RADITEK INC.

RoHS COMPLIANT

code-e7

High Power Amplifier, Solid State, Broadband

80-1000MHz, 56dB Gain, N Female Connectors, 500 Watts

RAMP-80-1000M-56d-N(f)-500W-e7

This amplifier utilizes high power push pull LDMOS devices that provide high gain, wide dynamic range and good linearity.

- Solid-state linear design
- Instantaneous ultra broadband
- Three drawers modular design
- Standard front panel manual gain adjust
- Built-in control, monitoring & protection Circuits
- Suitable for most modulation types (contact factory for details)
- 50 ohm input/output impedance
- High reliability and ruggedness

ELECTRICAL SPECIFICATIONS @ 208 VAC, 25°C, 50Ω system

Parameter	Symbol	Min	Typ	Max	Unit
Frequency Response	BW	80		1000	MHz
Power Output CW	PSAT	500			Watt
Output Power @ 1 dB Gain Compression Point	P1dB	300			Watt
Power Gain @ 1 dB Gain Compression Point	G1dB	56			dB
Input Power for Rated Pout	PIN		0		dBm
Gain Flatness	ΔG			±2.0	dB
Input Return Loss	S11			-10	dB
Noise Figure	NF		10		dB
Third Order Intercept Point	IP3		+69		dBm
Harmonics @ 1dB Gain Compression Point 2^{nd} / 3^{rd}			-35 / -20	-13	
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage	VAC	180		260	Volt
AC Power Consumption @ 500 W CW	PD			6000	Watt

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions W x H x D/ Weight with enclosure	**21.79"x33.53"x30.71" / 400 lb.**		Max
Dimensions W x H x D / Weight w/o enclosure	19"x26.25"x22" / 300 lb.		Typ
RF Connectors FCN or RCN option	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	5:1 @ any angle & magnitude	Nom
Thermal Overload	85°C shutdown	Max

WORLD HQ: 1702L Meridian Ave. Suite 127, San Jose, Ca 95125, U.S.A.
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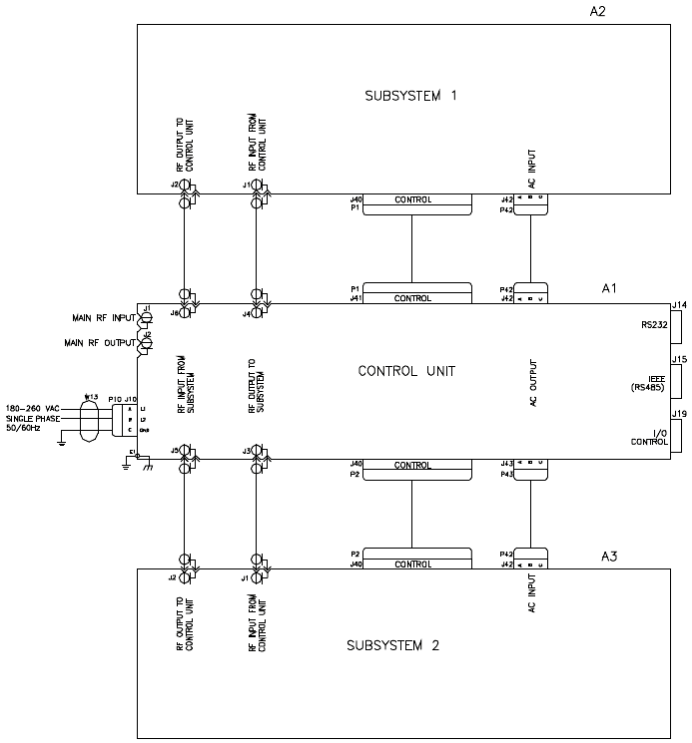
SELECTED AVAILABLE OPTIONS

Option	Description
FGA	Front panel 10 turns manual gain adjustment.
LCD	Touch screen Digital Display, including Fwd/Rev Power indication (dB or Watt scale), Gain Adjustment, ALC Fast/Slow, On/Off, Standby mode, Fault indication, Rear panel HPIB IEEE-488.2 and a Full Duplex RS232 remote interface. **Note: Output Power is lowered by 0.5-0.75 dB with this option.**
FCN	Front Panel Type-N female
RCN	Rear Panel Type-N female
ACB	180 - 260VAC, single phase
ACC	208 VAC, 3-Phase

