AXIS OfficeBasic USB

User's Manual

Safety Notices Take some time to read through the safety notices before installing the print server. Please observe all safety markings and instructions when using this product.

Important: Observe "Important:" in the text to avoid operational impairment. Do not proceed until you have fully understood the implications.

Electromagnetic Compatibility (EMC)

USA This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient or relocate the receiving antenna

- increase the separation between the equipment and receiver

- connect the equipment into an outlet on a circuit different from that to which the receiver is connected

- consult the dealer or an experienced radio/TV technician for help. Shielded (STP) network cables must be used with this unit to ensure compliance with the class B limits..

Europe This digital equipment fulfils the requirements for radiated emission according to limit B of EN55022, and the requirements for immunity according to EN55024 residential, commercial, and light industry. Compliance is not valid for unshielded network cables.

Japan This is a class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual. Compliance is not valid for unshielded network cables.

Australia This electronic device meets the requirements of the Radio communications (Electromagnetic Compatibility) Standard 1998 AS/NZS 3548. Compliance is not valid for unshielded network cables.

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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. If you are connected to the Internet, you can find on-line manuals, technical support, software updates, application software, corporate information, etc. at http://www.axis.com/techsup/

Patent information Axis AB has intellectual property rights relating to technology embodied in the product that is described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the patents listed at http://www.axis.com/patent.htm and one or more additional patents or pending patent applications in the US and other countries.

Software Acknowledgments This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit.

USERS MANUAL AXIS OB USB	Part No: 20426
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Table of Contents

Section 1   Introduction

Thank you for purchasing the AXIS OfficeBasic USB. This product has been developed to connect your printers anywhere in your network, allowing all network users access to shared printer resources.

About this Manual

This manual is applicable for an AXIS OfficeBasic USB with firmware version 6.40 or later, providing introductory information as well as detailed instructions on how to set up and manage the print server in various network environments. It is intended for everyone involved in installing and managing the print server. To fully benefit from this manual, you should be familiar with basic networking principles.

These instructions are based on the settings in a **new** and **unconfigured** print server. To reload the default parameters, you can perform a Factory Default, which will restore most of the settings. See *"Factory Default"* on page 49.

About Axis

Axis develops solutions for user-friendly and secure communication over wired and wireless networks. The company is a worldwide market leader in network connectivity, with products for the office, facility and industrial environments. More information about Axis can be found at www.axis.com

Support Services

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

If you are connected to the Internet, you can:

- Download user documentation and firmware updates
- Find answers to previously resolved problems in the FAQ database. Search by product, category or phrase
- Report problems to Axis support staff by logging in to your private support area
- Visit the Axis support Web at www.axis.com

Supported Environments

Network Printing • Windows
  • Macintosh

Section 2   Product Overview

Package Contents

Verify that nothing is missing from the AXIS OfficeBasic USB package by using the check list below. Please contact your dealer if anything is missing or damaged. All packing materials are recyclable.

AXIS OfficeBasic USB

Hardware	Model	Part Number
Network Print Server	AXIS OfficeBasic USB print server	0171-001
Adhesive Holder & Clip	ACC CLIPS K	20119
USB Cable	Length: 70 cm, 28 inches	20208

	Model	PS-H Part No.
	Australia	19111
	Europe	19108
Power Adapter	Korea	19112
	UK	19109
	USA / Japan	19110

Media	Title	Part Number
CD	AXIS Network Product CD	rev 1.3 and up
Printed Material	AXIS OfficeBasic USB User's Guide	20144

Ensure that the print server's Power Adapter is marked with the correct voltage! Refer to the tables above for details.

AXIS Network Product CD

The AXIS Network Product CD provides an easy-to-use electronic catalog, that includes Axis software, firmware and user documentation. It also contains free Adobe Acrobat Reader software.

Start-up Procedures for Windows
If your computer is configured to autostart CDs, the AXIS Network Product CD will start automatically when inserted into a local CD drive on Windows 98, Me, NT, 2000 and XP platforms. You can also navigate to the CD root directory and start the *index.htm* file from within the Windows file manager.

Start-up Procedures for Mac OS
Using your preferred file manager application, navigate to the CD root directory and click *index.htm*

Physical Description

AXIS OfficeBasic USB
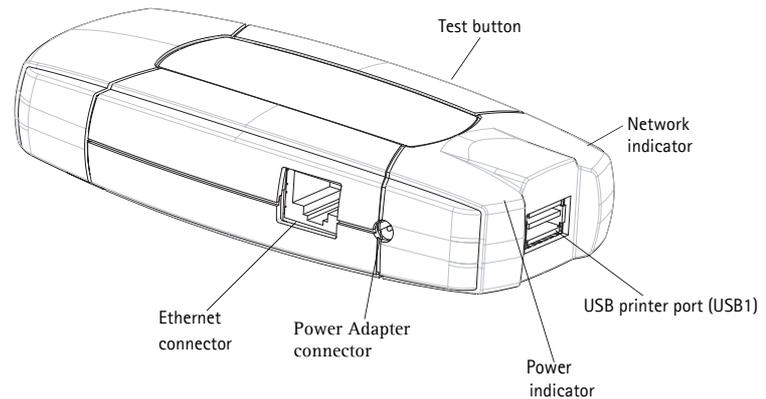
Backside of print server
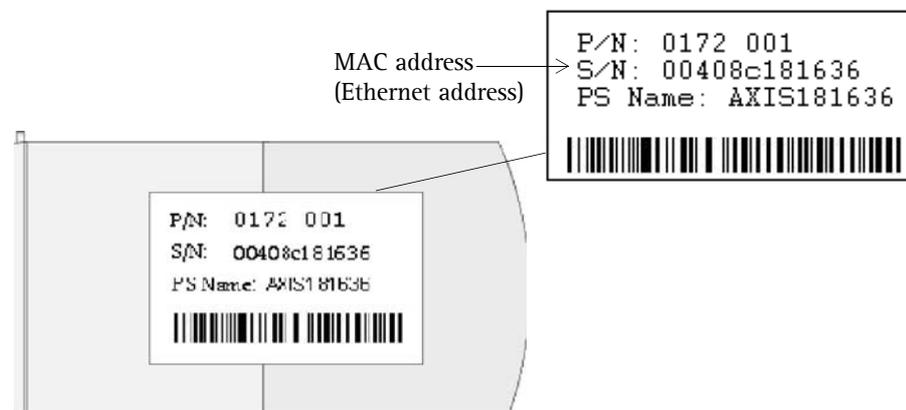
Network Connector   AXIS OfficeBasic USBs are designed for 10 Mbps or 100 Mbps Ethernet networks and connect to the network via a twisted pair category 5 cable (10baseT and 100baseTX) or better.

Printer Ports   AXIS OfficeBasic USB is USB 1.1 low and full speed compliant. Sucessfully tested with USB 2.0 printers.

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 most of the parameters and settings to factory default values

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.

Mounting the Print Server

Using the supplied clips, your AXIS OfficeBasic USB can be mounted in many ways, e.g. on the back of the printer, on the side of the printer or on a wall. It can be placed behind the printer or next to a hub.

