

# Avaya X330W-2DS1

## Access Router Module

### Quick Start Guide



#### Note:

The X330WAN expansion modules can be installed in the following Avaya P330 switches:

- P333T, P334T, P332MF, P333R, P333R-LB, P333T-PWR – Embedded S/W version 3.9 or higher

You can see the Embedded Software versions of the switch using the

`dir [mod_num]` CLI command.

If you need to upgrade the software, obtain the latest version of the software from

<http://www.avaya.com/support/> and download it according to the instructions in the User's Guide.

# AVAYA

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## Important Safety Information

Before installing or removing any components of a device, or carrying out any maintenance work, you must read the safety information provided.



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**CAUTION:** To avoid damage from static, only hold the WAN Expansion Router Module by the edges. Do not touch the top or bottom of the circuit board. If possible, wear a wrist-strap and use an anti-static bag.

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**CAUTION:** The Avaya P330 switch must not be operated with the expansion slot open. The expansion slot should either include a sub-module, or be covered with the supplied blanking plate.

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# Unpack the Module

Check the package contents for the following:

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## Equipment

- One X330WAN Access Router Module.
  - ① Connection cables are not supplied.

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## Documentation

- Avaya X330WAN Access Router Modules Quick Start Guide (this document).
- Avaya X330WAN Access Router Modules Release Notes.
- Avaya X330WAN Access Router Modules Documentation and Utilities CD.
- Avaya Warranty and License Agreement.

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## CD Contents

- Avaya X330WAN Access Router Modules User's Guide.
  - ① If any items are missing or damaged, contact your supplier.

## Insert the Module

To insert an X330WAN into an Avaya P330 switch:

1. Remove the blanking plate or other expansion module (if installed).
2. Insert the WAN expansion module gently into the slot, ensuring that the Printed Circuit Board (PCB) is aligned with the guide rails.
  - ❶ The PCB fits into the guide rails and not the metal base plate.
3. Press in the expansion module firmly until it is completely inserted into the Avaya P330 switch.
4. Gently tighten the two screws on the front panel of the expansion module by turning them.
5. Power up the Avaya P330 switch.

▶ The self-test procedure starts. It takes between 30 to 60 seconds to complete.

▶ The LEDs on the X330WAN and the Avaya P330 switch should illuminate as shown below:

*Avaya X330WAN Expansion Module:*

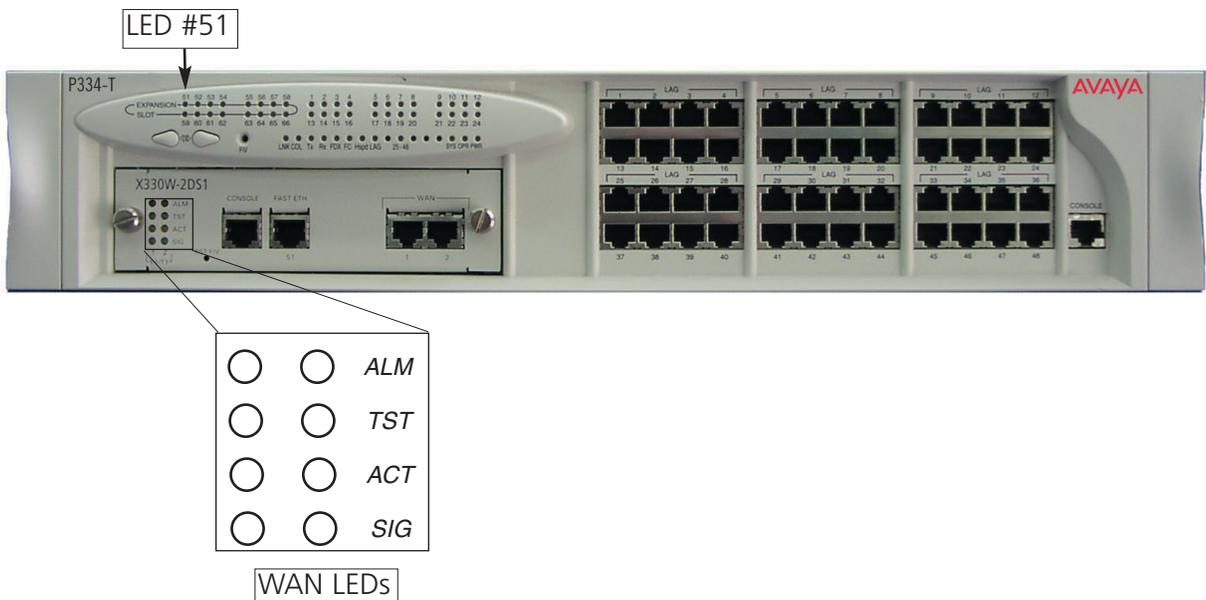
Ten seconds after startup, the ALM LED lights ON for ten seconds, then switches OFF. The TST LED then lights for twenty seconds and afterwards switches off.

