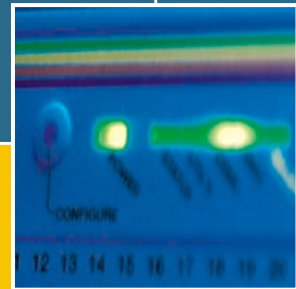
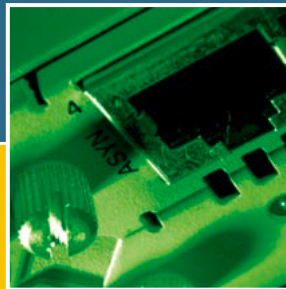
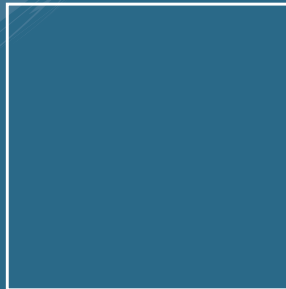


# AT-8600 SERIES

## HARDWARE REFERENCE



AT-8600 Series Hardware Reference  
Document Number C613-03080-00 REV A.

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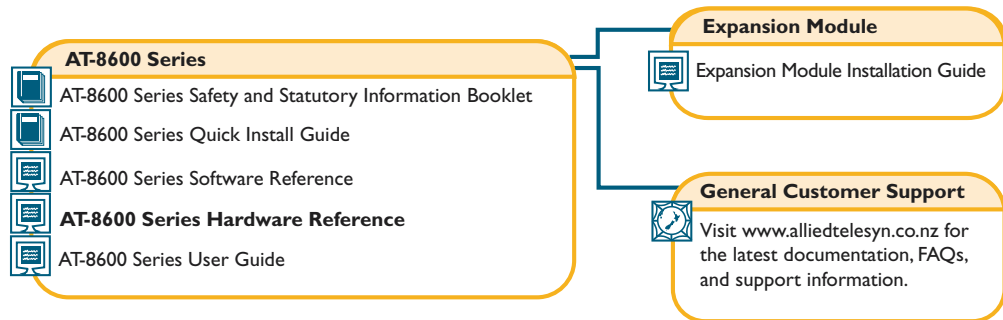
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## Documentation Roadmap



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Website

## Models Covered By This Reference

This Hardware Reference includes information on the following models:

- AT-8624T/2M 24-port 10BASE-T/100BASE-TX Advanced Fast Ethernet Switch

The latest Hardware Reference can be found at [www.alliedtelesyn.co.nz/support/at8600](http://www.alliedtelesyn.co.nz/support/at8600)

## Why You Should Read This Reference

This Reference has been developed to familiarise you with AT-8600 Series switches and their hardware features. The information found in this Reference will assist you with the process of installing and maintaining your AT-8600 Series switch.

The Reference also introduces expansion modules. Detailed information on the AT-A46 expansion module that the switch supports can be found in the *AT-A45/xx Series, AT-A46, and AT-A47 Expansion Modules Installation Guide*. This Guide is included on the AT-8600 Series Documentation and Tools CD-ROM, and is packaged with the module.



*Keep this Reference (or its CD-ROM) in a safe place. You will need it if you purchase switch expansion options in the future.*



*This Reference does not cover software configuration or software installation procedures. For information on software, refer to the AT-8600 Series Software Reference.*

## Where To Find More Information

---

The Documentation and Tools CD-ROM bundled with each AT-8600 Series switch contains the complete Document Set for your switch and its expansion options, as well as tools for managing the switch. This includes:

- The *AT-8600 Series Safety and Statutory Information Booklet*, which provides safety and statutory information.
- The *AT-8600 Series Quick Install Guide*, which outlines the procedure for installing switch units.
- This *AT-8600 Series Hardware Reference*.
- The *AT-8600 Series User Guide*, which provides information about starting to configure the switch.
- The *AT-8600 Series Software Reference*, which provides detailed information on configuring the switch and its software.
- The *AT-A45/xx Series, AT-A46, and AT-A47 Expansion Modules Installation Guide*, which outlines the procedure for installing expansion modules, and provides technical specifications for the modules.
- AT-TFTP Server for Windows, for downloading software releases.
- Adobe Acrobat Reader, for viewing online documentation.
- Microsoft Internet Explorer.

These documents can also be downloaded from [www.alliedtelesyn.co.nz/support/at8600/](http://www.alliedtelesyn.co.nz/support/at8600/).

## Hardware Description

---

This section provides an overview of the hardware features for AT-8600 Series switches. Hardware descriptions for expansion modules can be found in the *Expansion Modules Installation Guide*. These references can be found on the CD-ROM bundled with your switch, or can be downloaded from [www.alliedtelesyn.co.nz/support/at8600/](http://www.alliedtelesyn.co.nz/support/at8600/).

### Switch Overview

RJ-45 copper ports ensure industry-standard compatibility, while two expansion module bays add configuration flexibility.

