

Chapter 1

Getting Started

Establishing a Management Session with the Switch	1-2
Assigning an IP Address	1-3
Setting Routes	1-3
Checking Connections with PING	1-3
Changing a Password	1-4
Using Command Line Help	1-4
Using GUI Help on AT-9900 Switches	1-4
Special Feature Licences	1-5
Setting System Parameters	1-5
Saving Configurations Entered with the CLI	1-6
Saving Configurations Entered with the GUI on AT-9900 Switches	1-6
Troubleshooting Traffic Flow	1-6
Software Upgrades	1-7
SNMP and MIBs	1-7
To Avoid Problems	1-7
For More Information	1-9

Establishing a Management Session with the Switch

The switch displays a login prompt after it completes a series of self-tests. For details about these tests and messages, refer to the Hardware Reference.

x900-48FE and AT-9900

The first step for configuring your switch is to log into the command line interface (CLI) through the asynchronous management port (asyn0), using a terminal or terminal server program. See the Installation and Safety Guide for instructions.

For instructions on configuring Windows™ installation HyperTerminal terminal emulation software, see the Hardware Reference.

After you have logged into the CLI, you can configure an IP address on an interface. This lets you connect to the switch remotely using telnet or, for AT-9900 switches, its graphical user interface (GUI).

x900-24X

Log into the command line interface (CLI) by using one of the following options:

- through the asynchronous management port (asyn0), using a terminal or terminal server program. For instructions on configuring Windows™ installation HyperTerminal terminal emulation software, see the Hardware Reference.
- by telnetting to the default IP address.

More information

For instructions on connecting to the x900-24X switch via the CLI, including the default IP address, see the Installation and Safety Guide.

If you have problems telnetting to the switch, see [“Telnet Fails” on page 13-54 of Chapter 13, Internet Protocol \(IP\)](#).

For information about the CLI, see [Chapter 2, Using the Command Line Interface \(CLI\)](#).

For information about the GUI for AT-9900 switches, including detailed instructions on using the GUI to connect to the switch, see [Chapter 3, Using the Graphical User Interface \(GUI\) on AT-9900 Series Switches](#).

Assigning an IP Address

AT-9900 with GUI

To configure the switch to perform IP routing, for example, to access the Internet, you must first configure IP. This includes assigning IP addresses to at least one of the switch's interfaces. You must also configure IP if you want to manage the switch from a Telnet session or, for AT-9900 switches, with the GUI.

No GUI but default IP address: x900-24X

An out-of-band Ethernet management port on the x900-24X switch is provided for initial configuration, on-going management tasks, and remote access from a Telnet session. The default IP address for this port is 192.168.242.242. This port is reserved for management **only**; you must configure IP for IP routing.

For step-by-step instructions on assigning an IP address to the switch, see [“Assigning an IP Address” on page 13-9 of Chapter 13, Internet Protocol \(IP\)](#).

To change the IP address for an interface, use the command:

```
set ip interface=interface ipaddress=ipadd mask=ipadd
```

Setting Routes

The process of routing packets consists of selectively forwarding data packets from one network to another. Your switch bases the decision to send a packet to a particular network on information it learns dynamically from listening to the selected route protocol, and from static information entered as part of the configuration process. If the switch does not know a valid route to the network where a packet is addressed, it tries to discover one. If it cannot discover a valid route, it does not send the packet.

For more information about routes and how to set IP routes, see [“Routing” on page 13-19 of Chapter 13, Internet Protocol \(IP\)](#).

Checking Connections with PING

Ping polling lets the switch check whether it can reach another device. To check a connection, use the command:

```
ping ipadd
```

If you receive a reply from the end destination, the physical and Layer 2 links are functioning, and any difficulties are in the network layer or higher.

If pinging the end destination fails, check the switch's routes, and ping intermediate network addresses. If you can successfully ping some network addresses but not others, you can deduce which link in the network is down. Note that if Network Address Translation (NAT) is configured on the remote switch, pinging devices connected to it may provide misleading information.

The **ping** command supports a number of protocols and can be configured with default settings. For more information about using ping, see [“Ping and Trace Route” on page 13-38 of Chapter 13, Internet Protocol \(IP\)](#).

Changing a Password

To prevent unauthorised access to the switch, change the password for the Manager user account as soon as possible. To change the password, enter the following command at the CLI:

```
set password
```

If you are using the GUI on an AT-9900 switch:

1. Select Management > Users from the sidebar menu.
2. Select the Manager account and click Modify.
3. Enter the new password.
4. Check you have typed it correctly.
5. Click Apply. The switch prompts you to log in again, using the new password.

The password can contain any printable characters and must be at least six characters long. For more information about passwords, see [“Choosing Passwords” on page 29-12 of Chapter 29, User Authentication](#).