I/O 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	N/C	Reserved
5	EXT Shutdown	Disable: TTL High (5 V) Enable: TTL Low (0 V) or Open or Ground
6	+12 V (Test Point)	Measurement Voltage Output 12 V Test Point
7	PS+ (Test Point)	Measurement Voltage Output 28 V Test Point
8, 9	GND	Ground

BLOCK DIAGRAM



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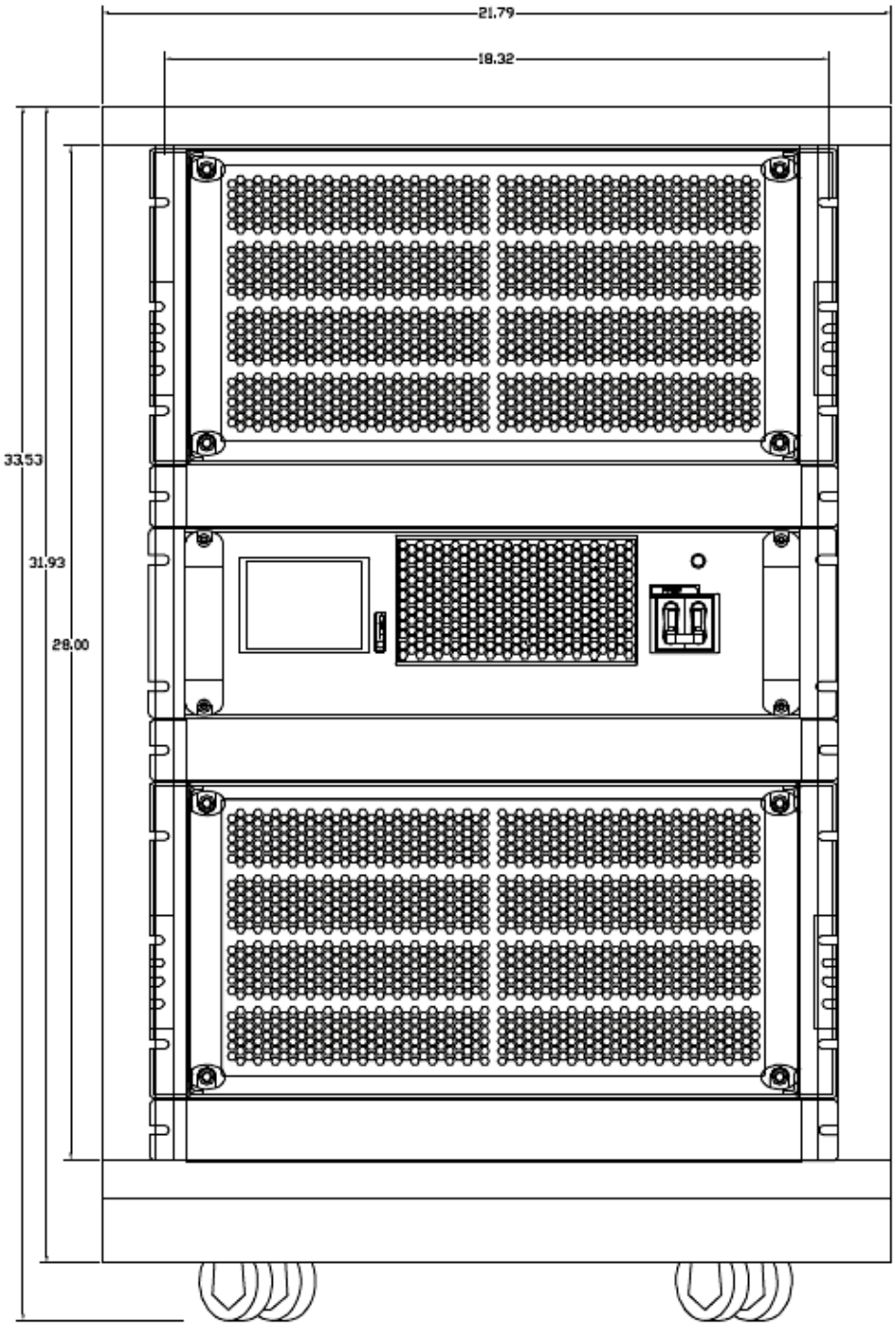
OUTLINE DRAWING – FRONT VIEW



