High Power Amplifier, Solid State Broadband
20-1000MHz, 50dB Gain, N Female Connectors, 100 Watts

RAMP-20-1000M-50d-Nf-100W-e7

This amplifier utilizes high power push-pull MOSFET devices that provide high gain, wide dynamic range, low distortions and good linearity

- Solid-state linear design
- Instantaneous ultra broadband
- Standard front panel manual gain adjust
- I Built-in control, monitoring & protection circuits
- 50 ohm input and output impedance
- Highly rugged and ruggedness

ELECTRICAL SPECIFICATIONS @ 115 VAC, 25°C, 50Ω system

Parameter	Symbol	Min	Typ	Max	Unit
Frequency Response	BW	20		1000	MHz
Power Output CW	PSAT	100			Watt
Output Power @ 1 dB Gain Compression Point	P1dB	60	80		Watt
Power Gain @ 1 dB Gain Compression Point	G1dB	50			dB
Input Power for Rated Pout	PIN		0		dBm
Small Signal Gain Flatness	ΔG			±2.0	dB
Gain Adjustment Range	FGA	25	30		dB
Input Return Loss	S11			-10	dB
Noise Figure	NF			10	dB
Third Order Intercept Point	IP3		+57		dBm
Harmonics @ P1 dB Gain Compression Point	H		-20		dBc
Spurious Signals	Spur		-70	-60	dBc
Supply Voltage (single phase)	VAC	100		240	Volt
Power Consumption	PD			1800	Watt

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions	19x5.25x22	Inch	Max
Weight	50	lb.	Max
RF Connectors, Input/Output	Type-N female front or rear panel		
Cooling	Built in forced-air system		

ENVIRONMENTAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	Tc	0		50	°C
Non-operating Temperature	Tstg	-40		+85	°C
Relative Humidity (non-condensing)	RH			95	%
Altitude (MIL-STD-810F Method 500.4)	ALT	10,000		30,000	Feet
Shock / Vibration (MIL-STD-810F Method 516.5)	SH / VI	Airborne			

PROTECTIONS

Input Overdrive	+10 dBm	Max
Load VSWR @ Pout = 80W	∞:1 @ any angle & magnitude	Nom
Thermal Overload	85°C shutdown	Max

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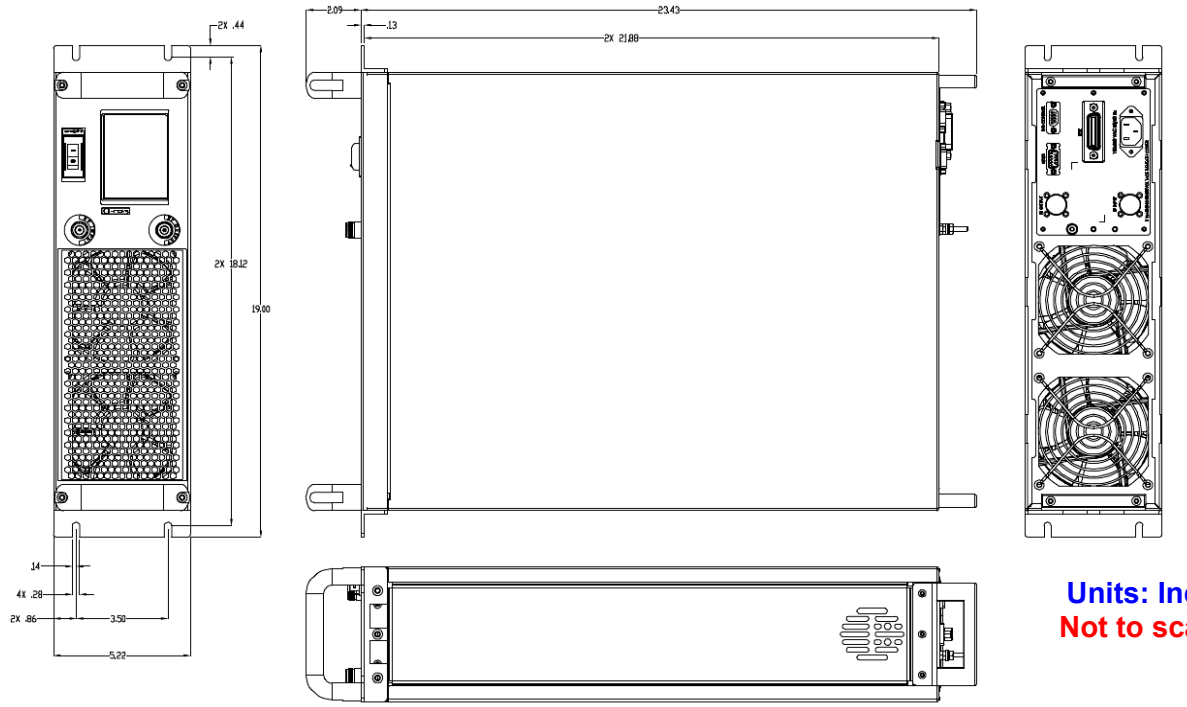
SELECTED AVAILABLE OPTIONS

