

# Q-SERIES® Amplifiers

## Headend Amplifiers



### QPAIR Redundant Amplifier System:

#### Features:

- ▶ 2 amplifiers, 2 power supplies & 1 RF sensing redundancy switch in 1RU
- ▶ Monitors amplifiers & power supplies
- ▶ LED indicator & form C alarm contacts
- ▶ 100-240 VAC or -48 VAC power (40-60 VDC)
- ▶ Hot-swappable amplifier



### Amplifier Specifications

PART NUMBER <sup>(1)</sup>	GAIN				GAIN/SLOPE CONT.		OUTPUT T.P. (dB)	I/O RL (dB)	CURRENT <sup>(5)</sup> (mA)	DISTORTIONS <sup>(3)(4)</sup>				NOISE FIGURE (dB)	AMP TECH <sup>(6)</sup>
	BW (MHz)	Gain <sup>(2)</sup> (dB)	Slope (dB)	Flat. (±dB)	Gain	Slope				Level (dBmV)	Slope (dB)	CTB (-dB)	CSO (-dB)		
QPAIR870-13G/*	40-870	13	-1/+5	.35	PAD	EQ	20 +/- 1.0	16	260	40	0	78.0	75.0	3.8	PP GaAs
QPAIR870-17G/*	40-870	17	-1/+5	.35	PAD	EQ	21 +/- 1.0	16	260	40	0	78.2	75.1	4.0	PP GaAs
QPAIR870-19GP/*	40-870	19	-1/+5	.35	PAD	EQ	22 +/- 1.0	16	375	40	0	77.0	73.0	5.0	GaAs PD
QPAIR870-23GP/*	40-870	23	-1/+5	.5	PAD	EQ	23 +/- 1.0	16	375	40	0	77.0	73.0	4.0	GaAs PD
QPAIR1000-13G/*	40-1000	13	-1/+1.5	.5	PAD	EQ	23 +/- 1.0	16	260	40	0	78.0	75.0	3.8	PP GaAs
QPAIR1000-17G/*	40-1000	17	-1/+1.5	.5	PAD	EQ	24 +/- 1.0	16	260	40	0	78.0	75.0	4.0	PP GaAs
QPAIR1000-19GP/*	40-1000	19	-1/+1.5	.5	PAD	EQ	25 +/- 1.0	16	375	40	0	77.0	73.0	5.0	GaAs PD
QPAIR1000-23GP/*	40-1000	23	-1/+1.5	.75	PAD	EQ	26 +/- 1.0	16	375	40	0	77.0	73.0	4.0	GaAs PD
QPAIR870-19GPH/*	40-870	19	-1/+1.5	.5	PAD	EQ	26 +/- 1.0	16	440	40	0	82.0	77.0	5.0	GaAs PDH
QPAIR1000-19GPH/*	40-1000	19	-1/+1.5	.5	PAD	EQ	28 +/- 1.0	16	440	40	0	81.0	75.0	5.0	GaAs PDH
QPAIR1000-23GPH/*	40-1000	23	-1/+1.5	.75	PAD	EQ	29 +/- 1.0	16	440	40	0	81.0	75.0	4.0	GaAs PDH

#### NOTES:

- (1) /\* = Denotes the type of power supply: AC, 48, or AC/48  
 (2) Gain specified at highest frequency.  
 (3) Distortions measured with 50-550 MHz analog CW (6 MHz spacing) and 550-1000 MHz noise at -6 dBc (average power per 6 MHz).  
 (4) Specified with 0 dB plug-in attenuators and 0 dB plug-in EQs.  
 (5) DC load current at +24 VDC per module.  
 (6) PP = Push-Pull; PD = Power-Doubled; GaAs = Gallium Arsenide; PDH = Power-Doubled High-Current

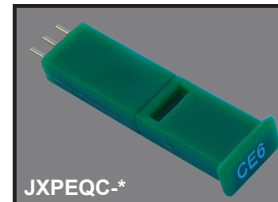
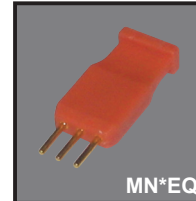
### Switch Specifications

