Troubleshooting

Software Recovery

Cisco DVB CAR100 Memory

The cable modem software is stored in Flash memory, which contains two executable images of the system software. Image 1 is the original factory-installed software. Image 2 is the new updated software version. If a problem occurs during the software update, the Cisco DVB CAR100 will revert to the original factory-installed software until the new software can be downloaded successfully. For more information, see the "Performing a Software Upgrade" section on page 4-7.

Performing a Cable Modem Software Recovery

The software recovery cannot be done remotely—it must be manually performed by the service provider for each Cisco DVB CAR100. To prevent unauthorized cable modem configuration, the procedure is not described in the documentation received by subscribers.

Figure 6-1 shows the underside of the Cisco DVB CAR100 and the location of the software recovery button.

Figure 6-1   Location of the Software Recovery Button
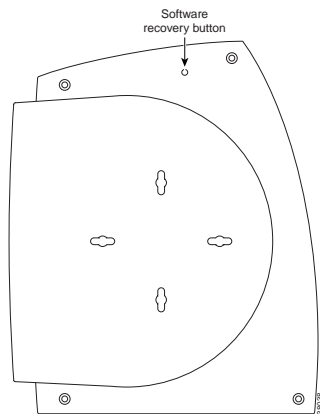
To recover the factory-installed software:

Step 1   Disconnect the power cord.

Step 2   Insert a suitable instrument (such as a paper clip) in the software recovery opening.

Step 3   Press and hold the software recovery.

Step 4   Connect the power cord again.

Step 5   Wait 5 seconds.

Step 6   Release the software recovery button.

If successful, the original factory-installed software will now be activated again.

Note   Repeat this procedure during every power-on until a new software image has been successfully loaded to the Cisco DVB CAR100's Flash memory.

Tips   To verify if you have been successful, check the version number displayed in the field **rcm Software**>**Fallback version**.

LED Patterns

General

The LED patterns used in the Cisco DVB CAR100 can be helpful for troubleshooting. If you are troubleshooting from a remote location, ask the subscriber to carefully observe the LED patterns and supply this information to you.

Activity LEDs

The Master LED is located on the front panel of the Cisco DVB CAR100. The cable modem's rear panel features two green LEDs: the Cable LED and the Ethernet LED.

Normal operation

The table below shows the LED pattern during normal operation.

Table 6-1   LED Pattern During Normal Operation

LED	Description
Master LED	Permanently ON (green) when a connection to the headend is established.
Cable LED	BLINKS (green) when the cable interface is up.
Ethernet LED	BLINKING (green) when the Ethernet interface is up.

During Startup

During startup, the Master LED should blink (amber); the Cable LED should be ON (green) during the entire startup process.

Tips   If the Cisco DVB CAR100 is powered off, it should remain off for at least 10 minutes before being restarted. If the unit is powered on within 10 minutes, it is possible it will fail to reestablish communication with the service provider's headend unit. If this occurs, power the unit off again, and leave it off for at least 10 minutes. Then power on the Cisco DVB CAR100 again and communication with the service provider's headend unit should be reestablished as normal.

Master LED Patterns

The Master LED should blink (amber) according to specific patterns during startup. These patterns are divided into four beats, during which the amber LED can be ON (=1) or OFF (=0).

The inactive pattern is 0000 (consistently OFF). The power up pattern is 1111 (constantly ON). After the power up, the cable modem will start blinking according to Table 6-2, as it goes through initialization, finds a valid frequency and signs on to the headend.

Table 6-2   LED Sequence During Startup

1. Cable modem initializing.	2. Searching frequencies and sign-on	3. The cable modem has signed on and is sending a BOOTP request and waiting for a reply
0001	0011	0101[1]

1. Typically, the pattern 0101 is not seen, as the BOOTP answer arrives in less than 1 second.

Monitoring LEDs via Ethernet

The Cisco Cable DVB/DAVIC Management Program allows you to view the patterns for the Master and Cable LEDs when you are directly connected to the cable modem via an Ethernet interface. To see these patterns, open the **System** MIBs and look at the setting for **LED State**. Double-clicking on this MIB will provide a description of the seven possible values:

- **frequency-search-started-again**
- **resetting**
- **ready**
- **sending-bootp-request**
- **frequency-search-started**
- **power-up**
- **terminated-all-leds-off**

IP Address/Subnetmask with BOOTP Failure

When the BOOTP server is in the process of assigning an IP address to the Cisco DVB CAR100, the cable modem's Master LED blinks approximately two times per second. Typically, the cable modem receives a reply to its BOOTP request so fast, it is impossible to see the LED blinking.

If the cable modem does not receive a reply, it blinks for a few minutes as multiple BOOTP requests are sent and then boots again. The cable modem will continue booting and sending BOOTP requests until it receives an IP address.

The Master LED will turn green only after the Cisco DVB CAR100 has successfully completed these three phases.

Master LED, amber

If the Master LED stays amber, and does not turn green, it indicates that one of the phases of initializing and sign-on has not been completed successfully. In this case, follow the instructions below:

Step 1   Verify the coaxial cable is connected correctly.

Step 2   Reconnect the Cisco DVB CAR100 to the power adapter.

If the problem persists, check the headend. It is also possible the cable modem will need to be sent in for repair.