Option	Description
FGA	Front panel manual gain adjustment 10 turns
LCD	**Local:** Front panel touch screen LCD controller including Fwd/Rev Power indication (dB or Watt scale), Gain Adjustment, ALC Fast/Slow & On/Off, Standby mode, Fault indication. **Remote:** Rear panel HPIB IEEE-488.2 or full duplex RS232 serial interface. **Note: Output Power is lowered by 0.5 - 0.75dB with this option.**
FCN	Front Panel Type-N
RCN	Rear Panel Type-N

INTERFACE CONNECTOR – D-Sub, 9-Pin

Pin #	Description	Specifications
1	Forward Test Point	Analog Voltage 0-5 V Test Point relative to Forward Power Output
2	Reverse Test Point	Analog Voltage 0-5 V Test Point relative to Reverse Power
3	+5 V Test Point	Measurement Voltage Output 5 V
4	VVA Test Point	VVA Gain Control – 5.6 V Not Connected with Option LCD
5	EXT Shutdown	Disable: TTL High (5 V) Enable: TTL Low (0 V) or Open or Ground
6	+12 V (Test Point)	Output 12 V Test Point
7	PS+ (Test Point)	Unit supply voltage 27 V Test Point
8, 9	GND	Ground

OUTLINE DRAWING



Units: Inch
Not to scale

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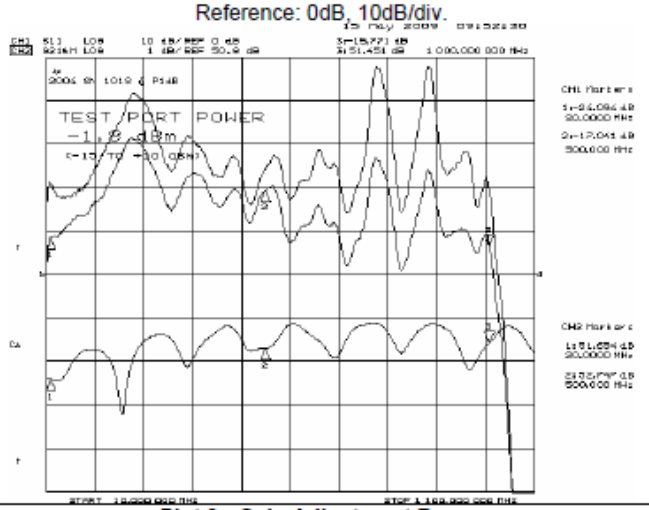
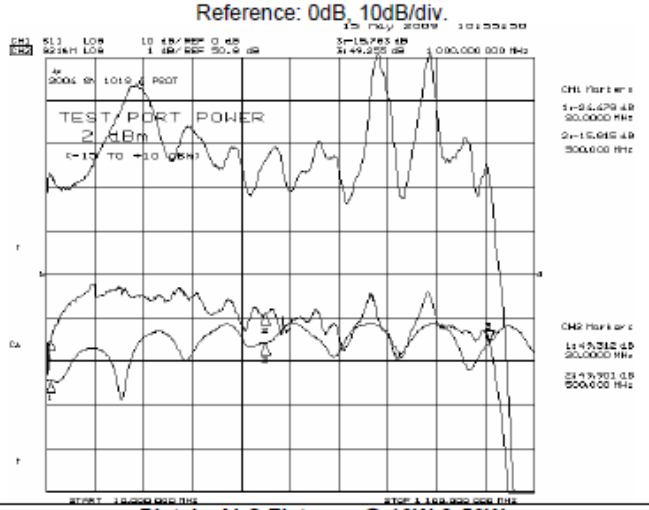
TYPICAL PERFORMANCE PLOTS