#### Dimensions

- Height = 44 mm (plus 5.5 mm if the rubber feet are used)
- Width = 438 mm (excluding rack-mounting brackets)
- Depth = 184 mm
- Weight = not more than 7 kg (excluding power cord and expansion modules)

#### Mounting System

- 1 RU 19-inch rack mounting

### Environmental Conditions

- Operating temperature range: 0 to 40° C (32 to 104° F)
- Storage temperature range: -25 to 70° C (-13 to 158° F)
- Operating humidity range: 5% to 80% non-condensing
- Storage humidity range: 5 to 95% non-condensing

### Regulatory Standards

- EMC: CISPR22 class A, FCC class A, and VCCI class I
- Immunity testing to EN50082 levels 2 (ESD), 3 (susceptibility), 4 (fast transients), 5 (power surge), and 6 (RF immunity)
- Safety: UL1950-1, CSA22.2, EN60950-1

### LEDs

- Ethernet port and System status LEDs
- Mode button
- For a complete list of LEDs and their functions, see *“LEDs and What They Mean”* on page 16.

### Power Supply Unit

- Universal 100/240 vAC 50/60 Hz input
- Redundant DC Power connection

### Switching Core

- Advanced ASIC switch chip
- Wire-speed L2 and L3 IP Switching

### Processing Core

- 200 MHz CPU
- 16 MBytes RAM
- 4 MBytes flash memory

### Asynchronous Serial Port

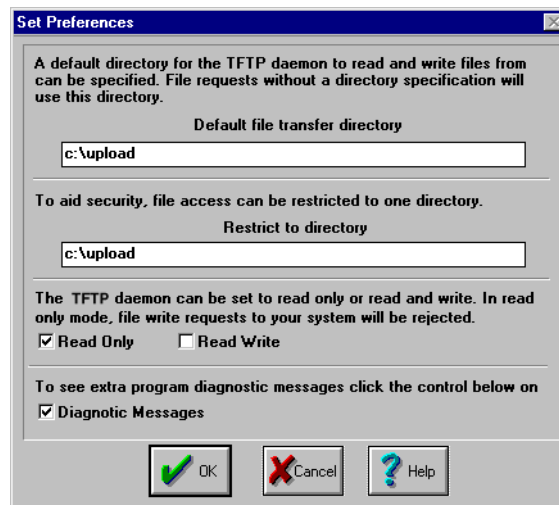
- Up to 115 kbps
- Standard DB9 female RS-232 connector

### Expansion Module Bays

- 2 bays for expansion modules
- Support for gigabit Ethernet expansion modules



Make any required changes and click "OK".



### 3. To load a file from AT-TFTP Server to the Switch.

On a terminal connected to the switch, type the command:

```
LOAD METHOD=TFTP FILE=filename SERVER=ipadd DEST=FLASH
```

where *filename* is the name of the file to download and *ipadd* is the IP address of the PC running AT-TFTP Server.

### 4. To save a TFTP Server log.

Select "Save As" from the File menu.

TFTP requests are logged to the AT-TFTP Server main window.

## Switch Start-up

---

This section outlines the log in and start-up procedures for your switch. Although the switch will perform basic switching operations without being configured, you will need to go through these log in and start-up procedures if you wish to configure the switch and access its full switching capabilities.

### To Log In

Using the supplied RS-232 DB9 straight-through cable, connect your terminal or PC to the RS-232 Terminal Port on the switch's front panel.

Set the communication parameters on your terminal or terminal emulation program to:

- Baud rate: 9600
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None

See “Using Windows Terminal and Windows Hyperterminal” on page 37 for more information on configuring emulation software.

After the switch has booted, the log in prompt appears. If the log in prompt doesn't appear, press [Enter] two or three times.

When the switch boots for the first time it automatically creates an account with manager privileges. The account has the log in name “manager” and the password is “friend”.

At the log in prompt, enter the log in name and password.

```
Log in: manager
```

```
Password: friend
```

The switch's command prompt appears and you can now configure the switch using the command line interface.



---

*Change the password as soon as possible. Leaving the manager account with the default password is a serious security risk. Make sure that you remember the new password as there is no way to retrieve it if it is lost.*

---

Use the following command to change the account password:

```
set password
```

See the *AT-8600 Series Software Reference* for more information on configuring the switch.

## To access help files

Before help is used for the first time, the help files must be defined.

To define the files, enter:

```
set help=help-filename
```

where *help-filename* is the name of a help file stored in flash.

To see a list of files stored in flash, enter:

```
show file
```

Help files have an HLP extension.

To display a list of help topics, enter:

```
help
```

To display help on a specific topic, enter:

```
help topic
```

Alternatively, type a question mark (?) at the end of a partially completed command to see a list of valid options.

## Start-up Procedures

When the switch starts up following either a power cycle or an operator-initiated reboot (using the RESTART command), a series of start-up messages is sent to the RS-232 Terminal Port (Figure 2 on page 8).

**Figure 2: Switch start-up messages.**

```

INFO: Self tests beginning.
INFO: RAM test beginning.
PASS: RAM test, 32768k bytes found.
INFO: Self tests complete
INFO: Downloading switch software.
Force EPROM download (Y) ?
INFO: Initial download succeeded
INFO: Executing configuration script <boot.cfg>
INFO: Switch startup complete

Manager >

```

After the self tests are complete, the manager is given the option of forcing a mandatory boot from the EPROM release. The message:

```
Force EPROM download (Y)?
```

is displayed on the terminal connected to the RS-232 Terminal Port and the switch pauses. If a key is not pressed within a few seconds, the start-up process will continue and all steps in the sequence will be executed. Pressing selected keys on the terminal immediately after the “Force EPROM download” message is displayed will change the switch start-up process (Table 1 on page 8).

