

**MODEL**  
**HEADEND OPTICS**  
**PLATFORM (CH3000)**

**AT357**  
**1.218 GHz ANALOG EXTERNALLY MODULATED LONG**  
**DISTANCE FULL SPECTRUM TRANSMITTER**



## FEATURES

- 46–1218 MHz RF bandwidth
- Full spectrum transmitter on the DWDM ITU grid
- All QAM/OFDM loading or up to 79 NTSC channel-plus QAM/OFDM RF loading supported
- Suitable for Long Distance Multiwavelength applications
- Two RF input ports to simplify common Broadcast and Narrowcast content combining
- Level control: Manual or AGC
- Occupies only one full depth slot
- Front access –20 dB input test point
- LED status indicators
- Front panel Laser ON/OFF interlock switch and indicators
- Hot plug-in/out
- Local and remote status monitoring and management features



## PRODUCT OVERVIEW

The ARRIS AT3572H C-band externally modulated analog transmitters support 1.218 GHz bandwidth operation for DOCSIS® 3.1 applications. These models provide High Performance for Extended Reach for enhanced HFC, RFoG, PON, and FTTH applications.

Dual RF input ports allow combining of separate broadcast and narrowcast inputs within the transmitter to simplify deployment in the head end. AGC circuitry compensates for variations in the RF input level to the transmitter to maintain a constant RF drive level to the laser.

The characteristics of the transmitter's optical source allow high carrier-to-noise ratio (CNR) while the proprietary pre-distortion circuit provides excellent CSO, CTB, BER, and MER performance. AT3572H series transmitters are digital ready for full load with 100% QAM/OFDM signals.

The compact design minimizes rack space requirements and permits plugging the one-slot-wide, full-depth transmitter module in either the front or rear of a CH3000 3-rack unit size chassis to optimize equipment installation and operating conditions. This family of transmitters is part of the full complement of products developed by ARRIS to support and enhance the deployment of HFC and networks.

Multiple wavelength options are available on the DWDM ITU grid (ITU-T G.694.1).

#### RELATED PRODUCTS

CH3000 Chassis	FA3500 Series Optical Amplifiers
Optical Transmitters	Optical Passives
BP Back plates	Installation Services