Thirty seconds after startup, the ALM LED lights ON again.

*Avaya P330 Switch:*

LED Number 51 should be ON during the self-test procedure.

❶ You can now safely connect the cables to the unit.



## Connect the Ports

### Connecting the E1/T1 Ports

To connect a T1/E1 module to a network, use a straight-through RJ-48C-to-RJ-48C cable to connect the E1/T1 port to an RJ-48C wall jack.

### Connecting the Ethernet Port

A UTP Category 5 cable must be connected to the 100Base-TX port, via an RJ45 connector. The maximum UTP cable length connected to the 10/100 Mbps port operating as 10/100Base-T is 100 m (328 ft.).

- ① You can obtain appropriate cables from your local supplier.
- ① If you are connecting the Fast Ethernet port to a PC or workstation, you should use a *crossed* cable.
- ① If you are connecting the Fast Ethernet port to another switch, you should use a *straight* cable.

### Connecting the Console Port

Each Avaya X330WAN module has one serial port on the front panel for connecting a terminal, a terminal emulator, or a modem. The serial port on the front panel is labeled “Console” and has an RJ-45 socket.

1. Insert the RJ-45 plug on the console cable into the Console port of the Avaya X330WAN module.
2. Insert the other end into the RJ-45 socket in the supplied DB-9 adapter.
3. Insert the DB-9 plug into the serial (COM) port on the PC or terminal.
  - ① To connect a modem, use the cable and an RJ-45 to DB-25 adapter.
  - ① The cable and two adapters can be found in the Avaya P330 accessory set supplied with P330 switches, and they are clearly marked.

## Configure the Module

- ❶ Before you can set up the X330WAN module you must power on and set up the Avaya P330 stack as described in the Avaya P330 User's Guide.
- ❷ Before using the X330WAN module you must assign an IP address via the Command Line Interface (CLI) or via a Telnet session to the switch where the X330 is inserted.

The following steps describe how to configure the X330WAN module using the Avaya CLI.

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### Establishing a Serial Connection

Perform the following steps to connect a terminal to the Console port of the X330WAN for configuration of WAN parameters using the CLI:

1. Use the supplied serial cable to attach the RJ-45 console connector to the Console port. Connect the DB-9 connector to the serial (COM) port on your PC/terminal.
2. Use the following serial port settings on the PC: 9600 baud, 8 bits, 1 stop bit and no parity. If you connected a PC, run a VT-100 emulation session. (You can use the Windows® HyperTerminal.)
  - ❶ The terminal connected to the serial port must be configured with the same settings; this setting will work with any PC COM port over a DB9 to RJ45 connector.
3. Press **Enter**.
4. When prompted for a Login Name, enter the default name **root**.
5. When prompted for a password, enter the password **root**.