Adhesive Holder   Fasten to mounting surface with screw or by peeling off adhesive tape.

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

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

Adhesive Holder
Fasten to mounting
surface by peeling off
adhesive tape.
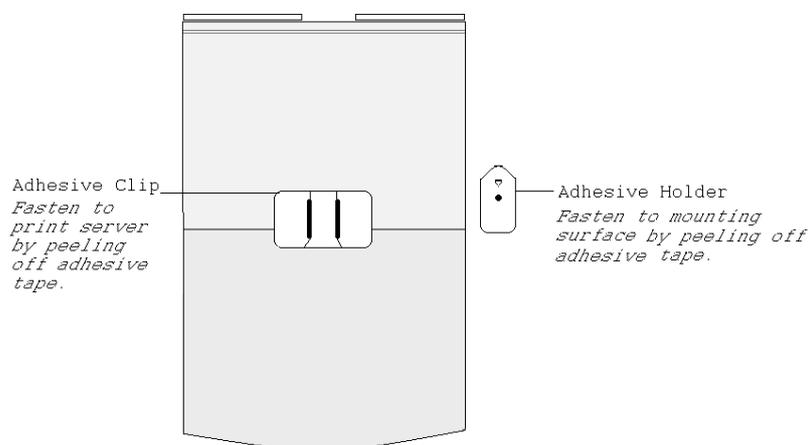
Installation Methods

Installation and Integration Refer to the table below to select the appropriate installation method. All Axis client software is available on the AXIS Network Product CD or from Axis' Web site.

Environment	Method/ Client Software	Description
Windows	AXIS IP JumpStarter	Used for setting the IP address of the print server in Windows 98/NT/Me/2000/XP
	Standard Windows Add Printer Wizard	Used for adding network printers to your computer in Windows 2000/XP/NT
	AXIS Print Monitor	Used for adding network printers to your computer in Windows 98/Me
Macintosh	Macintosh standard methods in native/classic mode	Used for installing network printers in Macintosh

Configuration and Management The print server can be configured and managed from its internal Web pages, using HTTP. These Web pages offer you a platform independent management tool that is suitable for all supported network environments. See *Using a Web Browser for Print Server Management*, on page 35 for details.

Features and Benefits

Reliability	The print server provides high performance and reliability combined with low power consumption. The electronic circuits are based on the AXIS ETRAX 100 LX chip, which comprises an integrated 32 bit RISC processor and associated network controllers.
Flexibility	The print server supports printing in all major computer systems and environments, including five different print methods in the TCP/IP environment.
Speed	The AXIS ETRAX 100 LX chip has been specifically designed for LAN products and benefits users with a faster throughput than a direct PC-to-printer connection.
Easy to Install	The print server installs, operates and is managed in a reliable and easy fashion.
Security	You can assign passwords to restrict login and printer access.
Monitoring	The internal print server Web pages allow you to continuously monitor printer status. The Web pages are used to monitor single Axis print servers.
Future Proof	The firmware stored in the print server Flash memory can be upgraded over the network. This allows you to quickly update and enhance its operational features when new print server software becomes available.

Section 3   Basic Installation

Connecting the Hardware
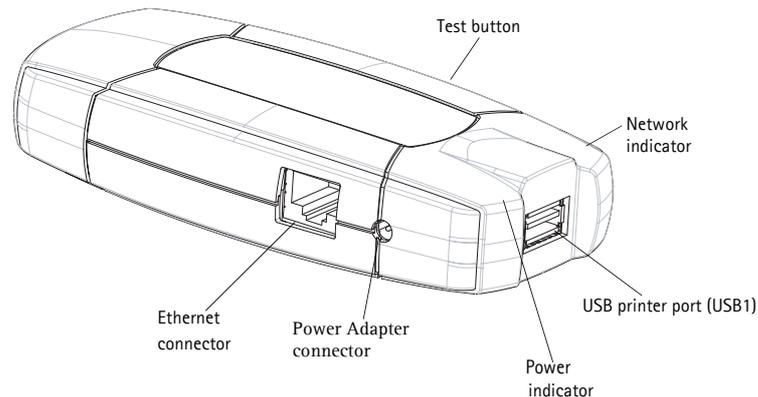
1. Make sure that your printer is switched <u>off</u> and that the print server's Power Adapter is <u>disconnected</u>.

2. Locate the **serial number**, found on the underside label of the print server, and write it down. You will need this number to configure the print server. **Example**: S/N: 00408c181cf0

3. Connect the printer to the USB port using the USB cable.

4. Connect the print server to the network using a twisted pair category 5 cable, 10baseT or 100baseTX.

5. Switch on the printer and make sure it is ready for use.

6. Connect the Power Adapter to the print server. The power indicator will light up. When the network indicator starts to flash, the print server is correctly connected to the network.

7. Wait 1 minute. Press the test button on the print server once to print a test page. The test page includes a list of the most important parameters.

Assigning an IP Address to the Print Server

Before you Start
- **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 you printed earlier.
- **If you are not working in a DHCP network,** you need to set the IP address of the print server manually.

System Privileges
You need root privileges on your Mac OS X system, or administrator privileges on a Windows NT server to:
- set the IP address using RARP, DHCP
- add an entry to the ARP table with the command 'arp -s'

Ethernet Address
You need to know the Ethernet address of your AXIS OfficeBasic USB in order to assign an IP address to it. The Ethernet address is based upon the serial number of your print server. This means, for example, that an AXIS OfficeBasic USB with the serial number of 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
Unless you are assigning an IP address using DHCP or AutoIP, 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 OfficeBasic USB. Consult your network administrator before assigning an IP address to your print server.

Methods for Setting the IP Address

You can set the IP address of your AXIS OfficeBasic USB using one of the following methods, depending on your network operating environment:

Automatic IP Address Assignment

Method	Server required	Comment
DHCP	DHCP server	Dynamic assignment of IP addresses. See *"Set the IP Address using DHCP"* on page 16
AutoIP	Windows environment	Automatic assignment of IP addresses. See *"Set the IP Address using AutoIP"* on page 16

Manual IP Address Assignment

Method	Platform	Comment
arp/ping	Windows	Requires the IP address for each device to be downloaded individually. Cannot be used over routers. See *"Set the IP Address using ARP in Windows 98/NT/Me/2000/XP"* on page 17
	Mac OS X	Requires the IP address for each device to be downloaded individually. Cannot be used over routers. See *"Set the IP Address using ARP in Mac OS X"* on page 17
AXIS IP Jump-Starter	Windows	Axis software that allows you to find print servers in your network and assign an IP address to them. This method is recommended for small offices and local networks. See *"Set the IP Address using AXIS IP JumpStarter"* on page 18

Notes:

- The ability to set the IP address with ARP and PING will only be enabled the first 4 minutes after restarting the print server.
- Refer to *"Setting Parameters"* on page 32 for information about setting the IP address in the Macintosh environment.

Registering and Resolving Host Names

In order to register the host name of the AXIS OfficeBasic USB in networks with dynamic IP address settings, WINS (Windows Internet Name Service) and DDNS (Dynamic Domain Name System) are supported. It is recommended that at least one of these methods should be used if you are setting the IP address of the print server using DHCP.