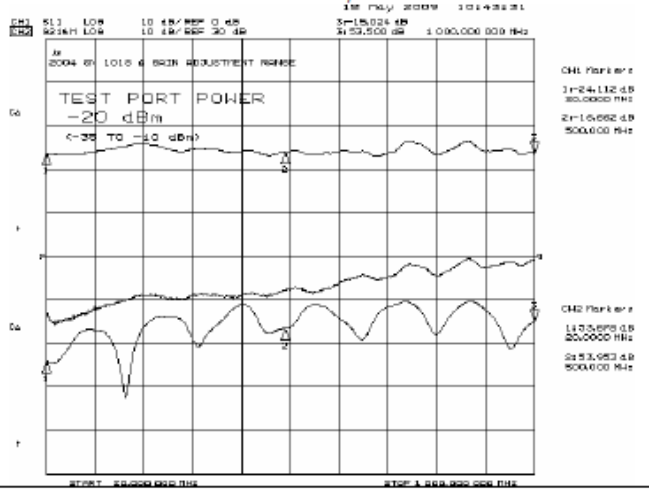
Plots 1 - Small Signal and P_{1dB} Gain
Top Curve: Small Signal Gain @ P_{IN} = -20dBm
Middle Curve: Power Gain @ P_{1dB}, P_{IN} = -1.8dBm
Reference: 50.8dB, 1dB/div.
Bottom Curve: Input Return Loss
Reference: 0dB, 10dB/div.



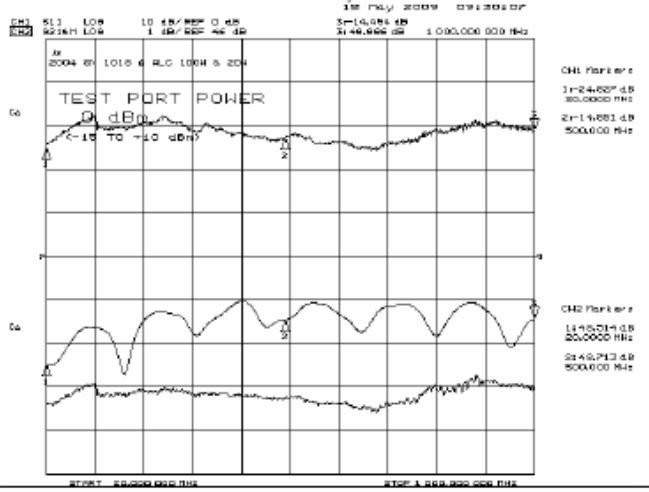
Plot 2 - Small Signal and P_{SAT}
Top Curve: Small Signal Gain @ P_{IN} = -20dBm
Middle Curve: P_{SAT} @ P_{IN} = 2.0dBm
Reference: 50.8dB, 1dB/div.
Bottom Curve: Input Return Loss
Reference: 0dB, 10dB/div.



Plot 3 - Gain Adjustment Range
Top Curve: Maximum Gain @ P_{IN} = -20dBm
Middle Curve: VVA @ Minimum Gain
Reference: 30dB, 10dB/div.
Bottom Curve: Input Return Loss
Reference: 0dB, 10dB/div.



Plot 4 - ALC Flatness @ 10W & 50W
Top Curve: ALC @ 50W, P_{IN} = 0dBm
Middle Curve: ALC @ 10W, P_{IN} = 0dBm
Reference: 46dB, 1dB/div.
Bottom Curve: Input Return Loss
Reference: 0dB, 10dB/div.



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