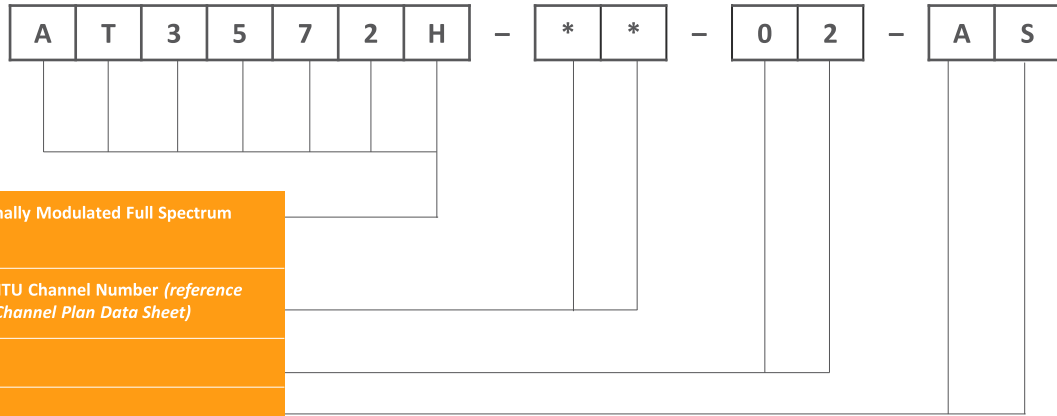
## SPECIFICATIONS

Characteristics	Specification																											
<b>Physical</b>																												
Dimensions	13.0" D x 4.3" H x 1.0" W (3RU) (33 cm x 11 cm x 2.5 cm)																											
Weight	1.8 lbs (0.82 kg)																											
<b>Environmental</b>																												
Operating temperature range	0° to +50°C (32° to 122°F)																											
Storage temperature range	-40°C to +85°C (-40°F to +185°F)																											
Humidity	5% to 95% non-condensing																											
<b>RF and Optical Interface</b>																												
Wavelength	Available in 16 channels on DWDM ITU Grid (ITU-T G.694.1)																											
Optical connector	SC/APC on back plate																											
RF input	F-type (female connectors at back plate)																											
RF test point	G-type (male connector at front panel -20 dB)																											
<b>Power Requirements</b>																												
Input voltage	12 V <sub>DC</sub>																											
Power consumption	10 W																											
<b>General</b>																												
Channel plans	Up to 79-channels NTSC channel loading plus QAM/OFDM channels up to 1218 MHz, or all QAM/OFDM loading																											
Link length	Up to 70 km single span all-QAM loading																											
Optical output power	12.5 dBm																											
Operating modes	Manual gain control and Automatic Gain Control (AGC)																											
<b>Electrical</b>																												
Passband	46–1218 MHz																											
Frequency response (including slope)	± 1 dB																											
AGC range	± 3 dB																											
Manual gain control range	0 to -6.0 dB																											
Input return loss, minimum	18 dB																											
Level stability	± 1 dB																											
Nominal RF input levels (dBmV/ch)	<table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th colspan="2" style="text-align: center;">Mode</th> </tr> <tr> <th></th> <th style="text-align: center;">AGC</th> <th style="text-align: center;">Manual</th> </tr> </thead> <tbody> <tr> <td>BC RF input</td> <td></td> <td></td> </tr> <tr> <td>• 190 QAM or equivalent OFDM on BC input</td> <td style="text-align: center;">13.5</td> <td style="text-align: center;">10.5</td> </tr> <tr> <td>• 79 NTSC 54-550 MHz</td> <td style="text-align: center;">16</td> <td style="text-align: center;">13</td> </tr> <tr> <td>• QAM channels 550-1218 MHz @ -6 dB vs analog</td> <td style="text-align: center;">10</td> <td style="text-align: center;">7</td> </tr> <tr> <td>NC RF input</td> <td></td> <td></td> </tr> <tr> <td>• QAM/OFDM signals relative to BC port QAM/OFDM</td> <td></td> <td style="text-align: center;">+6</td> </tr> <tr> <td>• Level NC input 6 dB lower after BC/NC combiner to match BC QAM/OFDM levels</td> <td></td> <td></td> </tr> </tbody> </table>		Mode			AGC	Manual	BC RF input			• 190 QAM or equivalent OFDM on BC input	13.5	10.5	• 79 NTSC 54-550 MHz	16	13	• QAM channels 550-1218 MHz @ -6 dB vs analog	10	7	NC RF input			• QAM/OFDM signals relative to BC port QAM/OFDM		+6	• Level NC input 6 dB lower after BC/NC combiner to match BC QAM/OFDM levels		
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Fiber-only Link Performance <sup>1</sup>	AT3572H																											
190 QAM/OFDM 70 km single wavelength	MER	dB	42																									
	BER pre-FEC, ITU Annex B		1E-9																									
79 NTSC + 111 QAM/OFDM 50 km single wavelength	Carrier-to-noise Ratio (CNR) <sup>2</sup>	dB	51																									
	In band (54–550 MHz)																											
	Composite Second Order (CSO) <sup>3</sup>	dB	60																									
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	Composite Triple Beat (CTB) <sup>3</sup>	dB	62																									
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	MER	dB	39																									
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<b>Status Indicators, Alarms and Monitoring</b>																												
	Front panel LEDs (Laser On/Off and Alarms)																											
	Local and remote status monitoring via ARRIS Opti-Trace™ applications																											
	Firmware download capability by local serial port																											
	For more information about full spectrum multiwavelength and extended reach applications with up to 16 DWDM wavelengths, please contact your ARRIS representative.																											

**NOTES:**

1. SBS threshold 11.5 dBm for 70 km fiber.
2. Full channel loading of 79 NTSC analog channels (4 MHz NBW) over 54–550 MHz, and 112 256-QAM channels over 550-1218 MHz. 50 km receive optical power 0 dBm.
3. All values are specified with un-modulated carriers of equal power at the input of the transmitter.

ORDERING INFORMATION



- 1.218 GHz Analog Externally Modulated Full Spectrum Transmitter
- Wavelength Option \*\*=ITU Channel Number (reference ARRIS DWDM ITU Grid Channel Plan Data Sheet)
- Reserved Fields
- AS = SC/APC Connector



Module Back Plates

AT3572H series transmitters utilize BP-A6 back plates which must be ordered separately. This single-slot width back plate provides connections for a single transmitter may be ordered as:

