



# Model GS7000 GainMaker Node 1x/2x-3x-4x Local Control Module to Status Monitor Upgrade Instructions

## Introduction

The Model GS7000 GainMaker® Scaleable 4-Port Node can be optionally equipped with either a Status Monitor (SM) or a Local Control Module (LCM). For complete instructions on installing and operating the SM/LCM refer to *Model GS7000 GainMaker Node 1x/2x-3x-4x Status Monitor/Local Control Module Installation and Operation Guide*, part number 4024769.

A Local Control Module can be field upgraded to a Status Monitor through the addition of a transponder core module. The transponder core module plugs directly onto the Local Control Module's main PWB. The mechanical housing for the Status Monitor and the Local Control Module are the same.

This document explains the LCM to SM field upgrade procedure for a 4-way LCM, part number 4024775.

The Status Monitor Upgrade Kit, part number 4024777, contains the following items:

- Transponder core module (1)
- Plastic stand-offs (2)
- Upgrade instructions (1)

**IMPORTANT:** This kit can only be used to upgrade a 1x/2x-3x-4x LCM, not to upgrade an earlier legacy LCM for a 2-way GS7000 node. Make sure the LCM you are upgrading is a 1x/2x-3x-4x LCM, part number 4024775, which has two round cut-outs on the front panel, one labeled SM and one labeled LCM, as shown in *Local Control Module Description* (on page 2). A legacy 2-way LCM, part number 4011932, only has one round cut-out on the front panel labeled Local Control Port. If you need to upgrade a legacy 2-way LCM to a SM, use upgrade kit part number 4011933 instead.

## Status Monitor/Local Control Module Description

### Overview

A local control module and a status monitor are available for the Model GS7000 Node. A status monitor consists of a local control module with a transponder core module installed in the housing. The same housing is used for both units.

The units perform the following functions:

- Local Control Module - controls redundancy and forward segmentation
- Status Monitor - adds status monitoring capability to the local control module

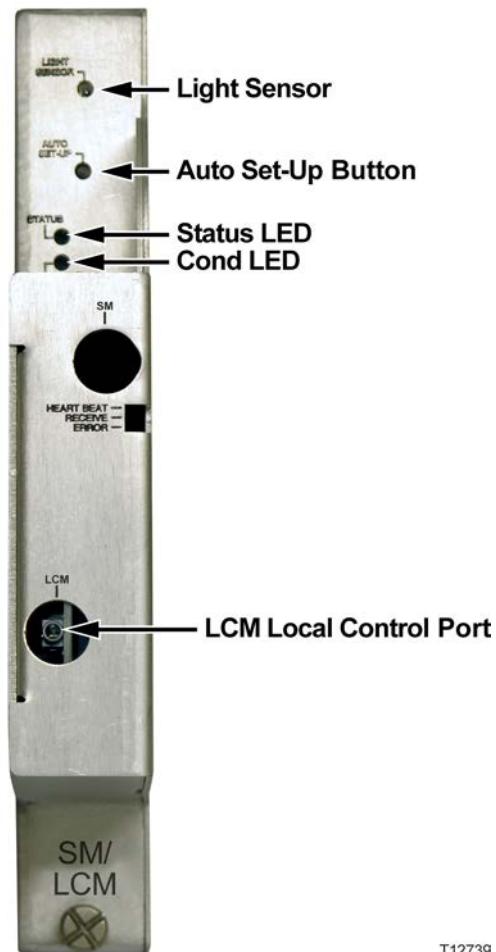
### Local Control Module Description

The local control module locally monitors the following node voltages and signals:

- Receiver optical input level (all receivers)
- Transmitter optical output level (all transmitters)
- AC power presence (for split AC powering cases, AC power from both sides of node housing is monitored)
- DC voltages from both primary and redundant power supplies

The local control module communicates serially with the RF amplifier module to control the optional forward band redundancy switches on the forward configuration module. It is a low-cost module that plugs into the status monitor connectors on the optical interface board.

