



Drop-in Node Upgrade Modules:

General Overview:

HFC Enhance[®] offers a comprehensive line of upgrade or replacement modules for installed legacy nodes from a variety of manufacturers. Product offerings include Transmitters (1310/1550, F-P, DFB & CWDM) & Receivers (870 & 1000 MHz) for:

** ADC/C-COR	ISX-3022/3030/3040
** C-COR	LN-SM7x, NT/NB HEFN
** Antec/Texscan	GlassPal & FlameThrower
** Arris/Antec	LLRX-400 Gemini & LLRX-200
** Augat	Megaflex
** Harmonic	HLN3830 & 3842/3843/3844 PWRBlazer
** Motorola/GI	BTN-2, BTN-M & AM-MBR
** Philips/Magnavox	7-OR Diamond Point
** Cisco/Scientific-Atlanta	6920, 6940, 6942 & 6944 Gainmaker

** Offerings not limited to above. Please consult ATX regarding other module requirements.

Features & Benefits:

- ▶ Allows for an overall node performance enhancement in a cost-effective & time-efficient manner
- ▶ A variety of laser technologies (F-P, DFB, CWDM) and powers (0-3 mW) allow operators to satisfy any application
- ▶ Dual transmitter option in the module increases number of return path segmentations possible and/or offers an option for implementing fiber link redundancy
- ▶ Dual transmitter option (module specific) in conjunction with CWDM allows for ultra space-efficient node segmentation solutions
- ▶ Low input requirement on receiver modules (-8 to +2 dBm) in conjunction with high RF output allow operators to split forward path without degrading CNR
- ▶ Unique low power designs minimize thermal dissipation thereby increasing module performance and lifetime

Typical Return Transmitter Specifications

SPECIFICATIONS		RETURN TRANSMITTERS: F-P, DFB & CWDM
RF INPUT & PERFORMANCE PARAMETERS		
FREQUENCY RANGE (+/- 1.0 dB)	5 MHz-225+ MHz	
OPTICAL OUTPUT (mW) (F-P / DFB / CWDM)	1.5 & 2.0 @ 1310nm / 3.0 @ 1310nm / 2.5 @ 1xx0nm**	
RETURN PATH NPR > 15 dB*	F-P: over 37 dB NPR; DFB/CWDM over 41 dB NPR*	
RETURN PATH THRESHOLD	-57 dBmV/Hz (@ 37 or 41 dB, as applicable)	
OPTICAL PARAMETERS		
RETURN LOSS	> 60 dB with APC Connector	
OPTICAL CONNECTOR	SC / APC Standard; FC / APC Optional; 8° APC	
ELECTRICAL, ENVIRONMENTAL & MECHANICAL PARAMETERS		
DIMENSIONS	Fit and Form as per the original OEM module	
OPERATING TEMPERATURE RANGE	-40°C to +70°C (-40°F to +158°F) (temperature at the mounting plate)	
NOTES:		
* As measured with 10 dB of fiber and OTOR-300 High Sensitivity Return Band Receiver.		
** Several TX modules available as "dual" package, with optional plug-in TX.		

Drop-in Node Upgrade Modules:

Typical High Sensitivity Forward Receiver Specifications

SPECIFICATIONS	HIGH SENSITIVITY FORWARD RECEIVER
RF OUTPUT & PERFORMANCE PARAMETERS	
FREQUENCY RANGE (+/- 1.0 dB)	54-870 MHz (NTSC) or 85-870 MHz (PAL)
OUTPUT LEVEL (@ 0 dBm Input)	+25 dBmV
RETURN LOSS	> 14 dBmV
CNR / CSO / CTB (@ -1 dBm Input)*	> 54 dB / > 65 dBc / > 68 dBc
RF GAIN ADJUSTMENT	0-10 dB (via internal pad)
SLOPE	0 dB
RF TEST POINT (Forward)	-20 dB; Type F (external)
OPTICAL PARAMETERS	
WAVELENGTH	1280-1610nm
OPTICAL INPUT POWER RANGE	-8 to +2 dBm
OPTICAL INPUT POWER TEST POINT	1 V/mW (external)
RETURN LOSS	> 60 dB with APC Connector
OPTICAL CONNECTOR	SC / APC Standard; FC / APC Optional; 8° APC
ELECTRICAL, ENVIRONMENTAL & MECHANICAL PARAMETERS	
DIMENSIONS	Fit and Form as per the original OEM module
OPERATING TEMPERATURE RANGE	-40°C to +70°C (-40°F to +158°F) (temperature at the mounting plate)
NOTE: * Typical. 77 NTSC channels to 550 MHz & digital loading to 870 MHz (-6 dB below analog).	

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See web site for specifications & ordering information - www.atxnetworks.com