

COMMSCOPE HT3580H Series

QUAD-DENSITY FULL SPECTRUM DWDM TRANSMITTER SYSTEM

The COMMSCOPE HT3580 series Quad-Density Full Spectrum Dense Wave Division Multiplexing (DWDM) 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 eight HT3580H series high performance 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 48 transmitters in a CH3000 chassis, including redundant power supplies.

- DWDM transmitter: up to 16 wavelengths on ITU grid
- Hot plug-In/Out, individually replaceable transmitter modules
- Optimized for full spectrum all QAM loading
- Manual or Automatic Gain Control (AGC) modes
- Low power consumption
- Industry's highest DWDM rack density: 48 transmitters per 3RU chassis, with redundant power supplies and optical multiplexing
- Front access -20dB input test point
- Front panel laser On/Off control
- Local and remote status monitoring features



SPECIFICATIONS

PHYSICAL		ENVIRONMENTAL	
Dimensions	11.5" D x 0.8" H x 2.0" W (29.2 x 1.0 x 5.1 cm)*	Operating	-20° to +50°C (-4° to 122°F)
Weight	0.4 lbs. (0.18 kg)	Storage	-40° to +85°C (-40° to 185°F)
* Eight (8) 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.		Humidity	5% to 95% non-condensing
RF AND OPTICAL INTERFACE		OPTICAL	
RF input	F-type male (using BD31A8 or BD35M8 Back plates)	Optical output power	10 ±0.25 dBm
		Wavelength	See DWDM ITU Channel Plans description
Input RF test point	75Ω MCX female (flush with front panel) (recommend MCX to F adapter 70-10577 if F connector is needed)	Fiber length (user-settable, adjustable dispersion compensation)	HT358xH: 60 km (in 5 km steps)
Optical connector	SC/APC (using BD35M8 Back plates) LC/APC (using BD31A8 Back plates)	Additional external dispersion compensation can be supported for some applications.	
POWER REQUIREMENTS		GENERAL	
Input voltage	12 VDC	Hot plug-In/Out	
Power consumption	6 W (per transmitter) including controller and back plate cooling fan	Manual gain alignment and AGC	
ELECTRICAL		ELECTRICAL	
Pass band	45–1218 MHz	RF input impedance	75 Ω, nom
Frequency response (including slope)	±1.0 dB (BC input @ 25°C) -6 ±0.5 dB (NC input relative to BC input)	RF input return loss	18 dB, min
		RF input attenuator/amplify range (Manual Mode)	-6.0 to 0 dB
		RF input attenuator step size	0.5 dB
Nominal RF input levels (input attenuator = 0 dB)	HT358xH: 10.2 dBmV/ch for 194 256-QAM channels into BC input, or 16.2 dBmV/ch into NC input	Level stability (typical)	±0.2 dB
		AGC Mode	Maintains RF power constant when input RF power changes up to ± 3 dB of the learned RF value
256-QAM BER	< 10 ⁻⁶ (pre-FEC, ITU-C)	MER (194 QAM load)	40 (40 km), 37 (60 km)
DWDM ITU CHANNEL PLANS			
See muxing back plate information for wavelength graphics. COMMSCOPE supports DWDM network architectures with a variety of products on the standard DWDM ITU Grid (ITU-T G.694.1). For a more complete description, please refer to the COMMSCOPE DWDM ITU Grid Channel Plan data sheet.			

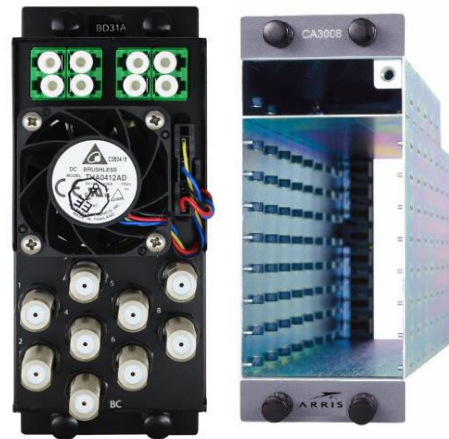
COMMSCOPE BD31A8

QUAD-DENSITY BACK PLATES

The BD31A8 models provide RF input and optical connections to or from the HT358xH transmitters. The fan provides air flow to keep transmitters cool.

BD31A8-100-H10F-0-AL is a quad density back plate that provides 1 common BC input and 8 separate NC RF inputs for eight HT358xH Transmitters. It also supports eight separate optical output LC/APC connectors. Internally it includes an RF amplifier and splitter to split the BC input equally to all 8 transmitters and maintain 1x8 RF levels.

BD31A8-100-H18F-0-AL is a quad density back plate that provides 8 separate BC inputs and 0 NC RF input for eight HT358xH Transmitters. It also supports eight separate optical output LC/APC connectors. This back plate is recommended for customers that prefer to do their broadcast and narrowcast RF combining external from the CH3000 chassis.



