CentreCOM®

AT-FS718
AT-FS724
Fast Ethernet Switches

INSTALLATION GUIDE

PN 613-10774-00 Rev. A

Allied Telesyn

Radiated Energy

STANDARDS: This product meets the following standards

U.S. Federal Communications Commission
RADIATED ENERGY Note: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Note: Modifications or changes not expressly approved by the manufacturer or the FCC can void your right to operate this equipment.

Canadian Department of Communications
This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

RFI Emission EN55022 Class A ✍ 1

WARNING: In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures. ✍ 2

Immunity EN50082-1 ✍ 3

IMPORTANT: Appendix A contains translated safety statements for installing this equipment. When you see the ✍, go to Appendix A for the translated safety statement in your language.

WICHTIG: Anhang A enthält übersetzte Sicherheitshinweise für die Installation dieses Geräts. Wenn Sie ✍ sehen, schlagen Sie in Anhang A den übersetzten Sicherheitshinweis in Ihrer Sprache nach.

VIGTIGT: Tillæg A indeholder oversatte sikkerhedsadvarsler, der vedrører installation af dette udstyr. Når De ser symbolet ✍, skal De slå op i tillæg A og finde de oversatte sikkerhedsadvarsler i Deres eget sprog.

BELANGRIJK: Appendix A bevat vertaalde veiligheidsopmerkingen voor het installeren van deze apparatuur. Wanneer u de ✍ ziet, raadpleeg Appendix A voor vertaalde veiligheidsinstructies in uw taal.

IMPORTANT : L'annexe A contient les instructions de sécurité relatives à l'installation de cet équipement. Lorsque vous voyez le symbole ✍, reportez-vous à l'annexe A pour consulter la traduction de ces instructions dans votre langue.

TÄRKEÄÄ: Liite A sisältää tämän laitteen asentamiseen liittyvät käännetyt turvaohjeet. Kun näet ✍-symbolin, katso käännettyä turvaohjetta liitteestä A.

IMPORTANTE: l'Appendice A contiene avvisi di sicurezza tradotti per l'installazione di questa apparecchiatura. Il simbolo ✍, indica di consultare l'Appendice A per l'avviso di sicurezza nella propria lingua.

VIKTIG: Tillegg A inneholder oversatt sikkerhetsinformasjon for installering av dette utstyret. Når du ser ✍, åpner du til Tillegg A for å finne den oversatte sikkerhetsinformasjonen på ønsket språk.

IMPORTANTE: O Anexo A contém advertências de segurança traduzidas para instalar este equipamento. Quando vir o símbolo ✍, leia a advertência de segurança traduzida no seu idioma no Anexo A.

IMPORTANTE: El Apéndice A contiene mensajes de seguridad traducidos para la instalación de este equipo. Cuando vea el símbolo ✍, vaya al Apéndice A para ver el mensaje de seguridad traducido a su idioma.

OBS! Bilaga A innehåller översatta säkerhetsmeddelanden avseende installationen av denna utrustning. När du ser ✍, skall du gå till Bilaga A för att läsa det översatta säkerhetsmeddelandet på ditt språk.

Table of Contents

Preface

Purpose of This Guide

This guide is written for network administrators who are responsible for installing and maintaining the AT-FS718 and AT-FS724 switches.

How This Guide is Organized

This guide consists of the following sections:

Chapter 1, "Hardware Description," describes the features and functions of the switches and the media dependent adapters (MDAs).

Chapter 2, "Installation," describes the procedures for installing the switch and the MDAs, connecting devices to the switch, and connecting a terminal for port configuration and diagnostics.

Chapter 3, "Troubleshooting," describes how to troubleshoot the switch in case of problems.

Chapter 4, "Switch Configurations," presents illustrations of several switch configurations.

Appendix A, "Translated Safety Information," contains translations of the safety warnings documented throughout this guide.

Appendix B, "Technical Specifications," presents in tabular form switch and MDA specifications.

Appendix C, "Switch Default Settings," lists the switch default port settings as configured by the factory.

Index, at the end of this guide, is according to subject matter.

Document Conventions

The conventions used in this guide are as follows:

- Notes:

> Note
> A note provides additional information.

- Warnings:

> Warning
> A warning indicates that performing or omitting a specific action may result in bodily injury.

- Cautions:

> Caution
> A caution indicates that performing or omitting a specific action may result in equipment damage or loss of data.

DEC VT100 Terminal Configuration

Using the DEC VT100 or ANSI (the default) terminal configuration:

When directed to	You must
Select an option	Highlight the option by pressing the Up (↑) or Down (↓) arrow key; then press **RETURN** or Type the **first character** of the option you want at the prompt and then press **RETURN**. If two or more options have matching initial characters, type the initial character until the option you want is highlighted; then press **RETURN**.
Enter information, for example, **port #**	Type the correct **port number** and press **RETURN**
Return to the previous screen	Select the option or Press **ESC**

Enabling an Option

An enabled option is by preceded a > symbol. Enabled configurations also appears darker.

For example, the following screen shows a port that is enabled:

```
> Enable this port
  Disable (partition) this port
```

If you enable another option, the > symbol moves to the new option. For example:

```
  Enable this port
> Disable (partition) this port
```

Menus

Menus and submenus are represented in courier type. In this guide, menu hierarchies are separated by a > symbol.

Menu: `Port Status`

Menu: `Port Status>Configuration`

User-Supplied Variables

Variables are information you must supply, such as port numbers or port name. Variables are in Italics and enclosed in angle brackets (<>).

For example, to configure a specific port name:

Select `Port status>Configuration>Port name <`*`Port name`*`>`

where <*`Port name`*> is the desired port name.

Where to Find Related Guides

Allied Telesyn wants our customers to be well informed by providing the most up-to-date and most easily accessible way to find our guides and other technical information.

Visit our website at: **www.alliedtelesyn.com** and download this guide, or view product and technical information.

The following guides are shipped with their respective products:

AT-FS718 and AT-FS724 Quick Install Guide,
613-10775-00

AT-FS718 and AT-FS724 Translated Safety Information Booklet,
613-10776-00

AT-A10 and AT-A11 MDAs Quick Install Guide,
613-10742-00

Chapter 1

Hardware Description

This chapter describes the hardware features of the following products:

- The base switch models: AT-FS718 and AT-FS724
- The uplink options, also called media dependent adapters (MDAs): AT-A10 and AT-A11.

The Base Switch Models

The AT-FS718 and AT-FS724 switches are standalone, unmanaged Fast Ethernet switches that provide 16 or 24 10Base-T/100Base-TX station ports. The AT-FS718 additionally provides uplink options of up to two 100Base-TX or 100Base-FX ports for backbone connectivity.

They are primarily intended for connections to the desktop as well as workgroup applications. The AT-FS718, when populated with optional uplink ports, implements direct high-speed server and backbone connections. Full-duplex capability on all ports eliminate collisions and provide up to 200 Mbps of bandwidth per port to servers, routers, and other switches. The auto-negotiating ports allow connectivity to devices operating at 10 Mbps or 100 Mbps speeds.

Figure 1-1 shows the 24-port model that has no uplink option slots.

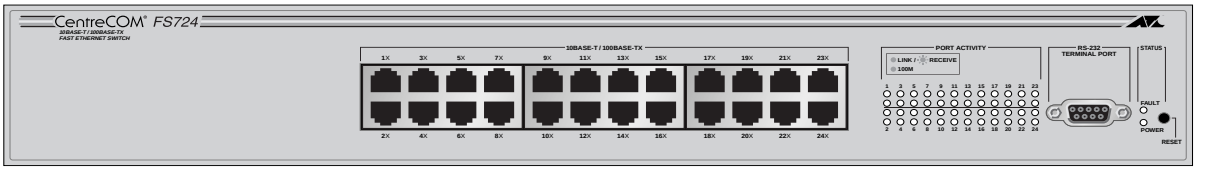


Figure 1-1 The AT-FS724 Switch (Front)

Figure 1-2 shows the 16-port model with slots for uplink options.

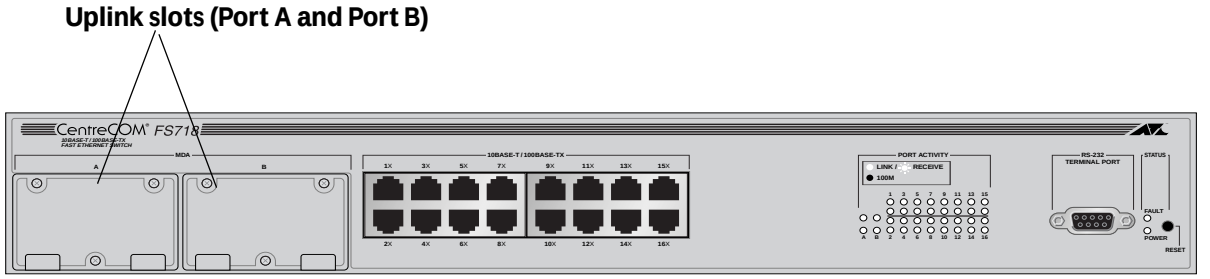


Figure 1-2 The AT-FS718 Switch (Front)

Figure 1-3 shows the rear panel of the switch.

Figure 1-3 The Switch Rear Panel

Hardware Features

Table 1-1 summarizes the basic features of each switch model.

Table 1-1 Switch Models

Model	Port Description
AT-FS724	Twenty-four 10Base-T/100Base-TX ports
AT-FS718	❑ Sixteen 10Base-T/100Base-TX ports ❑ Two slots, Port A and Port B, for optional uplink connectivity to either 100Base-TX or 100Base-FX backbones

The switches have the following common hardware features:

- ❑ Half- or full-duplex operation on all switched ports delivering up to 200 Mbps of bandwidth to servers, routers, or other switches
- ❑ Auto-negotiation on all 10Base-T/100Base-TX ports for speed and duplex in compliance with IEEE 802.3u specifications
- ❑ Non-blocking, clear-channel architecture delivers wire-speed switching and up to 2.4 Gbps aggregate bandwidth for exceptional performance
- ❑ Shared memory architecture with 512kb memory per 4 ports
- ❑ Store-and-forward switching mode, or, for 100 Mbps ports only, fragment-free cut-through switching mode
- ❑ Packet buffer memory of 3.0 MB for the AT-FS718 and 3.5 MB for the AT-FS724
- ❑ 8 MB DRAM and 2 MB Flash memory for software updates
- ❑ RS232 connector for port configuration, and diagnostics or software updates.

Switching Modes

Each switch port has the following user-selectable switching modes:

- Store-and-forward (default)
- Fragment-free cut-through for 100 Mbps ports

Network administrators can configure the sending port with the appropriate switching mode to optimize performance and enable full-error checking. The modes reduce network bottlenecks by offering low latency wire rate switching for the port.

With the store and forward method, the port waits to receive an entire packet before forwarding it to its destination. This method ensures that packets being forwarded are free of errors. The store and forward mode (default) is automatic when data is exchanged between 10Base-T and 100Base-TX ports.

With the cut-through method (for 100 Mbps ports only), the port starts to forward the packet once the packet has exceeded the smallest size (64 bytes), therefore filtering fragment frames or runts (frames less than 64 bytes). This method provides low latency for forwarding frames and also provides some network error protection.

Switching modes are part of the port configuration that is selected using a terminal connected to the RS232 connector. See “Port Configuration” on page 2-12 for details of port configuration.

Physical Description

The switches have the following major front panel components:

- 16 or 24 Ethernet 10Base-T/100Base-TX unshielded twisted pair (RJ45) ports
- RS232 (DB9-F) connector for port configuration, and diagnostics or software update
- Reset button
- System and port status LEDs
- Two slots, Port A and Port B, for optional 100Base-TX or 100Base-FX backbone connectivity on the AT-FS718.