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### Establishing a Modem Connection

- ❶ A PPP connection with a modem can be established only after the X330WAN is configured with an IP address and net-mask. Also, the parameters used in the X330WAN must be compatible with the remote peer parameters.
- ❷ Commands are shown as follows: **ip address**; parameters which you need to enter are shown in <> as follows: <net-mask>
- ❸ All CLI commands mentioned in this section are described in the Avaya P330 Reference Guide.

To configure a modem interface:

1. Connect a terminal to the Console port of the X330WAN as described in "Connecting the Console Port".
2. When prompted for a Login Name, enter the default name **root** and press **Enter**.
3. When prompted for a password, enter the password **root** and press **Enter**. You are now in Supervisor mode.
4. At the prompt, type: **interface Console** and press **Enter**.
5. Use the **ip address** <ip\_addr><net-mask> command entering an IP address and net-mask to be used by the remote peer to connect via its console interface to the X330WAN.

① The console interface configured with the **interface Console** command must be on a different subnet from the router interfaces.

6. Use the following commands to set the baud rate, ppp authentication, ppp chap-secret and ppp timeout required to match your remote station if they differ from the default values:

① The default values are shown in ***bold italic*** text.

```
speed <9600 | 19200 | 38400>
```

```
ppp authentication <chap | none | pap>
```

```
ppp chap-secret <string>
```

```
timeout absolute <time>
```

① The time is in minutes.

7. Type: **async mode interactive**  
The following is displayed:

```
Entering the Modem mode will occur automatically upon  
proprietary modem-cable plug-in into the console port.  
The terminal mode would be restarted automatically upon  
insertion of proprietary terminal-cable.
```

8. Use the supplied DB-25 to RJ-45 connector to plug the console cable to the modem's DB-25 connector. Plug the other end of the cable RJ-45 connector to the Console port on the X330WAN.  
▶ The X330WAN enters Modem mode within one minute.

You can now dial from a remote station, and open a Telnet session to the IP address configured in step 5.

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## Configuring Loopback Interfaces

① All CLI commands mentioned in this section are described in the Avaya P330 Reference Guide.

To configure Loopback interfaces:

1. Use the **interface loopback** <loopback number> command to enter the Interface Loopback mode. For example, typing **interface loopback 1** configures a loopback with a Loopback interface number 1.  
The prompt changes to p330WAN-N(super-if:Loopbackn) #  
where N is the switch number and n is the loopback interface number.
2. Use the **ip address** <ip\_addr><net-mask> command to assign an IP address and subnet mask to the interface.
3. Type **exit** to return to Supervisor mode. The prompt returns to p330WAN-N(super) #.

► The following displays:

```
The primary management interface has changed. For this change to
take effect, you need to copy running-config startup-config and
then reset the device.
```

4. Enter the following commands:  
**copy running-config startup-config**  
**reset**

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## Configuring Fast Ethernet Interfaces

① All CLI commands mentioned in this section are described in the Avaya P330 Reference Guide.

To configure Fast Ethernet interfaces:

1. Type **interface FastEthernet 1** to enter the Interface Configuration mode.  
The prompt changes to p330WAN-N(super-if:FastEthernet1) #.
2. Use the **ip address** <ip\_addr><net-mask> command to assign an IP address and subnet mask to the interface.
3. Type **exit** to return to Supervisor mode.  
The prompt returns to p330WAN-N(super) #.

## Configuring E1/T1 Interfaces

① All CLI commands mentioned in this section are described in the Avaya P330 Reference Guide.

