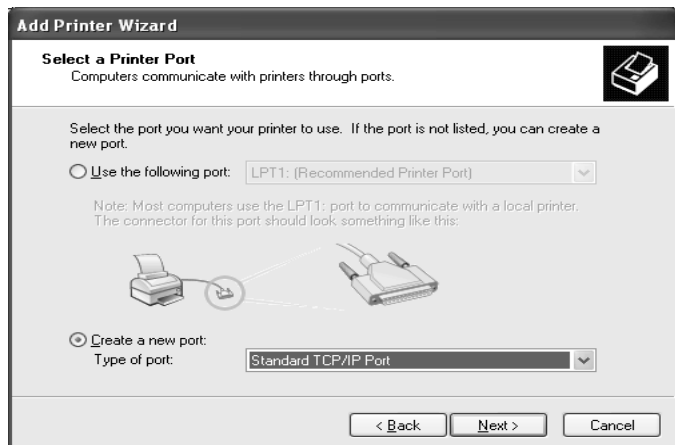
Windows 2000:

1. Go to **Start | Settings | Printers** and click the **Add Printer** icon to start the Add Printer Wizard. Click **Next**.

2. Select **Local Printer attached to this computer**. Make sure the **Automatically detect and install my Plug and Play printer** check box is not checked. Click **Next**.



3. Click the **Create a new port** radio button and select **Standard TCP/IP Port** from the list. Click **Next** and the **Add Standard TCP/IP Printer Port Wizard** starts. Click **Next**.



4. Enter the IP address of the print server (Example: 192.168.3.191)
The **Port Name** field will be filled in automatically when you enter the IP address.

Add the port you want to use as a suffix (optional):

5570e:

Physical Port	Add suffix	Entry example
USB port	Type _USB1	<i>192.168.3.191_USB1</i>
LPT1 (parallel port)	Type _LPT1	<i>192.168.3.191_LPT1</i>

5670e:

Physical Port	Add suffix	Entry example
LPT1 (parallel port)	Type _LPT1	<i>192.168.3.191_LPT1</i>
LPT2 (parallel port)	Type _LPT2	<i>192.168.3.191_LPT2</i>
COM1 (serial port)	Type _COM1	<i>192.168.3.191_COM1</i>

Click **Next**.

Add Standard TCP/IP Printer Port Wizard

Add Port
For which device do you want to add a port?

Enter the Printer Name or IP address, and a port name for the desired device.

Printer Name or IP Address:

Port Name:

< Back Next > Cancel

- In the **Additional Port Information Required** window, enter the **Device Port** you want to use, you will see LPT1, LPT2 and COM1 in a drop-down menu:

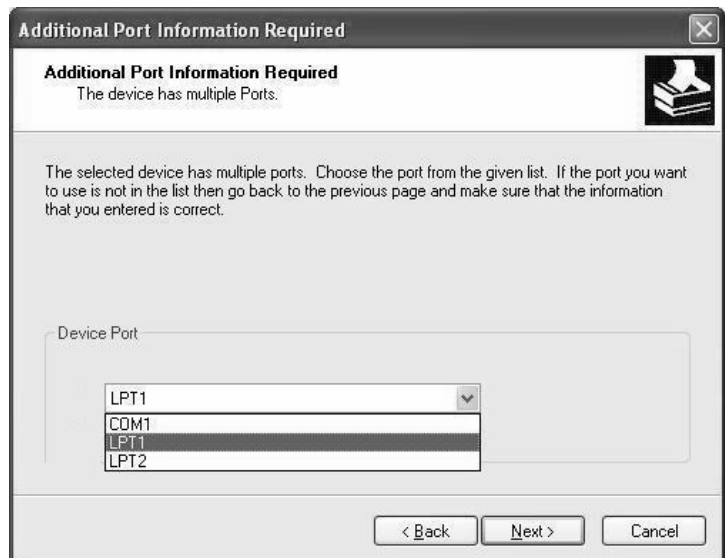
5570e:

Physical print server port connected to printer	Choose port
USB port	LPT2
LPT1 (parallel port)	LPT1

5670e:

Physical print server port connected to printer	Choose port
LPT1 (parallel port)	LPT1
LPT2 (parallel port)	LPT2
COM1 (serial port)	COM1

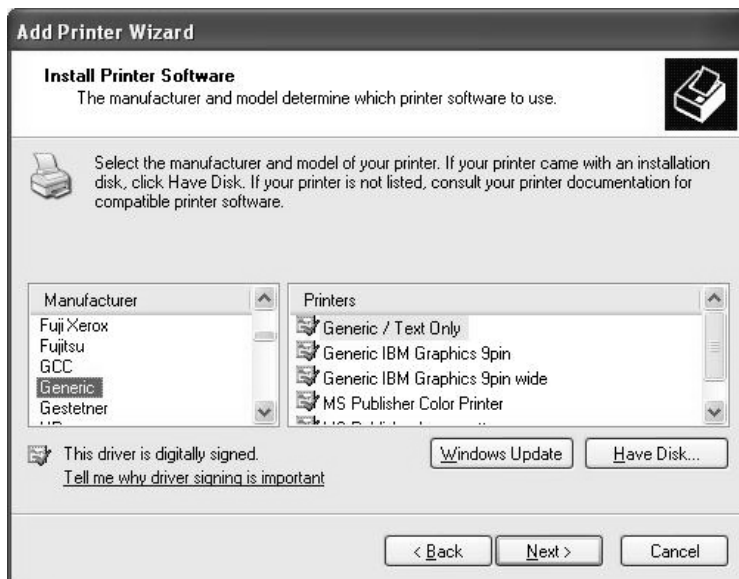
Click **Next**.



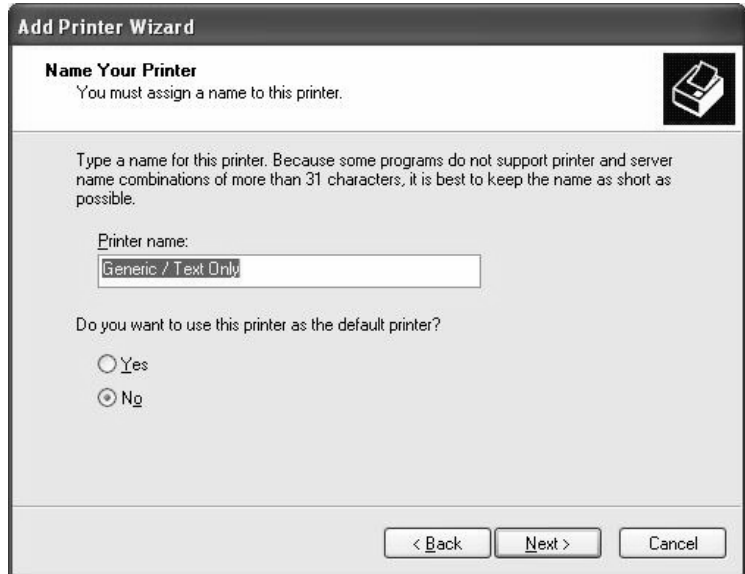
Click Next and Finish



6. Select Manufacturer and Printer from the driver list. Click Next.



7. Choose whether you want to keep the existing driver or to replace it. If you already have the printer's driver installed, you will be asked whether to keep it or to replace it.
8. Click **Next**. Supply a name for the printer and choose whether you want to make it your default printer. Click **Next**.



Add Printer Wizard

Name Your Printer
You must assign a name to this printer.

Type a name for this printer. Because some programs do not support printer and server name combinations of more than 31 characters, it is best to keep the name as short as possible.

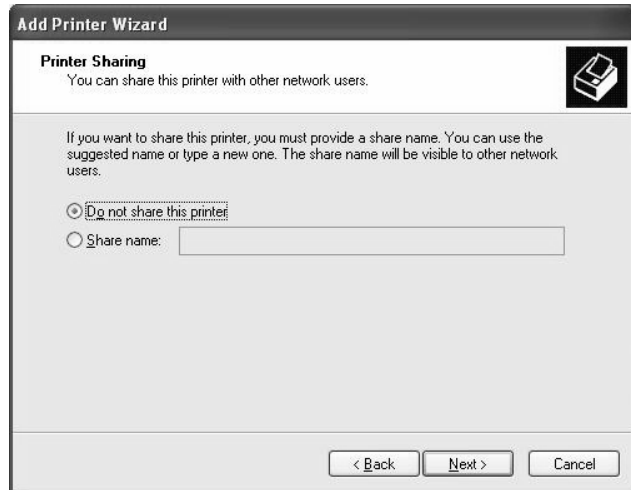
Printer name:

Do you want to use this printer as the default printer?

Yes
 No

< Back Next > Cancel

9. Choose whether you want to share the printer with other network users, print a test page, etc. Select the appropriate radio button and click **Next** and **Finish**.



10. Print a test page to verify your installation.



You have now completed the installation.

..

Check www.axis.com/techsup for updates on the 'tcpmon.ini' file!

Adding Printers in Windows 2000/Windows XP using the Microsoft LPR Monitor

This section describes how to set up a Windows 2000/XP server for LPR printing over the TCP/IP protocol, using the built-in Microsoft LPR Monitor i.e. **Print Services for UNIX**.

Note:

See *Alternative Method for LPR Printing*, on page 111 for instructions on how to set up printing over LPR without installing Print Services for Unix.

Basic Setup If you have not already done so, you should perform the TCP/IP basic setup procedures prior to installing a printer for LPR printing.

Preparing for LPR Printing Follow the following steps to prepare for LPR printing:

1. Open the **Control Panel**.
2. Click **Add/Remove Programs**.
3. Click **Add/Remove Windows Components**.
4. Check **Other Network File and Print Services** and click **Details**.
5. Check **Print Services for Unix** and click **OK**.
6. Click **Next** and **Finish**.
7. Close **Add/Remove Programs** and the **Control Panel**.

Installing an LPR printer Follow the instructions below to use the standard Windows method for installing an LPR printer in Windows 2000/XP:

Windows XP: 1. Go to **Start | Printers and Faxes** and click the **Add a Printer** icon to start the **Add Printer Wizard**. Click **Next**.

Windows 2000: 1. Go to **Start | Settings | Printers** and click the **Add Printer** icon to start the **Add Printer Wizard**. Click **Next**.

2. Select the appropriate radio button: **Local Printer**. Click **Next**.

3. Click the **Create a new port** radio button and select **LPR Port** from the list. Click **Next**.

4. Enter the name of the server (or its IP address) in the field **Name and address of server providing lpr** (Example: AXIS100086) and enter the port you want to use in the field **Name of printer or print queue on that server** (Example: USB1). Click **OK**.

Ports available	USB port	Parallel port	Serial port
AXIS 5570e	USB1	LPT1	–
AXIS 5670e	LPT1	LPT2	COM1

End the wizard in the usual manner: select **Manufacturer and Printer**, keep/replace driver, name the printer, make it default or not, share it or not and finally decide whether you want to print a test page.

Client/Server Printing Select **Network printer** instead of **Local Printer** in Step 2 above if your print server has already been installed by the administrator on another computer. Follow the instructions in the **Add Printer Wizard** to complete the installation.

Important!

- Make sure that the **Automatically detect and install my Plug and Play printer** checkbox is not checked
- Press **F1** to access the Windows online help system if you need additional help when installing a printer/print server using this method.

Alternative Method for LPR Printing

If you wish to print over LPR but do not wish to install **Print Services for Unix** you can do this by changing the printing protocol after having installed the printer using the Standard TCP/IP method, see *Adding Printers in Windows 2000/ Windows XP over TCP/IP (LPR)*, on page 102 for instructions. LPR is chosen by default with this method.

Once the printer is installed, follow these instructions to change the printing protocol:

1. Go to **Start | Settings | Printers**.
2. Double-click the installed printer.
3. Select **Properties** from the **Printer** menu.
4. Click the **Ports** tab.
5. Click the **Configure Port** button.
6. Click the **LPR** radio button and enter the queue name (PR1, PR2...).
7. Click **OK** to finish.

Adding Printers in Windows NT 4 Using the Microsoft LPR Monitor

If you have not already done so, you should perform the TCP/IP basic setup procedures prior to installing a printer for LPR printing.

Preparing for LPR Printing

In the **Control Panel**, double-click the **Network** icon. Select the **Services** tab. If the TCP/IP Printing entry appears, then TCP/IP is already installed. Close the **Network** folder and go on to *Installing an LPR printer*, below.

First, prepare for LPR printing:

1. Open the **Control Panel** and double-click the **Network** icon.
2. Select **Protocols**.
3. Add **TCP\IP Protocol**.
4. Select **Services**.
5. Add **Microsoft TCP\IP Printing**.

Installing an LPR Printer

1. Go to **Start | Settings | Printers | Add Printer**. Select **My Computer** (for peer-to-peer printing) and click **Next**.
2. From the **Available Ports** list, choose the appropriate printer port, which will appear as the host name or IP address of the print server. Skip to step 7.
3. If the host name or IP address of the print server you wish to use does not appear in the list, click **Add Port**.
4. Choose **LPR Port** from **Available Printer Ports** and click **New Port**.

5. Type the print server's name or IP address in the field **Name or address of server providing lpr** (Example: 10.13.6.198). Then enter which port to use in the field **Name of printer or print queue on that server** according to the table below (Example: USB1). Click **OK** and then **Close**.

Ports available	USB port	Parallel port	Serial port
AXIS 5570e	USB1	LPT1	—
AXIS 5670e	LPT1	LPT2	COM1

6. The added print server will now appear in the **Available Ports** list.
7. Click **Next**, choose an appropriate driver and finish the installation in the normal manner.

AXIS Print Monitor Software

AXIS Print Monitor is the recommended tool to use for network printing in Windows NT, 98 and Me environments.

AXIS Print Monitor is available free of charge on www.axis.com

AXIS Print Monitor Overview

AXIS Print Monitor allows an AXIS 5570e/AXIS 5670e to be connected in the same simple fashion as connecting a local printer. Once installed, it is automatically initialized upon system startup. AXIS Print Monitor has been developed for peer-to-peer printing, allowing your print jobs to be sent directly to the print server.

Printing Environments

AXIS Print Monitor supports printing over TCP/IP (LPR and Raw TCP) and NetBIOS/NetBEUI. To enable printing in these environments, please ensure that the desired printing protocols are running on your client.

Peer-to-Peer Printing

The AXIS Print Monitor needs to be installed on each workstation to perform peer-to-peer printing. Once installed, the AXIS Print Monitor allows you to access all network printers, just as if they were connected directly to your workstation.

Client/Server Printing

AXIS Print Monitor needs only to be installed on one server to perform client/server printing. The installed printers must be configured to be shared to allow clients to use them. Pop-up messages should not be enabled on the server as they will not be displayed on the client platforms.

Note:

AXIS Print Monitor can also be used for DOS printing. Please refer to the AXIS Print Monitor's Readme file for instructions. The Readme file is located in the same folder where AXIS Print Monitor is installed on your PC.

Adding Printers over TCP/IP in Windows NT 4 using AXIS Print Monitor

1. Install AXIS PrintMonitor on all workstations that will print via the print server.
AXIS PrintMonitor is available free of charge on www.axis.com
2. To start the Add Printer Wizard, select **Settings | Printers** from the **Start** menu and double-click the **Add Printer** icon.
3. The Wizard asks you to select **My Computer** or **Network printer server**. Select **My Computer**, click **Next**.
4. Click **Add Port...** In the Available Ports dialog, select **AXIS Port** and click **New Port...**
5. Select **LPR (TCP/IP)** as your choice of protocol and click **OK**.
6. Enter the IP address or the host name of your print server (*Example IP address: 192.168.3.191 or host name: AXIS181636*).
7. In the **Logical Printer Name** field, enter the port you wish to use; **USB1**, **LPT1**, **LPT2** or **COM1**. Click **OK**, click **Close**.
8. Select **Manufacturer**, **Printers**, choose a printer name and if you want to use the printer as your default printer. Choose if you want to share the printer and print a test page. Click **Finish**.
9. You may now configure the port, as described below.

Configure the Port:

1. Select **Settings | Printers** from the **Start** menu and highlight the printer you wish to configure. Select **File | Properties | Ports** and click **Configure Port**.
2. Choose whether error condition pop-up messages are to be displayed by checking the box in the **Configure AXIS Ports** dialog. Define the frequency at which the error messages should be displayed after retry. Click **OK**.

Even if the desired printer is available in the Manufacturers and Printers lists, you are advised to use the print driver provided with the printer. This assures you of the latest driver software.

Adding NetBIOS/NetBEUI Printers in Windows 2000 using AXIS Print Monitor

See to it that the NetBEUI protocol is installed on your client. Follow the procedure below to install Axis Printer Ports from a Windows 2000 workstation:

1. To start the Add Printer Wizard, select **Settings | Printers** from the **Start** menu and double-click the **Add Printer** icon. Start the installation by clicking **Next**.
2. The Wizard asks you to select **Local printer** or **Network printer**. Select **Local printer**. Click **Next**.
3. Click **Create a new port**. In the Available Ports dialog, select **AXIS Port** and click **Next**.
4. Select **NetBIOS/NetBEUI** as your choice of network protocol and click **OK**.
5. Select the AXIS Port you want to add from the list of available ports. The port appears as <name>.<port> (Example: AX100086.LP1). The <port> is taken from the table below. Click **OK**.

Ports available	USB port	Parallel port	Serial port
AXIS 5570e	USB1	LPT1	–
AXIS 5670e	LPT1	LPT2	COM1

6. Choose the appropriate printer driver for your printer. Click **Next** and proceed directly to step 9. It is only necessary to perform steps 7 - 8 if your printer does not appear in the list.

Note:

Even if the desired printer is available in the **Manufacturers** and **Printers** lists, you are advised to use the printer driver provided with the printer. This assures you of the latest driver software.

7. Click the **Have Disk...** button. Insert the printer driver diskette/CD that was provided with your printer, select the appropriate diskette/CD drive and click **OK**.
8. Select the printer driver you want to install and click **Next**.
9. Enter an appropriate name for your printer and click **Next**.
10. Choose whether you want to share the printer with other network users and click **Next**.
11. Choose whether you want to print a test page, click **Next** and then **Finish**.

Adding Printers over NetBIOS/NetBEUI in Windows NT 4 using AXIS Print Monitor

See to it that the NetBEUI protocol is installed on your client. Follow the procedure below to install Axis Printer Ports from a Windows NT 4.0 workstation:

1. Install AXIS PrintMonitor on all workstations that will print via the print server.
2. To start the Add Printer Wizard, select **Settings | Printers** from the **Start** menu and double-click the **Add Printer** icon.
3. The Wizard asks you to select **My Computer** or **Network printer server**. Select **My Computer**. Click **Next**.
4. Click **Add Port...** In the Available Ports dialog, select **AXIS Port** and click **New Port...**
5. Select **NetBIOS/NetBEUI** as your choice of network protocol and click **OK**.

6. Select the AXIS Port you want to add from the list of available ports. The port appears as <name>.<port> (Example: AX100086.LP1). The <port> is taken from the table below. Click **OK**.

Ports available	USB port	Parallel port 1	Parallel port 2	Serial port
AXIS 5570e	US1	LP1	–	–
AXIS 5670e	–	LP1	LP2	CM1

7. Close the Printer Ports window.
8. Click the **Configure Port...** button. Choose whether error condition pop-up messages are to be displayed by checking the box in the Configure Axis Ports dialog. Define the frequency at which the error messages should be displayed after retry. Click **OK**. Continue the installation by clicking **Next**.
9. Choose the appropriate printer driver for your printer. Click **Next** and proceed directly to step 12. It is only necessary to perform steps 10-11 if your printer does not appear in the list.

Note:

Even if the desired printer is available in the **Manufacturers** and **Printers** lists, you are advised to use the printer driver provided with the printer. This assures you of the latest driver software.

10. Click the **Have Disk...** button. Insert the printer driver diskette/CD that was provided with your printer, select the appropriate diskette/CD drive and click **OK**.
11. Select the printer driver you want to install and click **Next**.
12. Enter an appropriate name for your printer and click **Next**.
13. Choose whether you want to share the printer with other network users and click **Next**.
14. Choose whether you want to print a test page and then click **Finish**.

Adding Printers in Windows 98 and Me over TCP/IP using AXIS Print Monitor

1. Install AXIS PrintMonitor on all workstations that will print via the Axis print server.
2. Next, start the Windows Add Printer Wizard: select **Settings | Printers** from the **Start** menu and double-click the **Add Printer** icon.
3. After clicking **Next** in the first dialog, the Wizard asks you to select between **Local Printer** and **Network Printer**. You must select **Local Printer** as the print server emulates a local printer port. Click **Next**.
4. Choose the appropriate print driver for your printer. If the desired print driver already appears within the displayed **Manufacturers and printers** lists, highlight your selection, click **Next** and proceed directly to step 7. It is only necessary to perform steps 5-6 if your printer does not feature in the model list.
5. Click the **Have Disk...** button. Insert the printer driver diskette/CD into the appropriate disk drive of your computer.
6. Select the type of printer you want to install from the diskette/CD and click **Next**. If you already have the printer's driver installed, you will be asked whether to keep it or to replace it.
7. Select the **Printers@TCP/IP Port** and click **Next**.
8. Enter an appropriate name for your printer and choose whether you want it to be the default printer. Click **Next**.
9. In the next window, do not order a Test Page to be written, just click **Finish**.
10. The printer you have defined will now be displayed in the Printers Folder. Right-click the printer object and select **Properties**.
11. Click the **Details** tab within the **Properties** page and then click **Add Port** to display the available monitors.

12. Click the radio button "other". Select **AXIS Port** and then click **OK**.
13. Select **LPR (TCP/IP)** as your choice of protocol and click **OK**.
14. Enter the IP address or the host name of your print server (Example IP address: 192.168.3.191 or host name: AXIS181636). In the **Logical Printer Name** field, enter the port you wish to use; **USB1**, **LPT1**, **LPT2** or **COM1**.
15. The TCP/IP port will then be added automatically to the list of available ports. Click **Apply** and **OK**.
16. You may now configure the port, as described below. The Axis Printer Port is now installed.

Configure the Port:

1. Select **Settings | Printers** from the **Start** menu and highlight the printer you wish to configure. Select **File | Properties | Details** and click **Port Settings**.
2. Choose whether error condition pop-up messages are to be displayed by checking the box in the **Configure AXIS Ports** dialog. Define the frequency at which the error messages should be displayed after retry. Click **OK**.

Note:

Even if the desired printer is available in the Manufacturers and Printers lists, you are advised to use the print driver provided with the printer. This assures you of the latest driver software.

Adding Printers in Windows 98 and Me over NetBIOS/NetBEUI using AXIS Print Monitor

Follow the procedures below to install Axis NetBIOS/NetBEUI printer ports on a Windows 98 workstation, using AXIS Print Monitor:

1. To start the Add Printer Wizard, select **Settings | Printers** from the **Start** menu and double-click the **Add Printer** icon.
2. After clicking **Next** in the first dialog, the Wizard asks you to select Local printer or Network printer. Select **Local printer**. Click **Next**.
3. Choose the appropriate printer driver for your printer. If the desired printer driver appears in the displayed **Manufacturers** and **Printers** lists, highlight your selection, click **Next** and proceed directly to step 6. It is only necessary to perform steps 4 - 5 if your printer does not appear in the model list.

Note:

Even if the desired printer is available in the **Manufacturers** and **Printers** lists, you are advised to use the printer driver provided with the printer. This assures you of the latest driver software.

4. Click the **Have Disk...** button. Insert the printer driver diskette/CD that was provided with your printer, select the appropriate diskette/CD drive and click **OK**.
5. Select the printer driver you want to install and click **Next**.

6. Select the AXIS Printer Port from the Available Ports list. The port names appears as <name>.<port>. Here, <name> is AX followed by the last six digits of the print server's serial number (e.g. AX100086) and <port> is taken from the table below. Click the Configure Port button.

Ports available	USB port	Parallel port 1	Parallel port 2	Serial port
AXIS 5570e	US1	LP1	–	–
AXIS 5670e	-	LP1	LP2	CM1

Example: AX100086.US1

7. Choose whether error condition pop-up messages are to be displayed by checking the box in the **Configure AXIS Ports** dialog. Define the frequency at which the error messages should be displayed after retry. Click **OK** and **Next**.
8. Enter an appropriate name for your printer and click **Next**.
9. Choose whether you wish to print a test page and click **Finish**.

Section 7 Setting Up - NetWare



This section describes how to continue the installation of the AXIS 5570e/AXIS 5670e in the NetWare environment. Identify which transport protocol you are running on your network and which installation method you should use. Continue the installation by selecting the appropriate installing instructions from the table below:

<i>Installation method</i>	<i>Transport protocol</i>	<i>Action</i>
NDPS	TCP/IP	See "Setup using NDPS" on page 124. - <i>Public Access Printers</i> , on page 124 - <i>Controlled Access Printers</i> , on page 130
	IPX/SPX	
iPrint	iPrint over LPR	See "Setup using iPrint" on page 143.and See "Install a printer using AXIS LPR Gateway Configuration Snapin" on page 146.
	iPrint over IPP	See "Setup using iPrint" on page 143.and See "Install a printer with AXIS IPP Gateway Configuration Snapin" on page 145.
Queue-based printing	IPX/SPX Basic Configuration	To install using the AXIS NetPilot Installation Wizard, See "Basic Setup with AXIS NetPilot" on page 149..
	IPX/SPX Advanced configuration	If you need a more advanced installation that is not covered by the AXIS NetPilot Installation Wizard, See "Advanced Installation using AXIS NetPilot" on page 150..

See "NetWare Administration" on page 156. for information on Novell's administration tools.

If you intend to operate your AXIS 5570e/AXIS 5670e in a multi-protocol, mixed environment, you should also proceed to the other relevant sections in this manual.

Setup using NDPS

The AXIS 5570e/AXIS 5670e supports Novell Distributed Print Services (NDPS). You can run NDPS over Pure IP (TCP/IP) or IPX/SPX.

Before the AXIS 5570e/AXIS 5670e can be installed, make sure that NDPS is installed and a Broker is loaded on your NetWare file server.

AXIS 5570e/AXIS 5670e uses the AXIS NDPS Gateway for printing in networks using either IP or IPX as transport protocols. The printer gateways are included with the NDPS software (from version 5.1 and up) and are automatically installed together with NDPS.

Note:

NDPS requires that you run NetWare 4.11 or higher. Pure IP is only supported by NetWare 5 or higher.

Installing the AXIS 5570e/AXIS 5670e in the NDPS environments

Having assigned an IP address to the AXIS 5570e/AXIS 5670e as described in *Assigning an IP Address to the Print Server*, on page 14, you are now ready to install the AXIS 5570e/AXIS 5670e for NDPS printing. You can select to install the connected printers as public or controlled access printers. Follow the instructions below to install the AXIS 5570e/AXIS 5670e using NDPS:

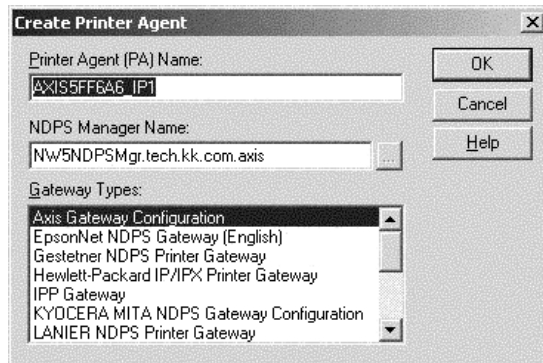
Important:

- The **NDPS Enabled** parameter of the AXIS 5570e/AXIS 5670e must be set to **Yes** in order for the communication between the print server and the NDPS gateway to be enabled. To change this parameter, log in to the print server's web pages and choose: **Admin => Network Settings=> Detailed View=> NetWare=> NDPS Enabled => Yes**.
- If you do not have an NDPS Manager object available, start out with creating one in the NetWare Administrator.

Public Access Printers

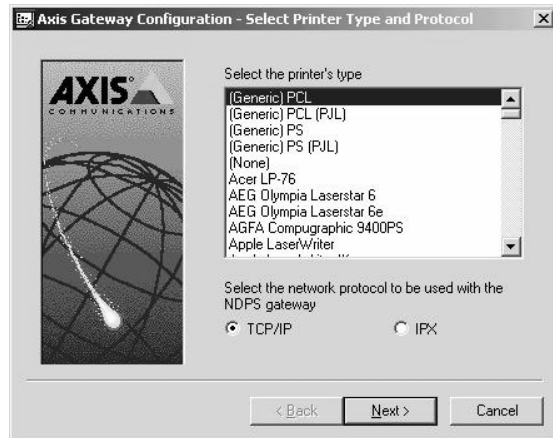
Follow these instructions to create a public access printer using the NDPS Manager object in your NetWare administrator utility:

1. Double-click on the NDPS Manager object you will be using to control the Printer Agents.
2. On the **Identification** page for the NDPS Manager, click the printer **Agent List** button. The **Printer Agent List** dialog will appear.
3. Click **New**. The **Create Printer Agent** dialog will appear.
4. Type a name of your choice in the **NDPS Printer Agent** field:

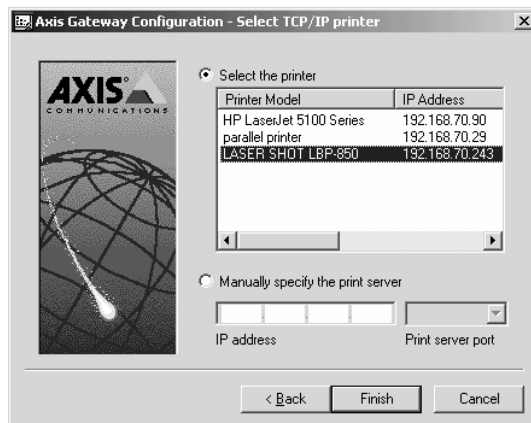


5. Select the **Axis Gateway** configuration in the **Gateway Type** window.
6. Click **OK**

7. In the **Select the printer's type** window, choose your printer. If you cannot find the printer, select an appropriate Generic one (PCL, PS, etc)



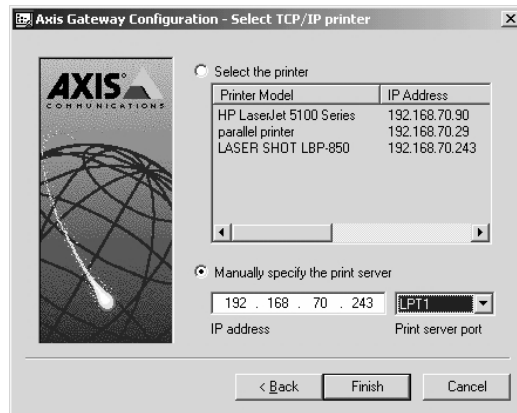
8. Select **TCP/IP (default)** or **IPX** as network protocol. Click **Next**.
9. You will find the print server in the next window with the printer attached on the connected port. Depending on the transport protocol you used when you start the installation, the print server should appear as following:
 - **TCP/IP Network protocol:**
IP Address and Port, e.g: *192.168.70.243* and *LPT1*



1. Only the ports with a connected printer show up in this window. If the printer is not in the displayed print list, click **Manually specify the print server** and do the following:
Enter the Print Servers' IP address in the **IP Address Field**
2. Choose a port in the **Print Server Port** field
e.g., 192.168.70.243 and LPT1
The available ports are :

Ports available	*USB1 port	Parallel port 1	Parallel port 2	Serial port
AXIS 5570e	other/unknown	LPT1	—	—
AXIS 5670e	-	LPT1	LPT2	COM1

(Example: "other/unknown", stands for the USB1 port.)



IPX Network protocol:

All the available ports will be presented, regardless if the printers are or not connected to those ports, e.g.

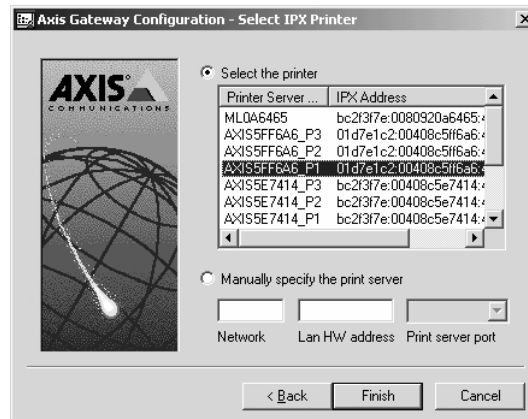
LPT1	AXIS5FF66A_P1
LPT2	AXIS5FF66A_P2
USB1	AXIS5FF66A_P2
COM1	AXIS5FF66A_P3

The IPX Addresses for the above printers will appear as:
 <IPX External Network Number>:<Print Server's HW
 address>:<Socket Number>

i.e.: 01d7e1c2:00408c5ff6a6:400c

where 400c, 401c, and 402c are the socket numbers corresponding the LPT1, LPT2, USB1 and COM1 physical ports:

LPT1	400c
LPT2	401c
USB1	401c
COM1	402c



If the printer is not in the displayed print list, click **Manually specify the print server** and do the following:

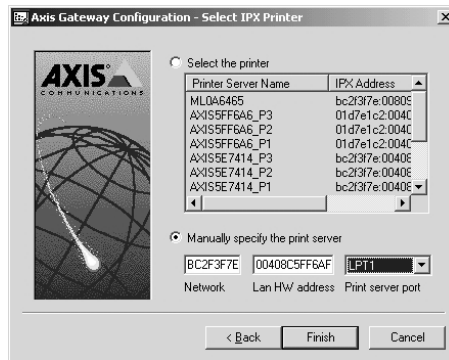
1. Enter the <IPX External Network Number> in the **Network** field.
2. Enter the <Print Server's HW address> in the **LAN HW address** field.

- Choose a port in the **Print Server Port** field, e.g. **01d7e1c2:00408c5ff6a6** and **LPT1**

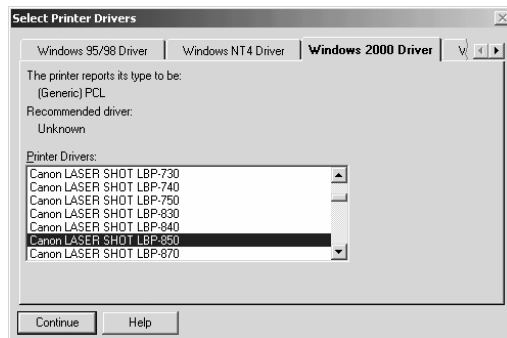
The port numbers are **USB1***, **LPT1**, **LPT2** or **COM1**.

Ports available	*USB1 port	Parallel port 1	Parallel port 2	Serial port
AXIS 5570e	other/unknown	LPT1	—	—
AXIS 5670e	-	LPT1	LPT2	COM1

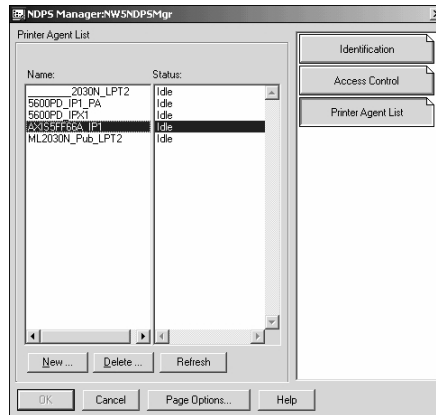
(Example: other/unknown, which stands for the USB1 port.)



- When done, select your printer and click **Finish**.
- Next, select the printer drivers for each client operating system. (Windows 2000, Windows NT4 and Windows 95/98). These drivers will be automatically downloaded to users' workstations when they install this printer in the future.



- Click **Continue** and **OK** in the next NDPS window. The new Printer Agent appears in the Printer Agent List window.



Check the Status: it should be Idle.

- Press **Cancel** to close the NDPS Manager

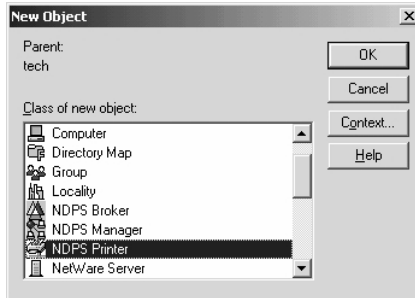
To install the printer on the workstation, See "Installing an NDPS Printer on the Workstation" on page 137.

Controlled Access Printers

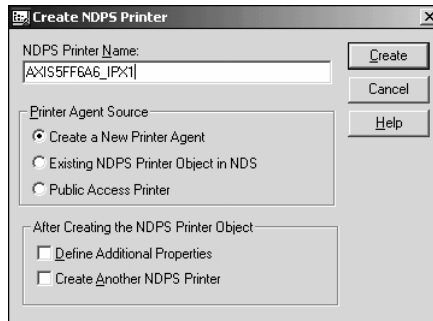
Follow these steps to create a controlled access printer as an object in the Directory Tree, using the NetWare administrator utility:

- Log in as Admin.
- Start the NW Admin utility on any Workstation (SYS:PUBLIC\WIN32\nwadmin32.exe).
- Browse the context your NDPS Manager resides in.

- From the **Object** menu, select **Create**. The New Object dialog appears.



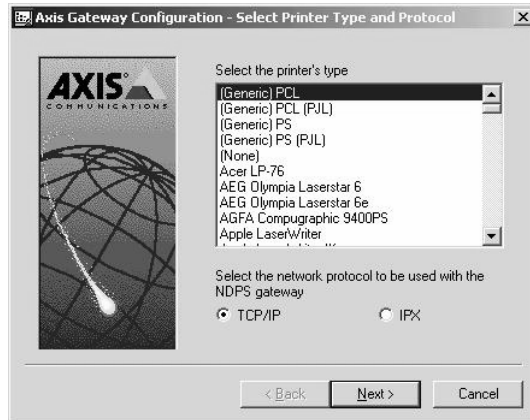
- Select **NDPS Printer**. The Create NDPS Printer dialog appears.



6. Type a name of your choice in the NDPS Printer Name field, e.g. **AXIS5FF66A_IPX1**
In the Printer Agent Source field, select the source of the Printer Agent. The following options are available:
 - **Create a New Printer Agent.** If you select this option, you are asked to select either the Novell Gateway or a third party Gateway.
 - **Printer Agent on Existing NDS Object.** Use a Printer already configured as a controlled access printer (NDPS Printer Object). If you select this option, a list of current NDPS Printer Objects in this container will be displayed from which you can select the one you want to use.
 - **Public Access Printer Agent.** Use an existing Printer Agent representing a Public Access Printer.
7. Select **Create a New Printer Agent** and click **Create** to display the Create Printer Agent dialog.
8. Confirm the Printer Agent name (default is the name of the new printer you are creating) and browse to select the NDPS Manager to which you want to assign it

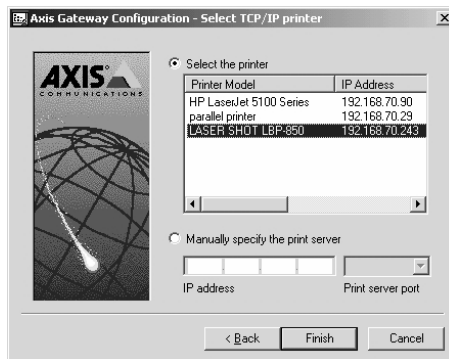


9. Select **AXIS Gateway Configuration** in the Gateway Type field.
10. Click **OK**.
11. In the **Select the printer's type** window choose your printer. If you cannot find the printer, select an appropriate Generic one (PCL, PS, etc)



12. Select TCP/IP (default) or IPX as network protocol.
13. Click Next.
14. You will find the print server in the next window with the printer attached on the connected port.
Depending on the transport protocol you used when you start the installation, the print server will appear as:

- **TCP/IP Network protocol:**
IP Address and Port, e.g.
192.168.70.243 and LPT1



Only the ports with a connected printer will show up in this window.

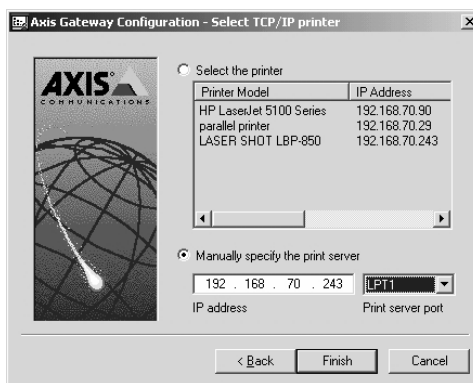
If the printer is not in the displayed print list:

1. Click **Manually specify the print server** enter the Print Servers' IP address in the **IP Address** Field.
2. Choose a port in the **Print Server Port** field e.g., **192.168.70.243** and **LPT1**:

The port numbers are **USB1***, **LPT1**, **LPT2** or **COM1**.

Ports available	*USB1 port	Parallel port 1	Parallel port 2	Serial port
AXIS 5570e	other/unknown	LPT1	—	—
AXIS 5670e	-	LPT1	LPT2	COM1

(Example: other/unknown, stands for the USB1 port.)



IPX Network protocol:

All the available ports will be presented, regardless if the printers are or not connected to those ports,.

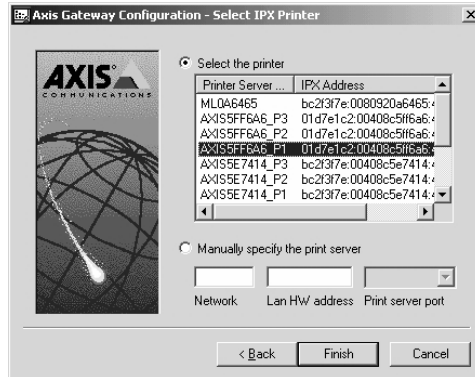
LPT1	AXIS5FF66A_P1
LPT2	AXIS5FF66A_P2
USB1	AXIS5FF66A_P2
COM1	AXIS5FF66A_P3

The IPX Addresses for the above printers will appear as:
 <IPX External Network Number>:<Print Server's HW
 address>:<Socket Number>

i.e.: 01d7e1c2:00408c5ff6a6:400c

where 400c, 401c, and 402c are the socket numbers correspond-
 ing the LPT1, LPT2, USB1 and COM1 physical ports:

LPT1	400c
LPT2	401c
USB1	401c
COM1	402c



If the printer is not in the displayed print list:

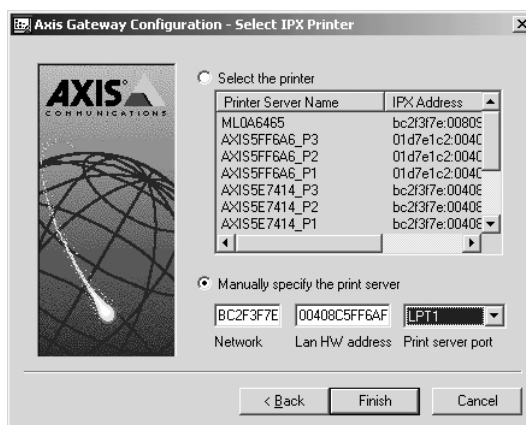
1. Click **Manually specify the print server** and enter the <IPX External Network Number> in the **Network** field.
2. Enter the <Print Server's HW address> in the **LAN HW address** field.

- Choose a port in the **Print Server Port** field:
e.g.: 01d7e1c2:00408c5ff6a6 and LPT1.

The port numbers are **USB1***, **LPT1**, **LPT2** or **COM1**.