The local control module is equipped with a craft port to allow local control of the optional forward band redundancy switches, the reverse band 6 dB (wink) attenuators, and the reverse band on/off switches through a handheld controller. All parameters monitored by the local control module can be reviewed using the handheld controller.



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The local control module can be upgraded to a status monitor through the addition of a transponder core module. The transponder core module plugs directly onto the local control module's PWB. The mechanical housing for the status monitor and the local control module are the same.

**Note:** The Heart Beat, Receive, and Error indicator LEDs are only present if the transponder module is installed.

## Status Monitor Description

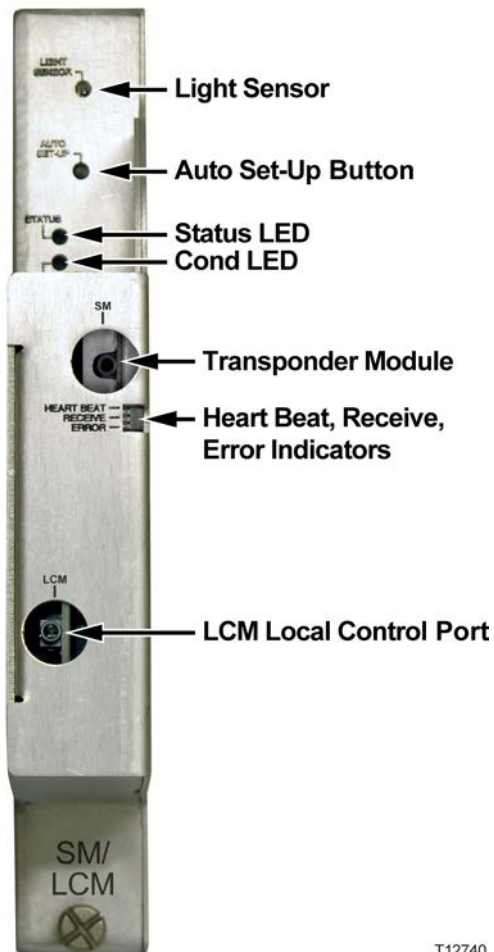
The status monitor is HMS compliant and provides node monitoring and control capability at the cable plants headend. The following node voltages and signals are monitored and their status reported to the headend by the status monitor.

- Receiver optical input level (all receivers)
- Transmitter optical output level (all transmitters)

## Status Monitor/Local Control Module Description

- AC power presence (for split AC powering cases, AC power from both sides of node housing is monitored)
- DC voltages from both primary and redundant power supplies

Commands are sent from the headend to the status monitor. The status monitor communicates serially with the RF amplifier module to control the optional forward band redundancy switches on the forward configuration module, the reverse band 6 dB (wink) attenuators on the reverse amplifier PWB, and the reverse band on/off switches on the reverse amplifier PWB.



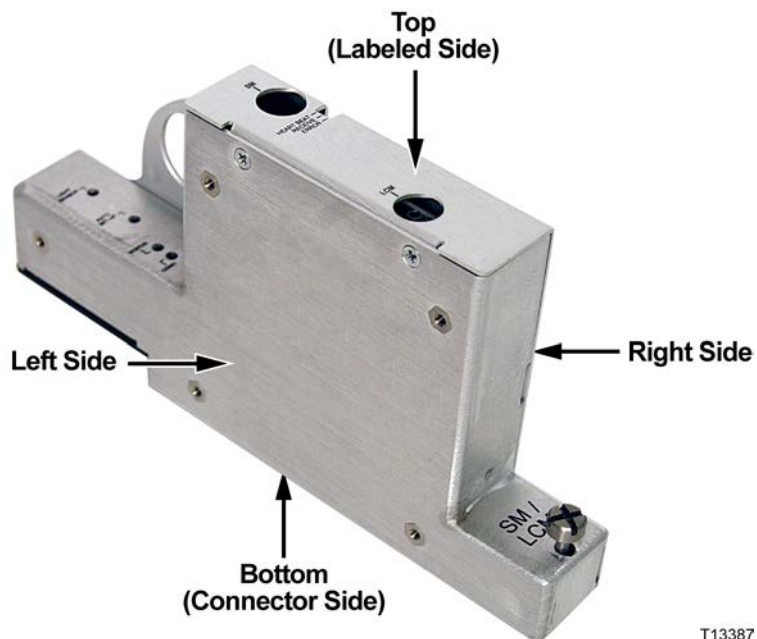
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**Note:** The transponder core module can be seen through the upper of two round cutouts in the cover.