**Table 1: Switch start-up sequence keystrokes.**

| Pressing key... | Forces the switch to...   |
|-----------------|---|
| [Y]             | Load the EPROM release, with no patch.                            |
| [S]             | Start with the default configuration. Any boot script is ignored. |
| [Ctrl/D]        | Enter diagnostics mode.   |

During the start-up process the switch will generate four different types of messages. All messages are preceded by one of the words INFO, PASS, FAIL, or ERROR. The significance of these words is shown in Table 2 on page 8.

**Table 2: Switch start-up message classes.**

| Message | Meaning  |
|---------|--|
| INFO    | An action will be taken by the system.   |
| PASS    | A test has been completed successfully.  |
| ERROR   | A test has failed, but the system will continue to operate.                        |
| FAIL    | A fatal error condition has caused the system to halt in an unrecoverable fashion. |

The possible messages and their meanings are:

```

INFO: Self tests beginning.
      The code loader tests are about to begin.

```

INFO: RAM test beginning.

The RAM tests are about to begin.

PASS: RAM test, 32768k bytes found.

The RAM test passed, and the indicated amount of memory was found and will be used in the switch.

ERROR: RAM test 5. Error address = 00345678.

A RAM test failed, at the given address. In the example, it was the fifth test run. The RAM test repeats until it passes, so a number of messages like this may appear. This fault means that the memory system is faulty. If the fault continues, contact your Authorised Allied Telesyn distributor or reseller immediately.

INFO: Self tests complete.

The start-up tests have finished.

INFO: Downloading switch software.

The process of downloading the switch software and vector table from ROM is about to begin.

ERROR: Code load retried.

FAIL: Code load failed.

The load of the code from ROM to RAM failed. The load is retried a number of times. Each time a failure occurs, the ERROR message is displayed. If the maximum number of attempts is reached, the FAIL message is displayed.

INFO: Initial download succeeded.

The start-up tests and download are complete, and the switch software is about to be started. If the default install is a compressed release, the release will now be decompressed. This may take a few seconds.

INFO: Downloading compressed release. This may take up to 1 minute...

INFO: Loading software into memory. This may take up to 1 minute...

The main switch software is about to be loaded into RAM. If the release is a compressed release, the release will be decompressed.

INFO: Executing configuration script <script-name>

The configuration commands stored in <script-name> are being executed. If an error is found in the script, one or more ERROR messages will be displayed.

INFO: Switch startup complete.

The start-up process is complete and the switch will now perform basic switching operations. Further configuration will be necessary if you wish to access the switch's full switching capabilities. See the *AT-8600 Series Software Reference* for detailed information on configuring the switch.

## Switch Interfaces

This section provides pin assignments for the switch's RS-232 Terminal Port and RJ-45 ports.

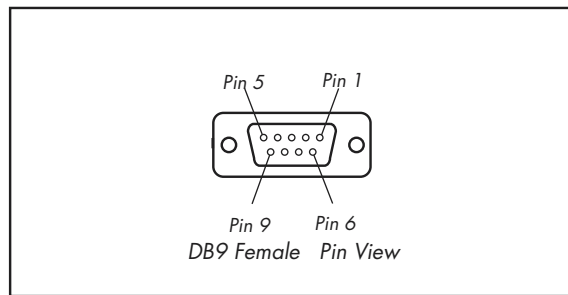
### RS-232 Terminal Port

The RS-232 Terminal Port is used to connect the switch to a management device. For management purposes the switch's software can be accessed from a terminal, a PC running terminal emulation software, or from a remote location via a modem connection. You can also use the RS-232 Terminal Port to establish a network connection from a remote site using SLIP and a modem.

The switch's RS-232 Terminal Port has a DB9 female connector. This allows the use of a straight-through cable when connecting the switch to a terminal or PC. Output from the SHOW ASYN command will, however, still have a DTE perspective. The internal DTE pin roles are listed in Table 3 on page 10.

See Terminal and Modem Cables on page 20 for more information on connection options for the RS-232 Terminal Port.

**Figure 3: RS-232 Terminal Port Pin Numbers.**



**Table 3: Internal DTE pin roles.**

| Pin | Role |
|-----|------|
| 2   | TXD  |
| 3   | RXD  |
| 4   | CD   |
| 5   | GND  |
| 6   | DTR  |
| 7   | CTS  |
| 8   | RTS  |

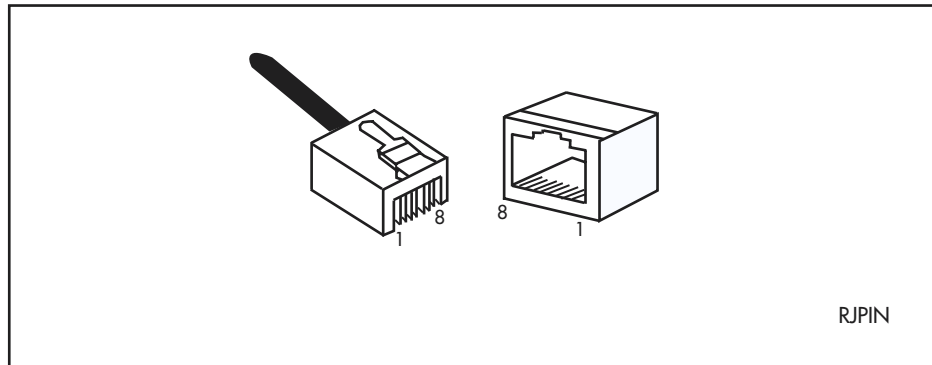
## Switch RJ-45 Ports



**Caution.** Do not plug a phone jack into any RJ-45 port. Doing so could damage the switch. Use only twisted pair cables with RJ-45 connectors.

