

FEATURES

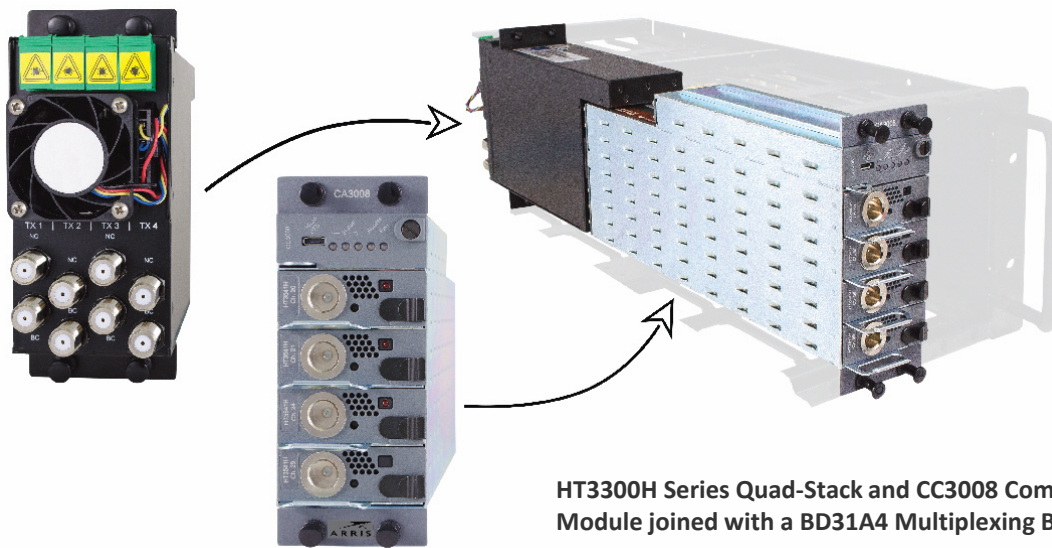
- Link loss budgets available from +3 to +12 dB
- High rack density: 24 transmitters per 3RU chassis, with redundant power supplies
- 45–1218 MHz RF bandwidth
- Dual RF inputs for BC and NC
- Manual or AGC RF control
- Low power consumption
- Hot plug-in/out, individually replaceable transmitter modules
- Front panel -20 dB input test point
- Front panel laser On/Off switch
- Local and remote status monitoring features

The CommScope HT3300H Series Double-Density 1310 nm Transmitter System provides high performance and a high rack density forward path transmission solution for Cable TV service providers.

The high-density packaging design allows up to four (4) HT3300H series 1.2 GHz transmitters plus a CC3008 Communications Control Module to be stacked vertically and contained by the CA3008 module carrier, requiring only two chassis slots of a 3RU chassis. The compact solution supports up to 24 transmitters in a CH3000 chassis, including redundant power supplies.



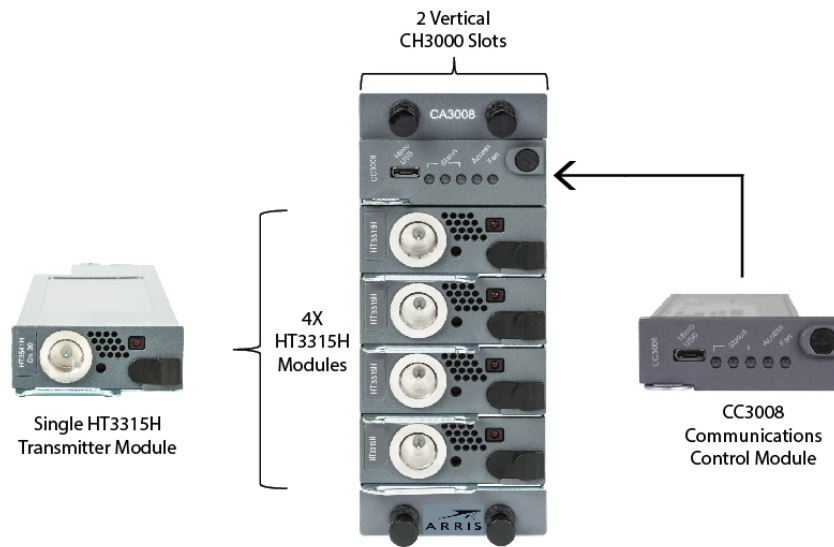
When installed in the chassis, the transmitters interface to a “zero-slot” back plate, providing support for up to four HT3300H series transmitters. The figure below shows a fully loaded carrier mated to the BD31A4 Double-Density back plate.



HT3300H Series Quad-Stack and CC3008 Communications Module joined with a BD31A4 Multiplexing Back Plate

The CC3008 Communications Module installed at the top of a HT3300H series transmitter stack provides the communications interface between the transmitters and the CH3000 mid-plane bus, allowing complete configuration and management control of the stack, both local and remote.