To configure E1/T1 interfaces:

1. Use the **show controllers** command to check if your controller's mode is configured as E1 or T1. Use the **ds1-mode** <e1 | t1> command to change the controller's mode from E1 to T1 or vice versa.
2. Use the **controller** <e1 | t1> <port-number> command to set the port number to be configured.  
The prompt changes to p330WAN-N(super-controller:n)# where N is the switch number and n is the port number.
3. Use the following commands if you want to change the clock source, frame type and line-code parameters from their default settings:  
**clock source** {line | internal}  
**framing** {sf | esf} for T1 lines or **framing** {crc4 | no-crc4} for E1 lines  
**linecode** {ami|b8zs} for T1 lines or **linecode** {ami|hdb3} for E1 lines.  
For a list of X330WAN default settings, see "X330WAN Default Settings".  
▶ If you are working in E1 mode, go to step 4, otherwise go to step 5.
4. Use the **channel-group** channel-no **timeslots** timeslot-list command to specify the channel group and time slots to be mapped. For example, typing **channel group 1 timeslots 1,3-5,7** configures time slots numbered 1, 3-5 and 7 to be mapped in channel-group number 1. Proceed to step 6.
5. Use the **channel-group** channel-no **timeslots** timeslot-list **speed** <56|64> command to specify the channel group, time slots to be mapped and DS0 speed in kbps. For example, typing **channel group 1 timeslots 1,3-5,7 speed 64** configures time slots numbered 1, 3-5 and 7 to be mapped in channel-group number 1 and the DS0 speed to 64 kbps.  
① The default DS0 speed is 56 kbps
6. Type **exit** to return to Supervisor mode.  
The prompt returns to p330WAN-N(super)#.
7. Use the **interface Serial** controller[:group-number[.sub-interface]] command to configure each channel group as a virtual serial interface. For example, typing **interface Serial 1:2** configures a serial interface on port number 1 with channel group number 2.
8. Use the **ip address** <ip\_addr><net-mask> command to assign an IP address and subnet mask to the interface.
9. Repeat steps 2 through 7 if you want to configure another T1 or E1 interface.
10. Type **exit** to return to Supervisor mode. The prompt returns to p330WAN-N(super)#.

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## Changing the Primary Management Interface (pmi).

① The default pmi is the first interface you define.

To change the pmi:

1. Enter one of the interface contexts as explained before.
2. If there no ip assigned on that interface use the `! ip address <ip_ addr>< net- mask>` command.
3. Use the `ip routing-mode rt_primary_mgmt` command to set the interface as pmi.

► The following message displays:

The primary management interface has changed. For this change to take effect, you need to copy running- config startup- config and then reset the device

4. Enter the following commands:  
`copy running-config startup-config`  
`reset`

---

## Establishing a Telnet Connection

Perform the following steps to establish a Telnet connection to the X330WAN for configuration of WAN parameters. Telnet directly to one of the Router IP addresses:

1. Connect your station to the network.
2. Verify that you can communicate with the X330WAN using the ping command to the IP address of the X330WAN you chose. If there is no response, check the IP address and default gateway of both the X330WAN and the station.
3. From the Microsoft Windows® taskbar of your PC, click **Start** and then **Run** (or from the DOS prompt of your PC), then start the Telnet session by typing:  
`telnet <X330WAN_IP_address>`. For example: `telnet 149.49.32.134`.

① You can also Telnet the IP address of the P330 stack. If you Telnet the IP address of the stack, a connection is established with the Switch CLI entity of the Master module of the stack. If you want to connect to the X330WAN CLI entity, use the `session [<mod_num> [wan]]` command. If the IP address in the Telnet command is the address of the X330WAN router, connection is established to the X330WAN CLI entity.

4. When prompted for a Login Name, enter the default name `root`.
5. When prompted for a password, enter the User Level password `root` in lower case letters. Do NOT use uppercase letters.

You can now configure the X330 WAN.

## X330WAN Default Settings

The default settings for the X330WAN and its ports are determined by its embedded software. These default settings are subject to change. Newer versions of the software for the X330WAN can be downloaded from the Avaya Network Software Download Web site (<http://www.avayanetwork.com>). If you wish to change the default parameters, we recommend that you use the CLI. Please refer to the Avaya X330WAN User's Guide.

