

100VG-AnyLAN Port Adapter

Description

The 100VG-AnyLAN port adapter (PA-100VG) is available on Cisco 7200 series routers, Cisco 7500 series routers, and on Cisco 7000 series routers with the 7000 Series Route Switch Processor (RSP7000) and 7000 Series Chassis Interface (RSP7000CI).

The PA-100VG provides a single interface compatible with and specified by IEEE 802.12 to support 100 Mbps over Category 3 or Category 5 unshielded twisted-pair (UTP) cable with RJ-45 terminators. The PA-100VG supports 802.3 Ethernet packets and can be monitored with the IEEE 802.12 Interface MIB.

Platforms

This feature is supported on these platforms:

- Cisco 7200 series
- Cisco 7500 series
- Cisco 7000 series with the RSP7000 and RSP7000CI

Configuration Task

To configure the PA-100VG port adapter, perform the following tasks beginning in global configuration mode:

Task	Command
Step 1 Specify a 100VG-AnyLAN interface and enter interface configuration.	interface vg-anylan <i>slot/port-adapter/port</i> (Cisco 7000 and Cisco 7500) interface vg-anylan <i>slot/port</i> (Cisco 7200)
Step 2 Specify the IP address and subnet mask to the interface.	ip address <i>ip-address mask</i> ¹
Step 3 Configure the frame type. Currently, only Ethernet frames are supported. The frame type defaults to Ethernet.	frame-type ethernet

1. This command is documented in the “IP Commands” chapter of the *Network Protocols Command Reference, Part 1*.

Note The port number for the 100VG-AnyLAN port adapter is always 0.

Configuring the PA-100VG interface is similar to configuring an Ethernet or Fast Ethernet interface. For information on other configuration tasks for the PA-100VG port adapter, refer to the “Configure an Ethernet or Fast Ethernet Interface” section in the “Configuring Interfaces” chapter of the *Configuration Fundamentals Configuration Guide*.

For information on other commands that can be used by the PA-100VG interface, refer to the Cisco IOS Release 11.2 configuration guides.

To display information about the 100VG-AnyLAN port adapter, use the **show interfaces vg-anylan EXEC** command.

Configuration Examples

Following is an example of a basic configuration for the PA-VG100 port adapter interface in slot 1 on a Cisco 7500 series router. In this example, IP routing is enabled on the router, so an IP address and subnet mask are assigned to the interface.

```
router# configure terminal
router(config)# interface vg-anylan 1/0/0
router(config-if)# ip address 1.1.1.10 255.255.255.0
router(config-if)# no shutdown
router(config-if)# exit
router(config)# exit
router#
```

Command Reference

This section documents new or modified commands. All other commands used with this feature are documented in the Cisco IOS Release 11.2 command references.

- **clear counters**
- **clear interface**
- **frame-type**
- **interface vg-anylan**
- **show controllers vg-anylan**
- **show interfaces vg-anylan**

clear counters

To clear the interface counters, use the **clear counters** EXEC command.

clear counters [*type number*]

clear counters [*type slot/port*] [**ethernet** | **serial**] (Cisco 4000 series or Cisco 7000 series with a LAN Extender interface)

clear counters [*type slot/port*] (Cisco 7000 series and Cisco 7200 series routers, and Cisco 7500 series with a Packet OC-3 Interface Processor)

clear counters [*type slot/port-adapter/port*] (Cisco 7000 series and Cisco 7500 series with ports on VIP or second-generation VIP cards)

Syntax Description

<i>type</i>	(Optional) Interface type; one of the keywords listed in Usage Guidelines.
<i>number</i>	(Optional) Interface number displayed with the show interfaces command.
ethernet	(Optional) If the <i>type</i> is lex , you can clear the interface counters on the Ethernet interface.
serial	(Optional) If the <i>type</i> is lex , you can clear the interface counters on the serial interface.
<i>slot</i>	(Optional) Backplane slot number on the Cisco 7000 series and Cisco 7200 series. On the Cisco 7000 series and Cisco 7200 series, the value can be 0, 1, 2, 3, or 4. On the Cisco 7010, the value can be 0, 1, or 2.
<i>port</i>	(Optional) Port number of the interface. On the Cisco 7000 series and Cisco 7200 series, the value can be 0, 1, 2, or 3 for the serial interface. For the Cisco 7500 series, if the interface type is <i>pos</i> , the value must be 0. For the VIP card, the port value can be the following: <ul style="list-style-type: none"> • 1-port Fast Ethernet interfaces: 0 • 4-port Ethernet interfaces: 0, 1, 2, or 3 • 4-port serial interfaces: 0, 1, 2, or 3 • 4-port Token Ring interfaces: 0, 1, 2, or 3 • 1-port FDDI interfaces: 0
<i>port-adapter</i>	(Optional) On the Cisco 7000 and Cisco 7500 series, specifies the port adapter location on a VIP card. The value can be 0 or 1.