Units: Inch
Not to scale

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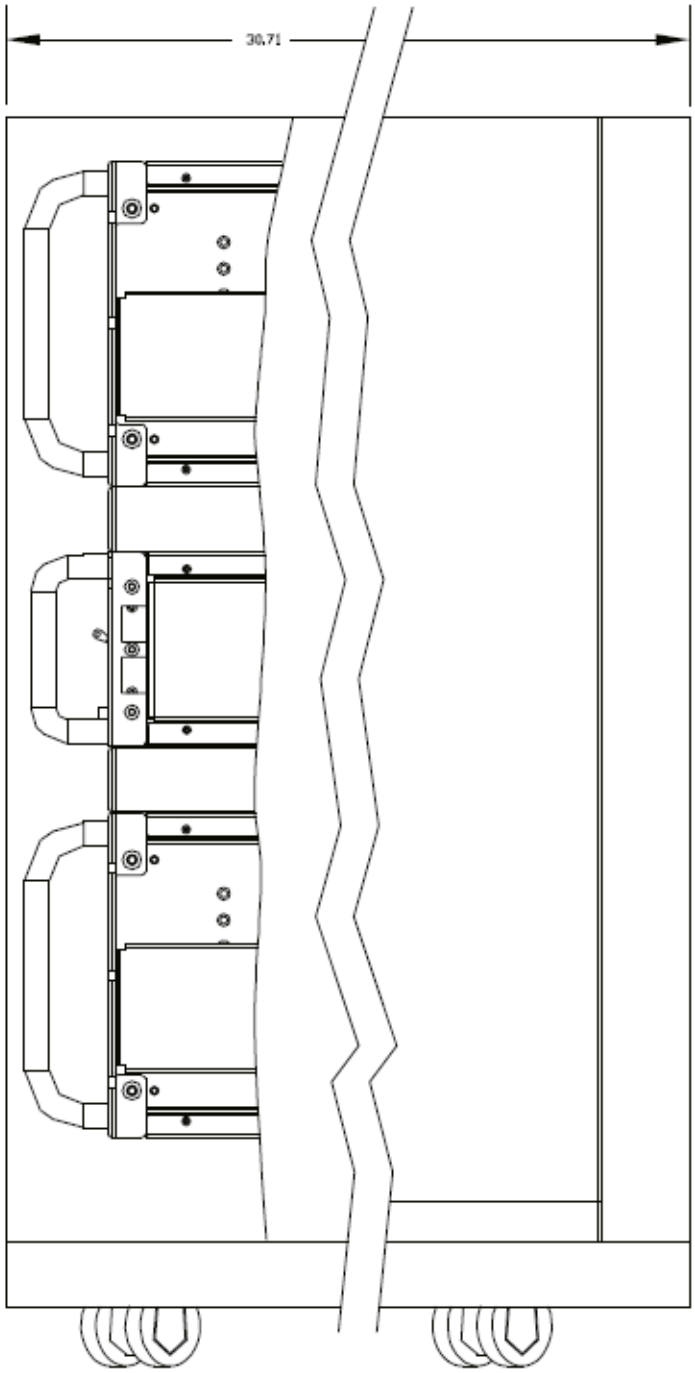
OUTLINE DRAWING – SIDE VIEW