For 10BASE-T/100BASE-TX connections, a twisted pair cable must be used. Each pair is identified by two different colours. For example, one wire might be red, and the other red with a white stripe. An RJ-45 connector must be fitted to both ends of the cable. Figure 4 on page 11 illustrates the pin layout for RJ-45 connectors.

**Figure 4: RJ-45 Pin layout.**



With 10BASE-T/100BASE-TX cables, pins 1 and 2 are used for transmitting data, while pins 3 and 6 are used for receiving data. Table 4 on page 11 lists the RJ-45 Pin assignments.

**Table 4: RJ-45 Pin assignments.**

| Pin Number | Assignment <sup>1</sup> |
|------------|-------------------------|
| 1          | TX+                     |
| 2          | TX-                     |
| 3          | RX+                     |
| 6          | RX-                     |

1. The "+" and "-" signs represent the polarity of the wires that make up each wire pair.

If a twisted pair cable is to join two ports and only one of the ports has an internal crossover, the two pairs must be straight through, as listed in Table 5 on page 11.

**Table 5: RJ-45 Pin assignments, straight through cable.**

| End 1   | End 2   |
|---------|---------|
| 1 (TX+) | 1 (TX+) |
| 2 (TX-) | 2 (TX-) |
| 3 (RX+) | 3 (RX+) |
| 6 (RX-) | 6 (RX-) |

If a twisted pair cable is used to join two ports and either both ports are labelled with an "X" or neither port is labelled with an "X", a crossover must be included in the wiring. Table 6 on page 12 lists the RJ-45 crossover wiring pin assignments.

**Table 6: RJ-45 Pin assignments, crossover cable.**

| End 1   | End 2   |
|---------|---------|
| 1 (TX+) | 3 (TX+) |
| 2 (TX-) | 6 (TX-) |
| 3 (RX+) | 1 (RX+) |
| 6 (RX-) | 2 (RX-) |

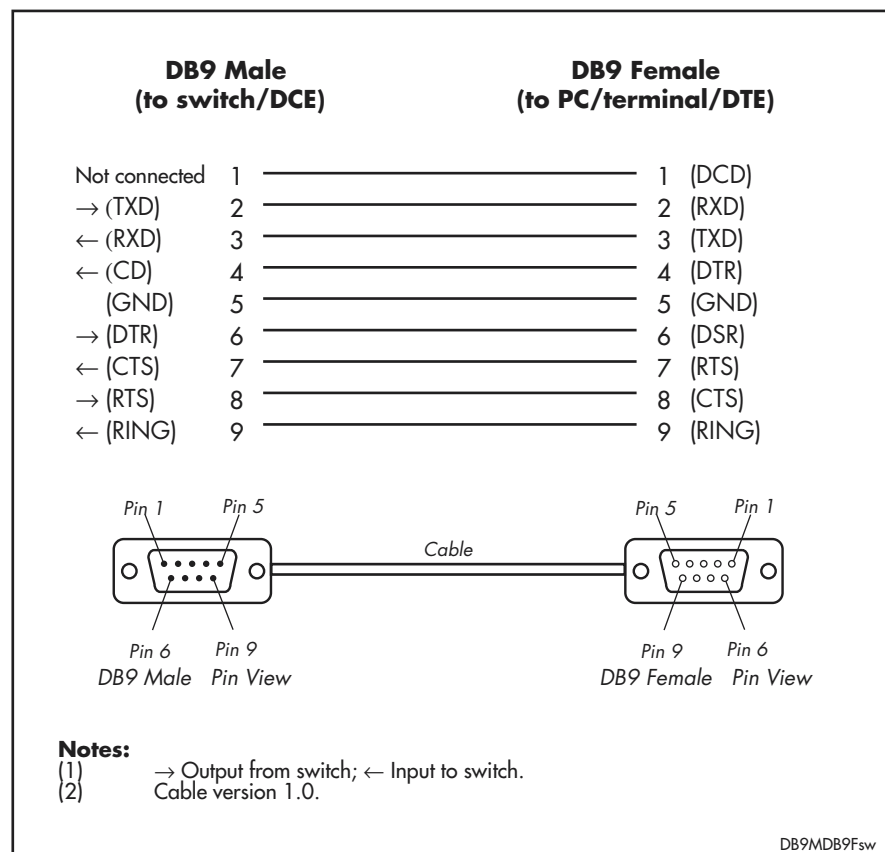
## Switch Cables and Loopback Plugs

This section describes how to make cables for connecting the switch's interfaces to networks, terminals, and printers. How to make loopback plugs for testing switch interfaces is also described.