The host name of the AXIS OfficeBasic USB is specified by the PS_NAME. parameter. Refer to the *"The Parameter List"* on page 52.

WINS Host Name Rules

WINS only supports 15 character long host names. If your host name is longer than 15 characters, the AXIS OfficeBasic USB truncates the host name to 15 characters when registering with a WINS server. You can view the AXIS OfficeBasic USB host name that is registered at a WINS server in the print server's Web interface. Refer to *"Print Server Management Methods"* on page 34.

DDNS Host Name Rules	DDNS supports 47 character long host names and can only consist of the characters 'A-Z', 'a-z', '0-9' and '-'. If your host name consists of any other characters, they are converted to '-' when registering with a DDNS server. You can view which host name that is registered at a DDNS server in the print server's Web interface. Refer to *"Print Server Management Methods"* on page 34.

If the host name matches another entry in the DDNS data base, the print server deletes that entry before registering. |

Notes:

> - The default host name of the AXIS OfficeBasic USB is 'AXIS' followed by the last 6 digits in the serial number. e.g. AXIS181636. The host name (Print server name) can be changed in the PS_NAME. field on the **Admin** | **General Settings** page.
>
> - 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', '0-9' and '-'.
>
> - Refer to your system manuals or to your network administrator for instructions on how host name resolutions are performed on your system.

Set the IP Address using 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) or DDNS server IP address(es)
   - lease duration

2. Activate the scope. The print server automatically downloads the DHCP parameters. If you are using WINS or DDNS, you should include at least one WINS or DNS server IP address in the DHCP scope. Immediately after the IP address has been received, the print server registers its host name and IP address on the WINS alternatively DNS server. Refer to *"Registering and Resolving Host Names"* on page 15 for more information. The print server 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 print server receives its IP address.

3. You have now successfully set the IP address of your print server. Continue to *"Adding a Network Printer to your workstation"* on page 19.

Note:

> You have to restart the print server to download the IP address.

Set the IP Address using AutoIP

AutoIP sets the IP address automatically in the absence of a DHCP server in Windows Me, 2000 and XP. If you have a DHCP server running on your network, the print server will receive an IP address immediately after

you have connected it to the network. In the absence of a DHCP server, your print server will automatically be assigned an IP address through integrated AutoIP. The AutoIP address structure is: **169.254.xxx.xxx.**

The AutoIP function will only work when DHCP is enabled in your print server. This function is enabled automatically upon installation of a brand new print server.

The easiest way to make sure DHCP and AutoIP are enabled is to reset your print server (to Factory Default). See *"The Test Button"* on page 49 for instruction on how to do this.

If you perform a Factory Default 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.

Set the IP Address using ARP in Windows 98/NT/ Me/2000/XP

Open a Command Prompt and enter the following commands:

	Syntax	*Example*
1.	arp –s <IP address> <Ethernet address>	arp –s 192.168.3.191 00–40–8c–10–00–86
2.	ping <IP address>	ping 192.168.3.191
3.	arp –d <IP address>	arp –d 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. Log in to the print server's Web pages (see *Using a Web Browser for Print Server Management*, on page 35), select **Admin | Network Settings | Detailed View | TCP/IP** and define **Default Router** and **Subnet Mask.**

You have now set the IP address of the print server. Continue to *"Adding a Network Printer to your workstation"* on page 19.

Note:

- When you execute the ping command for the first time, you will experience a significantly longer response time than is usual.

- The ability to set the IP address with ARP and PING will only be enabled the first 4 minutes after restarting the print server.

- By using the arp -d command, the static entry in the arp table is removed from the host's cache memory.

Set the IP Address using ARP in Mac OS X

1. Open a Terminal and enter the following commands:

	Syntax	*Example*
1.	arp –s <IP address> <Ethernet address>	arp –s 192.168.3.191 00:40:8c:10:00:86
2.	ping <IP address>	ping 192.168.3.191
3.	arp –d <IP address>	arp –d 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. Log in to the print server's Web pages (see *Using a Web Browser for Print Server Management*, on page 35), select **Admin | Network Settings | Detailed View | TCP/IP** and define **Default Router** and **Subnet Mask.**

You have now successfully set the IP address of the print server. Continue to *"Adding a Network Printer to your workstation"* on page 19.

Notes:

> • If the host name has not been mapped to an IP address, simply replace the host name entry with the IP address.
>
> • When you execute the `ping` command for the first time, you may experience a significantly longer response time than is usual.
>
> • The ability to set the IP address with ARP and PING will only be enabled the first 4 minutes after restarting the print server

Set the IP Address using AXIS IP JumpStarter

AXIS IP JumpStarter is an application that allows you to assign IP addresses to your Axis servers and find IP addresses already assigned to Axis servers.

1. Download and install AXIS IP JumpStarter. AXIS IP JumpStarter is available on the AXIS Network Product CD and from the Axis Web site.

2. Select a print server from the serial number list:
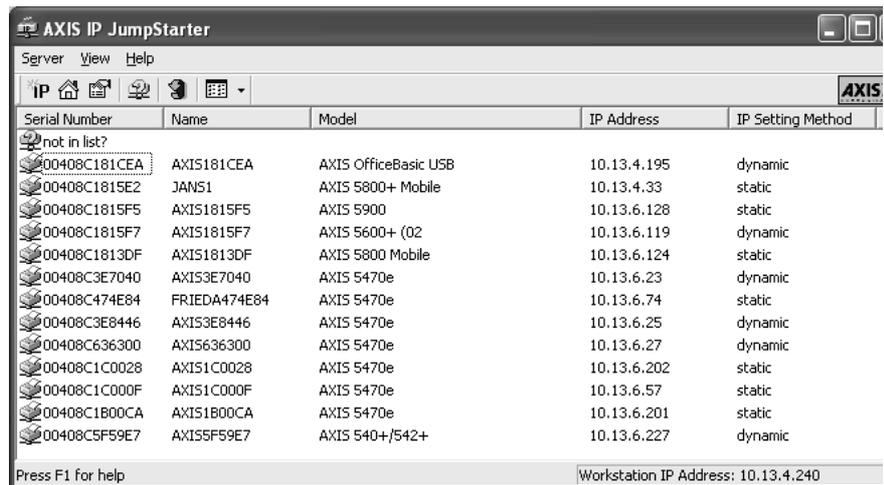
3. From the **Server** menu, select **Set IP Address**. The **Set IP Address** dialog appears.

4. Click the radio button that corresponds to your choice of IP setting method (static or dynamic using DHCP). When assigning a static IP address you also have to define **Subnet Mask** and **Default Gateway**.

5. Click **OK** to save your settings.

6. Enter the server root password (by default set to **pass**), click **OK** and the print server will appear in the list with the assigned IP address.

7. To verify that you have access to the print server's Web pages, highlight the print server in the list and select **Server Home Page** from the **Server** menu.

8. You have now finished the procedure of setting the IP address. Continue to *"Adding a Network Printer to your workstation"* on page 19.