## LCM to SM Upgrade Procedure

### Upgrading the LCM to an SM

These upgrade instructions refer to the various sides of the LCM by the names shown in the following illustration.



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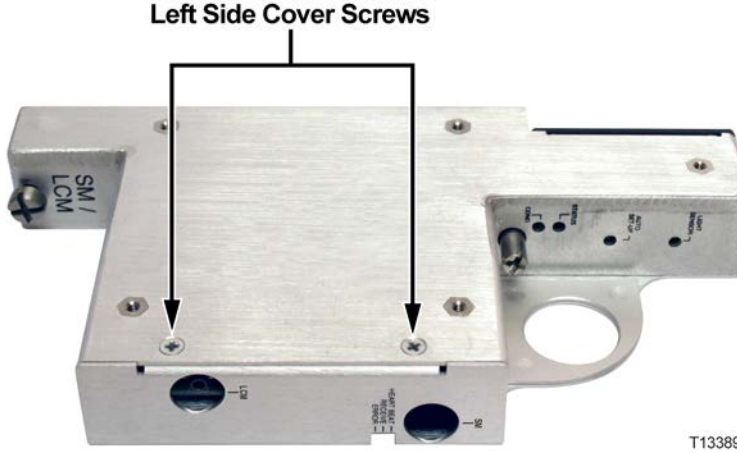
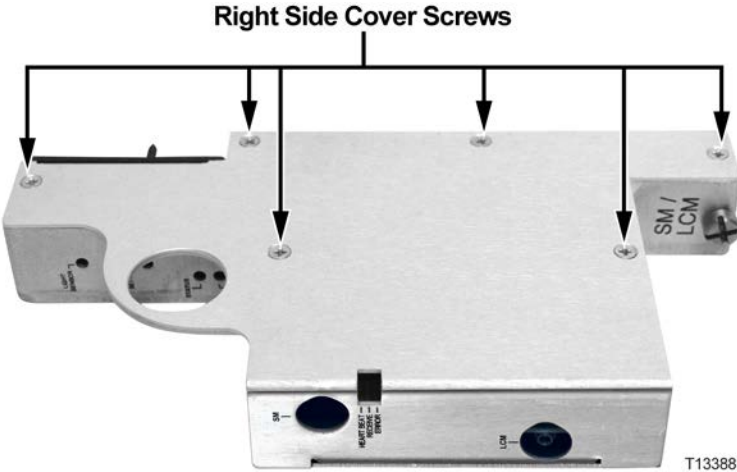
Complete the following steps to upgrade the Local Control Module to a Status Monitor.

**CAUTION:**

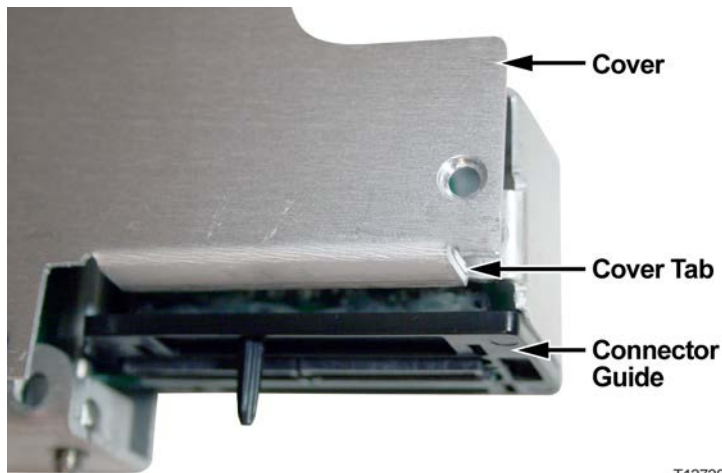
To prevent electrostatic damage to electronic equipment, take ESD precautions, including the use of an ESD wrist strap.

