



# CHAPTER 7

## Overview of the Cisco Wideband SPA

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This chapter provides an overview of the release history, and feature and Management Information Base (MIB) support for the Cisco Wideband SPA on the Cisco uBR10012 router.

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## Release History

Cisco IOS Release	Modification
12.3(23)BC	Added support for primary-capable SPA downstream channels.
12.3(21)BC	Support for the Cisco Wideband SPA on the Cisco Wideband SIP was introduced.
12.2(33)SCB	Support for the Cisco Wideband SPA on the Cisco SIP-600 was introduced.

## Supported Features

The following is a list of some of the significant hardware and software features supported by each Cisco Wideband SPA:

- Up to 32 channel-bonded wideband channels per Cisco Wideband SPA
- Up to 24 radio frequency (RF) channels (Annex B) or 18 RF channels (Annex A) per Cisco Wideband SPA
- Cisco Wideband Cable for DOCSIS Network support
- Two Gigabit Ethernet ports (one of which is redundant) for link to edge QAM devices
- Traditional DOCSIS 1.x/2.0 upstream channels
- Primary-capable SPA downstream channels
- DOCSIS 1.x/2.0 modem support on primary-capable SPA downstream channels

- DOCSIS 1.x/2.0 modem support and legacy feature support on primary-capable SPA downstream channels
- Extensible MAC domain support via Channel Grouping Domain
- 64 QAM and 256 QAM support
- 6 MHz and 8 MHz support
- Baseline Privacy Interface(BPI)/BPI+ encryption
- Single-wide, half-height SPA form factor
- Small form-factor pluggable (SFP) modules that plug into the Gigabit Ethernet ports
- SFP module support for SX, LX/LH, and ZX optical fiber (1000BASE-SX, 1000BASE-LX/LH, 1000BASE-ZX)
- Cisco IOS command set for wideband-channel configuration, provisioning, and maintenance
- Cisco IOS command set for wideband channel hardware monitoring, troubleshooting, and debugging
- MIB support
- Online insertion and removal (OIR)

## Restrictions

The following restrictions apply to the Cisco Wideband SPA for Cisco IOS Release 12.3(23)BC, Cisco IOS Release 12.2(33)SCA, and Cisco IOS Release 12.2(33)SCB:

- Voice call service flows are configurable only on wideband interfaces.
- Full DOCSIS QoS, including CIR support and downstream low latency service flows for voice, are configurable only on wideband interfaces.
- Dynamic services are configurable only on wideband interfaces.
- A wideband interface can only use RF channels from the same SPA.
- Scientific Atlanta DPC2505 and EPC2505 wideband cable modems support multicast traffic on the primary downstream channel only. These modems do not support multicast traffic on wideband downstream channels.

## Supported MIBs

The following MIBs are supported in Cisco IOS Release 12.3(23)BC and later for the Cisco uBR10012 router and the Cisco Wideband SIP and Cisco Wideband SPA:

The following MIBs have been introduced in Cisco IOS Release 12.3(23)BC:

- DOCS-DSG-IF-MIB
- DTI-MIB

The following MIBs have been modified for Cisco IOS Release 12.3(23)BC:

- CISCO-CABLE-SPECTRUM-MIB
- CISCO-DOCS-EXT-MIB
- DOCS-IF-MIB

- DOCS-BPI-PLUS-MIB
- ENTITY-MIB
- IF-MIB

The following MIBs continue to be supported in Cisco IOS Release 12.3(23)BC:

- CISCO-CABLE-WIDEBAND-MIB
- CISCO-VENDORTYPE-OID-MIB

For more information about MIB support on a Cisco uBR10012 router, refer to the *Cisco CMTS Universal Broadband Router MIB Specifications Guide* at the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/cable/ubr10k/ubr10012/ubrmib5/index.htm>

For information about MIBs associated with edge QAM devices or wideband cable modems, refer to the vendor documentation.

