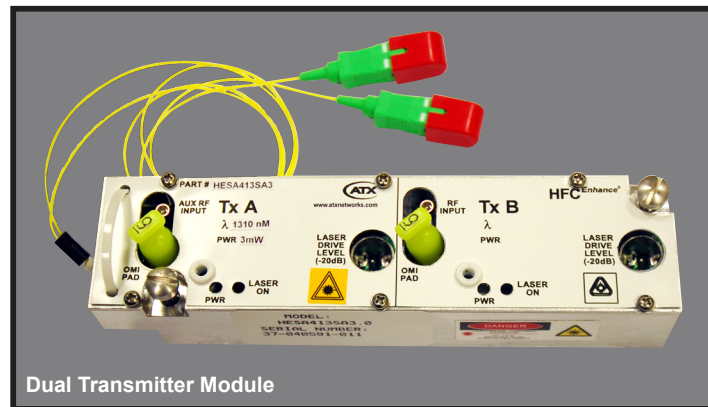


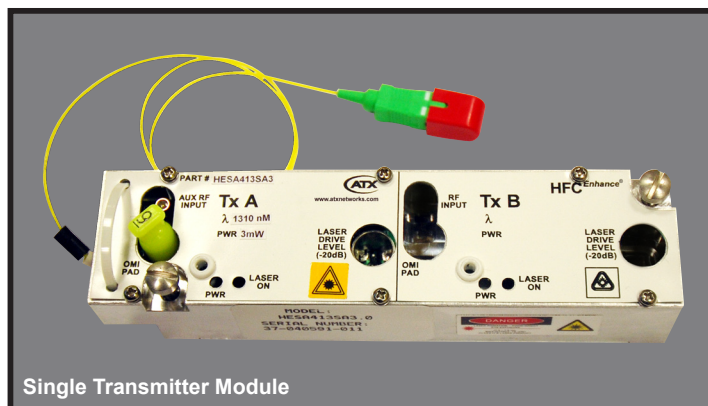
SA* 6940, 42 & 44 Dual & Field Upgradeable Single Return Path Transmitters:

Features & Benefits:

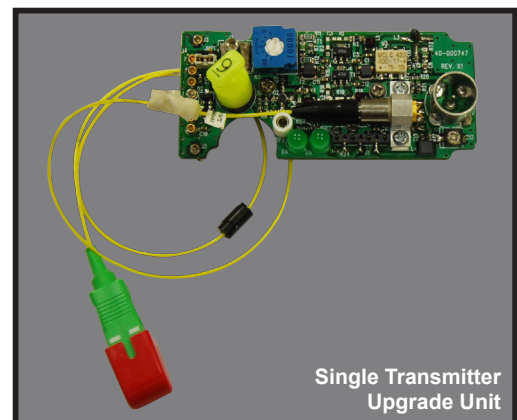
- ▶ 1310 nm, 1550 nm or CWDM, DFB based return path transmitter module
- ▶ Designed to perform better than or equal to the original manufacturer's model
- ▶ Replace failed legacy return path transmitters or improve return path performance by replacing existing F-P transmitter module with a DFB transmitter module
- ▶ Single transmitter modules allow for immediate legacy module replacement or upgrade, and can also be field upgraded to a dual transmitter module in order to support future node segmentation requirements (for details, see HFC Enhance® Node Segmentation for the SA 69XX Platform spec sheet)
- ▶ Dual transmitter module accommodates node segmentation (for details, see HFC Enhance® Node Segmentation for the SA 69XX Platform spec sheet) or route redundancy applications
- ▶ Plug-in pad attenuator facilitates easy adjustment of RF Input drive level
- ▶ Laser drive level test point, along with target CW carrier level (indicated on the transmitter) allows technician to easily set the drive level to the transmitter for optimized performance
- ▶ Convenient DC test point provides indicator of optical output power (1V/mW)
- ▶ Low power consumption & good heat dissipation increases service life and reliability



Dual Transmitter Module



Single Transmitter Module



Single Transmitter Upgrade Unit

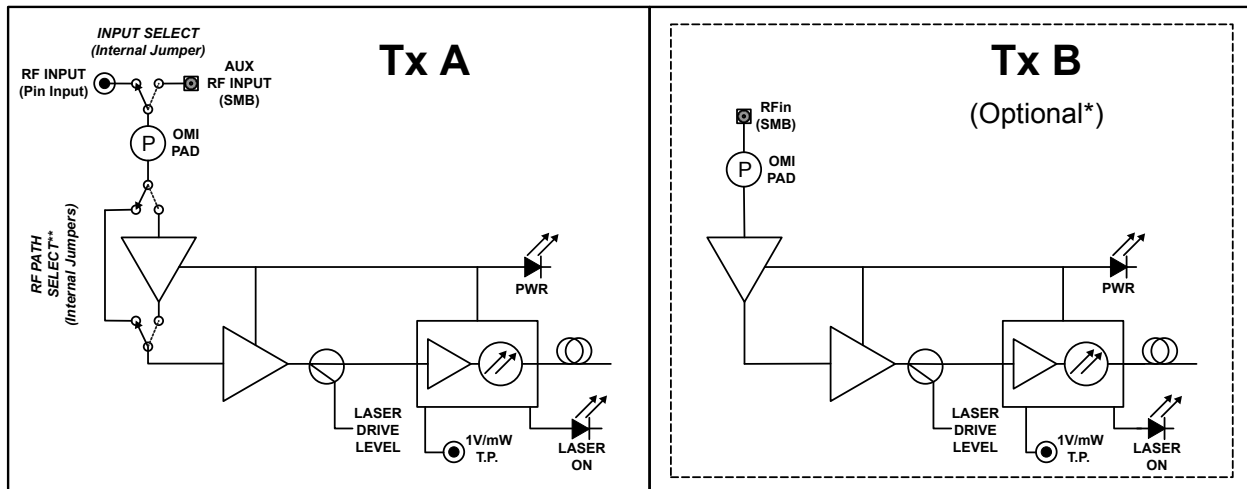
*Cisco/Scientific-Atlanta product names are owned by Cisco/Scientific-Atlanta in the United States and/or other countries.