Command Mode

EXEC

Usage Guidelines

This command first appeared in Cisco IOS Release 10.0.

This command was modified in Cisco IOS Release 11.2 P and 11.1 CA to include the **vg-anylan** interface type keyword.

This command clears all the current interface counters from the interface unless the optional arguments *type* and *number* are specified to clear only a specific interface type (serial, Ethernet, Token Ring, and so on).

Note This command will not clear counters retrieved using SNMP, but only those seen with the **show interface EXEC** command.

Keyword	Interface Type
async	Asynchronous interface
bri	Integrated Services Digital Network (ISDN) Basic Rate Interface (BRI)
dialer	Dialer interface
ethernet	Ethernet interface
fast-ethernet	Fast Ethernet interface
fdi	Fiber Distributed Data Interface (FDDI)
hssi	High-Speed Serial Interface (HSSI)
lex	LAN Extender interface
loopback	Loopback interface
null	Null interface
pos	Packet OC-3 interface
serial	Synchronous serial interface
tokenring	Token Ring interface
tunnel	Tunnel interface
vg-anylan	100VG-AnyLAN port adapter

Examples

The following example clears all interface counters:

```
clear counters
```

The following example clears the Packet OC-3 interface counters on a POSIP card in slot 1 on a Cisco 7500 series router:

```
clear counters pos 1/0
```

The following example clears interface counters on the serial interface residing on a Cisco 1000 series LAN Extender:

```
clear counters lex 0 serial
```

Related Command

show interfaces

clear interface

To reset the hardware logic on an interface, use the **clear interface EXEC** command.

clear interface *type number*

clear interface *type slot/port* (Cisco 7000 series and Cisco 7200 series, and Cisco 7500 series with a Packet OC-3 Interface Processor)

clear interface [*type slot/port-adapter/port*] (ports on VIP cards in the Cisco 7000 series and Cisco 7500 series)

clear interface *type slot/port [:channel-group]* (Cisco 7000 series MIP T1 interface)

clear interface *type slot/port-adapter/port [:t1-channel]* (CT3IP in Cisco 7000 series routers with RSP7000 and Cisco 7500 series)

Syntax Description

<i>type</i>	Specifies the interface type; it is one of the keywords listed in Usage Guidelines.
<i>number</i>	Specifies the port, connector, or interface card number.
<i>slot</i>	On the Cisco 7000 series and Cisco 7200 series, specifies the backplane slot number. On the Cisco 7000, the value can be 0, 1, 2, 3, or 4. On the Cisco 7010, the value can be 0, 1, or 2. On the Cisco 7200 series, the value can be 0, 1, 2, 3, 4, 5, or 6.
<i>port</i>	<p>Port number of the interface. For the Cisco 7500 series, if the interface type is <i>pos</i>, the value must be 0. On the Cisco 7000 series, this argument is required, and the value can be 0, 1, 2, 3, 4, or 5 depending on the type of interface, as follows:</p> <ul style="list-style-type: none"> • AIP (ATM Interface Processor) 0 • EIP (Ethernet Interface Processor) 0, 1, 2, 3, 4, or 5 • FIP (FDDI Interface Processor) 0 • HIP (HSSI Interface Processor) 0 • MIP (Multichannel Interface Processor) 0 or 1 • TRIP (Token Ring Interface Processor) 0, 1, 2, or 3 <p>(Optional) Port number of the interface. For the VIP card this argument is optional, and the value can be the following:</p> <ul style="list-style-type: none"> • 0 for 1-port Fast Ethernet interfaces • 0, 1, 2, or 3 for 4-port Ethernet interfaces • 0, 1, 2, or 3 for 4-port serial interfaces • 0, 1, 2, or 3 for 4-port Token Ring interfaces • 0 for 1-port FDDI interfaces
<i>port-adapter</i>	(Optional) On the Cisco 7000 series and Cisco 7500 series, specifies the port-adapter location on a VIP card. The value can be 0 or 1.
<i>:channel-group</i>	(Optional) On the Cisco 7000 series supporting channelized T1, specifies the channel from 0 to 23. This number is preceded by a colon.