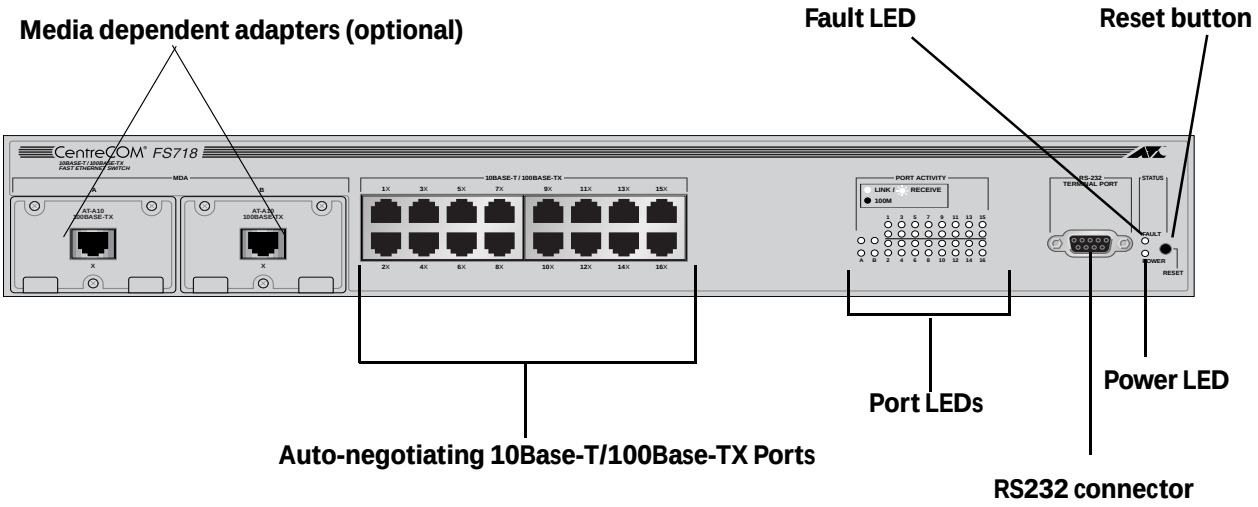


Figure 1-4 The AT-FS718 Switch With Fully-Populated Uplink Slots

Port LEDs

Each switch port and uplink port is associated with two LEDs indicating the following:

- Valid physical link with a device and packets being received, as indicated by the top row of LEDs
- Speed of transmission, 10 Mbps or 100 Mbps, as indicated by the bottom row of LEDs

Figure 1-5 is a close-up of the AT-FS718 port LEDs. (The AT-FS724 does not have uplink port LEDs.)

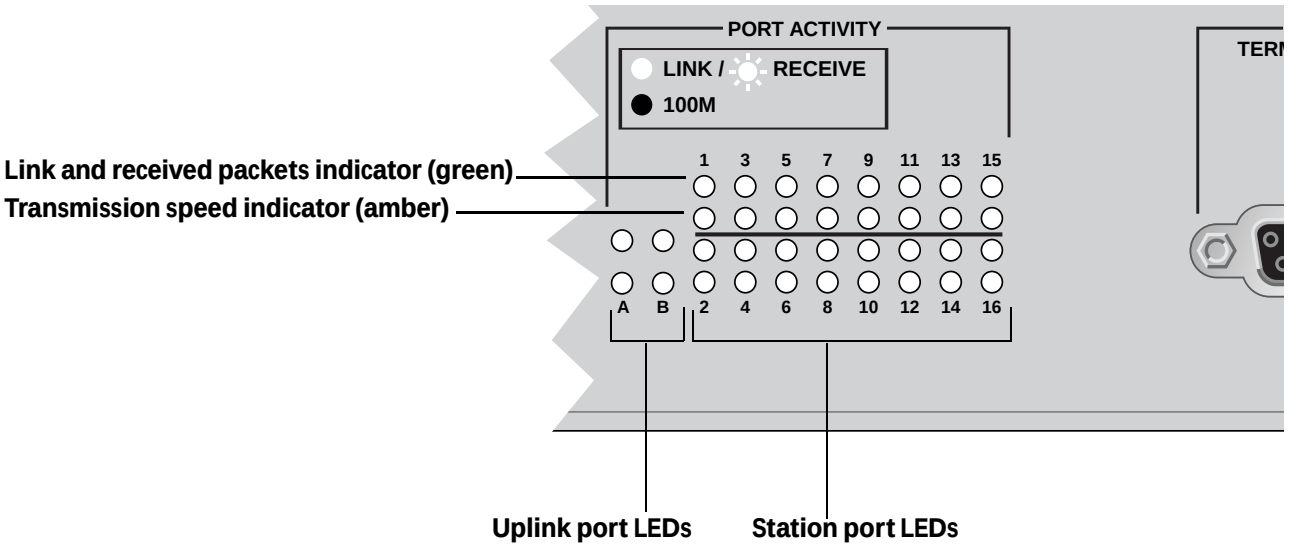


Figure 1-5 Port LEDs

The LEDs are further described in Chapter 2, Table 2-1 on page 2-4.

RS232 Connector

The RS232, DB-9 female connector provides for port configuration, diagnostics or software update via a VT100 terminal emulation using a straight-through serial cable.

Reset Button

The Reset button is used to reset the switch with power still applied.

System LEDs

The switch system LEDs are POWER and FAULT. They indicate the overall operating status of the switch.

More details on the LEDs are shown in Table 2-1 on page 2-4.

AC Power Connector

The switch has a single power supply in the rear panel, which has autoswitch AC inputs. The input voltage range is from 100-240 VAC, 50/60 Hz. To de-energize the equipment, disconnect the power cord.

The Media Dependent Adapters (MDAs)

Allied Telesyn offers optional MDAs, shown in Figure 1-6. You may install either uplink option in one or both Port A or Port B on the AT-FS718. Table 1-2 describes the MDAs.

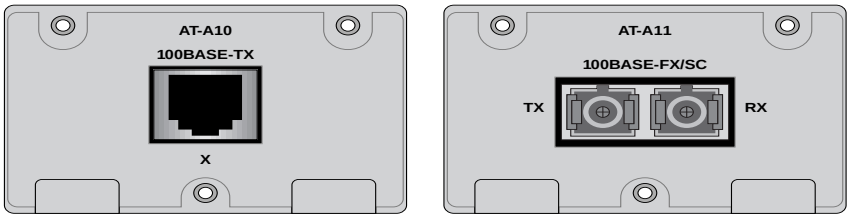


Figure 1-6 AT-A10 (TX) and AT-A11 (FX) MDAs

Table 1-2 Media Dependent Adapter Features

Adapter	Connector Type	Description
AT-A10	RJ45	❑ Auto-negotiationg 10Base-T/100Base-TX Fast Ethernet port ❑ Maximum segment length: 328 ft (100 m), Category 5 UTP cable
AT-A11	Fiber SC	❑ 100Base-FX Fast Ethernet port ❑ Default transmission speed fixed at 100 Mbps ❑ Multimode SC fiber connector ❑ Selectable duplex (default full-duplex) ❑ Maximum segment length: 1.25 miles (2 km), 50/125- and 62/5/125-micron multimode fiber cable for full-duplex; 1,351 ft (412 m) for half-duplex

Like the switch's station ports, the uplink ports are associated with two LEDs that indicate port speed and valid physical link. See Figure 1-5 for the location of the uplink ports LEDs. The LEDs are further described in Chapter 2, Table 2-1 on page 2-4.

Where to Go Next

Proceed to Chapter 2 for details on how to install the switch and the MDAs.

Chapter 2

Installation

This chapter describes the following procedures:

- Switch installation on the desktop or in the 19-inch rack
- MDA installation
- Device installation
- Terminal connection for port configuration, diagnostics or software update

Verifying Your Switch Package Contents

Make sure the following hardware components are included in your switch package. If any of the following items are missing or damaged, contact your sales representative.

- One AT-FS718 or AT-FS724 switch
- The AT-FS718 and AT-FS724 Quick Install Guide
- The Translated Safety Information Booklet
- Warranty card
- 2 mounting brackets
- 6 flathead Phillips screws
- Power cord (Americas, EC, and UK only)

Safety Information

Refer to Appendix A for translated safety statements in your language.

Warning
ELECTRIC SHOCK HAZARD
To prevent ELECTRIC shock, do not remove cover. No user-serviceable parts inside. This unit contains HAZARDOUS VOLTAGES and should only be opened by a trained and qualified technician. To avoid the possibility of ELECTRIC SHOCK disconnect electric power to the product before connecting or disconnecting the LAN cables. 8

Laser
Warning Class 1 Laser product. 6

Laser
Warning Do not stare into the Laser beam. 7

Caution
LIGHTNING DANGER
DO NOT WORK on equipment or CABLES during periods of LIGHTNING ACTIVITY. 9

Caution
ELECTRICAL—TYPE CLASS 1 EQUIPMENT
THIS EQUIPMENT MUST BE EARTHED. Power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts. 11

Caution
ELECTRICAL—CORD NOTICE
Use power cord, maximum 4.5 meters long, rated 5 amp minimum, 250V, made of HAR cordage molded IEC 320 connector on one end and on the other end a plug approved by the country of end use. 12

Caution
Air vents must not be blocked and must have free access to the room ambient air for cooling. 13

Caution
OPERATING TEMPERATURE
This product is designed for a maximum ambient temperature of 40° C. 14

Caution
ALL COUNTRIES: Install product in accordance with local and National Electrical Codes. 15

Preparing the Site

Make sure that you follow common sense installation site requirements and observe the following:

- Make sure that the switch's power is accessible and cables can be connected easily.
- Cabling must be away from sources of electrical noise such as radios, transmitters, broadband amplifiers, power lines, and fluorescent fixtures.
- Air flow around the switch and through its vents on the side and rear cannot be restricted.
- If you are desk mounting the switch, make sure it is placed on a level, secure desktop.
- Do not place objects on top of the switch.
- Do not expose the switch to moisture or water.
- Make sure it is in a dust-free environment.
- Use dedicated power circuits or power conditioners to supply reliable electrical power to the network devices.

Installing the Switch on the Desktop

1. Place the switch on a level, secure surface.
2. Apply power to the switch as follows:

> ⚠ Caution
> The power cord is used as a disconnect device. To de-energize equipment, disconnect the power cord. ✍ 10

Attach the power cord to the unit and plug it in the power source. Verify that the POWER LED lights green. See Table 2-1.

As power is applied to the switch, the FAULT LED flashes as the switch runs internal self testing.

Table 2-1 Switch LEDs

LED	Color	State	Description
POWER (system)	Green	**On**	The switch is receiving power, voltage is within the acceptable range, and the power supply is working.
		Off	No power.
FAULT (system)	Red	**On**	The switch is malfunctioning.
		Flashing	The switch is booting, running diagnostics, writing image to Flash, transferring files via XMODEM.
		Off	Normal operation.
Link/Receive (port, top row)	Green	**On**	There is a physical link with a device.
		Flashing	The port is receiving packets.
		Off	No link.
100M (port, bottom row)	Amber	**On**	The port is operating at 100 Mbps, or manually configured to 100Base-TX.
		Off	The port is operating at 10 Mbps.

If the POWER LED does not light green, see Chapter 3, "Troubleshooting", for further information.

3. Connect the data cables, making sure each connection has a good valid link and that the switch is receiving packets.

Installing the Switch in the Rack

Caution
Do not use power tools to perform this installation.

1. Remove all cables and power cord from the switch (if previously attached).
2. Remove the snap-on plastic feet, as shown in Figure 2-1.