HT3300H Series Double Density 1310 nm Transmitters (1.2 GHz Passband)



CommScope's HT3300H Series Double-Density 1310 nm Transmitters are a key element of the CommScope HFC and Fiber Deep architectures. These 1.2 GHz transmitters are the ideal solution for expanding service demands of HDTV, VOD, cable telephony, and high-speed DOCSIS.

The HT3300H series transmitters are available with dual RF inputs for combining separate broadcast and narrowcast inputs within the transmitter. These transmitters are ideal for optical transport with link losses ranging from 3 to 12 dB. They include optional Automatic Gain Control circuitry to compensate for variations in the RF input level to the transmitter to maintain constant transmitter RF drive level to the laser.

The above figure shows a front view of the CA3008 carrier components: a single HT33xxH Double-Density Transmitter (left); a single CC3008 Communications Module (right), and a fully loaded "stack" (center) providing four (4) HT33xxH transmitters, requiring only 2 vertical slots of a CH3000 chassis. A fully loaded CH3000 chassis supports 24 Double-Density 1310 nm transmitters and redundant power supplies.

The compact design minimizes rack space requirements in headends or hubs and enhances deployment of traditional HFC, passive HFC, and fiber deep networks.

Features

- 1310 nm transmitters: +3 to +15 dBm outputs
- High rack density: 24 transmitters per 3RU chassis, with redundant power supplies
- Low power consumption
- Hot plug-in/out, individually insertable
- Front access -20 dB input test point
- Front panel laser On/Off interlock control
- Local and remote status monitoring

HT3300H SPECIFICATIONS

Characteristics	Specification									
Physical										
Dimensions	11.5" D x 0.8" H x 2.0" W (29.2 x 2.0 x 5.1 cm)*									
Weight	.75 lbs (.34 kg)									
	* Four (4) transmitter units designed to be vertically stacked, plus a CC3008 Communications Module, and installed inside a CA3008 Module Carrier. The combination occupies two slots in a 3RU CH3000 Chassis.									
Environmental										
Operating	0° to +50°C (32° to 122°F)									
Storage	-40° to +85°C (-40° to +185°F)									
Humidity	5% to 95% non-condensing									
RF and Optical Interfaces										
RF Input	F-type male (located on BD31A4 Back Plates)									
RF Input Test Point	G-type male (located at front panel, -20 dB nom.)									
Optical Connector	SC/APC (located on BD31A4 Back Plates)									
Power Requirements										
Input Voltage	12 V _{DC}									
Power Consumption	10 W (per transmitter) including controller and back plate cooling fan									
General										
Wavelength	1310 ± 10 nm									
Hot plug-in/out										
AGC and manual RF level control										
Electrical										
Passband	45 to 1218 MHz									
Frequency Response (Flatness including Slope)	<ul style="list-style-type: none"> ± 1.0 dB (BC input @ 25°C) ± 1.0 dB (NC input relative to BC input) 									
Nominal RF Input Levels (dBmV/ch)	<table border="1"> <thead> <tr> <th></th> <th>AGC Mode</th> <th>Manual Mode</th> </tr> </thead> <tbody> <tr> <td>• NTSC 54-552 MHz:</td> <td>15</td> <td>15</td> </tr> <tr> <td>• QAM 552-1002 MHz:</td> <td>15</td> <td>15</td> </tr> </tbody> </table> <p>NOTE: NC QAM signals are attenuated 6 dB before internal combining with BC analog signals</p>		AGC Mode	Manual Mode	• NTSC 54-552 MHz:	15	15	• QAM 552-1002 MHz:	15	15
	AGC Mode	Manual Mode								
• NTSC 54-552 MHz:	15	15								
• QAM 552-1002 MHz:	15	15								
Manual Gain Control Range	0 to -6 dB minimum									
Manual Gain Control Step	0.5 dB									
RF Input Impedance	75 Ω, nom									
RF Input Return Loss	18 dB, min									
Level Stability	± 0.5 dB typ., ±1 dB max.									
Fiber-only link performance ¹ (with full channel loading of 54–552 MHz analog and 552–1002 MHz QAM)	<ul style="list-style-type: none"> CNR²: 52 dB CSO: 65 dB CTB: 70 dB XMOD: 60 dB 									
256-QAM BER	< 10 ⁻⁵ (pre-FEC, ITU-C)									
MER	> 37 dB to 50°C; > 36 dB to 65°C									
Optical Fiber loss and Performance										
	Link Loss (dB)	Output Power (dBm)	Fiber Loss (max) (dB)							
	3	2.75–3.75	2.5							
	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	10.5							
	12	11.75–12.75	11.5							

NOTES:

1. Guaranteed over full operating temperature range
2. CNR measurements for NTSC channels made over 4 MHz noise bandwidth
3. With AGC enabled, capture range is ±3 dB

BD31A4 Double-Density Back Plates

The BD31A4 is a double-density back plate that provides a choice of 4 separate BC and 4 separate NC RF inputs, or 1 common BC and 4 separate NC RF inputs, for four HT3300H series transmitters.