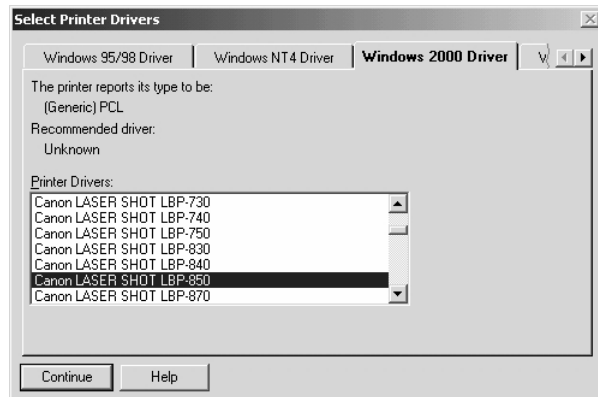
Ports available	*USB1 port	Parallel port 1	Parallel port 2	Serial port
AXIS 5570e	other/unknown	LPT1	—	—
AXIS 5670e	-	LPT1	LPT2	COM1

(Example: other/unknown, stands for the USB1 port.)



- When done, select your printer and click **Finish**.

- Next, select the printer drivers for each client operating system. (Windows 2000, Windows NT4 and Windows 95/98). These drivers will be automatically downloaded to users' workstations when they install this printer in the future.



- Click **Continue** and **OK** in the next NDPS window. Your printer will appear as an NDS object in the Directory Tree and will offer a full range of network security options.



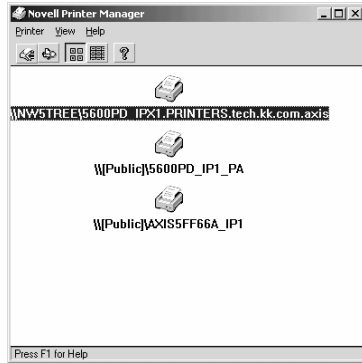
To install the printer on the workstation, See "Installing an NDPS Printer on the Workstation" on page 137.

Installing an NDPS Printer on the Workstation

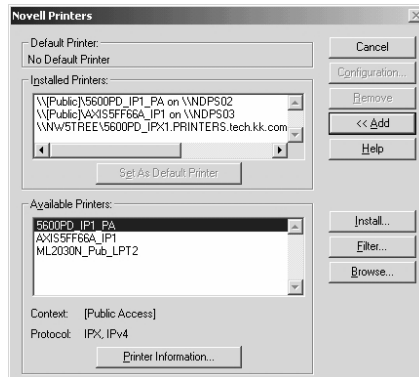
To install the printer on a workstation, use either Novell Printer Manager (NetWare 5.1 only) or the Add Printer Wizard on the local workstation.

Using Novell Printer Manager

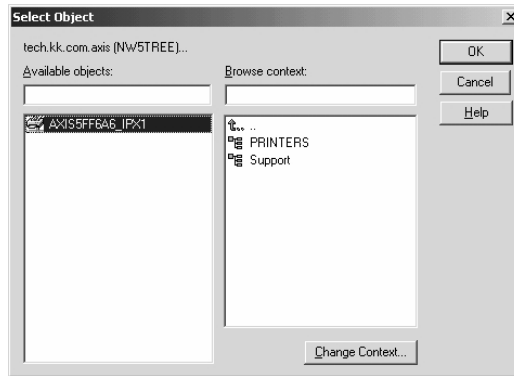
1. Log in as Admin.
2. On the any workstation, browse to <NW 5.1 File Server>\SYS:PUBLIC\Win32 and start Nwpmw32.exe (Novell Printer Manager). The Novell Printers dialog appears, displaying a list of installed Public or Controlled printers (if any printers have previously been installed on the workstation).



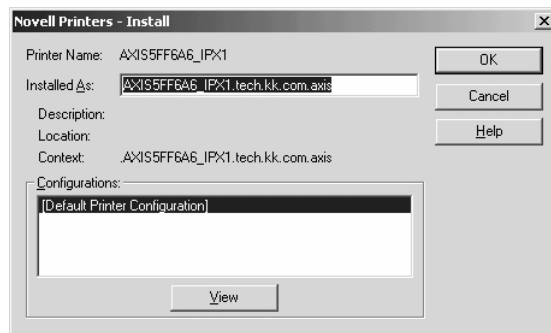
3. From the Printer Manager's Printer pull down menu, select New.
4. Click Add. A list of available printers appears.



- The list of available printers shows the NDPS Public Access Printers on the network and the NDPS Controlled Access Printers in you current NDS context. To see the Controlled Access Printers in other context that you have rights to, click the **Browse** button and select your choice. Click **OK**.



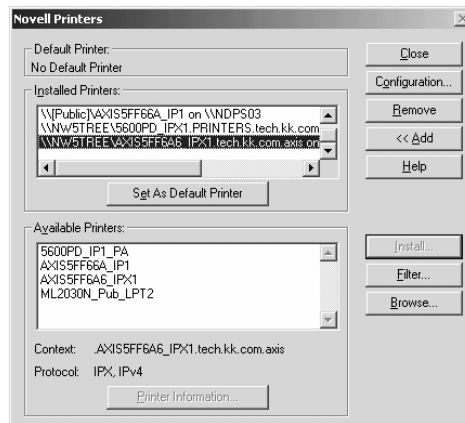
- Once selected, click **Install**. The Novell Printers – Install dialog appears.



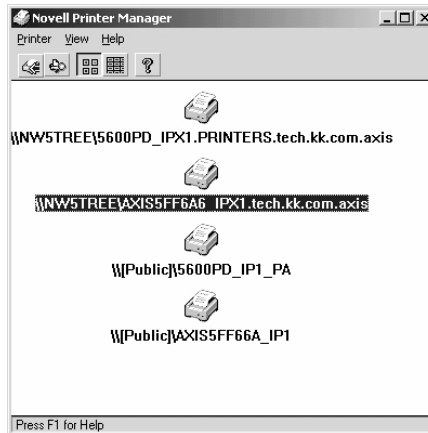
7. Click **OK**. The default driver for that printer is then automatically downloaded.

If the printer object does not have a printer driver associated with it, or a driver was not found, you will be prompted to either to choose from a list of printer drivers provided by NDPS or to provide a disk with the appropriate driver.

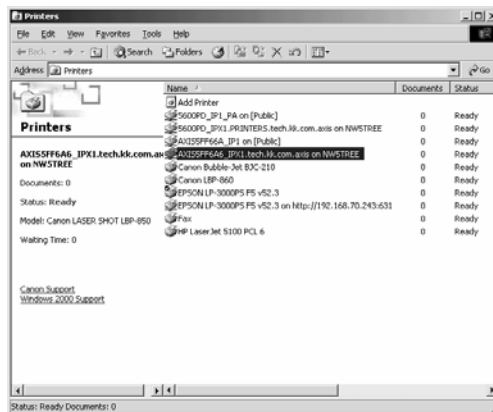
The Novell Printers dialog appears with the new printer, e.g. AXIS5FF6A6_IPX1 in the installed list.



8. Click **Close**.
In the Novell Printer Manager window the new installed NDPS printer appears with the name e.g. AXIS5FF6A6_IPX1 and is available for print jobs.



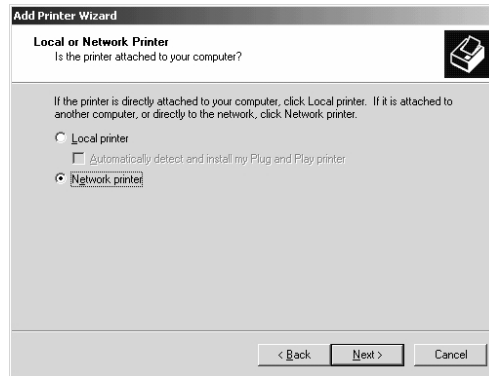
9. Verify by clicking **Start – Settings – Printers** on the workstation.



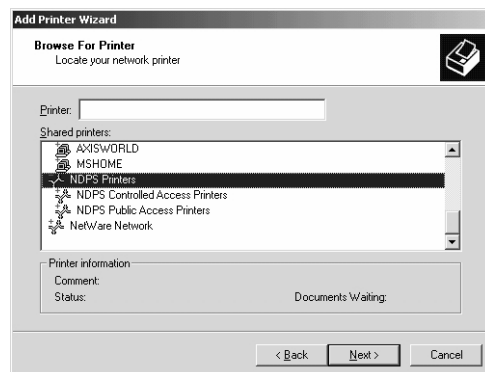
Using the Add Printer Wizard

1. Click **Start** on your workstation, select **Settings => Printers**. There might be some differences regarding this menu depending of MS Operating System you are running.
2. Start the Add Printer Wizard on the workstation. The Add Printer Wizard dialog will appear. Click **Next**.

3. Select **Network printer** and click **Next**.



4. Click **Next** again in the **Locate Your Printer** dialog (Win2000/XP) or press the **Browse** button (Win9X)
5. Browse to the **NDPS Printers**. Expand either the **NDPS Controlled Access Printers** or the **NDPS Public Access Printers** folder, select your newly installed NDPS printer and follow the instructions.



When you have completed these steps, you are ready to start printing.

Notes:

- The Public Access print servers are immediately available for everyone on the network
- The Axis Gateway Configuration Utility is an installation and configuration tool for NDPS printers in the NetWare environment.
The Axis Gateway will appear in NetWare 5.1 and later releases. You can download the Axis Gateway Configuration Utility for use with earlier versions of NetWare from www.axis.com.
- To print using TCP/IP, Axis print server firmware 6.1 or later is required. In order to print using IPX/SPX, Axis print server firmware 5.51 or later is needed.

Setup using iPrint

iPrint is Novell's next generation of printing software that lets users print to and from all destinations.

A standard Web page displays available printers to the user. By clicking a printer, the iPrint client is installed (if not installed previously), the printer's driver is downloaded, and a printer is created in the user's Printer folder, enabling the user to send documents to the printer from any application on the desktop.

Before setting up iPrint printers, make sure that you meet all the iPrint Setup requirements. See the Novell iPrint Administration Guide for instructions on installing, configuring, and customizing iPrint.

AXIS Print servers can be installed as iPrint printers, either by using the Novell LPR gateway (LPR on IP) or the AXIS Gateway Configuration Snap-in for iPrint.

Axis provides two Snap-ins for iPrint:

- **AXIS LPR Gateway Configuration**
- **AXIS IPP Gateway Configuration**

When you install Service Pack 6 (16 April 2003) for NetWare 5.1 or later and Service Pack 3 (16 April 2003) for NetWare 6.0 or later, the AXIS LPR Gateway Configuration will automatically be installed and configured on the NetWare Servers and ready for use.

The AXIS IPP Gateway Configuration Snap-in for NetWare 6.0 can be downloaded for free from www.axis.com. Follow the instructions below to install the AXIS IPP Gateway Configuration Snap-in for NetWare 6.0, if you want to add it in your iPrint environment.

Installing AXIS IPP Gateway Configuration Snap- in for NetWare 6.0

1. Download the free **axisIPP-snap-in.zip** file from www.axis.com and unzip it in a temporary directory.
2. Make sure the the NetWare Enterprise Web Server was previously installed on the server. Otherwise, install it.
3. Novell iPrint uses the NDPS infrastructure, so make sure that all the NDPS requirements have been met:
 - Make sure that the **BROKER.NLM** is loaded. If it isn't, type **LOAD BROKER** in the server console prompt and select the name of the Broker.
 - Make sure that the **NDPS Manager** object is created in the Novell Directory Services (NDS) tree. Refer to your Novell documentation for creating this object.
 - Make sure that the **NDPSM.NLM** is loaded. If it isn't, type **LOAD NDPSM** in the server console prompt and select the appropriate NDPS Manager.
4. Shutdown Tomcat and the NetWare Enterprise Web Server on the NetWare file server by executing the following commands:

Type "NSWEBDN" <Enter>

Type "TOMCAT33 -STOP" <Enter>

Type "NVXADMDN" <Enter>

5. Map the next available drive (e.g. G:) to the root of volume SYS on your NetWare server.
 From the temporary directory where **axisIPP-snap-in.zip** has been unzipped, run the batch file **AxisIPP.bat** (default G:).
 If the drive G: is not available, you have to edit the batch file and change the drive to next available one.
 Check that each line in the batch file is executed without failure.

6. Restart Tomcat and the NetWare Enterprise Web Server on the file server by executing the following commands:
 Type "TOMCAT33" <Enter>
 Type "NVXADMUP" <Enter>
 Type "NSWEB" <Enter>.

7. Access the iManager web page on the NetWare server by opening the following URL:
<https://<IP address of NW server>:2200/eMFrame/iManager.html>
 You have to authenticate.

8. Click on **iPrint Management** on the left pane and select **Create Printer**.

9. On the right pane, verify that the newly installed **AXIS IPP Gateway Configuration** is under the **Gateway type** drop-down menu.
 If not, it may be necessary to restart the NetWare server.

Now you are ready to use the AXIS IPP Gateway Configuration for installing iPrint printers. You have to have **Administrator rights** to install the printers through iPrint.

**Install a printer with
 AXIS IPP Gateway
 Configuration Snapin**

1. Use an AXIS 5570e/AXIS 5670e and connect a printer to whatever port you want.
2. Connect the print server to the network.
3. Connect the power supply.
4. Start both the printers and the print server.
5. Log in as Admin.

6. Use a web browser and the local host URL to login into iManager on your NetWare server.
7. Open your browser to the following URL:
<https://<IP address of NW server>:2200/eMFrame/iManager.html>
 You have to authenticate.
8. Click on **iPrint Management** on the left pane.
9. Click on **Create Printer**.
10. Choose a name of your choice for the printer
11. Choose the context where the printer will be installed.
12. Browse for the NDPS Manager and select it.
13. In the **Gateway Type** drop-down list, choose the **Axis IPP Gateway Configuration**. Press **Next**.
14. In the Printer URL, you may choose either the IPP version 1.0 format:
<http://<IP address of your print server>:631/lptx>
 or the IPP version 1.1:
<ipp://<IP address of your print server>/lptx>
 where x is the port number. Click **Next**.
15. Select default drivers for your printer. Click **Next** and **OK**.

Install a printer using AXIS LPR Gateway Configuration Snapin

1. Use an AXIS 5570e/AXIS 5670e and connect a printer to whatever port you want.
2. Connect the print server to the network.
3. Connect the power supply.
4. Start both the printers and the print server.
5. Log in as Admin.
6. Use a web browser and the local host URL to login into iManager on your NetWare server.

7. Open your browser to the following URL:
`https://<IP address of NW server>:2200/eMFrame/iManager.html`
You have to authenticate.
8. Click on **iPrint Management** on the left pane.
9. Click on **Create Printer**.
10. Choose a name for the printer.
11. Choose the context where the printer will be installed.
12. Browse for the NDPS Manager and select it.
13. In the **Gateway Type** drop-down list, choose the **Axis LPR Gateway Configuration**. Click **Next**.
14. Choose either the IP address or the DNS Name for your print server.
15. Under **Printer name**, select the physical printer port, e.g. LPT1, or logical printer port pr1–pr8 using the drop-down list. Click **Next**.
16. Select default drivers for your printer. Click **Next** and **OK**.

Installing the iPrint Printer on the Workstation

An iPrint printer can be locally installed on the workstation in two ways:

- Using the iPrint Client
- Using the MS Add Printer Wizard at the workstation. See "Using the Add Printer Wizard" on page 141.)

Installing the iPrint Printer using the iPrint Client.

In order for users to use iPrint, they need to install the Novell® iPrint Client software and a printer. When a user selects a printer to be installed by iPrint, iPrint checks to see if the Novell iPrint Client software is installed and then installs it if necessary. Then the printer driver is downloaded and the printer is installed in the user's Printer folder.

In order for iPrint to work properly, the workstation should have the following:

- Windows 95/98/Me or Windows NT*/2000/XP
- Web browser with JavaScript enabled:
 - Microsoft Internet Explorer 5.0 or later
 - Netscape 4.76 (iPrint is not supported on Netscape 6)

The user should use the following iPrint url:
http://<IP address of your NW server>:631/IPP

1. From a Netscape or Internet Explorer browser, enter the provided URL.
A Web page displays a listing of available printers to install and a link to install the client software.
2. Select **Install iPrint client software** to locally install the iPrint printers. If you try to install a printer before installing the iPrint client software, you will be prompted to install the client software first.
If you associate a printer driver with a printer being installed, the driver is automatically installed on the user's workstation. If the driver already exists, that driver is overwritten even if it is a newer driver.
3. After installing a printer, it is added to the user's **Printer folder**. Users can print to the printer by selecting it from any application.

Basic Setup with AXIS NetPilot

Install the AXIS NetPilot software on your computer. AXIS NetPilot runs on any of these Windows platforms; Windows 98 and Windows NT.

Starting the Installation

Follow the instructions below to install the AXIS 5570e/AXIS 5670e with AXIS NetPilot:

1. Start AXIS NetPilot by double-clicking the NetPilot icon, which is located in the folder where you installed AXIS NetPilot.
2. Locate the AXIS 5570e/AXIS 5670e in the 'New Axis Units' folder. Select it and click the **Install** button on the AXIS NetPilot toolbar. If your network is large, it could take a few seconds before the print server appears in the folder.

Choose the **with Installation Wizard** option. The AXIS NetPilot Installation Wizard guides you through the installation process. The following options are available:

Note:

The number of options varies according to the number of environments you enable.

- | | |
|-------------------|---|
| Print Server Name | The default print server name consists of the characters 'AXIS' followed by the last six digits of the serial number. If you want to change the print server name, just type the new name in the available text field. |
| Environments | Choose which networking environments you want to configure the AXIS 5570e/AXIS 5670e for, e.g. NetWare, TCP/IP, Windows & OS/2 or Macintosh. If your network comprises various different platforms, you can enable any combination of environments. |
| NetWare NDS | Place NetWare Print Queues on a specific bindery server, or alternatively into an NDS Tree. |

- The IP address Choose the method the AXIS 5570e/AXIS 5670e should employ for obtaining an IP address. DHCP, ARP, RARP, BOOTP and Auto-IP are supported. You can also select to set the IP address manually. Refer to *Assigning an IP Address to the Print Server*, on page 14 for further information about setting the IP address.
- Print Queues The AXIS 5570e/AXIS 5670e uses the print server name followed by the printer port as the default Print Queue name and print server port name. If you want to change the default printer queue names, just type the new names in the available text fields.
- Test Page The final user prompt in the Installation Wizard allows you to print a test page through NetWare. The test page displays the name of all the NetWare servers the AXIS 5570e/AXIS 5670e is connected to and shows the status of each connection.

Unless you want to connect or create additional printing queues, the installation for the NetWare environment is now completed.

Notes:

- The parameters entered during installation are not permanent; they can be altered at any time according to your network printing requirements.
- No serious or permanent damage will be caused if you make a mistake during installation. If you find, at any time, that printing is not satisfactory, the parameters can easily be changed to tune the system to your requirements.
- For information on advanced functions, please refer to the AXIS Network Print Server Technical Reference. You can download this or other technical information over the Internet by accessing www.axis.com

Advanced Installation using AXIS NetPilot

Having installed your AXIS 5570e/AXIS 5670e print server in accordance with the basic installation procedures described in *Basic Setup with AXIS NetPilot*, on page 149, your AXIS 5570e/AXIS 5670e print server should now feature in the 'Network Print Servers' folder

located in the AXIS NetPilot main window.

NetWare Network Environment Window

The NetWare Network Environment window allows you to connect additional print queues to your AXIS 5570e/AXIS 5670e as well as create new ones.

Follow the steps below to gain access to the NetWare Network Environment window:

1. Select the required Network Print Server from the 'Network Print Server' folder.
2. Choose **Network** from the Setup menu or click on the **Network** icon on the AXIS NetPilot's toolbar.

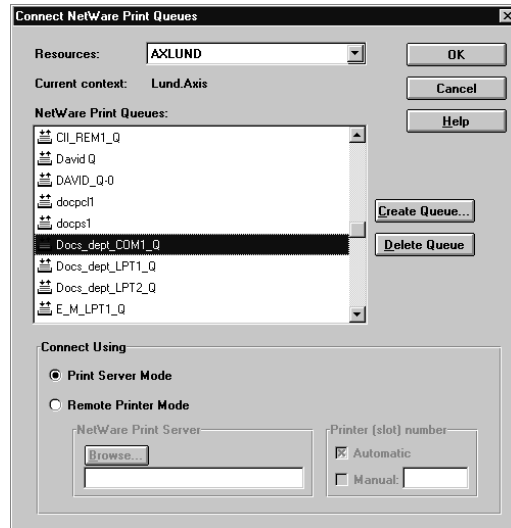
If you are not logged on to your NetWare file server, a dialog box will ask you to log on. The AXIS 5570e/AXIS 5670e periodically updates the configuration by scanning the NDS tree or, in the case of NetWare versions 3.x, the designated file servers.

Connecting Print Queues

Follow the steps below to connect a print queue to the print server port:

1. Open the NetWare 'Network Environments' window.
2. Select the print server port you want to connect.

- Click the **Connect...** button. The **Connect NetWare Print Queues** window appears.



The AXIS NetPilot Connect NetWare Print Queues window

- Select the tree or server location of the print queue from the **Resources** box.
- Select an existing print queue to connect to the server port, or create a new print queue by clicking on **Create Queue...** If you have selected an existing queue, advance to step 8. Continue with step 6 only if you want to create a new queue.
- Type the queue name in the **Create Queue** dialog window. If you want to create a queue in the NDS tree you must also enter the name of the volume where the queue will be located. Click **OK**.
- Select the newly created queue from the queue list.
- Select **Print Server Mode** or **Remote Printer Mode**. If you selected **Print Server Mode**, advance directly to step 11, otherwise continue with step 9.
- Select an appropriate NetWare Print Server name, that will be associated with the AXIS 5570e/AXIS 5670e print server, by using the **Browse...** button.

Notes:

- You cannot type or edit the name manually.
- Make sure that you have PSERVER.NLM running if you selected Remote Printer Mode in step 8.

10. If you want to define a remote printer number slot manually, check the **Manual** box and type the desired number in the box.
11. Click the **OK** button to return to the Network Environments window.

Basic Queue-based printing over IP

Axis print servers with software version 6.0 or later allow users to print in a Pure IP environment using traditional queue-based printing (which usually uses the IPX transport protocol). Note that only NDS queue-based printing is supported.

In the NetWare Pure IP environment, you must use the NetWare Administrator to create the printer, print server and queue objects.

**Installing the
AXIS 5570e/AXIS
5670e**

Follow the instructions below to install the AXIS 5570e/AXIS 5670e in the NetWare Pure IP environment:

1. Start the Configuration Wizard from the **User mode** in the AXIS 5570e/AXIS 5670e Web interface.
2. Click your way through the Wizard until reaching the **NetWare** page.

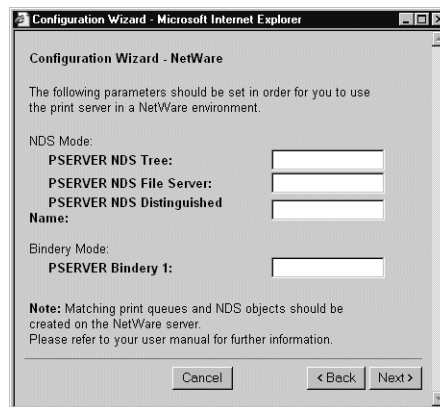
3. Set the parameters on the NetWare page:

- PSERVER NDS Tree (example: NW5TREE)

or

PSERVER NDS File Server: (example: FILESERVERNAME)

- PSERVER NDS Distinguished Name:
(example: AXISXXXXXX.<context>, where <context> is the container where you want to create your print server)



Setting the PSERVER parameters in the AXIS 5570e/AXIS 5670e Web interface.

4. Use the NetWare Administrator to create the printer, print server and queue objects in the NDS tree and then link them together. The **Print Services Quick Setup (Non-NDPS)** utility can be used for this. Go to **Tools** in the **NetWare Administrator**.
5. Use the Add Printer Wizard on your work station to install the printer on your client. Note that only NDS queue based PSERVER printing is supported. When installing, choose **Network Printer** and browse to the queue you have just created. Alternatively, choose **Local Printer** and select the queue you have just captured.

Any configuration and management of the AXIS 5570e/AXIS 5670e can be performed from any standard Web browser. Please refer to

Using a Web Browser for Print Server Management, on page 86.

If both the IPX and IP protocols are enabled in your network and the print server uses DUAL_STACK (enabled by default) as its network transport protocol, then IPX will be chosen. To force the print server to use the IP transport protocol, go to your print server's web interface and choose **Admin | Detailed View | NetWare** and change the NetWare Transport Protocol from DUAL_STACK to IP_ONLY. Save and exit when finished.

Note:

Pure IP requires that you run NetWare 5 or higher.

Queue-based Printing Methods

The following overview explains the advantages and limitations of the two supported queue-based printing methods.

Print Server Mode

The AXIS 5570e/AXIS 5670e logs in to a file server(s) and repeatedly polls the print queues for print jobs. In this fashion, the AXIS 5570e/AXIS 5670e emulates a NetWare print server, which is a workstation running PSERVER. It provides high printing speed with low network load and is the recommended mode for medium to large sized networks. Each print server in PSERVER mode takes one NetWare user license.

Advantages

- High performance:

Limitations

- In bindery mode, this printing method requires a NetWare user licence for each AXIS 5570e/AXIS 5670e to file server link.

Remote Printer Mode

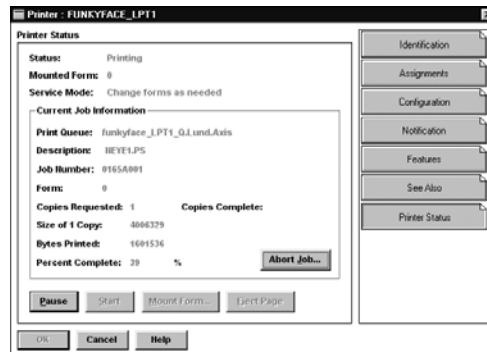
The AXIS 5570e/AXIS 5670e acts as Remote Printer for PSERVER.NLM running on the NetWare file server, or to a dedicated workstation running PSERVER.EXE. In this fashion, the AXIS 5570e/AXIS 5670e emulates a workstation running the NetWare remote printer software RPRINTER, or NPRINTER. This mode is only recommended for small networks where the number of NetWare user licences is a major issue.

- Advantages
- NetWare user licences are not required.
- Limitations
- Lower performance, typically 20 – 70 kbytes/s for NLM.
 - Higher network load.

Using Novell Utilities After installing the AXIS 5570e/AXIS 5670e into the NetWare environment, you can manage your AXIS 5570e/AXIS 5670e, using either Novell's NetWare Administrator, or PCONSOLE.

NetWare Administration Some useful features provided by the NetWare Administrator are described in more detail below:

Printer Status The Printer Status menu, detailed below, shows the status of an active print job serviced by an AXIS 5570e/AXIS 5670e network print server. It displays detailed information concerning the active job including, Print Queue, print job description, size of print file, percentage of job completed, etc. You can also abort or pause the print job from this menu.



Notification You can use the NetWare Administrator to enable or disable status notification messages for printers connected to the AXIS 5570e/AXIS 5670e, e.g. Busy, Off-line, Out of paper, Paper jam, etc. You can also add or remove print job owners and administrators from the list of persons to be notified.

Print Layout You can view installed AXIS 5570e/AXIS 5670e and their relative print queues for any NetWare Organizational Unit. You can also display summary information by right-clicking on the printer object you want to examine.

Section 8 Setting Up – Macintosh

Having connected the AXIS 5570e/AXIS 5670e to your network, this section now describes how to set up your print server for printing in Mac OS X and earlier Macintosh environments using AppleTalk.

If you intend to use the print server in a multi-protocol environment, refer to the chapters pertaining to the respective operating systems in this manual.

Installation in Mac OS X

This section describes setting up your print server for printing in the Mac OS X.

1. Start **Print Center** (from **Go** | **Applications** | **Utilities** | **Print Center**)
2. Select **Printers** | **Add Printer...**
3. From the **Printer List** dialog, select **AppleTalk**.
4. Now, the ports of your print server will appear in the list of available printers. The port is shown as <host name>_<port>.
Example: AXIS100086_LPT1.
5. Select the print server port you want to use.
6. Select an appropriate printer driver for your printer from the **Printer Model** drop-down list. If the printer is not available in the list, select **Generic**.
(You can also browse for a printer driver on your computer or network by selecting **Other...** from the list.)
7. Click **Add** to complete the installation.

Note:

If you want to print using LPR, select:

1. **Printers | Add Printer...**
2. From the **Printer List** dialog, select **LPR printers using IP**.
3. Enter the IP address or host name of the print server in the **LPR printer's Address** field. You must uncheck the **Use Default Queue on Server** check box and enter a Queue Name:
Physical ports: USB1, LPT1, LPT2 or COM1
4. Choose a printer driver from the **Printer Model** list and click **Add** to finish.

Installation on MacOS 9.1 or older, using AppleTalk

Basic Configuration On MacOS 9.1 or older, basic configuration in AppleTalk is performed simply by opening the Chooser window and selecting a printer.

You can change the default name of your print server or any of default parameters by editing the print server's *config* file. To access the *config* file from a Macintosh, you can use:

- any Web browser with Javascript enabled
- FTP using MacTCP, Fetch or Anarchie

In order to use any of these methods, you must assign an IP address to the print server as described in *Setting Parameters*, on page 163.

Choosing a Printer

Selecting a Printer The method for choosing a printer varies depending on which version of LaserWriter printer driver you are using.

- The LaserWriter 7.0 driver assumes that you use a standard PostScript driver, and cannot take advantage of any printer specific features.
- The LaserWriter 8.0 driver uses PPD files that contain printer descriptions. This gives you full control over any features your printer might have.

Autodetect Printer Type The print server can automatically detect the type of printer you are using if you enable **Autodetect Printer Type**. The print server can then recognize Epson and Hewlett Packard InkJet printers. Most Epson and Hewlett Packard InkJet printers that have Mac OS printer drivers for network printing are supported. Without the Autodetect Printer Type function, the AppleTalk printer type has to be specified manually in the print server. For Epson InkJets it would be "EPSONLQ2" and for HP InkJets it would be "DeskWriter". If the print server does not recognize the connected printer, the default setting "LaserWriter" will be used as printer type. "LaserWriter" is the recommended setting to be used with all PostScript printers.

To enable **Autodetect Printer Type**, log in to your print server's Web interface and select **Admin | Network Settings | Detailed View | Macintosh | Auto Detect Printer Type | Yes**.

See the **Help** pages in the print server's Web interface for details.

LaserWriter 7.0 Printer Driver

Follow the instructions below to choose a printer:

1. Select **Chooser** from the **Apple** menu.
2. Click the **LaserWriter** icon.
3. If your network has more than one zone, click on the zone you want. (If your network does not have any zones, this box will not appear.)

4. Click the name of the printer you want – the ports are shown as <host name>_<port>. **Example:** AXIS100086_USB1.
5. Click the **Close** box. This completes the configuration and closes the Chooser.

Repeat this procedure for each Macintosh computer on the network using the print server.

**LaserWriter 8.0
Printer Driver**

Follow the instructions below to choose a printer:

1. Select **Chooser** from the **Apple** menu.
2. Click the **LaserWriter 8.0** icon.
3. If your network has more than one zone click on the zone you want. (If your network does not have any zones, this box will not appear.)
4. Click the name of the printer you want – the ports are shown as <host name>_<port>. **Example:** AXIS100086_USB1.
5. Click **Setup...** and then **Auto Setup**. If the selected printer supports bi-directional printing and the appropriate PPD file is available, the installation is performed automatically and you can therefore proceed directly to step 7 (if this is not the case, the PPD file must be selected manually, as described in step 6).
6. Choose the PPD file matching your printer, and click **OK**.
If your printer does not appear in the PPD file list, please contact your printer vendor. Use the Generic PPD if you do not need any printer specific features.
7. Click **OK**, and then click the **Close** box. This completes the configuration and closes the Chooser.

Repeat this procedure for each Macintosh computer on the network using the print server.

**Bi-directional
Support**

The AXIS 5570e/AXIS 5670e allow the printer driver to communicate directly with the printer and consequently facilitates complete functional control over print jobs, e.g. automatic downloading of fonts not resident in the printer.

This functionality has backward compatibility with older printers and Macintosh computers, which means that the AXIS 5570e/AXIS 5670e can generate appropriate responses to Macintosh printer queries when the connected printer does not support bi-directional communication.

Verifying the Setup You simply need to print a document from the Macintosh computer to verify communication to the chosen printer. The basic installation can be considered complete if the print test is satisfactory. The AXIS 5570e/AXIS 5670e is now ready for use.

BCP and TBCP You should specify if you want to enable or disable binary transfer of print data in the print server's web interface (**Admin | Network Settings | Detailed View | Macintosh | Binary Protocol for Printer (1, 2)**). By enabling binary transfer you reduce printing time, provided that the print job is sent as binary data to the print server. This is particular true when you are printing large bitmaps.

- **TBCP** enables the print server to use the TBCP (Tagged Binary Communication Protocol) to transfer print data to the printer. Select this alternative when using Postscript printers.
- **BCP** enables the print server to use the BCP (Binary Communications Protocol) to transfer print data to the printer. Select this alternative when using Postscript printers.
- **None** disables all binary transfers, select this alternative for all non-PostScript printers and for ASCII PostScript printing.

Notes:

- If you have set the Auto-Detect Printer Type parameter to YES, the text output format will be chosen automatically (**Admin | Network Settings | Detailed View | Macintosh | Auto Detect Printer Type | Yes**).
- Some printers, e.g. Epson InkJet printers, can not be used when TBCP is enabled.

Setting Parameters In AppleTalk, you can change a limited number of the parameters of the AXIS 5570e/AXIS 5670e. You can:

- enable and disable binary data transfers for your printing
- select the type of binary transfer protocol to use
- specify the AppleTalk printer type
- set the IP address

However, by assigning an IP address to your print server, you have access to all of the print server parameters via any standard Web browser or via FTP. Refer to *Section 8 Print Server Management*, on page 85 for more information.

Example: The following example describes how you set the print server parameters in AppleTalk.

Important:

DO NOT use the parameter values from this example when configuring your print server. You should select values that are appropriate for your printers and network settings.

Follow the instructions below:

1. Open the **Chooser** from the Apple menu.
2. Select a network printer driver — any LaserWriter will do.
3. Select the printer port ending with **_CFG**.
4. Close the Chooser.
5. Open a text editor, e.g. SimpleText.
6. Write a text file containing the parameters you want to set:

```
BINARY_TYPE_1.      :BCP
INT_ADDR.           :192.168.3.191
ATYPE_1.            :EPSONLQ2
```

Note:

Parameters that you do not want to set should be excluded from the text file. Refer to the Parameter list in this manual for information about which values that are valid for each parameter.

7. Print the text file. The settings will be stored in the print server.
8. Open the Chooser and select the printer port you wish to use for printing documents.
9. Close the Chooser.

Note:

The _CFG port disappears 60 minutes after the AXIS 5570e/AXIS 5670e has been powered on. If you want it to reappear, you must restart your print server.

Section 9 Setting Up - UNIX

Print Tools

For printer configuration, *printtool* and *printconfig* are the most common. How they are invoked depends on which distribution and window manager you use.

- AIX** *SMIT* is the recommended printing tool. It contains an integrated printer driver list, but does not have printer detection functionality.

Instructions:

Type the command `smitt` in a Terminal window, then click **Print Spooling**.

- Debian** *printtool* is the recommended printing tool. The program contains an integrated printer driver list, but does not have printer detection functionality.

Instructions:

Type the command `printtool` in a Terminal window to start the graphical version.

- HP UX** *Sam* is the recommended printing tool. It doesn't provide an integrated printer driver list, nor printer detection functionality.

Instructions:

Type the command `sam` in a Terminal window, click **Printers and Plotters** and then click **Actions** and **Add_Remote Printer/Plotter**.

- Mandrake** *printerdrake* is the recommended printing tool. It contains an integrated printer driver list, but does not have printer detection ability.

Red Hat *printconf* is the recommended printing tool. The program contains an integrated printer driver list, but does not have printer detection functionality.

Instructions:

Type the command `printconf-gui` in a Terminal window to start the graphical version.

You can also run `printconf` as a text-based application if you do not have the X Window System installed, or if you prefer the text-based interface. Log in as **root** (or use the command `su` to temporarily change to the root user), and type the command `/usr/sbin/printconf-tui` from a shell prompt.

Solaris 9 The printing tool is called *Printer Administrator*. This operating environment has an integrated printer driver list, but does not have printer detection functionality.

Instructions:

Type the command `/usr/sadm/admin/bin/printmgr` in a Terminal window.

SuSE *YaST2* is the recommended printing tool. It contains a printer driver list as well as printer detection capability.

Instructions:

To start the Printer Configuration tool, select this from the Desktop:

YaST2 menu button (on the panel) | In Yast Control Center | Hardware

| Edit Printers

Notes:

- A versatile IPP client for UNIX/Linux is CUPS. It can be downloaded from the Common Unix Printing System's Web site at www.cups.org
- If you don't find your specific printer in your distribution, have a look at <http://www.linuxprinting.org/database.html>

Typical Invocation via a Windows Manager

Using the Mandrake 8.2 distribution (with CUPS installed) and the KDE windows manger as an example, a typical set-up begins with starting Mandrake Control Center.

1. Click **Hardware | Printer** and the *Printerdrake* application will be invoked.
2. Click **Expert Mode** to be able to add a network printer.
3. Click the **Add a new printer** button.

Click **Next**.

Fill in data to help users identify the printer, i.e. name, description and location. Click **Next**.

Select printer model and click **Next**.

Configure the printer and click **Next**.

The printer is set up. Click **Finish** and the printer is accessible.

Typical Invocation from a Terminal Window

Still using Mandrake as an example, open a Terminal Window and type the command `printtool`. If you are in a terminal window, the graphic version will start (as described above). If you do not have the X Window System installed, the command will start a text based

version. The same information as was described above will be needed.

Note: In Mandrake, even if you type `printtool` at a shell prompt, `printerdrake` will automatically start.

Debian 3.0

Debian offers a choice between plain LPD, LPRng and CUPS. There are several printer configuration tools in this distribution, e.g. the *apsfilter* (version 5 or later), which adds support for LPRng and Ghostscript's uniprint driver scheme. Red Hat's `printtool` is also supported, for those who prefer GUI administration tools.

For LPRng, LPD and CUPS use the **Printtool**.

- Invocation
1. From the Gnome desktop, select Main Menu (on the panel) => Debian menus => Apps => System => Printtool.
 2. On the KDE desktop, select the Main Menu (on the Panel) => System => Debian => Printtool.
 3. Open a terminal window and type the command `printtool` (in XTERM or Gnome).

Print Queues Five types of print queues can be configured with *printconf* in the Debian distribution:

- Local Printer
- Unix Printer (lpd Spool)
- Windows Printer (SMB)
- Novell Printer (NCP Queue)
- JetDirect Printer

Adding a Remote Unix Printer Start *printtool* and click **Add**.
Select **Remote Unix (lpd) Queue** from the **Printer Type** menu, and click **OK**.

Text fields for the following options appears:

Printer name – Enter a unique name for the printer. (The name cannot contain spaces and must begin with a letter. Valid characters are a - z, A - Z, 0 - 9, -, and _.

Remote Host – The hostname or IP address of the remote machine to which the printer is attached.

Remote Queue and input filter – The remote printer queue and input filter.

Click **Next** to continue.

Click **Select** to choose a printer driver and to set it up.

Click **OK**.

Finally, click **Test** and print a test page.

Red Hat 7.3

Printtool has been replaced by **Printconf**. The utility maintains the `/etc/printcap` configuration file, print spool directories, and print filters.

Note: If you type `printtool` at a shell prompt, `printconf` will automatically start.

- Invocation
1. On the Gnome desktop, select the Main Menu button (on the Panel) => Programs => System => Printer Configuration to start the graphical version.
 2. On the KDE desktop, select the Main Menu button (on the Panel) => Red Hat => System => Printer Configuration to start the graphical version.
 3. Type the command `printconf -gui` at a shell prompt (for example, in an XTerm or a Gnome terminal) to start the graphical version.

4. You can also run `printconf` as a text based application if you do not have the X Window System installed, or you just prefer the text based interface. To run it, log in as root (or use the command `su` to temporarily change to the root user), and type the command `/usr/sbin/printconf -tui` from a shell prompt.

Print Queues Five types of print queues can be configured with `printconf` in the Red Hat distribution:

- Local Printer
- Unix Printer (lpd Spool)
- Windows Printer (SMB)
- Novell Printer (NCP Queue)
- JetDirect Printer

Important!

- Do not edit the `/etc/printcap` file. Each time the printer daemon (`lpd`) is started /restarted, a new `/etc/printcap` file is dynamically created.
- If you want to add a printer without using `printconf`, edit the `/etc/printcap.local` file. The entries in `/etc/printcap.local` are not displayed in `printconf` but are read by the printer daemon.
- If you upgrade your system from a previous version of Red Hat Linux, your existing configuration file is converted to the new format used by `printconf`. Each time a new configuration file is generated by `printconf`, the old file is saved as `/etc/printcap.old`.
- If you add a new print queue or modify an existing one, you need to restart the printer daemon (`lpd`) for the changes to take effect.
- Clicking the Apply button saves any changes that you have made and restarts the printer daemon. The changes are not written to the `/etc/printcap` configuration file until the printer daemon (`lpd`) is restarted. Alternatively, you can choose File => Save Changes and then choose File => Restart lpd to save your changes and then restart the printer daemon.
- If a printer appears in the main printer list with the Queue Type set to INVALID, the printer configuration is missing options that are required for the printer to function properly. To remove this printer from the list, select it from the list and click the Delete button.

Adding a Remote Unix Printer

To add a remote UNIX printer, such as one attached to a different UNIX/Linux system on the same network, click the **New** button in the main `printconf` window.

Select **Unix Printer** from the **Queue Type** menu, and click **Next**.

Enter a unique name for the printer in the **Queue Name** text field. The printer name cannot contain spaces and must begin with a letter a through z or A through Z. The valid characters are a through z, A through Z, 0 through 9, -, and _. Click **Next**.

Text fields for the following options appear:

- **Server** – The hostname or IP address of the remote machine to which the printer is attached.
- **Queue** – The remote printer queue. The default printer queue is usually `lp`.

By default, the **Strict RFC1179 Compliance** option is not chosen. If you are having problems printing to a non-Linux `lpd` queue, choose this option to disable enhanced LPRng printing features.

Click **Next** to continue

The next step is to select the type of printer that is connected to the remote system.

Important!

The remote machine must be configured to allow the local machine to print on the desired queue. As root, create the file `/etc/hosts.lpd` on the remote machine to which the printer is attached. On separate lines in the file, add the IP address or hostname of each machine which should have printing privileges.

Selecting the Print Driver

If you are configuring a local printer, select the print driver from the list. The printers are divided by manufacturers. Click the arrow beside the manufacturer for your printer. Find your printer from the expanded list, and click the arrow beside the printer name. A list of drivers for your printer will appear. Select one. Then finish the wizard in the usual manner.

SuSE 8.0

The printing system on SuSE Linux is based on an `apsfilter`, with some enhancements; SuSE's `apsfilter` will recognize all common file formats (including HTML, if `html2ps` is installed).

There are two ways to setup printers on SuSE systems:

- YaST2 will let you configure "PostScript", "DeskJet" and "Other printers", supported by Ghostscript drivers; it's also possible to setup HP's GDI printers (DeskJet 710/720, 820, 1000, via the "ppa" package). YaST2 will provide `/etc/printcap` entries for every printer ("raw", "ascii", "auto" and "color", if the printer to configure is a color printer). YaST2 will create spool directories and it will arrange `apsfilterrc` files, where you're able to fine tune some settings (Ghostscript preloads, paper size, paper orientation, resolution, printer escape sequences, etc.). With YaST2 it's also possible to setup network printers (TCP/IP, Samba, or Novell NetWare Printer).
- SuSE includes the regular `SETUP` program from the original `apsfilter` package (with some enhancements); run `lprsetup` to invoke this configuration script. Once you get accustomed to its GUI, you'll be able to configure local and network printers.