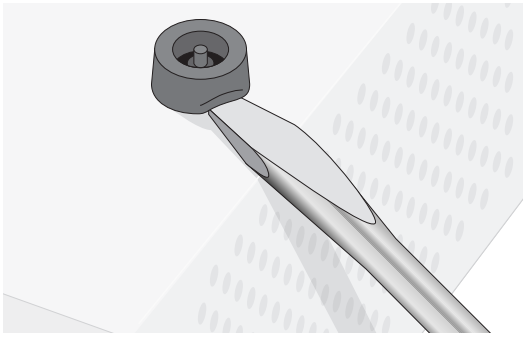


Figure 2-1 Removing the Feet

Caution
Air vents must not be blocked and must have free access to the room ambient air for cooling. ☞ 13

3. Attach the rackmounting brackets to each side of the switch, using the 6 flathead screws that came with the switch package.

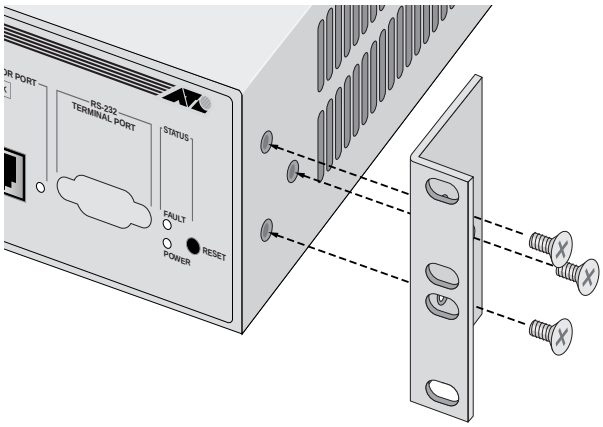


Figure 2-2 Attaching Rackmounting Brackets

4. Mount the switch in the rack using standard screws (not provided).

   Ensure that there is unrestricted air flow around the switch.

5. Apply power to the unit as follows:

> **Caution**
> Power cord is used as a disconnection device. To de-energise equipment disconnect the power cord. ☞ 10

   Attach the power cord to the unit and plug it in the power source. Verify that the POWER LED lights green. See Table 2-1 on page 2-4.

   As power is applied to the switch, the FAULT LED flashes as the switch runs internal self testing.

   If the POWER LED does not light green, see Chapter 3, "Troubleshooting", for further information.

6. Connect the data cables, making sure each connection has a good valid link and that the switch is receiving packets.

Installing the Media Dependent Adapters (MDAs)

If you have the AT-FS718 switch, you may order and install one or both types of MDAs in any combination:

- The AT-A10 with the 100Base-TX port
- The AT-A11 with the 100Base-FX port

These MDAs are installed in either the Port A or Port B slot on the switch. Contact your Allied Telesyn representative for ordering information.

MDA Package Contents

Check your MDA package for the following items:

- One MDA, either the AT-A10 or the AT-A11
- The AT-A10 and AT-A11 Quick Install Guide
- Three Phillips flathead screws
- Warranty card.

MDA Installation

You may install the MDAs in any slot position, Port A or Port B.

> **Warning**
> LIGHTNING DANGER
> DO NOT WORK on equipment or CABLES during periods of LIGHTNING ACTIVITY. 9

1. Disconnect the switch's power cord, if attached.
2. Unscrew the three Phillips flathead screws on the switch's blank faceplate and save for future use. Keep the blank panel attached if the MDA slot is empty.

> **Caution**
> Do not remove the MDA blank faceplates if you are not installing MDAs.

3. Unpack the MDA making sure to observe ESD precautions.

   The standoff on the MDA guides it correctly into position so that the MDA's 50-pin plug aligns with the 50-pin receptacle on the main board. Refer to Figure 2-3 for the location of the standoff and the 50-pin connector.

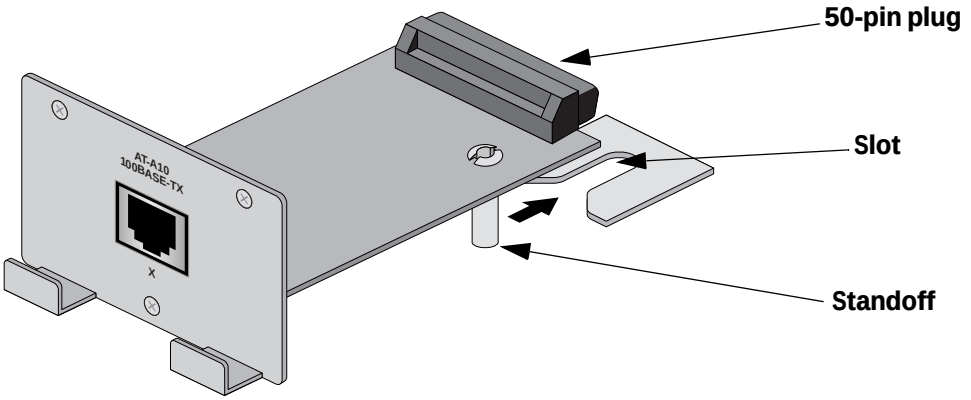


Figure 2-3 Guiding the MDA's Standoff Into Its Slot

4. Slide the MDA into its empty slot making sure that the standoff is aligned properly. See Figure 2-3.
5. Push the MDA into position so that the front panel contacts the front of the switch's chassis. See Figure 2-4.

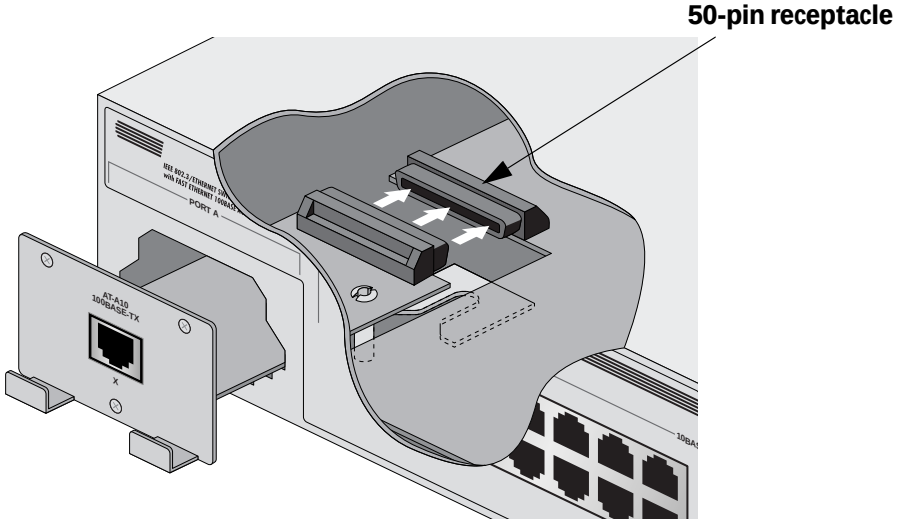


Figure 2-4 Connecting the 50-pin Plug

6. Secure the MDA to the front of the switch with the Phillips flathead screws that came with the MDA package.
7. Apply power to the unit as follows:

⚠ Caution
The power cord is used as a disconnect device. To de-energize equipment, disconnect the power cord. ∽ 10

Reattach the power cord to the unit and plug it into the power source. Verify that the POWER LED lights green.

8. Connect the data cable. Verify that the uplink's LEDs on the switch front panel lights green. The LEDs light as described in Table 2-2.

Table 2-2 Uplink Port LEDs

Uplink Port LED (Port A or B)	Color	State	Description
LINK/RECEIVE (port, top row)	Green	**On**	There is a physical link with the device.
		Flashing	The port is receiving packets.
		Off	No link.
100M (port, bottom row)	Amber	**On**	The port is operating at 100 Mbps.
		Off	The port is operating at 10 Mbps.

Connecting Devices to the Switch

The switch supports connectivity with DTEs such as workstations and servers, and also DCEs such as hubs, routers, and other switches. The switch supports devices that operate at fixed speeds, 10 Mbps or 100 Mbps, or auto-negotiating, 10/100 Mbps.

When connecting devices, consider the following:

- For dedicated 10Base-T connections, use Category 3, 4, or 5 Unshielded Twisted pair (UTP) cables with maximum length of 328 ft (100 m).
- For 10Base-T/100Base-TX or dedicated 100Base-TX connections, use Category 5 UTP cables with maximum length of 328 ft (100 m).
- For 100Base-FX fiber connections, use 50/125- or 62.5/125-micron multimode fiber cables with maximum length of 1,351 ft (412 m) for half-duplex or 1.25 miles (2 km) for full-duplex.
- Use straight-through cables to connect to workstations and servers.
- Use crossover cables to connect to hubs, routers, and other switches.

The switch is now operational. As needed, configure the ports, run diagnostics or update software using a terminal as described in the remaining topics in this chapter.

See Chapter 4 for examples of switch applications in a network environment.

Setting Up The Terminal for Port Configuration, and Diagnostics or Software Update

1. Connect your terminal to the RS232 connector on the switch's front panel. Use an RS232, DB-9 straight-through serial cable.
2. Access your terminal emulation program, i.e., VT100.
3. Set your terminal emulator to the following:
   - — Data bits: **8**
   - — Stop bits: **1**
   - — Parity: **None**
   - — Baud rate: **9600**
4. Press **RETURN**.
5. Press **RESET** on the switch front panel.

   The switch runs diagnostics and displays the following:

```
Press any key to run diagnostics or reload system software
```

   You can press any key or wait for the initial diagnostics to complete and display the Port Status menu.

See "Diagnostics Menu" on page 2-17 for information on using the diagnostics, downloading a software update, changing the switch terminal Baud rate, or returning the switch to factory default settings.

See "Port Configuration" on page 2-12 for information on configuring the ports.

Port Configuration

Port configuration defines the status and modes for each port. The default configuration and a description of each setting follow the configuration steps below.

Steps To View Port Status Or Change Port Configuration

Connect and setup a terminal as described on page 2-11. The switch displays the `Port Status` menu and provides access to the `Port Configuration` menu for a port.

