Transponder 9105x for Compact Amplifiers and Nodes

For the Compact family of amplifiers and optical nodes, the Compact Transponder offers extensive monitoring and control capabilities. It is controlled by Cisco's ROSA™ Element Management System (EMS). The transponder is a true plug-in module designed to fit in the monitorable amplifier or node's transponder socket. Since the Compact amplifiers and nodes have an individual transponder socket, the transponder can be snapped into place without interrupting service. No special mounting kits or cables are required and all test points remain fully accessible at all times.

The transponder monitors the operational parameters of the Compact amplifiers and nodes and allows remote control of many functions. Communications with the transponder is accomplished via the built-in forward RF data carrier receiver and reverse RF data carrier transmitter.

The unit is used to monitor and/or control a wide range of operational parameters, including:

- RF level of the forward data carrier (transponder Rx)
- 24 V DC supply
- AC supply voltage
- Internal temperature
- Monitoring the alarm status of the amplifier/node
- Control of the 3-state reverse switch
- Control RF level of the reverse data carrier (transponder Tx)
- Control a variety of parameters depending on product (amplifier or node)

Figure 1. Compact Transponder 9105x

Frequency Agility

The transponder has a Frequency Shift Keying (FSK) data modem (frequency agile within specified bandwidths), which has the proven robust ability to resist radio interference. Frequency agility enables the customer to alter receive and transmit frequencies of the transponder.

Set-Up and Adjustment

The unit can be snapped directly into the product's available transponder socket. The transponder utilizes internal nonvolatile memory for storage of the unit address and other important operational parameters. Programming is easily accomplished with the Handheld Programmer Terminal 91200.

Features

- True plug-in compatibility with Compact Amplifiers and Nodes - no cables required
- Frequency agile 5 to 65 MHz for reverse path
- Frequency agile 45 to 174 MHz for forward path
- Monitors and controls critical internal parameters
- Simple and easy installation - no switching or re-adjustments of the amplifier or node

Product Specifications

See the table below for product specifications.

Table 1. Product Specifications

Specification	Unit	Specification	Additional Information
Transponder Transmitter Section			
Carrier Frequency	MHz	5-65	Agile within the frequency band in 50 kHz steps
Modulation Type		FSK	
Deviation	kHz	± 67	
Transmitter Bandwidth	kHz	400	
RF output level	dBµV	84 - 110	
Output level step size	dB	2	
Recommended level	dB	-	Same as payload reverse signals
Data rate	kbps	9.6, 19.2, 38.4	Selectable
Spurious and harmonics	dBc	> 55	5 - 2000 MHz
Transponder Receiver Section			
Carrier Frequency	MHz	45 - 174	Agile within the frequency band in 50 kHz steps
Input level range	dBµV	35 - 80	
Recommended level	dB	10	Below analog video carriers
General and Environmental			
Power consumption			N/A *
Operating temperature range	°C	-10 to +85 -30 to +100	Specifications Reduced specifications
Mechanical Specifications			
Dimensions (L x W x H)	mm	38 x 80 x 12.5	
Weight	g	40	

Note:

* For power consumption specifications, please refer to the individual node or amplifier data sheets.

Ordering Information

See the table below for ordering information.

Table 2. Ordering Information

Description	Part Number
Compact Transponder, for amplifier type 93208	A91050.12
Compact Transponder, for amplifier types 93240/9325x/93270/93280	A91051.12
Compact Transponder, for node types 90075/9009x/90100/90300/90200	A91051.12
Related Equipment	
Phoenix™ HFC Network Monitoring Gateway	See data sheet*
Handheld Programmer Terminal, required to configure the transponder	A91200.10**
Download Kit, for use with the Handheld Programmer Terminal	A91210.10**

Note:

*For additional information, see the Phoenix HFC Network Monitoring Gateway (P/N: 8986653) data sheet.

**For additional information, see the Handheld Programmer Terminal (P/N: A541401) and Download Kit (P/N): A541402 data sheet(s).

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