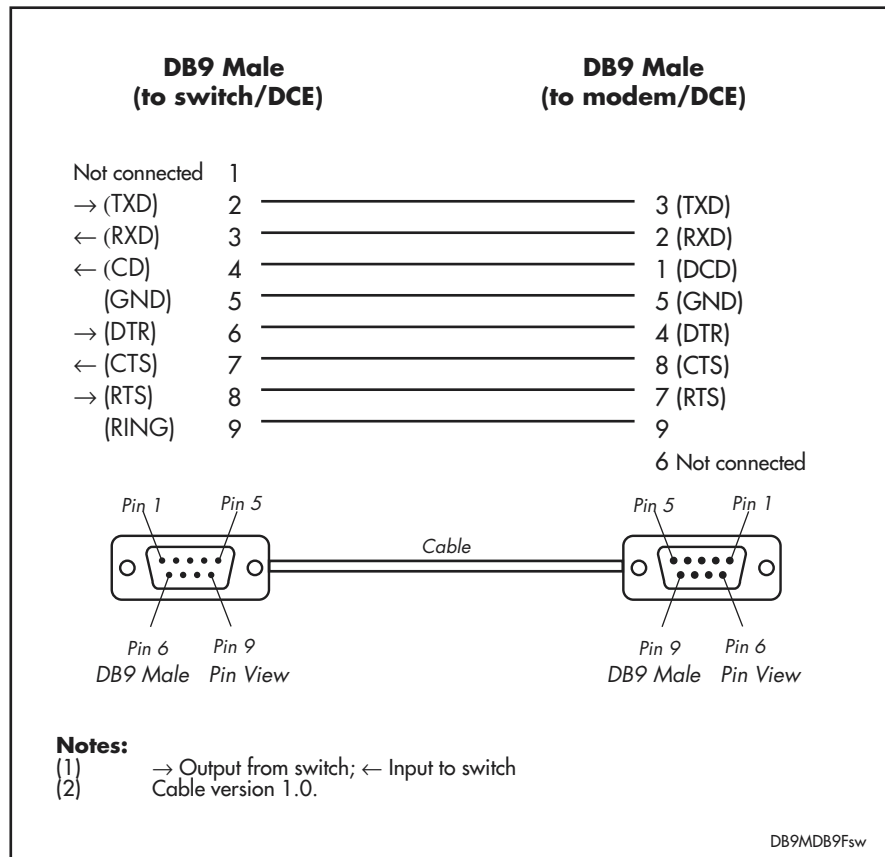
### Terminal and Modem Cables

Figure 5 on page 12 shows how to wire cables to connect a standard VT100 compatible terminal, or a modem, to the switch's RS-232 Terminal Port.

**Figure 5: Pin wiring diagram for a standard DB9 male to female terminal cable.**



**Figure 6: Pin wiring diagram for a DCE RS-232 Terminal Port (DB9 female connector) male to male modem cable.**



The switch’s RS-232 Terminal Port has a DCE female socket. This allows the use of a straight-through cable when connecting the switch to a terminal or PC. Output from the SHOW ASYN command will, however, still have a DTE perspective. The internal DTE pin roles are listed in Table 7 on page 13.

**Table 7: Internal DTE pin roles.**

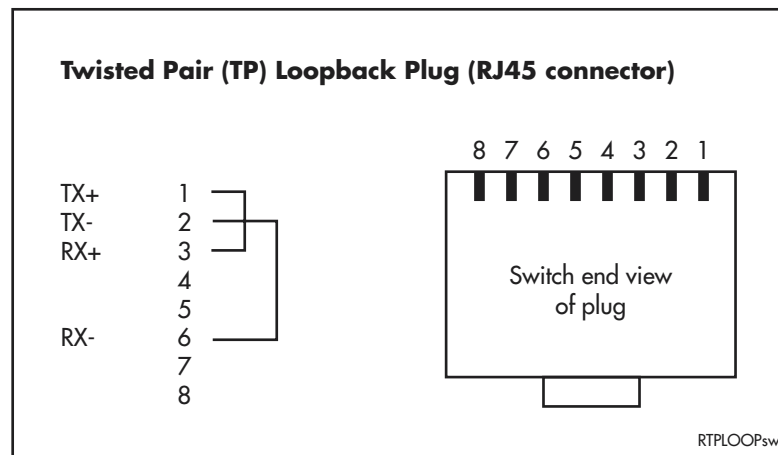
| Pin | Role |
|-----|------|
| 2   | TXD  |
| 3   | RXD  |
| 4   | CD   |
| 5   | GND  |
| 6   | DTR  |
| 7   | CTS  |
| 8   | RTS  |

## Loopback Plugs for Testing Switch Interfaces

Loopback plugs are used in conjunction with the Test Facility software to test the physical interfaces on the switch (see the “Test Facility” section beginning on page 22 of this Reference, and the *Test Facility* chapter of the *AT-8600 Series Software Reference*). The purpose of a loopback plug is to connect the output pins on the interface to the input pins so that any data transmitted over the interface is looped back and received at the same interface.

On interfaces with control signals, these are also looped back. The data received on the interface is compared with the data transmitted to determine whether or not the interface is functioning correctly. In order to produce a comprehensive test report for the interface being tested, most tests performed by the Test Facility require a loopback plug to be inserted.