- 1 Remove the Local Control Module from the node.
- 2 Remove the eight screws that hold the cover on the LCM housing.

**Note:** Six screws are on the right side and two screws are on the left side, as shown in the following illustrations.

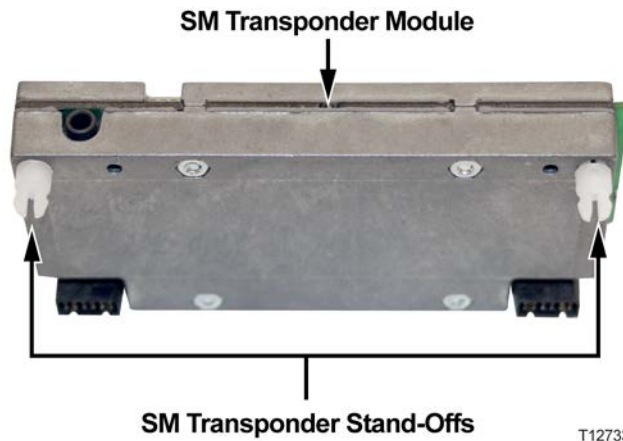


- 3 Remove the cover as follows:
  - a Tilt the bottom (connector side) of the cover up about 1 inch until the cover's metal tab clears the plastic connector guide as shown in the following illustration.



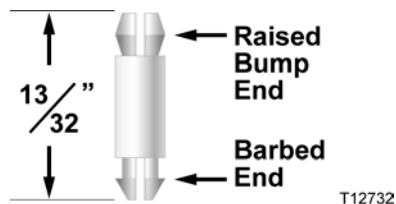
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- b Slide the cover toward the top (labeled side) of the housing and remove it.
- 4 Insert two new plastic stand-offs into the mounting holes in the bottom of the SM transponder module. See the following note first!



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**Note:** The plastic stand-offs have two different shaped ends. One end has a barbed arrow head, while the other end has a raised bump. Be sure to insert the raised bump end of the stand-offs into the transponder module.

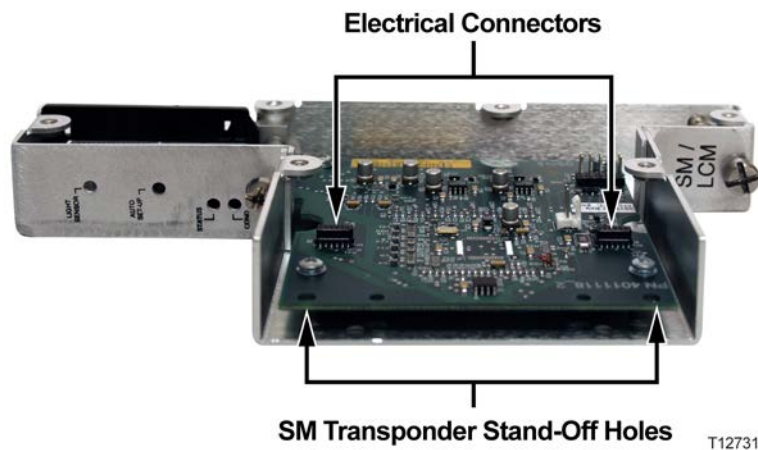


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- 5 Install the SM transponder module as follows:

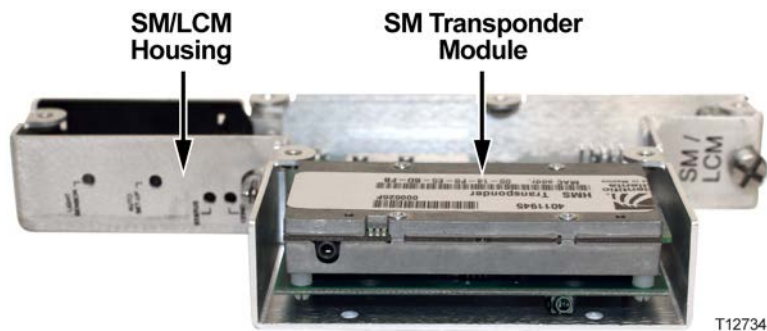
## LCM to SM Upgrade Procedure

- a Note the locations of the electrical connectors and stand-off holes in the main board as shown in the following illustration.