Using Command Line Help

Online help is available for all switch commands. Enter the command:

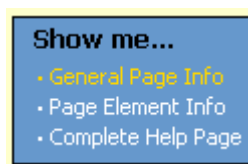
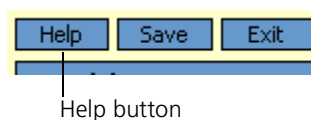
```
help [topic]
```

If you do not specify a topic, a list of all available topics is displayed.

Also, typing a question mark at the end of a partially completed command displays a list of the parameters that may follow the current command line, with the shortest possible entry shown in uppercase letters. The current command line is then re-displayed, ready for further input.

For information about upgrading help, see [Chapter 2, What Commands does a Feature Support?](#).

Using GUI Help on AT-9900 Switches



The GUI's context-sensitive help system is displayed in a pop-up window that covers the title of the GUI page. You can move the banner to any part of your screen and/or resize it. To display help, click the Help button above the sidebar menu or on the page for which you require assistance. The following types of help are available:

- Click **General Page Info** for brief information about background and process flow. This page is also displayed when you click the Help button.
- Click **Page Element Info** and roll your mouse over an element to view information about that element.

To freeze the banner so that the help displayed does not change when you move the mouse, press the **Ctrl** key. To unfreeze, press the **Ctrl** key again. Note that element information is not available for most entries in tables. To see descriptions of table columns, click **Complete Help Page**.

- Click **Complete Help Page** to see all available information in a separate printable window, including information about elements.

Special Feature Licences

A special licence and password are required to activate features other than the standard software version. Licences and passwords for special features are separate from those for a standard software version.

A special feature licence can be a 30-day trial licence or a full licence (unlimited time). Each licence is specific to a switch serial number and cannot be transferred from one switch to another.

You must order passwords for special feature licences from your authorised distributor or reseller. Specify the special feature licence bundle and the serial number of the switch on which the special feature licences are to be enabled.

See [“Special feature licences” on page 5-15 of Chapter 5, Managing Configuration Files and Software Versions](#) for:

- information about which software features require a special feature licence
- instructions for enabling special feature licences
- more information about special feature licences

Setting System Parameters

To aid in identifying the switch you can name it, specify its location, and identify the person responsible for administering it. These settings are controlled by the commands:

```
set system name
set system location
set system contact
```

The system name is displayed as part of the command prompt, and all three of the above settings are displayed in the output of the command:

```
show system
```

You can set the switch's time and date, which are displayed in log messages, by using the commands:

```
set time (x900-48FE and AT-9900)
set system time (x900-24X)
```

For more information, see [“System Identification” on page 4-3 of Chapter 4, Configuring and Monitoring the System](#).

Saving Configurations Entered with the CLI

To view the switch's current dynamic configuration, enter the command:

```
show configuration dynamic
```

If the switch restarts (boots), any changes to the dynamic configuration are lost unless you have saved them by entering the command:

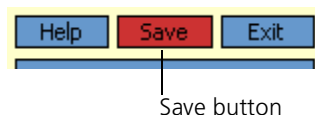
```
create config=filename.cfg
```

The filename can be up to 28 characters long. The configuration file that you create with this command records passwords in encrypted form, not in cleartext.

To set the switch to execute this configuration file when it restarts, enter the command:

```
set config=filename.cfg
```

Saving Configurations Entered with the GUI on AT-9900 Switches



Configuration changes applied using the GUI can be saved as a configuration file by clicking the Save button at the top of the sidebar menu. A pop-up Save window gives you the option of saving to the current configuration file, to another existing file, or to a new file. You can also choose to use this configuration when the switch restarts.

When the Save button is red, this indicates that changes have been made to the configuration and not yet saved. If you attempt to exit the GUI without saving the configuration, a pop-up window lets you choose whether or not to save it.

The configuration file you create with the GUI Save function records passwords in encrypted form, not plaintext.

Troubleshooting Traffic Flow

If no traffic is passing through the switch, or to or from the LAN, the DMZ or both, try the following checks. Each check includes in parentheses how to find relevant information in the GUI, for AT-9900 switches.

- Check that the switch's link to the LAN is functioning by checking the interface status (Monitoring) and whether the link LED is lit. If the LED is not lit, or the appropriate interfaces do not have an "active" status, then:
 - Check that the port is enabled (Configuration > Port > Settings).
 - Check that the IP address of the interface is still valid.
 - Check that the cables are connected and functioning correctly.
- If you are using RIP, check the RIP configuration (Configuration > Internet Protocol > RIP) as follows:
 - Check that the RIP neighbour can reach the switch, by pinging the switch from the RIP neighbour.
 - Check that password and authentication settings are configured on the neighbour as well as on this switch.

- Check that the switch is passing the correct DNS information to hosts on the LAN if the switch is a DHCP server. If the switch is also acting as a DHCP client, and therefore passing DNS information from another DHCP server, check that this DHCP server is providing the switch with the correct information.