SPECIFICATIONS

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 temperature	-20° to +65°C (-4° to 149°F)
Storage temperature	-40° to +85°C (-40° to 185°F)
Humidity	5% to 95% non-condensing
POWER REQUIREMENTS	
Input voltage	12 VDC
Power consumption	5.5 W max (2.5 W Typ), included in power figure found in HT3580H specifications
OPTICAL	
Through 8 LC/APC connectors, the BD31A8-100 provides optical pass-through from the HT354xH transmitter.	
Optical Insertion Loss	0.2 dB Typ; 0.4 dB Max
RF INTERFACE	
The BD31A8 provides RF to the HT358x transmitter through F-type RF connectors:	1 BC and 8 NC (BD31A8-100-H10F-0-AL) 8 BC and 0 NC (BD31A8-100-H18F-0-AL)

BD35M8 QUAD-DENSITY BACK PLATES

The COMMSCOPE BD35M8 Family of back plates are 100 GHz grid spacing Quad-Density MUX Back Plates that multiplex the output of eight HT3580H Quad-Density Full Spectrum Transmitters.

These back plates provide connections for a group of eight HT3580H Series Transmitters installed in the same CA3008 Module Carrier, along with the CC3008 Communications Control Module.

These 8-channel mux back plates (for which outputs can be cascaded from one back plate to another) may be ordered for the channel groups indicated in the ordering information section.

SPECIFICATIONS

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 temperature	-20° to +65°C (-4° to 149°F)	
Storage temperature	-40° to +85°C (-40° to 185°F)	
Humidity	5% to 95% non-condensing	
POWER REQUIREMENTS		
Input voltage	12 VDC	
Power consumption	5 W max (2.5 W Typ), included in power figure found in HT3580H specifications	
OPTICAL INTERFACE		
Optical Connectors	SC/APC (3) DWDM INP (input from previous mux back plate) DWDM OUT (output to network or next mux back plate) -20 dB optical test point	
RF INTERFACE		
9 F-Type connectors	1 BC and 8 NC	
OPTICAL		
Channel spacing	100 GHz	
Channel plan	See ITU Channel Plans desription	
Insertion losses, including connectors		
	Typ	Max
DWDM input to DWDM output	2.3 dB	2.5 dB
Ch. yy input to DWDM output	2.0 dB	2.2 dB
-20 dB test point	20.0 dB	20.4 dB
Uniformity, including connectors		
Module Uniformity	1.3 dB	1.6 dB
Paired Uniformity	0.5 dB	0.7 dB
Return loss, min	45 dB	
Directivity, min	55 dB	
Passband @ 0.2 dB		
Ch. yy input to DWDM output	± 0.125 nm	
DWDM input to DWDM output	Passes 1423.5 through 1617.5 with a notch at the channel add/drop band. WDL for the passband is within ±0.15 dB	
Ripple within passband	0.5 dB max	
Polarization dependent loss, max	0.1 dB (typically < 0.05 dB)	
Power handling, max (any input port)	21.8 dBm	

ORDERING INFORMATION

HT358xH Transmitter

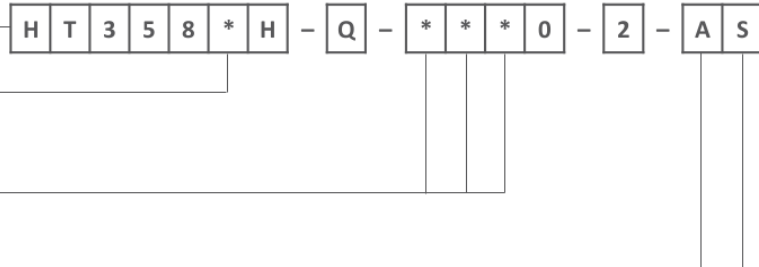
Quad Density, Full Spectrum DWDM Transmitter
(1.2 GHz)

3 = EEx wavelengths (see BD35M8 table below)
4 = ACx wavelengths (see BD35M8 table below)

For HT3583H = E + ** ITU Channel #
For HT3584H = A + ** ITU Channel #

** = ITU Channel Number (20 through 62;
reference ARRIS DWDM ITU Grid Channel Plan
Data Sheet)

Connector Type: SC/APC

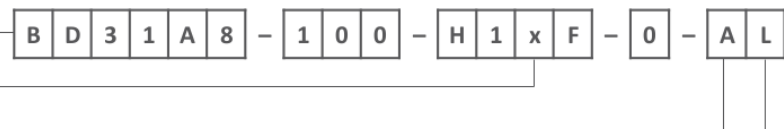


Back Plates

Quad Density Back plate for 8 HT3xxx Full
Spectrum Transmitters with LC/APC Connector

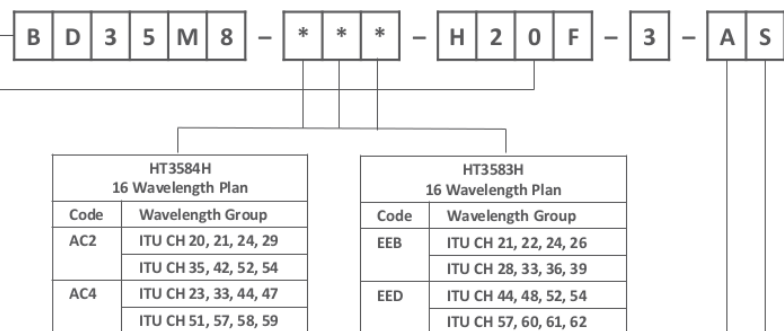
0 = 1 common BC input and 8 NC RF inputs
8 = 8 BC inputs and 0 NC RF input

Connector Type: LC/APC



Quad Density Muxing Back plate for 8 HT354x Full
Spectrum Transmitters with SC/APC Connectors
with optical test point

0 = 1 common BC input and 8 NC RF inputs



Connector Type: SC/APC

System Accessories

Communications Control Module



Module Carrier



Filler Module for Quad-Density Slots

