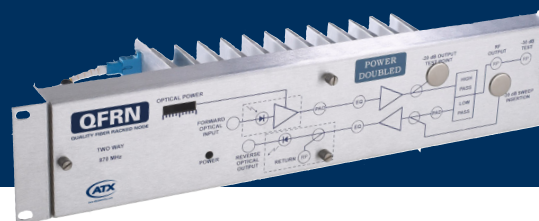


Q-SERIES® Optical

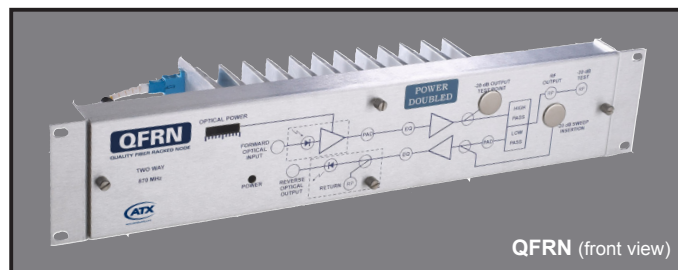
Fiber Optic Products



QFRN Headend Fiber Node:

Features:

- ▶ 200 MHz dual-node 2RU versions
- ▶ 870 MHz and 1 GHz 2-way
 - ▶ Integral optical power meter
 - ▶ Plug-in interstage EQ & pad
 - ▶ Reverse sweep insertion test point
- ▶ 10 segment LED optical power indicator has three colors to indicate low or high optical power conditions for troubleshooting
- ▶ Standard QRAM optional output diplex filter may be inserted
- ▶ Separate port provided for retrieving the 5-40 MHz return path signals
- ▶ Optional internal splitters provide two or four independent output ports (QRAM1000-2S & QRAM1000-4S)
- ▶ Order the new QRAM1000-20TP, a -20 dB plug-in test point to feed status monitoring systems. The test point option feeds output port #3 for full-time automated signal monitoring
- ▶ Once the amplifier is installed and the RF cables connected, all the adjustments & options are front accessible
- ▶ Utilizes external 120 to 26 VAC Class II, 60 Hz UL power transformer (included)
- ▶ Additional DC powering ports (+27 VDC) provided for applications requiring alternate or backup power