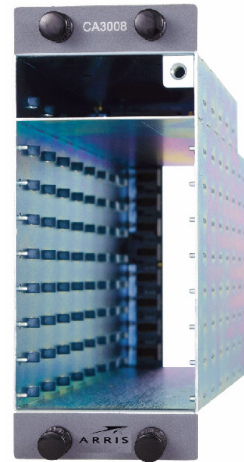
The BD31A4 provides RF input and optical connections to or from the HT3300H transmitters.

BD31A4-100-H12F-0-AS is a double density back plate that provides 4 separate BC inputs and 4 separate NC RF inputs for four HT3300H transmitters. Also supports four separate optical output SC/APC connectors.

BD31A4-100-H10F-0-AS is a double density back plate that provides 1 common BC input and 4 separate NC RF inputs for four HT3300H series transmitters. Also supports four separate optical output SC/APC connectors.



BD31A4-100-H12F-0-AS Back Plate



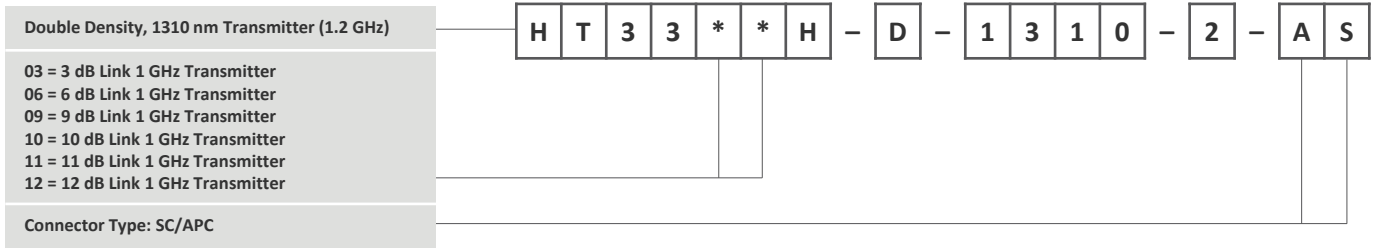
CA3008 Module Carrier

BD31A4-100 BACK PLATE SPECIFICATIONS

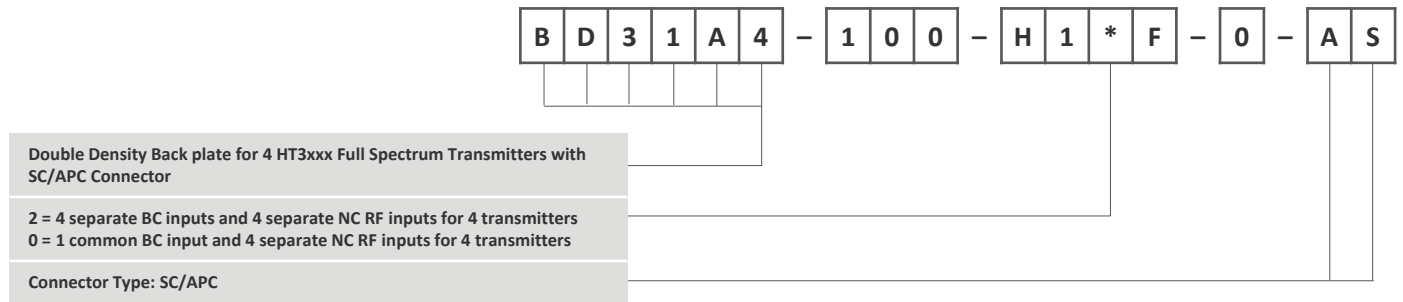
Characteristics	Specification
Physical	
Dimensions	7.2" D x 5.2" H x 2.0" W* (18.2 x 13.2 x 5.1 cm)
Weight	2.0 lb (0.91 kg)
Environmental	
Operating	-20° to +65°C (-4° to 149°F)
Storage	-40° to +85°C (-40° to +185°F)
Humidity	5% to 95% non-condensing
Power Requirements	
Input Voltage	12 V _{DC}
Power Consumption	5 W max (2.5 W Typ), including the replaceable cooling fan
Optical	
Through 4 SC/APC connectors, the BD31A4-100 provides optical pass-through from the HT3300H transmitter.	
Optical Insertion Loss	0.2 dB Typ; 0.4 dB Max
	Refer to the HT3300H product specifications for more information.
RF Interface	
Through 8 (eight) F-type RF connectors, the BD31A4-100 provides RF pass-through to the HT3300H transmitter.	<ul style="list-style-type: none"> 4 BC and 4 NC (1 BC/NC pair per transmitter)

ORDERING INFORMATION

HT3300H Transmitter



Back Plates



ORDERING INFORMATION

System Accessories

Communications Control Module — C C 3 0 0 8

Module Carrier — C A 3 0 0 8

Filler Module for Double-Density Slots — H T 3 F I L D



RELATED PRODUCTS

CH3000 Chassis	Optical Patch Cords
Optical Transmitters	Optical Passives
Digital Return	Installation Services

Contact Customer Care for product information and sales:

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

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87-10897_RevF_HT3300-Series-1310nm-Double-Density-Transmitter-System