Software Upgrades

Updates to the switch's software are available periodically. See the following sections of [Chapter 5, Managing Configuration Files and Software Versions](#). The following instructions and examples for upgrading software are provided:

- [Upgrade Overview](#)
- [Install Process](#)
- [Example: Upgrading to new software](#)
- [Example: Upgrading to a new patch file](#)
- [Upgrading the GUI on the AT-9900 Switch](#)

SNMP and MIBs

You can remotely monitor many features of the switch using Simple Network Management Protocol (SNMP). The switch supports SNMP Version 1 (SNMPv1), SNMP Version 2c (SNMPv2c) and Version 3 (SNMPv3). For information about SNMP and configuring SNMP, see [Chapter 39, Simple Network Management Protocol \(SNMP\)](#).

For a description of all MIBs (Management Information Bases) and MIB objects supported by the switch, see [Appendix C, SNMP MIBs](#).

The switch's Documentation and Tools CD-ROM contains the MIB files that are supported by the switch, including the Allied Telesis enterprise MIB. The Allied Telesis enterprise MIB files includes `atrouter.mib`, and other files with filenames beginning with "at".

To Avoid Problems

Backup software files	Store a backup of the current switch software. If the switch software is accidentally cleared from the switch's flash memory, you must reload the software files. If your access to the Internet is via the switch, then you need the files on your LAN. You may want to keep a copy of the current files on a TFTP server on your network. You can download switch software from www.alliedtelesis.com/support/ .
Backup configuration script	Store a backup of the latest configuration script in case the configuration file on the switch is accidentally deleted or damaged.
Backup switch	If your network has many switches, you may want to keep a backup switch ready in case one malfunctions. When you upgrade software on switches in the network, upgrade the backup too. Store one current config script on the backup for each switch in your network, so that if a problem occurs you need only set the configuration file with which it boots to match the switch it replaces.

Configure logging The logging facility stores log messages for events with a specified severity in a log file. You can change the size of the log file, and the type of messages recorded. You can configure the switch to output log messages in several ways, for example to a remote switch with a specified IP address, or as an email to a particular email address. The switch can also receive log messages from another switch. Set the Logging Facility to log and forward key messages to your network (see [Chapter 45, Logging Facility](#)). Regularly inspect the log file, especially when difficulties arise.

Flash compaction When flash memory in x900-48FE and AT-9900 switches fills to a certain level, it automatically compacts itself to recover space available from deleted files. You can also activate flash compaction manually if desired.



Caution While flash is compacting, do not restart the switch or use commands that affect the flash file subsystem. Do not restart the switch, or create, edit, load, rename, or delete files until a message confirms that flash file compaction is complete. Interrupting flash compaction can damage files.

Watch for software updates Updates are released periodically to improve the function of your switch software and to add new features. Watch for these at www.alliedtelesis.com/support/updates/.

For More Information

Refer to the following chapters for details about operating the switch, including full command syntax:

See this chapter...	For information about...
Chapter 2, Using the Command Line Interface (CLI)	the command line interface, including how to set <i>aliases</i> to represent common command strings.
Chapter 3, Using the Graphical User Interface (GUI) on AT-9900 Series Switches	the Graphical User Interface for AT-9900 switches, including supported browser/OS combinations, detailed connection instructions, troubleshooting, and an overview of features and navigation.
Chapter 4, Configuring and Monitoring the System	specifying global system parameters, configuring the switch to email alerts, and monitoring system functionality.
Chapter 5, Managing Configuration Files and Software Versions	upgrading the switch's software, creating configuration files, supported servers, and loading files onto the switch. This chapter also describes how to use LDAP, and load PKI certificates and CRLs onto your switch.
Chapter 6, Managing the File System	creating and editing files, including the supported memory types.
Chapter 29, User Authentication	authenticating users who log onto the switch and ensuring that only authorised login accounts are used. Options include the User Authentication Facility, RADIUS, TACACs or TACACS+.
Chapter 32, Port Authentication	802.1x port based network access control.
Chapter 33, Secure Shell	managing the switch using SSH.
Chapter 39, Simple Network Management Protocol (SNMP) and Appendix C, SNMP MIBs and the MIBS folder on the Documentation and Tools CD-ROM.	using SNMP to manage the switch remotely.
Chapter 41, Network Time Protocol (NTP)	using NTP to synchronise your switch's time clock with those of other network devices.
Chapter 43, Scripting	creating, deleting and modifying configuration scripts.
Chapter 44, Trigger Facility	setting up triggers to automatically run scripts at specified times or events.
Chapter 45, Logging Facility	log messages about network activity, including filters to select and display a subset of the results.
Chapter 48, Test Facility	using software to test whether the switch's hardware functions correctly.
Appendix A, Messages	information and error messages that the switch may display.

