

# QRAM 550 • 750 • 860

## Headend Rack Amps to 750/860 MHz Quality Rack Amplifier Module

### \*\* Features \*\*

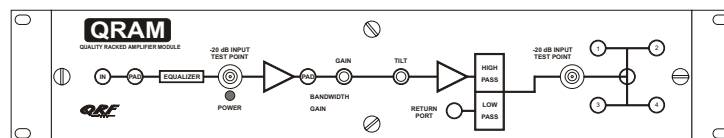
- **QRAM 550 & 750/860 MHz Amplifiers**
  - a. Technology thru feedforward
  - b. Plug-in output duplex filter
- **QRAM 200 MHz Headend Amplifier**
  - a. 5 - 30 MHz, 5 - 40 MHz or more
  - b. 21 thru 38 dB push-pull gain
- **Variable gain & tilt controls**
- **Plug-in Splitters & Dir. Coupler T.P.**
- **U.L. Transformer & DC Powering**

The **QRAM750** is a 750 MHz rack-mount amplifier designed for modern headend applications. These 3.5 x 19-inch rack-mount amplifiers provide power-doubled, **quadra-power** and **750 or 860 MHz feedforward** RF output technology. Where 550 MHz is satisfactory, our **QRAM550** amplifier offers the same configurations at a lower total cost. Regardless of the application, laser driver or headend post amplifier, virtual transparency may be achieved.

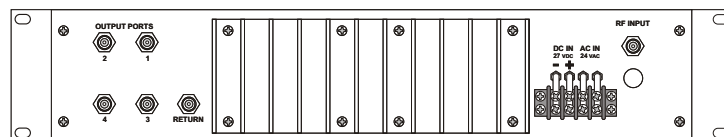
#### QRAM200 (5 to 30, 5 to 40, mid or high split)

The rack mounted **QRAM200** is a headend return amplifier with 200 MHz maximum bandwidth. The **QRAM200** will accommodate CATV or Local Area Network return signals (5 to 30 MHz, 5 to 40 MHz, mid split or high split). This push-pull amplifier is also available with gains of 21, 31, 35 or 38 dB. The **QRAM200** can also be used for the 40 to 50 MHz band for I.F. signal distribution with video/audio override systems.

To accommodate wide ranges of signal conditions, plug-in input pads, plug-in input equalizers, interstage gain controls and interstage tilt controls have been provided in the **QRAM** design. For **QRAM 550, 750 & 860 MHz**, an optional output duplex filter may be inserted. A separate port has been provided for retrieving the 5 MHz to 40 MHz return path signals.



QRAM Front View



QRAM Rear View



QRAM Top View

The optional internal splitters provide two or four independent output ports which can be set to different signal levels w/SXP pads (not for 870 MHz splitters). Order the **QRAM750-2S**, **QRAM750-4S**, **QRAM870-2S**, **QRAM870-4S**, or use the new **QRAM870-20TP**, a -20 dB plug-in test point to feed status monitoring systems. This 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 and options are accessible from the front side of the amplifier.

All versions of **QRAM** can now have additional RFI shielding. Please specify **QRAM-RFI-OPTION** as a separate line item on purchase orders for this extra cost feature.

The **QRAM** utilizes an external 120 to 26 VAC Class II, 60 Hz power transformer. Additional DC powering ports (+27 VDC) have been provided for those applications which require alternate or backup power. This accomplishes two objectives:

- A. Heat reduction within the amplifier housing.
- B. Use of Class II low-voltage powering