Invocation of YaST2 On the Gnome desktop select YaST2 Menu Button (on the panel) => Yast Control Center => Hardware => Edit Printers to start the Printer Configuration tool.

On the KDE desktop select YaST Menu Button (on the panel) => Yast2 modules => Hardware => Edit printers to start the graphic version.

Print Queues SuSE and YaST2 differ between these printer connections:

- Local printers (Parallel, USB, Serial and Disk File)
- LPD protocol network printing (Forward queue to a remote LPD and Prefiltered queue for an LPD forwarding queue)
- Other network printing (Samba/Windows, Novell)

The SuSE installation manual explains the setup procedures in detail.

AXIS axinstall Script

Having performed the basic TCP/IP setup procedures as defined earlier in this manual, you are now able to print in interactive mode using PROS, LPR, FTP or Reverse Telnet protocols.

However, if you want to integrate the AXIS 5570e/AXIS 5670e with your host spooler, you can use the Axis automatic installation script *axinstall*. This utility software is resident in the print server and can be downloaded to your host using FTP, so no disks are required. The *axinstall* script is also available on www.axis.com

Having completed this operation, the printer connected to the print server will appear as though it is directly connected to the host printer spooler.

If you intend to use the print server in a multi-protocol environment, refer to the chapters pertaining to the respective operating systems in this manual.

Integration with the Host Printer Spooler

To integrate the AXIS 5570e/AXIS 5670e with the host printer spooler, you can use the auto installation script *axinstall*, resident in the print server. Follow the instructions below to install *axinstall* onto your host using FTP:

1. Login to the print server using the command:

```
ftp <host name>
```

-or-

```
ftp <IP address>
```
2. Enter `root` as user id and `pass` as password.
3. Download the script using the command:

```
get axinstall
```

Log out using the command `quit`, `bye` or `exit` depending on your

FTP version.

```
> ftp npserver
connected to npserver.
220 AXIS 5570e/AXIS 5670e FTP Print Server v6.42
March 23 2003 ready.
Name (npserver:thomas): root
331 User name ok, need password
Password: pass (not visible)
230 User logged in
ftp> get axinstall
200 PORT command successful.
150 Opening data connection for axinstall
(192,36,253,4,13,223), (mode ascii).
226 Transfer complete.
local: axinstall remote: axinstall
61187 bytes received in 14 seconds (4.2 kbytes/s)
ftp> bye
221 Goodbye.
```

Typical FTP session for downloading the axinstall script

The *axinstall* script has now been downloaded to your host. Execute the script with this command:

```
sh axinstall or sh ./axinstall (depending on your system).
```

You will be guided through the installation by a step-by-step procedure. During the installation you will be asked to select a print method; we suggest you choose LPD or, for more functionality, use the PROS filter or named pipe methods. Please refer to the following pages if you need guidance on the choice of print methods.

Note:

NLPRng is not supported by axinstall.

The *axinstall* script will suggest one of the systems listed below when started. If you do not find the suggestion appropriate, then manually select any of the systems listed.

```

1...SunOS 4 (SUN BSD, Solaris 1.x)
2...SunOS 5 (SUN SYS V, Solaris 2.x)
3...AIX (IBM RS/6000, BULL DPX 20)
4...HP-UX (HP 9000)
5...BOS (BULL DPX 2)
6...DEC OSF/1 (Digital Equipment, Alpha)
7...ULTRIX (Digital Equipment, DEC)
8...IRIX (Silicon Graphics, SGI)
9...SCO UNIX (Santa Cruz Operation)
10...SCO UnixWare 2.x
11...SCO UnixWare 7
12...SCO OpenServer
13...FreeBSD (Berkeley UNIX)
14...Linux

15...Generic BSD (Berkeley UNIX)
16...Generic SYS V R3 (UNIX System V Release 3)
17...Generic SYS V R4 (UNIX System V Release 4)
    
```

Systems supported by axinstall

Print Methods on TCP/IP Networks

The AXIS 5570e/AXIS 5670e supports several different print methods in the TCP/IP environment. *axinstall* will suggest a print method suitable for your particular UNIX/Linux system, but you might want to use another method depending on your printing requirements (banner pages, status logging, etc).

The diagram below shows the alternative data paths taken by some of the UNIX/Linux print methods. This illustrates some of the advantages and limitations of the different methods. Use the following information to determine which method to adopt.

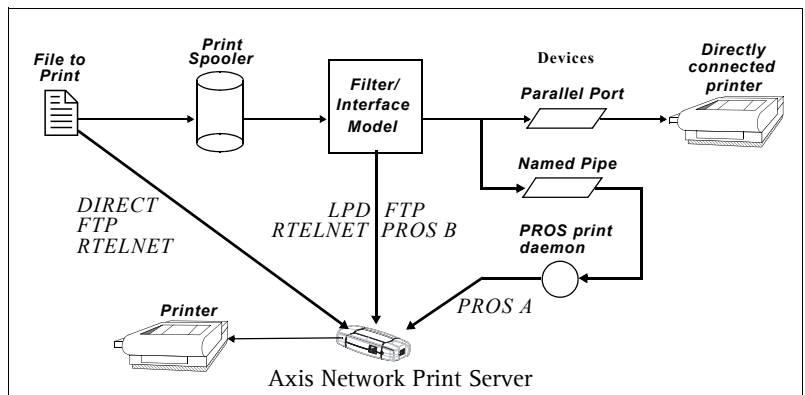


Illustration of different UNIX/Linux print methods

LPD The Line Printer Daemon is a protocol for transferring print jobs between hosts. This is the recommended method for UNIX/Linux systems, but some System V versions do not support LPD.

Advantages:

Easy to set up – install the AXIS 5570e/AXIS 5670e as a remote queue in System V, or add a remote printer to `/etc/printcap` using the `rm` and `rp` fields (BSD).

Limitations:

Spooler features, and `printcap` or `lpr` options (BSD) such as multiple copies, are not available.

FTP The File Transfer Protocol is used for transferring files between hosts.

Advantages:

Uses industry standard network software on the host.

Limitations:

No printer status logging. In the case of BSD it may conflict with other input or output filters and does not allow both input and output filters. In System V no filters or interface programs can be used.

PROS A protocol developed at Axis. Comes in two versions; *named pipe* (PROS A) and *filter* (PROS B).

PROS A Advantages The AXIS 5570e/AXIS 5670e appears as a device to the system. This makes all filter and model options available. It provides accounting and status logging. Supports bi-directional printing. The printer information read back can be viewed in a log file.

PROS A Limitations A 'C' compiler is required to build the PROS A drivers.

Note:

You can download a 'C' compiler from <http://www.gnu.org/>.

PROS B Advantages It provides accounting and status logging. Supports bi-directional printing. The printer information read back can be viewed in a log file.

PROS B Limitations A 'C' compiler is required to build the PROS B drivers and in the case of BSD, it may conflict with other input or output filters. It does not allow both input and output filters. Interface programs can not be used in System V.

Reverse Telnet Often used for printing via a terminal server printer port. Only recommended if you already have a Reverse Telnet driver installed.

Advantages: Easy to set up with previously installed Reverse Telnet drivers.

Limitations: No status logging. Drivers are not supplied with the print server. Existing drivers may be slow.

Other UNIX/Linux Systems Most UNIX/Linux systems resemble either BSD or System V and so with some ingenuity, a solution can also be devised for other variants.

If the system has BSD socket type networking support, then `probsd` (in the `bsd` directory of the AXIS 5570e/AXIS 5670e) can be used as a starting point. It receives print data from `stdin`, and writes a log file to `stderr`. Nothing is written to `stdout`.

Alternatively, FTP may be used. It is a good idea to use `bsd/ftp_bsd` or `sysv/ftp_sysv` as a starting point.

IBM MVS Systems A sample JCL script, `jcllex`, is available in the `mvs` directory of the print server. It gives an example of how to print a file from an MVS mainframe to an AXIS 5570e/AXIS 5670e using FTP.

Section 10 Management and Configuration

The management and configuration tools that are supported by the AXIS 5570e/AXIS 5670e allow you to:

- Change the print server parameters, i.e. editing the *config* file
- Receive extended information about the print jobs
- Receive printer port status
- Monitor your printers
- Reset the AXIS 5570e/AXIS 5670e

Configuration Overview

The method you should use to manage and configure your AXIS 5570e/AXIS 5670e depends on the operating system protocols of your network. The table below displays which method to use for each supported environment.

Operating System Protocols	Configuration/Management methods
IBM Host (AS/400, IBM Mainframe)	From an IBM Host - See page 203
TCP/IP (AS/400, IBM Mainframe, UNIX, Windows)	Web Browser - See page 181 AXIS ThinWizard - See page 189 FTP - See page 192 Telnet - See page 195 SNMP - See page 199
IPX/SPX (NetWare)	Novell Utilities - See page 201
NetBIOS/NetBEUI Windows	Web Browser - See page 181
AppleTalk	Web browser - See page 181 Mac-FTP - See page 192

Using a Web browser

Once you have established the AXIS 5570e/AXIS 5670e in the TCP/IP environment, as described in *Setting the IP address*, on page 24, you are free to access the AXIS 5570e/AXIS 5670e Web pages from any standard Web browser.

The Web interface of the AXIS 5570e/AXIS 5670e is divided into two modes of operation, User mode and Admin mode.

User In User mode, you have no rights to change any parameter settings. However, if you have access rights to the Admin mode, you can change some of the basic parameters from User mode via the Configuration Wizard. This mode is intended for regular users who are only interested in using the print server's interface for checking print jobs or viewing printer properties. If you want to change any other of the print server's settings, you must enter the Admin mode.

Admin When in Admin mode, you have access to all the print server's parameters and you can change them to your liking. This mode is intended for network administrators and can be password protected to prevent unauthorized changing of the print server parameters.

Note:

To protect the Admin pages from unauthorized use, enter a password in the Root Password field under Admin | General Settings

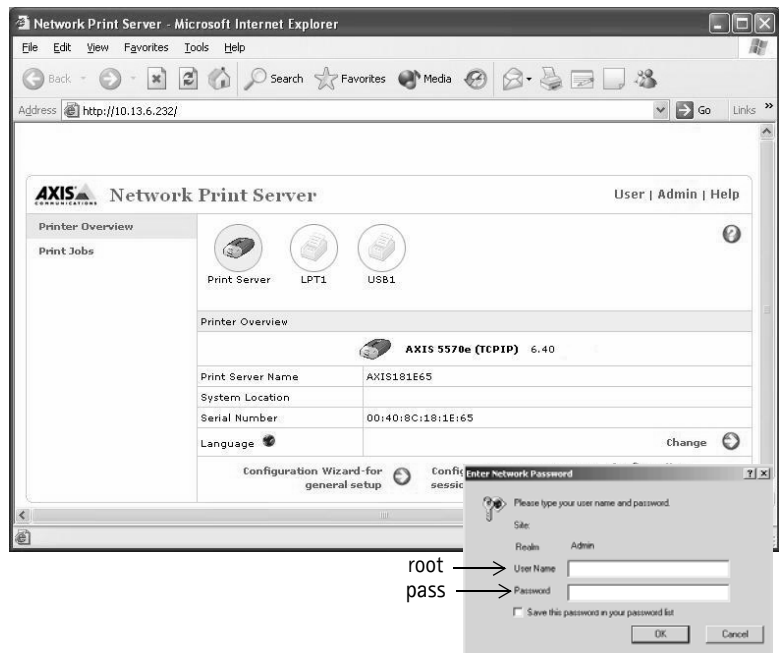
Accessing the Web Pages

Follow the steps below to access the internal web pages of the AXIS 5570e/AXIS 5670e:

1. Enter the print server's IP address (or host name) in the **Location/Address** field of your Web browser. Press **Enter**
2. The **Printer Overview** page will appear. Click the **admin** button to access the Administration web pages.
3. You will be prompted for a password, enter the default user name **root** and the default password **pass**. Click **OK**.

Note:

- It is highly recommended that you change the default password. This is done from the **Admin | General Settings | General** tab in the **Root Password** field
- You can address the print server's Web interface via **https://** To do this you must enable the SSL/TLS protocols in the web interface: **Admin | Network Settings | Detailed View | TCP/IP** and set the **HTTPS Enabled** parameter to **Yes** (you must have a valid certificate loaded). If you do not have a valid certificate loaded, select **Admin | Security Settings** and click **Create**.



Available Services from the User Mode

The following services are available from the User mode. A link to the Axis home page is available from this mode.

Printer Overview

The Printer Overview page contains a section that allows you to view the general parameter setting of the AXIS 5570e/AXIS 5670e, including the print server name and the location of the print server in your organization, if defined.

If you have admin access rights you can use the **Configuration Wizard for general settings** to perform basic configuration of the AXIS 5570e/AXIS 5670e and the **Configuration Wizard for IBM sessions** to add an IBM session.

By clicking the printer icon a printer page opens, allowing you to view the status and the supported capabilities of connected printer. The extent of this information depends on the printer model. From the printer page, you can also print a test page to the printer.

Print Jobs

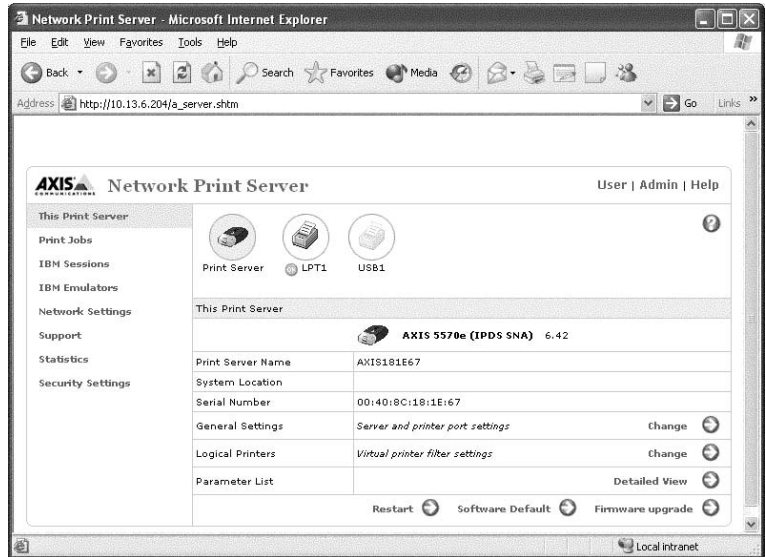
From the Print Jobs page you can view the status of the current print jobs, including the number of printed bytes and the origin of the print job. You can also view a log of the 20 latest print jobs that includes the user, the printing protocol and the file size. A log that displays the accumulated usage of the connected printers allows you to control the usage of the connected printers.

Help

The Help page presents you with basic information about the AXIS 5570e/AXIS 5670e and the Web user interface. A short description of the Axis installation tools you should use when installing a printer on your PC, is also included.

Available Services from the Admin Mode

The following services are available from the Admin mode. An additional link to www.axis.com is available from this mode.



This Print Server

The This Print Server page contains a section that allows you to view and modify the general parameter setting of the AXIS 5570e/AXIS 5670e, including the print server name, the node address, the password and the base URL. You can also configure any of the eight logical printers of the AXIS 5570e/AXIS 5670e. Management operations, like restarting the AXIS 5570e/AXIS 5670e and resetting its parameters to the factory default settings, are also available.

Caution!

Any network configuration should involve the Network Administrator.

By clicking on the printer icon, a printer page opens, allowing you to view the status and the supported capabilities of connected printer. The extent of this information is depending on the printer model. From the printer page, you can also print a test page to the printer.

- Print Jobs** From the **Print Jobs** page you can view the status of the current print jobs, including the number of printed bytes and the origin of the print job. You can also view a log of the 20 latest print jobs that includes the user, the printing protocol and the file size. A log that displays the accumulated usage of the connected printers allows you to control the usage of the connected printers. If you want to delete an ongoing print job, a delete button is available on this page.
- IBM Sessions** From the **IBM sessions** page you can view the list of configured IBM sessions. You can choose to edit or delete a session from the list or add a new session from the **Add Session** button.
- IBM Emulators** The **IBM Emulators** page contains three **Detailed View** buttons.
- SCS/IPDS emulator configurations. Select the IBM printer that is to be emulated from the drop-down list.
 - SCS/3270DS emulator configurations
Common emulator settings: page format, CPI mapping, job control, 3270 options, extended emulation, user driver.
 - IPDS emulator configurations
IPDS Emulator Settings: IPDS configuration, IPDS PostScript Driver settings, IPDS PCL Driver settings

Network Settings From the **Network Settings** page you can set all parameters that control the network traffic to and from the AXIS 5570e/AXIS 5670e. You can enable or disable any of the supported network protocols and fine-tune the parameter settings.

Admin | Network Settings | Detailed View | TCP/IP

The screenshot shows the 'Network Settings - Microsoft Internet Explorer' window. The 'TCP/IP' tab is selected. The 'DHCP Enabled' checkbox is checked, and it is highlighted with a red box. An arrow points from a text box to this checkbox. The text box contains the following text: 'If you want to set a static IP address, make sure you first set DHCP, RARP, BOOTP and Auto-IP Enabled to No.'

Other visible settings include:

- TCP/IP Printing Enabled: Yes No
- IP address: 10.13.6.204
- Default Router: 0.0.0.0
- Subnet Mask: 0.0.0.0
- HTTPS Enabled: Yes No
- PROS Password: netprinter
- PROS TCP Port Number: 35
- LD Banner Page Mode: OFF
- DHCP Enabled: Yes No
- AutoIP Enabled: Yes No
- BOOTP Enabled: Yes No
- RARP Enabled: Yes No
- WINS Enabled: Yes No
- Primary WINS Server: 0.0.0.0
- Secondary WINS Server: 0.0.0.0
- NBT Scope ID:
- DNS Enabled: Yes No
- Primary DNS Server: 0.0.0.0
- Secondary DNS Server: 0.0.0.0
- Domain Name:
- SLP Enabled: Yes No
- SLP scope list: DEFAULT
- SMTTP Servers:
- FTP Enabled: Yes No
- TELNET Enabled: Yes No
- Default RAW TCP Port: 9100-9101
- Reverse Telnet Options Enabled: Yes No
- IPDS Printer Status Reporting: Yes No
- PR1 Reverse Telnet Port Number: 0

Support From the **Support** page you can receive help to resolve any installation or print problems that might occur. If your problems persist, the Support page allows you to produce a Server Report. The Server Report includes the settings of the AXIS 5570e/AXIS 5670e, information about your connected printers as well as the current network settings. The Server Report is of great value for support assistance, so please mail, email or fax it to your support channel together with a detailed problem description.

- Statistics** The **Statistics** page displays information about the network traffic to and from the AXIS 5570e/AXIS 5670e as well as information about servers and services that are connected or associated with the AXIS 5570e/AXIS 5670e.
- Help** The **Help** page displays a comprehensive description of the configuration and management activities that can be performed from the internal Web pages of the AXIS 5570e/AXIS 5670e. These activities include instructions on how to install the AXIS 5570e/AXIS 5670e in various environments and how to upgrade it with new firmware. A detailed index is also available.
- Security Settings** On the **Security Settings** page you can enable or disable *SSL* (Secure Socket Layer - a protocol designed to provide secure communications on the Internet.) and *TLS* (Transport Layer Security, a protocol that guarantees privacy and data integrity between applications communicating over the Internet) You can also create secure certificates and disable/enable insecure protocols.

Whenever *SSL/TLS* is enabled, you have to address the print server's Web interface in the secure way, i.e. via **https://**

See *Enabling Secure Web Services – SSL/TLS*, on page 122 for a detailed description.
- Parameter List** Shows all print server parameters and their current settings.
- Restart** Restarts the print server.

Software Default A Software Default will reset all print server parameters and settings to their default values **except:**

- Node address (NODE_ADDR.)
- IP Address (INT_ADDR.)
- DHCP enabled (DHCP_ENB)
- Installed certificate
- Private key

A Software Default differs from a Factory Default in that the latter is done by pressing the test button in a specific sequence to default/clear all print server parameters to default.

See *The Test Button*, on page 132 for instructions on performing a Factory Default.

Firmware Upgrade Upgrades the print server's internal software.

Using AXIS ThinWizard for Print Server Management

AXIS ThinWizard software allows you to manage and upgrade **multiple** Axis products. Using a standard Web browser, you can find, install, monitor, configure and upgrade your Axis print servers remotely in any TCP/IP network. AXIS Thin Wizard 3.0 is Windows 2000 and Windows XP compatible.

Installing AXIS ThinWizard

AXIS ThinWizard software is available on www.axis.com
 You should only install AXIS ThinWizard on a designated computer on your network.

To install, follow the instructions given by the Installation Wizard. During the installation, you will be asked to enter a user id and a password – these will be used when logging in to AXIS ThinWizard, so please take a note of them.

Important:

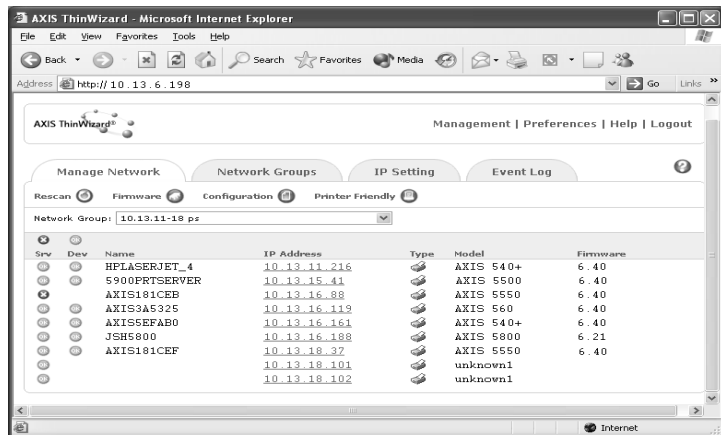
- To use all AXIS ThinWizard features, the print server must have the `FTP_ENB.` parameter set to "Yes". This is done in the print server's web interface: **Admin | Network Settings | Detailed view | TCP/IP**
- If you disable SNMP in the Print server's web interface, you will disable AXIS ThinWizard's ability to determine print server status!
 Enabling/Disabling SNMP is done from **Admin | Network Settings | Detailed view | SNMP**

Starting AXIS ThinWizard

Follow the instructions below to start AXIS ThinWizard:

1. Make sure that the computer where you installed the AXIS ThinWizard is up and running on your network.
2. Start a Web browser on a client in your network.
3. Enter the IP address or the host name of the computer where you installed AXIS ThinWizard. (If the server is installed on another port than 80, you must enter the port name after the host name or the IP address).

4. The AXIS ThinWizard start page now appears in the Web browser. Enter the user id and password you specified during installation and click **Log in**.
5. The AXIS ThinWizard interface appears:



The first time you use AXIS ThinWizard, set the **Preferences** to reflect your network environment:

Select a network group from the list on the **Manage Network** page. If the list is empty, you must first create a group. Click the **Network Groups** tab and follow the instructions.

Creating a Network Group in AXIS ThinWizard

The network group concept is the corner stone of AXIS ThinWizard. By dividing your network into network groups, you can monitor your print servers more efficiently. The scope of each network group is determined by the Axis server types and IP address ranges that are included. You can create as many network groups as you want.

Follow the instructions below to create a network group:

1. Click **Network Groups** in the AXIS ThinWizard main menu.
2. Click **Create**.

3. The Create Network Group page opens. Type the name of the network group, enter the IP address ranges and Axis server types that should be included. If you are only interested in managing print servers, deselect all options but the **print server** option.
4. Click **OK** to create the network group.

You can edit the properties of each network group from the Network Groups page. Simply select the network group from the list and use one of the **Edit**, **Copy** or **Remove** commands.

Managing Print Servers

Follow the instructions below to access the AXIS 5570e/AXIS 5670e using AXIS ThinWizard:

1. Click **Manage Network** in the main menu.
2. Select the network group, including the, from the drop-down list. All AXIS servers included in the network group appear in the window.
3. Click the link of the AXIS 5570e/AXIS 5670e to access its internal Web page.
4. The 'Srv' and 'Dev' columns show the status of your print servers and printers.

You are now free to manage and configure the print server as described in *Available Services from the User Mode*, on page 183.

Upgrading Axis Servers

Refer to *Upgrading using AXIS ThinWizard*, on page 128, for more information about upgrading Axis servers using AXIS ThinWizard.

Additional Information

If you need more information, please refer to the AXIS ThinWizard on-line help.

Using FTP for Print Server Management

Having assigned an IP address to your AXIS 5570e/AXIS 5670e, as described in *Setting the IP address*, on page 24, you can change the AXIS 5570e/AXIS 5670e parameter settings using the File Transport Protocol (FTP).

Editing the *config* file

Follow the instructions below to edit the *config* file using FTP:

1. Log in to the AXIS 5570e/AXIS 5670e by typing:
`ftp <host name>` or `ftp <IP address>` in a DOS window (Windows and OS/2) or in a UNIX shell.
2. Enter the user id and the password. (The default entries are `root` and `pass`.)
3. Download the *config* file to your host by typing:
`get config`
4. Edit the file using your preferred text editor.
5. Save the *config* file to the AXIS 5570e/AXIS 5670e by typing:
`put config CONFIG`

Notes:

- It is important that the destination file is specified in capital letters. Otherwise the edits are temporary and will be lost once the AXIS 5570e/AXIS 5670e has been powered off.
- To edit the *config* file from a Macintosh you will need FTP support such as MacTCP, Fetch or Anarchie. The procedure for editing the file is the same as described above.

The example on the next page describes how to edit the *config* file using FTP from a DOS window.

Example:

```

> ftp npserver
connected to npserver.
220 AXIS 5570e/AXIS 5670e FTP Print Server v6.30 Dec
16 2000 ready.
Name (npserver:thomas): root
331 User name ok, need password
Password: pass (not visible)
230 User logged in
ftp> get config
200 PORT command successful.
150 Opening data connection for config
(192,36,253,4,13,223), (mode ascii).
226 Transfer complete.
8588 bytes received in 0.24 seconds (35.63 kbytes/s)
ftp> put config CONFIG
200 PORT command successful.
150 Opening data connection for CONFIG
(192,36,253,4,13,223), (mode ascii).
226 Transfer complete.
8588 bytes received in 0.45 seconds (19.04 kbytes/s)
ftp> bye
221 Goodbye.
>
    
```

Viewing the *Account* File

The *account* file contains data concerning the ten last print jobs. It specifies an internal job number, the user that initiated the job, the protocol and logical printer that was used, current status (Completed, Off-line, or Printing), number of bytes printed, elapsed time and off-line time.

Follow the instructions below to view the *account* file using FTP:

1. Log in to the AXIS 5570e/AXIS 5670e by typing:
`ftp <host name>` or `ftp <IP address>` in a DOS windows (Windows and OS/2) or in a UNIX shell.
2. Enter the user id and the password. (The default entries are `root` and `pass`.)
3. Download the *account* file to your host by typing:
`get account`
4. View the *account* file using your preferred text editor.

Viewing the *Status* File

The status command shows which printer port the logical printers are assigned to, and their current status.

Follow the instructions below to view the *status* file using FTP:

1. Log in to the AXIS 5570e/AXIS 5670e by typing:
`ftp <host name>` or `ftp <IP address>` in a DOS windows (Windows and OS/2) or in a UNIX shell.
2. Enter the user id and the password. (The default entries are `root` and `pass`.)
3. Download the *status* file to your host by typing:
`get status`
4. View the status file using your preferred text editor.

FTP Help

By typing `help` in step 3 in the FTP instruction sets above, a list of all available files and commands will be displayed.

Using Telnet

Having assigned an IP address to your AXIS 5570e/AXIS 5670e, as described in *Setting the IP address*, on page 24, you can manage your AXIS 5570e/AXIS 5670e using the Telnet protocol.

Viewing the Account File

The *account* file contains data concerning the last ten print jobs. It specifies an internal job number, the user that initiated the job, the protocol and logical printer that was used, current status (Completed, Off-line, or Printing), number of bytes printed, elapsed time and off-line time.

Follow the instructions below to view the *account* file using telnet:

1. Log in to the AXIS 5570e/AXIS 5670e by typing:
`telnet <host name> OR telnet <IP address>` in a DOS window (Windows and OS/2) or in a UNIX shell.
2. Enter the user id and the password. (The default entries are `root` and `pass`.)
3. View the *account* file by typing:
`account`

The example on the next page shows how to view the *account* file using Telnet from a UNIX shell.

Example:

```

> telnet npserver
Trying 192.36.253.96...
Connected to npserver.
Escape character is '^]'.

AXIS 5570e/AXIS 5670e TELNET Print Server v6.30 Dec
16 2000

AXIS 5570e/AXIS 5670e network login: root
Password: pass      (not visible)

AXIS 5570e/AXIS 5670e TELNET Print Server v6.30 Dec
16 2000

Root> account
Current account file:

```

JOB	USER	PROT	LPR S	BYTES	ETIME	OTIME
1	Thomas	FTP	pr2 C	1885	2	0
2	Joe	LPT	pr1 C	23074	4	0
3	RICHARD	PSERVER	pr2 C	43044	5	0
4	MacUser	APPLE	pr1 C	6717	2	0
5	LSLM_userNetBIOS		pr2 C	36995	3	0
6	patrick	PROS	pr5 P	83208	9	0

```

Root>

```

Typical Telnet session to view the Account File

Viewing the *Status* file

The status command shows which printer port the logical printers are assigned to, and their current status.

Follow the instructions below to view the *status* file using telnet:

1. Log in to the AXIS 5570e/AXIS 5670e by typing:
`telnet <host name>` or `telnet <IP address>` in a DOS window (Windows and OS/2) or in a UNIX shell.
2. Enter the user id and the password. (The default entries are `root` and `pass`.)
3. View the *status* file by typing:
`status`

Performing resets

Three types of reset commands allow you to perform soft resets, to perform hard resets, and to reset the print server's parameters to its default settings.

Follow the instructions below to perform a soft reset using telnet:

1. Log in to the AXIS 5570e/AXIS 5670e by typing:
`telnet <host name>` or `telnet <IP address>` in a DOS window (Windows and OS/2) or in a UNIX shell.
2. Enter the user id and the password. (The default entries are `root` and `pass`.)
3. Restart the print server's protocols by typing:
`softreset`

Replace the command in step 3 above with `hardreset` or `default` to perform the other two reset operations.

Printing Hexdumps

The AXIS 5570e/AXIS 5670e allows you to record a trace of the communication between the AXIS 5570e/AXIS 5670e and the host.

The AXIS 5570e/AXIS 5670e supports hexdump printing for the SNA, TN3270E, TN5250E, LPR/LPD and Raw TCP/IP printing protocols. Please refer to *Product Model Summary*, on page 9 for details on the supported protocols.

Follow the instructions below to perform a hexdump printout for the SNA printing protocol:

1. Log in to the AXIS 5570e/AXIS 5670e by typing:
`telnet <host name>` or `telnet <IP address>` in a DOS windows (Windows and OS/2) or in a UNIX shell.
2. Enter the user id and the password. (The default entries are `root` and `pass`.)
3. Enable the AXIS 5570e/AXIS 5670e to hexdump mode by typing:
`snahexdump`
4. Select **Start Logging** from the **Terminal** menu in the Telnet window. Specify a file name and select the folder where you want to save the file.
5. Start the print job.
6. When the print job is finished, select **Stop Logging** from the **Terminal** menu.
7. Enter the quit command

Replace the command in step 3 above with `tnehexdump` for the TN3270E and TN5250E protocols, `lpdhexdump` for the LPR/LPD protocol, or `rtnhexdump` for the reverse Telnet protocol.

Telnet Help

By typing `help` in step 3 in any of the Telnet instruction sets above, a list of all available commands will be displayed.

Using SNMP

You can use SNMP (Simple Network Management Protocol) for remotely monitoring and configuring of the AXIS 5570e/AXIS 5670e. All major functions for print servers are supported.

General Information

SNMP refers to a set of standards for network management, including a protocol, a database structure specification, and a set of data objects. The AXIS 5570e/AXIS 5670e SNMP implementation runs in the TCP/IP environment.

The management is handled by NMS (Network Management System) software running on a host on your network. The NMS software communicates with network devices by the means of messages, which are references to one or more objects.

A message can be a question or an instruction to a device, or an alarm triggered by a specific event in a device. Objects are contained in data bases called MIBs (Management Information Base), where MIB-II is a standard database.

The AXIS 5570e/AXIS 5670e supports all relevant parts of MIB-II and also includes a private enterprise MIB. Refer to *The AXIS MIB*, on page 200.

System Requirements for SNMP

The following requirements must be fulfilled in order to make full use of the AXIS 5570e/AXIS 5670e SNMP support:

- NMS software that allows you to install private enterprise MIBs
- A host, supporting FTP, on which to run the NMS software

Follow these steps to add the AXIS MIB to your NMS software:

1. Log in to the AXIS 5570e/AXIS 5670e using FTP.
2. Download the MIB file `/snmp/axis.mib` to the NMS host.
3. Install the AXIS MIB according to instructions in your NMS software documentation.

The AXIS MIB

The AXIS MIB contains a large number of objects which may be categorized as follows:

- Menu objects - used for viewing and changing the AXIS 5570e/AXIS 5670e configuration from the NMS program. Refer to *The Parameter List*, on page 295.
- Printer status and unit administration objects - used for monitoring AXIS 5570e/AXIS 5670e print jobs and storing parameter changes permanently.
- Trap objects - used for alarms at various error conditions.

For technical details, you can view the MIB file (*axis.mib*) with any text editor.

Using Novell Utilities

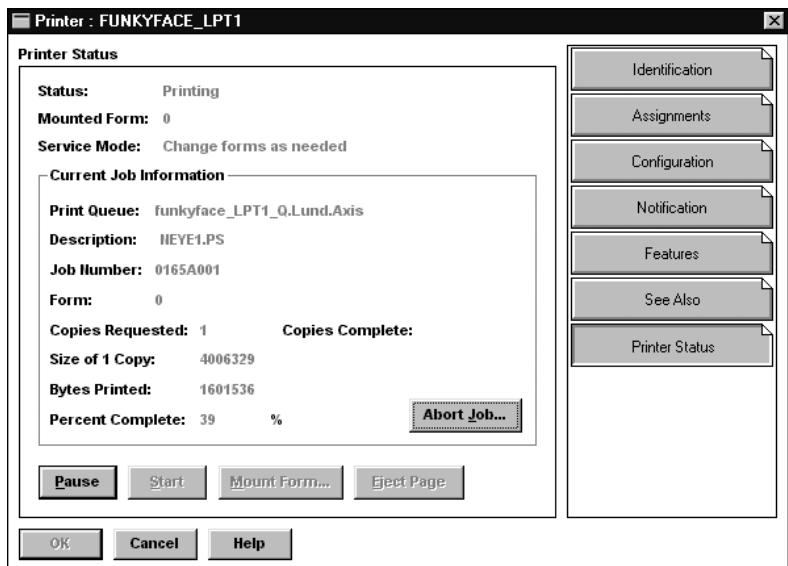
After installing the AXIS 5570e/AXIS 5670e into the NetWare environment, you can manage your AXIS 5570e/AXIS 5670e, using either Novell's NetWare Administrator, or PCONSOLE.

NetWare Administration

Some useful features provided by the NetWare Administrator are described in more detail below:

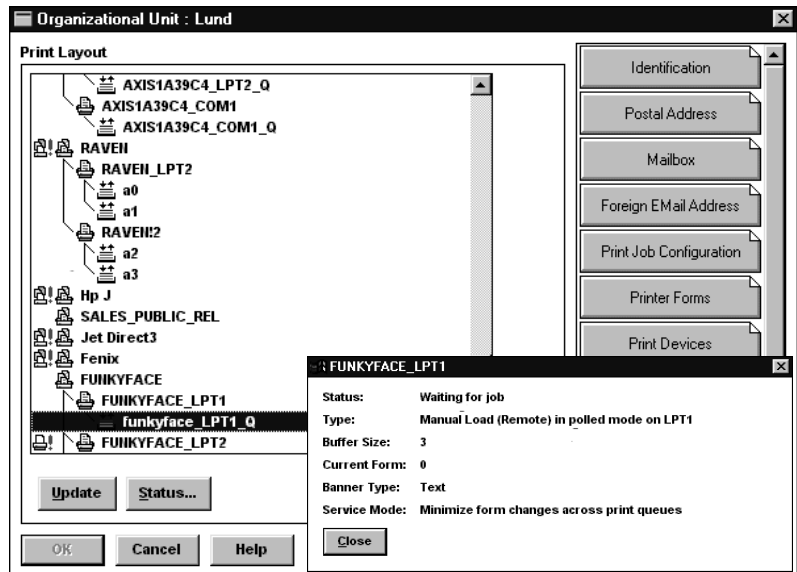
Printer Status

The Printer Status menu, detailed below, shows the status of an active print job serviced by an AXIS 5570e/AXIS 5670e network print server. It displays detailed information concerning the active job including, Print Queue, print job description, size of print file, percentage of job completed, etc. You can also abort or pause the print job from this menu.



NetWare Administrator Printer Status Menu

- Notification** You can use the NetWare Administrator to enable or disable status notification messages for printers connected to the AXIS 5570e/AXIS 5670e, e.g. Busy, Off-line, Out of paper, Paper jam, etc. You can also add or remove print job owners and administrators from the list of persons to be notified.
- Print Layout** You can view installed AXIS 5570e/AXIS 5670e Network Print Servers and their relative print queues for any NetWare Organizational Unit. You can also display summary information by right-clicking on the printer object you want to examine.



NetWare Print Layout with corresponding information summary

Configuring the Print Server from an IBM host

Once communication with an IBM host has been established, all the AXIS 5570e/AXIS 5670e parameters can be edited by printing a file containing special configuration commands. To start the configuration, the command `%CONFIG+` is entered in the file. To protect your settings, a password must be provided. By default, the password is `pass`. When all parameters are set, the command `SAVE` is used to store the parameters permanently. The command `%CONFIG-` leaves the configuration mode and resumes normal printing. The syntax for the file to print is:

```
%CONFIG+ <password;>
IBM_PRINTING_PARAMETER_NAME = VALUE;
SAVE;
%CONFIG-
```

In order to maintain backward compatibility and increase security, many parameters that are not related to the IBM printing operation have to be preceded by the `%CONFIG++` command. When all parameters are set, enter `%CONFIG--`. The parameters requiring `%CONFIG++` are clearly marked in the parameter listing on the following pages.

```
%CONFIG+ <password;>
IBM_PRINTING_PARAMETER_NAME = VALUE;
%CONFIG++
PARAMETER_NAME = VALUE;
%CONFIG--
SAVE;
%CONFIG-
```

Select the PCL5 printer driver and disable the NetWare protocol:

```
%CONFIG+ password;      (If you have not changed the default  
PRDRIVER = PCL5;      password (pass), the password is optional)  
%CONFIG++  
NETW_ENB = NO;  
%CONFIG--  
SAVE;  
%CONFIG-
```

For parameters requiring more than one value, the values should be separated using a comma.

Section 11 Configuration Possibilities

This section describes some special features offered by the AXIS 5570e/AXIS 5670e:

Autodetect Printer Type, on page 205

AutoIP, on page 206

E-mail Notification, on page 206

Flash Loading of Firmware over the Web, on page 230

IPP (Internet Printing Protocol), on page 207

Logical Printers for Customized Printing, on page 220

Network Speed, on page 230

NetWare Packet Signature Level 1,2,3, on page 230

Secure Web Services – SSL/TLS, on page 231

Autodetect Printer Type

The print server can automatically detect the type of printer you are using if you enable **Autodetect Printer Type**. The print server can then recognize Epson and Hewlett Packard InkJet printers. Most Epson and Hewlett Packard InkJet printers that have Mac OS printer drivers for network printing are supported. If **Autodetect Printer Type** is disabled, the AppleTalk printer type has to be specified manually in the print server. For Epson InkJets it would be "EPSONLQ2" and for HP InkJets it would be "DeskWriter". If the print server does not recognize the connected printer the default setting, "LaserWriter" will be used as printer type. "LaserWriter" is the recommended setting to be used with all PostScript printers.

To enable **Autodetect Printer Type**, log in to your print server's Web interface and select **Admin | Network Settings | Detailed View | Macintosh | Auto Detect Printer Type | Yes**.

See the **Help** pages in the print server's Web interface for details.

AutoIP

In the absence of an IP address management mechanism such as DHCP, the print server will receive a temporary IP address automatically over AutoIP, a method which enables the host to automatically take a linklocal IPv4 address. AutoIP is supported by Windows 98, Me, 2000, XP and Mac OS version 8.5 or higher.

See *"Dynamic IP Address Assignment"* on page 24

E-mail Notification

Whenever an event that needs human intervention occurs in a network printer, the concerned person can be notified by e-mail. This 'trouble-report' contains a short and concise description of the event. Five events are covered: **Paper Jam, Out of Paper, Toner Low, No Toner, Printer Off-line.**

In order to determine who the e-mail recipients will be of these different trouble-reports, follow these instructions:

1. From your print server's internal web page, go to: **Admin | Network Settings | Detailed View | e-mail Notification.** The following options will appear:

Options	E-mail recipient
PAPER JAM	The person responsible for handling paper jams in the printer
OUT OF PAPER	The person responsible for filling the printer with paper
TONER LOW	The person responsible for filling up the toner in the printer
NO TONER	The person responsible for changing the toner in the printer
PRINTER OFFLINE	The person responsible for the overall maintenance of printer

2. Enter the respective e-mail addresses of the trouble-report recipients in the blank fields as follows:
name@company.com

3. Click **OK** and exit when done.

Important:

Check that the **SMTP Server** and **Domain Name** parameters in the print server's internal web pages are correct. This is done in: **Admin | Network Settings | Detailed view | TCP/IP**

IPP (Internet Printing Protocol)

Printing over the Internet with IPP (Internet Printing Protocol) is possible with the AXIS 5570e/AXIS 5670e. IPP is an industry standard that allows users to print to remote printers across the Internet.

With IPP, a user with an Internet connection can send a document to any printer which is connected to the Internet. IPP is platform independent and can be used to print over any LAN or WAN that supports TCP/IP.

In practical terms, this means that you can send documents to a remote printer as an addition to or replacement of fax and e-mail, with the same quality and color options of traditional network printing.

In order to print to a remote printer using IPP, you need the following:

- An *IPP client* installed on your computer together with appropriate printer drivers. The IPP client is a tool that adds destination printers to your printer list. A list of available IPP clients can be viewed in *IPP clients*, on page 209.
- The printer to which you want to send your print job needs to be connected to *a print server with IPP functionality*. The print server makes it possible for your printer to receive print jobs from an IPP client. The IPP functionality of the AXIS 5570e/AXIS 5670e is automatically activated upon installation.

IPP Printing Requirements

Before you print to an IPP printer you need to know:

- the **http://** address of the print server.
- the **brand and model of the printer** in order to install the appropriate printer driver.

Address Schemes for IPP Printers

When using IPP printing, you need to know the IP address or host name of your IPP enabled Axis print server. IPP is a client/server type protocol which comprises two industry standards:

- the 1.0 standard, which uses an **http://** address scheme
- the 1.1 standard, which uses an **ipp://** address scheme

Example using a Host Name in the 1.0 Standard:

If "axisps" is the host name of the AXIS 5570e/AXIS 5670e, "631" is the port number and "USB1" is the local printer port name, then the syntax of the address scheme will be `http://axisps:631/USB1` in the 1.0 standard.