**Figure 7: Ethernet twisted pair (TP) loopback plug.**



## Test Facility

This section introduces the Test Facility. The Test Facility is built into all AT-8600 Series software. For detailed information on operating the Test Facility, see the *Test Facility* chapter of the *AT-8600 Series Software Reference*.

The Test Facility is designed to test the switch’s physical interfaces. Testing should not be performed while the switch is operational as the presence of a loopback plug may cause feedback of network traffic. Also, any interfaces being tested are dedicated to the Test Facility. The Test Facility can be thought of as a specialised interface module like PPP or Frame Relay.

### 10/100 Ethernet LAN Port Tests

A loopback plug is required to run the first part of the Ethernet LAN test. See “Loopback Plugs for Testing Switch Interfaces” on page 22 for details of how to make a loopback plug. To start an Ethernet interface test, use the command:

```
ENABLE TEST INT=PORTn
```

where *n* is the Ethernet interface number. The test will run for 4 minutes. Use the SHOW TEST command to observe the test progress.

Test results are displayed with the command:

```
SHOW TEST
```

which produces a display like that shown in Figure 8 on page 15.

**Figure 8: Example output from the SHOW TEST command.**

| Board     | ID      | Bay    | Board Name       | Rev                | Serial number       |         |
|-----------|---------|--------|------------------|--------------------|---------------------|---------|
| Base      | 238     |        | 8624 AT-8624T/2M | M1-1               | 6845425             |         |
| Uplink    | 88      | 1      | AT-A46           | P1-0               | 14269019            |         |
| Interface | State   | Result | Type             | Duration (minutes) | Details Data( %OK ) | Control |
| port1     | no test | -      | -                | -                  | -                   | -       |
| port2     | no test | -      | -                | -                  | -                   | -       |
| port3     | no test | -      | -                | -                  | -                   | -       |
| port4     | no test | -      | -                | -                  | -                   | -       |
| port5     | no test | -      | -                | -                  | -                   | -       |
| port6     | no test | -      | -                | -                  | -                   | -       |
| port7     | no test | -      | -                | -                  | -                   | -       |
| port8     | no test | -      | -                | -                  | -                   | -       |
| port9     | no test | -      | -                | -                  | -                   | -       |
| port10    | no test | -      | -                | -                  | -                   | -       |
| port11    | no test | -      | -                | -                  | -                   | -       |
| port12    | no test | -      | -                | -                  | -                   | -       |
| port13    | no test | -      | -                | -                  | -                   | -       |
| port14    | no test | -      | -                | -                  | -                   | -       |
| port15    | no test | -      | -                | -                  | -                   | -       |
| port16    | no test | -      | -                | -                  | -                   | -       |
| port17    | no test | -      | -                | -                  | -                   | -       |
| port18    | no test | -      | -                | -                  | -                   | -       |
| port19    | no test | -      | -                | -                  | -                   | -       |
| port20    | no test | -      | -                | -                  | -                   | -       |
| port21    | no test | -      | -                | -                  | -                   | -       |
| port22    | no test | -      | -                | -                  | -                   | -       |
| port23    | no test | -      | -                | -                  | -                   | -       |
| port24    | no test | -      | -                | -                  | -                   | -       |
| port26    | no test | -      | -                | -                  | -                   | -       |
| asyn0     | no test | -      | -                | -                  | -                   | -       |

## Troubleshooting

This section provides information on how to detect and resolve problems with AT-8600 Series switches and their expansion options.

Other sources of useful troubleshooting information are:

- [www.alliedtelesyn.co.nz/support/at8600/](http://www.alliedtelesyn.co.nz/support/at8600/).
- *The AT-8600 Series Software Reference.*

**Performing the following tasks will eliminate the most common faults.**

1. Make sure the power cord is securely connected.
2. Check that the power supply voltage is stable.

3. Check that the correct data cables are being used and that their connections are secure.
4. Make sure that other network devices are working properly.
5. Use the SHOW INSTALL command to check that the latest software release is loaded. See the *AT-8600 Series Software Reference* for more information about obtaining the latest software release.
6. If the switch is malfunctioning, reboot it by entering the command RESTART REBOOT. Alternatively, power OFF and ON the switch by disconnecting and reconnecting the main power supply.

## LEDs and What They Mean

The following tables outline how the switch and expansion modules report faults and operational activities. Expansion modules are optional and can be purchased separately. Contact an Authorised Allied Telesyn distributor or reseller, or visit [www.alliedtelesyn.co.nz](http://www.alliedtelesyn.co.nz) for more information on purchasing expansion modules.