SA* 6940, 42 & 44 Dual & Field Upgradeable Single Return Path Transmitters:

Return Path Transmitter Specifications

SPECIFICATIONS		RETURN TRANSMITTERS: DFB & CWDM
RF INPUT & PERFORMANCE PARAMETERS		
FREQUENCY RESPONSE RANGE (+/- 1.0 dB)	5 - 220 MHz	
NPR (DFB/CWDM)*	> 15 dB over 41 dB NPR*	
INPUT RETURN LOSS	> 16 dB	
OPTICAL OUTPUT PARAMETERS		
OPTICAL OUTPUT (DFB)	1.0, 2.0 or 3.0 mW @ 1310 nm / 2.5 mW @ 1550 nm CWDM	
RETURN LOSS	> 60 dB with APC Connector	
OPTICAL CONNECTOR	SC/APC; FC/APC; SC/UPC; FC/UPC	
USER INTERFACE		
OPTICAL OUTPUT LEVEL	1V/mW	
LASER ON INDICATOR	LED	
INPUT LEVEL CONTROL	SXP PAD	
ELECTRICAL, ENVIRONMENTAL & MECHANICAL PARAMETERS		
OPERATING TEMPERATURE RANGE	-40°C to +60°C (-40°F to +140°F) (ambient temperature around Node)	
POWERING	Single Transmitter Module: 24V, 65mA Dual Transmitter Module: 24V, 130mA	
NOTES:		
* Measured with 17 km of fiber, 35 MHz loading. Call factory for assistance in determining optimum drive levels for your system.		

Dual Return Path Transmitter Functional Schematics



* Tx B can be installed at time of manufacture or field installed at a later date.

** RF path can be switched internally in order to accommodate bypass of the return gain block that already exists in the node. This would be done at times when node is segmented using HFC Enhance® Node Segmentation kits. All dual transmitter modules are configured at time of manufacture to accommodate RF input through the SMB connector.

SA* 6940, 42 & 44 Dual & Field Upgradeable Single Return Path Transmitters:

Ordering Information

Single Transmitter Modules:

1310 nm DFB

HESA413__

- 1 = 1 mW
- 2 = 2 mW
- 3 = 3 mW

SA = SC/APC
 SU = SC/UPC
 FA = FC/APC
 FU = FC/UPC

1550 nm and CWDM DFB, 2.5 mW

HESA4__2.5

- SA = SC/APC
- SU = SC/UPC
- FA = FC/APC
- FU = FC/UPC

15 = 1550 nm
 47 = 1470 nm
 49 = 1490 nm
 51 = 1510 nm
 53 = 1530 nm



Single Transmitter Upgrade Unit:

1310 nm DFB

HESA413__U

- 1 = 1 mW
- 2 = 2 mW
- 3 = 3 mW

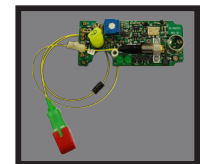
SA = SC/APC
 SU = SC/UPC
 FA = FC/APC
 FU = FC/UPC

1550 nm and CWDM DFB, 2.5 mW

HESA4__2.5U

- SA = SC/APC
- SU = SC/UPC
- FA = FC/APC
- FU = FC/UPC

15 = 1550 nm
 47 = 1470 nm
 49 = 1490 nm
 51 = 1510 nm
 53 = 1530 nm



Dual Transmitter Modules:

1310 nm DFB

HESA413/13__

- 1 = 1 mW
- 2 = 2 mW
- 3 = 3 mW

SA = SC/APC
 SU = SC/UPC
 FA = FC/APC
 FU = FC/UPC

1310/1550 DFB, 2.5 mW

HESA413/15__2.5

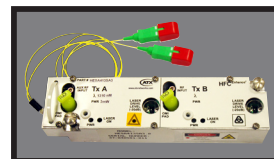
- SA = SC/APC
- SU = SC/UPC
- FA = FC/APC
- FU = FC/UPC

CWDM DFB, 2.5 mW

HESA4CW__2.5

- SA = SC/APC
- SU = SC/UPC
- FA = FC/APC
- FU = FC/UPC

47/49 = Tx A = 1470 nm / Tx B = 1490 nm
 51/53 = Tx A = 1510 nm / Tx B = 1530 nm



Specifications subject to change without notice.