Function	Default Setting
Port Speed (Fast Ethernet)	100 Mbps
Port Duplex (Fast Ethernet)	Full Duplex
Auto Negotiation (Fast Ethernet)	Enabled
WAN Mode (WAN)	T1
Framing (WAN)	SF
Linecode (WAN)	ami
Clock Source (WAN)	line
SNMP Community	public
X330WAN CLI Entry Login	Login name: <b>root</b> , Password: <b>root</b>

# Run the Web-Based Manager (optional)

① To configure the Avaya X330WAN you can use the P330 Web-based Manager in addition to using the CLI.

## System Requirements

Minimum hardware and Operating System requirements are:

- Pentium® II 400 Mhz-based computer with 128 Mb of RAM
- Screen resolution of 1024 x 768 pixels
- Microsoft® Internet Explorer® 5 or Netscape Navigator® 4.x
- Windows® 95, NT® 4.0 (server/workstation) or Windows 2000 (server/workstation)
- Sun Microsystems Java™ plug-in version 1.3.1\_02 (supplied)

## Running the Embedded Manager

① Assign an IP address to the Master Switch before starting this procedure.

① Assign a primary management interface (pmi) to the X330WAN module. The default pmi is the first interface you define.

1. Verify that there is communication between the Master Switch and the X330WAN using the ping command to the pmi of the X330WAN. If there is no response, check the IP address and default gateway of both the X330WAN and the Master Switch.

2. Open your browser.

3. Enter the URL of the switch in the form **http://aaa.bbb.ccc.ddd**

① **aaa.bbb.ccc.ddd** is the IP address of the switch.

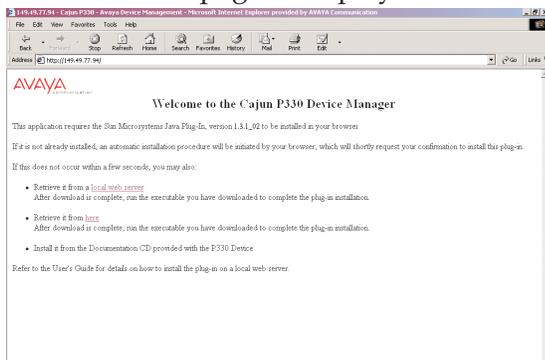
▶ You are prompted to log into the switch.

① The user name is **root**.

The default password for read-write access is **root**.

① The Web management passwords are the same as those of the CLI. If you have created additional CLI user names or changed the default passwords then you can use those passwords for Web management as well.

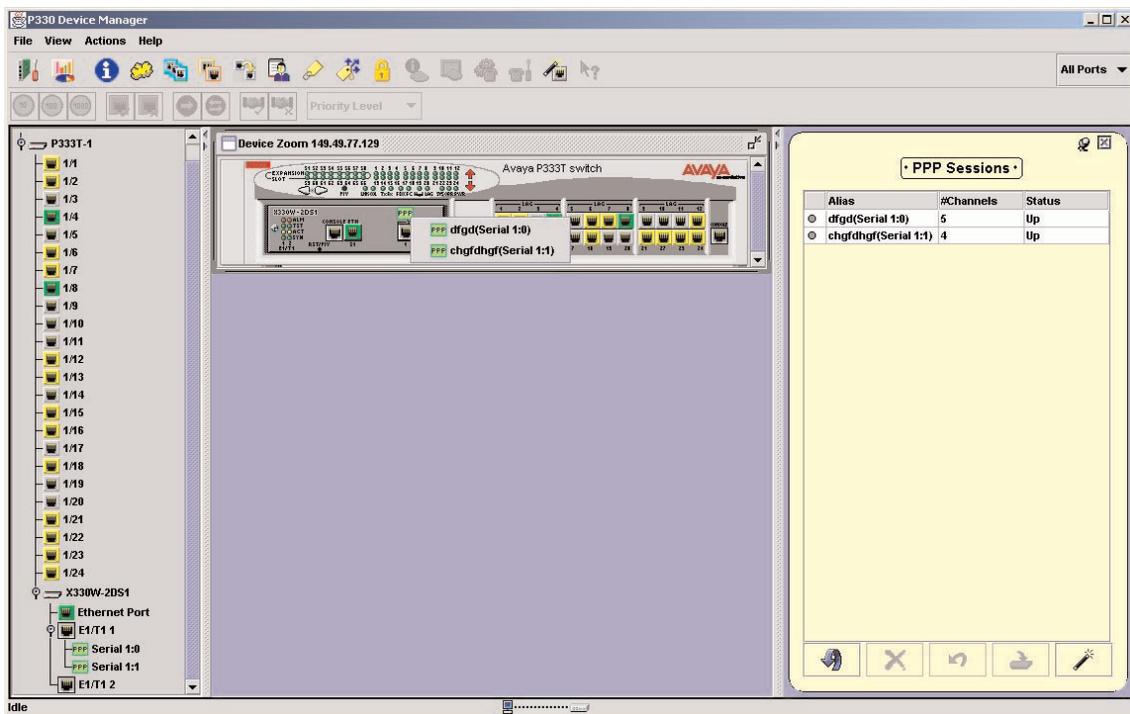
▶ The welcome page is displayed.