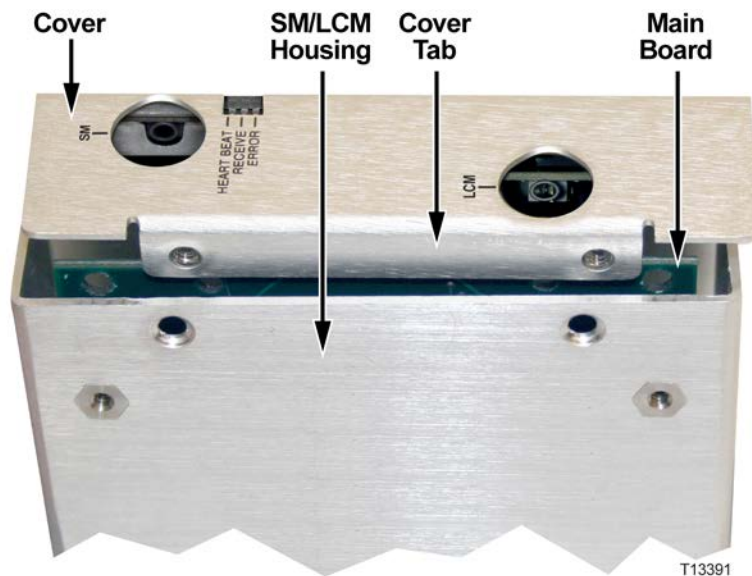
- b Set the module in place on the main board by inserting just the tips of the plastic stand-offs into the two outer-most stand-off holes in the main board.
- c Push down on the two corners of the transponder module over the stand-offs to snap the plastic stand-offs into the main board.
- d Position the back of the transponder module onto the two main board electrical connectors, making sure the connectors mate. The back edge of the module will drop down into place slightly when the electrical connectors are properly aligned.
- e Push down on the two corners of the transponder module over the electrical connectors to snap the connectors into place.

**Result:** The SM transponder module is installed on the main board as shown in the following illustration.

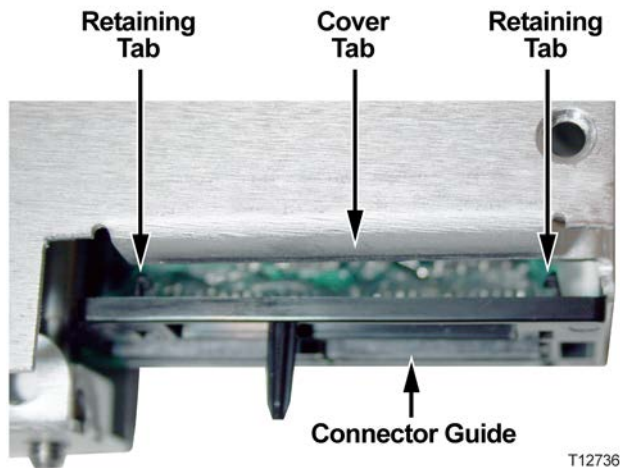


- 6 Re-install the cover as follows:
  - a Insert the metal tab on the top left side of the cover between the housing and the main board as shown in the following illustration.





- b Tilt the bottom (connector side) of the cover down and insert the cover's metal tab into the two small retaining tabs on the back of the plastic connector guide as shown in the following illustration.



- 7 Re-install the eight screws that were removed during step 2 to secure the cover on the housing.
- Result:** The Local Control Module is upgraded to a Status Monitor.
- 8 Install the Status Monitor in the node.

For Information

## For Information

### If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.





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