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

Adding a Network Printer to your workstation

Configuration Methods Once you have set the IP address of your print server, your network printer can be added to any computer on your network. The method that you choose should be dictated by your printing requirements and your supported network environments. Select the appropriate method from the table below:

Operating system	Printing Protocol	See...
Windows	TCP/IP	*"Adding Printers in Windows"* on page 20
	NetBIOS/NetBEUI	
Macintosh	AppleTalk	*"Adding Printers in Macintosh"* on page 29

Section 4 Adding Printers in Windows

Overview of Installation Methods

This section describes how to add network printers to a computer in Windows. Refer to the table below to determine the most appropriate installation method according to your computer environment:

Windows Platform	Printing Protocol	Method	See...
Windows 2000, XP	TCP/IP	Standard Windows Add Printer Wizard	*"Adding Printers in Windows 2000 and XP over TCP/IP" on page 21*
		Microsoft LPR Monitor	*"Method for LPR Printing" on page 22*
Windows 2000	**NetBIOS/NetBEUI**	AXIS Print Monitor	*Adding NetBIOS/NetBEUI Printers in Windows 2000 using AXIS Print Monitor, on page 23*
Windows NT 4	TCP/IP	Microsoft LPR Monitor	*"Adding Printers in Windows NT 4 Using the Microsoft LPR Monitor" on page 23*
	NetBIOS/NetBEUI	AXIS Print Monitor	*"Adding NetBIOS/NetBEUI Printers in Windows NT 4 using AXIS Print Monitor" on page 25*
Windows 98/Me	Raw TCP	AXIS Print Monitor	*"Adding Printers in Windows 98 and Me over TCP/IP using AXIS Print Monitor" on page 26*
	NetBIOS/NetBEUI		*"Adding Printers in Windows 98 and Me over NetBIOS/NetBEUI using AXIS Print Monitor" on page 28*

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.

Adding Printers in Windows 2000 and XP over TCP/IP

Follow the instructions below to use the standard Windows method for adding a network printer in Windows NT, 2000 and 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:

Peer-to-Peer Printing
3. **Local printer** - when you are connecting directly to the print server, select **Local Printer** and click **Next.** 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 name of the print server (Example: AXIS100086 or the IP address) and click **Next**. Enter the **Device Port** you want to use: USB1. Click **Next** and **Finish**.

5. Select **Manufacturer** and **Printer** from the lists. Click **Next**. 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. Click **Next**.
Supply a name for the printer and choose whether you want to make it your default printer. Click **Next**.

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

Important!

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

If the USB port option does not appear:

If the USB port option does not appear when adding printers in Windows 2000 and XP, follow these instructions to emulate a USB port:

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 **Local Printer** radio button and click **Next**. 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.**

3. Enter the name of the print server (Example: AXIS100086 or the IP address) and click **Next.** Enter the **Device Port** you want to use: choose LPT1

   Select **Manufacturer and Printer** from the lists. Click **Next**. 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. Click **Next**.

   Supply a name for the printer and choose whether you want to make it your default printer. Click **Next.**

   Choose whether you want to share the printer with other network users. Click **Next** and **Finish**.

4. Go to **Start** | **(Settings)** | **Printers (and Faxes)** and highlight your newly installed printer. Right-click and choose **Properties.** Choose the **Ports** tab (make sure your printer is highlighted) and then **Configure Port…** Under **Protocol**, click the **Raw** radio button and then define the printer port under **Raw Settings – Port Number** as follows: 9100.

   Click **OK** and close the window. Print a test page to verify your installation.

Method for LPR Printing

If you wish to print over LPR but do not wish to install **Print Services for Unix** you can change the printing protocol after having installed the printer using the Standard TCP/IP method, see *"Adding Printers in Windows 2000 and XP over TCP/IP"* on page 21 for instructions.

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 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** and 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> AX100086.US1. The port is US1.

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 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**: USB1. Click **OK** and then **Close**.

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.

Adding NetBIOS/NetBEUI Printers 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. To start the Add Printer Wizard, select **Settings** | **Printers** from the **Start** menu and double-click the **Add Printer** icon.

2. The Wizard asks you to select **My Computer** or **Network printer server**. Select **My Computer**, click **Next**.

3. Click **Add Port...** In the Available Ports dialog, select **AXIS Port** and click **New Port...**

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.US1). The <port> is US1. Click **OK**.

6. Close the Printer Ports window.

7. 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**.

8. Choose the appropriate printer driver for your printer. Click **Next** and proceed directly to step 11. It is only necessary to perform steps 9 - 10 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.

9. 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**.

10. Select the printer driver you want to install and click **Next**.

11. Enter an appropriate name for your printer and click **Next**.

12. Choose whether you want to share the printer with other network users and click **Next**.

13. 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

AXIS Print Monitor   AXIS Print Monitor is the recommended tool to use for network printing in Windows 98 and Me environments. AXIS Print Monitor is available on the AXIS Network Product CD and from the Axis Web site.

AXIS Print Monitor Overview   AXIS Print Monitor allows a print server 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 NetBIOS/NetBEUI and TCP/IP (LPR and Raw TCP). 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 TCP/IP Printers in Windows 98/Me 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 between **Local Printer** and **Network Printer.** You must select **Local Printer** and click **Next**.

3. 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 6. It is only necessary to perform steps 4 - 5 if your printer does not feature in the model list.

4. Click the **Have Disk...** button. Insert the printer driver diskette/CD into the appropriate disk drive of your computer. If the floppy disk drive is A:, then click OK, otherwise type the letter of your disk drive and then click **OK**.

5. Select the type of printer you want to install from the diskette/CD and click **Next**.

6. Select the **Printers@TCP/IP** Port and click **Next**.

7. Enter an appropriate name for your printer and choose whether you want it to be the default printer. Click **Next**.

8. In the next window, do <u>not</u> order a Test Page to be written, just click **Finish**.

9. AXIS Print Monitor now informs you that the printer has to be connected to another port. Click **OK**.

10. The printer you have defined will now be displayed in the Printers Folder. Right-click the printer object and select **Properties** from the **Context** menu.

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 **RAW (TCP/IP)** as your choice of protocol and click **OK**.

14. Enter the IP address or the host name of your print server (Example: AXIS100086) and assign a port number: 9902. Click **OK**.

15. The TCP/IP port will then be added automatically to the list of available ports. Click **OK** and **Apply**.

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**. Click the **Configure Port** button.

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**. 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** and 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 US1. Click the Configure Port button.

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 5 Adding Printers in Macintosh

Having connected the AXIS OfficeBasic USB 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 port of your print server will appear in the list of available printers. The port is shown as <host name>_<port>. **Example**: AXIS100086_USB1. Select the print server port you want to use.

5. 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.)

6. Click **Add** to complete the installation.

Installation on an Older Mac, using AppleTalk

Basic Configuration   On an older Mac, 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 32.

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 OfficeBasic USB allows 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 OfficeBasic USB 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 OfficeBasic USB is now ready for use.

Note:

> For information on advanced AppleTalk functions such as non-PostScript printer support, please refer to the Technical Reference on the Axis Web site.

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)**. 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 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 OfficeBasic USB. 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 6 Print Server Management Methods*, on page 34 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 OfficeBasic USB has been powered on. If you want it to reappear, you must restart your print server.