### LEDs on AT-8624T/2M Switches

#### System LEDs

| LED    | State  | Description  |
|--------|--|--|
| FAULT  | Off  | Switch operation is normal.  |
|        | Red  | The switch or management software is malfunctioning                              |
|        | 1 flash  | A switch fan has failed.   |
|        | 7 flashes  | An expansion module has been inserted or removed while the switch is powered on. |
| MASTER | This LED is not supported and will never be lit. |  |
| RPS    | This LED is not supported and will never be lit. |  |
| PWR    | Green  | The switch is receiving power and the voltage is within the acceptable range     |

#### Link and Mode LEDs for the 10/100Base-TX Ports

| LED         | State          | Description  |
|-------------|----------------|--|
| LINK        | OFF            | There is no link between the port and the end-node.                  |
|             | Green          | A valid link has been established between the port and the end-node. |
| Mode - COL  | OFF            | No data collisions are occurring on the port.                        |
|             | Flashing Green | Data collisions are occurring on the port.                           |
| Mode - 100  | OFF            | The port is operating at 10 Mbps.                                    |
|             | Green          | The port is operating at 100 Mbps.                                   |
| Mode - FULL | OFF            | The port is operating in half-duplex mode.                           |
|             | Green          | The port is operating in full-duplex mode.                           |

### Link and Mode LEDs for the 10/100Base-TX Ports (Continued)

| LED        | State          | Description  |
|------------|----------------|--|
| Mode - ACT | OFF            | There is no activity on the port.  |
|            | Flashing Green | There is activity on the port. It is transmitting and/or receiving data. |

### Expansion module LEDs

#### AT-A46 Expansion Module

| LED                       | State          | Description  |
|---------------------------|----------------|--|
| LINK 10                   | Steady green   | The port has established a valid 10 Mbps link with the end node.   |
| LINK 100                  | Steady green   | The port has established a valid 100 Mbps link with the end node.  |
| Both LINK 10 and LINK 100 | Steady green   | The port has established a valid 1000 Mbps link with the end node. |
| FULL DUPLEX               | Steady green   | The port is operating in full duplex.                              |
|                           | OFF            | The port is operating in half duplex.                              |
| ACTIVITY                  | Flashing green | The port is transmitting and/or receiving data.                    |

### Some common problems and how to solve them

#### Link/Activity LED on any port is off

This can indicate:

- A loose data cable.
- The device at the other end of the connection is not working properly or is turned off.
- The data cable is not wired correctly.
- The network administrator has manually disabled the port through the software.
- The port's selected transmission mode does not match that of the attached device.

Perform the following steps in sequence:

1. Make sure the data cable connections are secure.
2. Make sure the device at the other end of the connection is switched on and working properly.
3. Check that the data cable is wired correctly.
4. If you can, log in and check the port status. See "To Log In" on page 12 for more information on how to log in.
5. If the port is Enabled, make sure the transmission speed matches that of the connected device (auto-negotiating, full or half-duplex).



*If the port is disabled, someone has used the software to manually disable it. You should find out why the port was disabled before enabling it.*

### Power LED is off

This can indicate:

- A loose power cord.
- A power supply failure.

Perform the following steps in sequence:

1. Check that the power cord connections are secure.
2. Check that all switches and circuit protection devices are in the ON position.
3. Ensure that the supply voltage is within the operational range (110/240 VAC 50/60 Hz).

### Fault LED is on

This can indicate:

- There is a problem with the switch.
- The switch or management software is malfunctioning.
- A hardware fault is preventing switch start-up.

Perform the following steps in sequence:

1. Check “LEDs on AT-8624T/2M Switches” on page 16 for descriptions and explanations of LED flashing sequences.
2. Restart the switch by entering the RESTART REBOOT command.
3. If you were attempting to download software or manage the switch via the RS-232 terminal Port, check that connections between the Terminal Port and local terminal or PC are secure.

If you cannot access the switch’s software because of a faulty RS-232 Terminal Port connection, you can still manage the switch via Telnet or SNMP until the problem is fixed.

4. Unplug the switch and then plug it in again.
5. Download the latest software release. See the *AT-8600 Series Software Reference* for more information on how to obtain the latest software release.

## Expansion Options

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This section provides an overview of the expansion options for AT-8600 Series switches. The following expansion options were available when this Reference was written. See your Authorised Allied Telesyn distributor or reseller, or visit [www.alliedtelesyn.co.nz/support/at8600/](http://www.alliedtelesyn.co.nz/support/at8600/) to see if any new options are available.

### Expansion Modules

Expansion modules increase switching capacity by providing a maximum of two extra ports and by allowing switches to be linked together in stacks. For the AT-8600 Series, an expansion module with gigabit capacity is available.

Expansion modules in the following list are the only modules that should be installed into AT-8600 Series switches. Check with your Authorised Allied Telesyn distributor or reseller, or visit [www.alliedtelesyn.co.nz](http://www.alliedtelesyn.co.nz) to see if any new expansion module models are available.

The expansion module currently available is:

- AT-A46 10/100/1000BASE-T RJ-45

This expansion module is supported by AT-8000 Series switches as well as AT-8600 Series switches.



*For more information on expansion modules, contact your Authorised Allied Telesyn distributor or reseller, or see the AT-A45/xx Series, AT-A46, and AT-A47 Expansion Modules Installation Guide. This and other documentation can be found on the AT-8600 Series Documentation and Tools CD-ROM bundled with your switch.*

## Adding and removing expansion modules

Hot swap of expansion modules is not supported on AT-8624T/2M switches. If a module is inserted or removed while the switch is powered on, the Fault LED flashes 7 times. You must restart the switch to turn off the flashing LED and make an inserted module ready for operation. Until the switch is restarted, the output of the **show system** and **show switch port** commands will not reflect the newly inserted or removed expansion module.

## Port, Connector, and Cable Combinations

This section provides cabling guidelines for each switch model.