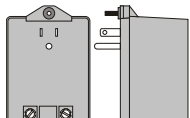


QFRN Specifications

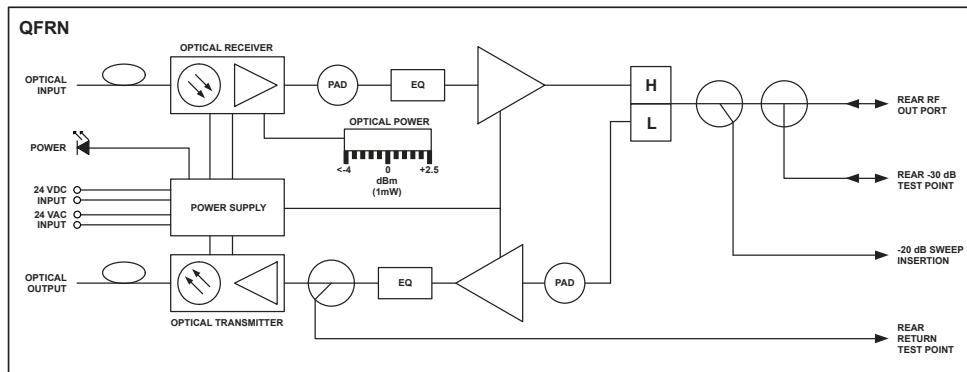
SPECIFICATIONS	DUAL 1-WAY	2-WAY							RETURN	
BANDWIDTH	5-200 MHz	54-870 MHz					54-1000 MHz		5-42 MHz	
FREQUENCY RESPONSE	+/- 0.5 dB	+/- 0.5 dB					+/- 0.5 dB		+/-0.25 dB	
GAIN CONTROL RANGE	6 dB	Pad					Pad		Pad	
SLOPE CONTROL RANGE	6 dB	EQ					EQ		EQ	
RETURN LOSS	14 dB	14 dB					14 dB		16 dB	
TEST POINTS	-20 +/- 1 dB	-20 +/- 1 dB					-20 +/- 1 dB		-20 +/- 0.5 dB	
TECHNOLOGY	PP	GP					GP		FP	DFB
OUTPUT LEVELS AT MAX. FREQUENCY	24	40	42	44	47	49	42	44	1mW	2mW
CHANNEL LOADING (Analog)	10	77	77	77	77	77	77	77	1	4
COMP. TR. BT. (-dB)	94	82	78	74	70	66	78	74	n/a	n/a
COMP. 2nd ORD. (-dB)	84	77	75	73	71	69	75	73	-49 ⁽¹⁾	> -65
CARRIER-TO-NOISE RATIO (dB)	53	53	53	53	53	53	53	53	n/a	n/a
DC CUR. @ 24 VDC (Amps)	0.22	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0	0
POWER DISSIPATION (Watts) ⁽²⁾	9	27	27	27	27	27	27	27	7	7
OPERATING TEMPERATURE	0°C to +50°C (+32°F to +122°F)									
HUMIDITY	20%-55% (without condensation)									
DIMENSIONS	3.5"H x 19.0"W x 3.4"D (8.89H x 48.26W x 8.64D cm)									
WEIGHT	7.0 lbs (3.18 kg)									
NOTES:										
All forward node specifications are based on 1mW (0 dBm) optical power input with 3.7% OMI per channel.										
(1) Return laser specification is for discrete 2nd order beats, not composite second order.										
(2) Power dissipation is measured at 120 VAC. Multiple gain models show minimum specifications, call for exact data.										

QFRN Headend Fiber Node:

Ordering Information

Example Part Number: QFRN 870 A - 35 GP 2W					
	1	2	3	4	5
1: Bandwidth: 200 = 200 MHz 870 = 870 MHz 1000 = 1000 MHz					
2: A = SCAPC F = SCUPC (Other Connectors Available)					
3: Output Level (See Specifications Table)					
4: Output Technology: Blank = Push-Pull GP = Gallium Arsenide (GaAs) Double FP = Fabry-Perot DFB = Distributed Feedback					
5: 1-way (1W) or 2-way (2W)					
Part Number		Description			
Options for 1-way Models ONLY					
GRAM1000-2S		2-way Splitter, 1000 MHz			
GRAM1000-4S		4-way Splitter, 1000 MHz			
GRAM1000-20TP		-20 Test Point, Rear Output Port #3			
(Only ONE of the above options may be used.)					
GRAM870-42/54-DF		Diplex Filter, 5-42 MHz, 54-870 MHz			
GRAM870-65/85-DF		Diplex Filter, 5-65 MHz, 85-870 MHz			
GRAM1000-42/54-DF		Diplex Filter, 5-42 MHz, 54-1000 MHz			
GRAM1000-65/85-DF		Diplex Filter, 5-65 MHz, 85-1000 MHz			
QEE200-**		200 MHz EQ for Dual Node, ** = 1.5-12 dB in 1.5 dB steps			
Options for 2-way Models ONLY					
QFRL/FP1-23 OR 28		Fabry-Perot Return Laser			
QFRL/DFB1-23 OR 28		DFB Return Laser			
QLX860-xx (used in QFRN 2-way)		750 or 870 MHz EQs, xx = 0-24 dB in 2 dB steps			
QLX1000-**		1000 MHz EQs ** = 1-22 dB in 1 dB steps			
QEE (freq), dB		40 MHz, 1-12 dB in 1 dB steps			
Options for Both Models					
SXP-TY-**		Plug-in Pad, ** = 0-20 dB in 1 dB steps			
					
Part #951 (order for spares)		120 Volts to 26 Volts, 60 Hz AC Power Transformer, 50 VA Rating			
#951 Transformer					
					

Functional Schematic



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Specifications subject to change without notice.