Example using an IP Address in the 1.1 Standard:

If "171.16.5.218" is the IP address of the AXIS 5570e/AXIS 5670e and "USB1" is the local printer port name, then the syntax of the address scheme will be `ipp://171.16.5.218/USB1` in the 1.1 standard.

IPP clients An *IPP client* needs to be installed on your computer together with an appropriate printer driver for proper IPP functionality. The IPP client is a tool that adds destination printers to your printer list.

The AXIS 5570e/AXIS 5670e with integrated IPP is compatible with any 1.0 and 1.1 compliant IPP client.

The AXIS 5570e/AXIS 5670e presents IPP printer objects to the client, one for each printer port. Some of the most common IPP client printing methods are described later on in this chapter. Please refer to your IPP client documentation for more specific information.

Currently Available IPP Clients on the Market:

- **For Windows NT/2000:** the Internet Printer Connection software from Hewlett Packard (can be downloaded from the Hewlett Packard Web site).
- **For Windows 2000/XP:** the Microsoft IPP Client (automatically installed with the Operating System).
- **For Windows 98, NT 4.0:** IPP clients can be downloaded from the Microsoft Web site.
- **For UNIX/Linux:** CUPS (can be downloaded from the Common Unix Printing System Web site at www.cups.org).

If you wish to print using iPrint over IPP, the following Axis snap-in tool is available from www.axis.com/techsup => Select Software:

- **AXIS IPP Gateway Configuration Snap-in for i-Print in NetWare 5.x.** See the read-me file for installation instructions.

IPP User Requirements

The IPP protocol does not require any special configuration of the AXIS 5570e/AXIS 5670e, the IPP function is automatically activated when you install your print server.

IPP is platform independent and functional in Windows (NT, 98, Me and 2000/XP), Macintosh, NetWare and UNIX/Linux.

Firewall Considerations with IPP

If there are one or more firewalls between the IPP client and the server, you may have to make some changes to the firewall configuration. IPP uses TCP Port 631 for printing, so any firewalls between client and server must be configured to allow bi-directional traffic on that port. Please consult your network administrator if you think any configuration changes are necessary.

How to Print from Windows 98:

Before you print to an IPP printer you will need to know:

- the **http://** address of the print server. The **http://** address contains the **IP address** or **host name** of the print server and the **printer port name**.
- the **brand and type of the printer** in order to install the appropriate printer driver.

If your destination printer does not exist in your **Printer name** list, you need to add it. Adding an IPP printer to your printer list is described below.

1. Select the IPP printer to which you want to send your document. Choose the destination printer from the **Printer name** field (in **File | Print**).
2. When you press **Print**, the print job is sent over the Internet to the AXIS 5570e/AXIS 5670e, which then forwards the print job to the destination printer.
3. The recipient of the print job can collect the print job at the destination printer.

Adding an IPP Printer to your Printer List in Windows 98

1. Install the IPP client for Windows 98 on your computer. This IPP client can be downloaded from the Microsoft Web site.
2. Open **Start | Settings | Printers**.
3. Choose **Add Printer**, then **Network Printer**.
4. In the **Printer** field in the **Connect to Printers** window, write the **http://** address of the destination printer.
(**Example:** **http://171.16.5.218:631/USB1**)

5. Select the appropriate printer driver corresponding to the destination printer.
6. Specify a name for the printer you wish to add to your printer list. Click **Finish**. The destination printer will be added to your printer list and you are ready to print using IPP.

How to Print from Windows NT:

Before you print to an IPP printer you will need to know:

- the **http://** address of the print server. The **http://** address contains the **IP address** or **host name** of the print server and the **printer port name**.
 - the **brand and type of the printer** in order to install the appropriate printer driver.
1. First you need to select the IPP printer to which you want to send your document. Select the destination printer from your **Printer Name** list (in **File | Print | Printer Setup**).

The printer name will begin with a URL: **http://...**

If your destination printer does not exist in your **Printer Name** list, you need to add it. Adding an IPP printer to your printer list is described below.

2. When you press **Print**, the print job is sent over the Internet/WAN to the AXIS 5570e/AXIS 5670e, which then forwards the print job to the destination printer.
3. The recipient of the print job can collect the print job at the destination printer.

Adding an IPP Printer
to your Printer List in
Windows NT

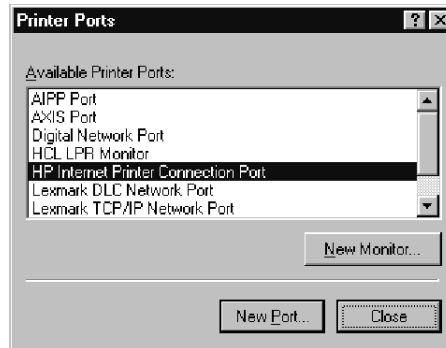
1. Install the Internet Printer Connection software from Hewlett Packard (can be downloaded from the Hewlett Packard Web site) on your computer.
2. Open **Start | Settings | Printers**.
3. Choose **Add Printer**. The Add Printer Wizard will start.
4. Next, the Wizard will ask you if you want to install on **My Computer** or on a **Network print server**. Choose **My Computer** and click **Next**.



- In the **Available Ports** window, click **Add Port**:

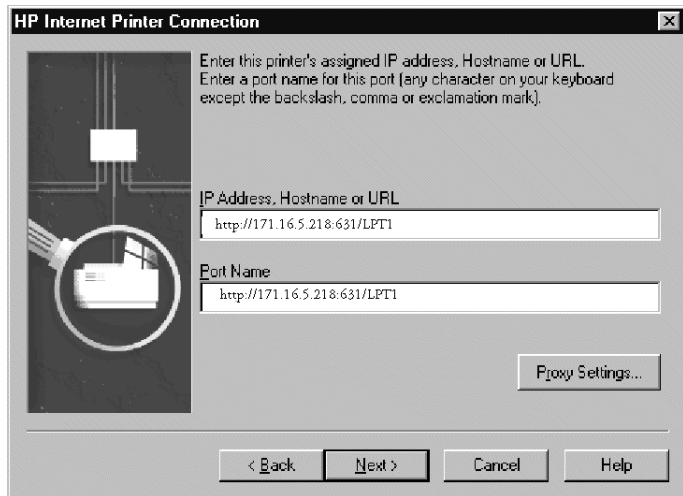


- The **Printer Ports** dialog will appear, showing a list of **Available Printer Ports**.



- Choose **The HP Internet Printer Connection Port** and click **New Port**.
- The **HP Internet Printer Connection** will start. Click **Next**.

9. In the **IP Address, Host Name or URL** field, type the `http://` address of the AXIS 5570e/AXIS 5670e to which the destination printer is connected. The URL will automatically appear in the **Port Name** field as well:



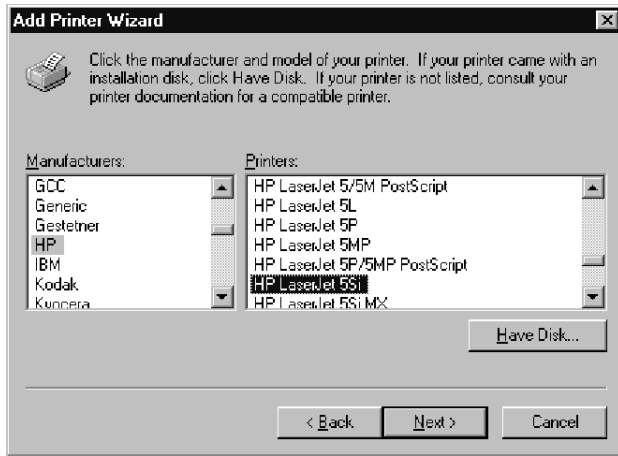
Example:

*http://171.16.5.218:631/LPT1 if you want to address the parallel port or
http://171.16.5.218:631/USB1 to address the USB port.*

Click **Next**.

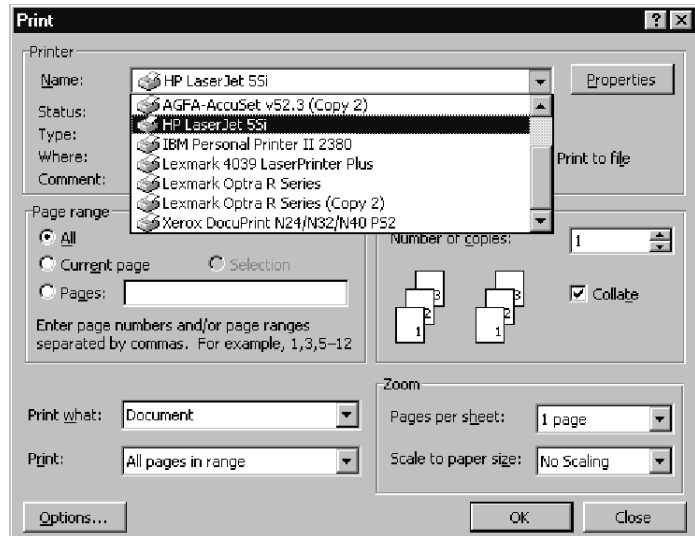
10. The Wizard will confirm the information you have entered. Click **Finish** to complete the installation and go back to the **Available Ports** list.
11. The IPP printer port list is now available in the **Available Ports** list. Click **Next**.

- Next, choose a suitable driver for the destination printer and install it. Click **Next**



- You will be asked if you want the newly added printer to be your default printer and if you want to share the printer on your network with other users. Choose the alternatives that suit your printing needs and click **Finish** to complete the installation.

- The new printer will appear in your Printer window. You are now ready to start printing using IPP.



How to Print from Windows 2000/XP

Before you print to an IPP printer you will need to know:

- the **http://** address of the print server. The **http://** address contains the IP address or host name of the print server and the printer port name.
 - the brand and type of the printer in order to install the appropriate printer driver.
1. Select the IPP printer to which you want to send your document. Choose the destination printer from the **Select Printer** field (in **File | Print**).

If your destination printer does not exist in your **Select Printer** list, you need to add it. Adding an IPP printer to your printer list is described below.

2. When you press **Print**, the print job is sent over the Internet to the AXIS 5570e/AXIS 5670e, which then forwards the print job to the destination printer.

3. The recipient of the print job can collect the print job at the destination printer.

Adding an IPP Printer to your Printer List in Windows 2000/XP

1. Choose **File | Print** from the document you wish to print.
2. In the **Select Printer** field, click the **Add Printer** icon. The **Add Printer Wizard** will start. Click **Next**.
3. The Wizard will ask you if you want to install a local printer or a network printer. Choose **Network Printer** and click **Next**.
4. Enter the printer **http://** address in the **URL** field.



Example:

*http://171.16.5.218:631/LPT1 if you want to address the parallel port or
http://171.16.5.218:631/USB1 to address the USB port.*

Click **Next**.

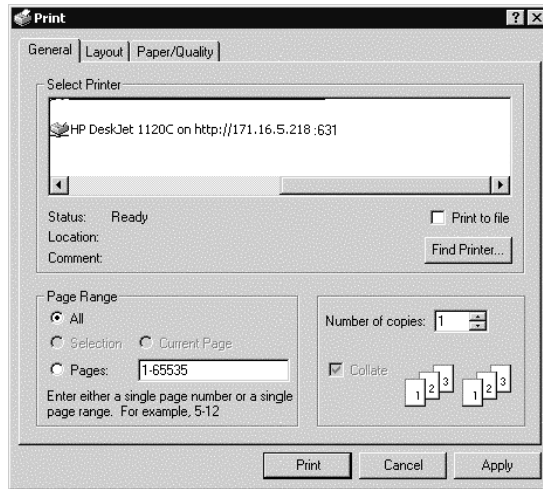
5. If you do not have a driver corresponding to the destination printer installed on your computer, the Wizard will prompt you to install one. Click **OK**.

- The Installation Wizard will ask you to select a printer driver corresponding to the destination printer. Select the printer driver from the list and click **OK**.



- The Wizard will ask you if you want the printer to be your default destination printer. Make your choice and click **Next** to complete the Add Printer Wizard installation.

8. The new printer is added to your **Select Printer** window:



9. You are now ready to print using IPP: specify your new destination printer from the printer list and click **Print**.

Logical Printers for Customized Printing

The AXIS 5570e/AXIS 5670e has a powerful facility for altering the print data. This means that your desired print format can be realized on any type of printer. The following actions can be invoked from the print server:

- The character set can be changed to suit the printer
- Strings can be added before and after the print data
- Strings within the print data can be substituted
- ASCII to PostScript conversion
- Redirection of print data to another printer if the printer is busy
- Hex Dump mode to assist with printing problems

If any of these actions are required, a Logical Printer is used to change the print data before being sent to the printer port. There are eight logical printers (PR1–PR8) that can be set up to filter the print data.

The default logical printers settings are such that PR1–PR4 cause no change to the flow of print data, while PR5–PR8 add CR to LF control characters:

<i>Logical Printer</i>	<i>Changes to data</i>
<i>PR1</i>	<i>no change</i>
<i>PR2</i>	<i>no change</i>
<i>PR3</i>	<i>no change</i>
<i>PR4</i>	<i>no change</i>
<i>PR5</i>	<i>add CR to LF</i>
<i>PR6</i>	<i>add CR to LF</i>
<i>PR7</i>	<i>add CR to LF</i>
<i>PR8</i>	<i>add CR to LF</i>

Each logical printer can be set via the print server's internal Web pages: Open a Web browser, enter the IP address of the print server in the Location/Address field and select **Admin | Logical Printers**.

The logical printers can also be set up by editing the *config* file. See "Editing the config file" on page 192.

Notes:

- The examples in this section describe how you can configure the available logical printers using a standard Web browser. If you want to set them directly by editing the *config* file, just enter the values for the corresponding parameters.
- The examples should only be viewed as suggestions how to configure the logical printers. You should, of course, configure them according to the needs of your network.
- In the Parameter List chapter of this manual, you can find a complete list of the AXIS 5570e/AXIS 5670e parameters.

Character Set Conversion A common problem in a multiple host environment is that different hosts use different ASCII character sets. As a result of this, language specific characters (such as å ü ô ñ) are sometimes printed incorrectly.

The AXIS 5570e/AXIS 5670e solution to this problem is to assign a character set conversion filter to a logical printer, and then link that logical printer to the host causing the problem.

You select your desired conversion filter by setting the **Character Set Conversion (PRx_CSET.)** parameter. The output from the conversion filter is always IBM PC Set 2 (Code Page 437), and this is the character set the printer must be set up for.

Example:

Your network contains a host using the character set ISO 8859-2 and a host using the character set DEC.

In order to direct print jobs to the printer connected to the AXIS 5570e/AXIS 5670e, you should assign the host to a separate logical printer, and install a character set conversion filter.

Follow the instructions below to change the conversion filter (USB1 is used as an example here):

1. From the print server's internal Web page, select **Admin | Logical Printers**.
2. Select the **PR1** tab.

3. Set the parameter **Physical Port** to **USB1**.
4. Set the parameter **Character Set Conversion** to **ISO>IBM**.
5. Click the **OK** button.
6. Select the **PR2** tab.
7. Set the parameter **Physical Port** to **USB1**.
8. Set the parameter **Character Set Conversion** to **DEC>IBM**.
9. Click the **OK** button.

The ISO 8859-2 printer data that is sent to logical printer PR1 converts to IBM PC Set 2 and is printed on USB1. Similarly, the DEC printer data that is sent to logical printer PR2 converts to IBM PC Set 2 and is printed on USB1.

Adding Strings Before and After Print Jobs

These string functions provide a way to send printer control commands before and after each print job. They may be specified individually for each logical printer.

All strings are entered as hexadecimal byte values.

Example:

Assume that the logical printer PR5 is configured as a PostScript printer and that you want to append the PostScript End of File character (hex 04) after each print job.

Follow the instructions below to add a string after the print job:

1. From the print server's internal Web page, select **Admin | Logical Printers**.
2. Select the **PR5** tab.
3. Enter the string **04** in the **String After Print Job** text field.
4. Click the **OK** button.

Example:

You have an HP LaserJet printer with dual trays, and want to print on pre-printed forms when using the logical printer PR4. The standard forms are taken from the lower tray, and the pre-printed forms are taken from the upper tray. The string before print job should contain the command to select the upper tray: $\text{E}_C\&11\text{H}$ (hex 1B 26 6C 31 48). The string after print job should contain the command to select the lower tray: $\text{E}_C\&14\text{H}$ (hex 1B 26 6C 34 48).

Follow the instructions below to add strings before and after the print job:

1. From the print server's internal Web page, select **Admin | Logical Printers**.
2. Select the **PR4** tab.
3. Enter the string **1B 26 6C 31 48** in the **String Before Print Job** text field.
4. Enter the string **1B 26 6C 34 48** in the **String After Print Job** text field.
5. Click the **OK** button.

String Substitutions The string substitution function performs search and replace operations on the print data. The primary application is to replace printer control commands. Up to twenty string substitutions may be specified individually for each logical printer.

All strings must be entered as hexadecimal byte values, and each match and substitute string must be preceded by a count byte.

You substitute command strings by editing the String Substitutions (PRx_STR.) parameter.

Example:

Assume that you want to replace the UNIX/Linux New Line (hex 0A) with an Carriage Return/Line Feed (hex 0D 0A) for logical printer PR1.

Follow the instructions below to substitute command strings:

1. From the print server's internal Web page, select **Admin | Logical Printers**.
2. Select the **PR1** Web page.
3. Enter the string **01 0A 02 0D 0A** in the **String Substitutions** text field.

<i>Hex Code</i>	<i>Explanation</i>
<i>01</i>	<i>length of the string you want to replace</i>
<i>0A</i>	<i>the string you want to replace</i>
<i>02</i>	<i>length of the substitute string</i>
<i>0D 0A</i>	<i>the substitute string</i>

4. Click the **OK** button.

This conversion is the default setting for logical printers PR5 through PR8.

Example:

Assume that you want to replace the UNIX/Linux New Line (hex 0A) with an Carriage Return/Line Feed (hex 0D 0A), and the printer command $\text{E}_c\text{G1}$ (hex 1B 47 31) with E_cY (hex 1B 59) for logical printer PR2.

Follow the instructions below to substitute command strings:

1. From the print server's internal Web page, select **Admin | Logical Printers**.
2. Select the **PR2** tab.

3. Enter the string **01 0A 02 0D 0A 03 1B 47 31 02 1B 59** in the **String Substitutions** text field.

<i>Hex code</i>	<i>Explanation</i>
<i>01</i>	<i>length of the UNIX/Linux New Line command</i>
<i>0A</i>	<i>the UNIX/Linux New Line command</i>
<i>02</i>	<i>length of the Carriage Return/Line Feed command</i>
<i>0D 0A</i>	<i>the Carriage Return/Line Feed command</i>
<i>03</i>	<i>length of the printer command to replace</i>
<i>1B 47 31</i>	<i>the printer command to replace</i>
<i>02</i>	<i>length of the new printer command</i>
<i>1B 59</i>	<i>the new printer command</i>

Click the **OK** button.

Note:

Extensive use of string substitutions will naturally decrease the throughput rate of the AXIS 5570e/AXIS 5670e.

ASCII to Postscript Conversion

The AXIS 5570e/AXIS 5670e logical printers can translate ASCII print data into PostScript format. This makes it possible to print on a PostScript printer from a host that does not support PostScript. The conversion is selected by activating a filter that converts ASCII data into Postscript. This filter can be activated individually for each logical printer.

Activate your desired filter by setting the Printer Language Translation (PRx_FILT.) parameter.

Example: Follow the instructions below to convert ASCII print data to PostScript for logical printer PR2:

1. From the print server's internal Web page, select **Admin | Logical Printers**.
2. Select the **PR2** tab.
3. Set the **Printer Language Translation** parameter to **POSTSCR**.
4. Click the **OK** button.

If you select the parameter value **AUTO_PS**, the print data for every print job is searched and if any ASCII data is found, it is translated into PostScript. This setting is recommended if you are not sure if the print data is ASCII or PostScript.

PostScript Settings When a logical printer is set for PostScript conversion, you must specify the following:

- page size
- page orientation
- page format
- which font to use

The default page size is A4 and the default page orientation is Portrait, while the page format parameters are as follows:

<i>Page Format Parameter</i>	<i>Default Value</i>	<i>Comment</i>
<i>Lines per page (MPL)</i>	66	
<i>Characters per line (MPP)</i>	0	0 = disable line wrap
<i>Characters per inch (CPI)</i>	100	100 = 10 char per inch
<i>Lines per inch (LPI)</i>	60	60 = 6 lines per inch
<i>Left margin (LM)</i>	30	30 = 3.0 mm
<i>Top margin (TM)</i>	50	50 = 5.0 mm

The PostScript font can be any font that is installed in the printer. If no font is specified, Courier will be used.

Example: Follow the instructions below to set the PostScript parameters for logical printer PR2:

1. From the print server's internal Web page, select **Admin | Logical Printers**.
2. Select the **PR2** tab.
3. Set the **Printer Language Translation** parameter to **POSTSCR**.
4. Set the **PostScript Page Size** parameter to **LETTER**.
5. Set the **PostScript Page Orientation** parameter to **LANDS**.
6. Enter the string **48 0 120 60 30 50** in the **PostScript Page Format** text field.

<i>Hex code</i>	<i>Explanation</i>
48	48 lines per page
0	disable line wrap
120	120 = 12 characters per inch
60	60 = 6 lines per inch
30	30 = 3 mm left margin
50	50 = 5 mm top margin

7. Enter the string **Helvetica** in the **PostScript Font** text field.
8. Click the **OK** button.

Redirecting Print Jobs when a Printer is Busy

If print data is received for a printer that is already busy, the host normally must wait. However, with a two-port print server it is possible to use a logical printer to redirect the print data to another logical printer when the target printer is busy. If the second printer is also busy, the host must wait until the target printer is ready.

Example: Follow the instructions below to redirect PR1 print jobs to PR3, when the printer assigned to PR1 is busy (USB1 and LPT2 are used as examples here):

1. From the print server's internal Web page, select **Admin | Logical Printers**.
2. Select the **PR1** tab.
3. Set the **Physical Port** parameter to **USB1**.
 1. Set the **Secondary Printer** parameter to **PR3**.
 2. Set the **Wait On Busy** parameter to **NO**.
 3. Click the **OK** button.
4. Select **Admin | Logical Printers** and the **PR3** tab.
5. Set the **Physical Port** parameter to **LPT2**.
6. Click the **OK** button.

Notes:

- The two printers must use the same printer driver.
- Logical Printer redirection cannot be nested. If PR3 is redirected to another logical printer, the print job will not be redirected if PR3 is busy.
- If both printers are busy, the print job will be printed on the printer that first finishes its active print job.

Read Back of information The AXIS 5570e/AXIS 5670e support bi-directional printing. The information from the printer is read back on the parallel port when the parameter Read Back Port (PRx_IN.) has the default setting of AUTO. However, it is required that the printer also supports bi-directional printing. Please refer to your printer documentation for further details regarding bi-directional printing support.

Example: Follow the instructions below to disable the bi-directional communication for logical printer PR1:

1. From the print server's internal Web page, select **Admin | Logical Printers**.
2. Select the **PR1** tab.
3. Set the **Read Back Port** parameter to **NONE**.
4. Click the **OK** button.

Debugging using the Hex Dump Mode When hex dump mode is enabled, the print data is printed as hexadecimal byte values rather than characters; printer control commands are also printed as hex values. This allows you to inspect what control and print characters are actually being sent to the printer, which is a useful debugging facility for more difficult printing problems.

Example: Follow the instructions below to enable the hex dump mode for PR3:

1. From the print server's internal Web page, select **Admin | Logical Printers**.
2. Select the **PR3** tab.
3. Set the **Hex Dump Mode Enabled** radio button to **YES**.
4. Click **OK**.

Note:

The page length for hex dump printouts is determined by the lines per page value of the PostScript page format parameter.

Network Speed

With the Network Speed parameter you can manually specify the speed at which you will send and receive network packages. You can change the Network Speed setting to correspond to the type of network you are using (10 or 100 Mbit).

To change the Network Speed in an Ethernet network, log in to the print server's internal Web pages and click **Admin | General Settings =>Change**. From here, you have the option of setting the network speed to:

<i>Network Speed</i>	<i>Comment</i>
<i>AUTO_SENSE</i>	<i>This is the default value where the print server detects which speed is optimal for each network package you transfer.</i>
<i>10_HALF_DX</i>	<i>10 Half Duplex</i>
<i>10_FULL_DX</i>	<i>10 Full Duplex</i>
<i>100_HALF_DX</i>	<i>100 Half Duplex</i>
<i>100_FULL_DX</i>	<i>100 Full Duplex</i>

NetWare Packet Signature

Level 1,2,3

Protects servers and clients using the NetWare Core Protocol™ services. NCP packet signature prevents packet forgery by requiring the server and the client to sign each NCP packet.

Flash Loading of Firmware over the Web

The firmware can easily be upgraded, since flash loading over the Web is possible from the print server's internal Web pages. Client software is not needed to upgrade the firmware. See *Upgrading the Firmware*, on page 236.

Secure Web Services – SSL/TLS

In a new and unconfigured AXIS 5570e/AXIS 5670e, SSL/TLS is disabled.

Certificates To use SSL/TLS you have to create or obtain a digital certificate. There are two kinds of certificates: self-signed certificates and third party certificates.

- Self-signed certificates are less secure but normally they are sufficiently secure for small networks with no public access. You generate such a certificate yourself and there are no fees to pay.
- For large networks and for networks with public access, third party certificates from a trusted source are normally used. You obtain them for a yearly fee from a Certificate Authority (CA).

Among other things, a certificate gives information about which domain it is issued for, its validity and the name of issuer. With SSL/TLS enabled, the installed certificate authenticates the print server to the client and all information exchanged between them will be encrypted.

Enabling SSL via the Web Interface You enable the print server's secure Web services through its internal Web pages. If you have a valid certificate loaded, select **Admin | Network Settings | Detailed View | TCP/IP** and set the **HTTPS Enabled** parameter to **Yes**.

If you do not have a valid certificate loaded, select **Admin | Security Settings** and click **Create**.

Decide whether you want to generate a self-signed certificate or if you want to generate a certificate request.

Generating a Self-Signed Certificate Select the **Generate Self-Signed Certificate** radio button and click **Next**.

Enter the data asked for:

- Country Name: *Example:* US
- State or Province Name: *Example:* California
- Locality Name: *Example:* Los Angeles
- Organization Name: *Example:* Printers Inc
- Organizational Unit Name: *Example:* Sales Dept
- Common Name*: *Example:* printserver2@company.com
- Current Date (yyyy/mm/dd): *Example:* 2003/03/27
- Validity Duration (in days): *Example:* 365

* Common Name denotes the name given to the print server in the network. If you do not have a DNS server on your network, you must include the domain name, e. g. xxx@company.com

Click **Finish** and the print server will generate a public/private key pair as well as the self-signed certificate itself (this process will take a few minutes) and store these data in the print server. When the certificate is generated, the print server automatically loads it into your present browser session. The browser reports the new state by changing into https mode. In the browser's Security Alert box, select **View Certificate** and **Install Certificate**. Follow the instructions of the Install Certificate wizard.

Generating a Certificate Request

Select the **Generate Certificate Request** radio button and click **Next**.

Enter the data asked for:

- Country Name: *Example:* US
- State or Province Name: *Example:* California
- Locality Name: *Example:* Los Angeles
- Organization Name: *Example:* Printers Inc
- Organizational Unit Name: *Example:* Sales Dept
- Common Name*: *Example:* printserver2@company.com
- Current Date (yyyy/mm/dd): *Example:* 2003/03/27
- Validity Duration (in days): *Example:* 365

* Common Name denotes the name given to the print server in the network. If you do not have a DNS server on your network, you must include the domain name, e. g. xxx@company.com

Click **Finish**.

Now the print server will generate a public/private key pair and a PEM-encoded Certificate Request, called *cert.pem*. Click **Save**, **Save this file to disk** and **Save**.

Send this Certificate Request to your Certificate Authority for their signature.

Importing a Certificate When you receive the PEM-encoded certificate from your Certificate Authority, open the print server's Web interface and select **Admin | Security Settings**. Click **Import** and follow the instructions on the screen.

https:// Whenever SSL/TLS is enabled, you can only reach the print server's Web interface through the secure services. The unsecure way via **http://** is closed and now you have to address the print server's Web interface in the secure way, i.e. via **https://**.

Disabling Protocols To further increase security, you must disable protocols that are considered insecure;

- FTP (used by AXIS ThinWizard. If FTP is disabled, AXIS ThinWizard can not function properly.)
- Telnet
- Auto-IP
- DHCP
- BOOTP
- Remote Config (used by AXIS NetPilot)
- SNMPv1 Configuration

To disable these protocols, go to **Admin | Security Settings | Protocol Settings | Detailed View** and mark the check boxes. Click **OK** to finish. *Only enabled protocols will be visible from this view!*

To enable these protocols, select **Admin | Network Settings | Detailed View | TCP/IP** for FTP, Telnet, AutoIP, DHCP and BOOTP. Remote Config is enabled via **Admin | General Settings | RConfig Support**.

Important:

To ensure maximum security, it is highly recommended that you change your Administrator password after generating a certificate and disabling insecure protocols! This is done from **Admin | General Settings | Change => | General | Root Password**.

Checking SSL/TLS Status To check SSL/TLS status, open the print server's Web interface and select **Admin | Network Settings | Detailed View | TCP/IP** to see if the **HTTPS Enabled** parameter is set to Yes or No.

To View a Certificate To view a Certificate, open the print server's Web interface, select **Admin | Security Settings** and click **View** next to the Certificate.

To Delete a Certificate To delete a Certificate, open the print server's Web interface, select **Admin | Security Settings** and click **Delete** next to the Certificate.

Section 12 Upgrading the Firmware

Upgrading the Firmware

You can upgrade the AXIS 5570e/AXIS 5670e firmware using one of the following methods:

- AXIS ThinWizard (TCP/IP)
- From the print server's internal Web pages (TCP/IP)
- FTP (TCP/IP)

Note:

Updating instructions are supplied with the firmware release notes.

Upgrading from the Print Server's Internal Web Pages

Follow these instructions to upgrade the firmware of your print server from its internal Web pages (flash loading over the Web):

1. Open your Web browser, enter the IP address of your print server and press **Enter**. (See *Print Server Management*, on page 85 for detailed instructions on accessing your Axis print server on the Web).
2. From the **Admin** mode, click the **Firmware Upgrade** button. From here you can upgrade your print server with the latest available firmware.

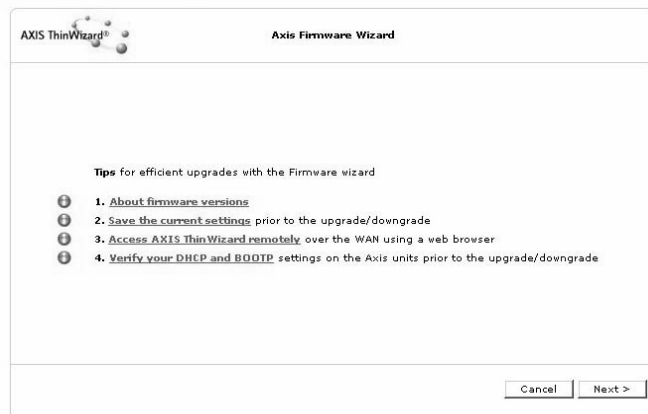
Upgrading using AXIS ThinWizard

AXIS ThinWizard 3.0 is a tool that enables batch upgrading of several print servers and can be used for upgrading the print server's firmware in TCP/IP networks.

You must assign an IP address to the print server, as described earlier in this manual, before you can use this upgrading method.

Follow the instructions below to upgrade your print servers using AXIS ThinWizard:

1. Click the **Firmware** button. The Firmware Wizard starts.
2. Browse through the upgrading tips and click **Next >** when you are done. Select **Latest Available Version**. Click **Next >**.
3. Select the servers you want to upgrade, by checking the correct upgrade boxes. Click **Next >**.
4. Enter the default User ID and Password of the servers you selected in the previous step. Select whether you want AXIS ThinWizard to verify the password immediately or when the upgrading job has started, by checking the appropriate box. Click **Next >**.
5. If you do not have a default password, just click **Next >**. If some of your servers use a different User ID or Password than the default entries, they will be displayed in the **Remaining servers** list. Enter the User ID and Password for each individual server. Click **Next >**.
6. Name the upgrade job. This is optional, so you can leave the field blank if you want. Click the **Start** button to start the upgrading job.



Refer to *Using AXIS ThinWizard software for Print Server Management*, on page 92, for more information about AXIS ThinWizard.

Upgrading using FTP To upgrade over the network using FTP you will need a file with the new print server firmware. The name of this file is in the form `product_version.bin`.

You can use any of the previously mentioned methods to obtain the new file. You must assign an IP address to the AXIS 5570e/AXIS 5670e before you can use this upgrading method.

Caution!

Be careful not to interrupt the file transfer. If the transfer is interrupted, the AXIS 5570e/AXIS 5670e may have to be re-initialized by your dealer.

The objective of this example is to upgrade a print server with firmware version 6.41 to firmware version 6.42.

This description from Windows XP uses the following *examples*:

- Print server model: AXIS 5570e
 - IP address of print server: 10.13.4.105
 - New firmware version name: 5570e_v2_6_42.bin
 - Location of firmware and upgrade procedure: C:\Axis
(Create a new file named e.g. 'Axis' on your hard drive and download the firmware to that location).
1. From www.axis.com, download the firmware and save it to a file on your computer, e.g. C:\Axis
 2. Open a command prompt from **Start => Run**.
The Run window will appear.
Type `cmd` and click OK.
 3. The DOS Command Prompt window will open.
Type `c:` and press the Enter button on your keyboard.
 4. The firmware is saved in C:\Axis
Type `cd Axis`
 5. Type `dir` and press Enter.
The Axis directory you have created will list all files:

6. Connect to the print server using ftp.
Type **ftp 10.13.4.105**
(Example using print server IP address 10.13.4.105)
7. Type **root** after "User:", press Enter.
Type **pass** after "Password:" (your entry will not be visible) press Enter.
8. Change to binary mode transfer.
Type **bin HASH** (or **binary HASH**) and press Enter.
9. Use the 'put' command to upload the upgrade file to the flash location:
(Example using firmware named 5570e_v2_6_42.bin):
Type **put 5570e_v2_6_42.bin FLASH** (FLASH written in capital letters!)

Wait 30 seconds... Done! You will receive a message stating "Transfer complete. Flash programming finished OK. "The print server will restart in five seconds running the new software. When you see a new **ftp prompt** the procedure has been completed successfully.

Obtaining the Software

You can obtain all the print server firmware as well as the latest utility software from the following locations:

- <http://www.axis.com>
- your local dealer

Section 13 SNA Parameter Overview

This appendix provides summary information on the parameters that control the basic operation of the SNA communication and the IBM printer emulation. It also describes how these parameters may be changed.

An overview of how parameters are mapped during the auto-configuration process is also provided.

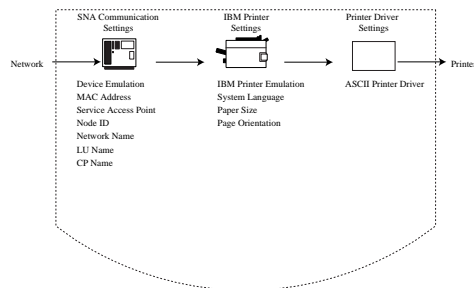
Refer to the Parameter List document on www.axis.com for a complete description of the Axis Print server parameters.

Communication Parameters

In most environments, the basic communication parameters need to be customized in order to establish a communication link to the host system. This includes setting the Host MAC Address and Host Name parameters in the Print Server. In this chapter you will find instructions on how to update these parameters.

SNA Communications Process

There are several parameters that control the basic operation of the SNA communication, and IBM printer emulation. The diagram below shows how they relate to the SNA printing process.



Schematic diagram displaying basic SNA operation and IBM printer emulation

Parameter Summary

The following tables summarize SNA host communication parameters that must be considered when installing the AXIS 5570e/AXIS 5670e.

The parameters are presented as:

- Common Mainframe and AS/400 parameters
- Mainframe specific parameters
- AS/400 specific parameters

Common Mainframe & AS/400 Parameters

Parameter	Name	Default
DEVICE_EMUL	Control Unit Device Emulation	3174
The DEVICE_EMUL parameter controls the Control Unit emulation mode. When set to 3174, the Print Server will appear as a 3174 PU 2.0 node to the host. This mode may be used for both mainframe and AS/400 environments. When set to 5494, the Print Server will appear as a 5494 PU2.1 node to the host. This is the recommended mode for the AS/400 environment. The 5494 mode cannot be used in the mainframe environment.		
H1_ADDR	Host MAC Address	FF FF FF FF FF
The H1_ADDR is the Host Ethernet MAC address. It is normally set to the MAC address of the host. When the Print Server is connected to the host through a gateway, this parameter should be set to the MAC address of the gateway. For a directly attached AS/400 system, this value is found in the "Line Description".		
AUTODIAL	Automatic Link Establishment	no
The AUTODIAL parameter controls whether the print server will automatically try to establish the link when the print server is switched on, or if communication is lost. When running 5494 CU mode, this parameter also controls whether Automatic Configuration should be performed.		

Mainframe Specific Parameters

Parameter	Name	Default
NODE_ID	Node ID	E07xxxxx, where "xxxxx" are the last five digits of the Print Server's MAC address.
<p>This is the SNA PU identification. The first 3 digits is the IDBLK and the last five is the IDNUM. When defining a VTAM Switched Major Node, this parameter should match the IDBLK and IDNUM values specified in the PU definition. Only Hexadecimal characters (0-9 and A-F) allowed.</p>		

AS/400 Specific Parameters

Parameter	Name	Default	Emulation
NWORK_NAME	Network Name	APPN	5494 only
<p>Description - This is the Print Server Network Name. The value of this parameter is normally the same as the "Host Network Name", indicating that both the Print Server and the AS/400 system are located on the same APPN network. The Network Name may comprise the letters A-Z and/or numerals 0-9, but must begin with a letter. The letters used should all be in UPPERCASE and a maximum of 8 characters are allowed.</p>			
LU_NAME	LU Name	Axxxxxxx	5494 only
<p>Description - Axxxxxxx, where "xxxxxxx" is the last 7 characters of the AXIS 5570e/AXIS 5670e serial number, in reverse order, e.g. if s.no. = 00 40 8C 1B 06 D4 the default LU Name = A4D60B1C. This will be the name of the APPC device and controller created during auto-configuration</p>			
<p>Description - Axxxxxxx, where "xxxxxxx" is the last seven characters of the Print Server serial number, in reverse order, i.e. a print server with serial number 00 40 8C 1B 06 D4 will have the default CP Name A4D60B1C. This will be the name of the APPC controller created during auto-configuration.</p>			
H1_NW_NAME	Host Network Name	APPN	5494 only.
H1_LU_NAME	Host LU Name	DEFAULT	5494 only

Updating parameters

This is most easily done from the internal web pages of your AXIS 5570e/AXIS 5670e. To set the parameters using a Web browser, you first need to assign an IP address to the AXIS 5570e/AXIS 5670e. For instructions on how to do this, refer to *Setting the IP address*, on page 24.

Alternatively, you can update the parameters via FTP, TFTP or by using extended IBM printer emulation.

Using extended IBM printer emulation means setting up the AXIS 5570e/AXIS 5670e by printing a file containing extended IBM emulation commands to it after you have established communication with your IBM host. The configuration is started by inserting the sequence %CONFIG+ in your text. To protect your settings, a password must be provided. By default, the password is `pass`. You may then set the parameter values directly using the syntax shown below:

Syntax:

```
<Parameter name> = <value> [, <value>];
```

When all parameters have been set the `SAVE` command saves the settings permanently. The %CONFIG- command resumes normal printing. In order to maintain backward compatibility, some parameters must be preceded by a %CONFIG++ command. See also *The Parameter List*, on page 295.

To set the parameters to their default values, enter the following in your document and print it.

```
%CONFIG+ password (If you have not changed the default  
password (pass), the password is optional.)  
  
PRDRIVER = PCL5;  
%CONFIG++  
NODE_SAP = 4;  
H1_SAP = 4;  
AUTODIAL = NO;  
%CONFIG--  
PREMUL = 3816;  
SYSL = 37;  
BIN1 = LETTER, COR;  
SAVE;  
%CONFIG-
```

Changing Parameters after Auto-configuration

If you want to change some of the critical configuration parameters after auto-configuration is completed, you should first set AUTODIAL to NO, then remove all descriptions in the AS/400, and then change the parameter(s) and set AUTODIAL to YES to initiate a new configuration process.

Auto-configuration and Mapping

The configuration created in the AS/400 and the mapping to the AXIS 5570e/AXIS 5670e as a result of the auto-configuration process is illustrated by the figure below.

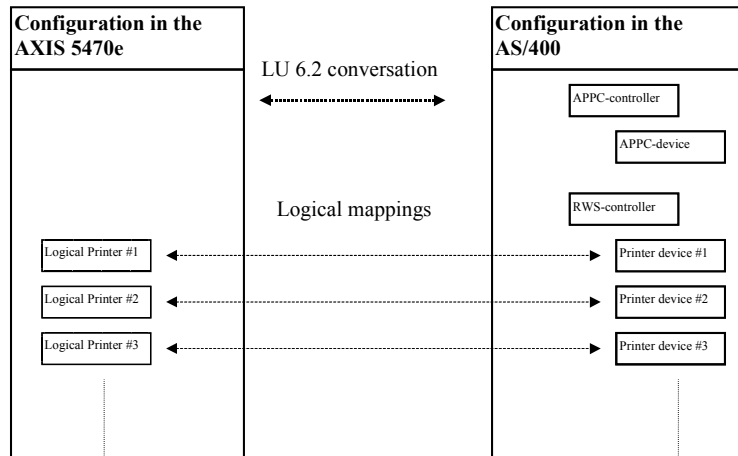


Illustration of the configuration created in the AS/400 and the mapping to the AXIS 5570e/AXIS 5670e as a result of the auto-configuration

Printer Device Descriptions

Through auto-configuration, the APPC controller, APPC device, RWS controller as well as printer device descriptions for the logical printers, will be created automatically.

Controller and Device Names

The names of the controllers and devices created in the AS/400 during auto-configuration are by default the last 7 characters from the AXIS 5570e/AXIS 5670e serial number in reverse order, preceded by the letter "A".

For example, serial number "00408C180102" will result in APPC-controller "A201081C", APPC-device "A201081C" and RWS-controller "A2010RMT".

Printer devices will be named "A201PRT01", A201PRT02", A201PRT02"... The designation "PRTnn" corresponds to the logical printers in the Print Server, i.e. printer device "A201PRT01" will be mapped to Logical Printer #1. By default, all Logical Printers are mapped to the Physical Port LPT1.

To customize the print server, proceed to the *SNA Printing - 5494 Mode*, on page 36.

Section 14 SNA Gateways

Gateway Configuration, 3174 CU mode

Some hints specific to SNA gateways are given below.

- AXIS 5570e/AXIS 5670e appears to a gateway as a Down Stream Physical Unit (DSPU), with eight LUs, 1 to 8 (LU 1 may not be available).
- Only gateways that communicate with DSPUs using SNA over LLC type 2 are supported.
- There are basically two types of gateways that the AXIS 5570e/AXIS 5670e can be attached to: pass-through gateways and concentrator gateways, as described below.

Pass-through gateway

Devices attached downstream to this type of gateway are completely visible to the host. In other words, each DSPU will have a PU definition on the host. Examples of pass-through gateways are IBM 3745 Communications Controller, IBM 3174 Establishment Controller, IBM 3172 LAN Interconnect Controller, etc.