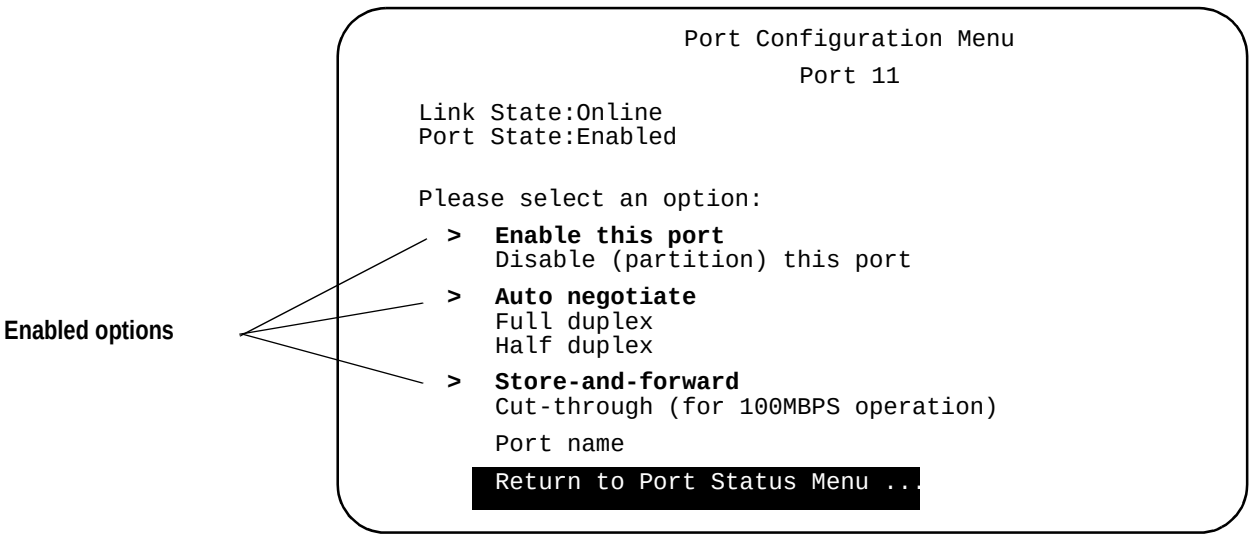
1. The `Port Status` displays a list of ports. The example below shows a switch with eight ports online.

```
          Allied Telesyn AT-FS718 Ethernet Switch: 1.3

Port                Link          Status    Mode
1:                  Online        Enabled   Auto negotiate
2:                  Online        Enabled   Auto negotiate
3:                  Online        Enabled   Auto negotiate
4:                  Online        Enabled   Auto negotiate
5:                  Offline       Enabled   Auto negotiate
6:                  Offline       Enabled   Auto negotiate
7:                  Offline       Enabled   Auto negotiate
8:                  Offline       Enabled   Auto negotiate
9:                  Online        Enabled   Auto negotiate
10:                 Online        Enabled   Auto negotiate
11:                 Online        Enabled   Auto negotiate
12:                 Online        Enabled   Auto negotiate

     More ...
     Quit
```

2. Select a port number, for example, Port 11, by pressing the up arrow key to highlight it, and then pressing **RETURN** to display its configuration information:

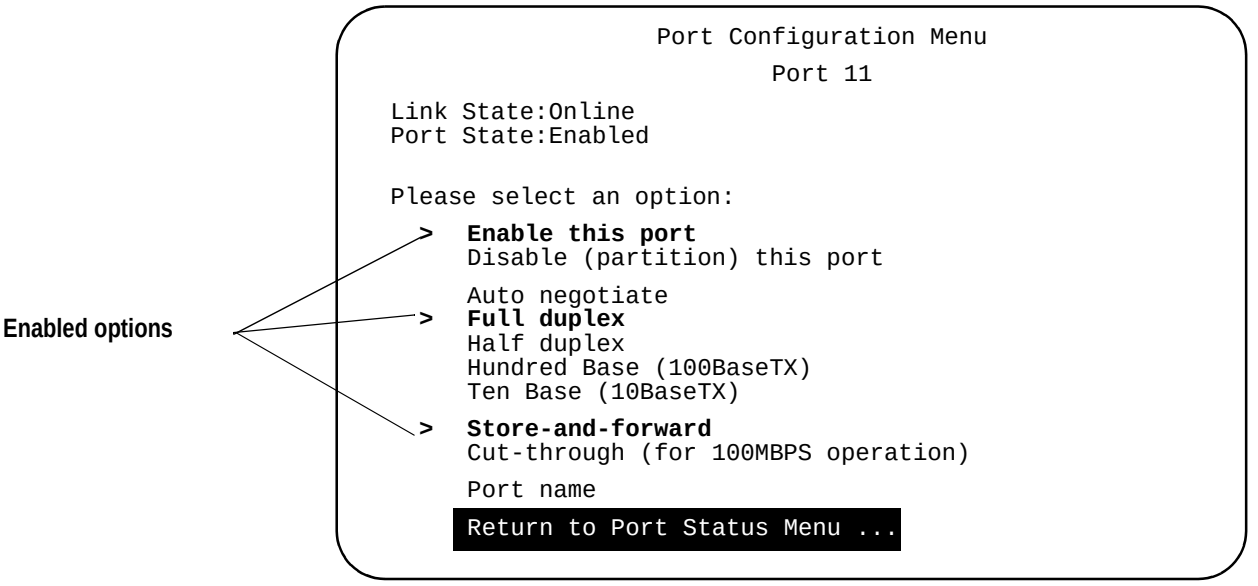


An enabled option is displayed in bold and preceded by a > symbol.

3. To change the port configuration, highlight an option and press **RETURN**.

For example:

- Select `Full duplex` and press **RETURN**. The switch displays the Port Configuration with Auto-negotiate disabled, as shown below.



Note

Very poor communications result when duplex settings on the switch and the device do not match.

If the attached device is auto-negotiating, set the switch port to auto-negotiate.

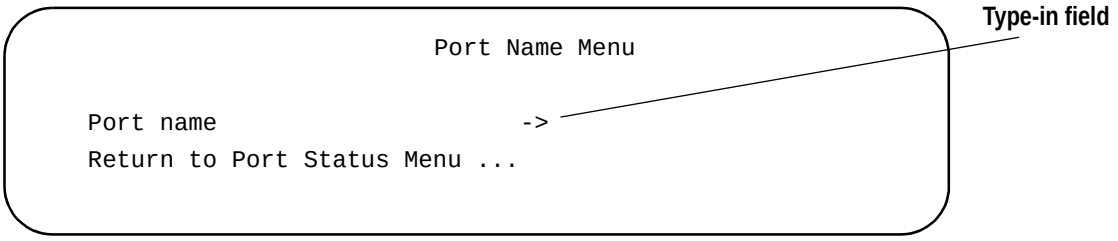
If the device does not support auto-negotiating, set the switch port to the correct speed and duplex for the device.

- To define or change the port name, highlight `Port name` and press **RETURN** to display the menu.

  The first option is highlighted. Type-in fields are preceded with the -> symbol.

Configure the port name at the prompt as follows:

a) Press **RETURN** at the highlighted area to insert a type-in field and enter a text string.



b) Enter a name of up to 20 characters in the `Port name` field.

— To delete the existing information, enter one or more space characters and press **RETURN**.

— If you press **RETURN** before entering any characters, the previous configuration value remains unchanged.

The new or changed port name displays at the top of the screen; a deleted name no longer appears.

c) After naming the port, highlight `Return to Port Status Menu` and press **RETURN** to return to the Port Status Menu.

4. To quit the `Port Status Menu`, highlight **Quit** and press **RETURN**.

   A time-out automatically disconnects the terminal after five minutes of inactivity.

Port Configuration Defaults and Descriptions

The AT-FS724 has 24 station ports. The AT-FS718 has 16 station ports and two uplinks with the following port numbering:

- Ports 1 through 16 = station ports
- Port 18 = uplink port A
- Port 19 = uplink port B

The switch's port configurations are set to the following defaults:

- **Status** - Ports enabled
- **Link** - Offline until there is a valid physical link to a device
- **Transmit Mode** - Auto-negotiating for speed and duplex transmission
- **Switching Mode** - Store-and-forward
- **Port Name** - No name assigned

Enable or disable the port

Ports are enabled as a default. In case of a network problem, you may want to disable a port to prevent problem packets from being forwarded. Once the problem is fixed, you may enable the port again to resume normal operation. You can also disable an unused port to secure it from unauthorized connections.

Transmission mode

The 10Base-T/100Base-TX ports auto-negotiate as a default, while FX ports are fixed at 100 Mbps. Depending upon what the connected device supports, you may configure each switch port as follows:

Auto-negotiating: The port determines the connected device's configuration, 10 Mbps or 100 Mbps speed, full- or half-duplex, and adapts automatically. This setting provides flexibility so that you need not reconfigure the switch if you change the type of device you are connecting to the port. If you disable `Auto-negotiate` by selecting `Full-duplex` or `Half-duplex`, you can also select `Hundred Base (100BaseTX)` for 100 Mbps or `Ten Base (10BaseTX)` for 10 Mbps operation.

Full-duplex: You may use this setting if the connected device supports full-duplex; that is, transmit and receive communications happen simultaneously.

Half-duplex: You may use this setting if the connected device supports half-duplex; that is, transmit and receive communications do not happen simultaneously.

Switching mode

Ports are set to store-and-forward as a default. With the available switching options, you can optimize performance and enable error checking.

Store-and-forward: With this setting, the port waits to receive an entire packet before forwarding the packet to its destination; the port forwards only those packets without errors. The port automatically goes to the store-and-forward mode when data is exchanged between 10Base-T and 100Base-TX ports.

Cut-through (for 100 Mbps operation): This is available only at 100 Mbps transmission speed. The port starts to forward the packet once the packet has exceeded the smallest size (64 bytes), therefore filtering fragment frames or runts. This method provides low latency for forwarding frames and also provides some network error protection.

Port name

The default is no port name assigned. The port name can be up to 20 characters.

Diagnostics Menu

The Diagnostics Menu provides selection of diagnostic tests, XMODEM download of updated system (switch) software, or switch terminal speed (Baud rate). Also, you can set the switch to the factory default settings.

Steps to Use the Diagnostics Menu

Connect and setup a terminal as described on page 2-11. After reset, the switch runs diagnostics and displays the following:

```
Press any key to run diagnostics or reload system software
```

1. Press any key to display the Diagnostics Menu.

   The Diagnostics Menu shows the diagnostics revision level on the top line of the menu and a list of options.

2. Select a menu option by typing the first letter on the line. For example, run the RAM diagnostic by pressing **R**. Wait for the test to complete to see the results displayed.

   - To run a test continuously, press **C** and then the diagnostic letter. For example, typing **CR** executes the RAM test continuously until you press **RETURN**.
   - To exit the displayed results and return to the Diagnostics Menu, press **RETURN**.

3. To quit the Diagnostics Menu type **B**. This Boots the switch and displays the Port Status Menu. Select **`Quit`** to exit the Ports Status Menu.

Diagnostics Menu Options

The Diagnostics Menu options are described below.

Diagnostic tests

- Use options listed `R:` through `O:` to test the switch. Results are either Good or Failed.
- Options `M:` and `P:` are diagnostic tools and are not used.

Exit Diagnostics Menu

Use option `B:Boot Window` to escape from the Diagnostics Menu when you are done. This is the normal way to leave the menu.

Software update

Use option `X:` to download updated system (switch) software using XMODEM.

> Note
> The transfer speed of the download is based on the Baud rate. See "Terminal speed (switch)" on page 18 before using to change the switch terminal speed to 19200 for optimal transfer rate.

After you select the X: option, the switch displays a prompt to “Start your XMODEM transfer.” Initiate the download from your XMODEM host. The XMODEM host displays the download in progress, similar to the following message:

XMODEM automatically boots the switch at the end of the download and displays the Port Status Menu. Check the display for the new software version number.

Defaults

Use option D: to restore all the switch configuration data to the factory defaults; this includes returning the Terminal Speed (Baud rate) for the switch to 9600.

Terminal speed (switch)

Use option Z: to change the terminal speed of the switch. After you select this option, the switch displays a prompt; select the Baud rate (number) and press **RETURN**. The switch terminal speed is now the Baud rate you selected. Next, go to the terminal emulator and select the matching Baud rate.

> Note
> The switch maintains the selected terminal speed but returns to the default 9600 Baud rate after reset.

Where to Go Next

You can visit our Allied Telesyn Technical Support website at **www.alliedtelesyn.com** for current product information, including any software update.

Chapter 3

Troubleshooting

This chapter provides information on how to detect and resolve problems with the AT-FS718 and AT-FS724 switches.

At the First Sign of a Problem

Perform the following tasks when you first become aware of a problem with the switch:

- Verify correct network cabling. See "Network Cabling Problems" on page 3-2.
- Use the switch LEDs to confirm operation or a problem. See Table 3-1 on page 3-3.
- If problems still persist, for example, the **FAULT** LED remains on, contact Allied Telesyn Technical Support. See "Contacting Technical Support" on page 3-2.

Network Cabling Problems

Poor network performance or no communications may occur as a result of improper cable length or type.