① If the network manager has configured the system the plug-in should be installed automatically.

If the plug-in is not installed automatically, there are three ways to install the plug-in manually:

- **Either** install the plug-in from the CD as follows:
  1. Close all unnecessary applications on your PC.
  2. Insert the “Avaya P330 Documentation and Utilities” CD in the CD drive.
  3. Click **Start** on the Task bar.
  4. Select **Run**.
  5. Type **x:\emweb-aux-files\plugin\_1\_3\_1.exe** (where **x:** is the CD drive letter)
  6. Follow the on-screen instructions.
- **Or** install the plug-in from the Avaya site by clicking on the link on the welcome page.
- **Or**, if the network manager has placed the files on the local site, install the plug-in from there by clicking the link on the welcome page.
- ▶ If you have the Java plug-in already installed or once you have successfully installed the plug-in as described above, the Web-based manager opens in your browser.



# Documentation and Online Help

Refer to the Avaya X330WAN Documentation and Utilities CD for full instructions.



# Notes



# Contact Information

To contact Avaya technical support:

## From the United States:

Please call 1-800-237-0016, press 0, then press 73300.

## From outside the United States:

**EMEA (Europe, Middle East and Africa). Email: [csctechnical@avaya.com](mailto:csctechnical@avaya.com)**

**AP (Asia Pacific). Email: [sgcoe@avaya.com](mailto:sgcoe@avaya.com)**

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Belorussia	+31 70 414 8047	Kenya	+31 70 414 8049	Slovakia	+31 70 414 8066
Bosnia Herzegovina	+31 70 414 8042	Kuwait	+31 70 414 8052	Slovenia	+31 70 414 8040
Bulgaria	+31 70 414 8004	Latvia	+371 721 4368	South Africa	+0800 995 059
Croatia	+31 70 414 8039	Lebanon	+31 70 414 8053	Spain	+34 91 375 3023
Cyprus	+31 70 414 8005	Lithuania	+370 2 756 800	Sweden	+46 851 992 080
Czech Rep.	+31 70 414 8006	Luxemburg	+352 29 6969 5624	Switzerland	+41 22 827 8741
Denmark	+45 8233 2807	Macedonia	+31 70 414 8041	Tanzania	+31 70 414 8060
Egypt	+31 70 414 8008	Malta	+31 70 414 8022	Tunisia	+31 70 414 8069
Estonia	+372 6604736	Mauritius	+31 70 414 8054	Turkey	+800 4491 3919
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France	+33 1 4993 9009	Netherlands	+31 70 414 8023	Ukraine	+31 70 414 8035
Germany	+49 69 95307 680	Nigeria	+31 70 414 8056	UAE	+31 70 414 8036
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