To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL:

<http://tools.cisco.com/ITDIT/MIBS/servlet/index>

If Cisco MIB Locator does not support the MIB information that you need, you can also obtain a list of supported MIBs from the Cisco MIBs page at the following URL:

<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

To access Cisco MIB Locator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to [cco-locksmith@cisco.com](mailto:cco-locksmith@cisco.com). An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions found at this URL:

<http://www.cisco.com/register>

## Displaying Cisco Wideband SPA Information

To verify the SPA type that is installed in your Cisco uBR10012 router, you can use the **show diag** command. [Table 7-1](#) shows the card type that appears in the **show diag** command output for the Cisco Wideband SPA.



### Note

With Cisco IOS commands, the Cisco Wideband SPA Gigabit Ethernet ports are not standard user-configurable interfaces and do not appear in the output of the **show interfaces** command.

You can get information on the Cisco Wideband SPA Gigabit Ethernet ports using the **show controllers modular-cable** command with the **ge\_phy** keyword.

**Table 7-1 SPA Card Descriptions in show Commands**

SPA	Description in show diag command
Cisco Wideband SPA	24rfchannel-spa-1

The 12 wideband channels on each Cisco Wideband SPA are similar to cable interfaces and appear in the output of commands such as the **show interfaces** command.

The **show hw-module bay** command displays a variety of information about the RF channels and wideband channels on a Cisco Wideband SPA.

## Examples of the show diag and show interface wideband-cable Commands

The following example shows output from the **show diag** command on a Cisco uBR10012 router with a Cisco Wideband SPA installed in slot 1, subslot 0, bay 0.

```
Router# show diag 1/0/0

Slot/Subslot/Port 1/0/0:
  24rfchannel-spa-1 card, 1 port + 1 redundant port
  Card is half slot size
  Card is analyzed
  Card detected 16:47:55 ago
  Card uptime: Not Supported
  Card idle time: Not Supported
  Voltage status: 3.3V (+3.291) NOMINAL  2.5V (+2.495) NOMINAL
                  1.2V (+1.201) NOMINAL  1.8V (+1.811) FIXED
EEPROM contents, slot 1/0/0:
  Hardware Revision      : 1.0
  Boot Timeout           : 500
  PCB Serial Number      : CSJ09379726
  Part Number            : 73-9597-03
  Part Number Revision   : 05
  Fab Version            : 03
  RMA Test History       : 00
  RMA Number             : 0-0-0-0
  RMA History            : 00
  Deviation Number       : 0
  Product (FRU) Number   : SPA-24XDS-SFP
  Version Identifier (VID) : V01
  Top Assy. Part Number  : 68-2562-03
  Board Revision         : 05
  CLEI Code              :
  MAC Address            : 0019.06a5.d9b2
  MAC Address block size : 1
  Manufacturing Test Data : 00 00 00 00 00 00 00 00
  Field Diagnostics Data : 00 00 00 00 00 00 00 00
  Calibration Data       : Minimum: 0 dBmV, Maximum: 0 dBmV
    Calibration values :
  Platform features      : 00 00 00 00 00 00 00 00
                        00 00 00 00 00 00 00 00
                        00 00 00 00 00 00 00 00
                        00 00 00 00 00 00 00 00
```

The following **show interface wideband-cable** command displays information about the cable interface for wideband channel 1 on the Cisco Wideband SPA located in slot 1, subslot 0, bay 0.



### Note

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This example shows the syntax supported prior to Cisco IOS Release 12.2(33)SCB.

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```
Router# show interface wideband-cable 1/0/0:1

Wideband-Cable1/0/0:1 is up, line protocol is up
  Hardware is Wideband CMTS Cable interface, address is 0012.001a.8897 (bia
0012.001a.8897)
  MTU 1500 bytes, BW 74730 Kbit, DLY 1000 usec,
```

```
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation MCNS, loopback not set
Keepalive set (10 sec)
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output 00:00:09, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
30 second input rate 0 bits/sec, 0 packets/sec
30 second output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
  24224 packets output, 1222002 bytes, 0 underruns
  0 output errors, 0 collisions, 0 interface resets
  0 output buffer failures, 0 output buffers swapped out
```