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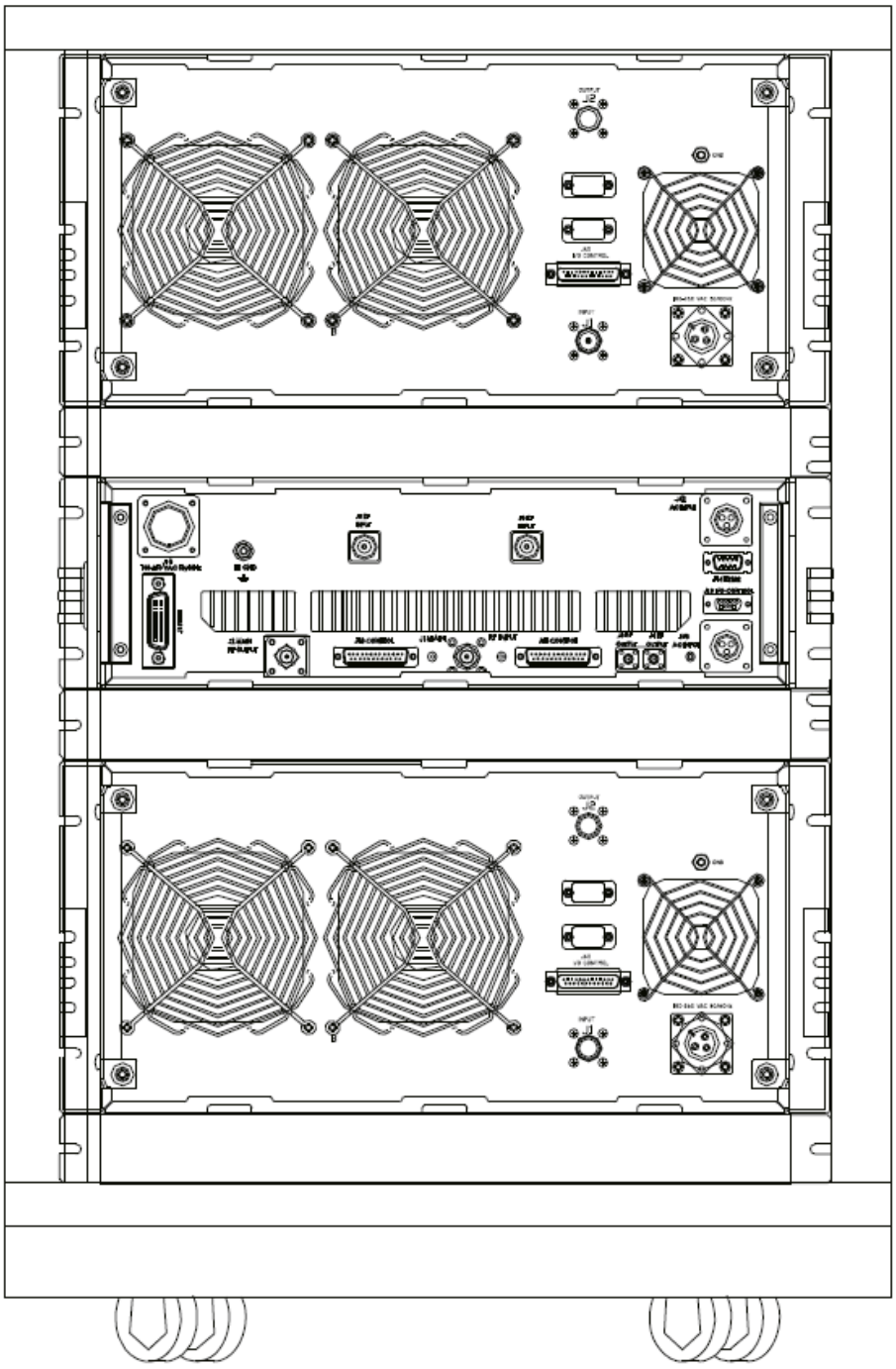
OUTLINE DRAWING – REAR VIEW



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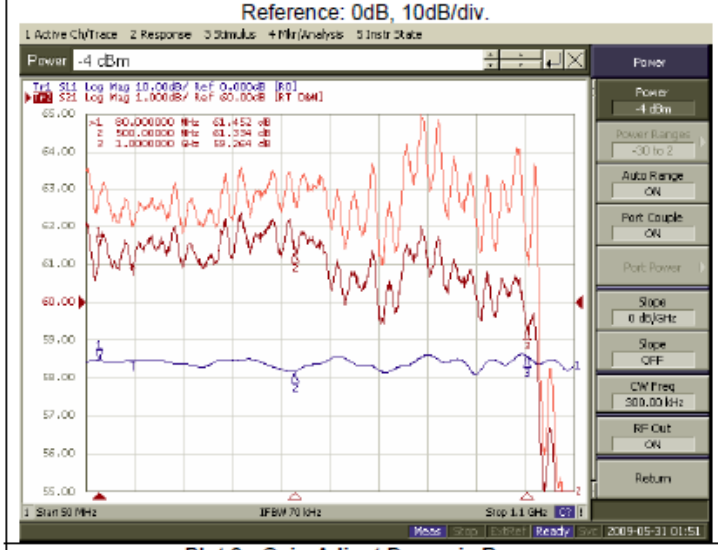
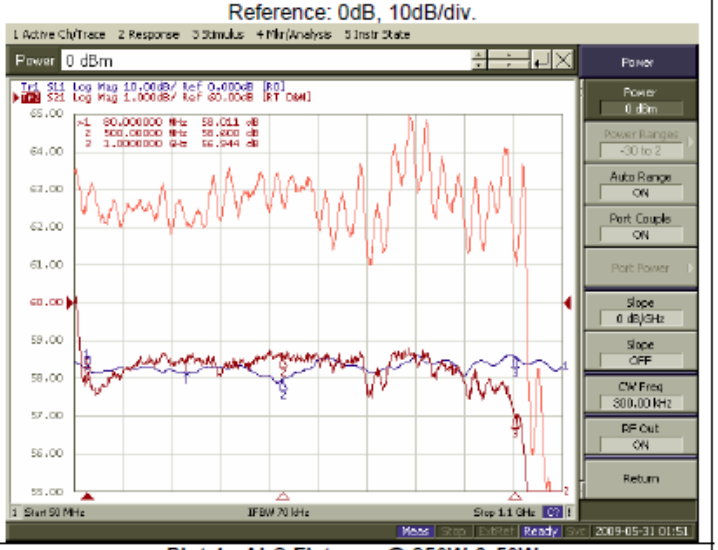
Typical Performance Plots