You need to set up at least one PU and LU definition for each AXIS 5570e/AXIS 5670e on the host, as described in the VTAM section.

When attaching an AXIS 5570e/AXIS 5670e to a remote pass-through gateway, you need to set the mapping of SDLC or sub-channel address to MAC address in the gateway.

Concentrator gateway, general A concentrator gateway typically behaves as a PU (or a few PUs) to the host, even though a number of PUs may be available downstream. If it is an SDLC or channel attached gateway, typically only one SDLC or sub-channel address will be used. Examples of concentrator gateways are: IBM Communications Manager/2 (OS/2), Novell NetWare for SAA (NetWare 3.x), Microsoft SNA Server (Windows NT), etc.

When an AXIS 5570e/AXIS 5670e is attached to this type of gateway, you can map the chosen AXIS 5570e/AXIS 5670e LU to any host LU you like. This way, several print servers may be accessed through the same gateway.

Pooling LUs may not be used for AXIS 5570e/AXIS 5670e.

Concentrator Gateway, NetWare This is an outline of the procedure for configuring to a Novell NetWare for SAA v 2.0 Server. More information is provided in the 'Support' section of www.axis.com

1. Customize the AUTOEXEC and STARTUP files on the server. Add the LOAD statements for the LAN and WAN cards, the BTRIEVE database, and the NetWare for SAA 2.0 Gateway i.e. LOAD COMMEEXEC and LOAD NWSAA.
2. Configure the Communication Executive (this and the following subjects are done on a WorkStation).
3. Configure SNA Network ID. Either change the default value or let it stay on default.
4. Configure Data Link Adapters. The configuration is done on the Data Link Adapters Definitions screen by pressing insert for a new adapter config, then you always enter the Logical adapter name, Link type, Logical adapter number and Service status.

5. Configure PU and LUs. On the Configure PU Profile screen you can set default LU attributes, starting dependent LU address, number of dependent LUs, give CP a name, enable off-line test mode, status assignment of LUs activated by host, status call host at workstation attach, status PU profile start-up and logical adapter name. On the Configure Dependent LUs screen you can set VTAM LU name, lock for a session, LU type and model and preserve host session.
6. Assign LU Resources and Access Control Lists (ACLs). On the Configure Dedicated LUs you can dedicate a LU to a person or device or group of persons. This person(s) is described in the access control lists.
7. Configure Downstream PU. Choose Configure Downstream PUs and press insert. Give it a name and fill in starting LU address or leave at default, type in number of DownStream LUs and logical adapter name:

```

Configure Downstream PU Connection
Downstream PU name (CP name): _____DPUname
Starting downstream LU address: _____2
Number of downstream LUs: _____1
Logical adapter name: _____
    
```

The CSCON adds new parameters according to the adapter type you have set. The resulting screen can look like this:

```

Netware Comm Services Config V2.0 Wednesday 1999 September 4 16.27
Configure LUs for Downstream PUs _____Downstream PU: AXIS5570e
DLU __Address __PU Profile __LU Address __LU Type __Model __VTAM LU Name
002 __ (0x02) __SAA_MAIN __15 (0x0F) __Printer _____ACP4
    
```

Concentrator gateway,
Microsoft

This is an outline of the procedure for configuring to a Microsoft SNA Server. More information is provided in the Support section of the Axis web site at <http://www.axis.com>

1. Configure host connection.
2. Configure downstream connection.

3. Select host connection and assign one or more DownStream LUs to it.
4. Select downstream connection and associate the DownStream LUs (from step 3) with that connection.
5. If necessary, reorder the DownStream LU numbers, that is, the LU numbers used by the downstream system.
6. To connect multiple PUs (boxes) repeat steps 2-5.

Section 15 Extended IBM Printer Emulation

When printing from an IBM host, the AXIS 5570e/AXIS 5670e allows you to make use of the following printer functions not found in standard IBM printers:

- Configuration Mode
- Hex Transparency
- User Defined Strings
- String Substitutions
- Bar Codes
- Font Selection.

This appendix provides a brief overview of some of these functions.

Configuration Mode

The Configuration Mode provides a way to configure your AXIS 5570e/AXIS 5670e from your IBM system. For more information see *SNA Parameter Overview*, on page 240.

User Defined Strings

The User Definable Strings are a set of 256 programmable sequences. The UDS are useful for storing long sequences, such as printer function sequences, within the AXIS 5570e/AXIS 5670e. Each sequence can be activated by inserting a short control command in your documents.

String Substitutions

The String Substitution function searches the output data stream for specified sequences of AIC characters (Match Strings), and substitutes them with other sequences (Substitute Strings). Up to 128 pairs of Match/Substitute Strings may be defined.

AIC (AXIS Internal Codes) are listed in the AXIS Network Print Server Technical Reference.

Font Selection

Fonts can be selected directly by FGID (Extended Emulation commands or SCS SFG commands) or indirectly by pitch SCS SCD/SPD commands.

Notes:

- SFG control code is only supported by Twinax page printer emulations
- Matrix printers only support a few fonts

Hex Transparency

The Transparency function allows you to send ASCII data to the printer directly from the host application. The data may be Postscript, PCL, HP-GL or any other language supported by the printer. This gives you access to all the features of the connected printer from within the IBM environment.

When the percent and less-than characters (%<) are received, the AXIS 5570e/AXIS 5670e will switch to hex transparency mode. The following data (given as hexadecimal byte values or quoted text) is passed directly to the printer without any conversion. The hex transparency mode continues until the greater-than and percent characters (>%) are received.

The following example shows how to embed HP-PCL 'start underline' (<ESC>&d0D) and 'stop underline' (<ESC>&d0@) commands in your documents:

```
The word %<1B26643044>%underline%<1B266440>% is
underlined.
You can also use %<1B,"&d0D">%quoted text%<1B,"&d0@">%
```

Resulting printout:

```
The word underline is underlined
You can also use quoted text.
```

Bar Codes

The bar code function provides easy access to a range of standard bar code types resident in the AXIS 5570e/AXIS 5670e. Bar codes can only be printed on PCL printers.

Before the bar codes can be printed, a bar code format has to be defined. This format sets the type and size of the bar code to be printed. Up to 16 formats can be predefined. The definitions are made by setting up the BAR parameter.

The BAR parameter takes several arguments, separated by commas, as shown below:

```
BAR <number>=<type>,<width>,<height>,<text mode>,<check mode>;
```

- **number** is the bar code definition number in the range 0–15. This number is used to refer to the definition when printing the bar code.
- **type** is the predefined bar code type. Valid values are:

<i>Value</i>	<i>Description</i>	<i>Value</i>	<i>Description</i>
CODE39	<i>Code 39</i>	CODE128	<i>Code 128</i>
UPCA	<i>UPC version A</i>	INT20F5	<i>2 of 5 Interleaved</i>
EAN8	<i>EAN-8</i>	CODABAR	<i>Codabar matrix</i>
EAN13	<i>EAN-13</i>		

- **width** is the bar code module width in 1/1000 inch. Valid range is 1 to 1000. The default value is 12.
- **height** is the bar code element height in 1/24 inch. Valid range is 1 to 500. The default value is 12.
- **text mode** selects if human readable text is printed under the bar code or not. 'YES' or 'ON' will turn on text, 'NO' or 'OFF' will turn off text. The default mode is 'ON'.
- **check mode** selects if a check digit will be generated or not. 'YES' or 'ON' will generate a check digit, 'NO' or 'OFF' will not generate a check digit. The default mode is 'ON'. The check digit will always be generated for bar code types UPCA, EAN8 and EAN13, regardless of the setting of **check mode**.

To set up the BAR parameter, use the %CONFIG command in your document. To print bar codes, bar code commands may be included anywhere in your documents. They begin with 'percent-slash' (%) followed by the word BAR. Then follows the number of the bar code definition to be used, a comma, and the sequence to be printed. The command is ended by a semi-colon (;).

Setting up the bar code parameters and printing bar codes

```
%CONFIG+
BAR 0 = EAN8,12,4,ON;
BAR 1 = EAN8,12,8,ON;
SAVE;
%CONFIG-

%/BAR 0,"0123456"; %/BAR 1,"0123456";
```

Once the BAR parameter has been set up, you will only need to use the bar code commands to print the bar codes

```
%/BAR 0,"0123456"; %/BAR 1,"0123456";
```

Resulting printout:



AXIS Cobra products compatibility

The AXIS 5570e/AXIS 5670e supports a subset of the extended printer emulation syntax of the AXIS Cobra products, including the bar codes syntax. For more information, please refer to the AXIS Network Print Server Technical Reference supplied on the AXIS Network Product CD.

Section 16 IBM Fonts

Font Selection,
Coax Printer
Emulations

Fonts can be indirectly selected by the IBM system using pitch selection (CPI). In order to gain full access to the fonts the AXIS 5570e/AXIS 5670e offers an alternative font selection command. Please note that matrix printers only support a few fonts.

Font selection commands may be included anywhere in your documents. They begin with 'percent-slash' (%) followed by the word FONT and the font number (Font Global Identifier, FGID). An optional point size value, preceded by a comma, may be included. The command is ended by a semi-colon (;).

The following example shows how to select the 10 CPI Courier (fixed pitch) font.

```
%/FONT 11;This is 10 CPI Courier
```

Resulting printout:

```
This is 10 CPI Courier
```

Font Selection,
Twinax Printer
Emulations

Fonts are selected by a FGID (Font Global Identifier) and mapped to a printer resident PCL font, selected to make a close match to the original IBM font. The IBM to PCL font mapping is controlled by the Font Definition Table. All entries in this table are fully editable, and you can also add new entries.

Refer to **DBCS Support**, on page 279 for details on DBCS font types supported by the AXIS 5570e/AXIS 5670e.

Available Fonts

The fixed pitch fonts are not scalable. If a Point Size is specified, it will be used to compress or expand the character spacing. (%/FONT 11,105; will compress the 10 CPI font to 10.5 CPI without changing the size of the characters).

	FGID	IBM Font Name
Pitch 5 CPI Fonts	244	Courier 5
	245	Courier Bold 5
Pitch 8 CPI Fonts	266	Courier Bold 8
Pitch 10 CPI Fonts	3	OCR-B
	5	Orator
	11	Courier 10
	12	Prestige Pica
	13	Artisan 10
	18	Courier Italic 10
	19	OCR-A
	20	Pica
	30	Math Symbol 10
	38	Orator Bold
	39	Gothic Bold 10
	40	Gothic Text 10
	41	Roman Text 10
	42	Serif Text 10
	43	Serif Italic 10
	46	Courier Bold 10
60	Prestige Bold 10	

	FGID	IBM Font Name
Pitch 12 CPI Fonts	66	Gothic Text 12
	68	Gothic Italic 12
	69	Gothic Bold 12
	70	Serif Text 12
	71	Serif Italic 12
	72	Serif Bold 12
	80	Math Symbol 12
	84	Script
	85	Courier 12
	86	Prestige Elite
	87	Letter Gothic 12
	91	Light Italic 12
	108	Courier Bold 12
	110	Letter Gothic Bold
111	Prestige Elite Bold	
112	Prestige Elite Italic	
Pitch 13.3 CPI Fonts	204	Gothic Text 13
Pitch 15 CPI Fonts	221	Prestige 15
	223	Courier 15
	225	Math Symbol 15
	229	Serif Text 15
	230	Gothic Text 15
Pitch 17 CPI Fonts	252	Courier 17
	253	Courier Bold 17
	254	Courier 17 (sub/super)
Pitch 18 CPI Fonts	258	Courier 18

Pitch 20 CPI Fonts	281	Gothic Text 20
Pitch 25 CPI Fonts	289	Gothic Text 25
Pitch 26.7 CPI Fonts	290	Gothic Text 27

	FGID	IBM Font Name
Proportional PSM Fonts	155	Boldface Italic
	158	Modern
	159	Boldface
	160	Essay
	162	Essay Italic
	163	Essay Bold
	173	Essay Light
	175	Document
Proportional Typographic Fonts (Fixed Point Size)	751	Sonoran-Serif 8-pt Roman Medium
	1051	Sonoran-Serif 10-pt Roman Medium
	1053	Sonoran-Serif 10-pt Roman Bold
	1056	Sonoran-Serif 10-pt Roman Italic Medium
	1351	Sonoran-Serif 12-pt Roman Medium
	1653	Sonoran-Serif 16-pt Roman Bold
	2103	Sonoran-Serif 24-pt Roman Bold

	FGID	IBM Font Name
Proportional Typographic Fonts (Scalable – User Defined FGIDs)	3840	CG Times
	3841	CG Times Bold
	3842	CG Times Italic
	3843	CG Times Bold Italic
	3844	CG Omega
	3845	CG Omega Bold
	3846	CG Omega Italic
	3847	CG Omega Bold Italic
	3848	Coronet
	3849	Clarendon Condensed
	3850	Univers Medium
	3851	Univers Bold
	3852	Univers Medium Italic
	3853	Univers Bold Italic
	3854	Univers Medium Condensed
	3855	Univers Bold Condensed
	3856	Univers Medium Condensed Italic
	3857	Univers Bold Condensed Italic
	3858	Antique Olive
	3859	Antique Olive Bold
3860	Antique Olive Italic	
3861	Garamond Antiqua	
3862	Garamond Halbfett	

Proportional Typographic Fonts (Scalable - User Defined FGIDs)	3863	Garamond Kursiv
	3864	Garamond Kursiv Halbfett
	3865	Marigold
	3866	Albertus Medium
	3867	Albertus Extra Bold
	3868	Arial
	3869	Arial Bold
	3870	Arial Italic
	3871	Arial Bold Italic
	3872	Times New
	3873	Times New Bold
	3874	Times New Italic
	3875	Times New Bold Italic
	3876	Symbol
3877	Wingdings	

	FGID	IBM Font Name
Proportional Typographic Fonts (Scalable Point Size)	5687	Times Roman
	5707	Times Roman Bold
	5815	Times Roman Italic
	5835	Times Roman Bold Italic
	6199	Palatino
	6219	Palatino Bold
	6327	Palatino Italic
	6347	Palatino Bold Italic

(cont.) Proportional Typographic Fonts (Scalable Point Size)	16951	Century Schoolbook
	16971	Century Schoolbook Bold
	17079	Century Schoolbook Italic
	17099	Century Schoolbook Bold Italic
	33335	Optima
	33355	Optima Bold
	33463	Optima Italic
	33483	Optima Bold Italic
	33591	Futura Book
	33601	Futura Heavy
	33719	Futura Book Italic
	33729	Futura Heavy Italic
	34103	Helvetica
	34123	Helvetica Bold
	34231	Helvetica Italic
	34251	Helvetica Bold Italic
	41783	Cursive
	41803	Cursive Bold
	41911	Cursive Italic
	41931	Cursive Bold Italic

Section 17 IBM Print Formatting

This appendix provides general parameter information relating to non-IPDS IBM print formatting.

IBM Printer Emulation

The following tables display the valid printer emulations that can be used in coax and twinax printer emulations.

Coax Printer Emulations Mainframe

Parameter	Default	Printer Emulation Options	Printer Description
PREMUL	3816_cx	3812_cx	IBM 3812 model 2 non-IPDS, page printer
		*3816_cx	IBM 3816 models 01A and 01D non-IPDS, page printer with 5219 diskette
		3287_cx	IBM 3287 model 2C, matrix printer
		3268_cx	IBM 3268 model 2C, matrix printer
		3262_cx	IBM 3262 models 3 and 13, matrix printer
		4214_cx	IBM 4214 model 1 matrix printer
		4224_cx	IBM 4224 model 2 non-IPDS, matrix printer
		4230_cx	IBM 4230 model 201 matrix printer

Twinax Printer
Emulations
AS/400

Parameter Name	Default	Printer Emulation Options	Printer Description
PREMUL 3816_cx		3812_tx	IBM 3812 model 1 and 2 page printer
		3816_tx	IBM 3816 models 01S and 01D, page printer with 5219 diskette
		4214_tx	IBM 4214 model 2 matrix printer
		5224_tx	IBM 5224 models 1 and 2, matrix printer
		5225_tx	IBM 5225 models 1 through 4, matrix printer
		5256_tx	IBM 5256 models 1 through 3, matrix printer
		4230_tx	IBM 4230 model 101 matrix printer
		5x27_002_TX_KS	5x27 002 Twinax printer: Korean (KS)
		5x27_002_TX_KSSM	5x27 002 Twinax printer: Korean (KSSM)
		5x27_001_TX	5x27 001 Twinax printer: Japanese
		5x27_005_TX	5x27 005 Twinax printer: Chinese

System Languages

The following tables describe the valid system languages that can be used in coax and twinax mode.

Coax mode Mainframe

Parameter Name	Default	Value	Description	Value	User defined system language
SYSL	37 US English	*37	US English, Portuguese Alternate and Canadian Bilingual	833	Korean (Jamo)
		256	International Set 1	836	Chinese
		260	Canadian French	838	Thai
		273	Austrian/German	870	East Europe
		274	Belgian	871	Icelandic
		275	Brazilian	892	OCR-A
		277	Danish/Norwegian	893	OCR-B
		278	Swedish/Finnish	1140	US English (Euro)
		280	Italian	1141	Austrian German (Euro)
		281	Japanese English	1142	Danish/Norwegian (Euro)
		282	Portuguese	1143	Swedish/Finnish (Euro)
		284	Spanish	1144	Italian (Euro)
		285	UK English	1145	Spanish (Euro)
		286	Austrian/German Alternate	1146	UK English (Euro)
		2879	Danish/Norwegian Alternate	1147	French (Euro)
		288	Swedish/Finnish Alternate	1148	International Set 5 (Euro)
		289	Spanish Alternate	1149	Icelandic
		290	Japanese	USER	User defined
		293	APL		
		297	French		
		340	OCR		
		361	International Typographic		
500	International set 5				

Twinax mode
AS/400

Parameter Name	Default	Value	Description	Value	User defined system language
SYSL	37 US English	37	US English, Portuguese Alter-nate and Canadian Bilingual	281	Japanese English
		256	New Spanish Word Processing	282	Portuguese
		273	Austrian/German	284	Spanish and Spanish Speaking
		274	Belgian	285	UK English
		275	Brazilian	297	French Azerty
		277	Danish/Norwegian	500	Internat. Set 5 Et Swiss Bilingual
		278	Swedish/Finnish	871	Icelandic
		280	Italian	USER	

Notes:

- For other languages the USER language can be used and edited.
- To find out which system language you are running type:
DSPSYSVAL SYSVAL(QCHRID) on the command line and press **Enter**. The **Code page** value is the value of the system language (see the table above).
- Visit the Axis web site <http://www.axis.com/> for more information on how to edit the character translation tables

Page Formats

You can configure the formats for each paper bin separately from the AXIS 5570e/AXIS 5670e internal web pages.

Click **admin** | **IBM Emulators** | **Detailed View** for SCS/3270DS Common Emulator Settings. Select the **Page Format** tab to configure the parameters described below. Click **OK** at the bottom of the page to save your settings to the print server.

Paper Size The parameters take two values, orientation and paper size. The following tables describe the paper sizes that can be used in coax and twinax mode.

Parameters	Default	Printer Emulation Options	Printer Description
BIN1 – BIN 6, MANUAL, ENVELOPE, CONTINUOUS	LETTER	EXEC	7.25 × 10.5 inches
		LETTER	8.5 × 11 inches
		LEGAL	8.5 × 14 inches
		A4	210 × 297 mm (8.27 ◊ 11.69 inches)
		A3	297 × 420 mm (11.69 ◊ 16.54 inches)
		B4	250 × 353 mm (10.12 ◊ 14.33 inches)
		MON	3.8 × 7.5 inches (Monarch envelopes)
		C10	4.1 × 9.4 inches (COM-10 envelopes)
		DL	4.3 × 8.6 inches (DL envelopes)
		CUSTOM	User defined size (see AXIS Network Print Server Technical Reference for details)

Paper Orientation The following table describes the valid paper options:

Parameters	Default	Printer Emulation Options	Printer Description
BIN1 – BIN 6, MANUAL, ENVELOPE, CONTINUOUS	COR	COR	Computer Output Reduction (COR) is enabled.
		PORT	Use portrait as default print orientation.
		LAND	Use landscape as default print orientation

Notes:

COR printouts require a Laser Printer with the following characteristics:

- Landscape orientation
- Vertically compressed to 70%
- Horizontally compressed by using a font of higher character density
- Top and left margins of 0.5 inches each by default

ASCII Printer Driver

This parameter should match the printer type you have connected to your AXIS 5570e/AXIS 5670e. Select the correct printer type from the AXIS 5570e/AXIS 5670e internal web pages.

Click **admin** | **IBM Emulators** | **Detailed View** for SCS/IPDS Emulator Configuration. Select the desired emulator tab and scroll down to the Printer Driver parameter. Click **OK** at the bottom of the page to save your settings to the print server.

The table below describes the available printer emulation options:

Parameter	Default	Printer Emulation Options	Printer Description
PRDRIVER	PCL5	GENERIC	Generic Printer Driver
		PCL5	PCL5 printer
		PCL4	PCL4 printer
		IBM_PRO	IBM Proprinter
		EPSON_FX	Epson FX
		EPSON_LQ	Epson LQ
		USER	Editable Printer Driver
		Epson 15	Epson FX 15 CPI

Notes:

If you wish to edit the control sequences within a printer driver, the USER driver must be selected. See AXIS Technical Reference on www.axis.com

Section 18 IPDS Overview

This section describes:

- IPDS parameter settings
- IPDS fonts

IPDS Parameter Settings

Before printing IPDS data streams, the basic parameters should be set. This is done from the AXIS 5570e/AXIS 5670e web pages under **IBM Emulators | Detailed view (IBM IPDS Emulator Settings)** where you can configure the common parameters of the IPDS emulator and **IBM Emulators | Detailed view (SCS/IPDS Emulator Configurations)** where you can configure the settings for each session.

IPDS System Languages

The AXIS 5570e/AXIS 5670e must be set up for the System Language of your IBM system configuration in order to obtain the correct characters in each specific language. This is done from the **IBM Emulators | Detailed view (SCS/IPDS Emulator Configurations)** page.

The default selection is US English (Code Page 37).

The following table describes the valid IPDS system languages:

Code page	System language
*37	US English, Portuguese Alternate and Canadian Bilingual
256	International set 1
259	Symbols set 7
260	Canadian French
273	Austrian/German
274	Belgian
275	Brazilian
277	Danish/Norwegian
278	Swedish/Finnish
280	Italian
281	Japanese English
282	Portuguese
284	Spanish and Spanish Speaking
285	UK English
286	Austrian/German Alternate
287	Danish/Norwegian Alternate
288	Swedish/Finnish Alternate

Code page	System language
289	Spanish Alternate
290	Japanese-Katakana
293	APL
297	French Azerty
361	International Typographic
420	Arabic Bilingual
423	Greek 183
424	Hebrew
437	Multinational
500	Internationa, Set 5 & Swiss Bilingual
803	Hebrew Character Set A
870	Latin 2 Multilingual
871	Icelandic
880	Cyrillic Multilingual
892	OCR-A
893	OCR-B
1026	Latin 5

The Euro character is implemented in the Code Pages 1140 - 1149:

Code page	System language - Latin 1 EBCDIC Publishing
1140	US English, Canadian English, Canadian French, Netherlands, Brazil, Portugal
1141	Austrian, German
1142	Danish, Norwegian
1143	Finnish, Swedish
1144	Italian
1145	Castilian Spanish, Latin, American Spanish
1146	UK English
1147	French
1148	Multinational ECECP, Belgian, French, Belgian Dutch, Switzerland
1149	Icelandic

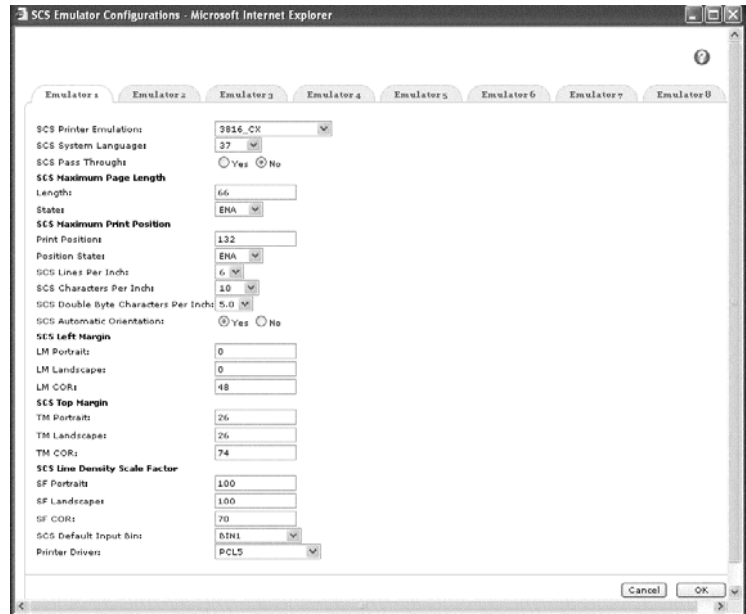
Code page	System language - Latin 1 ASCII
858	Multinational PC with Euro
860	Portuguese (Primary = 850)
861	Icelandic (Primary = 850)
863	Canadian French (Primary = 850)
865	Nordic (Primary = 850)
1004	IBM PC Desktop Publishing
819	ISO Latin 1
1252	Windows Latin 1

Code page	System language – Latin 2/3/4/5 EBCDIC and ASCII
852	Croatian, Czech, East German, Hungarian, Polish, Romanian, Slovak, Slovenian
912	Latin 2 ISO/ ANSI 8 Bit
853	Latin 3 Multilingual PC
905	Latin 3 Multilingual
1069	Latin 4 EBCDIC
914	Latin 4 ISO/ASCII
857	Latin 5 PC
920	Latin 5 ISO/ANSI 8 Bit
1026	Latin 5

Code page	System language – Latin 9 EBCDIC and ASCII
923	Latin 9
924	Latin 9 EBCDIC

IPDS Configuration

The basic IPDS parameters are set from the **IBM Emulators** | **Detailed view** (IBM IPDS Emulator Settings) page:



Enter the configuration settings for the parameters described below. When you are finished, click **OK** at the bottom of the page to save your settings to the print server.

True Color Support

The Color Support setting determines how color information is to be interpreted. **Enabled** means that color commands are sent to the printer. **Disabled** means that color information is converted to black-and-white patterns.

The default setting is **Disabled**.

Duplex Support

The Duplex Support setting determines whether duplex support for the attached printer shall be reported to the host. **Enabled** means that duplex commands are transferred to the printer. **Disabled** means that duplex printing is not supported. The default setting is **Disabled**.

Optimize Duplex Use this option to optimize duplex print jobs. Optimization means that sheets are printed in simplex if the reverse side of the sheet is empty, resulting in higher throughput.

Important:

Some printers will internally turn the sheet upside down when duplex is used. This may cause undesired effects when using pre-printed forms. Setting this parameter to **No** will force the entire job to be printed in duplex mode

N-up The N-up parameter defines if 1, 2 or 4 pages in your document are to be printed on each physical page.

Default output bin This selection defines which output paper bin should be used as default.

The default selection is **Bin 1**.

Default input bin This selection defines which input paper bin should be used as default.

The default selection is **Bin 1**.

IPDS bin 1-5 The physical paper size selection must match the actual paper size you are using for Bin 1-5. The predefined sizes are *Statement*, *Ledger*, *Folio*, *Hagaki*, *Executive*, *Letter*, *Legal*, *A4* and *A3*.

The default size is **A4**.

If you are using another paper format, select *Custom*. This selection requires that you define the paper size by setting the parameters **Physical Paper Width** and **Physical Paper Length** to the appropriate values.

IPDS PostScript Configuration

Click the **IPDS PostScript Driver Settings** tab and enter the configuration settings for the parameters as described below. When you are finished, click **OK** at the bottom of the page to save your settings to the print sever.

Loaded Font Smoothing A downloaded 240 dpi font may appear jagged when printed on a 300 dpi printer. The AXIS 5570e/AXIS 5670e uses a font smoothing feature to enhance the appearance of these fonts. The font smoothing may be disabled if you want to speed up the font loading or if your printer has insufficient PostScript virtual memory.

Loaded font smoothing is **Enabled** by default.

Note:

Font smoothing is optimized for printers with 300 dpi resolution. If your printer has a resolution of 600 dpi or higher, the smoothing effect will be less significant. In these cases we recommend that you disable the font smoothing to avoid reduction in the performance.

PostScript Error Handler Use this parameter to download a PostScript Error Handler to the printer at power on. Once downloaded, the Error Handler will print an error message if a PostScript error occurs.

The Error Handler is **Disabled** by default.

Optimize Overlays Enabling this parameter will activate an overlay optimization feature resulting in faster throughput when using host downloaded overlays. Enabling this feature will require more free Postscript Virtual Memory in the printer.

Virtual Memory Kb This value defines how much memory the AXIS 5570e/AXIS 5670e can use in the PostScript printer for storing resources.

The default value is 2000 kbytes.

PostScript bin 1-5 Map each PostScript bin (1-5) to a bin number or choose **Default**. Enter the desired values in the **Horizontal scale factor**, **Vertical scale factor**, **Horizontal offset** and **Vertical offset** fields.

PostScript output bin settings These parameters are for mapping the IPDS bin numbers to the bin numbers of the connected postscript printer.

IPDS PCL
Configuration

Click the **IPDS PCL Driver Settings** tab and enter the configuration settings for the parameters as described below. When you are finished, click **OK** at the bottom of the page to save your settings to the print sever.

- Language version Select the correct PCL language version depending on your connected printer.
- Symbol set Select the preferred symbol set from the drop-down list. The default and recommended value is **AUTOMATIC**. The print server will automatically select the appropriate symbol set.
- PCL bin 1-5 Define the positioning by setting the parameters **Horizontal Offset** and **Vertical Offset** to the desired values.
- PCL Output Bin These parameters are for mapping the IPDS bin numbers to the bin numbers of the connected PCL printer.

IPDS Fonts

This section describes how IPDS fonts are handled by the AXIS 5570e/AXIS 5670e. There are two different approaches to font handling:

- downloading fonts from the host.
- using fonts that are already resident in the printer.

Both methods are supported by the AXIS 5570e/AXIS 5670e.

Host Downloaded fonts

IPDS provides functions for downloading fonts from the host computer. The font resolutions of 240, 300 and 600 dpi are automatically converted by AXIS 5570e/AXIS 5670e to the resolution of the attached printer.

AS/400 downloaded fonts requires [AFP = *YES] in the AS/400 device description.

Printer Resident Fonts

The rest of this section deals with printer resident fonts. The non-standard PostScript fonts are resident in the AXIS 5570e/AXIS 5670e (OCR-B is one example), so you do not need font cards etc. to use the listed fonts.

In IPDS mode, printer resident fonts can be selected by the system referring to the FGID (Font Global Identifier) and FW (Font Width). AXIS 5570e/AXIS 5670e supports a large set of resident fonts.

Note:

(IBM Mainframe only) For PSF systems, resident fonts need to be mapped to the host font name and code page. In PSF/MVS, this is done using the APSRMARK utility and in PSF/VM using the APRFTBLV (RSCS) or APRFTIDB files. For more information, refer to the PSF/MVS and PSF/VM manuals.

The FGIDs are grouped according to the following table:

FGID (hex)	FGID (dec)	TYPE
0001 - 0041	1 - 65	10 CPI
0042 - 0099	66 - 153	12 CPI
009A - 00C8	154 - 200	Proportional PSM
00C9 - 00D2	201 - 210	13 CPI
00D3 - 00EF	208 - 239	15 CPI
00F0 - 00F7	240 - 247	5 CPI
00F8 - 0103	248 - 259	17 CPI
0104 - 0111	260 - 273	8 CPI
0112 - 0117	274 - 279	17 CPI
0118 - 011B	280 - 283	20 CPI
011C - 0120	284 - 288	25 CPI
0121 - 012B	289 - 299	27 CPI
012C - 01FF	300 - 511	10 CPI

FGID (hex)	FGID (dec)	TYPE
0200 - 0EFF	512 - 3839	Typographic
0F00 - 0FFF	3840 - 4095	User Defined Fonts
1000 - FFFE	4096 - 65534	Typographic

The AXIS 5570e/AXIS 5670e supports extended font mapping at PostScript level, making it possible to redefine any of the FGIDs.

Immediate Font Substitutions

Certain FGIDs will be immediately substituted by the AXIS 5570e/AXIS 5670e. The substitution table depends on the selected IBM printer emulation.

Unsupported Fonts

A selection of an unsupported FGID value will result in a substitution to a default font. The AXIS 5570e/AXIS 5670e uses the same default fonts as the emulated IBM printers.

Typographical Fonts

This section deals with font width selections for typographical (proportional pitch) fonts.

Note that when an unsupported typographical font (FGID range 512 – 65534) is selected, the resulting font will be a fixed pitch and the selected font width value will be ignored.

Default Font Width

When the default font width is selected, the AXIS 5570e/AXIS 5670e will set a font width in one of the following ways depending on the selected IBM printer emulation:

IBM 4028/4332 The font width is set to 67 (corresponding to a 10 point font).

IBM 3812/3816 The font width is set to the smallest available value for the selected FGID. For FGID 16951 (Century Schoolbook), the resulting font width is 102 (12 points), and for FGID 5687 (Times Roman), the resulting font width is 40 (6 points).

Scalable Fonts

If the selected font width (point size) is not available for the selected FGID, the AXIS 5570e/AXIS 5670e will set a point size in one of the following ways depending on the font:

Times Roman,
Helvetica
and Century
Schoolbook The font width value is converted to a point size used to dynamically scale the selected font. This means that you have a completely free choice of point sizes (only limited by the host application) when printing with these fonts.

Any other
typographical font The nearest smaller available font width for the selected FGID will be used. If a smaller font width is not available, the nearest larger font width will be used.

Section 19 DBCS Support

The AXIS 5570e/AXIS 5670e supports Double-Byte Character Set (DBCS) for SNA and TN5250E printing. This facilitates printing from an IBM AS/400 host system for languages employing double-byte character sets.

The following Chinese, Japanese and Korean DBCS tables are used in the AXIS 5570e/AXIS 5670e:

Country	Printer Emulation	Character Table
<i>Korea (KS)</i>	<i>5x27_002_TX_KS</i>	<i>KS</i>
<i>Korea (KSSM)</i>	<i>5x27_002_TX_KSSM</i>	<i>KSSM</i>
<i>Japan</i>	<i>5x27_001_TX</i>	<i>Shift - JIS</i>
<i>China</i>	<i>5x27_005_TX</i>	<i>GB</i>

AXIS 5570e/AXIS 5670e Double-byte Character Tables

Important! The AXIS 5570e/AXIS 5670e supports SNA DBCS printing in IBM 5494 emulation only.

Configuring the AS/400 Host, 5494 CU mode

Follow the instructions below to configure the AS/400 Host for DBCS support:

1. Type **WRKSYSVAL** on the AS/400 command line and press **Enter**.
2. Check that the DBCS version installed indicator (QIGC) *sysval* is set to 1 (on).
3. Check that the QIGCCDEFNT *sysval* is set to a DBCS font installed in the system.
4. Proceed with the steps detailed in *The AS/400 Host System Checklist*, on page 37.

Configuring the AXIS 5570e/AXIS 5670e

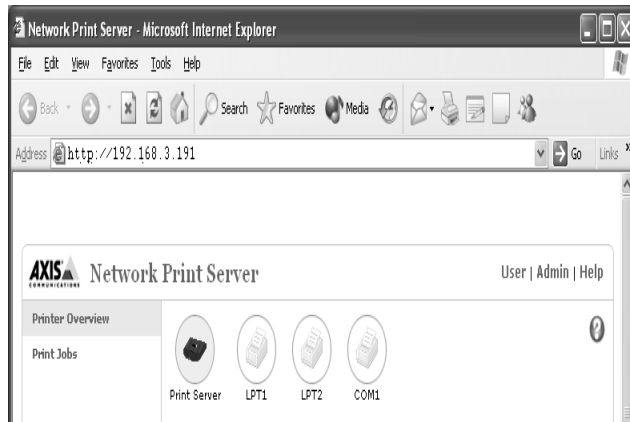
A number of printer emulations exist for DBCS printing. To set the correct system language and printer driver, refer to the tables below and enter the values in the IBM Configuration Wizard.

Country	Printer Emulation	System Language
<i>Korea (KS)</i>	<i>5x27_002_TX_KS</i>	<i>833</i>
<i>Korea (KSSM)</i>	<i>5x27_002_TX_KSSM</i>	<i>833</i>
<i>Japan</i>	<i>5x27_001_TX</i>	<i>290</i>
<i>China</i>	<i>5x27_005_TX</i>	<i>836</i>

Printer Emulation and System Language for Country options

Country	PCL Printer Driver	Matrix Printer Driver
<i>Korea (KS)</i>	<i>PCL5</i>	<i>Epson LQ KS</i>
<i>Korea (KSSM)</i>		<i>None</i>
<i>Japan</i>		<i>None</i>
<i>China</i>		<i>Epson LQ 1600K</i>
<i>Taiwan</i>		<i>Epson LQ 1600K</i>

1. Start a Web browser, e.g. Internet Explorer or Netscape Navigator.
2. Enter the IP address or the host name of the AXIS 5570e/AXIS 5670e in the location field and press the **Enter** key on your keyboard. The internal Web pages of the AXIS 5570e/AXIS 5670e will appear.



Important:

To protect the admin pages and the Configuration Wizard from unauthorized use, enter a password (default Pass) in the Root Password field under admin | General Settings.

3. Click the **Configuration Wizard for IBM sessions** button.
4. Click the **Add Session** button. This will start the **Configuration Wizard** which is a step-by-step guide through the required IBM configuration settings.

Note:

Default fonts will be changed when switching printer emulations.

Verifying the Communications Link

Having configured the AS/400 host AXIS 5570e/AXIS 5670e in accordance with the above, verify that the communications link is functioning correctly by following instructions 1-4 detailed in *Verifying the Communication Link*, on page 47.

Amending Device Features

After automatic setup, it may be necessary to change the Device features and Last Code Point of the printer device. Failure to do so may cause corruption within your print data.

Follow the instructions below, to set the appropriate Device features and Last Code Point for your chosen printer device:

1. Make sure that the writer is stopped by typing **ENDWTR
xxxxPRT01** on the AS/400 command line, where **xxxxPRT01** is the printer device name. Press ENTER.
2. Type **VRYCFG CFGOBJ(xxxxPRT01) CFGTYPE(*DEV)
STATUS(*OFF)** to vary off the printer device, where **xxxxPRT01** is the printer device name. Press ENTER.
3. Type **CHGDEVPRT xxxxPRT01** to change the printer device name, where **xxxxPRT01** is the printer device name. Press F4.
4. Under DBCS Feature (IGCFEAT) amend the Device Features and Last Code Point to the appropriate value corresponding to the country language.

Country	Device features	Last Code Point
<i>Korea</i>	<i>2424K1</i>	<i>D3FE</i>
<i>Japan</i>	<i>2424J1</i>	<i>68FE</i>
<i>China</i>	<i>2424S1</i>	<i>6FFE</i>

Device features and Last Code Point for Country options

5. Type **VRYCFG CFGOBJ(xxxxPRT01) CFGTYPE(*DEV)
STATUS(*ON)** on the AS/400 command line to vary on the printer device, where **xxxxPRT01** is the printer device name. Press ENTER.
6. Type **STRPRTWTR xxxxPRT01** to start the Writer, where **xxxxPRT01** is the printer device name. Press ENTER.
7. Direct a printout to this printer device to confirm that the above changes have been implemented correctly.

Extended IBM Printer Emulation

Extended emulation will only work in SBCS mode. Before entering extended emulation you will have to change to single byte mode by sending shift in.

```
<SI>(SCS Shift In Control Code)
%CONFIG+
SAVE;
%CONFIG-
<SO>(SCS Shift Out Control Code)
```

Example (with DBCS mode before entering extended emulation)

Font Tables

The following tables define the DBCS font types supported in the AXIS 5570e/AXIS 5670e (5494 CU Mode):

DBCS FONTS (Japan)			DBCS FONTS (China)		
FGID	IBM Font Name		FGID	IBM Font Name	
50000	MS Mincho	10 CPI	50100	SimSun	10 CPI
50001	MS Mincho	10 CPI	50101	SimSun	10 CPI
50014	MS Mincho	10 CPI	50114	SimSun	10 CPI
50002	MS Mincho	12 CPI	50102	SimSun	12 CPI
50015	MS Mincho	12 CPI	50115	SimSun	12 CPI
50003	MS Mincho	13.3 CPI	50103	SimSun	13.3 CPI
50016	MS Mincho	13.3 CPI	50116	SimSun	13.3 CPI
50007	MS Mincho	14.3 CPI	50107	SimSun	14.3 CPI
50008	MS Mincho	14.3 CPI	50108	SimSun	14.3 CPI
50019	MS Mincho	14.3 CPI	50119	SimSun	14.3 CPI
50004	MS Mincho	15 CPI	50104	SimSun	15 CPI

50005	MS Mincho	15 CPI	50105	SimSun	15 CPI
50017	MS Mincho	15 CPI	50117	SimSun	15 CPI
50009	MS Mincho	17.1 CPI	50109	SimSun	17.1 CPI
50020	MS Mincho	17.1 CPI	50120	SimSun	17.1 CPI
50006	MS Mincho	18 CPI	50106	SimSun	18 CPI
50018	MS Mincho	18 CPI	50118	SimSun	18 CPI
50010	MS Mincho	18.9 CPI	50110	SimSun	18.9 CPI
50021	MS Mincho	18.9 CPI	50121	SimSun	18.9 CPI
500111	MS Mincho	21.5 CPI	50111	SimSun	21.5 CPI
50012	MS Mincho	21.5 CPI	50112	SimSun	21.5 CPI
50022	MS Mincho	21.5 CPI	50122	SimSun	21.5 CPI
50013	MS Mincho	25.7 CPI	50113	SimSun	25.7 CPI
50023	MS Mincho	25.7 CPI	50123	SimSun	25.7 CPI

DBCS FONTS (Korea KS)			DBCS FONTS (Korea KSSM)		
FGID	IBM Font Name		FGID	IBM Font Name	
50030	HanYang	10 CPI	50130	Compst	10 CPI
50031	HanYang	10 CPI	50131	Compst	10 CPI
50044	HanYang	10 CPI	50144	Compst	10 CPI
50032	HanYang	12 CPI	50132	Compst	12 CPI
50045	HanYang	12 CPI	50145	Compst	12 CPI
50033	HanYang	13.3 CPI	50133	Compst	13.3 CPI
50046	HanYang	13.3 CPI	50146	Compst	13.3 CPI
50037	HanYang	14.3 CPI	50137	Compst	14.3 CPI

50038	HanYang	14.3 CPI	50138	Compst	14.3 CPI
50049	HanYang	14.3 CPI	50149	Compst	14.3 CPI
50034	HanYang	15 CPI	50134	Compst	15 CPI
50035	HanYang	15 CPI	50135	Compst	15 CPI
50047	HanYang	15 CPI	50147	Compst	15 CPI
50039	HanYang	17.1 CPI	50139	Compst	17.1 CPI
50050	HanYang	17.1 CPI	50150	Compst	17.1 CPI
50036	HanYang	18 CPI	50136	Compst	18 CPI
50048	HanYang	18 CPI	50148	Compst	18 CPI
50040	HanYang	18.9 CPI	50140	Compst	18.9 CPI
50051	HanYang	18.9 CPI	50151	Compst	18.9 CPI
50041	HanYang	21.5 CPI	50141	Compst	21.5 CPI
50042	HanYang	21.5 CPI	50142	Compst	21.5 CPI
50052	HanYang	21.5 CPI	50152	Compst	21.5 CPI
50043	HanYang	25.7 CPI	50143	Compst	25.7 CPI
50053	HanYang	25.7 CPI	50153	Compst	25.7 CPI

Section 20 Digital Copier Support

The logical printers support the printing options available on digital copiers and multi-functional printers. It is recommended that you configure the eight logical printers (PR1-PR8) to allow for eight different combinations of the following options to suit your printing needs.