:t1-channel (Optional) For the CT3IP, the T1 channel is a number between 1 and 28. T1 channels on the CT3IP are numbered 1 to 28 rather than the more traditional zero-based scheme (0 to 27) used with other Cisco products. This is to ensure consistency with telco numbering schemes for T1 channels within channelized T3 equipment.

Command Mode

EXEC

Usage Guidelines

This command first appeared in Cisco IOS Release 10.0.

This command was modified in Cisco IOS Release 11.2 P and 11.1 CA to include the **vg-anylan** interface type keyword.

Under normal circumstances, you do not need to clear the hardware logic on interfaces.

Keyword	Interface Type
async	Async interface
atm	Asynchronous Transfer Mode (ATM) interface
bri	Integrated Services Digital Network (ISDN) Basic Rate Interface (BRI)
ethernet	Ethernet interface
fddi	Fiber Distributed Data Interface (FDDI)
hssi	High-Speed Serial Interface (HSSI)
loopback	Loopback interface
null	Null interface
pos	Packet OC-3 Interface Processor
serial	Synchronous serial interface
tokenring	Token Ring interface
tunnel	Tunnel interface
vg-anylan	100VG-AnyLAN port adapter

Examples

The following example resets the interface logic on HSSI interface 1:

```
clear interface hssi 1
```

The following example resets the interface logic on Packet OC-3 interface 0 on the POSIP in slot 1:

```
clear interface pos 1/0
```

The following example resets the interface logic on T1 0 on the CT3IP in slot 9:

```
clear interface serial 9/0/0:0
```

frame-type

To specify the type of framing used by the 100VG-AnyLAN port adapter on Cisco 7000 series routers using the 7000 Series Route Switch Processor (RSP7000), on Cisco 7500 series routers, and on Cisco 7200 series routers, use the **frame-type** interface configuration command. Use the **no** form of this command to restore the default framing type.

```
frame-type [ethernet | tokenring]  
no frame-type
```

Syntax Description

ethernet	Specifies that the 802.3 Ethernet frame is used. This is the default.
tokenring	Specifies that the 802.5 Token Ring frame is used. Token Ring is not supported.

Default

Ethernet

Command Mode

Interface configuration

Usage Guidelines

This command first appeared in Cisco IOS Release 11.2 P and 11.1 CA.

The 100VG-AnyLAN port adapter provides a single interface port that is compatible with and specified by IEEE 802.12. The 100VG-AnyLAN provides a 100-Mbps interface over Category 3 or Category 5 unshielded twisted-pair (UTP) cable with RJ-45 terminators, and supports 802.3 Ethernet packets.

Example

In the following example, the framing for the 100VG-AnyLAN port adapter is set to Ethernet on interface 0 in slot 3:

```
interface vg-anylan 3/0/0  
  frame-type ethernet
```

Related Command

interface vg-anylan

interface vg-anylan

To specify the interface on a 100VG-AnyLAN port adapter on Cisco 7200 series routers, on Cisco 7500 series routers, and on Cisco 7000 series routers with the RSP7000 and RSP7000CI, and enter interface configuration mode, use the **interface vg-anylan** global configuration command.

interface vg-anylan *slot/port-adapter/port* (on VIP cards in Cisco 7000 series and Cisco 7500 series)
interface vg-anylan *slot/port* (Cisco 7200 series)

Syntax Description

<i>slot</i>	Backplane slot number.
<i>port-adapter</i>	Port adapter number on the VIP2, either 0 or 1.
<i>port</i>	Interface port number. This is always 0.

