

Configuring Downstream Test Signals for the Cisco uBR7200 Series Cable Router

Feature Overview

This feature provides configuration commands that allow you to create downstream test signals. Both Pseudo Random Bit Stream (PRBS), and unmodulated carrier test signals are now supported.

A PRBS test signal is a random data pattern that has been modulated to look like a real data stream. An unmodulated test signal is a continuous sine wave that looks like a carrier wave on the downstream transmission.

Benefits

You can now create PRBS and unmodulated carrier tests directly. With earlier releases of IOS, you had to use test commands or indirect methods to perform these tests.

Related Features and Technologies

Table 1 lists the IOS cable router features released in the IOS 12.0 timeframe.

Table 1 uBR7200 Series Cable Router Features Available Since 12.0 T

Available With:	Category	Feature
11.3(5)NA & 12.0(3)T	Cable Features	Feature Enhancements
11.3(6)NA		MC16 Modem Card
11.3(8)NA		Access List Support Enhancements
12.0(4)T		Downstream Channel ID Configuration
12.0(4)T		Multiple Service ID Support
12.0(4)T		Cable Modem and Host Subnet Addressing
12.0(5)T		Telephone Return
12.0(5)T		Time Server Functionality
12.0(7)T		Amplitude Averaging Compensation
12.0(7)XR		Cable Interface Bundling
12.0(7)XR		Enhanced Modem Status Display
12.0(7)XR		Show Interface Cable Command Verbose Enhancements
12.0(7)XR		IP Address Verification

Available With:	Category	Feature
12.0(7)XR		Registration Timeout Configuration
12.0(7)XR		Show Cable Modem Command Enhancements
12.0(7)XR		Modem Status Summary Enhancements
12.0(7)XR		Show Controller Command Enhancements
12.0(7)XR		Configuring Concatenation
12.0(7)XR		Virtual Private Network Support
12.0(7)XR		Blind Hopping Support on the MC16S Modem Card
12.0(7)XR		Signal-to-Noise Ratio Data Support
11.3(9)NA and 12.0(4)T	Cable QoS	QoS Profile Enforcement
12.0(4)T		Quality of Service for Voice
11.3(9)NA	Network Management	Upstream Traffic Shaping Feature
12.0(5)T		Enhanced-Spectrum Management
12.0(5)T		Downstream Rate Shaping with TOS bits
12.0(7)XR		Spectrum Management Using the MC16S Modem Card
12.0(7)XR		Downstream Test Signals Configuration
12.0(7)XR	Wireless Features	Point-to-Point Wireless Support

Related Documents

The uBR7200 series cable router is described in *Voice, Video, and Home Applications Configuration Guide* for Cisco IOS Release 12.0 and in the following online feature modules:

- *Cisco uBR7246 Universal Broadband Router Feature Enhancements*
- *MC16 Modem Card for uBR7200*
- *uBR7200 Series Access List Support Enhancements*
- *QoS Profile Enforcement for the Cisco uBR7200 Series Router*
- *Upstream Traffic Shaping Feature*
- *Configuring Downstream Channel IDs*
- *Telephone Return for the Cisco uBR7200 Series Cable Router*
- *Enhanced-Spectrum Management for the Cisco uBR7200 Series Cable Router*
- *Time Server Functionality*
- *Cable Interface Bundling for the Cisco uBR7200 Series Cable Router*
- *Quality of Service for Voice on the Cisco uBR7200 Series Cable Router*
- *Modem Status Enhancements for the Cisco uBR7200 Series Cable Router*
- *Load Sharing Support*
- *Cable Modem and Host Subnet Addressing*
- *MGX Resource Pool Management Hardware Diagnostics*
- *IP Address Verification for the Cisco uBR7200 Series Cable Router*

- *Configuring the Registration Timeout Value for the Cisco uBR7200 Series Cable Router*
- *Spectrum Management Using the MC16S Modem Card on the Cisco uBR7200 Series Cable Router*
- *Configuring Downstream Test Signals for the Cisco uBR7200 Series Cable Router (this feature)*
- *Configuring Concatenation on the Cisco uBR7200 Series Cable Router*
- *Point-to-Point Wireless Support for the Cisco uBR7200 Series Universal Broadband Router*
- *Blind Hopping Support on the MC16S Modem Card for the Cisco uBR7200 Series Cable Router*
- *Downstream Rate Shaping with TOS bits on the uBR7200 Series Cable Router*
- *Amplitude Averaging Compensation on the Cisco uBR7200 Series Cable Router*

Supported Platforms

uBR7200 series

Supported Standards, MIBs, and RFCs

Standards

No new or modified standards are supported by this feature.

MIBs

No new or modified MIBs are supported by this feature.

RFCs

No new or modified RFCs are supported by this feature.

Configuration Tasks

See the following tasks to create PRBS and unmodulated carrier test signals. Each task in the list indicates if the task is optional or required.

- *Configuring Unmodulated Test Signals (Required)*
- *Configuring PRBS Test Signals (Required)*

Configuring Unmodulated Test Signals

Step	Command	Purpose
1	<code># router(config-if)# cable downstream if-output continuous-wave</code>	Generates an unmodulated continuous-wave signal on the downstream channel. The interface is shut down.

Configuration Examples

Step	Command	Purpose
2	<code>Router(config-if)# no cable downstream if-output</code>	Stops sending test signals. Remember to re-enable the interface to resume normal operations.

Configuring PRBS Test Signals

Step	Command	Purpose
1	<code># router(config-if)# cable downstream if-output prbs</code>	Generates a PRBS test signal on the downstream channel. The interface is shut down.
2	<code>Router(config-if)# no cable downstream if-output</code>	Stops sending test signals. Remember to re-enable the interface to resume normal operations.

Verifying Test Signal Output

- Step 1** To verify the output of a continuous-wave test signal, use a spectrum analyzer on the downstream channel.
- Step 2** To verify the output of a PRBS test signal, use a spectrum analyzer on the downstream channel.

Configuration Examples

None

Command Reference

This section documents the modified **cable downstream if-output** command. All other commands used with this feature are documented in the Cisco IOS Release 12.0 command reference publications.

cable downstream if-output

To create downstream test signals, use the **cable downstream if-output** interface configuration command. To stop sending test signals, use the **no** form of this command.

cable downstream if-output [**continuous-wave** | **prbs**]

no cable downstream if-output

Syntax Description

continuous-wave	Creates a downstream unmodulated carrier signal.
prbs	Creates a downstream PRBS carrier signal.

Defaults

Downstream carrier enabled.

Command Modes

Interface configuration

Command History

Release	Modification
11.3XA	This command was introduced.
12.0(7)XR	continuous-wave and prbs options added.

Usage Guidelines

The standard mode of operation is modulated signal output and the interface is active. For PRBS and continuous wave output, the selected interface will be shut down. The functioning of the **no cable downstream if-output** command has not changed (the interface is shut down).

Examples

```
router(config-if)# cable downstream if-output continuous-wave
```

```
router(config-if)# cable downstream if-output prbs
```

