

# AT-9900s Series Switch Expansion Module Installation Guide



AT-A60  
AT-A61  
AT-A62

# AT-9900s Series Switch **Expansion Module Installation Guide**

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AT-A62

Download the complete document set from  
[www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software)

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## About this Guide

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This Installation Guide describes how to install the following expansion modules in an AT-9900s Series switch:

- AT-A60, single XFP port
- AT-A61, 12 SFP ports
- AT-A62, 12 10/100/1000Mbps RJ-45 ports

You can download the complete document set for AT-9900s Series switches from [www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software). For more information about the document set and other resources, see “[Obtaining Documentation and Resources](#)” on page 11.

## Package Contents

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The following items are included with each expansion module:

- this Installation Guide
- one warranty card

Contact your authorised Allied Telesis distributor or reseller if items are damaged or missing.

## Overview

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Expansion modules enable economical combinations of speed and port density with the AT-9900s Series of enhanced gigabit layer 3+ expandable switches. Two front bays in the AT-9900s switch allow quick and easy installation of optional expansion modules.

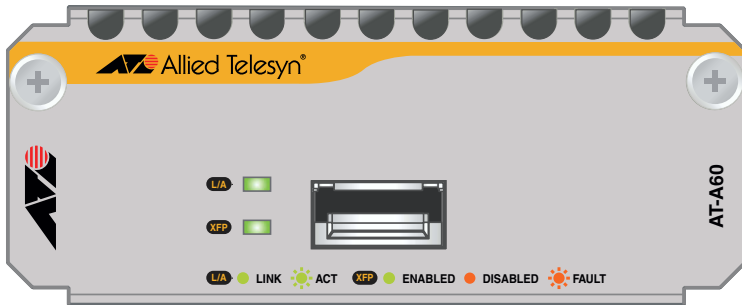
For example, add one 10GbE expansion module to provide a single high-speed, high capacity fibre connection; add a second 10GbE module for redundancy or as bandwidth needs increase. Add one or two 12-port RJ-45 copper expansion modules to provide maximum gigabit Ethernet port density in a compact 1RU chassis. For flexible port options, add one or two 12-port SFP expansion modules to aggregate copper and fibre links from data centres and enterprise networks, while providing long haul fibre links.

## AT-A60 10 Gigabit XFP Port

The AT-A60 single-port 10Gigabit Ethernet expansion module features:

- one XFP port
- LEDs showing port status
- 32MBytes of DDR SDRAM for packet buffering
- support for hot-swappable XFP transceiver modules

Front view AT-A60



The following LEDs report operations and faults on the AT-A60.

LED	State	Description
L/A (Link Activity)	Green	An XFP transceiver is installed and a 10Gb link has been established.
	Green flashing	An XFP transceiver is installed and link activity is occurring.
	Off	A link has not been established.
XFP	Green	An XFP transceiver is installed and enabled.
	Amber	An XFP transceiver is installed but not operating or is disabled.
	Amber flashing	The installed XFP transceiver has a fault.
	Off	An XFP transceiver is not installed.

The following XFP transceiver modules are approved for use with the AT-A60.

<b>Product No.</b>	<b>Media Type</b>	<b>Description</b>
AT-XPSR	10GBASE-SR	850nm short-haul transmission, 300m with MMF.
AT-XPLR	10GBASE-LR	1310nm medium-haul transmission, 10km with SMF.
AT-XPER40	10GBASE-ER	1550nm long-haul transmission, 40km with SMF.

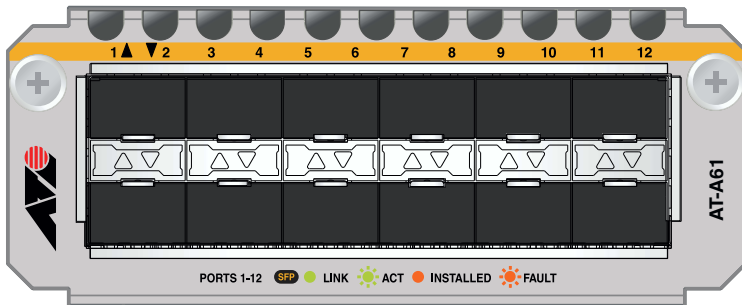
For the latest list of approved XFP transceiver modules, contact your authorised Allied Telesis distributor or reseller.