Default

None

Command Mode

Global configuration

Usage Guidelines

This command first appeared in Cisco IOS Release 11.2 P and 11.1 CA.

The 100VG-AnyLAN port adapter provides a single interface port that is compatible with and specified by IEEE 802.12. The 100VG-AnyLAN port adapter provides 100 Mbps over Category 3 or Category 5 unshielded twisted-pair (UTP) cable with RJ-45 terminators, and supports 802.3 Ethernet packets.

You configure the 100VG-AnyLAN port adapter as you would any Ethernet or Fast Ethernet interface. The 100VG-AnyLAN port adapter can be monitored with the IEEE 802.12 Interface MIB.

Example

The following example specifies the 100VG-AnyLAN port adapter in the first port adapter in slot 1:

```
interface vg 1/0/0
```

Related Commands

frame-type
show interfaces vg-anylan

show controllers vg-anylan

To display the controller information for the 100VG-AnyLAN port adapter on Cisco 7200 series routers, Cisco 7500 series routers, and Cisco 7000 series routers with the RSP7000 and RSP7000CI, use the **show controllers vg-anylan** user EXEC command.

show controllers vg-anylan slotport-adapter/port (on VIP cards in Cisco 7000 series and Cisco 7500 series)
show controllers vg-anylan slotport (Cisco 7200 series)

Syntax Description

<i>slot</i>	Backplane slot number.
<i>port-adapter</i>	Port adapter number on the VIP2, either 0 or 1.
<i>port</i>	Interface port number. This is always 0.

Command Mode

EXEC

Usage Guidelines

This command first appeared in Cisco IOS Release 11.2 P and 11.1 CA.

The information displayed is generally useful for diagnostic tasks performed by technical support personnel only.

Sample Display

The following is sample output from the **show controllers vg-anylan** command:

```
Router# show controllers vg-anylan 3/0
Interface VG-AnyLAN3/0
Hardware is MC68852
mc68852_ds=0x60A4C930, registers=0x3C300000, ib=0x4B056240
rx ring entries=31, tx ring entries=31
rxring=0x4B056340, rxr shadow=0x60A4CA08, rx_head=0, rx_tail=0
txring=0x4B057180, txr shadow=0x60A4D07C, tx_head=0, tx_tail=2,
tx_count=2,

MC68852 Registers:
hw_id: 5048, hw_id & page: 7053, opr1=0x26, opr2=0x2C, opr3=0x00
Page 0 - Performance:
isr=0x3400, imr=0x0A0A, flreg=0x0000
xfrct=0xC07E0080, rxcnt=0, txcnt=1F
Page 1 - MAC Address/Hash Table:
addrlow= 6009B9, addrhigh=9B1809B9,hash bytes=06 00 20 00 00 00 00 00
Page 2 - Hardware Mapping:
mmmsw=0x3785, mmlsw=0x0000, bmreg =0x04
Page 4 - LAN Configuration:
tccnf1=0x00, tccnf2=0x01
vccnf=0x99, vtrrg=0x0020, valow1=0x0000, valow2=0x0000
maccr1=0xBE, maccr2=0x00, maccr3=0x04, maccr4=0x03
Page 5 - MMU Registers:
rx mem stop addr=0xFF03, tx mem stop addr=0xFF07
```

```
MC68852 PCI registers:
bus_no=6, device_no=0
CFID=0x0005101A, CFCS=0x02800005, CFRV=0x02000000, CFLT=0x0000F800
CBIO=0x00006001, CBMA=0x00000000, CFIT=0x20080100, CFDA=0x0000000C

Actel Hardware CAM Control Registers:
CAM DEVICE BASE: 0x3C300800 Register Address: 0x3C300C00
CSR: 0x8000 CAMCR: 0xFFFF
USAR: 0000 MSAR: 0000 LSAR: 0000
FIFO CR: 0x8000 WRMASK: 0x0080
COMPARAND REG: 0000.0000.0000
PERSISTENT SOURCE: 0x0 PERSISTENT DEST: 0xFD010000
ACTEL CAM PCI registers:
bus_no=6, device_no=1
CFID=0x555511AA, CFCS=0x04800003, CFRV=0xF0F0F001, CFLT=0x00000000
CBIO=0x00006800, CBMA=0x00000000, CFIT=0x00000000, CFDA=0x00000000
pak_to_host=0x0, filtered_pak=0
throttled=0, enabled=0, disabled=0
tx_carrier_loss=0
fatal_tx_err=0, mult_ovfl=0
```

show interfaces vg-anylan

To display the information about the 100VG-AnyLAN port adapter on Cisco 7200 series routers, Cisco 7500 series routers, and Cisco 7000 series routers with the RSP7000 and RSP7000CI, use the **show interfaces vg-anylan EXEC** command.

