

HMS Transponder 9106x

Description

The Scientific-Atlanta HMS (Hybrid Management Sub-layer) transponder offers monitoring and control capabilities for Scientific-Atlanta amplifiers and nodes deployed in HFC networks managed by a HMS-compliant M&C (Monitoring and Control) system. The transponder is compatible with any HMS-compliant M&C system including Scientific-Atlanta's ROSA™ NMS (Network Management System) and ROSA EM (Element Manager). By supporting interoperability with both current and future HMS-compliant M&C systems, the new transponder enables operators to continue to integrate Scientific-Atlanta products into existing or new HFC networks. Communications with the transponder is accomplished via the build-in fully frequency agile forward RF data carrier receiver and reverse RF data carrier transmitter.



The HMS transponder is currently available for Compact Amplifiers and Nodes. The transponder is a true plug-in module and plugs directly into 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 will remain fully accessible at all times.

The HMS transponder monitors vital 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 e.g., amplifier or node
- HMS standard sub-layer MIBs

The transponder has a frequency agile FSK data modem. Frequency agility enables the customer to alter the transponder's receive and transmit frequencies.

No programming of the HMS transponder is required. Only for fast registration within the element management system it is recommended to program the Rx frequency prior to installation. This means that no field set-up or adjustments are required. The transponder utilizes internal nonvolatile memory for storage of vital parameters like frequency and transmit level data. Field service is easily accomplished with the Handheld Programmer Terminal 91200.

Features

- Fully frequency agile 5 to 65 MHz for reverse path
- Fully frequency agile 45 to 174 MHz for forward path
- Auto registration in HMS-compliant EM systems
- Full duplex
- Simple and easy field service with use of Handheld Programmer Terminal
- Simple and easy installation - no switching or re-adjustments of amplifier or node

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Specifications

General Performance	Unit	Specification	Additional Information	Notes
Transponder Transmitter Section				
Carrier frequency	MHz	5-65	Fully frequency 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	1		
Recommended level	dB	-	Same as payload reverse signals	1
Data rate	kbps	38.4		
Spurious and harmonics	dBc	> 55	5 - 2000 MHz	
Transponder Receiver Section				
Carrier frequency	MHz	45 - 174	Fully frequency agile within the frequency band in 50 kHz steps	
Input level range	dBμV	35 - 80		
Recommended level	dB	10	Below analog video carriers	
Monitored Parameters				
Temperature	°C	± 2		
DC voltage	%	± 5		
General and Environmental				
Power consumption			N/A	2
Operating temperature range	°C	-40 to +85 -40 to +100	Specifications Reduced specifications	
Mechanical Specifications				
Dimensions H x W x D	mm	38 x 80 x 12.5		
Weight	g	40		
Connector		3 pole 2.5 mm	Mini Jack	
Note:				
1. The loss from the transponder to the reverse amplifier output varies depending on product type. Recommended level at reverse amplifier output is 90 – 95 dBμV.				
2. For power consumption specifications, please refer to the individual amplifier or node data sheets.				

Ordering Information

HMS Transponder for Compact Amplifiers and Compact Nodes	Part Number
HMS Transponder for Compact Amplifier types 93199/93218/93228/93211/93221/93199/93212	A91061.10
HMS Transponder for Compact Node types 9007x/9009x	A91062.10
Related Equipment	
Phoenix™ HFC Network Monitoring Gateway	See data sheet*
Handheld Programmer Terminal	A91200.10**
Download Kit, for use with the Handheld Programmer Terminal	A91210.10**

*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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Europe & Asia.
+45-73-12-21-50 or +49-6173-928-0
<http://www.saeurope.com/>

North America
1-800-722-2009 or 770-236-6900
www.scientificatlanta.com

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