## AT-A61 1000BASE-X SFP Ports

The AT-A61 12-port 1000BASE-X expansion module features:

- two rows of 6 SFP ports
- LEDs showing port status
- 32MBytes of DDR SDRAM for packet buffering
- support for hot-swappable SFP modules

Front view AT-A61



The following LEDs report operations and faults on the AT-A61.

LED	State	Description
SFP	Green	An SFP transceiver is installed and a link has been established.
	Green flashing	An SFP transceiver is installed and link activity is occurring.
	Amber	An SFP transceiver is installed but a link has not been established.
	Amber flashing	An SFP is installed but there is a fault.
	Off	An SFP transceiver is not installed.

The following SFP modules are approved for use with the AT-A61.

<b>Product No.</b>	<b>Media Type</b>	<b>Description</b>
AT-SPTX	10/100/1000BASE-T	Copper, 100m at 1000Mbps, RJ-45 connector.
AT-SPSX	1000BASE-SX	850nm, 2 to 550 m with 50/125µm MM fibre, 2m to 275m with 62.5/125µm MM fibre, LC connector.
AT-SPLX10	1000BASE-LX	1310 nm, 2 m to 10km with 9µm SM fibre, 2 m to 550 m with 50µm MM fibre, 2m to 550m with 62.5µm MM fibre, LC connector.
AT-SPLX40	1000BASE-LX	1310nm SM fibre up to 40km, LC connector.
AT-SPLX40/1550	1000BASE-LX	550nm SM fibre up to 40km, LC connector.
AT-SPZX80	1000BASE-ZX	1550nm, 80km with 9µm SM fibre, LC connector.
AT-SPZX80/xxxx <sup>1</sup> where xxxx is: 1610, 1590, 1570, 1550, 1530, 1510, 1490, 1470, or 1310	1000BASE-ZX CWDM	1610nm to 1470nm (20nm intervals) and 1310nm, 80km with 9µm SM fibre, LC connector.

1. Both ends of an individual fibre must use SFPs of a compatible wavelength.

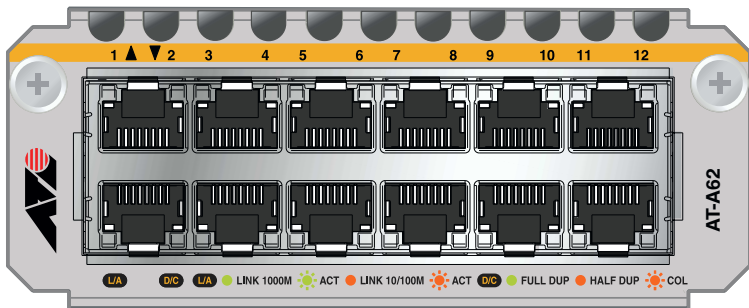
For the latest list of approved SFP transceiver modules, contact your authorised Allied Telesis distributor or reseller.

## AT-A62 10/100/1000BASE-T RJ-45 Ports

The AT-A62 12-port RJ-45 expansion module features:

- two rows of 6 RJ-45 ports
- gigabit ports that support speeds of 10/100/1000Mbps
- LEDs showing port status
- 32MBytes of DDR SDRAM for packet buffering
- cable fault detection and distance-to-fault diagnostics (see the *Test Facility* chapter in the Software Reference for the switch)

Front view AT-A62



The following LEDs report operations and faults on the AT-A62.

LED	State	Description
L/A (Link Activity)	Green	A 1000Mbps link has been established.
	Green flashing	1000Mbps activity is occurring.
	Amber	A 10/100Mbps link has been established.
	Amber flashing	10/100Mbps activity is occurring.
	Off	A link has not been established.
D/C (Duplex/ Collision)	Green	The port is operating in full duplex mode.
	Amber	The port is operating in half duplex mode.
	Amber flashing	Collisions are occurring.