For more information on how to configure the logical printers, please refer to *Logical Printers for Customized Printing*, on page 220.

The added functionality includes the following options:

Copier Model

From the drop-down list of supported copiers, select the digital copier that you have connected the AXIS 5470e to.

Copier Duplex

The AXIS 5470e supports duplex printing i.e. printing on both sides of the paper. The options in the drop-down list are:

- **Off** i.e. the duplex printing option is not activated (default).
- **Simplex** i.e. printing on one side only.
- **Long-edge binding** i.e. printing on both sides, long-edge first.
- **Short-edge binding** i.e. printing on both sides, short-edge first.

Copier Staple

The AXIS 5470e supports stapling with the following options:

- **Off** i.e. the stapling option is not activated (default).
- **Top left slant** i.e. one staple in a slanted position in the top left corner of the document.
- **Top left horizontal** i.e. one staple placed horizontally in the top left corner of the document.
- **Top left vertical** i.e. one staple placed vertically in the top left corner of the document.
- **Top 2** i.e. two staples at the top of the document.

- **Left 2** i.e. two staples on the left hand side of the document.
- **Center 2** i.e. two staples set in the center of the page. This option is intended for documents printed in A3 format. The staples are placed in the center of the page where the document is to be folded. Please refer to the documentation of your digital copier for more information on these features.

Copier Hole Punch

The AXIS 5470e supports hole punching with the following options:

- **Off** i.e. the hole punching option is not activated (default).
- **Long-edge** i.e. the left hand side of the document.
- **Short-edge** i.e. the top of the document.

Copier Paper Source

Enter the desired input bin i.e. paper tray on your digital copier

Copier Copies

Enter how many collated (sorted) copies you wish to print in the **Copies** field.

Note:

If you experience problems with this functionality the Digital Copier printing options may have been set inconsistently. Please check your configuration settings and try again.

Section 21 Test Button

The test button is located on the front right hand side of the AXIS 5570e/AXIS 5670e and is used for:

- Printing a test page, checking the connection to the printer.
- Printing a parameter list, showing the AXIS 5570e/AXIS 5670e current settings.
- Resetting the AXIS 5570e/AXIS 5670e parameters to the factory default settings.

The Test Page

Press the test button **once** to print a test page. If the test page prints, the parallel interface is functioning correctly. The printed Test Page contains basic information about the AXIS 5570e/AXIS 5670e. It is recommended that you print a test page every time you have connected the AXIS 5570e/AXIS 5670e to a printer.

The Parameter List

Press the test button **twice** to print a parameter list showing the current AXIS 5570e/AXIS 5670e settings. This list provides comprehensive details of all the parameters and their current status. Refer to *The Parameter List*, on page 295.

If you want to change any of the parameters, use one of the methods that are described in *Management and Configuration*, on page 180.

Performing a Factory Default

Follow the instructions below to reset the AXIS 5570e/AXIS 5670e to the factory default settings:

1. Remove the external power supply to switch off the AXIS 5570e/AXIS 5670e.
2. Press and hold down the test button, while you reconnect the external power supply.
3. Continue to hold down the test button until the network indicator remains constantly lit. This should take about 20 seconds.

4. Restart the AXIS 5570e/AXIS 5670e by disconnecting and reconnecting the external power supply.

Important!

All parameters are reset to their default values when performing a factory default with the test button.
Installed certificates and keys are **not** affected by a factory default.

Section 22 Technical Specifications

Refer to the 'Parameter List' document on www.axis.com for a complete description of the Axis print server parameters.

Supported Printers: Support for all printers and copiers except host-based printers such as Windows GDI.

IBM Capabilities

IBM Mainframe (zSeries):

- OS: IBM S/370, S/390, 30xx, 43xx, 47xx, 937x, 81xx
- TCP/IP based protocols: TN3270E, PPR/PPD, LPR/LPD and RawTCP
- SNA support: LU1 and LU3 (node type 2.0) for IBM 3174 Control unit emulation
- Data streams: IPDS, SCS, 3270DS as well as PostScript, PCL and ASCII
- Emulated printers: 4332, 4028, 3812 model 2, 3816 model 01S and 01D, 4224, 4230, 3287, 3268, 4214 and 3262

IBM AS/400 (iSeries):

- OS: IBM OS/400
- TCP/IP based protocols: TN5250E, PPR/PPD, LPR/LPD and RawTCP.
- SNA support: LU6.2 (node type 2.1) for IBM 5494 Control unit emulation
- Data streams: IPDS, SCS as well as PostScript, PCL and ASCII
- Emulated printers: 4332, 4028, 3812, 3816, 4214-2, 5224, 5225, 5256, 4230, 5x27-2 KS, 5x27-3 KSSM, 5x27-3 and 5x27-5

Supported systems:

- Microsoft Windows: 98, Me, NT, 2000, XP and 2003 Server
- Novell NetWare: 3.X, 4.X, 5.X, 6.X. Supports bindery and NDS mode. Supports user messages and printer status. NDPS supported over IP and IPX. Support for iPrint using both LPR and IPP protocols. PSERVER (IP/IPX), RPRINTER/NPRINTER supported
- Apple MacOS 7, 8, 9, MacOS X version 10.X
- All Unix systems supporting TCP/IP (Linux, BSD, System V, Solaris, HP-UX, IBM AIX, Silicon Graphics IRIX, etc.)
- Other systems supporting TCP/IP: IBM (MVS, VM, VSE, OS/400), DEC, VMS
- Microsoft LAN Manager
- IBM LAN Server
- LANtastic

Supported web browsers

Any standard web browser (Netscape 4.x or higher and MS Internet Explorer 4.x or higher)

Supported Protocols:

- TCP/IP: ARP, DHCP, BOOTP, RARP, DNS, DDNS, Telnet, TFTP, FTP, LPR, Reverse Telnet, PROS, IPP, IP, TCP, UDP, HTTP, HTTPS, SSL/TLS, SNMP, SLP v1/v2, ICMP, IGMP
- NetWare: IPX, SPX, SAP, NCP (extended with NDS), NDPS, NLSP, LIP, RIP, RIP-II, OSPF
- Apple EtherTalk: AAPR, ATP, DDP, NBP, PAP,RTMP, ZIP
- NetBIOS/NetBEUI

Logical Printers

Logical printer ports can be programmed to perform auto ASCII to PostScript conversion, add string before and after job, string substitution, alternative output and character set conversion.

Copiers

Each logical printer port can be configured to activate a number of finishing options in the digital copier. Please visit the support pages at www.axis.com for a list of supported copiers.

Security

- Password protected configuration
- SSL/TLS support for HTTPS secure management
- NetWare: Encrypted passwords, NetWare Packet Signature Level 1, 2, 3
- Option to disable insecure protocols

Print Server Management

- AXIS ThinWizard for installation, configuration, monitoring and firmware upgrading of multiple units
- Internal web pages for installation, configuration, monitoring and firmware upgrading
- SNMP-MIB II compliant (RFC 1213), Axis private enterprise MIB included
- Netware: full PCONSOLE, NWAdmin, ConsoleOne and iPrint-iManager support

Firmware Upgrade

Firmware upgrade using AXIS ThinWizard, the print servers web pages or FTP

Network Connection

All standard Ethernet and Fast Ethernet networks: RJ-45 connector (Category 5 or 6, shielded twisted pair cable) for 10baseT or 100base TX Ethernet with full duplex.

Supports:

- IEEE802.2, IEEE802.3, SNAP and Ethernet II frame types simultaneously.
- NWay for auto-detection of network speed

Printer Connection

- Parallel: 36-pin Centronics connector, highspeed IEEE 1284 compliant with ECP support and throughput of 1 MB/sec
- USB: USB 1.1 Low and Full speed. Successfully tested with USB 2.0 Printers
- Serial: 9-pin DSUB connector, RS-232, XON/ XOFF or RTS/CTS, data rates up to 115.200 baud
- Bi-directional support for Apple EtherTalk,
- Reverse Telnet and PROS

Hardware:

- Processor: AXIS Etrax 100LX 32-bit 100 MHz RISC
- Memory: 2 MB Flash, 8 MB RAM

Front Panel

- 2 LED indicators: Power and Network
- Test button for information printouts

Power Consumption

Power provided by external supply. Maximum 5.6W (Type PS-H, 5.1 VDC 2000mA)

Dimensions:

- AXIS 5570e:
 Height: 2.9 cm/1.1 in,
 Width: 6.2 cm/2.4 in,
 Depth: 11.7 cm/4.6 in,
 Weight: 0.081 kg/ 0.18lb
- AXIS 5670e:
 Height: 2.9 cm/1.1 in,
 Width: 16.0 cm/6.3 in,
 Depth: 12.9 cm/5.1 in,
 Weight: 0.28 kg/0.64 lb

Environmental

- Temperature: 40-105 °F (5-40 °C)
- Humidity: 10-90% non-condensing

Approvals

- EMC: EN 55022/1998, EN 55024:1998, EN 61000-3-2, EN 61000-3-3, VCCI Class B, CTICK AS/NZS 3548, Compliance to FCC part 15 Subpart B, Class B
- Safety: EN 60950



Section 23 The Parameter List

This appendix provides an overview of the AXIS 5570e/AXIS 5670e parameters. You can download the latest technical information on www.axis.com

The Config File

The left-hand column shows the parameters (default values) as they appear in the internal Web pages.

After you have changed them, most parameters take effect for the next print job. If *Requires Restart* appears in a parameter description, you must restart the AXIS 5570e/AXIS 5670e, before the new setting for that parameter takes effect.

Please refer to *Section 10 Management and Configuration*, on page 180, for more information about how to change the parameters.

AXIS 5570e:

```

--- General Menu
NODE_ADDR. : 00 40 8C XX XX XX
NETWORK_SPEED. : AUTO_SENSE (AUTO_SENSE, 10_HALF_DX, 10_FULL_DX, 100_HALF_DX,
100_FULL_DX)
PS_NAME. : AXISXXXXXX
ROOT_PWD. : pass
SWUP_KEY. :
USERS. :
BASE_URL. : www.axis.com
CHARSET. : ISO-8859-1 (ISO-8859-1, UTF-8)
AXIS_PRINT_SYSTEM. : YES
RCONFIG_ENB. : YES
DEF_OUT. : PR1 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, USB1)
SYS_LOC. :
SYS_CONT. :
--- TN3270E
    
```

```

TN3270E_IR. : 0
TN3270E_1. : OFF, 0 0 0 0, 23, PR1, 1, AXPR1
TN3270E_2. : OFF, 0 0 0 0, 23, PR2, 2, AXPR2
TN3270E_3. : OFF, 0 0 0 0, 23, PR3, 3, AXPR3
TN3270E_4. : OFF, 0 0 0 0, 23, PR4, 4, AXPR4
TN3270E_5. : OFF, 0 0 0 0, 23, PR5, 5, AXPR5
TN3270E_6. : OFF, 0 0 0 0, 23, PR6, 6, AXPR6
TN3270E_7. : OFF, 0 0 0 0, 23, PR7, 7, AXPR7
TN3270E_8. : OFF, 0 0 0 0, 23, PR8, 8, AXPR8

--- TN5250E
TN5250E_KA. : YES
TN5250E_1. : OFF, 0 0 0 0, 23, PR1, 1, AXPR1, QSYSOPR, QSYS
TN5250E_2. : OFF, 0 0 0 0, 23, PR2, 2, AXPR2, QSYSOPR, QSYS
TN5250E_3. : OFF, 0 0 0 0, 23, PR3, 3, AXPR3, QSYSOPR, QSYS
TN5250E_4. : OFF, 0 0 0 0, 23, PR4, 4, AXPR4, QSYSOPR, QSYS
TN5250E_5. : OFF, 0 0 0 0, 23, PR5, 5, AXPR5, QSYSOPR, QSYS
TN5250E_6. : OFF, 0 0 0 0, 23, PR6, 6, AXPR6, QSYSOPR, QSYS
TN5250E_7. : OFF, 0 0 0 0, 23, PR7, 7, AXPR7, QSYSOPR, QSYS
TN5250E_8. : OFF, 0 0 0 0, 23, PR8, 8, AXPR8, QSYSOPR, QSYS

--- TCP/IP Menu
TCP_ENB. : YES
INT_ADDR. : 0 0 0 0
DEF_ROUT. : 0 0 0 0
NET_MASK. : 0 0 0 0
HTTPS_ENB. : NO
PROS_PWD. : netprinter
PROS_PRT. : 35
LPD_BANN. : OFF (OFF, AUTO, LAST)
DHCP_ENB. : NO
AUTOIP_ENB. : NO
BOOTP_ENB. : YES

```


RARP_ENB. : YES
WINS_ENB. : YES
WINS_ADDR1. : 0 0 0 0
WINS_ADDR2. : 0 0 0 0
NBT_SCOPE_ID. :
DNS_ENB. : YES
DNS_ADDR1. : 0 0 0 0
DNS_ADDR2. : 0 0 0 0
DOMAIN_NAME. :
SLP_ENB. : YES
SLP_SCOPE_LIST. : DEFAULT
SMTP_SERVER. :
FTP_ENB. : YES
TELNET_ENB. : YES
DEFAULT_RAW_TCP. : 9100-9101 (9100-9101, CLOSED)
RTN_OPT. : NO
RTN_PR1. : 0, ASCII, 1
RTN_PR2. : 0, ASCII, 2
RTN_PR3. : 0, ASCII, 3
RTN_PR4. : 5011, SCS, 4
RTN_PR5. : 5012, SCS, 5
RTN_PR6. : 5013, SCS, 6
RTN_PR7. : 0, ASCII, 7
RTN_PR8. : 0, ASCII, 8
DEF_IP_FRAME_TYPE. : EthernetII (EthernetII, SNAP)

--- SNMP Menu

SNMP_ENB. : YES
SNMP_V1_CONFIG. : YES
READ_COM. : public
WRT_COM. : pass
TRAPADDR. : 0 0 0 0
TRAP_COM. : public

SYS_NAME. :
SNMP_AUT. : DISABLE (DISABLE, ENABLE)
TRAP_PRT. : DISABLE (DISABLE, ENABLE)

--- NetWare Menu

NETW_ENB. : YES

NETW_TRANSPORT_PROTOCOL. : DUAL_STACK (IPX_ONLY, IP_ONLY, DUAL_STACK)

NDPS. : TCP_AND_SPX (TCP_AND_SPX, TCP_ONLY, SPX_ONLY, DISABLED)

JOB_CHECK_DELAY. : 5

CONF_CHECK_DELAY. : 300

FR_802_3. : YES

FR_ETH_2. : YES

FR_802_2. : YES

FR_SNAP. : YES

NCP_BURST_MODE. : YES

PSERVER_NDS_TREE. :

PSERVER_NDS_FILESERVER. :

PSERVER_NDS_DISTINGUISHED_NAME. :

PSERVER_BINDERY1. :

PSERVER_BINDERY2. :

PSERVER_BINDERY3. :

PSERVER_BINDERY4. :

PSERVER_BINDERY5. :

PSERVER_BINDERY6. :

PSERVER_BINDERY7. :

PSERVER_BINDERY8. :

PSERVER_BINDERY9. :

PSERVER_BINDERY10. :

PSERVER_BINDERY11. :

PSERVER_BINDERY12. :

PSERVER_BINDERY13. :

PSERVER_BINDERY14. :

PSERVER_BINDERY15. :

PSERVER_BINDERY16. :

NPRINTER1. :

NPRINTER2. :

NPRINTER3. :

NPRINTER4. :

NPRINTER5. :

NPRINTER6. :

NPRINTER7. :

NPRINTER8. :

--- NetBIOS/NetBEUI Menu

LSLM_ENB. : YES

NB_FR_TYPE. : FR_802_2 (FR_AUTO, FR_802_2, FR_DIX)

LPRINT_1. : AX181E6A.LP1

LLOGIC_1. : PR1 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, USB1)

LPRINT_2. : AX181E6A.US1

LLOGIC_2. : PR2 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, USB1)

LPRINT_3. :

LLOGIC_3. : PR3 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, USB1)

LPRINT_4. :

LLOGIC_4. : PR4 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, USB1)

LPRINT_5. :

LLOGIC_5. : PR5 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, USB1)

LPRINT_6. :

LLOGIC_6. : PR6 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, USB1)

LPRINT_7. :

LLOGIC_7. : PR7 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, USB1)

LPRINT_8. :

LLOGIC_8. : PR8 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, USB1)

--- AppleTalk Menu

ATLK_ENB. : YES

ATK_ZONE. :

ZONER_EN. : YES

ATK_FONT. : DEFAULT (DEFAULT, 35N, ALL)

AUTO_DT_PRIN. : NO

APRINT_1. : AXIS181E6A_LPT1

ATYPE_1. : LaserWriter

ALOGIC_1. : PR1 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, USB1)

BINARY_TYPE_1. : TBCP (TBCP, BCP, NONE)

APRINT_2. : AXIS181E6A_USB1

ATYPE_2. : LaserWriter

ALOGIC_2. : PR2 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, USB1)

BINARY_TYPE_2. : TBCP (TBCP, BCP, NONE)

--- Printer1 Menu

PR1_OUT. : LPT1 (NONE, LPT1, USB1)

PR1_NAME. :

PR1_SCND. : PR1 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)

PR1_WAIT. : YES

PR1_IN. : AUTO (AUTO, NONE)

PR1_BEF. :

PR1_STR. :

PR1_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)

PR1_FILT. : NONE (NONE, POSTSCR, AUTO_PS)

PR1_AFT. :

PR1_DUMP. : NO

PR1_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)

PR1_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)

PR1_FORM. : 66 0 100 60 30 50

PR1_FONT. :

--- Printer2 Menu

PR2_OUT. : USB1 (NONE, LPT1, USB1)
 PR2_NAME. :
 PR2_SCND. : PR2 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)
 PR2_WAIT. : YES
 PR2_IN. : AUTO (AUTO, NONE)
 PR2_BEF. :
 PR2_STR. :
 PR2_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)
 PR2_FILT. : NONE (NONE, POSTSCR, AUTO_PS)
 PR2_AFT. :
 PR2_DUMP. : NO
 PR2_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)
 PR2_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)
 PR2_FORM. : 66 0 100 60 30 50
 PR2_FONT. :

--- Printer3 Menu

PR3_OUT. : LPT1 (NONE, LPT1, USB1)
 PR3_NAME. :
 PR3_SCND. : PR3 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)
 PR3_WAIT. : YES
 PR3_IN. : AUTO (AUTO, NONE)
 PR3_BEF. :
 PR3_STR. :
 PR3_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)
 PR3_FILT. : NONE (NONE, POSTSCR, AUTO_PS)
 PR3_AFT. :
 PR3_DUMP. : NO
 PR3_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)
 PR3_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)
 PR3_FORM. : 66 0 100 60 30 50

PR3_FONT. :

--- Printer4 Menu

PR4_OUT. : USB1 (NONE, LPT1, USB1)

PR4_NAME. :

PR4_SCND. : PR4 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)

PR4_WAIT. : YES

PR4_IN. : AUTO (AUTO, NONE)

PR4_BEF. :

PR4_STR. :

PR4_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)

PR4_FILT. : NONE (NONE, POSTSCR, AUTO_PS)

PR4_AFT. :

PR4_DUMP. : NO

PR4_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)

PR4_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)

PR4_FORM. : 66 0 100 60 30 50

PR4_FONT. :

--- Printer5 Menu

PR5_OUT. : LPT1 (NONE, LPT1, USB1)

PR5_NAME. :

PR5_SCND. : PR5 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)

PR5_WAIT. : YES

PR5_IN. : AUTO (AUTO, NONE)

PR5_BEF. :

PR5_STR. :

PR5_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)

PR5_FILT. : NONE (NONE, POSTSCR, AUTO_PS)

PR5_AFT. :

PR5_DUMP. : NO

PR5_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)

PR5_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)
 PR5_FORM. : 66 0 100 60 30 50
 PR5_FONT. :

--- Printer6 Menu

PR6_OUT. : USB1 (NONE, LPT1, USB1)
 PR6_NAME. :
 PR6_SCND. : PR6 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)
 PR6_WAIT. : YES
 PR6_IN. : AUTO (AUTO, NONE)
 PR6_BEF. :
 PR6_STR. :
 PR6_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)
 PR6_FILT. : NONE (NONE, POSTSCR, AUTO_PS)
 PR6_AFT. :
 PR6_DUMP. : NO
 PR6_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)
 PR6_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)
 PR6_FORM. : 66 0 100 60 30 50
 PR6_FONT. :

--- Printer7 Menu

PR7_OUT. : LPT1 (NONE, LPT1, USB1)
 PR7_NAME. :
 PR7_SCND. : PR7 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)
 PR7_WAIT. : YES
 PR7_IN. : AUTO (AUTO, NONE)
 PR7_BEF. :
 PR7_STR. :
 PR7_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)
 PR7_FILT. : NONE (NONE, POSTSCR, AUTO_PS)
 PR7_AFT. :

```

PR7_DUMP. : NO
PR7_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)
PR7_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)
PR7_FORM. : 66 0 100 60 30 50
PR7_FONT. :

--- Printer8 Menu
PR8_OUT. : USB1 (NONE, LPT1, USB1)
PR8_NAME. :
PR8_SCND. : PR8 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)
PR8_WAIT. : YES
PR8_IN. : AUTO (AUTO, NONE)
PR8_BEF. :
PR8_STR. :
PR8_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM,
DEC>IBM)
PR8_FILT. : NONE (NONE, POSTSCR, AUTO_PS)
PR8_AFT. :
PR8_DUMP. : NO
PR8_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)
PR8_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)
PR8_FORM. : 66 0 100 60 30 50
PR8_FONT. :

--- LPT1 Menu
L1_CENTR. : HISPEED (IBM_PC, STNDRD, FAST, HISPEED, HINOACK)
L1_BSYTM. : 60
L1_MGM_INFO. : AUTO (DISABLE, AUTO)
L1_COMMENT. :
L1_BIDIR. : AUTO (DISABLE, AUTO)
L1_READT. : 3

--- USB1 Menu
U1_MGM_INFO. : AUTO (DISABLE, AUTO)

```


U1_COMMENT. :

U1_BIDIR. : AUTO (DISABLE, AUTO)

U1_READT. : 3

--- IBM EMULATOR 1

PREMUL1. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)

SYSL1. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)

PASSTHR1. : NO

MPL1. : 66, ENA

MPP1. : 132, ENA

LPI1. : 6 (3, 4, 6, 8)

CPI1. : 10 (5, 10, 12, 13.3, 15, 17, 18)

DCPI1. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)

AUTORI1. : YES

LM1. : 0, 0, 48

TM1. : 26, 26, 74

LDSF1. : 100, 100, 70

DEFBIN1. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)

PRDRIVER1. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI, EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 2

PREMUL2. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)

SYSL2. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)

PASSTHR2. : NO

MPL2. : 66, ENA

MPP2. : 132, ENA

LPI2. : 6 (3, 4, 6, 8)
 CPI2. : 10 (5, 10, 12, 13.3, 15, 17, 18)
 DCPI2. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)
 AUTORI2. : YES
 LM2. : 0, 0, 48
 TM2. : 26, 26, 74
 LDSF2. : 100, 100, 70
 DEFBIN2. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)
 PRDRIVER2. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI,
 EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 3

PREMUL3. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX,
 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX,
 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX,
 5X27_005_TX)
 SYSL3. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288,
 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142,
 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)
 PASSTHR3. : NO
 MPL3. : 66, ENA
 MPP3. : 132, ENA
 LPI3. : 6 (3, 4, 6, 8)
 CPI3. : 10 (5, 10, 12, 13.3, 15, 17, 18)
 DCPI3. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)
 AUTORI3. : YES
 LM3. : 0, 0, 48
 TM3. : 26, 26, 74
 LDSF3. : 100, 100, 70
 DEFBIN3. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)
 PRDRIVER3. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI,
 EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 4

PREMUL4. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)

SYSL4. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)

PASSTHR4. : NO

MPL4. : 66, ENA

MPP4. : 132, ENA

LPI4. : 6 (3, 4, 6, 8)

CPI4. : 10 (5, 10, 12, 13.3, 15, 17, 18)

DCPI4. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)

AUTORI4. : YES

LM4. : 0, 0, 48

TM4. : 26, 26, 74

LDSF4. : 100, 100, 70

DEFBIN4. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)

PRDRIVER4. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI, EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 5

PREMUL5. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)

SYSL5. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)

PASSTHR5. : NO

MPL5. : 66, ENA

MPP5. : 132, ENA

LPI5. : 6 (3, 4, 6, 8)

CPI5. : 10 (5, 10, 12, 13.3, 15, 17, 18)

DCPI5. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)

AUTORI5. : YES

LM5. : 0, 0, 48
 TM5. : 26, 26, 74
 LDSF5. : 100, 100, 70
 DEFBIN5. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)
 PRDRIVER5. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI, EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 6

PREMUL6. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)
 SYSL6. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)
 PASSTHR6. : NO
 MPL6. : 66, ENA
 MPP6. : 132, ENA
 LPI6. : 6 (3, 4, 6, 8)
 CPI6. : 10 (5, 10, 12, 13.3, 15, 17, 18)
 DCPI6. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)
 AUTORI6. : YES
 LM6. : 0, 0, 48
 TM6. : 26, 26, 74
 LDSF6. : 100, 100, 70
 DEFBIN6. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)
 PRDRIVER6. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI, EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 7

PREMUL7. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)
 SYSL7. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)

PASSTHR7. : NO
 MPL7. : 66, ENA
 MPP7. : 132, ENA
 LPI7. : 6 (3, 4, 6, 8)
 CPI7. : 10 (5, 10, 12, 13.3, 15, 17, 18)
 DCPI7. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)
 AUTORI7. : YES
 LM7. : 0, 0, 48
 TM7. : 26, 26, 74
 LDSF7. : 100, 100, 70
 DEFBIN7. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)
 PRDRIVER7. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI, EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 8

PREMUL8. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)
 SYSL8. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)
 PASSTHR8. : NO
 MPL8. : 66, ENA
 MPP8. : 132, ENA
 LPI8. : 6 (3, 4, 6, 8)
 CPI8. : 10 (5, 10, 12, 13.3, 15, 17, 18)
 DCPI8. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)
 AUTORI8. : YES
 LM8. : 0, 0, 48
 TM8. : 26, 26, 74
 LDSF8. : 100, 100, 70
 DEFBIN8. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)
 PRDRIVER8. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI, EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM SCS PAGE FORMAT

PCORI. : NO
DWSISO. : NO
BIN1. : COR, LETTER, 0, 0
BIN2. : COR, LETTER, 0, 0
BIN3. : COR, LETTER, 0, 0
BIN4. : COR, LETTER, 0, 0
BIN5. : COR, LETTER, 0, 0
BIN6. : COR, LETTER, 0, 0
MANUAL. : COR, LETTER, 0, 0
ENVELOPE. : COR, LETTER, 0, 0
CONTINUOUS. : COR, LETTER, 0, 0
SIMBF. : YES

--- IBM SCS CPI MAPPING

FGID_CPI5. : 244, 11
FGID_CPI10. : 11, 204
FGID_CPI12. : 86, 230
FGID_CPI15. : 230, 281
FGID_CPI17. : 252, 281
FGID_CPI8COR. : 86
FGID_CPI20COR. : 281
FGID_CPI25COR. : 289
FGID_CPI27COR. : 290
PROPOCOR. : 230
TYPOCOR. : 230

--- IBM SCS JOB CONTROL

REINIT. : YES
SUPFFBLANK. : NO

--- IBM 3270 OPTIONS

CASE. : DUAL (DUAL, MONO)
 BASCOL. : BLACK, ENA
 XSTRN. : 0
 AUTNL. : 1
 ADDNL. : 1
 FFWPB. : 0
 FFEOPB. : 1
 NULSUP. : 0
 FFCPOS. : 0
 AFEOPB. : 0

--- IBM SCS EXTENDED EMULATION

XEMUL. : YES
 WARN. : NO
 SSUBST. : YES
 SBTS. :
 TLIS. : 025 03C
 TTRS. : 03E 025
 FLIS. : 025 02F
 EECS. : 025 041 058 049 053
 COBXEM. : SETALL (OFF, SETESC, SETALL)
 CCLIS. : 025 050

--- UDS

--- BAR NUMBER TYPE WIDTH HEIGHT TEXT-MODE CHECK-MODE

--- SSTR

--- MSTR

--- IBM PRINTER DRIVER

PRDRIVERBASE : PCL5 (GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI,
EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

SOJS. : 1B 45 1B 26 6C 30 4C

EOJS. : 1B 45

BACKSPS. : 08

CRS. : 0D

LFS. : 0A

NLS. : 0D 0A

FFS. : 0C

SOS. :

SIS. :

BLKS. :

GRNS. :

BLUS. :

REDS. :

MAGS. :

CYNS. :

YELS. :

BIN1S. : 1B 26 6C 31 48

BIN2S. : 1B 26 6C 34 48

BIN3S. : 1B 26 6C 35 48

BIN4S. : 1B 26 6C 32 30 48

BIN5S. : 1B 26 6C 32 31 48

BIN6S. : 1B 26 6C 32 32 48

MANUALS. : 1B 26 6C 32 48

ENVELOPES. : 1B 26 6C 36 48

CONTINUOUSS. : 1B 26 6C 31 48

CSIZS. :
 LAC. : HP_PCL (DISABLE, HP_PCL, EPSON_LQ)
 GRD. : HP_PCL (DISABLE, HP_PCL, EPSON_LQ)
 JOGS. : 1B 26 6C 31 54
 SSUS. :
 SBSET. : PC850 (ECMA94, LATIN9, PC437, PC850, PC852, PC857, PC858, PC874, PC891, PC903, PC904, PC942, ROMAN8, USASCII, USER)

--- FONT FGID CSSF SBSET SPACING PITCH HEIGHT STYLE STROKE TYPEFACE STRING

FONT.	:	3,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,MEDIUM,4102,	1B 28 31 4F
FONT.	:	5,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,MEDIUM,4102,	
FONT.	:	11,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,MEDIUM,4099,	
FONT.	:	12,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,MEDIUM,4099,	
FONT.	:	13,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,MEDIUM,4099,	
FONT.	:	18,	98,	DEFAULT,FIXED,	100,	0,	ITALIC,MEDIUM,4099,	
FONT.	:	19,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,MEDIUM,4200,	1B 28 30 4F
FONT.	:	20,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,MEDIUM,4099,	
FONT.	:	30,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,MEDIUM,4099,	
FONT.	:	38,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,BOLD, 4102,	
FONT.	:	39,	98,	DEFAULT,FIXED,	135,	0,	UPRIGHT,BOLD, 4102,	
FONT.	:	40,	98,	DEFAULT,FIXED,	135,	0,	UPRIGHT,MEDIUM,4102,	
FONT.	:	41,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,MEDIUM,4099,	
FONT.	:	42,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,MEDIUM,4099,	
FONT.	:	43,	98,	DEFAULT,FIXED,	100,	0,	ITALIC,MEDIUM,4099,	
FONT.	:	46,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,BOLD, 4099,	
FONT.	:	60,	98,	DEFAULT,FIXED,	100,	0,	UPRIGHT,BOLD, 4099,	
FONT.	:	66,	98,	DEFAULT,FIXED,	150,	0,	UPRIGHT,MEDIUM,4102,	
FONT.	:	68,	98,	DEFAULT,FIXED,	150,	0,	ITALIC,MEDIUM,4102,	
FONT.	:	69,	98,	DEFAULT,FIXED,	150,	0,	UPRIGHT,BOLD, 4102,	
FONT.	:	70,	98,	DEFAULT,FIXED,	120,	0,	UPRIGHT,MEDIUM,4099,	
FONT.	:	71,	98,	DEFAULT,FIXED,	120,	0,	ITALIC,MEDIUM,4099,	
FONT.	:	72,	98,	DEFAULT,FIXED,	120,	0,	UPRIGHT,BOLD, 4099,	
FONT.	:	80,	98,	DEFAULT,FIXED,	120,	0,	UPRIGHT,MEDIUM,4099,	

FONT. : 84, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 85, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 86, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 87, 98, DEFAULT, FIXED, 130, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 91, 98, DEFAULT, FIXED, 120, 0, ITALIC, MEDIUM, 4099,
 FONT. : 108, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, BOLD, 4099,
 FONT. : 110, 98, DEFAULT, FIXED, 130, 0, UPRIGHT, BOLD, 4102,
 FONT. : 111, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, BOLD, 4099,
 FONT. : 112, 98, DEFAULT, FIXED, 120, 0, ITALIC, MEDIUM, 4099,
 FONT. : 155, 100, DEFAULT, PROP, 0, 110, ITALIC, BOLD, 4101,
 FONT. : 158, 100, DEFAULT, PROP, 0, 110, UPRIGHT, MEDIUM, 4101,
 FONT. : 159, 100, DEFAULT, PROP, 0, 110, UPRIGHT, BOLD, 4101,
 FONT. : 160, 100, DEFAULT, PROP, 0, 110, UPRIGHT, MEDIUM, 4148,
 FONT. : 162, 100, DEFAULT, PROP, 0, 110, ITALIC, MEDIUM, 4148,
 FONT. : 163, 100, DEFAULT, PROP, 0, 110, UPRIGHT, BOLD, 4148,
 FONT. : 173, 100, DEFAULT, PROP, 0, 110, UPRIGHT, LIGHT, 4148,
 FONT. : 175, 100, DEFAULT, PROP, 0, 110, UPRIGHT, MEDIUM, 4101,
 FONT. : 204, 98, DEFAULT, FIXED, 167, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 221, 98, DEFAULT, FIXED, 150, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 223, 98, DEFAULT, FIXED, 150, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 225, 98, DEFAULT, FIXED, 150, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 229, 98, DEFAULT, FIXED, 150, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 230, 98, DEFAULT, FIXED, 180, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 244, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 245, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, BOLD, 4099,
 FONT. : 252, 98, DEFAULT, FIXED, 171, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 253, 98, DEFAULT, FIXED, 171, 0, UPRIGHT, BOLD, 4099,
 FONT. : 254, 98, DEFAULT, FIXED, 220, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 258, 98, DEFAULT, FIXED, 180, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 266, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, BOLD, 4099,
 FONT. : 281, 98, DEFAULT, FIXED, 233, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 289, 98, DEFAULT, FIXED, 267, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 290, 98, DEFAULT, FIXED, 300, 0, UPRIGHT, MEDIUM, 4102,

FONT. : 751, 100, DEFAULT,PROP, 0, 80, UPRIGHT,MEDIUM,4101,
 FONT. : 1051, 100, DEFAULT,PROP, 0, 100, UPRIGHT,MEDIUM,4101,
 FONT. : 1053, 100, DEFAULT,PROP, 0, 100, UPRIGHT,BOLD, 4101,
 FONT. : 1056, 100, DEFAULT,PROP, 0, 100, ITALIC,MEDIUM,4101,
 FONT. : 1351, 100, DEFAULT,PROP, 0, 120, UPRIGHT,MEDIUM,4101,
 FONT. : 1653, 100, DEFAULT,PROP, 0, 160, UPRIGHT,BOLD, 4101,
 FONT. : 2103, 100, DEFAULT,PROP, 0, 240, UPRIGHT,BOLD, 4101,
 FONT. : 3840, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4101,
 FONT. : 3841, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4101,
 FONT. : 3842, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4101,
 FONT. : 3843, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4101,
 FONT. : 3844, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4113,
 FONT. : 3845, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4113,
 FONT. : 3846, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4113,
 FONT. : 3847, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4113,
 FONT. : 3848, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4116,
 FONT. : 3849, 100, DEFAULT,PROP, 0, 0, NONE, MEDIUM,4140, 1B
 28 73 34 53
 FONT. : 3850, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4148,
 FONT. : 3851, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4148,
 FONT. : 3852, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4148,
 FONT. : 3853, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4148,
 FONT. : 3854, 100, DEFAULT,PROP, 0, 0, NONE, MEDIUM,4148, 1B
 28 73 34 53
 FONT. : 3855, 100, DEFAULT,PROP, 0, 0, NONE, BOLD, 4148, 1B
 28 73 34 53
 FONT. : 3856, 100, DEFAULT,PROP, 0, 0, NONE, MEDIUM,4148, 1B
 28 73 35 53
 FONT. : 3857, 100, DEFAULT,PROP, 0, 0, NONE, BOLD, 4148, 1B
 28 73 35 53
 FONT. : 3858, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4168,
 FONT. : 3859, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4168,
 FONT. : 3860, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4168,

FONT. : 3861, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4197,
 FONT. : 3862, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4197,
 FONT. : 3863, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4197,
 FONT. : 3864, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4197,
 FONT. : 3865, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4297,
 FONT. : 3866, 100, DEFAULT,PROP, 0, 0, UPRIGHT,NONE, 4362, 1B 28 73 31 42
 FONT. : 3867, 100, DEFAULT,PROP, 0, 0, UPRIGHT,NONE, 4362, 1B 28 73 34 42
 FONT. : 3868, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,16602,
 FONT. : 3869, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 16602,
 FONT. : 3870, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,16602,
 FONT. : 3871, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 16602,
 FONT. : 3872, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,16901,
 FONT. : 3873, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 16901,
 FONT. : 3874, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,16901,
 FONT. : 3875, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 16901,
 FONT. : 3876, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,16686, 1B 28 31 39 4D
 FONT. : 3877, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,31402, 1B 28 35 37 39 4C
 FONT. : 5687, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,16901,
 FONT. : 5707, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 16901,
 FONT. : 5815, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,16901,
 FONT. : 5835, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 16901,
 FONT. : 6199, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4197,
 FONT. : 6219, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4197,
 FONT. : 6327, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4197,
 FONT. : 6347, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4197,
 FONT. : 16951,100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4101,
 FONT. : 16971,100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4101,
 FONT. : 17079,100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4101,
 FONT. : 17099,100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4101,
 FONT. : 33335,100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4113,
 FONT. : 33355,100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4113,
 FONT. : 33463,100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4113,
 FONT. : 33483,100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4113,

FONT. : 33591,100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,16602,
 FONT. : 33601,100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 16602,
 FONT. : 33719,100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,16602,
 FONT. : 33729,100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 16602,
 FONT. : 34103,100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4148,
 FONT. : 34123,100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4148,
 FONT. : 34231,100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4148,
 FONT. : 34251,100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4148,
 FONT. : 41783,100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4116,
 FONT. : 41803,100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4116,
 FONT. : 41911,100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4116,
 FONT. : 41931,100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4116,
 FONT. : 50000,100, PC942,PROP, 0, 144, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50001,100, PC942,PROP, 0, 144, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50002,100, PC942,PROP, 0, 120, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50003,100, PC942,PROP, 0, 108, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50004,100, PC942,PROP, 0, 96, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50005,100, PC942,PROP, 0, 96, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50006,100, PC942,PROP, 0, 80, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50007,100, PC942,PROP, 0, 101, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50008,100, PC942,PROP, 0, 101, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50009,100, PC942,PROP, 0, 84, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50010,100, PC942,PROP, 0, 76, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50011,100, PC942,PROP, 0, 67, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50012,100, PC942,PROP, 0, 67, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50013,100, PC942,PROP, 0, 56, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50014,100, PC942,PROP, 0, 144, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50015,100, PC942,PROP, 0, 120, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50016,100, PC942,PROP, 0, 108, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50017,100, PC942,PROP, 0, 96, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50018,100, PC942,PROP, 0, 80, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50019,100, PC942,PROP, 0, 101, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50020,100, PC942,PROP, 0, 84, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50021,100, PC942,PROP, 0, 76, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50022,100, PC942,PROP, 0, 67, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50023,100, PC942,PROP, 0, 56, UPRIGHT,MEDIUM,28752, 1B
28 31 39 4B 1B 26 74 33 31 50

FONT. : 50030,100, PC891,PROP, 0, 144, UPRIGHT,MEDIUM,43088, 1B
28 31 39 48 1B 26 74 33 38 50

FONT. : 50031,100, PC891,PROP, 0, 144, UPRIGHT,MEDIUM,43088, 1B
28 31 39 48 1B 26 74 33 38 50

FONT. : 50032,100, PC891,PROP, 0, 120, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50033,100, PC891,PROP, 0, 108, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50034,100, PC891,PROP, 0, 96, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50035,100, PC891,PROP, 0, 96, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50036,100, PC891,PROP, 0, 80, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50037,100, PC891,PROP, 0, 101, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50038,100, PC891,PROP, 0, 101, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50039,100, PC891,PROP, 0, 84, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50040,100, PC891,PROP, 0, 76, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50041,100, PC891,PROP, 0, 67, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50042,100, PC891,PROP, 0, 67, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50043,100, PC891,PROP, 0, 56, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50044,100, PC891,PROP, 0, 144, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50045,100, PC891,PROP, 0, 120, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50046,100, PC891,PROP, 0, 108, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50047,100, PC891,PROP, 0, 96, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50048,100, PC891,PROP, 0, 80, UPRIGHT,MEDIUM,41040, 1B
28 31 39 48 1B 26 74 33 38 50

FONT. : 50049,100, PC891,PROP, 0, 101, UPRIGHT,MEDIUM,41040, 1B
28 31 39 48 1B 26 74 33 38 50

FONT. : 50050,100, PC891,PROP, 0, 84, UPRIGHT,MEDIUM,41040, 1B
28 31 39 48 1B 26 74 33 38 50

FONT. : 50051,100, PC891,PROP, 0, 76, UPRIGHT,MEDIUM,41040, 1B
28 31 39 48 1B 26 74 33 38 50

FONT. : 50052,100, PC891,PROP, 0, 67, UPRIGHT,MEDIUM,41040, 1B
28 31 39 48 1B 26 74 33 38 50

FONT. : 50053,100, PC891,PROP, 0, 56, UPRIGHT,MEDIUM,41040, 1B
28 31 39 48 1B 26 74 33 38 50

FONT. : 50060,100, PC904,PROP, 0, 144, UPRIGHT,MEDIUM,0,
FONT. : 50061,100, PC904,PROP, 0, 144, UPRIGHT,MEDIUM,0,
FONT. : 50062,100, PC904,PROP, 0, 120, UPRIGHT,MEDIUM,0,
FONT. : 50063,100, PC904,PROP, 0, 108, UPRIGHT,MEDIUM,0,
FONT. : 50064,100, PC904,PROP, 0, 96, UPRIGHT,MEDIUM,0,
FONT. : 50065,100, PC904,PROP, 0, 96, UPRIGHT,MEDIUM,0,
FONT. : 50066,100, PC904,PROP, 0, 80, UPRIGHT,MEDIUM,0,
FONT. : 50067,100, PC904,PROP, 0, 101, UPRIGHT,MEDIUM,0,
FONT. : 50068,100, PC904,PROP, 0, 101, UPRIGHT,MEDIUM,0,
FONT. : 50069,100, PC904,PROP, 0, 84, UPRIGHT,MEDIUM,0,
FONT. : 50070,100, PC904,PROP, 0, 76, UPRIGHT,MEDIUM,0,
FONT. : 50071,100, PC904,PROP, 0, 67, UPRIGHT,MEDIUM,0,
FONT. : 50072,100, PC904,PROP, 0, 67, UPRIGHT,MEDIUM,0,
FONT. : 50073,100, PC904,PROP, 0, 56, UPRIGHT,MEDIUM,0,
FONT. : 50074,100, PC904,PROP, 0, 144, UPRIGHT,MEDIUM,0,
FONT. : 50075,100, PC904,PROP, 0, 120, UPRIGHT,MEDIUM,0,
FONT. : 50076,100, PC904,PROP, 0, 108, UPRIGHT,MEDIUM,0,
FONT. : 50077,100, PC904,PROP, 0, 96, UPRIGHT,MEDIUM,0,
FONT. : 50078,100, PC904,PROP, 0, 80, UPRIGHT,MEDIUM,0,
FONT. : 50079,100, PC904,PROP, 0, 101, UPRIGHT,MEDIUM,0,
FONT. : 50080,100, PC904,PROP, 0, 84, UPRIGHT,MEDIUM,0,