Section 6 Print Server Management Methods

The management and configuration tools that are supported by the AXIS OfficeBasic USB 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
- Perform a Factory Default of the print server
- Upgrade the AXIS OfficeBasic USB firmware. See *Updating the Firmware*, on page 47.

Configuration Overview

The method you should use to manage and configure your print server depends on the operating systems and protocols of your network. The table below displays which method to use for each supported environment.

Protocol	Configuration/Management methods
TCP/IP (Windows)	Web Browser - See page 35 FTP - See page 39
AppleTalk over TCP/IP	Web browser - See page 35
AppleTalk, pre-MacOSX	Chooser - See page 29

Note:

TFTP are powerful tools for configuring the AXIS OfficeBasic USB. Refer to the documentation for the TFTP server on your system for specific information.
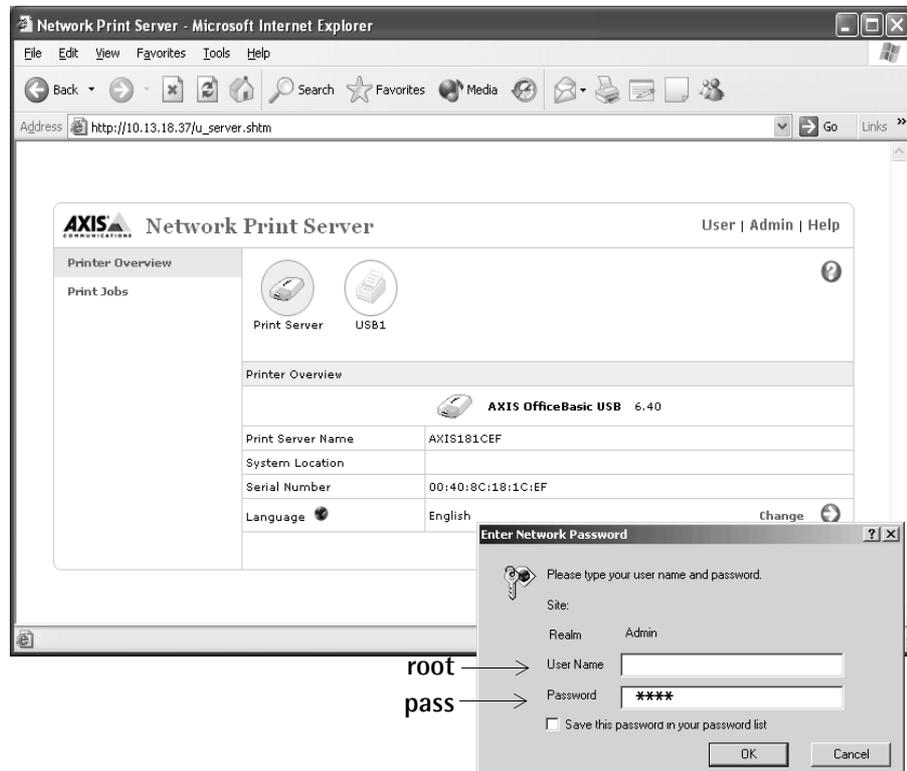
Using a Web Browser for Print Server Management

Once you have assigned a valid IP address to the print server, you are free to access the print server's Web pages from any Web browser with Javascript enabled.

The Web interface of the print server is divided into two modes of operation: **User mode** and **Admin mode**.

User   In User mode, you have no rights to change any parameters. 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 of the print server's settings, you must enter the Admin mode. 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.

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 is password protected to prevent unauthorized changing of the print server parameters.

> If the ROOT_PWD. parameter is set to *pass* (which is the default value), you have access to the User mode as well as the Admin mode.

AXIS OfficeBasic USB web interface

Accessing the Web Pages
Follow the steps below to access the internal home page of the AXIS OfficeBasic USB.

1. Start your Web browser.

2. In the **Location/Address** field, type the host name or the IP address of your print server. The User Mode **Printer Overview** page of the print server will appear in the browser window.

3. Click **Admin** to enter the Admin mode. If the management password is set to anything but **pass,** you must enter **root** as the user. The password **pass** is the default password of the AXIS OfficeBasic USB.

Services Available from the User Mode
The following services are available from the User mode. An additional 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 OfficeBasic USB, 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** to perform basic configuration of the print server.

By clicking a printer icon, a printer page opens, allowing you to view the status and the supported capabilities of the 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 selected 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 user, printing protocol and file size. A log that displays 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 OfficeBasic USB and the Web user interface. A short description of the Axis installation tools you should use when installing a printer on your computer is also included.

Configuration Wizard
The **Configuration Wizard** will guide you through the procedure of verifying some default settings and configure a few parameters. When you are finished, the print server is correctly configured for all printers and network environments.

Changing Language and Character Set
You can **Change** language and character set used in the print server's Web interface from the User mode. Available languages are English (default), French, German, Spanish and Italian. Available character sets are ISO-8859-1 (default) and UTF-8.

Services available from the Admin Mode   The following services are available from the Admin mode. An additional link to the Axis home page 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 settings of the AXIS OfficeBasic USB, including print server name, node address, password and base URL. Management operations, like restarting the print server and resetting most of its parameters to their factory default values, are also available.

By clicking on a printer icon, a printer page opens, allowing you to view the status and the supported capabilities of the connected printer. The extent of this information depends on the printer model. From the printer page, you can also send a test page to the selected 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 user, printing protocol and file size. A log that displays the accumulated usage of the connected printers allows you to control the usage of the connected printers.

To the right of every current print job there is a delete button. Click it to delete the print job.

Network Settings   From the **Network Settings** page you can set all parameters that control the network traffic to and from the print server. You can enable or disable network protocols and fine-tune parameter settings.

Caution!

> Any network configuration should involve the Network Administrator.

Support   Using the **Support page** you can receive assistance to resolve any installation or print problems that might occur. If your problems persist, the Support page also allows you to produce a Server Report. The Server Report includes the settings of the AXIS OfficeBasic USB, information about your connected printers as well as 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 description of the problem.

Statistics   The **Statistics** page displays information about the network packets to and from the print server as well as information about the connections to different network servers and services.

Help   **Help** displays a comprehensive description of the configuration and management activities that can be performed from the internal Web pages of the print server. Theses activities include instructions on how to install the print server in various environments and how to upgrade it

with new firmware. A detailed index is also available.

Parameter List   Shows all print server parameters and their current settings.

Restart   Restarts the print server.

Factory Default   Will reset all print server parameters and settings to their factory default values except

- Node Address (NODE_ADDR.)
- IP Address (INT_ADDR.)
- DHCP enabled or disabled (DHCP_ENB.)

Firmware Upgrade   Upgrades the print server's internal software.

Using FTP for Print Server Management

Having assigned an IP address to your AXIS OfficeBasic USB, as described earlier in this manual, you can change its 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 OfficeBasic USB by typing:
   ```
   ftp <host name>
   ```
   - or -
   ```
   ftp <IP address>
   ```
   in a Windows Command window.