**QRF continues to provide flexible and state-of-the-art technology at the lowest possible price.**

## GRAM SPECIFICATIONS

Model	GRAM200	GRAM550			GRAM750			GRAM860	
Bandwidth	5 to 200 MHz	40 to 550 MHz			40 to 750 MHz			40 to 860 MHz	
Freq. Response*	+/- .25 dB	+/- .25 dB			+/- .40 dB			± .5 dB	
Gain Cont. Range*	6 dB	6 dB			6 dB			6 dB	
Slope Cont. Range*	6 dB	6 dB			6 dB			6 dB	
Return Loss	16 dB	16 dB			14 dB			14 dB	
Test Points	- 20 +/- 1 dB	- 20 +/- 1 dB			- 20, ±1 dB			±1.5 dB	
Typical Output Levels	45 dBmV	39 dBmV			38 dBmV		43 dBmV	38 dBmV	43 dBmV
Technology	Push-Pull	Pwr Dbl	Quadra	Feedfwd	Pwr Dbl	Quadra	Feedfwd	Quadra	Feedfwd
Gains Available (dB)	21,31,35,38	27,31,35	27,31,35	(18,22),33	29, 33	(17),27,31	30, 34	23, 27, 31	30, 34
Channel Loading	4, (26)	77	77	77	110	110	110	128	128
<b>Distortions:</b>									
Cross Mod. (-dB)	84, (68)	76	81	79	75	79	N/A	76	N/A
Comp. Tr. Bt. (-dB)	91, (75)	73	78	84	72	76	75	71	68
Comp. 2nd Ord. (-dB)	N/S	66	69	74	73	74	71	71	69
Noise Figure (dB)	6.0	8.5	8.5	(11.5), 8.5	7.0	(10.5), 8.0	8.0	8.5	8.5
DC Cur. @ 24 VDC (Amps)	.44	.66	.88	(.66), .88	.66	(.88), 1.10	.88	1.10	.88
Power Dissipation (Watts)**	20	27	44	(27), 35	27	(35), 44	35	44	35

\* The QRAM750-17Q and QRAM550-22F do not have gain or tilt controls. The frequency response is +/- 0.5 dB.

\*\* Power dissipation is measured at 120 VAC. Multiple gain models show minimum specifications, call for exact data.

### ORDERING INFORMATION:

#### GRAM 750 - 30 F

1 2 3 4

1: Amplifier Model

2: Bandwidth

860 = 860 MHz

750 = 750 MHz

550 = 550 MHz

200 = 200 MHz

3: Gain (See chart above)

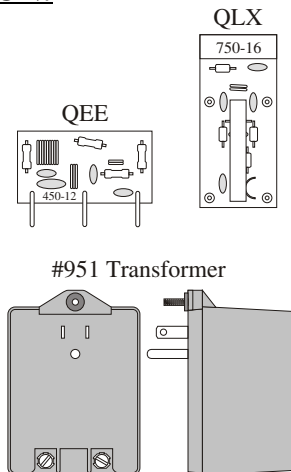
4: Output technology

Blank = Push-pull

P = Power Double

Q = Quadra Power

F = Feedforward



### OPTIONS:

GRAM750-2S ..... Two way splitter, uses SXP (plain)

GRAM750-4S ..... Four way splitter, uses SXP (plain)

GRAM870-2S ..... Two way splitter, 870 MHz

GRAM870-4S ..... Four way splitter, 870 MHz

GRAM870-20TP ..... -20 test point, rear output port #3

(Only ONE of the above options may be used.)

GRAM870-40/54-DF ..... Diplex filter, 5 MHz to 40 MHz.

GRAM870-62/85-DF ..... Diplex filter, 5 MHz to 62 MHz.

GRAM-RFI-OPTION ..... Front cover RFI gasket

QLX750-xx ..... 750 or 860 MHz equalizers,  
(Used in QRAM750) 0 dB through 24 dB, 2 dB steps.

QEE(freq), dB ..... 450 MHz -- 6, 12, 18, 24 dB  
(Used in QRAM550) 550 MHz, 3 dB Steps, 0 to 24 dB

SXP-TY-\*\* ..... Plug-in pad, 0 - 20 dB, 1 dB steps

SXP-\*\* ..... Pad used in 750 MHz splitters.

#951 ..... 120 volts to 26 volts, 60 Hz AC  
(Order for spares) power transformer, 50 VA rating

Dimensions: 19" x 3.5" x 3.4"

Shipping Weight: 7.0 lbs.