

Headend Optics Platform (CH3000)

AT3552H

1.218 GHz Analog Externally Modulated High SBS Suppression Full Spectrum Transmitter (65/85)

FEATURES

- 46–1218 MHz RF bandwidth
- Full spectrum transmitter on the DWDM ITU grid
- All QAM/OFDM loading or up to 22 PAL B/G channel plus 118 QAM channel RF loading supported
- 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 AT3552H C-band externally modulated analog transmitters support 1.218 GHz bandwidth operation for DOCSIS® 3.1 applications. These models provide high SBS suppression optimum for high launch powers into optical fiber 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. AT3552H series transmitters are digital ready and can be fully loaded 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, RFoG, and fiber-to-the-home (FTTH) networks.

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

RELATED PRODUCTS

CH3000 Chassis	FA3533M Optical Amplifiers
Optical Transmitters	Optical Passives
BP Back plates	Installation Services

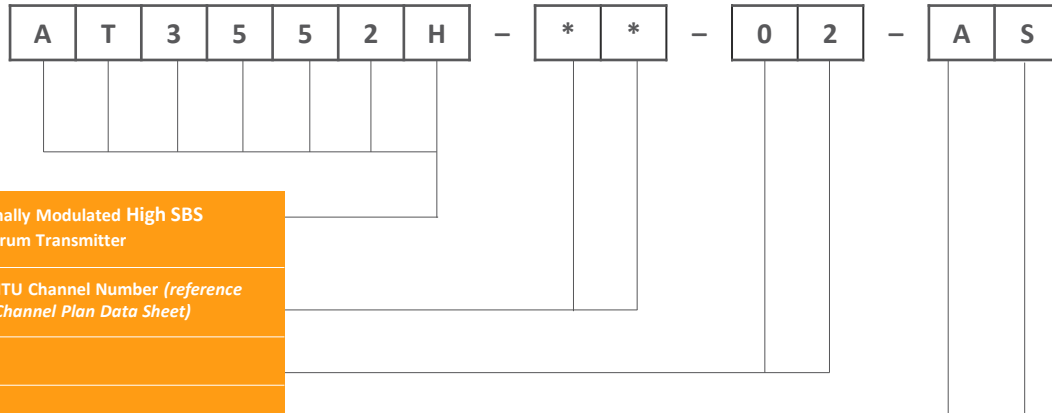
SPECIFICATIONS

Characteristics	Specification																							
Physical																								
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)																							
Environmental																								
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																							
RF and Optical Interface																								
Wavelength	Available in 8 channels on DWDM ITU Grid (ITU-T G.694.1), ITU Ch. 29 typical for RFoG and PON applications																							
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)																							
Power Requirements																								
Input voltage	12 V _{DC}																							
Power consumption	10 W																							
General																								
Channel plans	Up to 22-channels PAL B/G channel loading plus 118 QAM channels, or All QAM/OFDM																							
Link length	Up to 65 km																							
Optical output power, minimum	11 dBm																							
Operating modes	Manual gain control and Automatic Gain Control (AGC)																							
Electrical																								
Passband	46–1218 MHz																							
Frequency response (including slope)	±1 dB																							
AGC range	±3 dB																							
Manual gain control range	0 to -6.0 dB																							
Manual gain control step size	0.5 dB																							
Input return loss, minimum	18 dB																							
Level stability	±1 dB																							
Nominal RF input levels (dBmV/ch)	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2"></th> <th colspan="2" style="text-align: center;">Mode</th> </tr> <tr> <th colspan="2"></th> <th style="text-align: center;">AGC</th> <th style="text-align: center;">Manual</th> </tr> </thead> <tbody> <tr> <td rowspan="2" style="vertical-align: top;">•</td> <td>22 PAL B/G 54-258 MHz, BC RF input:</td> <td style="text-align: center;">19</td> <td style="text-align: center;">16</td> </tr> <tr> <td>and 118 QAM 258-1218 MHz (using NC RF input):</td> <td style="text-align: center;">19</td> <td style="text-align: center;">16</td> </tr> <tr> <td colspan="4" style="font-size: small;">(Level of QAM signals through NC port RF input becomes 6 dB less after internal combiner. With AGC enabled, capture range is ±3 dB.)</td> </tr> <tr> <td rowspan="2" style="vertical-align: top;">•</td> <td>143 QAM 54-1218 MHz, BC RF input:</td> <td style="text-align: center;">14.5</td> <td style="text-align: center;">11.5</td> </tr> </tbody> </table>			Mode				AGC	Manual	•	22 PAL B/G 54-258 MHz, BC RF input:	19	16	and 118 QAM 258-1218 MHz (using NC RF input):	19	16	(Level of QAM signals through NC port RF input becomes 6 dB less after internal combiner. With AGC enabled, capture range is ±3 dB.)				•	143 QAM 54-1218 MHz, BC RF input:	14.5	11.5
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	256-QAM BER (ITU-C pre-FEC, with CW analog carriers)	1.0x10 ⁻⁷																						
Fiber-only Link Performance (over operating temperature range)																								
SBS Suppression ¹	dBm	20																						
Carrier-to-noise Ratio (CNR) ² In band (54–258 MHz)	dB	51																						
Composite Second Order (CSO) ³ In band (54–258 MHz)	dB	65																						
Composite Triple Beat (CTB) In band (54–258 MHz)	dB	65																						
Status Indicators, Alarms and Monitoring																								
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 applications with up to 8 DWDM wavelengths, please contact your ARRIS representative.																								

NOTES:

1. 20 km fiber.
2. Full channel loading of 22 PAL B/G analog channels (5 MHz NBW) over 54–258 MHz, and 118 256-QAM channels over 258-1218 MHz. 20 km receive optical power +0.25 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 High SBS Suppression 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

AT3552H series transmitters may be connected to one of two different styles of chassis back plates, which must be ordered separately depending on the application. One style provides connections for a single transmitter. This single-width back plate may be ordered as:



The second style provides connections for a group of four transmitters installed in adjacent chassis slots. These 4-channel mux back plates (for which outputs can be cascaded from one back plate to another) may be ordered for various channel groups. Please refer to the data sheet for these back plates for further information.



Note: Specifications are subject to change without notice.

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