show interfaces vg-anylan [*slot/port-adapter/port*] (on VIP cards in Cisco 7000 series and Cisco 7500 series)
show interfaces vg-anylan [*slot/port*] (Cisco 7200 series)

Syntax Description

slot (Optional) Backplane slot number.

port-adapter (Optional) Port adapter number on the VIP2, either 0 or 1.

port (Optional) Interface port number. This is always 0.

Command Mode

EXEC

Usage Guidelines

This command first appeared in Cisco IOS Release 11.2 P and 11.1 CA.

Sample Display

The following is sample output from the **show interfaces vg-anylan** command:

```
Router# show interfaces vg-anylan 3/0/0

VG-AnyLAN3/0/0 is up, line protocol is up
Hardware is cyBus VG-AnyLAN Interface
Frame type is 802.3, address is 0060.3e64.2460 (bia 0060.3e64.2460)
Internet address is 10.1.1.5/16
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec, rely 255/255, load 1/255
Encapsulation ARPA, loopback not set, keepalive set (10 sec)
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:26, output 00:00:09, output hang never
Last clearing of "show interface" counters never
Queueing strategy: fifo
Output queue 0/40, 0 drops; input queue 0/75, 0 drops
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
 5316 packets input, 857349 bytes, 0 no buffer
  Received 5310 broadcasts, 0 runts, 0 giants
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
  0 input packets with dribble condition detected
7920 packets output, 754259 bytes, 0 underruns
  0 output errors, 0 collisions, 2 interface resets
  0 output buffer failures, 0 output buffers swapped out
  0 vg alignment error, 0 vg balance error
  0 vg invalid ipm error, 0 vg symbol error
  0 vg skew error, 0 vg frame delimit error
  0 vg high priority packets, 0 vg high priority octets
```

Table 31 describes significant fields in this output.

Table 31 Show Interfaces VG-AnyLAN Field Descriptions

Field	Description
VG-AnyLAN3/0/0 is up, line protocol is up	Indicates if the interface hardware is currently active and can transmit and receive or if it has been taken down by an administrator.
Hardware is cyBus VG-AnyLAN	Hardware type.
Frame type is 803.2	Currently the frame type supported is 803.2.
Internet address	Internet address and subnet mask.
MTU	Maximum transmission unit of the interface.
BW	Bandwidth of the interface in kilobits per second.
DLY	Delay of the interface in microseconds.
rely	Reliability of the interface as a fraction of 255 (255/255 is 100% reliability), calculated as an exponential average over 5 minutes.
load	Load on the interface as a fraction of 255 (255/255 is completely saturated), calculated as an exponential average over 5 minutes. The calculation uses the value from the bandwidth interface configuration command.
Encapsulation	Encapsulation method assigned to the interface.
loopback	Indicates if loopbacks are set.
keepalive	Indicates if keepalives are set.
ARA type	ARP type on the interface.
Last input	Number of hours, minutes, and seconds since the last packet was successfully received by an interface. Useful for knowing when a dead interface failed.
output	Number of hours, minutes, and seconds since the last packet was successfully transmitted by an interface.
output hang	Number of hours, minutes, and seconds (or never) since the interface was last reset because of a transmission that took too long. When the number of hours in any of the "last" fields exceeds 24 hours, the number of days and hours is printed. If that field overflows, asterisks are printed.
last clearing	Time at which the counters that measure cumulative statistics (such as number of bytes transmitted and received) shown in this report were last reset to zero. Variables that might affect routing (for example, load and reliability) are not cleared when the counters are cleared. *** indicates the elapsed time is too large to be displayed. 0:00:00 indicates the counters were cleared more than 2 ³¹ ms (and less than 2 ³² ms) ago.
Queueing strategy	First-in, first-out queueing strategy (other queueing strategies you might see are priority-list, custom-list, and weighted fair).
Output queue, drops input queue, drops	Number of packets in output and input queues. Each number is followed by a slash, the maximum size of the queue, and the number of packets dropped because a queue was full.
5 minute input rate 5 minute output rate	Average number of bits and packets received or transmitted per second in the last 5 minutes.
packets input	Total number of error-free packets received by the system.

Table 31 Show Interfaces VG-AnyLAN Field Descriptions (Continued)

Field	Description
bytes (input)	Total number of bytes, including data and MAC encapsulation, in the error-free packets received by the system.
no buffer	Number of received packets discarded because there was no buffer space in the main system. Compare with ignored count. Broadcast storms on Ethernets and bursts of noise on serial lines are often responsible for no input buffer events.
broadcasts	Total number of broadcast or multicast packets received by the interface.
runts	Number of packets that are discarded because they are smaller than the medium's minimum packet size.
giants	Number of packets that are discarded because they exceed the medium's maximum packet size.
input errors	Total number of no buffer, runts, giants, CRCs, frame, overrun, ignored, and abort counts. Other input-related errors can also increment the count, so that this sum might not balance with the other counts.
CRC	Cyclic redundancy checksum generated by the originating LAN station or far-end device does not match the checksum calculated from the data received. On a LAN, this usually indicates noise or transmission problems on the LAN interface or the LAN bus itself. A high number of CRCs is usually the result of collisions or a station transmitting bad data. On a serial link, CRCs usually indicate noise, gain hits or other transmission problems on the data link.
frame	Number of packets received incorrectly having a CRC error and a noninteger number of octets. On a serial line, this is usually the result of noise or other transmission problems.
overrun	Number of times the serial receiver hardware was unable to hand received data to a hardware buffer because the input rate exceeded the receiver's ability to handle the data.
ignored	Number of received packets ignored by the interface because the interface hardware ran low on internal buffers. These buffers are different than the system buffers mentioned previously in the buffer description. Broadcast storms and bursts of noise can cause the ignored count to be incremented.
abort	Illegal sequence of one bits on the interface.
input packets with dribble condition detected	Dribble bit error indicates that a frame is slightly too long. This frame error counter is incremented just for informational purposes; the router accepts the frame.
packets output	Total number of messages transmitted by the system.
bytes (output)	Total number of bytes, including data and MAC encapsulation, transmitted by the system.
underruns	Number of times that the far-end transmitter has been running faster than the near-end router's receiver can handle.
output errors	Sum of all errors that prevented the final transmission of datagrams out of the interface being examined. Note that this might not balance with the sum of the enumerated output errors, as some datagrams can have more than one error, and others can have errors that do not fall into any of the specifically tabulated categories.

Table 31 Show Interfaces VG-AnyLAN Field Descriptions (Continued)

Field	Description
collisions	Number of messages retransmitted due to an Ethernet collision. This is usually the result of an overextended LAN (Ethernet or transceiver cable too long, more than two repeaters between stations, or too many cascaded multiport transceivers). A packet that collides is counted only once in output packets.
interface resets	Number of times an interface has been completely reset. This can happen if packets queued for transmission were not sent within a certain interval. If the system notices that the carrier detect line of an interface is up, but the line protocol is down, it periodically resets the interface in an effort to restart it. Interface resets can also occur when an unrecoverable interface processor error occurred, or when an interface is looped back or shut down.
output buffer failures	Number of times that a packet was not output from the output hold queue because of a shortage of MEMD shared memory.
output buffers swapped out	Number of packets stored in main memory when the output queue is full; swapping buffers to main memory prevents packets from being dropped when output is congested. The number is high when traffic is bursty.
vg alignment error	Number of non-octets received.
vg balance error	Number of incorrect balanced symbols received.
vg invalid ipm error	Number of packets received with an invalid packet marker (IPM).
vg symbol error	Number of symbols received that were not correctly decoded.
vg skew error	Number of skews between four pairs of twisted-pair wire that exceeded the allowable skew.
vg frame delimit error	Number of start-of-frame errors or false-start errors received.
vg high priority packets	Number of high-priority packets received.
vg high priority octets	Number of high-priority octets received.