If you have 100Base-TX (Fast Ethernet), some network problems may be related to exceeding cabling distances. Refer to the standard IEEE 802.3u, Clause 29.3.1.2 on **Round Trip Collision Delay**. This document specifies that the collision domain diameter must be within the following limits:

- Under 328 ft (100 m) for UTP cabling
- Under 1,351 ft (412 m) for half-duplex fiber cabling (Fiber standards under ANSI X3T12 specify 2 km for full-duplex fiber cabling.)

Proper cable type must be used:

- 100Base -TX requires Category 5 UTP.
- 100Base-FX requires 62.5/125 1300 nm multimode fiber.

Contacting Technical Support

When contacting Allied Telesyn for support on any of its products, provide Technical Support with the following information:

- Model and serial number
- Software version number (displayed on the top of the Port Status Menu)
- Description of the problem

See the Allied Telesyn website at **www.alliedtelesyn.com** for a list of worldwide Allied Telesyn locations and individual telephone, fax, and email information for Technical Support.

Switch LEDs

The switch LEDs indicate proper operation or problems with the port and power. Table 3-1 describes the switch LEDs.

Table 3-1 Switch LEDs

LED	Color	State	Description
POWER (system)	Green	**On**	The switch is receiving power, voltage is within the acceptable range, and the power supply is working.
		Off	No power.
FAULT (system)	Red	**On**	The switch is malfunctioning.
		Flashing	The switch is booting, running diagnostics, writing images to FLASH, or transferring files via XMODEM.
		Off	Normal operation.
Link/Receive (port, top row)	Green	**On**	There is a physical link with a device.
		Flashing	The port is receiving packets.
		Off	No link.
100M (port, bottom row)	Amber	**On**	The port is operating at 100 Mbps, or is manually configured to 100Base-TX.
		Off	The port is operating at 10 Mbps.

Common Problems

This section lists common possible sources of error and actions required to fix them.

LINK/RECEIVE LED on Any Port is Off

This may indicate:

- ❑ A loose data cable.
- ❑ A wrong cable type used or maximum cable length exceeded.
- ❑ The device at the other end of the connection is turned **off**.
- ❑ The data cable is not wired correctly (straight / crossed) for the device.
- ❑ The network administrator manually disabled the port through the Port Configuration menu.
- ❑ The port's selected transmission mode does not match that of the attached device.

Perform the following steps in sequence; you need not proceed to the next step if the problem is resolved:

1. Make sure the data cables are secure.
2. Make sure the device at the end of the connection is turned **on**.
3. Make sure the data cable is wired correctly (straight / crossed) for the device.
4. Connect a terminal and check the port status; see "Port Configuration" on page 2-12 for details.
   - ❑ If the port is `Enabled`, make sure the transmission speed matches that of the connected device (auto-negotiating, full- or half-duplex).

Note
Very poor communications result when duplex settings on the switch and the device do not match.
If the attached device is auto-negotiating, set the switch port to auto-negotiate.
If the device does not support auto-negotiating, set the switch port to the correct speed and duplex for the device.

- If the port is `Disabled`, someone has manually disabled the port for a specific reason. Verify that the reason no longer exists before you enable this port.

5. Verify that the Link LED is On. For the AT-FS718 with the AT-A11, the transmit pair must be connected to the receive pair on the attached device. If the Link LED is **Off**, reverse the transmit and receive pair at the attached device.
6. Contact Allied Telesyn Technical Support for help.

POWER LED is Off

If there is no power to the switch, it cannot function.

A **POWER** LED that is **off** may indicate:

- A loose power cord.
- Power supply failure, malfunction, or loss of power to the power supply.
- A power supply voltage below acceptable levels.
- A high switch temperature due to fan failure or ambient temperature extreme.

Perform the following steps in sequence; you need not proceed to the next step if the problem is resolved:

1. Secure the power cord to the power source and check the **POWER** LED to see if it is **on**.
2. Ensure that the voltage is within the required levels in your region.
3. Contact Allied Telesyn Technical Support for help.

FAULT LED is On

This might indicate a problem with the switch, such as:

- Power-on diagnostics has failed

Perform the following steps in sequence; you need not proceed to the next step if the problem is resolved:

1. Reset the switch by pressing the **RESET** button on the front panel.
2. Make sure the RS232 connection from the local terminal or PC to the switch is secure; change the cable if necessary.
3. Unplug the switch from the power source, then plug it back in again.
4. Contact Allied Telesyn Technical Support for help.

Chapter 4

Switch Configurations

This chapter provides network configuration examples using the switch models described in this guide.

The Switch in a Standalone Configuration

Figure 4-1 shows the AT-FS724 used as a standalone switch for a group of heavy traffic users. Switching is brought to the desktop either through a single end-station per switch port or through a multi-port hub. A 100 Mbps server is connected to a port, providing end stations high-speed accessibility to its applications.

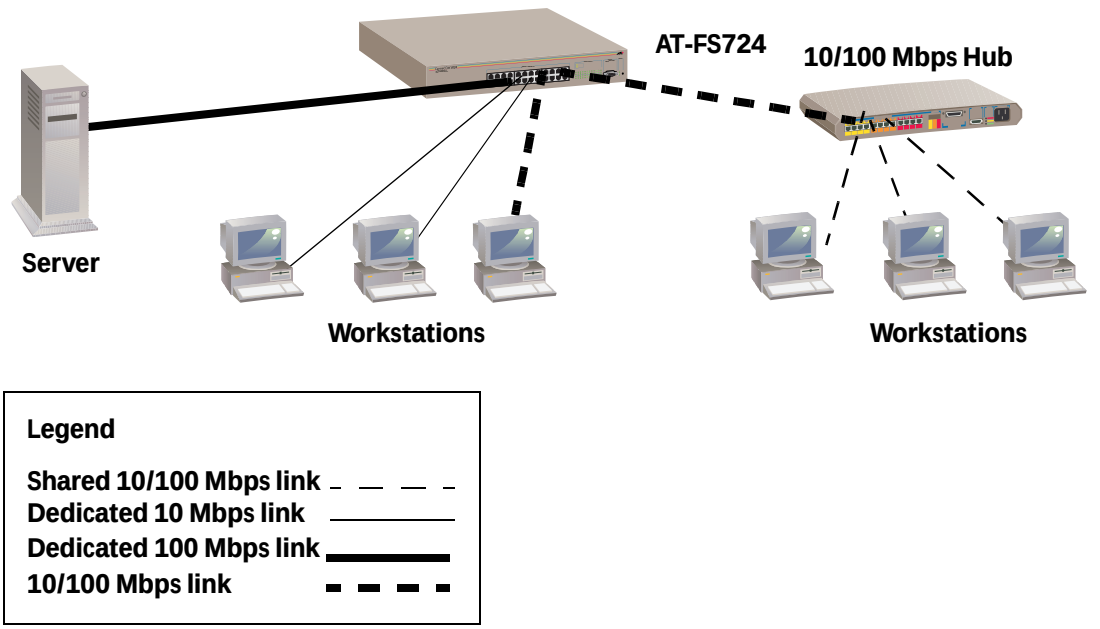


Figure 4-1 The AT-FS724 Switch in Standalone Configuration

The Switch in Workgroup Configurations

Figure 4-2 shows how the different switches fit into a large corporate network with a Fast Ethernet infrastructure. A switch is located on each floor and servers are centralized in one room.

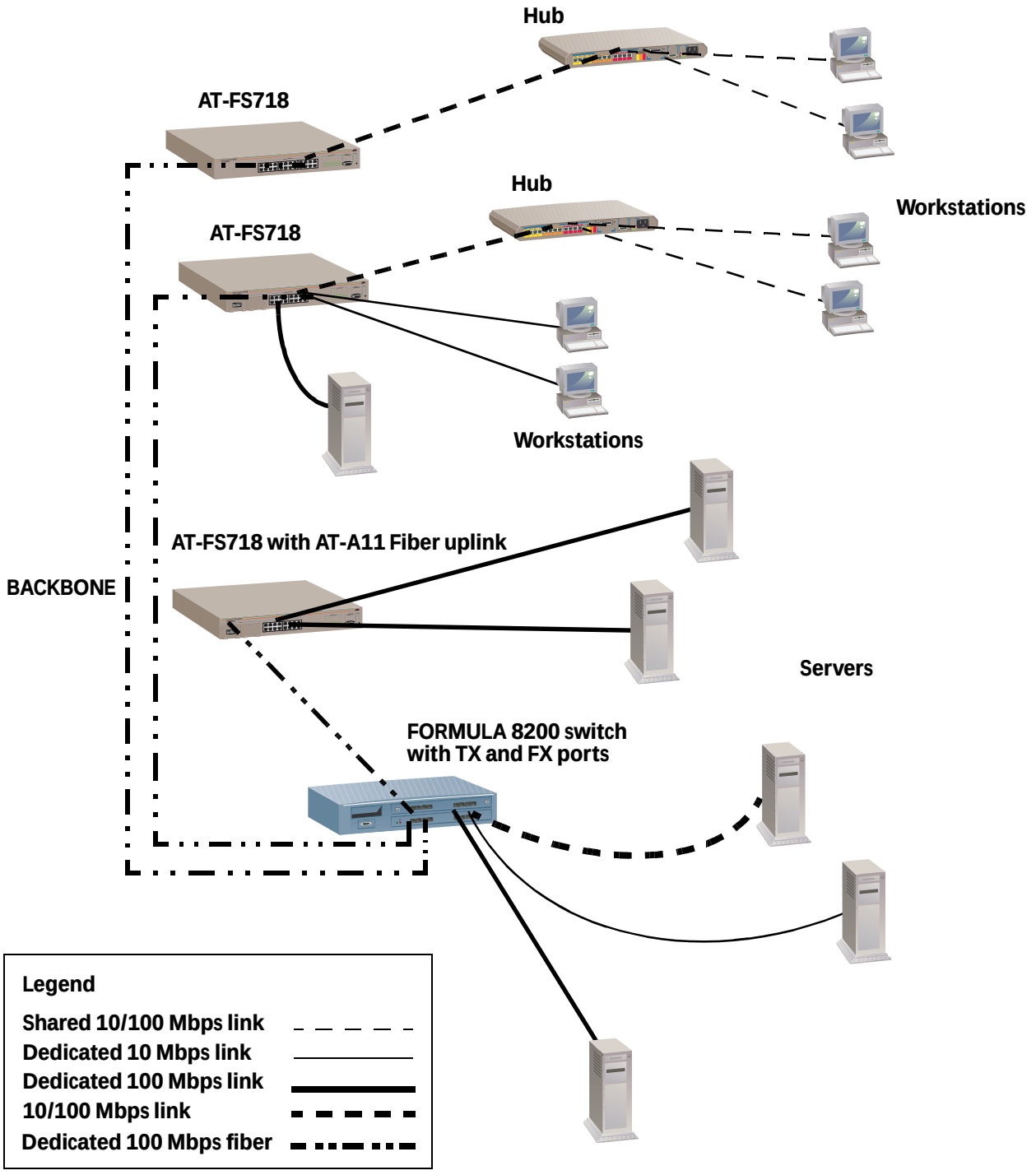


Figure 4-2 Switches in Workgroup Configurations

Appendix A

Translated Safety Information

IMPORTANT: This appendix contains multiple-language translations for the safety statements in this guide.

WICHTIG: Dieser Anhang enthält Übersetzungen der in diesem Handbuch enthaltenen Sicherheitshinweise in mehreren Sprachen.

VIGTIGT: Dette tillæg indeholder oversættelser i flere sprog af sikkerhedsadvarslerne i denne håndbog.

BELANGRIJK: Deze appendix bevat vertalingen in meerdere talen van de veiligheidsopmerkingen in deze gids.

