Headend Optics Platform (CH3000)

AT3300L (65/85 System Applications)

*Lc*WDM® Transmitter (Multiwavelength O-Band Plan)

FEATURES

- Up to eight O-Band wavelengths per fiber
- 64 analog PAL B/G channels plus 50 QAM channels
- Dual inputs for separate BC/NC feeds
- 1 GHz RF bandwidth on both inputs
- Front panel –20 dB input test port
- Manual or AGC operation
- True dynamic plug and play
- One full-depth slot in CH3000
- Up to 14 transmitters per 3RU chassis
- Hot-swappable, tool-less installation
- Front panel laser On/Off interlock switch
- Local and remote status monitoring features
- Open standard TCP/IP SNMP support
- 0°C to +50°C operation

PRODUCT OVERVIEW

The ARRIS AT3300L series 1 GHz *Lc*WDM (*Low Cost* Wave Division Multiplexing) Transmitters provide increased bandwidth capacity per fiber for the expanding service demands of HDTV, VoIP, VOD and high-speed DOCSIS. These transmitters are ideal for segmentation of node service areas because they enable the reuse of existing fiber up to eight times. These transmitters are designed for transport requiring optical output powers ranging from 6 to 12 dBm.

The ARRIS AT3300L series 1 GHz *Lc*WDM (*Low Cost* Wave Division Multiplexing) Transmitters provide increased bandwidth - capacity per fiber for the expanding service demands of HDTV, VoIP, VOD and high-speed DOCSIS. These transmitters are ideal for segmentation of node service areas because they enable the reuse of existing fiber up to eight times. These transmitters are designed for transport requiring optical output powers ranging from 6 to 12 dBm.

AT3300L series transmitters are available with dual 46–1002 MHz RF ports for combining separate broadcast and narrowcast inputs within the transmitter. 50 dB isolation between the broadcast and narrowcast inputs protects against NC crosstalk on adjacent transmitters via the RF drive network. AGC circuitry compensates for variations in RF input level to maintain constant transmitter output RF drive level to the laser.

High density packaging enables network operators to install up to 14 transmitters per 3RU chassis, all of which can be monitored remotely or locally from the power supply module. Additionally, the compact single-width module design can be plugged in either the front or rear of the CH3000 3RU chassis to optimize equipment installation and operating conditions. The compact design minimizes rack space requirements in headends or hubs and enhances 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 1.0" W (3RU) (33 cm x 11 cm x 2.5 cm)
Weight	1.7 lbs (0.77 kg)
Environmental	
Operating temperature range	-20° to +65°C (-4° to 149°F)
Storage temperature range	-40°C to +85°C (-40°F to +185°F)
Humidity	5% to 95% non-condensing
Power Requirements	
Power consumption	12 W
General	
Wavelength	KK, LL, MM, NN, RR, SS, TT, and UU
Hot plug-in/out	
Manual or AGC operation	
RF and Optical Interface	
RF input(s)	F-type (at Back Plate BP-A8)
Input RF test point	G-type (at front panel, –20 dB)
Optical connector	SC/APC (at Back Plate BP-A8)
Electrical	
Passband	46–1002 MHz
	• 64 PAL B/G analog channel loading: 85-598 MHz • QAM channel loading: 598-1002 MHz (6 dB below analog channels)
Frequency response (including slope)	• BC Input: ± 0.6 dB • NC Input: ± 0.75 dB
Nominal RF input levels (dBmV/ch)	Mode of Operation
	AGC / Manual
	• NTSC 50-550 MHz: 19 / 16
	• QAM 550-1002 MHz: 19 / 16
	(NC input is internally attenuated 6 dB before combining with BC input.)
User-controlled AGC setup function for any channel loading	
AGC input capture range	15 to 21 dBmV
Manual gain control	0 to 6 dB in 0.5 dB steps (± 0.25 dB accuracy)
Input impedance	75 Ω
BC/NC input return loss, minimum	18 dB, min (46–1002 MHz)
Level stability	± 0.5 dB (over operating temperature range)
Link performance (with full channel loading of 85–598 MHz analog and 598–1002 MHz QAM), typica	• CNR[1]: 52 dB • CSO: 65 dB • CTB: 70 dB • XMOD: 65 dB [1] CNR measurements with 4 MHz noise bandwidth for NTSC channels.
NC-BC RF input isolation	> 50 dB
256-QAM BER (ITU-C pre-FEC)	1.0×10^{-5}
Optical Fiber Loss and Performance	

Link Loss (dB)	Output Power (dBm)	Fiber Loss (min) (dB)
6	5.75 – 6.75	5.5
9	8.75 – 9.75	8.5
10	9.75 – 10.75	9.5
11	10.75 – 11.75	10.0
12	11.75 – 12.75	10.0

NOTE: Contact an ARRIS representative for detailed link engineering.

Application Requirements	
	Analog Broadcast Content - must be identical for all transmitter wavelengths (QAM Narrowcast content may differ above 300 MHz)
	Cable length difference in analog (BC) feeds to the input of transmitters on the same fiber must not exceed 100 feet.
	For performance of other channel plans please contact your ARRIS representative.

ORDERING INFORMATION

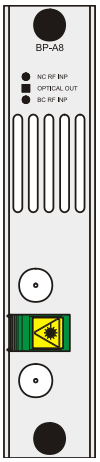
A	T	3	3	*	*	L	–	*	*	–	2	–	A	S

	***Lc*WDM Transmitter with 46–1002 MHz RF Bandwidth**
3rd Character	**06 = 6 dB Link 1 GHz Transmitter 09 = 9 dB Link 1 GHz Transmitter 10 = 10 dB Link 1 GHz Transmitter 11 = 11 dB Link 1 GHz Transmitter 12 = 12 dB Link 1 GHz Transmitter**
4th Character	**(*Reserved Field*)**
5th & 6th Characters	**** = Encodes 1 of 8 WDM Wavelengths (KK, LL, MM, NN, RR, SS, TT, or UU) *(See Note 1)***
8th Character	**2 = Dual RF Inputs with AGC**
9th & 10th Characters	**AS = SC/APC Connector**

Note 1: Transmitters with wavelengths TT and UU are not available with output powers of 11 or 12 dBm.

Required Module Back Plate

Back plates are included with ordered modules.



B	P	–	A	8

Customer Care

Contact Customer Care for product information and sales:

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

87-10633-RevC_AT3300L_1GHz-LcWDM-Tx_Multiwavelength_65-85-Sys 03/2016 ECO9660