Related Command
interface vg-anylan

Debug Command

This section documents the **debug vg-anylan** debug command.

debug vg-anylan

To monitor error information and the 100VG connection activity, use the **debug vg-anylan EXEC** command. Use the **no** form of the command to disable debugging output.

[no] debug vg-anylan

Usage Guidelines

This command first appeared in Cisco IOS Release 11.2 P and 11.1 CA.

This command could create large amounts of output.

Sample Display

Figure 5 shows sample output from the **debug vg-anylan** command.

Figure 5 Sample Debug VG-AnyLAN Output

```
router# debug vg-anylan
VG-AnyLAN network interface debugging is on
```

Table 32 lists the possible messages that could be generated by this command.

Table 32 Debug VG-AnyLAN Message Descriptions

Message	Description	Action
%HP100VG-5-LOSTCARR: HP100VG(2/0), lost carrier	Lost carrier debug message. The VG controller detects that the link to the hub is down due to cable, hub, or VG controller problem.	Check, repair, or replace the cable or hub. If you determine that the cable and hub are functioning normally, repair or replace the 100VG-AnyLAN port adapter.
%HP100VG-5-CABLEERR: HP100VG(2/0), cable error, training failed	Bad cable error messages. Cable did not pass training. ¹	Check, repair, or replace the cable or hub. If you determine that the cable and hub are functioning normally, repair or replace the 100VG-AnyLAN port adapter.
%HP100VG-5-NOCABLE: HP100VG(2/0), no tone detected, check cable, hub	No cable attached error message. The VG MAC cannot hear tones from the hub. ¹	Check, repair, or replace the cable or hub. If you determine that the cable and hub are functioning normally, repair or replace the 100VG-AnyLAN port adapter.

Table 32 Debug VG-AnyLAN Message Descriptions (Continued)

Message	Description	Action
HP100VG-1-FAIL: HP100VG(2/0), Training Fail - unable to login to the hub	Training to the VG network failed. Login to the hub rejected by the hub. ¹	Take action based on the following error messages: <ul style="list-style-type: none"> • %HP100VG-1-DUPMAC: HP100VG(2/0), A duplicate MAC address has been detected • HP100VG-1-LANCNF: HP100VG(2/0), Configuration is not compatible with the network • %HP100VG-1-ACCESS: HP100VG(2/0), Access to network is not allowed
%HP100VG-1-DUPMAC: HP100VG(2/0), A duplicate MAC address has been detected	Duplicate MAC address on the same VG network. Two VG devices on the same LAN segment have the same MAC address.	Check the router configuration to make sure that no duplicate MAC address is configured.
%HP100VG-1-LANCNF: HP100VG(2/0), Configuration is not compatible with the network	Configuration of the router is not compatible to the network.	Check that the configuration of the hub for Frame Format, Promiscuous, and Repeater bit indicates the proper configuration.
%HP100VG-1-ACCESS: HP100VG(2/0), Access to network is not allowed	Access to the VG network is denied by the hub.	Check the configuration of the hub.
%HP100VG-3-NOTHP100VG: Device reported 0x5101A	Could not find the 100VG PCI device on a 100VG-AnyLAN port adapter.	Make sure the 100VG-AnyLAN port adapter is properly seated in the slot. Otherwise repair or replace the 100VG-AnyLAN port adapter.
%HP100VG-1-DISCOVER: Only found 0 interfaces on bay 2, shutting down bay	No 100VG interface detected on a 100VG-AnyLAN port adapter in a slot.	Make sure the 100VG-AnyLAN port adapter is properly seated in the slot. Otherwise repair or replace the 100VG-AnyLAN port adapter.

1. This message might display when the total load on the cascaded hub is high. Wait at least 20 seconds before checking to see if the training really failed. Check if the protocol is up after 20 seconds before starting troubleshooting.

Supported MIB

The PA-100VG port adapter can be monitored with the IEEE 802.12 Interface MIB (DOT12-IF-MIB.my). For information on accessing Cisco MIB files, refer to the *Cisco MIB User Quick Reference*.

What to Do Next

For more information on the PA-100VG, refer to the *PA-100VG AnyLAN Port Adapter Installation and Configuration* publication.