2. Enter user id and 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 OfficeBasic USB 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 OfficeBasic USB has been powered down.
>
> • To edit the *config* file on a older MacOS verions (pre-MacOSX) 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 shows how to edit the *config* file using FTP from a Command window.

Example:

```
> ftp npserver
connected to npserver.
220 Axis OffceBasic USB FTP Network Print Server
vx.xx March 19 2003 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 20 last print jobs. It specifies an internal job number, the user that initiated the job, the protocol 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 OfficeBasic USB by typing:
   `ftp <host name>` or `ftp <IP address>` in a Windows Command window.

2. Enter user id and 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.

FTP Help
By typing `help` in step 3 in the FTP instruction sets above, a list of all general FTP commands will be displayed.

By typing `remotehelp` (or `rhelp`, depending on your FTP program) in step 3 in the FTP instruction sets above, a list of all print server specific commands will be displayed.

Section 7   Configuration Possibilities

This section describes some special features offered by the AXIS
OfficeBasic USB:

Autodetect Printer Type, on page 42

AutoIP, on page 42

Network Speed, on page 42

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.

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:

Network Speed	Comment
AUTO_SENSE	This is the default value where the print server detects which speed is optimal for each network package you transfer.
10_HALF__DX	10 Half Duplex
10_FULL_DX	10 Full Duplex
100_HALF_DX	100 Half Duplex
100_FULL_DX	100 Full Duplex

Section 8   Troubleshooting

This section provides useful information to help you resolve difficulties you may experience with your AXIS OfficeBasic USB. Fault symptoms, possible causes and remedial actions are provided within a quick reference table.

Please visit the Axis Web site for latest troubleshooting tips, more support and additional help through the FAQ database or to fill in and submit a Support question.

General   The USB port in an AXIS OfficeBasic USB only supports USB printers. If any other USB device has been connected to this port, the print server must be restarted before it can function properly again.

LED Indicators

Indicator	Color/Behavior	Explanation
Power	Yellow	OK
	Not lit	No power/Error
Network	Orange	OK - network connected
	Orange flashing	Activity on network
	Not lit	No physical connection to the network

Web Interface

Symptoms	Possible causes	Remedial actions
The AXIS OfficeBasic USB Web interface cannot be accessed from a Web browser.	The AXIS OfficeBasic USB is not connected properly.	1. Check Power and Network indicator. 2. Check that assignment of IP addresses for the AXIS OfficeBasic USB is correct. 3. To further check the IP addresses, run the Ping command from another computer as described in "IP address check" at the end of this chapter. Follow the appropriate recommendations.
	Problem with your proxy server.	Verify the proxy server settings in your Web browser.
	Other networking problems.	1. Verify that your network is accessible through your network socket. 2. Verify that your network cable is functional.

IP Address Check with Ping

By sending a data packet to a specific IP address and waiting for a reply, Ping can determine whether that IP address is accessible. Ping can also help you to determine IP address conflicts with your AXIS OfficeBasic USB and troubleshoot TCP/IP problems on the network. Follow the instructions below to diagnose your problem.

1. Start a Command window/Terminal.

2. Type "ping x.x.x.x", where x.x.x.x is the IP address you want to check — for example the IP address of your AXIS OfficeBasic USB.

3. Subsequent replies will provide an explanation of the cause of the problem. Replies from DOS can be interpreted as defined in the table below:

Ping Reply	*Interpretation and recommendation*	
	AXIS OfficeBasic USB connected	*AXIS OfficeBasic USB disconnected*
bytes = 32 time = 2 ms...... - or something similar	The AXIS OfficeBasic USB is responding correctly. There are probably no conflicts with the IP address - disconnect the AXIS OfficeBasic USB and ping again to verify.	The IP address is already in use and cannot be used again. You must obtain a new IP address for your AXIS OfficeBasic USB.
destination host unreachable	The AXIS OfficeBasic USB is not accessible. Check your network settings.	–
request timed out	The IP address is not in use. You are either pinging the wrong IP address or your AXIS OfficeBasic USB does not have the correct IP address.	This IP address is not used by anyone and is available for use for your AXIS OfficeBasic USB. Set the IP address again, power on the AXIS OfficeBasic USB and then try accessing the unit.
no response from ping command	The AXIS OfficeBasic USB is not accessible. Check your network settings.	–

Axis Support Server Report

In order to obtain optimal support from Axis support technicians, please follow these instructions when filling in and submitting a support question:

1. Go to the print server's Web pages by typing the print server's IP address in the **Address/Location** field of your Web browser.

2. Go to **Admin** | **Support**. Click the **Server Report** link. A new window will open.

3. Save the Server report as an HTML file (with an .html file extension) and go to the Axis Web site.

4. Choose **Support** and report your case, attaching the Server Report.

Please visit the Axis Web site for more support and additional help through the FAQ database.

USB port:

If the USB port option does not appear when adding printers in Windows 2000 and XP, follow these instructions to emulate a USB port:

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 **Local Printer** radio button and click **Next**. 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.**

3. Enter the name of the print server (Example: AXIS100086 or the IP address) and click **Next.** Enter the **Device Port** you want to use: choose LPT1

   Select **Manufacturer and Printer** from the lists. Click **Next.** 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. Click **Next.**

   Supply a name for the printer and choose whether you want to make it your default printer. Click **Next.**

   Choose whether you want to share the printer with other network users. Click **Next** and **Finish**.