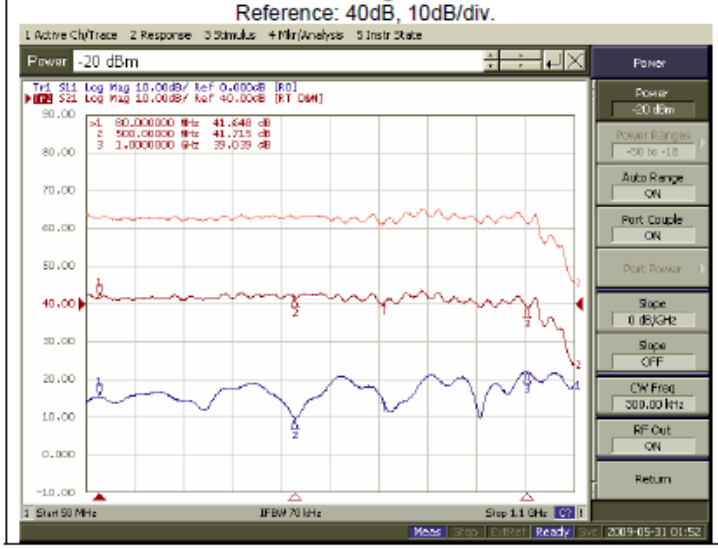
Plots 1 - Small Signal and P_{1dB} Gain
Top Curve: Small Signal Gain @ P_{IN} = -20dBm
Middle Curve: Power Gain @ P_{1dB}, P_{IN} = -4.0dBm
Reference: 60dB, 1dB/div.
Bottom Curve: Input VSWR
Reference: 0dB, 10dB/div.



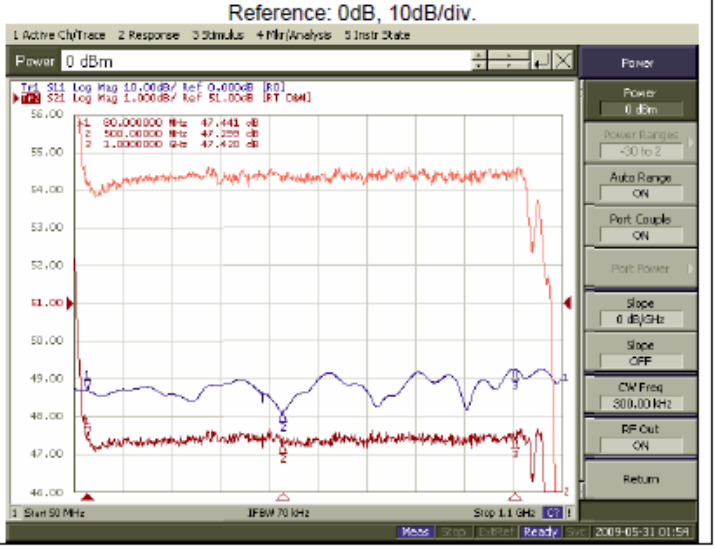
Plot 2 - Small Signal and P_{SAT}
Top Curve: Small Signal Gain @ P_{IN} = -20dBm
Middle Curve: P_{SAT} @ P_{IN} = 0.0dBm
Reference: 60dB, 1dB/div.
Bottom Curve: Input VSWR
Reference: 0dB, 10dB/div.



Plot 3 - Gain Adjust Dynamic Range
Top Curve: Maximum Gain @ P_{IN} = -20dBm
Bottom Curve: Input VSWR
Reference: 0dB, 40dB/Div
Middle Curve: VVA @ Minimum Gain
Reference: 40dB, 10dB/div.



Plot 4 - ALC Flatness @ 250W & 50W
Top Curve: ALC @ 250W, P_{IN} = 0dBm
Bottom Curve: ALC @ 50W, P_{IN} = 0dBm
Reference: 51dB, 1dB/div.
Middle Curve: Input VSWR
Reference: 0dB, 10dB/div.



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