SPECIFICATIONS	
SWITCHING TIME	100 ms default delay-contact QRF for different delay times
ISOLATION	55 dB from 40 MHz to 550 MHz; 50 dB from 550 MHz to 1000 MHz
INSERTION LOSS	2 dB (1 dB on the input and 1 dB on the output)
RETURN LOSS	18 dB minimum
RF SENSITIVITY RANGE	+20 dBmV to +50 dBmV amplifier output monitoring
POWER DISSIPATION	6.3 watts normal mode, 8.5 watts in back-up mode

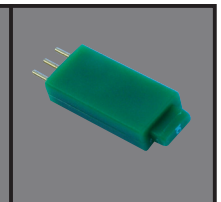
## QPAIR Redundant Amplifier System:

### Ordering Information

Example Part Numbers: <sup>(1)</sup>	
QPAIR870-17G/AC	
1	2 3
1. Module & Bandwidth:	870 = 870 MHz 1000 = 1000 MHz
2. Gain (dB) & Amplifier Technology:	See Specifications table for options.
3. Powering Option:	AC = 110-240 VAC 48 = -48 VDC (40-60 VDC) AC/48 = 1 of each AC & DC inputs
Part Number	Description
Options	
IPB-* or MN*PAD	Plug-in Pad, * = 0-20 dB in 1 dB steps. Used in both the input & output.
QPAIRAC1M	Replacement AC Power Supply.
QPAIR481M	Replacement DC Power Supply.
DTS240250UC-P5-ET	External Universal AC Power Supply, 100-240 VAC, 47-63 Hz input, 24 VDC output (for redundant powering option only).
MN*EQ	1 GHz Cable Tilt EQ, * = 0-16 dB in 1 dB steps. 1" tall. Used at input & output.
JXPEQC 1000-*	1 GHz Cable Tilt EQ, * = 0-20 dB in 1 dB steps. 1.65" tall with breakaway tab to reduce to 1" tall. Used at input & output.
JXPEQL 1000-*	1 GHz Linear EQ, * = 02.0-08.0 dB in 1 dB steps. 1" tall. Used at input & output.
Shipping Weight	4.6 lbs (2.1 kg)
Dimensions	1.75"H x 19.0"W x 5.0"D (4.45H x 48.26W x 12.7D cm)
<b>NOTE:</b> (1) Order the Part Number in the left column of the Specifications table on previous page.	

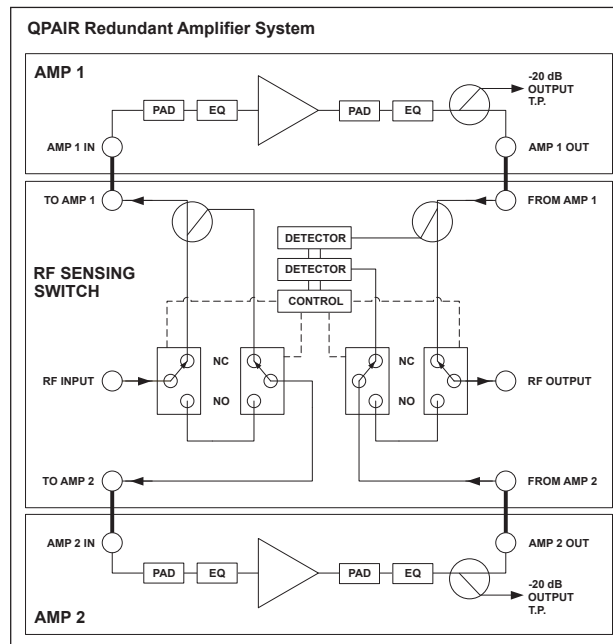


before breakaway



after breakaway

### Functional Schematic



Specifications subject to change without notice.

ISO  
9001  
REGISTERED