FONT. : 50081,100, PC904,PROP, 0, 76, UPRIGHT,MEDIUM,0,
 FONT. : 50082,100, PC904,PROP, 0, 67, UPRIGHT,MEDIUM,0,
 FONT. : 50083,100, PC904,PROP, 0, 56, UPRIGHT,MEDIUM,0,
 FONT. : 50100,100, PC903,PROP, 0, 144, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50101,100, PC903,PROP, 0, 144, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50102,100, PC903,PROP, 0, 120, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50103,100, PC903,PROP, 0, 108, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50104,100, PC903,PROP, 0, 96, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50105,100, PC903,PROP, 0, 96, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50106,100, PC903,PROP, 0, 80, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50107,100, PC903,PROP, 0, 101, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50108,100, PC903,PROP, 0, 101, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50109,100, PC903,PROP, 0, 84, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50110,100, PC903,PROP, 0, 76, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50111,100, PC903,PROP, 0, 67, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50112,100, PC903,PROP, 0, 67, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50113,100, PC903,PROP, 0, 56, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50
 FONT. : 50114,100, PC903,PROP, 0, 144, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50

FONT. : 50115,100, PC903,PROP, 0, 120, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50

FONT. : 50116,100, PC903,PROP, 0, 108, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50

FONT. : 50117,100, PC903,PROP, 0, 96, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50

FONT. : 50118,100, PC903,PROP, 0, 80, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50

FONT. : 50119,100, PC903,PROP, 0, 101, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50

FONT. : 50120,100, PC903,PROP, 0, 84, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50

FONT. : 50121,100, PC903,PROP, 0, 76, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50

FONT. : 50122,100, PC903,PROP, 0, 67, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50

FONT. : 50123,100, PC903,PROP, 0, 56, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50

FONT. : 50130,100, PC891,PROP, 0, 144, UPRIGHT,MEDIUM,43088, 1B
28 31 38 48 1B 26 74 33 38 50

FONT. : 50131,100, PC891,PROP, 0, 144, UPRIGHT,MEDIUM,43088, 1B
28 31 38 48 1B 26 74 33 38 50

FONT. : 50132,100, PC891,PROP, 0, 120, UPRIGHT,MEDIUM,43088, 1B
28 31 38 48 1B 26 74 33 38 50

FONT. : 50133,100, PC891,PROP, 0, 108, UPRIGHT,MEDIUM,43088, 1B
28 31 38 48 1B 26 74 33 38 50

FONT. : 50134,100, PC891,PROP, 0, 96, UPRIGHT,MEDIUM,43088, 1B
28 31 38 48 1B 26 74 33 38 50

FONT. : 50135,100, PC891,PROP, 0, 96, UPRIGHT,MEDIUM,43088, 1B
28 31 38 48 1B 26 74 33 38 50

FONT. : 50136,100, PC891,PROP, 0, 80, UPRIGHT,MEDIUM,43088, 1B
28 31 38 48 1B 26 74 33 38 50

FONT. : 50137,100, PC891,PROP, 0, 101, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50138,100, PC891,PROP, 0, 101, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50139,100, PC891,PROP, 0, 84, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50140,100, PC891,PROP, 0, 76, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50141,100, PC891,PROP, 0, 67, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50142,100, PC891,PROP, 0, 67, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50143,100, PC891,PROP, 0, 56, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50144,100, PC891,PROP, 0, 144, UPRIGHT,MEDIUM,41040, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50145,100, PC891,PROP, 0, 120, UPRIGHT,MEDIUM,41040, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50146,100, PC891,PROP, 0, 108, UPRIGHT,MEDIUM,41040, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50147,100, PC891,PROP, 0, 96, UPRIGHT,MEDIUM,41040, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50148,100, PC891,PROP, 0, 80, UPRIGHT,MEDIUM,41040, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50149,100, PC891,PROP, 0, 101, UPRIGHT,MEDIUM,41040, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50150,100, PC891,PROP, 0, 84, UPRIGHT,MEDIUM,41040, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50151,100, PC891,PROP, 0, 76, UPRIGHT,MEDIUM,41040, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50152,100, PC891,PROP, 0, 67, UPRIGHT,MEDIUM,41040, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50153,100,PC891,PROP, 0, 56, UPRIGHT,MEDIUM,41040, 1B
28 31 38 48 1B 26 74 33 38 50

--- Email Menu

EMAIL_NOTIFICATION. : YES
REPLY_ADDRESS. :
PAPER_JAM_ADDRESS. :
OUT_OF_PAPER_ADDRESS. :
TONER_LOW_ADDRESS. :
NO_TONER_ADDRESS. :
PRINTER_OFFLINE_ADDRESS. :

AXIS 5670e:

--- General Menu

NODE_ADDR. : 00 40 8C XX XX XX
NETWORK_SPEED. : AUTO_SENSE (AUTO_SENSE, 10_HALF_DX, 10_FULL_DX, 100_HALF_DX,
100_FULL_DX)
PS_NAME. : AXISXXXXXX
ROOT_PWD. : pass
SWUP_KEY. :
USERS. :
BASE_URL. : www.axis.com
CHARSET. : ISO-8859-1 (ISO-8859-1, UTF-8)
AXIS_PRINT_SYSTEM. : YES
RCONFIG_ENB. : YES
DEF_OUT. : PR1 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, COM1, LPT2)
SYS_LOC. :
SYS_CONT. :

--- SNA Menu

SNA_ENB. : YES
DEVICE_EMUL. : 3174 (3174, 5494)
SNA_FR_TYPE. : FR_802_2 (FR_AUTO, FR_802_2, FR_DIX)

NODE_ID. : E0 78 1E 58
 NODE_SAP. : \$4
 NWORK_NAME. : APPN
 LU_NAME. : A85E181C
 H1_SAP. : \$4
 H1_ADDR. : FF FF FF FF FF
 H1_NW_NAME. : APPN
 H1_MOD_NAME. : QRMTWSC
 H1_LU_NAME. : DEFAULT
 SNA_LU1. : NONE, 1
 SNA_LU2. : NONE, 2
 SNA_LU3. : NONE, 3
 SNA_LU4. : NONE, 4
 SNA_LU5. : NONE, 5
 SNA_LU6. : NONE, 6
 SNA_LU7. : NONE, 7
 SNA_LU8. : NONE, 8
 AUTODIAL. : NO
 DIALTIME. : 20
 JOB_TIME. : 10
 IR_TIME. : 0
 SNA_HEXDUMP. : NONE (NONE, PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)

--- TN3270E
 TN3270E_IR. : 0
 TN3270E_COMP. : NO
 TN3270E_1. : OFF, 0 0 0 0, 23, PR1, 1, AXPR1
 TN3270E_2. : OFF, 0 0 0 0, 23, PR2, 2, AXPR2
 TN3270E_3. : OFF, 0 0 0 0, 23, PR3, 3, AXPR3
 TN3270E_4. : OFF, 0 0 0 0, 23, PR4, 4, AXPR4
 TN3270E_5. : OFF, 0 0 0 0, 23, PR5, 5, AXPR5
 TN3270E_6. : OFF, 0 0 0 0, 23, PR6, 6, AXPR6
 TN3270E_7. : OFF, 0 0 0 0, 23, PR7, 7, AXPR7

TN3270E_8. : OFF, 0 0 0 0, 23, PR8, 8, AXPR8

--- TN5250E

TN5250E_KA. : YES

TN5250E_1. : OFF, 0 0 0 0, 23, PR1, 1, AXPR1, QSYSOPR, QSYS

TN5250E_2. : OFF, 0 0 0 0, 23, PR2, 2, AXPR2, QSYSOPR, QSYS

TN5250E_3. : OFF, 0 0 0 0, 23, PR3, 3, AXPR3, QSYSOPR, QSYS

TN5250E_4. : OFF, 0 0 0 0, 23, PR4, 4, AXPR4, QSYSOPR, QSYS

TN5250E_5. : OFF, 0 0 0 0, 23, PR5, 5, AXPR5, QSYSOPR, QSYS

TN5250E_6. : OFF, 0 0 0 0, 23, PR6, 6, AXPR6, QSYSOPR, QSYS

TN5250E_7. : OFF, 0 0 0 0, 23, PR7, 7, AXPR7, QSYSOPR, QSYS

TN5250E_8. : OFF, 0 0 0 0, 23, PR8, 8, AXPR8, QSYSOPR, QSYS

--- TCP/IP Menu

TCP_ENB. : YES

INT_ADDR. : 0 0 0 0

DEF_ROUT. : 0 0 0 0

NET_MASK. : 0 0 0 0

HTTPS_ENB. : NO

PROS_PWD. : netprinter

PROS_PRT. : 35

LPD_BANN. : OFF (OFF, AUTO, LAST)

DHCP_ENB. : NO

AUTOIP_ENB. : NO

BOOTP_ENB. : YES

RARP_ENB. : YES

WINS_ENB. : YES

WINS_ADDR1. : 0 0 0 0

WINS_ADDR2. : 0 0 0 0

NBT_SCOPE_ID. :

DNS_ENB. : YES

DNS_ADDR1. : 0 0 0 0

DNS_ADDR2. : 0 0 0 0

DOMAIN_NAME. :
SLP_ENB. : YES
SLP_SCOPE_LIST. : DEFAULT
SMTP_SERVER. :
FTP_ENB. : YES
TELNET_ENB. : YES
DEFAULT_RAW_TCP. : 9100-9102 (9100-9102, CLOSED)
RTN_OPT. : NO
PPR_PRSTAT. : NO
RTN_PR1. : 5001, IPDS, 1
RTN_PR2. : 0, ASCII, 2
RTN_PR3. : 0, ASCII, 3
RTN_PR4. : 5011, SCS, 4
RTN_PR5. : 5012, SCS, 5
RTN_PR6. : 5013, SCS, 6
RTN_PR7. : 0, ASCII, 7
RTN_PR8. : 0, ASCII, 8
DEF_IP_FRAME_TYPE. : EthernetII (EthernetII, SNAP)

--- SNMP Menu

SNMP_ENB. : YES
SNMP_V1_CONFIG. : YES
READ_COM. : public
WRT_COM. : pass
TRAPADDR. : 0 0 0 0
TRAP_COM. : public
SYS_NAME. :
SNMP_AUT. : DISABLE (DISABLE, ENABLE)
TRAP_PRT. : DISABLE (DISABLE, ENABLE)

--- NetWare Menu

NETW_ENB. : YES
NETW_TRANSPORT_PROTOCOL. : DUAL_STACK (IPX_ONLY, IP_ONLY, DUAL_STACK)

NDPS. : TCP_AND_SPX (TCP_AND_SPX, TCP_ONLY, SPX_ONLY, DISABLED)
JOB_CHECK_DELAY. : 5
CONF_CHECK_DELAY. : 300
FR_802_3. : YES
FR_ETH_2. : YES
FR_802_2. : YES
FR_SNAP. : YES
NCP_BURST_MODE. : YES
PSERVER_NDS_TREE. :
PSERVER_NDS_FILESERVER. :
PSERVER_NDS_DISTINGUISHED_NAME. :
PSERVER_BINDERY1. :
PSERVER_BINDERY2. :
PSERVER_BINDERY3. :
PSERVER_BINDERY4. :
PSERVER_BINDERY5. :
PSERVER_BINDERY6. :
PSERVER_BINDERY7. :
PSERVER_BINDERY8. :
PSERVER_BINDERY9. :
PSERVER_BINDERY10. :
PSERVER_BINDERY11. :
PSERVER_BINDERY12. :
PSERVER_BINDERY13. :
PSERVER_BINDERY14. :
PSERVER_BINDERY15. :
PSERVER_BINDERY16. :
NPRINTER1. :
NPRINTER2. :
NPRINTER3. :
NPRINTER4. :
NPRINTER5. :
NPRINTER6. :

NPRINTER7. :

NPRINTER8. :

--- NetBIOS/NetBEUI Menu

LSLM_ENB. : YES

NB_FR_TYPE. : FR_802_2 (FR_AUTO, FR_802_2, FR_DIX)

LPRINT_1. : AX181E58.LP1

LLOGIC_1. : PR1 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, COM1, LPT2)

LPRINT_2. : AX181E58.LP2

LLOGIC_2. : PR2 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, COM1, LPT2)

LPRINT_3. : AX181E58.CM1

LLOGIC_3. : PR3 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, COM1, LPT2)

LPRINT_4. :

LLOGIC_4. : PR4 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, COM1, LPT2)

LPRINT_5. :

LLOGIC_5. : PR5 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, COM1, LPT2)

LPRINT_6. :

LLOGIC_6. : PR6 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, COM1, LPT2)

LPRINT_7. :

LLOGIC_7. : PR7 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, COM1, LPT2)

LPRINT_8. :

LLOGIC_8. : PR8 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, COM1, LPT2)

--- AppleTalk Menu

ATLK_ENB. : YES

ATK_ZONE. :

ZONER_EN. : YES

ATK_FONT. : DEFAULT (DEFAULT, 35N, ALL)

AUTO_DT_PRIN. : NO

APRINT_1. : AXIS181E58_LPT1

ATYPE_1. : LaserWriter

ALOGIC_1. : PR1 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, COM1, LPT2)

BINARY_TYPE_1. : TBCP (TBCP, BCP, NONE)

APRINT_2. : AXIS181E58_LPT2
 ATYPE_2. : LaserWriter
 ALOGIC_2. : PR2 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, COM1, LPT2)
 BINARY_TYPE_2. : TBCP (TBCP, BCP, NONE)
 APRINT_3. : AXIS181E58_COM1
 ATYPE_3. : LaserWriter
 ALOGIC_3. : PR3 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8, LPT1, COM1, LPT2)
 BINARY_TYPE_3. : TBCP (TBCP, BCP, NONE)

--- Printer1 Menu

PR1_OUT. : LPT1 (NONE, LPT1, COM1, LPT2)
 PR1_NAME. :
 PR1_SCND. : PR1 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)
 PR1_WAIT. : YES
 PR1_IN. : AUTO (AUTO, NONE, COM1)
 PR1_BEF. :
 PR1_STR. :
 PR1_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)
 PR1_FILT. : NONE (NONE, POSTSCR, AUTO_PS)
 PR1_AFT. :
 PR1_DUMP. : NO
 PR1_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)
 PR1_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)
 PR1_FORM. : 66 0 100 60 30 50
 PR1_FONT. :
 PR1_DC_MOD. : NONE (NONE, Canon_GP335, Canon_GP605, Canon_IR3300, Gestetner_3235, Gestetner_3245, Gestetner_3255, Gestetner_3265, Gestetner_P7032, HP_LaserJet_5Si, Minolta_Di250, Minolta_Di350, Minolta_Di520, Minolta_Di620, Minolta_Pi_5500, Ricoh_Aficio_220, Ricoh_Aficio_270, Ricoh_Aficio_350, Ricoh_Aficio_450, Ricoh_Aficio_550, Ricoh_Aficio_650, Ricoh_Aficio_AP4500, Ricoh_Aficio_AP3200, Savin_9935DP, Savin_9945DP, Savin_9955DP, Savin_9965DP, Sharp_AR286_FN1, Sharp_AR336_FN1, Sharp_AR405_FN1, Sharp_AR505_FN1, Sharp_AR286_FN2, Sharp_AR336_FN2, Sharp_AR405_FN2, Sharp_AR505_FN2, Toshiba_DP_4580, Toshiba_DP_5570, Toshiba_DP_6570, Toshiba_DP_8070, Toshiba_eSTUDIO35, Toshiba_eSTUDIO45, Toshiba_eSTUDIO55, Toshiba_eSTUDIO65, Toshiba_eSTUDIO80)
 PR1_DC_DUP. : OFF (OFF, SIMPLEX, LONG_EDGE_BINDING, SHORT_EDGE_BINDING)

PR1_DC_STAP. : OFF (OFF, TOP_LEFT_SLANT, TOP_LEFT_HORIZONTAL, TOP_LEFT_VERTICAL, TOP_RIGHT, BOTTOM_LEFT, BOTTOM_RIGHT, TOP_DOUBLE, LEFT_DOUBLE, CENTER)

PR1_DC_HOLE. : OFF (OFF, LONG_EDGE, SHORT_EDGE)

PR1_DC_FOLD. : OFF (OFF, HALF_FOLD, Z_FOLD)

PR1_DC_TRAY. : DEFAULT (DEFAULT, 1, 2, 3, 4, 5)

PR1_DC_COP. : 1

--- Printer2 Menu

PR2_OUT. : LPT2 (NONE, LPT1, COM1, LPT2)

PR2_NAME. :

PR2_SCND. : PR2 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)

PR2_WAIT. : YES

PR2_IN. : AUTO (AUTO, NONE, COM1)

PR2_BEF. :

PR2_STR. :

PR2_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)

PR2_FILT. : NONE (NONE, POSTSCR, AUTO_PS)

PR2_AFT. :

PR2_DUMP. : NO

PR2_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)

PR2_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)

PR2_FORM. : 66 0 100 60 30 50

PR2_FONT. :

PR2_DC_MOD. : NONE (NONE, Canon_GP335, Canon_GP605, Canon_IR3300, Gestetner_3235, Gestetner_3245, Gestetner_3255, Gestetner_3265, Gestetner_P7032, HP_LaserJet_5Si, Minolta_Di250, Minolta_Di350, Minolta_Di520, Minolta_Di620, Minolta_PI_5500, Ricoh_Aficio_220, Ricoh_Aficio_270, Ricoh_Aficio_350, Ricoh_Aficio_450, Ricoh_Aficio_550, Ricoh_Aficio_650, Ricoh_Aficio_AP4500, Ricoh_Aficio_AP3200, Savin_9935DP, Savin_9945DP, Savin_9955DP, Savin_9965DP, Sharp_AR286_FN1, Sharp_AR336_FN1, Sharp_AR405_FN1, Sharp_AR505_FN1, Sharp_AR286_FN2, Sharp_AR336_FN2, Sharp_AR405_FN2, Sharp_AR505_FN2, Toshiba_DP_4580, Toshiba_DP_5570, Toshiba_DP_6570, Toshiba_DP_8070, Toshiba_eSTUDIO35, Toshiba_eSTUDIO45, Toshiba_eSTUDIO55, Toshiba_eSTUDIO65, Toshiba_eSTUDIO80)

PR2_DC_DUP. : OFF (OFF, SIMPLEX, LONG_EDGE_BINDING, SHORT_EDGE_BINDING)

PR2_DC_STAP. : OFF (OFF, TOP_LEFT_SLANT, TOP_LEFT_HORIZONTAL, TOP_LEFT_VERTICAL, TOP_RIGHT, BOTTOM_LEFT, BOTTOM_RIGHT, TOP_DOUBLE, LEFT_DOUBLE, CENTER)

PR2_DC_HOLE. : OFF (OFF, LONG_EDGE, SHORT_EDGE)

PR2_DC_FOLD. : OFF (OFF, HALF_FOLD, Z_FOLD)

PR2_DC_TRAY. : DEFAULT (DEFAULT, 1, 2, 3, 4, 5)

PR2_DC_COP. : 1

--- Printer3 Menu

PR3_OUT. : COM1 (NONE, LPT1, COM1, LPT2)

PR3_NAME. :

PR3_SCND. : PR3 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)

PR3_WAIT. : YES

PR3_IN. : AUTO (AUTO, NONE, COM1)

PR3_BEF. :

PR3_STR. :

PR3_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)

PR3_FILT. : NONE (NONE, POSTSCR, AUTO_PS)

PR3_AFT. :

PR3_DUMP. : NO

PR3_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)

PR3_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)

PR3_FORM. : 66 0 100 60 30 50

PR3_FONT. :

PR3_DC_MOD. : NONE (NONE, Canon_GP335, Canon_GP605, Canon_IR3300, Gestetner_3235, Gestetner_3245, Gestetner_3255, Gestetner_3265, Gestetner_P7032, HP_LaserJet_5Si, Minolta_Di250, Minolta_Di350, Minolta_Di520, Minolta_Di620, Minolta_Pi_5500, Ricoh_Aficio_220, Ricoh_Aficio_270, Ricoh_Aficio_350, Ricoh_Aficio_450, Ricoh_Aficio_550, Ricoh_Aficio_650, Ricoh_Aficio_AP4500, Ricoh_Aficio_AP3200, Savin_9935DP, Savin_9945DP, Savin_9955DP, Savin_9965DP, Sharp_AR286_FN1, Sharp_AR336_FN1, Sharp_AR405_FN1, Sharp_AR505_FN1, Sharp_AR286_FN2, Sharp_AR336_FN2, Sharp_AR405_FN2, Sharp_AR505_FN2, Toshiba_DP_4580, Toshiba_DP_5570, Toshiba_DP_6570, Toshiba_DP_8070, Toshiba_eSTUDIO035, Toshiba_eSTUDIO045, Toshiba_eSTUDIO055, Toshiba_eSTUDIO065, Toshiba_eSTUDIO080)

PR3_DC_DUP. : OFF (OFF, SIMPLEX, LONG_EDGE_BINDING, SHORT_EDGE_BINDING)

PR3_DC_STAP. : OFF (OFF, TOP_LEFT_SLANT, TOP_LEFT_HORIZONTAL, TOP_LEFT_VERTICAL, TOP_RIGHT, BOTTOM_LEFT, BOTTOM_RIGHT, TOP_DOUBLE, LEFT_DOUBLE, CENTER)

PR3_DC_HOLE. : OFF (OFF, LONG_EDGE, SHORT_EDGE)

PR3_DC_FOLD. : OFF (OFF, HALF_FOLD, Z_FOLD)

PR3_DC_TRAY : DEFAULT (DEFAULT, 1, 2, 3, 4, 5)

PR3_DC_COP. : 1

--- Printer4 Menu

PR4_OUT. : COM1 (NONE, LPT1, COM1, LPT2)

PR4_NAME. :

PR4_SCND. : PR4 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)

PR4_WAIT. : YES

PR4_IN. : AUTO (AUTO, NONE, COM1)

PR4_BEF. :

PR4_STR. :

PR4_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)

PR4_FILT. : NONE (NONE, POSTSCR, AUTO_PS)

PR4_AFT. :

PR4_DUMP. : NO

PR4_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)

PR4_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)

PR4_FORM. : 66 0 100 60 30 50

PR4_FONT. :

PR4_DC_MOD. : NONE (NONE, Canon_GP335, Canon_GP605, Canon_IR3300, Gestetner_3235, Gestetner_3245, Gestetner_3255, Gestetner_3265, Gestetner_P7032, HP_LaserJet_5Si, Minolta_Di250, Minolta_Di350, Minolta_Di520, Minolta_Di620, Minolta_Pi_5500, Ricoh_Aficio_220, Ricoh_Aficio_270, Ricoh_Aficio_350, Ricoh_Aficio_450, Ricoh_Aficio_550, Ricoh_Aficio_650, Ricoh_Aficio_AP4500, Ricoh_Aficio_AP3200, Savin_9935DP, Savin_9945DP, Savin_9955DP, Savin_9965DP, Sharp_AR286_FN1, Sharp_AR336_FN1, Sharp_AR405_FN1, Sharp_AR505_FN1, Sharp_AR286_FN2, Sharp_AR336_FN2, Sharp_AR405_FN2, Sharp_AR505_FN2, Toshiba_DP_4580, Toshiba_DP_5570, Toshiba_DP_6570, Toshiba_DP_8070, Toshiba_eSTUDIO35, Toshiba_eSTUDIO45, Toshiba_eSTUDIO55, Toshiba_eSTUDIO65, Toshiba_eSTUDIO80)

PR4_DC_DUP. : OFF (OFF, SIMPLEX, LONG_EDGE_BINDING, SHORT_EDGE_BINDING)

PR4_DC_STAP. : OFF (OFF, TOP_LEFT_SLANT, TOP_LEFT_HORIZONTAL, TOP_LEFT_VERTICAL, TOP_RIGHT, BOTTOM_LEFT, BOTTOM_RIGHT, TOP_DOUBLE, LEFT_DOUBLE, CENTER)

PR4_DC_HOLE. : OFF (OFF, LONG_EDGE, SHORT_EDGE)

PR4_DC_FOLD. : OFF (OFF, HALF_FOLD, Z_FOLD)

PR4_DC_TRAY : DEFAULT (DEFAULT, 1, 2, 3, 4, 5)

PR4_DC_COP. : 1

--- Printer5 Menu

PR5_OUT. : LPT1 (NONE, LPT1, COM1, LPT2)
 PR5_NAME. :
 PR5_SCND. : PR5 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)
 PR5_WAIT. : YES
 PR5_IN. : AUTO (AUTO, NONE, COM1)
 PR5_BEF. :
 PR5_STR. :
 PR5_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)
 PR5_FILT. : NONE (NONE, POSTSCR, AUTO_PS)
 PR5_AFT. :
 PR5_DUMP. : NO
 PR5_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)
 PR5_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)
 PR5_FORM. : 66 0 100 60 30 50
 PR5_FONT. :
 PR5_DC_MOD. : NONE (NONE, Canon_GP335, Canon_GP605, Canon_IR3300, Gestetner_3235, Gestetner_3245, Gestetner_3255, Gestetner_3265, Gestetner_P7032, HP_LaserJet_5Si, Minolta_Di250, Minolta_Di350, Minolta_Di520, Minolta_Di620, Minolta_Pi_5500, Ricoh_Aficio_220, Ricoh_Aficio_270, Ricoh_Aficio_350, Ricoh_Aficio_450, Ricoh_Aficio_550, Ricoh_Aficio_650, Ricoh_Aficio_AP4500, Ricoh_Aficio_AP3200, Savin_9935DP, Savin_9945DP, Savin_9955DP, Savin_9965DP, Sharp_AR286_FN1, Sharp_AR336_FN1, Sharp_AR405_FN1, Sharp_AR505_FN1, Sharp_AR286_FN2, Sharp_AR336_FN2, Sharp_AR405_FN2, Sharp_AR505_FN2, Toshiba_DP_4580, Toshiba_DP_5570, Toshiba_DP_6570, Toshiba_DP_8070, Toshiba_eSTUDIO35, Toshiba_eSTUDIO45, Toshiba_eSTUDIO55, Toshiba_eSTUDIO65, Toshiba_eSTUDIO80)
 PR5_DC_DUP. : OFF (OFF, SIMPLEX, LONG_EDGE_BINDING, SHORT_EDGE_BINDING)
 PR5_DC_STAP. : OFF (OFF, TOP_LEFT_SLANT, TOP_LEFT_HORIZONTAL, TOP_LEFT_VERTICAL, TOP_RIGHT, BOTTOM_LEFT, BOTTOM_RIGHT, TOP_DOUBLE, LEFT_DOUBLE, CENTER)
 PR5_DC_HOLE. : OFF (OFF, LONG_EDGE, SHORT_EDGE)
 PR5_DC_FOLD. : OFF (OFF, HALF_FOLD, Z_FOLD)
 PR5_DC_TRAY. : DEFAULT (DEFAULT, 1, 2, 3, 4, 5)
 PR5_DC_COP. : 1

--- Printer6 Menu

PR6_OUT. : LPT2 (NONE, LPT1, COM1, LPT2)
 PR6_NAME. :
 PR6_SCND. : PR6 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)
 PR6_WAIT. : YES
 PR6_IN. : AUTO (AUTO, NONE, COM1)
 PR6_BEF. :
 PR6_STR. :
 PR6_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)
 PR6_FILT. : NONE (NONE, POSTSCR, AUTO_PS)
 PR6_AFT. :
 PR6_DUMP. : NO
 PR6_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)
 PR6_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)
 PR6_FORM. : 66 0 100 60 30 50
 PR6_FONT. :
 PR6_DC_MOD. : NONE (NONE, Canon_GP335, Canon_GP605, Canon_IR3300, Gestetner_3235, Gestetner_3245, Gestetner_3255, Gestetner_3265, Gestetner_P7032, HP_LaserJet_5Si, Minolta_Di250, Minolta_Di350, Minolta_Di520, Minolta_Di620, Minolta_Pi_5500, Ricoh_Aficio_220, Ricoh_Aficio_270, Ricoh_Aficio_350, Ricoh_Aficio_450, Ricoh_Aficio_550, Ricoh_Aficio_650, Ricoh_Aficio_AP4500, Ricoh_Aficio_AP3200, Savin_9935DP, Savin_9945DP, Savin_9955DP, Savin_9965DP, Sharp_AR286_FN1, Sharp_AR336_FN1, Sharp_AR405_FN1, Sharp_AR505_FN1, Sharp_AR286_FN2, Sharp_AR336_FN2, Sharp_AR405_FN2, Sharp_AR505_FN2, Toshiba_DP_4580, Toshiba_DP_5570, Toshiba_DP_6570, Toshiba_DP_8070, Toshiba_eSTUDIO35, Toshiba_eSTUDIO45, Toshiba_eSTUDIO55, Toshiba_eSTUDIO65, Toshiba_eSTUDIO80)
 PR6_DC_DUP. : OFF (OFF, SIMPLEX, LONG_EDGE_BINDING, SHORT_EDGE_BINDING)
 PR6_DC_STAP. : OFF (OFF, TOP_LEFT_SLANT, TOP_LEFT_HORIZONTAL, TOP_LEFT_VERTICAL, TOP_RIGHT, BOTTOM_LEFT, BOTTOM_RIGHT, TOP_DOUBLE, LEFT_DOUBLE, CENTER)
 PR6_DC_HOLE. : OFF (OFF, LONG_EDGE, SHORT_EDGE)
 PR6_DC_FOLD. : OFF (OFF, HALF_FOLD, Z_FOLD)
 PR6_DC_TRAY. : DEFAULT (DEFAULT, 1, 2, 3, 4, 5)
 PR6_DC_COP. : 1

 --- Printer7 Menu
 PR7_OUT. : COM1 (NONE, LPT1, COM1, LPT2)
 PR7_NAME. :

PR7_SCND. : PR7 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)
 PR7_WAIT. : YES
 PR7_IN. : AUTO (AUTO, NONE, COM1)
 PR7_BEF. :
 PR7_STR. :
 PR7_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)
 PR7_FILT. : NONE (NONE, POSTSCR, AUTO_PS)
 PR7_AFT. :
 PR7_DUMP. : NO
 PR7_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)
 PR7_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)
 PR7_FORM. : 66 0 100 60 30 50
 PR7_FONT. :
 PR7_DC_MOD. : NONE (NONE, Canon_GP335, Canon_GP605, Canon_IR3300, Gestetner_3235, Gestetner_3245, Gestetner_3255, Gestetner_3265, Gestetner_P7032, HP_LaserJet_5Si, Minolta_Di250, Minolta_Di350, Minolta_Di520, Minolta_Di620, Minolta_Pi_5500, Ricoh_Aficio_220, Ricoh_Aficio_270, Ricoh_Aficio_350, Ricoh_Aficio_450, Ricoh_Aficio_550, Ricoh_Aficio_650, Ricoh_Aficio_AP4500, Ricoh_Aficio_AP3200, Savin_9935DP, Savin_9945DP, Savin_9955DP, Savin_9965DP, Sharp_AR286_FN1, Sharp_AR336_FN1, Sharp_AR405_FN1, Sharp_AR505_FN1, Sharp_AR286_FN2, Sharp_AR336_FN2, Sharp_AR405_FN2, Sharp_AR505_FN2, Toshiba_DP_4580, Toshiba_DP_5570, Toshiba_DP_6570, Toshiba_DP_8070, Toshiba_eSTUDIO35, Toshiba_eSTUDIO45, Toshiba_eSTUDIO55, Toshiba_eSTUDIO65, Toshiba_eSTUDIO80)
 PR7_DC_DUP. : OFF (OFF, SIMPLEX, LONG_EDGE_BINDING, SHORT_EDGE_BINDING)
 PR7_DC_STAP. : OFF (OFF, TOP_LEFT_SLANT, TOP_LEFT_HORIZONTAL, TOP_LEFT_VERTICAL, TOP_RIGHT, BOTTOM_LEFT, BOTTOM_RIGHT, TOP_DOUBLE, LEFT_DOUBLE, CENTER)
 PR7_DC_HOLE. : OFF (OFF, LONG_EDGE, SHORT_EDGE)
 PR7_DC_FOLD. : OFF (OFF, HALF_FOLD, Z_FOLD)
 PR7_DC_TRAY. : DEFAULT (DEFAULT, 1, 2, 3, 4, 5)
 PR7_DC_COP. : 1

--- Printer8 Menu

PR8_OUT. : COM1 (NONE, LPT1, COM1, LPT2)
 PR8_NAME. :
 PR8_SCND. : PR8 (PR1, PR2, PR3, PR4, PR5, PR6, PR7, PR8)
 PR8_WAIT. : YES

PR8_IN. : AUTO (AUTO, NONE, COM1)
 PR8_BEF. :
 PR8_STR. :
 PR8_CSET. : NONE (NONE, ISO>IBM, 7UK>IBM, 7SW>IBM, 7GE>IBM, 7FR>IBM, 7ND>IBM, DEC>IBM)
 PR8_FILT. : NONE (NONE, POSTSCR, AUTO_PS)
 PR8_AFT. :
 PR8_DUMP. : NO
 PR8_SIZE. : A4 (A4, LETTER, LEGAL, EXECUT)
 PR8_ORNT. : PORTR (PORTR, LANDS, R_PORTR, R_LANDS)
 PR8_FORM. : 66 0 100 60 30 50
 PR8_FONT. :
 PR8_DC_MOD. : NONE (NONE, Canon_GP335, Canon_GP605, Canon_IR3300, Gestetner_3235, Gestetner_3245, Gestetner_3255, Gestetner_3265, Gestetner_P7032, HP_LaserJet_5Si, Minolta_Di250, Minolta_Di350, Minolta_Di520, Minolta_Di620, Minolta_Pi_5500, Ricoh_Aficio_220, Ricoh_Aficio_270, Ricoh_Aficio_350, Ricoh_Aficio_450, Ricoh_Aficio_550, Ricoh_Aficio_650, Ricoh_Aficio_AP4500, Ricoh_Aficio_AP3200, Savin_9935DP, Savin_9945DP, Savin_9955DP, Savin_9965DP, Sharp_AR286_FN1, Sharp_AR336_FN1, Sharp_AR405_FN1, Sharp_AR505_FN1, Sharp_AR286_FN2, Sharp_AR336_FN2, Sharp_AR405_FN2, Sharp_AR505_FN2, Toshiba_DP_4580, Toshiba_DP_5570, Toshiba_DP_6570, Toshiba_DP_8070, Toshiba_eSTUDIO35, Toshiba_eSTUDIO45, Toshiba_eSTUDIO55, Toshiba_eSTUDIO65, Toshiba_eSTUDIO80)
 PR8_DC_DUP. : OFF (OFF, SIMPLEX, LONG_EDGE_BINDING, SHORT_EDGE_BINDING)
 PR8_DC_STAP. : OFF (OFF, TOP_LEFT_SLANT, TOP_LEFT_HORIZONTAL, TOP_LEFT_VERTICAL, TOP_RIGHT, BOTTOM_LEFT, BOTTOM_RIGHT, TOP_DOUBLE, LEFT_DOUBLE, CENTER)
 PR8_DC_HOLE. : OFF (OFF, LONG_EDGE, SHORT_EDGE)
 PR8_DC_FOLD. : OFF (OFF, HALF_FOLD, Z_FOLD)
 PR8_DC_TRAY. : DEFAULT (DEFAULT, 1, 2, 3, 4, 5)
 PR8_DC_COP. : 1

 --- LPT1 Menu
 L1_CENTR. : HISPEED (IBM_PC, STNDRD, FAST, HISPEED, HINOACK)
 L1_BSYTM. : 60
 L1_MGM_INFO. : AUTO (DISABLE, AUTO)
 L1_COMMENT. :
 L1_BIDIR. : AUTO (DISABLE, AUTO)
 L1_READT. : 3

--- COM1 Menu

C1_BAUDR. : 9600 (300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200)
 C1_NBITS. : 8 (7, 8)
 C1_PARIT. : NONE (NONE, ODD, EVEN)
 C1_STOPB. : 2 (1, 2)
 C1_HNDSH. : ROBUST-BOTH (NONE, XON/XOFF, ROBUST, RDY/BSY, BOTH, ROBUST-BOTH)
 C1_READT. : 3
 C1_BSYTM. : 60
 C1_MGM_INFO. : AUTO (DISABLE, AUTO)
 C1_COMMENT. :

--- LPT2 Menu

L2_CENTR. : HISPEED (IBM_PC, STNDRD, FAST, HISPEED, HINOACK)
 L2_BSYTM. : 60
 L2_MGM_INFO. : AUTO (DISABLE, AUTO)
 L2_COMMENT. :
 L2_BIDIR. : AUTO (DISABLE, AUTO)
 L2_READT. : 3

--- IBM IPDS Configuration

IPDS_COLSUP. : Disabled
 IPDS_DUPSUP. : Enabled
 IPDS_OPTDUP. : Enabled
 IPDS_RAF. : Disabled
 IPDS_NUP. : 1-up (1-up, 2-up, 4-up)
 IPDS_OVLXOFF. : 0
 IPDS_OVLYOFF. : 0
 IPDS_RPTXOFF. : 0
 IPDS_RPTYOFF. : 0
 IPDS_DOB. : Bin1 (Bin1, Bin2, Bin3, Bin4, Bin5, Bin6)
 IPDS_DIB. : Bin1 (Bin1, Bin2, Bin3, Bin4, Bin5)
 PS_IPLINK. : Off (Off, Sheet, Bin)

IPDS_BIN1. : Letter, 0, 0
 IPDS_BIN2. : Letter, 0, 0
 IPDS_BIN3. : Letter, 0, 0
 IPDS_BIN4. : Letter, 0, 0
 IPDS_BIN5. : Letter, 0, 0

--- IBM IPDS PostScript Driver Settings

PS_LFSM. : Enabled
 PS_ERRH. : Disabled
 PS_OPTOVL. : Enabled
 PS_G4SUP. : Disabled
 PS_VM. : 2000
 PS_BIN1. : Default, 100, 100, 0, 0
 PS_BIN2. : Default, 100, 100, 0, 0
 PS_BIN3. : Default, 100, 100, 0, 0
 PS_BIN4. : Default, 100, 100, 0, 0
 PS_BIN5. : Default, 100, 100, 0, 0
 PS_DEST. : 0, 0, 0, 0, 0

--- IBM IPDS PCL Driver Settings

PCL_VER. : 5 (3, 4, 5)
 PCL_SBSET. : AUTOMATIC (AUTOMATIC, US-ASCII, Latin1, Latin5, Latin9, PC437, PC850, PC852, PC874, Roman8)
 PCL_OCR_ENB. : Enabled
 PCL_OPTOVL. : Disabled
 PCL_BIN1. : 8, 0, 0
 PCL_BIN2. : 1, 0, 0
 PCL_BIN3. : 4, 0, 0
 PCL_BIN4. : 5, 0, 0
 PCL_BIN5. : 0, 0, 0
 PCL_DEST. : 0, 0, 0, 0, 0

--- IBM EMULATOR 1

IPDS_PREMUL1. : IPDS_4332 (IPDS_4224_C2, IPDS_4224_E3, IPDS_3812_2,
 IPDS_3812_2_00, IPDS_3816, IPDS_4028_1, IPDS_4028_2, IPDS_4312, IPDS_4317,
 IPDS_4324, IPDS_4332)

IPDS_PRRRES1. : 0

IPDS_SYSL1. : 37 (37, 256, 259, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286,
 287, 288, 289, 290, 293, 297, 361, 420, 423, 424, 437, 500, 803, 819, 838, 852, 853, 857, 858,
 860, 861, 863, 865, 870, 871, 880, 892, 893, 905, 912, 914, 920, 923, 924, 1004, 1026, 1069,
 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1252)

IPDS_PD1. : PostScript (PostScript, PCL)

IPDS_SOJS1. :

IPDS_EOJS1. :

PREMUL1. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX,
 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX,
 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX,
 5X27_005_TX)

SYSL1. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288,
 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142,
 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)

PASSTHR1. : NO

MPL1. : 66, ENA

MPP1. : 132, ENA

LPI1. : 6 (3, 4, 6, 8)

CPI1. : 10 (5, 10, 12, 13.3, 15, 17, 18)

DCPI1. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)

AUTORI1. : YES

LM1. : 0, 0, 48

TM1. : 26, 26, 74

LDSF1. : 94, 94, 70

DEFBIN1. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)

PRDRIVER1. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI,
 EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 2

IPDS_PREMUL2. : IPDS_4332 (IPDS_4224_C2, IPDS_4224_E3, IPDS_3812_2,
 IPDS_3812_2_00, IPDS_3816, IPDS_4028_1, IPDS_4028_2, IPDS_4312, IPDS_4317,
 IPDS_4324, IPDS_4332)

IPDS_PRRRES2. : 0

IPDS_SYSL2. : 37 (37, 256, 259, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 361, 420, 423, 424, 437, 500, 803, 819, 838, 852, 853, 857, 858, 860, 861, 863, 865, 870, 871, 880, 892, 893, 905, 912, 914, 920, 923, 924, 1004, 1026, 1069, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1252)

IPDS_PD2. : PostScript (PostScript, PCL)

IPDS_SOJS2. :

IPDS_EOJS2. :

PREMUL2. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)

SYSL2. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)

PASSTHR2. : NO

MPL2. : 66, ENA

MPP2. : 132, ENA

LPI2. : 6 (3, 4, 6, 8)

CPI2. : 10 (5, 10, 12, 13.3, 15, 17, 18)

DCPI2. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)

AUTORI2. : YES

LM2. : 0, 0, 48

TM2. : 26, 26, 74

LDSF2. : 100, 100, 70

DEFBIN2. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)

PRDRIVER2. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI, EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 3

IPDS_PREMUL3. : IPDS_4332 (IPDS_4224_C2, IPDS_4224_E3, IPDS_3812_2, IPDS_3812_2_00, IPDS_3816, IPDS_4028_1, IPDS_4028_2, IPDS_4312, IPDS_4317, IPDS_4324, IPDS_4332)

IPDS_PRRRES3. : 0

IPDS_SYSL3. : 37 (37, 256, 259, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 361, 420, 423, 424, 437, 500, 803, 819, 838, 852, 853, 857, 858, 860, 861, 863, 865, 870, 871, 880, 892, 893, 905, 912, 914, 920, 923, 924, 1004, 1026, 1069, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1252)

IPDS_PD3. : PostScript (PostScript, PCL)

IPDS_SOJS3. :

IPDS_EOJS3. :

PREMUL3. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)

SYSL3. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)

PASSTHR3. : NO

MPL3. : 66, ENA

MPP3. : 132, ENA

LPI3. : 6 (3, 4, 6, 8)

CPI3. : 10 (5, 10, 12, 13.3, 15, 17, 18)

DCPI3. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)