4. Go to **Start** | **(Settings)** | **Printers (and Faxes)** and highlight your newly installed printer. Right-click and choose **Properties.** Choose the **Ports** tab (make sure your printer is highlighted) and then **Configure Port...**Under **Protocol**, click the **Raw** radio button and then define the printer port under **Raw Settings – Port Number** as follows: 9100.

   Click **OK** and close the window. Print a test page to verify your installation.

Section 9 Updating the Firmware

Upgrading the Firmware

You can upgrade the AXIS OfficeBasic USB firmware using one of the following methods:

- From the print server's internal Web pages (TCP/IP)
- FTP (TCP/IP)

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 Methods"* on page 34 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 over the Network 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 OfficeBasic USB before you can use this upgrading method.

Follow the procedures below to upgrade the print server:

Caution!

> Be careful not to interrupt the file transfer. If the transfer is interrupted, the AXIS OfficeBasic USB may have to be re-initialized by your dealer.

1. From a DOS command prompt, log in to the AXIS OfficeBasic USB with the command:
   `ftp <host name>` or `ftp <IP address>`

2. You will be prompted for user id and password. Use the user id `root`, which has the default password `pass`.

3. Type the command: `binary` to change to binary transfer mode.

4. Type the command: `put <firmware_name> FLASH` where `<firmware_name>` is the name of the new print server firmware.

5. Wait for the flash loading operation to finish. This normally takes 1 to 4 minutes. After that, the unit will automatically restart with the new print server firmware.

6. Log out using the command: `quit` (or `bye` or `exit` depending on your FTP version).

Obtaining the firmware

You can obtain all the print server firmware as well as the latest utility software from the following locations:

*   http://www.axis.com
*   AXIS Network Product CD
*   your local dealer

Section 10   The Test Button

The test button is located on the front right hand side of the AXIS OfficeBasic USB and is used for:

- Printing a test page to check the connection to the printer.
- Printing a parameter list to see the print server's current settings.

Performing a Factory Default of the print server.

The Test Page   Press the test button once to print a test page. The test page contains basic information about the AXIS OfficeBasic USB. It is recommended that you print a test page every time you connect the print server to a printer.

The Parameter List   Press the test button twice to print a parameter list showing the current AXIS OfficeBasic USB settings. This list provides comprehensive details of all the parameters and their current status. Refer to *Section 12 The Parameter List*, on page 52.

If you want to change any of the parameters, use one of the methods described in *Section 6 Print Server Management Methods*, on page 34.

Factory Default   Follow the instructions below to restore most of the print server settings to factory default values:

1. Remove the Power Adapter to switch off the AXIS OfficeBasic USB.

2. Remove the network cable.

3. Press and hold down the test button while you plug the Power Adapter back in. Continue to hold down the test button until the network indicator begins to flash at one-second intervals. This should take about 5 seconds.

4. Release the test button and wait until the network indicator flashes at least five times.

5. Press and hold down the test button again until the network indicator remains constantly lit.

6. Disconnect the Power Adapter.

7. Insert the network cable.

8. Restart the AXIS OfficeBasic USB by reconnecting the Power Adapter.

Note:

> A Factory Default will reset all print server parameters and settings to their factory default values except
>
> - Node Address (NODE_ADDR.)
> - IP Address (INT_ADDR.)
> - DHCP enabled or disabled (DHCP_ENB.)
>
> If you want to change these parameters, use any standard Web browser. Please refer to *Section 6 Print Server Management Methods*, on page 34.

Section 11   Technical Specification

Supported Printers   USB printers. Not compatible with Windows GDI printers.

Supported Systems

Microsoft Windows: Windows NT ver 4.0, Windows 98, Windows 2000, Windows Me, Windows XP. Print Methods: NetBEUI, LPR, Raw TCP.

Additional Systems: All computers supporting the TCP/IP suite of protocols.

Apple EtherTalk: Print Method: AppleTalk Phase 2.

WWW: Netscape Communicator 4.7 and above, Internet Explorer 4.0 and above, Mozilla 1.0 and above.

Supported Protocols

Windows: NetBIOS/NetBEUI or TCP/IP.

TCP/IP: LPR, FTP, ARP, RARP, DHCP, ICMP, IGMP, IP, TCP, UDP, HTTP, TFTP, SLP, Raw TCP, AutoIP, DDNS.

Apple EtherTalk: AAPR, ATP, DDP, NBP, PAP, RTMP, ZIP.

Supported Languages   English, French, German, Spanish and Italian.

Logical Connection

Ethernet: Use of IEEE 802.2, IEEE 802.3, SNAP and Ethernet II frame types simultaneously.

Fast Ethernet: Supports NWay that provides auto-detection of network speed. Use of IEEE 802.2, IEEE 802.3, SNAP and Ethernet II frame types simultaneously, full duplex.

Wired Network Attachments

Ethernet: RJ-45 connector (Category 5 twisted pair cable) for 10baseT Ethernet or 100base TX Fast Ethernet.

Printer Ports   One USB printer port.

Power Consumption:	Maximum 5.6 W
	Power provided by Power Adapter type PS-H: 5.1V DC 2000 mA
Dimensions	Height x Width x Depth:
	1.1in (29 mm), 2.4in (62 mm), 5.1in (130 mm)
	Weight:
	0.17lb (77g)
Environmental	
Temperature:	40 - 105 °F (5 - 40 °C)
Approvals	
EMC:	EN 55 024:1998 EN 55 022:1998 + A1 (CISPR 22:1997 + A1) Class B EN 61000-3-2:2000 EN 61000-3-3:1995+A1 VCCI:2002 Class B, ITE (CISPR 22:1997 + A1:2000, Class B C-tick AS/NZS 3548 FCC part 15, subpart B, Class B, demonstrated by compliance with EN 55022:1998 (CISPR 22:1997) Class B.
Safety	EN 60950, approved power supplies for all countries.
Hardware	32-bit 100 MHz AXIS ETRAX 100LX RISC Controller, 2 MB Flash memory, 8 MB RAM.
Front Panel	2 LED indicators for Power and Network.
	Test button for information printouts.

All specifications are subject to change without prior notice.

Section 12   The Parameter List

This section provides an overview of the AXIS OfficeBasic USB print server parameters. Please refer to the Axis Communications Technical Reference for a complete description of the parameters. Alternatively, you can access the Axis Web site where you can download the latest technical information.

The *config* File

See *Using FTP for Print Server Management*, on page 39 for information on how to fetch the print server's *config* file. The *config* file is built up like this:

```
--- General Menu
NODE_ADDR.    : 00 40 8C 18 1C F0
NETWORK_SPEED. : AUTO_SENSE  (AUTO_SENSE, 10_HALF_DX,
10_FULL_DX, 100_HALF_DX, 100_FULL_DX)
PS_NAME.      : AXIS181CF0
ROOT_PWD.     : pass
USERS.        :
BASE_URL.     : www.axis.com
CHARSET.      : ISO-8859-1  (ISO-8859-1, UTF-8)
LANG.         : English  (English, French, German, Spanish,
Italian)
AXIS_PRINT_SYSTEM. : YES
RCONFIG_ENB. : YES
DEF_OUT.      : USB1
SYS_LOC.      :
SYS_CONT.     :
```

To the left of the colon character (":"), you will find each parameter. To the right of the colon you see the present value or state of the parameter, followed by a list of possible values (within brackets). **Example:** The language parameter `LANG.` presently is set to `English`. Possible values for this parameter are `English, French, German, Spanish, Italian`.

Parameters, Default Values, Possible Values and Comments

After a change, most parameters take effect for the next print job. If *Requires Restart* appears in a parameter comment (see below), you must restart the AXIS OfficeBasic USB before the new setting for that parameter takes effect.

Four parameters (`ROOT_PWD.` and `WRT_COM.`) only appear when you are logged in to the print server as *root*. They will not be printed when you are printing the parameter list using the test button.

In the Parameter Lists below, Default values and Possible values are shown for an AXIS OfficeBasic USB, which has one USB port.

Below, all parameters are listed in the same order as they appear in the

config file:

General Menu

In the print server's Web interface, select **Admin │ General Settings =>
Change.**

Parameter	Default value (Possible values)	Comments
NODE_ADDR.	xx xx xx xx xx xx	Node Address and serial number of the print server
NETWORK_SPEED.	AUTO_SENSE (AUTO_SENSE, 10_HALF_DX, 10_FULL_DX, 100_HALF_DX, 100_FULL_DX)	Network speed
PS_NAME.	AXISxxxxxx	Print server name, where the x:s match the last 6 hex digits of the serial number
ROOT_PWD.	pass	Root password
USERS.		User and Printer Access List
BASE_URL.	www.axis.com	Base URL
CHARSET.	ISO-8859-1 (ISO-8859-1, UTF-8)	Character set
LANG.	English (English, French, German, Spanish, Italian)	Language to use in the Web interface
AXIS_PRINT_SYSTEM.	YES (YES, NO)	Axis print system support
DEF_OUT.	USB1	Default printout destination
SYS_LOC.		Location of print server
SYS_CONT.		Print server responsible person

TCP/IP Menu

In the print server's Web interface, select **Admin │ Network Settings │
Detailed View │ TCP/IP.**

Parameter	Default value (Possible values)	Comments
TCP_ENB.	YES (YES, NO)	TCP/IP Enabled
INT_ADDR.	x x x x	IP address
DEF_ROUT.	x x x x	Default router (enter 0 0 0 0 for no router)
NET_MASK.	x x x x	Net Mask (e.g. 255 255 255 0 for class C; 0 0 0 0 for auto-sense)
LPD_BANN.	OFF (OFF, AUTO, LAST)	LPD banner page mode
DHCP_ENB.	YES (YES, NO)	DHCP Enabled
AUTOIP_ENB.	YES (YES, NO)	AutoIP Enabled
BOOTP_ENB.	YES (YES, NO)	BOOTP Enabled

RARP_ENB.	YES (YES, NO)	RARP Enabled
WINS_ENB.	YES (YES, NO)	WINS Enabled
WINS_ADDR1.	x x x x	Primary WINS server address
WINS_ADDR2.	x x x x	Secondary WINS server address
NBT_SCOPE_ID.		Defines the NetBIOS scope to be used with WINS name registration
DNS_ENB.	YES (YES, NO)	DNS Enabled
DNS_ADDR1.	x x x x	Primary DNS server address
DNS_ADDR2.	x x x x	Secondary DNS server address
DOMAIN_NAME.		Domain name, defining the domain to which this AXIS OfficeBasic USB belongs
SLP_SCOPE_LIST.	DEFAULT	Defines the SLP scope to which this print server belongs
DEFAULT_RAW_TCP.	9100 (9100, CLOSED)	Default port for raw TCP
RTN_OPT.	NO (YES, NO)	Reverse Telnet options Enabled

SNMP Menu   In the print server's Web interface, select **Admin** | **Network Settings** | **Detailed View** | **SNMP**.

Parameter	*Default value (Possible values)*	*Comments*
SNMP_ENB.	YES	SNMP traffic enabled/disabled
READ_COM.	public	Read Community
WRT_COM.	pass	Read/Write Community
TRAPADDR.	0 0 0 0	Trap Address
TRAP_COM.	public	Trap Community
SYS_NAME.		System Name
SNMP_AUT.	DISABLE (DISABLE, ENABLE)	Authentication Failure Trap
TRAP_PRT.	DISABLE (DISABLE, ENABLE)	Printer Failure Trap

NetBIOS/NetBEUI Menu   In the print server's Web interface, select **Admin** | **Network Settings** | **Detailed View** | **Windows, OS2**.

Parameter	*Default value (Possible values)*	*Comments*
LSLM_ENB.	YES (YES, NO)	NetBIOS/NetBEUI Enabled
NB_FR_TYPE.	FR_AUTO (FR_AUTO, FR_DIX)	NetBIOS Frame Type *(Requires Restart)*
LPRINT_1.	AXxxxxxx.US1	Name Printer 1 LPRINT_1. has AXxxxxxx.US1 as default

AppleTalk Menu   In the print server's Web interface, select **Admin | Network Settings | Detailed View | Macintosh.**

Parameter	Default value (Possible values)	Comments
ATLK_ENB.	YES (YES, NO)	AppleTalk Enabled
ATK_ZONE.		AppleTalk Zone
ZONER_EN.	YES (YES, NO)	HP Zoner Enabled
ATK_FONT.	DEFAULT (DEFAULT, 35N, ALL)	Font (PostScript Font Set)
AUTO_DT_PRIN.	NO (YES, NO)	Autodetect Printer Enabled
APRINT_1.	AXISxxxxxxUSB1	Name of Printer 1, where xxxxxx are the last six digits of the serial number. APRINT_1. has AXISxxxxxx_USB1 as default
ATYPE_1.	LaserWriter	Type Printer 1
BINARY_TYPE_1.	TBCP (TBCP, BCP, NONE)	Binary Protocol for APRINT_1

USB1 Menu   In the print server's Web interface, select **Admin | General Settings | USB1.**

Parameter	Default value (Possible values)	Comments
U1_MGM_INFO.	AUTO (DISABLE, AUTO)	Printer Management Information USB1
U1_COMMENT.		Optional user comment describing the printer at USB1
U1_BIDIR.	AUTO (DISABLE, AUTO)	USB1 Read-back information
U1_READT.	3	USB1 Read-back time-out

Section 13   Glossary

AppleTalk	A local area network protocol for communication between Apple Computer products and other computers and peripherals.
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. ARP cannot be used across routers.
AutoIP	A method to automatically set an IP address in the absence of a DHCP server.
config **File**	This is a file that resides in the print server's memory and contains all the parameters that determine the AXIS OfficeBasic USB functionality. By editing the *config* file (changing the parameter settings), you can configure the print server to meet the printing needs of your network.
DHCP	Dynamic Host Configuration Protocol. DHCP allows for enables a host (e.g. print server) to automatically obtain an unused IP address. It also provides validation data that defines for how long the IP addresses will remain valid.

To fully benefit from this method, the AXIS OfficeBasic USB also supports the DDNS, which is available in Windows 2000 networks. |
DNS	Domain Name System. Resolves host names into ip addresses.
Dynamic DNS	Dynamic Domain Name System. Allows hosts to dynamically change IP addresses in in DNS, e.g. when the host is given a new IP address by DHCP.
Firmware	Firmware is the print server's internal software.
Flash Memory	The print server firmware is stored in Flash memory.
FTP	File Transfer Protocol. A TCP/IP protocol used for logging in to network servers and for transferring files.
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.

IP	Internet Protocol. The TCP/IP network layer protocol that regulates packet forwarding by tracking IP addresses, routing outgoing messages and recognizing incoming messages.
LAN	Local Area Network.
LED	Light Emitting Diode.
NetBIOS/NetBEUI	Network Basic Input Output System, a network protocol with special functions for local area networks. NetBIOS Enhanced User Interface is an enhanced version of NetBIOS.
PCL	Printer Control Language − A PCL driver is a small program that works between the operating system and the printer.
Peer-to-Peer Printing	When selecting Peer-to-peer printing, all print jobs are sent directly to the print server, rather than through a file server (client/server).
RISC	Reduced Instruction Set Computing. A processor designed to increase performance, using a limited set of assembly language instruction.
SNMP	Simple Network Management Protocol. Standard management protocol for network attached devices.
TCP	Transmission Control Protocol. The connection-oriented, transport-level protocol used in the TCP/IP suite of protocols.
TFTP	Trivial File Transfer Protocol (TFTP) is an Internet software utility for transferring files that is simpler to use than the File Transfer Protocol (FTP) but less capable. It is used where user authentication and directory visibility are not required. TFTP uses the User Datagram Protocol (UDP) rather than the Transmission Control Protocol (TCP).
URL	Uniform Resource Locator. A way of specifying the location of information on the Internet.
USB	Universal Serial Bus.
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, and even for the experienced user can help to speed up an operation.

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