## Installation Procedure

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Before you begin:

- Unpack the expansion module.

In an anti-static environment, remove the expansion module from its packing material. Be sure to observe ESD precautions.



**Caution** Failure to observe proper anti-static procedures may damage the unit. If you are unsure about correct procedures, contact your authorised Allied Telesis distributor or reseller.

- Verify the package contents if you have not already done so.

See “[Package Contents](#)” on [page 4](#). If any items are damaged or missing, contact your authorised Allied Telesis distributor or reseller.

- Read the safety information for the switch.

Safety information is available in the Installation and Safety Guide that is shipped with each AT-9900s Series switch. You can also download this document from [www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software).

- Gather necessary tools.

You may need a Phillips #2 screwdriver to adjust the retaining screws on a blank faceplate.

### Procedure

If you want to swap expansion modules, first save your configuration file as necessary (**create config** and **set config** commands).

1. If connected, disconnect the switch from its redundant power supply.
2. Disconnect the switch from its AC or DC power supply.
3. If you are replacing an existing expansion module, disconnect any data cables.
4. Loosen the thumbscrews to the faceplate or existing expansion module, and remove it.

Keep the faceplate for future use. If you remove the expansion module, cover the bay with the faceplate to prevent dust and debris from entering it and to maintain proper airflow.

5. Carefully slide the module into the empty bay until you feel it engage the rear plug.
6. Secure the module by tightening the thumbscrews.
7. Apply power to the switch by re-attaching the power cord.

8. If you disconnected a redundant power supply, reconnect it.
9. Restart the switch and verify installation with the **show log** command to confirm there is no error message about installation in the log file.

If you are connected to the asyn0 port, any error message is displayed during startup self-tests.

## Obtaining Documentation and Resources

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The complete document set for AT-9900s Series switches includes:

- this Installation Guide
- the *x900 Series Switch and SwitchBlade® x908 Installation and Safety Guide*, which describes how to install the switch and includes important safety and statutory information
- the *x900 Series Switch and SwitchBlade® x908 Hardware Reference*, which contains detailed information on the switch and its hardware features
- the *Removable Power Supply and Fan Installation Guide*, which describes how to install power supply units and fan-only modules in the switch
- the *x900 Series Switch AlliedWare® Operating System Software Reference*, which contains detailed information on configuring switches running the AlliedWare® operating system

You can download these documents and updates from [www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software).

You need Adobe® Acrobat® Reader® software to view, search, or print these documents. You can download it from [www.adobe.com](http://www.adobe.com).

### Other resources

How-To Notes describe a range of standard Allied Telesis solutions, and include technical tips and guides to configuring specific hardware and software features. You can download the latest How-To Notes from [www.alliedtelesis.com/resources/literature/howto.aspx](http://www.alliedtelesis.com/resources/literature/howto.aspx).

MIBs supported by Allied Telesis products can be downloaded from [www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software).

Microsoft® Visio® stencils for Allied Telesis products can be downloaded from [www.alliedtelesis.com/resources/images/visio.aspx](http://www.alliedtelesis.com/resources/images/visio.aspx).

AT-TFTP Server for Windows is a TFTP (*Trivial File Transfer Protocol*) server for transferring software versions, configuration scripts and other files between a PC and the switch. You download AT-TFTP Server from [www.alliedtelesis.com/support/software](http://www.alliedtelesis.com/support/software).

## **CD-ROM**

Some products ship with a Documentation and Tools CD-ROM, which includes:

- the complete document set
- Adobe® Acrobat® Reader®
- AT-TFTP Server
- Supported MIBs
- How-To Notes, white papers, Microsoft® Visio® stencils and other resources
- Tryouts of networking software

## **Contacting us**

With locations covering all of the established markets in North America, Latin America, Europe, Asia, and the Pacific, Allied Telesis provides localized sales and technical support worldwide. To find the representative nearest you, visit us on the Web at [www.alliedtelesis.com](http://www.alliedtelesis.com).