**Table 8: Cable guidelines.**

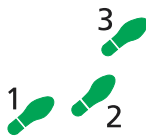
| Model       | Port Type(s)            | Connector Type(s) | Cable Type <sup>1</sup>         | Maximum Cable Length |
|-------------|-------------------------|-------------------|---------------------------------|----------------------|
| AT-8624T/2M | 10BASE-T/<br>100BASE-TX | RJ-45             | 10BASE-T Category 3 or better   | 100m (328ft)         |
|             |                         |                   | 100BASE-TX Category 5 or better | 100m (328ft)         |

1. Refer to the IEEE 802.3 standards for further cable information

# Using Windows Terminal and Windows Hyperterminal

You can use a PC running terminal emulation software as the manager console, instead of a terminal. There are many terminal emulation applications available for PCs, but the most readily available are the Terminal and HyperTerminal applications included in Microsoft Windows 95, 98, 2000, and Windows NT 4.0. In standard Windows installations, HyperTerminal is located in the Start > Programs > Accessories menu.

The key to successful use of terminal emulation software with the switch is to configure the software and switch with matching communications parameters. The following procedures describe how to configure Windows Terminal and HyperTerminal for the default RS-232 Terminal Port settings on the switch, but the same principles apply to other terminal emulation programs.



## To configure Windows HyperTerminal for Windows 95, 98, 2000, & NT 4.0.

### 1. In Windows, select:

- Programs > Accessories > Communications > HyperTerminal.
- Double-click the Hypertrm.exe icon.

### 2. In the Connection Description dialog box:

- Enter a name for the connection (e.g., 8624)
- Select an icon from the scrolling list.
- Click "OK".

### 3. In the Phone Number dialog box:

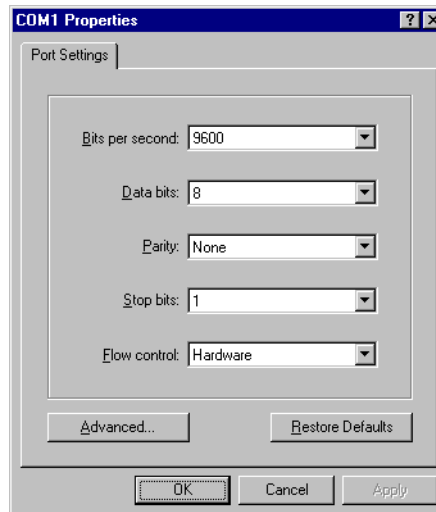
From the "Connect using:" drop-down list, select:

- "Direct to Com n" Where "COM n" is the COM port on the PC used to connect to the switch.
- Click "OK".



**4. In the COMn Properties dialog box, set:**

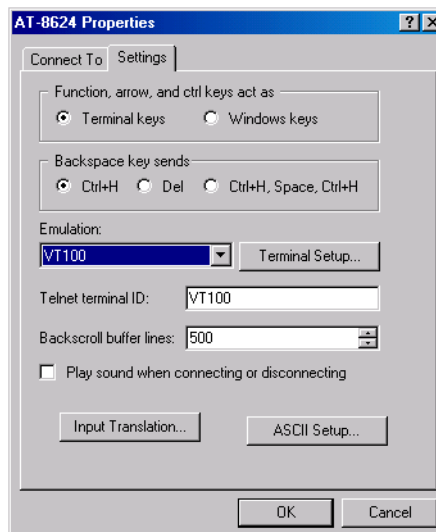
- Bits per second: 9600.
- Data bits: 8.
- Parity: None.
- Stop bits: 1.
- Flow control: None.
- Click “OK”.

**5. From the File menu, select:**

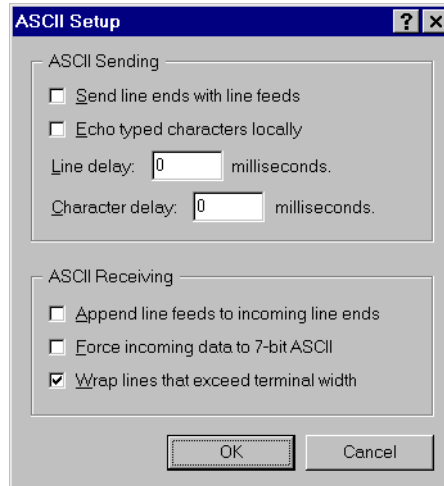
- “Properties”

In the Connection Properties dialog box, click the Settings tab and set:

- “Function, arrow, and ctrl keys act as” to “Terminal keys”
- “Emulation” to VT100.



6. Click "ASCII Setup" to display the ASCII Setup dialog box. Uncheck:
  - "Echo typed characters locally".
  - "Append line feeds to incoming line ends".Set other parameters as required.
  - Click "OK" twice to close all dialog boxes.



7. Save the current session. From the File menu, select:
  - "Save".

This creates a connection icon with the name you assigned in the HyperTerminal group. To use the configuration:

- Double-click the connection icon in the HyperTerminal group.

When the HyperTerminal window appears, press:

- [Enter] a couple of times.

The switch's log in prompt will appear.

## Contacting Us

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With locations covering all of the established markets in North America, Latin America and Europe, Allied Telesyn provides localized sales and technical support worldwide. To find our representative nearest you, visit Allied Telesyn on the web at: <http://www.alliedtelesyn.com>.