IMPORTANT: Cette annexe contient la traduction en plusieurs langues des instructions de sécurité figurant dans ce guide.

TÄRKEÄÄ: Tämä liite sisältää tässä oppaassa esiintyvät turvaohjeet usealla kielellä.

IMPORTANTE: questa appendice contiene traduzioni in più lingue degli avvisi di sicurezza di questa guida.

VIKTIG: Dette tillegget inneholder oversettelser til flere språk av sikkerhetsinformasjonen i denne veiledningen.

IMPORTANTE: Este anexo contém traduções em vários idiomas das advertências de segurança neste guia.

IMPORTANTE: Este apéndice contiene traducciones en múltiples idiomas de los mensajes de seguridad incluidos en esta guía.

OBS! Denna bilaga innehåller flerspråkiga översättningar av säkerhetsmeddelandena i denna handledning.

RADIATED ENERGY
U.S. Federal Communications
Note: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Note: Modifications or changes not expressly approved by the manufacturer or the FCC can void your right to operate this equipment.

Canadian Department of Communications
This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Réglement sur le matériel brouilleur du Canada.

1 RFI Emission — EN55022 Class A

2 WARNING: In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

3 Immunity — EN50082-1

4 Electrical Safety — TUV-EN60950, UL1950, CSA 950

5  Laser — EN60825

At time of installation the Fiber Optic Lasers comply with FDA Radiation Performance Standard 21CFR Subchapter J, applicable at date of manufacture.

6 Warning Class 1 Laser product.

7 Warning Do not stare into the Laser beam.

8 
ELECTRICAL NOTICES
WARNING: ELECTRIC SHOCK HAZARD
To prevent ELECTRIC shock, do not remove cover. No user-serviceable parts inside. This unit contains HAZARDOUS VOLTAGES and should only be opened by a trained and qualified technician. To avoid the possibility of ELECTRIC SHOCK disconnect electric power to the product before connecting or disconnecting the LAN cables.

9 LIGHTNING DANGER
DANGER: DO NOT WORK on equipment or CABLES during periods of LIGHTNING ACTIVITY.

10 CAUTION: POWER CORD IS USED AS A DISCONNECTION DEVICE. TO DE-ENERGISE EQUIPMENT disconnect the power cord.

ELECTRICAL—AUTO VOLTAGE ADJUSTMENT
This product will automatically adjust to any voltage between the ranges shown on the label.

11 ELECTRICAL—TYPE CLASS 1 EQUIPMENT
THIS EQUIPMENT MUST BE EARTHED. Power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts.

12 ELECTRICAL—CORD NOTICE
Use power cord, maximum 4.5 meters long, rated 5 amp minimum, 250V, made of <HAR> cordage molded IEC 320 connector on one end and on the other end a plug approved by the country of end use.

WARNING: Only use installed products in the HORIZONTAL position. DO NOT USE VERTICALLY.

13 CAUTION: Air vents must not be blocked and must have free access to the room ambient air for cooling.

14 OPERATING TEMPERATURE
This product is designed for a maximum ambient temperature of 40 degrees C.

15 All Countries: Install product in accordance with local and National Electrical Codes.

1	Hochfrequenzstörung	EN55022 Klasse A

2 WARNUNG: Bei Verwendung zu Hause kann dieses Produkt Funkstörungen hervorrufen. In diesem Fall müßte der Anwender angemessene Gegenmaßnahmen ergreifen.

3	Störsicherheit	EN50082-1
4	Elektrische Sicherheit	TUV-EN60950, UL1950, CSA 950
5	Laser	EN60825

6 WARNUNG Laserprodukt der Klasse 1.

7 WARNUNG Nicht direkt in den Strahl blicken.

8 ACHTUNG: GEFÄHRLICHE SPANNUNG
Das Gehäuse nicht öffnen. Das Gerät enthält keine vom Benutzer wartbaren Teile. Das Gerät steht unter Hochspannung und darf nur von qualifiziertem technischem Personal geöffnet werden. Vor Anschluß der LAN-Kabel, Gerät vom Netz trennen.

9 GEFAHR DURCH BLITZSCHLAG
GEFAHR: Keine Arbeiten am Gerät oder an den Kabeln während eines Gewitters ausführen.

10 VORSICHT: DAS NETZKABEL DIENT ZUM TRENNEN DER STROMVERSORGUNG. ZUR TRENNUNG VOM NETZ, KABEL AUS DER STECKDOSE ZIEHEN.

AUTOMATISCHE SPANNUNGSEINSTELLUNG
Dieses Gerät stellt sich automatisch auf die auf dem Etikett aufgeführten Spannungswerte ein.

11 GERÄTE DER KLASSE 1
DIESE GERÄTE MÜSSEN GEERDET SEIN. Der Netzstecker darf nur mit einer vorschriftsmäßig geerdeten Steckdose verbunden werden. Ein unvorschriftsmäßiger Anschluß kann die Metallteile des Gehauses unter gefährliche elektrische Spannungen setzen.

12 NETZKABEL
Das Netzkabel sollte eine maximale Länge von 4,5 Metern, einen Nennwert von mindestens 5 A und 250 V haben, aus HAR-Material hergestellt und mit einer gepreßten, IEC320 entsprechenden, Anschlußverbindung an einem Ende, und am anderen Ende mit einem im Land des Endverbrauchers geprüften Stecker ausgestattet sein.

WARNUNG: Die installierten Produkte dürfen nur in HORIZONTALER Position betrieben werden. NICHT IN VERTIKALER POSITION BETREIBEN.

13 VORSICHT
Die Entlüftungsöffnungen dürfen nicht versperrt sein und müssen zum Kühlen freien Zugang zur Raumluft haben.

14 BETRIEBSTEMPERATUR
Dieses Produkt wurde für den Betrieb in einer Umgebungstemperatur von nicht mehr als 40° C entworfen.

15 ALLE LÄNDER: Installation muß örtlichen und nationalen elektrischen Vorschriften entsprechen.

1 Radiofrekvens forstyrrelsesemission EN55022 Klasse A

2 ADVARSEL: I et hjemligt miljø kunne dette produkt forårsage radio forstyrrelse. Bliver det tilfældet, påkræves brugeren muligvis at tage tilstrækkelige foranstaltninger.

3 Immunitet EN50082-1

4 Elektrisk sikkerhed TUV-EN60950, UL1950, CSA 950

5  Laser EN60825

6 ADVARSEL Laserprodukt av klasse 1.

7 ADVARSEL Stirr ikke på strålen.

8 

ELEKTRISKE FORHOLDSREGLER
ADVARSEL: RISIKO FOR ELEKTRISK STØD
For at forebygge ELEKTRISK stød, undlad at åbne apparatet. Der er ingen indre dele, der kan repareres af brugeren. Denne enhed indeholder LIVSFARLIGE STRØMSPÆNDINGER og bør kun åbnes af en uddannet og kvalificeret tekniker. For at undgå risiko for ELEKTRISK STØD, afbrydes den elektriske strøm til produktet, før LAN-kablerne monteres eller afmonteres.

9 FARE UNDER UVEJR
FARE: UNDLAD at arbejde på udstyr eller KABLER i perioder med LYNAKTIVITET.

10 ADVARSEL: DEN STRØMFØRENDE LEDNING BRUGES TIL AT AFBRYDE STRØMMEN. SKAL STRØMMEN TIL APPARATET AFBRYDES, tages ledningen ud af stikket.

ELEKTRISK—AUTOMATISK SPÆNDINGSREGULERING
Dette apparat vil automatisk tilpasse sig enhver spænding indenfor de værdier, der er angivet på etiketten.

11 ELEKTRISK—KLASSE 1-UDSTYR
DETTE UDSTYR KRÆVER JORDFORBINDELSE. Stikket skal være forbundet med en korrekt installeret jordforbunden stikkontakt. En ukorrekt installeret stikkontakt kan sætte livsfarlig spænding til tilgængelige metaldele.

12 ELEKTRISK—LEDNING
Anvend ledning af maksimum 4,5 meters længde, med en kapacitet på minimum 5 amp., 250 v, bestående af en IEC 320 connector med indstøbt <HAR> ledning i den ene ende og et stik i den anden ende, der er godkendt af myndighederne i brugerlandet.

ADVARSEL: Betjen kun de installerede produkter i den HORISONTALE position (vandret). BETJEN DEM IKKE I DEN VERTIKALE POSITION (lodret).

13 ADVARSEL: Ventilationsåbninger må ikke blokeres og skal have fri adgang til den omgivende luft i rummet for afkøling.

14 BETJENINGSTEMPERATUR
Dette apparat er konstrueret til en omgivende temperatur på maksimum 40 grader C.

15 ALLE LANDE: Installation af produktet skal ske i overensstemmelse med lokal og national lovgivning for elektriske installationer.

1 RFI Emissie EN55022 Klasse A

2 WAARSCHUWING: Binnenshuis kan dit product radiostoring veroorzaken, in welk geval de gebruiker verplicht kan worden om gepaste maatregelen te nemen.

3 Immuniteit EN50082-1

4 Electrische Veiligheid TUV-EN60950, UL1950, CSA 950

5  Laser EN60825

6 WAARSHUWING Klasse-1 laser produkt.

7 WAARCHUWING Neit in de straal staren.

8 

WAARSCHUWINGEN MET BETREKKING TOT ELEKTRICITEIT
WAARSCHUWING: GEVAAR VOOR ELEKTRISCHE SCHOKKEN
Verwijder het deksel niet, teneinde ELEKTRISCHE schokken te voorkomen. Binnenin bevinden zich geen onderdelen die door de gebruiker onderhouden kunnen worden. Dit toestel staat onder GEVAARLIJKE SPANNING en mag alleen worden geopend door een daartoe opgeleide en bevoegde technicus. Om het gevaar op ELEKTRISCHE SCHOKKEN te vermijden, moet u het toestel van de stroombron ontkoppelen alvorens de LAN-kabels te koppelen of ontkoppelen.

9 GEVAAR VOOR BLIKSEMINSLAG
GEVAAR: NIET aan toestellen of KABELS WERKEN bij BLIKSEM.

10 WAARSCHUWING: HET TOESTEL WORDT UITGESCHAKELD DOOR DE STROOMKABEL TE ONTKOPPELEN.OM HET TOESTEL STROOMLOOS TE MAKEN: de stroomkabel ontkoppelen.

ELEKTRISCH: AUTOMATISCHE AANPASSING VAN DE SPANNING
Dit toestel past zich automatisch aan elke spanning aan, tussen de op het label vermelde waarden.

11 ELEKTRISCHE TOESTELLEN VAN KLASSE 1
DIT TOESTEL MOET GEAARD WORDEN. De stekker moet aangesloten zijn op een juist geaarde contactdoos. Een onjuist geaarde contactdoos kan de metalen onderdelen waarmee de gebruiker eventueel in aanraking komt onder gevaarlijke spanning stellen.

12 ELEKTRISCHE SNOEREN
Gebruik een elektrisch snoer, maximum 4,5 meter lang, berekend voor ten minste 5 ampåçère, 250 V, uit HAR vervaardigd, met aan het ene uiteinde een gevormd IEC 320 aansluitstuk en aan het andere uiteinde een stekker die goedgekeurd is door het land waar het toestel gebruikt zal worden.

WAARSCHUWING: Gebruik de geïnstalleerde produkten slechts in HORIZONTALE stand. GEBRUIK ZE NIET VERTICAAL.

13 OPGELET: De ventilatiegaten mogen niet worden gesperd en moeten de omgevingslucht ongehinderd toelaten voor afkoeling.