AUTORI3. : YES

LM3. : 0, 0, 48

TM3. : 26, 26, 74

LDSF3. : 100, 100, 70

DEFBIN3. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)

PRDRIVER3. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI, EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 4

IPDS_PREMUL4. : IPDS_4332 (IPDS_4224_C2, IPDS_4224_E3, IPDS_3812_2, IPDS_3812_2_00, IPDS_3816, IPDS_4028_1, IPDS_4028_2, IPDS_4312, IPDS_4317, IPDS_4324, IPDS_4332)

IPDS_PRRRES4. : 0

IPDS_SYSL4. : 37 (37, 256, 259, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 361, 420, 423, 424, 437, 500, 803, 819, 838, 852, 853, 857, 858, 860, 861, 863, 865, 870, 871, 880, 892, 893, 905, 912, 914, 920, 923, 924, 1004, 1026, 1069, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1252)

IPDS_PD4. : PostScript (PostScript, PCL)

IPDS_SOJS4. :

IPDS_EOJS4. :

PREMUL4. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)

SYSL4. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)

PASSTHR4. : NO

MPL4. : 66, ENA

MPP4. : 132, ENA

LPI4. : 6 (3, 4, 6, 8)

CPI4. : 10 (5, 10, 12, 13.3, 15, 17, 18)

DCPI4. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)

AUTORI4. : YES

LM4. : 0, 0, 48

TM4. : 26, 26, 74

LDSF4. : 100, 100, 70

DEFBIN4. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)

PRDRIVER4. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI, EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 5

IPDS_PREMUL5. : IPDS_4332 (IPDS_4224_C2, IPDS_4224_E3, IPDS_3812_2, IPDS_3812_2_00, IPDS_3816, IPDS_4028_1, IPDS_4028_2, IPDS_4312, IPDS_4317, IPDS_4324, IPDS_4332)

IPDS_PRRES5. : 0

IPDS_SYSL5. : 37 (37, 256, 259, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 361, 420, 423, 424, 437, 500, 803, 819, 838, 852, 853, 857, 858, 860, 861, 863, 865, 870, 871, 880, 892, 893, 905, 912, 914, 920, 923, 924, 1004, 1026, 1069, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1252)

IPDS_PD5. : PostScript (PostScript, PCL)

IPDS_SOJS5. :

IPDS_EOJS5. :

PREMUL5. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)

SYSL5. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)

PASSTHR5. : NO

MPL5. : 66, ENA

MPP5. : 132, ENA

LPI5. : 6 (3, 4, 6, 8)

CPI5. : 10 (5, 10, 12, 13.3, 15, 17, 18)

DCPI5. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)

AUTORI5. : YES

LM5. : 0, 0, 48

TM5. : 26, 26, 74

LDSF5. : 100, 100, 70

DEFBIN5. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)

PRDRIVERS5. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI, EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 6

IPDS_PREMUL6. : IPDS_4332 (IPDS_4224_C2, IPDS_4224_E3, IPDS_3812_2, IPDS_3812_2_00, IPDS_3816, IPDS_4028_1, IPDS_4028_2, IPDS_4312, IPDS_4317, IPDS_4324, IPDS_4332)

IPDS_PRRRES6. : 0

IPDS_SYSL6. : 37 (37, 256, 259, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 361, 420, 423, 424, 437, 500, 803, 819, 838, 852, 853, 857, 858, 860, 861, 863, 865, 870, 871, 880, 892, 893, 905, 912, 914, 920, 923, 924, 1004, 1026, 1069, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1252)

IPDS_PD6. : PostScript (PostScript, PCL)

IPDS_SOJS6. :

IPDS_EOJS6. :

PREMUL6. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)

SYSL6. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)

PASSTHR6. : NO

MPL6. : 66, ENA

MPP6. : 132, ENA
 LPI6. : 6 (3, 4, 6, 8)
 CPI6. : 10 (5, 10, 12, 13.3, 15, 17, 18)
 DCPi6. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)
 AUTORI6. : YES
 LM6. : 0, 0, 48
 TM6. : 26, 26, 74
 LDSF6. : 100, 100, 70
 DEFBIN6. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)
 PRDRIVER6. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI, EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 7

IPDS_PREMUL7. : IPDS_4332 (IPDS_4224_C2, IPDS_4224_E3, IPDS_3812_2, IPDS_3812_2_00, IPDS_3816, IPDS_4028_1, IPDS_4028_2, IPDS_4312, IPDS_4317, IPDS_4324, IPDS_4332)
 IPDS_PRRRES7. : 0
 IPDS_SYSL7. : 37 (37, 256, 259, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 361, 420, 423, 424, 437, 500, 803, 819, 838, 852, 853, 857, 858, 860, 861, 863, 865, 870, 871, 880, 892, 893, 905, 912, 914, 920, 923, 924, 1004, 1026, 1069, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1252)
 IPDS_PD7. : PostScript (PostScript, PCL)
 IPDS_SOJS7. :
 IPDS_EOJS7. :
 PREMUL7. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)
 SYSL7. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)
 PASSTHR7. : NO
 MPL7. : 66, ENA
 MPP7. : 132, ENA
 LPI7. : 6 (3, 4, 6, 8)
 CPI7. : 10 (5, 10, 12, 13.3, 15, 17, 18)
 DCPi7. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)

AUTORI7. : YES
 LM7. : 0, 0, 48
 TM7. : 26, 26, 74
 LDSF7. : 100, 100, 70
 DEFBIN7. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)
 PRDRIVER7. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI, EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM EMULATOR 8

IPDS_PREMUL8. : IPDS_4332 (IPDS_4224_C2, IPDS_4224_E3, IPDS_3812_2, IPDS_3812_2_00, IPDS_3816, IPDS_4028_1, IPDS_4028_2, IPDS_4312, IPDS_4317, IPDS_4324, IPDS_4332)
 IPDS_PRRRES8. : 0
 IPDS_SYSL8. : 37 (37, 256, 259, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 361, 420, 423, 424, 437, 500, 803, 819, 838, 852, 853, 857, 858, 860, 861, 863, 865, 870, 871, 880, 892, 893, 905, 912, 914, 920, 923, 924, 1004, 1026, 1069, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1252)
 IPDS_PD8. : PostScript (PostScript, PCL)
 IPDS_SOJS8. :
 IPDS_EOJS8. :
 PREMUL8. : 3816_CX (3287_CX, 3268_CX, 3262_CX, 4214_CX, 4224_CX, 4230_CX, 3812_CX, 3816S_CX, 3816_CX, 5224_TX, 5225_TX, 5256_TX, 4214_TX, 4230_TX, 3812_TX, 3816S_TX, 3816_TX, 5X27_001_TX, 5X27_002_KS_TX, 5X27_002_KSSM_TX, 5X27_003_TX, 5X27_005_TX)
 SYSL8. : 37 (37, 256, 260, 273, 274, 275, 277, 278, 280, 281, 282, 284, 285, 286, 287, 288, 289, 290, 293, 297, 340, 361, 500, 833, 836, 838, 870, 871, 892, 893, 1026, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, USER)
 PASSTHR8. : NO
 MPL8. : 66, ENA
 MPP8. : 132, ENA
 LPI8. : 6 (3, 4, 6, 8)
 CPI8. : 10 (5, 10, 12, 13.3, 15, 17, 18)
 DCPI8. : 5.0 (5.0, 6.0, 6.7, 7.5, 9.0)
 AUTORI8. : YES
 LM8. : 0, 0, 48
 TM8. : 26, 26, 74
 LDSF8. : 100, 100, 70

DEFBIN8. : BIN1 (BIN1, BIN2, BIN3, BIN4, BIN5, BIN6, MANUAL, ENVELOPE, CONTINUOUS)
 PRDRIVER8. : PCL5 (USER, GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI,
 EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

--- IBM SCS PAGE FORMAT

PCORI. : NO
 DWSISO. : NO
 BIN1. : COR, LETTER, 0, 0
 BIN2. : COR, LETTER, 0, 0
 BIN3. : COR, LETTER, 0, 0
 BIN4. : COR, LETTER, 0, 0
 BIN5. : COR, LETTER, 0, 0
 BIN6. : COR, LETTER, 0, 0
 MANUAL. : COR, LETTER, 0, 0
 ENVELOPE. : COR, LETTER, 0, 0
 CONTINUOUS. : COR, LETTER, 0, 0
 SIMBF. : YES

--- IBM SCS CPI MAPPING

FGID_DEFAULT. : 11
 FGID_CPI5. : 244, 11
 FGID_CPI10. : 11, 204
 FGID_CPI12. : 86, 230
 FGID_CPI15. : 230, 281
 FGID_CPI17. : 252, 281
 FGID_CPI8COR. : 86
 FGID_CPI20COR. : 281
 FGID_CPI25COR. : 289
 FGID_CPI27COR. : 290
 PROPOCOR. : 230
 TYPOCOR. : 230

--- IBM SCS JOB CONTROL

REINIT. : YES

SUPFFBLANK. : NO

--- IBM 3270 OPTIONS

CASE. : DUAL (DUAL, MONO)

BASCOL. : BLACK, ENA

XSTRN. : 0

AUTNL. : 1

ADDNL. : 1

FFWPB. : 0

FFEOPB. : 1

NULSUP. : 0

FFCPOS. : 0

AFEOPB. : 0

--- IBM SCS EXTENDED EMULATION

XEMUL. : YES

WARN. : NO

SSUBST. : YES

SBTS. :

TLIS. : 025 03C

TTRS. : 03E 025

FLIS. : 025 02F

EECS. : 025 041 058 049 053

COBXEM. : SETALL (OFF, SETESC, SETALL)

CCLIS. : 025 050

--- UDS

--- BAR NUMBER TYPE WIDTH HEIGHT TEXT-MODE CHECK-MODE

--- SSTR

--- MSTR

--- IBM PRINTER DRIVER

PRDRIVERBASE. : PCL5 (GENERIC, PCL4, PCL5, IBM_PRO, EPSON_FX, EPSON_FX_15CPI,
EPSON_LQ, EPSON_LQ_1600K, EPSON_LQ_KS)

SOJS. : 1B 45 1B 26 6C 30 4C

EOJS. : 1B 45

BACKSPS. : 08

CRS. : 0D

LFS. : 0A

NLS. : 0D 0A

FFS. : 0C

SOS. :

SIS. :

BLKS. :

GRNS. :

BLUS. :

REDS. :

MAGS. :

CYNS. :

YELS. :

BIN1S. : 1B 26 6C 31 48

BIN2S. : 1B 26 6C 34 48

BIN3S. : 1B 26 6C 35 48

BIN4S. : 1B 26 6C 32 30 48

BIN5S. : 1B 26 6C 32 31 48

BIN6S. : 1B 26 6C 32 32 48

MANUALS. : 1B 26 6C 32 48

ENVELOPES. : 1B 26 6C 36 48

CONTINUOUSS. : 1B 26 6C 31 48

CSIZS. :

LAC. : HP_PCL (DISABLE, HP_PCL, EPSON_LQ)
 GRD. : HP_PCL (DISABLE, HP_PCL, EPSON_LQ)
 JOGS. : 1B 26 6C 31 54
 SSUS. :
 SBSET. : PC850 (ECMA94, LATIN9, PC437, PC850, PC852, PC857, PC858, PC874, PC891, PC903, PC904, PC942, ROMAN8, USASCII, USER)

--- FONT FGID CSSF SBSET SPACING PITCH HEIGHT STYLE STROKE TYPEFACE STRING

FONT. : 3, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, MEDIUM, 4102, 1B 28 31 4F
 FONT. : 5, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 11, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 12, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 13, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 18, 98, DEFAULT, FIXED, 100, 0, ITALIC, MEDIUM, 4099,
 FONT. : 19, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, MEDIUM, 4200, 1B 28 30 4F
 FONT. : 20, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 30, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 38, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, BOLD, 4102,
 FONT. : 39, 98, DEFAULT, FIXED, 135, 0, UPRIGHT, BOLD, 4102,
 FONT. : 40, 98, DEFAULT, FIXED, 135, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 41, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 42, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 43, 98, DEFAULT, FIXED, 100, 0, ITALIC, MEDIUM, 4099,
 FONT. : 46, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, BOLD, 4099,
 FONT. : 60, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, BOLD, 4099,
 FONT. : 66, 98, DEFAULT, FIXED, 150, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 68, 98, DEFAULT, FIXED, 150, 0, ITALIC, MEDIUM, 4102,
 FONT. : 69, 98, DEFAULT, FIXED, 150, 0, UPRIGHT, BOLD, 4102,
 FONT. : 70, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 71, 98, DEFAULT, FIXED, 120, 0, ITALIC, MEDIUM, 4099,
 FONT. : 72, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, BOLD, 4099,
 FONT. : 80, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 84, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, MEDIUM, 4099,

FONT. : 85, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 86, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 87, 98, DEFAULT, FIXED, 130, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 91, 98, DEFAULT, FIXED, 120, 0, ITALIC, MEDIUM, 4099,
 FONT. : 108, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, BOLD, 4099,
 FONT. : 110, 98, DEFAULT, FIXED, 130, 0, UPRIGHT, BOLD, 4102,
 FONT. : 111, 98, DEFAULT, FIXED, 120, 0, UPRIGHT, BOLD, 4099,
 FONT. : 112, 98, DEFAULT, FIXED, 120, 0, ITALIC, MEDIUM, 4099,
 FONT. : 155, 100, DEFAULT, PROP, 0, 110, ITALIC, BOLD, 4101,
 FONT. : 158, 100, DEFAULT, PROP, 0, 110, UPRIGHT, MEDIUM, 4101,
 FONT. : 159, 100, DEFAULT, PROP, 0, 110, UPRIGHT, BOLD, 4101,
 FONT. : 160, 100, DEFAULT, PROP, 0, 110, UPRIGHT, MEDIUM, 4148,
 FONT. : 162, 100, DEFAULT, PROP, 0, 110, ITALIC, MEDIUM, 4148,
 FONT. : 163, 100, DEFAULT, PROP, 0, 110, UPRIGHT, BOLD, 4148,
 FONT. : 173, 100, DEFAULT, PROP, 0, 110, UPRIGHT, LIGHT, 4148,
 FONT. : 175, 100, DEFAULT, PROP, 0, 110, UPRIGHT, MEDIUM, 4101,
 FONT. : 204, 98, DEFAULT, FIXED, 167, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 221, 98, DEFAULT, FIXED, 150, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 223, 98, DEFAULT, FIXED, 150, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 225, 98, DEFAULT, FIXED, 150, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 229, 98, DEFAULT, FIXED, 150, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 230, 98, DEFAULT, FIXED, 180, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 244, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 245, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, BOLD, 4099,
 FONT. : 252, 98, DEFAULT, FIXED, 171, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 253, 98, DEFAULT, FIXED, 171, 0, UPRIGHT, BOLD, 4099,
 FONT. : 254, 98, DEFAULT, FIXED, 220, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 258, 98, DEFAULT, FIXED, 180, 0, UPRIGHT, MEDIUM, 4099,
 FONT. : 266, 98, DEFAULT, FIXED, 100, 0, UPRIGHT, BOLD, 4099,
 FONT. : 281, 98, DEFAULT, FIXED, 233, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 289, 98, DEFAULT, FIXED, 267, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 290, 98, DEFAULT, FIXED, 300, 0, UPRIGHT, MEDIUM, 4102,
 FONT. : 751, 100, DEFAULT, PROP, 0, 80, UPRIGHT, MEDIUM, 4101,

FONT. : 1051, 100, DEFAULT,PROP, 0, 100, UPRIGHT,MEDIUM,4101,
 FONT. : 1053, 100, DEFAULT,PROP, 0, 100, UPRIGHT,BOLD, 4101,
 FONT. : 1056, 100, DEFAULT,PROP, 0, 100, ITALIC,MEDIUM,4101,
 FONT. : 1351, 100, DEFAULT,PROP, 0, 120, UPRIGHT,MEDIUM,4101,
 FONT. : 1653, 100, DEFAULT,PROP, 0, 160, UPRIGHT,BOLD, 4101,
 FONT. : 2103, 100, DEFAULT,PROP, 0, 240, UPRIGHT,BOLD, 4101,
 FONT. : 3840, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4101,
 FONT. : 3841, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4101,
 FONT. : 3842, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4101,
 FONT. : 3843, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4101,
 FONT. : 3844, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4113,
 FONT. : 3845, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4113,
 FONT. : 3846, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4113,
 FONT. : 3847, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4113,
 FONT. : 3848, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4116,
 FONT. : 3849, 100, DEFAULT,PROP, 0, 0, NONE, MEDIUM,4140, 1B
 28 73 34 53
 FONT. : 3850, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4148,
 FONT. : 3851, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4148,
 FONT. : 3852, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4148,
 FONT. : 3853, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4148,
 FONT. : 3854, 100, DEFAULT,PROP, 0, 0, NONE, MEDIUM,4148, 1B
 28 73 34 53
 FONT. : 3855, 100, DEFAULT,PROP, 0, 0, NONE, BOLD, 4148, 1B
 28 73 34 53
 FONT. : 3856, 100, DEFAULT,PROP, 0, 0, NONE, MEDIUM,4148, 1B
 28 73 35 53
 FONT. : 3857, 100, DEFAULT,PROP, 0, 0, NONE, BOLD, 4148, 1B
 28 73 35 53
 FONT. : 3858, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4168,
 FONT. : 3859, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4168,
 FONT. : 3860, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4168,
 FONT. : 3861, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4197,

FONT. : 3862, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4197,
 FONT. : 3863, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4197,
 FONT. : 3864, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4197,
 FONT. : 3865, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4297,
 FONT. : 3866, 100, DEFAULT,PROP, 0, 0, UPRIGHT,NONE, 4362, 1B 28 73 31 42
 FONT. : 3867, 100, DEFAULT,PROP, 0, 0, UPRIGHT,NONE, 4362, 1B 28 73 34 42
 FONT. : 3868, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,16602,
 FONT. : 3869, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 16602,
 FONT. : 3870, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,16602,
 FONT. : 3871, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 16602,
 FONT. : 3872, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,16901,
 FONT. : 3873, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 16901,
 FONT. : 3874, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,16901,
 FONT. : 3875, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 16901,
 FONT. : 3876, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,16686, 1B 28 31 39 4D
 FONT. : 3877, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,31402, 1B 28 35 37 39 4C
 FONT. : 5687, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,16901,
 FONT. : 5707, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 16901,
 FONT. : 5815, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,16901,
 FONT. : 5835, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 16901,
 FONT. : 6199, 100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4197,
 FONT. : 6219, 100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4197,
 FONT. : 6327, 100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4197,
 FONT. : 6347, 100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4197,
 FONT. : 16951,100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4101,
 FONT. : 16971,100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4101,
 FONT. : 17079,100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4101,
 FONT. : 17099,100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4101,
 FONT. : 33335,100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4113,
 FONT. : 33355,100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4113,
 FONT. : 33463,100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4113,
 FONT. : 33483,100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4113,
 FONT. : 33591,100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,16602,

FONT. : 33601,100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 16602,
 FONT. : 33719,100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,16602,
 FONT. : 33729,100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 16602,
 FONT. : 34103,100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4148,
 FONT. : 34123,100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4148,
 FONT. : 34231,100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4148,
 FONT. : 34251,100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4148,
 FONT. : 41783,100, DEFAULT,PROP, 0, 0, UPRIGHT,MEDIUM,4116,
 FONT. : 41803,100, DEFAULT,PROP, 0, 0, UPRIGHT,BOLD, 4116,
 FONT. : 41911,100, DEFAULT,PROP, 0, 0, ITALIC,MEDIUM,4116,
 FONT. : 41931,100, DEFAULT,PROP, 0, 0, ITALIC,BOLD, 4116,
 FONT. : 50000,100, PC942,PROP, 0, 144, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50001,100, PC942,PROP, 0, 144, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50002,100, PC942,PROP, 0, 120, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50003,100, PC942,PROP, 0, 108, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50004,100, PC942,PROP, 0, 96, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50005,100, PC942,PROP, 0, 96, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50006,100, PC942,PROP, 0, 80, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50007,100, PC942,PROP, 0, 101, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50008,100, PC942,PROP, 0, 101, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50009,100, PC942,PROP, 0, 84, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50
 FONT. : 50010,100, PC942,PROP, 0, 76, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50011,100, PC942,PROP, 0, 67, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50012,100, PC942,PROP, 0, 67, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50013,100, PC942,PROP, 0, 56, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50014,100, PC942,PROP, 0, 144, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50015,100, PC942,PROP, 0, 120, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50016,100, PC942,PROP, 0, 108, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50017,100, PC942,PROP, 0, 96, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50018,100, PC942,PROP, 0, 80, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50019,100, PC942,PROP, 0, 101, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50020,100, PC942,PROP, 0, 84, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50021,100, PC942,PROP, 0, 76, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50022,100, PC942,PROP, 0, 67, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50023,100, PC942,PROP, 0, 56, UPRIGHT,MEDIUM,28752, 1B
 28 31 39 4B 1B 26 74 33 31 50

FONT. : 50030,100, PC891,PROP, 0, 144, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50031,100, PC891,PROP, 0, 144, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50032,100, PC891,PROP, 0, 120, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50033,100, PC891,PROP, 0, 108, UPRIGHT,MEDIUM,43088, 1B

28 31 39 48 1B 26 74 33 38 50
 FONT. : 50034,100, PC891,PROP, 0, 96, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50035,100, PC891,PROP, 0, 96, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50036,100, PC891,PROP, 0, 80, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50037,100, PC891,PROP, 0, 101, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50038,100, PC891,PROP, 0, 101, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50039,100, PC891,PROP, 0, 84, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50040,100, PC891,PROP, 0, 76, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50041,100, PC891,PROP, 0, 67, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50042,100, PC891,PROP, 0, 67, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50043,100, PC891,PROP, 0, 56, UPRIGHT,MEDIUM,43088, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50044,100, PC891,PROP, 0, 144, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50045,100, PC891,PROP, 0, 120, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50046,100, PC891,PROP, 0, 108, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50047,100, PC891,PROP, 0, 96, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50048,100, PC891,PROP, 0, 80, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50
 FONT. : 50049,100, PC891,PROP, 0, 101, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50050,100, PC891,PROP, 0, 84, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50051,100, PC891,PROP, 0, 76, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50052,100, PC891,PROP, 0, 67, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50053,100, PC891,PROP, 0, 56, UPRIGHT,MEDIUM,41040, 1B
 28 31 39 48 1B 26 74 33 38 50

FONT. : 50060,100, PC904,PROP, 0, 144, UPRIGHT,MEDIUM,0,
 FONT. : 50061,100, PC904,PROP, 0, 144, UPRIGHT,MEDIUM,0,
 FONT. : 50062,100, PC904,PROP, 0, 120, UPRIGHT,MEDIUM,0,
 FONT. : 50063,100, PC904,PROP, 0, 108, UPRIGHT,MEDIUM,0,
 FONT. : 50064,100, PC904,PROP, 0, 96, UPRIGHT,MEDIUM,0,
 FONT. : 50065,100, PC904,PROP, 0, 96, UPRIGHT,MEDIUM,0,
 FONT. : 50066,100, PC904,PROP, 0, 80, UPRIGHT,MEDIUM,0,
 FONT. : 50067,100, PC904,PROP, 0, 101, UPRIGHT,MEDIUM,0,
 FONT. : 50068,100, PC904,PROP, 0, 101, UPRIGHT,MEDIUM,0,
 FONT. : 50069,100, PC904,PROP, 0, 84, UPRIGHT,MEDIUM,0,
 FONT. : 50070,100, PC904,PROP, 0, 76, UPRIGHT,MEDIUM,0,
 FONT. : 50071,100, PC904,PROP, 0, 67, UPRIGHT,MEDIUM,0,
 FONT. : 50072,100, PC904,PROP, 0, 67, UPRIGHT,MEDIUM,0,
 FONT. : 50073,100, PC904,PROP, 0, 56, UPRIGHT,MEDIUM,0,
 FONT. : 50074,100, PC904,PROP, 0, 144, UPRIGHT,MEDIUM,0,
 FONT. : 50075,100, PC904,PROP, 0, 120, UPRIGHT,MEDIUM,0,
 FONT. : 50076,100, PC904,PROP, 0, 108, UPRIGHT,MEDIUM,0,
 FONT. : 50077,100, PC904,PROP, 0, 96, UPRIGHT,MEDIUM,0,
 FONT. : 50078,100, PC904,PROP, 0, 80, UPRIGHT,MEDIUM,0,
 FONT. : 50079,100, PC904,PROP, 0, 101, UPRIGHT,MEDIUM,0,
 FONT. : 50080,100, PC904,PROP, 0, 84, UPRIGHT,MEDIUM,0,
 FONT. : 50081,100, PC904,PROP, 0, 76, UPRIGHT,MEDIUM,0,
 FONT. : 50082,100, PC904,PROP, 0, 67, UPRIGHT,MEDIUM,0,
 FONT. : 50083,100, PC904,PROP, 0, 56, UPRIGHT,MEDIUM,0,
 FONT. : 50100,100, PC903,PROP, 0, 144, UPRIGHT,MEDIUM,37058, 1B

28 31 38 43 1B 26 74 33 38 50
FONT. : 50101,100, PC903,PROP, 0, 144, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50102,100, PC903,PROP, 0, 120, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50103,100, PC903,PROP, 0, 108, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50104,100, PC903,PROP, 0, 96, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50105,100, PC903,PROP, 0, 96, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50106,100, PC903,PROP, 0, 80, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50107,100, PC903,PROP, 0, 101, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50108,100, PC903,PROP, 0, 101, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50109,100, PC903,PROP, 0, 84, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50110,100, PC903,PROP, 0, 76, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50111,100, PC903,PROP, 0, 67, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50112,100, PC903,PROP, 0, 67, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50113,100, PC903,PROP, 0, 56, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50114,100, PC903,PROP, 0, 144, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50115,100, PC903,PROP, 0, 120, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50
FONT. : 50116,100, PC903,PROP, 0, 108, UPRIGHT,MEDIUM,37058, 1B
28 31 38 43 1B 26 74 33 38 50

FONT. : 50117,100, PC903,PROP, 0, 96, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50

FONT. : 50118,100, PC903,PROP, 0, 80, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50

FONT. : 50119,100, PC903,PROP, 0, 101, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50

FONT. : 50120,100, PC903,PROP, 0, 84, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50

FONT. : 50121,100, PC903,PROP, 0, 76, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50

FONT. : 50122,100, PC903,PROP, 0, 67, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50

FONT. : 50123,100, PC903,PROP, 0, 56, UPRIGHT,MEDIUM,37058, 1B
 28 31 38 43 1B 26 74 33 38 50

FONT. : 50130,100, PC891,PROP, 0, 144, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50131,100, PC891,PROP, 0, 144, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50132,100, PC891,PROP, 0, 120, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50133,100, PC891,PROP, 0, 108, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50134,100, PC891,PROP, 0, 96, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50135,100, PC891,PROP, 0, 96, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50136,100, PC891,PROP, 0, 80, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50137,100, PC891,PROP, 0, 101, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50138,100, PC891,PROP, 0, 101, UPRIGHT,MEDIUM,43088, 1B
 28 31 38 48 1B 26 74 33 38 50

FONT. : 50139,100, PC891,PROP, 0, 84, UPRIGHT,MEDIUM,43088, 1B

```

28 31 38 48 1B 26 74 33 38 50
FONT. : 50140,100, PC891,PROP, 0, 76, UPRIGHT,MEDIUM,43088, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50141,100, PC891,PROP, 0, 67, UPRIGHT,MEDIUM,43088, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50142,100, PC891,PROP, 0, 67, UPRIGHT,MEDIUM,43088, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50143,100, PC891,PROP, 0, 56, UPRIGHT,MEDIUM,43088, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50144,100, PC891,PROP, 0, 144, UPRIGHT,MEDIUM,41040, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50145,100, PC891,PROP, 0, 120, UPRIGHT,MEDIUM,41040, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50146,100, PC891,PROP, 0, 108, UPRIGHT,MEDIUM,41040, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50147,100, PC891,PROP, 0, 96, UPRIGHT,MEDIUM,41040, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50148,100, PC891,PROP, 0, 80, UPRIGHT,MEDIUM,41040, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50149,100, PC891,PROP, 0, 101, UPRIGHT,MEDIUM,41040, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50150,100, PC891,PROP, 0, 84, UPRIGHT,MEDIUM,41040, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50151,100, PC891,PROP, 0, 76, UPRIGHT,MEDIUM,41040, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50152,100, PC891,PROP, 0, 67, UPRIGHT,MEDIUM,41040, 1B
28 31 38 48 1B 26 74 33 38 50
FONT. : 50153,100, PC891,PROP, 0, 56, UPRIGHT,MEDIUM,41040, 1B
28 31 38 48 1B 26 74 33 38 50

```

--- Email Menu

EMAIL_NOTIFICATION. : YES

REPLY_ADDRESS. :

PAPER_JAM_ADDRESS. :

OUT_OF_PAPER_ADDRESS. :

TONER_LOW_ADDRESS. :

NO_TONER_ADDRESS. :

PRINTER_OFFLINE_ADDRESS. :

Section 24 Glossary

- Active Directory** Active Directory - a structure supported by Windows 2000 that lets any object on a network be tracked and located. Active Directory is the directory service used in Windows 2000 Server and provides the foundation for Windows 2000 distributed networks.
- 3270DS** 3270 Data Stream is a control language used for the 3270 family of terminals and controllers. Also used for printing.
- AIX** Advanced Interactive eXecutive. A version of the UNIX operating system from IBM that runs on various IBM computers including Mainframe systems.
- APPC** Advanced Program-to-Program Communication. SNA facility (based on LU6.2 and PU2.1) for general purpose inter-program communications. Often used synonymously with LU6.2 but LU6.2 is the architecture and APPC is the programming interface.
- ARP** Address Resolution Protocol. A protocol within the TCP/IP suite of network protocols that allows a host to find the physical address of a node on the same network. It is available in UNIX, Windows 95, Windows 98 and Windows NT. ARP cannot be used across routers.
- ASCII** American Standard Code for Information Interchange, a plain text format used by computers.
- BOOTP** BOOT Protocol. A TCP/IP protocol, used for downloading start-up information such as the IP address to hosts on the network. It is only available in UNIX. BOOTP requires a BOOTP daemon on your system. A request made to an active BOOTP daemon initiates a search of the Boot Table for an entry matching the print server's Ethernet address. If a matching entry is found, the daemon downloads the IP address to the print server.

BSD Berkeley Software Distribution. The University of California, Berkeley additions to the UNIX operating system.

config file This is a file that resides in the print server's memory and contains all the parameters that determine the AXIS 5570e/AXIS 5670e functionality. By editing the config file (changing the parameter settings), you can configure the AXIS 5570e/AXIS 5670e to meet the printing needs of your network.

CPGID Code Page Global ID

DHCP Dynamic Host Configuration Protocol. DHCP is available in Windows NT, NetWare 5 and UNIX systems, and allows for the automatic but temporary assignment of IP addresses from a central pool. DHCP causes the selected host to automatically allocate and download an unused IP address to the requesting print server. It also provides validation data that defines how long the IP addresses will remain valid.

To fully benefit from this method, the AXIS 5570e/AXIS 5670e also supports the WINS host name resolution protocol, which is available in Windows NT networks.

DNS Domain Name Service. Reflects the server names and addresses within a network.

EBCDIC Extended Binary Coded Decimal Interchange Code. Coded 8-bit character set used by SNA and native IBM data streams.

FEP Front End Processor. Generic term for a specialized computer linked to a host machine to support a specialized function (e.g. communications). IBM 3705, 3720, 3725, and 3745 are communications FEPs.

- Flash Memory** The print server software is stored in Flash Memory. This memory is provided by a silicon chip that like any other ROM device, retains data content even after power is removed. However, Flash Memory is unique because it allows its data to be erased and re-written. This means that you can install software updates for your server as soon as they become available, without having to replace any parts. The new software is simply loaded into the server over the network.
- FTP** File Transfer Protocol. A TCP/IP protocol used for logging in to network servers and for transferring files.
- HPR** High Performance Routing. IBM implementation of APPN (Advanced Peer-to-Peer Networking). Includes pro-active congestion control and non-disruptive re-routing
- HTML** Hypertext Markup Language. A standard hypertext language used for creating World Wide Web pages and other hypertext documents.
- HTTP** Hypertext Transfer Protocol. The TCP/IP protocol for Web based communication.
- IBM** International Business Machines Corp.
- IP** Internet Protocol. The TCP/IP session-layer protocol that regulates packet forwarding by tracking IP addresses, routing outgoing messages and recognizing incoming messages.
- IPDS** Intelligent Printer Data Stream. An IBM protocol for data sent to page printers. A page description language analogous to PostScript.
- LED** Light Emitting Diode.

- Logical Printer A logical printer acts as a filter between the network and the physical printer. It appears to the user as a normal printer with additional characteristics. For example a UNIX workstation may only send a line feed (LF) to a shared printer that needs carriage return (CR) and LF. The logical printer can solve this problem by adding a CR.

- LPD Line Printer Daemon protocol. A print server protocol widely used on the Internet.

- LPR Line PRinter. The Unix print command. This does not actually print files but rather copies or links them to a spool area from where a daemon copies them to the printer.

- LU Logical Unit. The user's port into an SNA network. LU1 is a high performance print stream. LU2 is a 3270 terminal data stream. LU3 is a 3270 print data stream. LU6 is a host-to-host data exchange stream. LU7 is the 5250 terminal data stream.

- LU6.2 IBM Peer-to-peer data stream for NOS functions. Supports asynchronous (store-and-forward) networking.

- MIB Management Information Base. A database of network configuration information used by SNMP and CMIP to monitor or change network settings.

- NAU Network Adressable Unit. Entities within an SNA network (SSCP, PU, LU) that can send or receive requests and responses. An SNA network is made up of NAUs and the underlying path control network.

- NCP NetWare Core Protocol. Network clients use the NCP to request services of servers, and servers use NCP to provide services, such as file and print services.

- NCP(2) Network Control Program. SNA program resident in the FEP. NCP off-loads certain line protocol and routing functions from the host CPU.
- NDS NetWare Directory Services. A hierarchical data base that manages NetWare network resources such as servers and volumes.
- PPR/PPD Page Printer Requester/Page Printer Daemon. Bidirectional IBM proprietary TCP/IP application protocol. Supported on AS/400s and Mainframes for transporting IPDS printer data over TCP/IP. This is not an open standard.
- PU Physical Unit type within SNA. The software in an SNA node controlling the node's communications hardware.
- PU2.1 SNA PU type 2.1 allows local user ports to communicate without going through a host node's SSCP services. RARP
Reverse Address Resolution Protocol. A TCP/IP protocol used for downloading IP addresses in UNIX networks. It requires a RARP daemon on your system, and only operates within a single network segment. A request made to an active RARP daemon initiates a search of the Ethernet Address Table for an entry matching the print server's Ethernet address. If a matching entry is found, the daemon downloads the IP address to the print server.
- RISC Reduced Instruction Set Computing. A processor that recognizes only a limited number of assembly-language instructions.
- SAP Service Advertising Protocol. A NetWare network name advertising service that e.g. file servers can use for advertising their existence to network clients.
- SAP(2) Service Access Point. Field defined by the IEEE 802.2 specification that is part of an address specification. Thus, the destination plus the DSAP define the recipient of a packet. The same applies to the SSAP

- SCS SNA Character String. A sequence of control commands that allows sophisticated control of printers and other devices.
- SNA Systems Network Architecture. IBM's data communications architecture defining levels of protocols for communications between terminals and applications as well as between programs. Originally SNA was strictly host-based with VTAM controlling the network except for path control which was provided by NCP in the FEP. Recently, with the APPN/APPC and HPR additions SNA has become more distributed.
- SNMP Simple Network Management Protocol. A TCP/IP protocol for managing and monitoring nodes on a network.
- SSCP System Services Control Point. SNA software within VTAM which handles network name/address conversion, device configuration, network diagnostics and recovery. The SSCP is a NAU located on a host node in the network.
- TCP Transmission Control Protocol. The connection-oriented, transport-level protocol used in the TCP/IP suite of protocols.
- TFTP Trivial File Transport Protocol. A simpler version of the FTP protocol that is used by the print server for the automatic downloading of config files.
- TN3270E Extension to the Telnet protocol for transporting 3270 terminal and print data over TCP/IP.
- TN5250E Extension to the Telnet protocol for transporting 5250 terminal and print data over TCP/IP.
- UNIX A 32-bit multi-tasking, multi-user operating system originally developed by AT&T.

- URL Uniform Resource Locator. A way of specifying the location of publicly available information on the Internet.
- VPDI Virtual Printer Driver Interface
- VTAM Virtual Telecommunications Access Method. Mainframe software that performs network control and management. VTAM's most important objective is to provide the SSCP services.
- WINS Windows Internet Name Service. A NetBIOS Name Server that maps NetBIOS names to dynamically assigned IP addresses.
- Wizard A special form of user assistance that automates a task through a dialog with the user. Wizards help the user to accomplish tasks that are complex and require experience.

Index

Numerics

3270DS 362

A

Account file 194, 195

Active Directory 362

Admin 181

AIX 362

APPC 362

AppleTalk 159

Approvals 294

AS/400 35

ASCII 362

ASCII to Postscript Conversion 225

Autodetect 160

Auto-Detect Printer Type 162

AutoIP 25, 206

AutoIP address structure 25

Axinstall 173

AXIS IPP Gateway Configuration 143

AXIS LPR Gateway Configuration 143

AXIS MIB 200

AXIS Print Monitor 114

AXIS Product CD 18

AXIS ThinWizard

 Installing 189

B

Backside label 17

Bar Codes 251

Bar codes 252

Basic setup

 AXIS NetPilot 149

BCP and TBCP 162

Bi-directional Printing 229

Bin

 Default Input 273

Binary Protocol for Printer 162

BSD 363

C

Certificates 231

 Delete 235

 Import 234

 View 235

Character Set Conversion 221

Checking SSL/TLS Status 235

Color 272

Concentrator gateway, general 248

Concentrator gateway, Microsoft 249

Concentrator gateway, NetWare 248

config file 180, 295, 363

Configuration and Management 18

Configuration methods

 FTP 192

 NetWare Administrator 156, 201

 PCONSOLE 156, 201

 SNMP 199

 Telnet 195

 Web browser 182

Configuration Mode 251

Configuring

 AS/400 48

 IBM Mainframes 61

Configuration Wizard 46, 68

Conversions 221, 222, 225

Copier Model 286

Copiers 292

CPI 255

Creating a Network Group 190

D

DBCS 279

 Font Types 283

DDNS 33

Debugging 229

- Hex Dump Mode 229
- Print Problems 229
- Default Input Bin 273
- Delete Certificate 235
- Device Features 282
- DEVICE Statement 93
- DHCP Enabled parameter 25
- Digital Copier printing 287
- Digital Copier Support 286
- Dimensions 293
- Disabling Protocols 234
- DNS 363
- DSPU 247
- Duplex 272
- Dynamic IP address Assignment 25

E

- EBCDIC 363
- Enable/disable SNMP 189
- Enabling Protocols 234
- Enabling SSL 231
- Environmental 293
- Ethernet Address 32

F

- Factory Default 188
- Factory default settings 288
- FEP 363
- Firmware
 - Upgrade 188
- Firmware Upgrade 292
- Flash Loading over the Web 230, 236
- Flash Memory 364
- Font
 - Smoothing 274
- Font Selection 251
- Fonts
 - Scalable 278

- Selection 252
- Typographical 278
- Width 278
- Front Panel 293
- FSS Statement 89
- FSSDEF Statement 92
- FTP 192, 364
- FTP_ENB 189

H

- Hardware
 - 293
- Hardware Inventory 14
- Hex Dump Mode 229
- Hex Transparency 252
- Host Name 33
- HPR 364
- HTML 364
- HTTP 364
- HTTPS 234

I

- IBM Capabilities 290
- IBM Font Selection 255
- IBM SNA 59
- Importing a Certificate 234
- Indicators 17, 18
- Installation guide 22
- Installation Summary 23
- Installing AXIS ThinWizard 189
- Internet Address 150
- IP 364
- IP Address
 - Automatic Assignment Methods 24
 - Manual Assignment Methods 24
 - Setting - Macintosh 163
 - Setting, using AutoIP 25
- IPDS 364

IPP

Client 209

Printing Requirements 208

iPrint 123

L

Last Code Point 282

LLC 247

Local Printer 110

Logical Printer 365

Logical Printers 220, 291

Logon-mode Entry 63

LPD 177, 365

LPR 365

LU 365

LU6.2 365

M

Macintosh

Choosing a Printer 160

Installing the Print Server 159

MIB 365

Microsoft SNA 249

Mounting the AXIS 5570e 21

N

NAU 365

NCP 365

NCP(2) 366

NDPS 123, 124

NDS 151, 366

NetWare

Advanced installation 150

Basic installation 149

NDPS 124, 209, 210

NetWare Packet Signature 230

NetWare printing modes

Print Server Mode 155

- Remote Printer Mode 155
- NetWare SAA 248
- Network
 - Indicator 17
 - Printer 110
 - Speed 230
- Network Connection 292
- Network Connector 17
- Network Group
 - Create 190
- Network Indicator 17

P

- Paper Size
 - Physical 273
- Parameter List 187, 295
- Pass-through gateway 247
- password 182
- Point size 278
- Ports 17
- Power
 - Indicator 18
- Power Consumption 293
- PPR/PPD 366
- Print Jobs
 - Redirect 227
- Print Problems
 - Debugging 229
- Print Server Management 292
- Printer
 - Autodetect 160
 - Ports 17
- Printer Connection 293
- Printer Driver 46, 68
- Printer Emulation 46, 68
- Printing
 - Bi-directional 229
 - Parameter list 288

- Test page 288
- Protocols
 - Disable 234
 - Enable 234
- Protocols and Datastreams 15
- PRTnnnn Statement 89
- PU 366
- PU2.1 366
- Pure IP 153

Q

- Queue-based printing 123

R

- Redirecting Print Jobs 227
- Restart 187
- RISC 366

S

- SAP 366
- SAP(2) 366
- SBCS 283
- SCS 367
- SDLC 247
- Secure Management 18
- Secure Web Services 231
- Security 292
- Security Settings 187
- Setting the Internet address
 - BOOTP 30
 - DHCP 32
 - RARP 29
- Setting up
 - IBM SNA 35, 59
 - Macintosh 158
 - NetWare 123
 - UNIX 165
 - Windows 101

- SNA 367
- SNA Printing
 - 3174 CU Mode 48
 - 5494 CU Mode 36, 60
- Snap-in for iPrint 143
- SNMP 199, 367
- SSCP 367
- SSL 231
- SSL/TLS
 - Status 235
- Starting AXIS ThinWizard 189
- Status file 194, 197
- String Functions 222
- String Substitutions 223, 251
- Substitutions 223
- Supported Printers 18, 290
- Supported Protocols 291
- Supported systems 291
- Supported web browsers 291
- Switched major node definitions 64

T

- TCP 367
- Technical Specifications 286, 290
- Test Button 17
- Test button 288
- Test page 20
- TFTP 30, 32, 367
- TLS 231
- TN3270E 367
- TN3270E Printing 70
- TN5250E 367
- TN5250E Printing 48

U

- UNIX 367
- UNIX/Linux Printing Methods
 - FTP 177

- LPD 177
- PROS A 178
- PROS B 178
- Reverse Telnet 178
- Upgrading 236
- URL 368
- User 181, 182
- User Defined Strings 251

V

- View Certificate 235
- VTAM 368
- VTAM Logon-mode entry 63

W

- Web Flash Loading 230
- WINS 32, 33
- Wizard 368
- World Wide Web 265