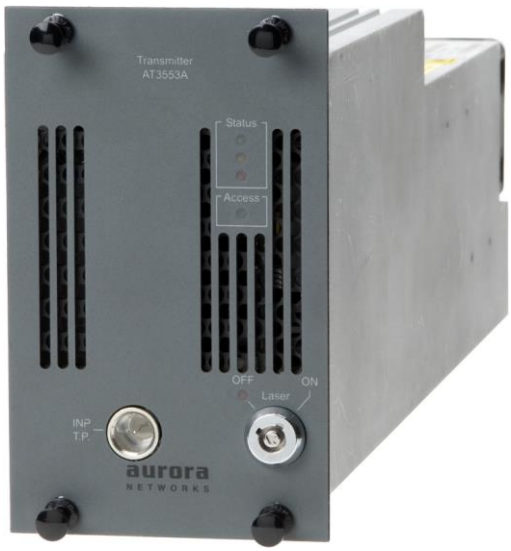
Headend Optics Platform (CH3000)

AT3553, AT3554

Analog Externally Modulated Transmitter

FEATURES

- 9.5 dBm minimum output power
- 1 GHz RF bandwidth
- Analog 77-channel NTSC (or CENELEC) plus QAM loading
- 65 km and 100 km path length options
- Multiple broadcast wavelength options (1545 nm or 1563 nm), or optional selection of DWDM ITU grid channel
- Adjustable SBS suppression
- User-settable RF input level
- AGC Select: CW, Video, Manual (no AGC)
- Front access –20 dB input test point
- LED status indicators
- Front panel Laser On/Off interlock switch and indicators
- Additional back panel “Laser On” indicator
- Hot plug-in/out
- Local and remote status monitoring and management features



PRODUCT OVERVIEW

The ARRIS AT3553 and AT3554 series high performance 1550 nm externally modulated analog transmitters are available in several optional configurations to meet various network requirements. They feature minimum a output power of 9.5 dBm with configurable SBS suppression. The compact design minimizes rack space requirements and permits plugging the three-slot-wide, full-depth - transmitter module in either the front or rear of the CH3000 3RU chassis to optimize equipment installation and operating conditions.

Several wavelength options are available to include broadcast center wavelengths at 1545.3 nm or 1563.0 nm, or channel selection on the DWDM ITU grid (ITU-T G.694.1).

The characteristics of the transmitter's source laser allow high carrier-to-noise ratio (CNR) while the proprietary predistortion circuit that drives the optical modulator provides excellent CSO and CTB performance, with 450 MHz of digital channel loading 6 dB below the analog channels. AT3553 and AT3554 series transmitters are digital ready, and can be fully loaded with 100% digital 256-QAM signals. This family of transmitters is part of the full complement of products developed by ARRIS to support and enhance the deployment of traditional HFC, passive HFC and fiber-to-the-home (FTTH) networks.

RELATED PRODUCTS	
CH3000 Chassis	Optical Patch Cords
Optical Transmitters	Optical Passives
BP Back plates	Installation Services

SPECIFICATIONS

Characteristics	Specification
Physical	
Dimensions	13.0" D x 4.3" H x 3.0" W (3RU) (33 cm x 11 cm x 7.6 cm) (3 chassis slots wide)
Weight	4.0 lbs (1.8 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	• 1545.3 nm ± 0.9 nm (Broadcast, "BC" models) • 1563.0 nm ± 0.9 nm (Broadcast, "BA" models) (DWDM ITU grid available by special order)
Optical connector	SC/APC on standard back plate BP-A9
RF input	F-type (female connector at back plate) BP-A9
RF test point	G-type (male connector at front panel –20 dB)
Power Requirements	
Input voltage	12 V_{DC}
Power consumption	<40 W
General	
Channel plans	77-channel NTSC, 42-channel CENELEC
Specific link length	65 km or 100 km options
Optical output power, minimum	9.5 dBm
Operating modes	Video and CW (both with AGC), and Manual (without AGC)
Electrical	
Passband	46–1002 MHz
Nominal RF input levels (dBmV/ch, CW)	17 (Manual Mode) / 19 (AGC Modes)
Frequency response flatness (including slope)	± 0.5 dB (46 to 550 MHz), ± 0.75 dB (46 to 1002 MHz)
Input return loss, minimum	17 dB
Level stability	±0.6 dB
AGC range	±3 dB
Manual gain control range	0 to –6.0 dB
Manual gain control step size	0.25 dB

	Performance over Operating Temperature Range		NTSC		CENELEC
			65 km (AT3553A **-*-**)	100 km (AT3554A **-*-**)	65 km (AT3553C **-*-**)
	SBS Suppression, Variable	dBm	16±2	14±2	16±2
	Carrier-to-noise Ratio (CNR)[1] In band (45–552 MHz)	dB	53	51.5	52.5[3]
	Composite Second Order (CSO)[2] In band (45–552 MHz)	dB	67	65	65
	Composite Triple Beat (CTB) In band (45–552 MHz)	dB	66	64	65
	Cross Modulation (XMOD)	dB	65	64	65
	[1] 77 NTSC analog channels (4 MHz NBW), 54–552 MHz. CNR degradation £ 1.5 dB with 450 MHz QAM signal loading in 552–1002 MHz, 6 dB below analog channels. [2] All values are specified with unmodulated carriers of equal power at the input of the transmitter.				
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				

ORDERING INFORMATION

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- 1550 nm Analog Transmitter
- Performance Option (3 = 65 km path length, 4 = 100 km path length)
- Channel Plan Option (A = 77-ch NTSC, C = CENELEC)
- Wavelength Option (BA = broadcast at 1563 nm, BC = broadcast at 1545 nm, ** = ITU Channel Code (*contact ARRIS*)
- *Reserved Fields*
- AS = SC/APC Connector

Required Module Back Plate

(Included with order)

B	P	–	A	9

Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

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