14 BEDRIJFSTEMPERATUUR
De omgevingstemperatuur voor dit produkt mag niet meer bedragen dan 40 graden Celsius.

15 ALLE LANDEN: het toestel installeren overeenkomstig de lokale en nationale elektrische voorschriften.

1 Emission d'interférences radioélectriques EN55022 Classe A

2 MISE EN GARDE: dans un environnement domestique, ce produit peut provoquer des interférences radioélectriques. Auquel cas, l'utilisateur devra prendre les mesures adéquates.

3 Immunité EN50082 - 1

4 Sécurité électrique TUV-EN60950, UL1950, CSA 950

5  Laser EN60825

6 ATTENTION Producit laser di classe 1.

7 ATTENTION Ne pas fixer le faisceau des yeux.

8 

INFORMATION SUR LES RISQUES ÉLECTRIQUES
AVERTISSEMENT : DANGER D'ÉLECTROCUTION
Pour éviter toute ÉLECTROCUTION, ne pas ôter le revêtement protecteur du matériel. Ce matériel ne contient aucun élément réparable par l'utilisateur. Il comprend des TENSIONS DANGEREUSES et ne doit être ouvert que par un technicien dûment qualifié. Pour éviter tout risque d'ÉLECTROCUTION, débrancher le matériel avant de connecter ou de déconnecter les câbles LAN.

9 DANGER DE FOUDRE
DANGER: NE PAS MANIER le matériel ou les CÂBLES lors d'activité orageuse.

10 ATTENTION: LE CORDON D'ALIMENTATION SERT DE MISE HORS CIRCUIT. POUR COUPER L'ALIMENTATION DU MATÉRIEL, débrancher le cordon.

RÉGLAGE DE TENSION AUTOMATIQUE ÉLECTRIQUE
Ce matériel peut s'ajuster automatiquement sur n'importe quelle tension comprise dans la plage indiquée sur l'étiquette.

11 ÉQUIPEMENT DE CLASSE 1 ÉLECTRIQUE
CE MATÉRIEL DOIT ÊTRE MIS A LA TERRE. La prise de courant doit être branchée dans une prise femelle correctement mise à la terre car des tensions dangereuses risqueraient d'atteindre les pièces métalliques accessibles à l'utilisateur.

12 INFORMATION SUR LE CORDON ÉLECTRIQUE
Utiliser un cordon secteur de 4.5 mètres de long maximum, calibré à 5 ampères minimum, 250V, fabriqué en câblage <HAR> avec connecteur IEC 32C moulé à une extrémité, et à l'autre extrémité, une prise de courant mâle répondant aux normes du pays d'utilisation.

AVERTISSEMENT: utiliser uniquement le matériel installé en position HORIZONTALE. NE PAS UTILISER EN POSITION VERTICALE.

13 ATTENTION: Ne pas bloquer les fentes d'aération, ceci empêcherait l'air ambiant de circuler librement pour le refroidissement.

14 TEMPÉRATURE DE FONCTIONNEMENT
Ce matériel est capable de tolérer une température ambiante maximum de 40 degrés Celsius.

15 POUR TOUS PAYS: Installer le matériel conformément aux normes électriques nationales et locales.

1 Radioaaltojen häirintä EN55022 Luokka A

2 VAROITUS: Kotiolosuhteissa tämä laite voi aiheuttaa radioaaltojen häiröitä, missä tapauksessa laitteen käyttäjän on mahdollisesti ryhdyttävä tarpeellisiin toimenpiteisiin.

3 Kestävyys EN50082-1

4 Sähköturvallisuus TUV-EN60950, UL1950, CSA 950

5  Laser EN60825

6 VAROITUS Luokan 1 Lasertuote.

7 VARIOTUS Älä katso säteeseen.

8 

SÄHKÖÖN LIITTYVIÄ HUOMAUTUKSIA
VAROITUS: SÄHKÖISKUVAARA
Estääksesi SÄHKÖISKUN älä poista kantta. Sisällä ei ole käyttäjän huollettavissa olevia osia. Tämä laite sisältää VAARALLISIA JÄNNITTEITÄ ja sen voi avata vain koulutettu ja pätevä teknikko. Välttääksesi SÄHKÖISKUN mahdollisuuden katkaise sähkövirta tuotteeseen ennen kuin liität tai irrotat paikallisverkon (LAN) kaapelit.

9 SALAMANISKUVAARA
HENGENVAARA: ÄLÄ TYÖSKENTELE laitteiden tai KAAPELEIDEN KANSSA SALAMOINNIN AIKANA.

10 HUOMAUTUS: VIRTAJOHTOA KÄYTETÄÄN VIRRANKATKAISULAITTEENA. VIRTA KATKAISTAAN irrottamalla virtajohto.

SÄHKÖ —AUTOMAATTINEN JÄNNITTEENSÄÄTÖ
Tämä tuote säätää automaattisesti mihin tahansa jännitteeseen ohjetarrassa annettujen arvojen välillä.

11 SÄHKÖ—TYYPPILUOKAN 1 LAITTEET
TÄMÄ LAITE TÄYTYY MAADOITTAA. Pistoke täytyy liittää kunnollisesti maadoitettuun pistorasiaan. Virheellisesti johdotettu pistorasia voi altistaa metalliosat vaarallisille jännitteille.

12 SÄHKÖ—JOHTOON LIITTYVÄ HUOMAUTUS
Käytä seuraavanlaista virtajohtoa: maksimipituus 4,5 metriä, minimiteho 5 ampeeria, 250 V, valmistettu <HAR> -johdostosta, muovattu IEC 320 -liitin toisessa päässä ja käyttömaassa hyväksytty pistoke toisessa päässä.

VAROITUS: Asennettuja tuotteita saa ainoastaan käyttää VAAKA-asennossa. PYSTYASENNUSTA EI SAA TEHDÄ.

13 HUOMAUTUS: Ilmavaihtoreikiä ei pidä tukkia ja niillä täytyy olla vapaa yhteys ympäröivään huoneilmaan, jotta ilmanvaihto tapahtuisi.

14 KÄYTTÖLÄMPÖTILA
Tämä tuote on suunniteltu ympäröivän ilman maksimilämpötilalle 40° C.

15 KAIKKI MAAT: Asenna tuote paikallisten ja kansallisten sähköturvallisuusmääräysten mukaisesti.

1 Emissione RFI (interferenza di radiofrequenza) EN55022 Classe A

2 AVVERTENZA: in ambiente domestico questo prodotto potrebbe causare radio interferenza. In questo caso potrebbe richiedersi all'utente di prendere gli adeguati provvedimenti.

3 Immunità EN50082-1

4 Sicurezza elettrica TUV-EN60950, UL1950, CSA 950

5  Laser EN60825

6 AVVERTENZA Prodotto laser di Classe 1.

7 AVERTENZA Non fissare il raggio con gli occhi.

8 

AVVERTENZE ELETTRICHE
ATTENZIONE: PERICOLO DI SCOSSE ELETTRICHE
Per evitare SCOSSE ELETTRICHE non asportare il coperchio. Le componenti interne non sono riparabili dall'utente. Questa unità ha TENSIONI PERICOLOSE e va aperta solamente da un tecnico specializzato e qualificato. Per evitare ogni possibilità di SCOSSE ELETTRICHE, interrompere l'alimentazione del dispositivo prima di collegare o staccare i cavi LAN.

9 PERICOLO DI FULMINI
PERICOLO: NON LAVORARE sul dispositivo o sui CAVI durante PRECIPITAZIONI TEMPORALESCHE.

10 ATTENZIONE: IL CAVO DI ALIMENTAZIONE È USATO COME DISPOSITIVO DI DISATTIVAZIONE. PER TOGLIERE LA CORRENTE AL DISPOSITIVO staccare il cavo di alimentazione.

ELETTRICITÀ—REGOLAZIONE AUTOMATICA DELLA TENSIONE
Questo prodotto regolerà automaticamente la tensione ad un valore compreso nella gamma indicata sull'etichetta.

11 ELETTRICITÀ—DISPOSITIVI DI CLASSE 1
QUESTO DISPOSITIVO DEVE AVERE LA MESSA A TERRA. La spina deve essere inserita in una presa di corrente specificamente dotata di messa a terra. Una presa non cablata in maniera corretta rischia di scaricare una tensione pericolosa su parti metalliche accessibili.

12 ELETTRICITÀ—AVVERTENZA SUL CAVO
Usare un cavo della lunghezza massima di metri 4,5, con capacità minima di 5 A, 250 V, di filo <HAR>, dotato di connettore stampato IEC 320 ad un'estremità e di spina approvata dal paese di destinazione all'altra.

AVVERTENZA: usare i prodotti installati solo in posizione ORIZZONTALE. NON USARE VERTICALMENTE.

13 ATTENZIONE: le prese d'aria non vanno ostruite e devono consentire il libero ricircolo dell'aria ambiente per il raffreddamento.

14 TEMPERATURA DI FUNZIONAMENTO
Questo prodotto è concepito per una temperatura ambientale massima di 40 gradi centigradi.

15 TUTTI I PAESI: installare il prodotto in conformità delle vigenti normative elettriche nazionali.

1 RFI stråling EN55022 Klasse A

2 ADVARSEL: Hvis dette produktet benyttes til privat bruk, kan produktet forårsake radioforstyrrelse. Hvis dette skjer, må brukeren ta de nødvendige forholdsregler.

3 Immunitet EN50082-1

4 Elektrisk sikkerhet TUV-EN60950, UL1950, CSA 950

5  Laser EN60825

6 ADVARSEL Laserprodukt av klasse 1.

7 ADVARSAL Stirr ikke på strålen.

8 
ELEKTRISITET
ADVARSEL: FARE FOR ELEKTRISK SJOKK
For å unngå ELEKTRISK sjokk, må dekslet ikke tas av. Det finnes ingen deler som brukeren kan reparere på innsiden. Denne enheten inneholder FARLIGE SPENNINGER, og må kun åpnes av en faglig kvalifisert tekniker. For å unngå ELEKTRISK SJOKK må den elektriske strømmen til produktet være avslått før LAN-kablene til- eller frakobles.

9 FARE FOR LYNNEDSLAG
FARE: ARBEID IKKE på utstyr eller KABLER i TORDENVÆR.

10 FORSIKTIG: STRØMLEDNINGEN BRUKES TIL Å FRAKOBLE UTSTYRET. FOR Å DEAKTIVISERE UTSTYRET, må strømforsyningen kobles fra.

ELEKTRISK—AUTO SPENNINGSTILPASNING
Dette produktet vil automatisk bli tilpasset hvilken som helst strømspenning i de områdene som vises på etiketten.

11 ELEKTRISK—TYPE 1- KLASSE UTSTYR
DETTE UTSTYRET MÅ JORDES. Strømkontakten må være tilkoplet en korrekt jordet kontakt. En kontakt som ikke er korrekt jordet kan føre til farlig spenninger i lett t ilgjengelige metalldeler.

12 ELEKTRISK—MEDDELELSE OM LEDNINGER
Bruk en strømledning av maksimalt 4.5 m. i lengde, godkjent for minst av 5 amp, 250V, fremstilt av <HAR> ledning IEC 320 koplingsstykke i den ene enden, og i den andre enden en plugg som er blitt godkjent i brukerlandet.

ADVARSEL: Installerte produkter må bare benyttes i HORISONTAL posisjon. MÅ IKKE BENYTTES VERTIKALT.

13 FORSIKTIG: Lufteventilene må ikke blokkeres, og må ha fri tilgang til luft med romtemperatur for avkjøling.

14 DRIFTSTEMPERATUR
Dette produktet er konstruert for bruk i maksimum romtemperatur på 40 grader celsius.

15 ALLE LAND: Produktet må installeres i samsvar med de lokale og nasjonale elektriske koder.

1 Emissão de interferência de radiofrequência EN55022 Classe A

2 AVISO: Num ambiente doméstico este produto pode causar interferência na radiorrecepção e, neste caso, pode ser necessário que o utente tome as medidas adequadas.

3 Imunidade EN50082-1

4 Segurança Eléctrica TUV-EN60950, UL1950, CSA 950

5  Laser EN60825

6 AVISO Produto laser de classe 1

7 AVISO Não olhe fixamente para o raio.

8  AVISOS SOBRE CARACTERÍSTICAS ELÉTRICAS
ATENÇÃO: PERIGO DE CHOQUE ELÉTRICO
Para evitar CHOQUE ELÉTRICO, não retire a tampa. Não contém peças que possam ser consertadas pelo usuário. Este aparelho contém VOLTAGENS PERIGOSAS e só deve ser aberto por um técnico qualificado e treinado. Para evitar a possibilidade de CHOQUE ELÉTRICO, desconecte o aparelho da fonte de energia elétrica antes de conectar e desconectar os cabos da LAN.

9 PERIGO DE CHOQUE CAUSADO POR RAIO
PERIGO: NÃO TRABALHE no equipamento ou nos CABOS durante períodos suscetíveis a QUEDAS DE RAIO.

10 CUIDADO: O CABO DE ALIMENTAÇÃO É UTILIZADO COMO UM DISPOSITIVO DE DESCONEXÃO. PARA DESELETRIFICAR O EQUIPAMENTO, desconecte o cabo de ALIMENTAÇÃO.

ELÉTRICO—AJUSTE AUTOMÁTICO DE VOLTAGEM
Este produto ajustar-se-á automaticamente a qualquer voltagem que esteja dentro dos limites indicados no rótulo.

11 ELÉTRICO—EQUIPAMENTOS DO TIPO CLASSE 1
DEVE SER FEITA LIGAÇÃO DE FIO TERRA PARA ESTE EQUIPAMENTO. O plugue de alimentação deve ser conectado a uma tomada com adequada ligação de fio terra. Tomadas sem adequada ligação de fio terra podem transmitir voltagens perigosas a peças metálicas expostas.

12 ELÉTRICO—AVISO SOBRE O CABO DE ALIMENTAÇÃO
Use cabo de alimentação com comprimento máximo de 4,5 metros, com uma capacidade indicada mínima de 5 amp e 250 V, fabricado de material para cabo <HAR> com conector moldado IEC 320 em uma extremidade e, na outra extremidade, um plugue aprovado para uso no país em questão.

CUIDADO! : Use os produtos instalados na posição HORIZONTAL. NÃO OS USE VERTICALMENTE.

13 CUIDADO: As aberturas de ventilação não devem ser bloqueadas e devem ter acesso livre ao ar ambiente para arrefecimento adequado do aparelho.

14 TEMPERATURA DE FUNCIONAMENTO
Este produto foi projetado para uma temperatura ambiente máxima de 40 graus centígrados.

15 TODOS OS PAÍSES: Instale o produto de acordo com as normas nacionais e locais para instalações elétricas.

1 Emisión RFI EN55022 Clase A

2 ADVERTENCIA: en un entorno doméstico, este producto puede causar radiointerferencias, en cuyo caso, puede requerirse del usuario que tome las medidas que sean convenientes al respecto.

3 Inmunidad EN50082-1

4 Seguridad eléctrica TUV-EN60950, UL1950, CSA 950

5  Laser EN60825

6 ¡ADVERTENCIA! Producto láser Clase 1.

7 ¡ADVERTENCIA! No mirat fijamente el haz.

8 

AVISOS ELECTRICOS

ADVERTENCIA: PELIGRO DE ELECTROCHOQUE

Para evitar un ELECTROCHOQUE, no quite la tapa. No hay ningún componente en el interior al cual puede prestar servicio el usuario. Esta unidad contiene VOLTAJES PELIGROSOS y sólo deberá abrirla un técnico entrenado y calificado. Para evitar la posibilidad de ELECTROCHOQUE desconecte la corriente eléctrica que llega al producto antes de conectar o desconectar los cables LAN.

9 PELIGRO DE RAYOS

PELIGRO: NO REALICE NINGUN TIPO DE TRABAJO O CONEXION en los equipos o en LOS CABLES durante TORMENTAS ELECTRICAS.

10 ATENCION: EL CABLE DE ALIMENTACION SE USA COMO UN DISPOSITIVO DE DESCONEXION. PARA DESACTIVAR EL EQUIPO, desconecte el cable de alimentación.

ELECTRICO—AUTO-AJUSTE DE TENSION

Este producto se ajustará automáticamente a cualquier tensión entre los valores máximos y mínimos indicados en la etiqueta.

11 ELECTRICO—EQUIPO DEL TIPO CLASE 1

ESTE EQUIPO TIENE QUE TENER CONEXION A TIERRA. El cable tiene que conectarse a un enchufe a tierra debidamente instalado. Un enchufe que no está correctamente instalado podría ocasionar tensiones peligrosas en las partes metálicas que están expuestas.

12 ELECTRICO—ADVERTENCIA SOBRE EL CABLE

Use un cable eléctrico con un máximo de 4,5 metros de largo, con una capacidad mínima de 5 amperios, 250 V, hecho de cable <HAR>, con el conector moldeado IEC 320 en un extremo y con un enchufe que está aprobado por el país de uso final en el otro.

ADVERTENCIA: Usar únicamente los productos instalados en posición HORIZONTAL. NO USARLOS EN POSICIÓN VERTICAL.

13 ATENCION: Las aberturas para ventilación no deberán bloquearse y deberán tener acceso libre al aire ambiental de la sala para su enfriamiento.

14 TEMPERATURA REQUERIDA PARA LA OPERACIÓN

Este producto está diseñado para una temperatura ambiental máxima de 40 grados C.

15 PARA TODOS LOS PAÍSES: Monte el producto de acuerdo con los Códigos Eléctricos locales y nacionales.

1	Radiostörning	EN55022 Klass A
2	VARNING: Denna produkt kan ge upphov till radiostörningar i hemmet, vilket kan tvinga användaren till att vidtaga erforderliga åtgärder.	
3	Immunitet	EN50082-1
4	Elsäkerhet	TUV-EN60950, UL1950, CSA 950
5	 Laser	EN60825
6	VARNING! Laserprodukt av klass 1.	
7	VARNING! Laserstrålning när enheten är öppen.	
8	 TILLKÄNNAGIVANDEN BETRÄFFANDE ELEKTRICITETSRISK: RISK FÖR ELEKTRISK STÖTFör att undvika ELEKTRISK stöt, ta ej av locket. Det finns inga delar inuti som behöver underhållas. Denna apparat är under HÖGSPÄNNING och får endast öppnas av en utbildad kvalificerad tekniker. För att undvika ELEKTRISK STÖT, koppla ifrån produktens strömanslutning innan LAN-kablarna ansluts eller kopplas ur.	
9	FARA FÖR BLIXTNEDSLAG FARA: ARBETA EJ på utrustningen eller kablarna vid ÅSKVÄDER.	
10	VARNING: NÄTKABELN ANVÄNDS SOM STRÖMBRYTARE FÖR ATT KOPPLA FRÅN STRÖMMEN, dra ur nätkabeln. ELEKTRISKT—AUTOMATISK SPÄNNINGSJUSTERING Denna produkt justeras automatiskt till alla spänningar inom omfånget som indikeras på produktens märkning.	
11	ELEKTRISKT—TYP KLASS 1 UTRUSTNING DENNA UTRUSTNING MÅSTE VARA JORDAD. Nätkabeln måste vara ansluten till ett ordentligt jordat uttag. Ett felaktigt uttag kan göra att närliggande metalldelar utsätts för högspänning. Apparaten skall anslutas till jordat uttag, när den ansluts till ett nätverk.	
12	ELEKTRISKT—ANMÄRKNING BETRÄFFANDE KABELN Använd en kabel med maximum längd 4,5 meter och minimum 5 amp nominal, 250V, av <HAR> kabelfabrikat med ett specialutformat IEC 320-kontaktdon i ena änden och i den andra en plugg som godkänts i landet där produkten används. VARNING: Den installerade produkten bör endast användas i HORISONTALLÄGE. FÅR INTE ANVÄNDAS VERTIKALT.	
13	VARNING: Luftventilerna får ej blockeras och måste ha fri tillgång till omgivande rumsluft för avsvalning.	
14	DRIFTSTEMPERATUR Denna produkt är konstruerad för rumstemperatur ej överstigande 40 grader Celsius.	
15	ALLA LÄNDER: Installera produkten i enlighet med lokala och statliga bestämmelser för elektrisk utrustning.	

Appendix B
Technical Specifications

Table B-1 lists the technical specifications for the AT-FS718 and AT-FS724 switches.

Table B-1: Technical Specifications

Physical Specifications		
	Dimensions (H x W x D)	**Weight**
Base Unit	2.55 in x 16.9 in x 14.5 in (6.48 cm x 42.93 cm x 36.83 cm)	11 lbs (5 kg)
Required ventilation on all sides	7.5 in (19 cm)	
Environmental Specifications		
Operating temperature	32° to 104° F (0° C to 40° C)	
Storage temperature	-4° to 140° F (-20° C to 60° C)	
Operating humidity	5% to 95% non-condensing	
Operating altitude range	up to 9,843 ft (3,000 m)	
Power Specifications		
Maximum power consumption	80 W	
AC input voltage	100-120/200-240VAC~ +6%-10% (autoranging), 1.0/0.5A	
Frequency	50/60 Hz ± 3 cycles of nominal input frequency	
Safety and Electromagnetic Emissions Certifications		
Safety: UL 1950	CSA 22.2 No. 950	EN 60950 (TUV)
EMI: FCC Class A	EN55022 Class A	VCCI Class A
Immunity: EN50082-1	Quality and Reliability: MTBF > 50,000 hrs.	MTTR < 1/2 hr DOA < 1%

Table B-2 shows the pin assignments for the switches' RJ45 connectors.

Table B-2: RJ45 Pin Assignments

Pin Number	Function
1	RD+
2	RD-
3	TD+
4	Unused
5	Unused
6	TD-
7	Unused
8	Unused

Table B-3 lists the specifications for the AT-A10 and AT-A11 media dependent adapters. The MDAs are installed in the AT-FS718 switch's uplink slots.

Table B-3: AT-A10 and AT-A11 Specifications

	AT-A10	AT-A11
Physical Dimensions (H x W x D)	0.85 in x 3 in x 4.5 in (2.16 cm x 7.62 cm x 11.43 cm)	0.85 in x 3 in x 4.5 in (2.16 cm x 7.62 cm x 11.43 cm)
Weight	.10 lbs (.045 kg)	.10 lbs (.045 kg)
Connector Type	RJ45	SC multimode fiber 50/125- and 62.5/125-micron multimode fiber cable
Maximum Distance	328 ft (100 m) Category 5 UTP	Half-duplex: 1,351 ft (412 m) Full-duplex: 1.25 miles (2 km)
Ethernet Mode	10Base-T/100Base-TX Auto-negotiating Half- or Full-duplex	100Base-FX Half- or Full-duplex

Appendix C

Switch Default Settings

This appendix lists the switch default software settings as configured by the factory. You can return the switch to the default settings (including terminal speed of 9600 Baud rate). See “Diagnostics Menu” on page 2-17 for details.

Table C-1 Switch Default Settings

Settings	Default
Port Status	Enabled
Link	Offline until there is a valid physical link
Transmit mode	Auto-negotiating
Switching Mode	Store and forward
Port Name	None assigned

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