Amplifiers

Model 757

Features:

- 230 kW min 150 - 500 MHz
- 270 kW typical 150-500 MHz
- Class AB design
- Degradation Mode
- Full VSWR tolerant
- Built-in fault monitoring, logging and protection
- Touch screen display
- Forward and reverse power monitoring
- VSWR monitor with user settable limit
- User settable ALC
- Remote control: Ethernet, USB, GPIB, fiber-optic serial, RS-232
- Modular design for easy maintenance and service
- CE & RoHS Compliant
- High Efficiency

Applications:

- EMC Test applications
- HIRF & HERO
- RADAR simulation
- Science

To view our full amplifier portfolio visit: www.arworld.us

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ISO 9001:2015 Certified
ISO 17025 :2017 Accredited

The Model 757 is a solid-state, Class AB design, self-contained, air-cooled, broadband power amplifier designed for pulse applications at low duty factors where instantaneous bandwidth and high gain are required. It will provide a minimum of 230 kilowatts across its operating bandwidth of 150 - 500MHz.

The Model 757 is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a color LCD touch screen and a single rotary knob to offer status reporting and control capability. The display provides Forward Power and Reflected Power values plus amplifier status. Special features include a gain control and RF output level protection.

Protection is provided from various failure conditions including over-temperature and power supply faults. A front panel display indicates the operational status and fault conditions. All amplifier control functions and status indications are available remotely in GPIB/IEEE-488 format, RS-232 serial and Ethernet. The bus interface connector is located on the back panel and positive control of local or remote operation is assured by a keylock on the front panel of the amplifier.

The export classification for this equipment is 3A999.d. These commodities, technology or software are controlled for export in accordance with the U.S. Export Administration Regulations. Diversion contrary to U.S. law is prohibited.

Model 757

- 270 kW
- 150 - 500 MHz

Electrical Specifications

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Rated Power Output 150 – 500 MHz	Psat	230	270	300	kW
Input for Rated Output	Pin			1	mW
				0	dBm
Operating Frequency	BW	150		500	MHz
Gain (Small Signal)		85	87	89	dB
Gain Reduction Adjustment (when below compression)		20			dB
Gain flatness	ΔG		±1	±2	dB
Input Impedance	Z in		50		Ohm
			1.5:1	≤2.0:1	VSWR
Output Impedance	Z out		50		Ohm
Noise Figure	NF			≤8	dB
Harmonic Distortion at Rated Power	H2, H3	-30	-20	-18	dBc
Spurious				≤-60	dBc
Power Consumption at Rated Power 10us – 1 kHz	PD		25	27	kVA
Modulation	AM, FM or Pulse				

Absolute Maximum Rating

Exceeding any of the limits listed here may result in permanent damage to the device.

Parameter	Minimum	Typical	Maximum	Unit
RF Drive		0	+13	dBm
RF Load Withstand any VSWR from short to open circuit, with a feedback loop above 65 kW reflected.		1:1	3:1	VSWR
RF Load Reflected Will operate without damage or oscillation when connected to any load impedance without the aid of foldback circuitry up to 65 kW reflected. Alarm and protection above 65 kW reflected power (VSWR ≥3:1)			25	%
AC Power (3-Phase, Wye 5-wire)	380	400	415	VAC
AC Power	47	60	63	Hz
Ambient Temperature	+5	+25	+40	°C
Storage Temperature	-20		+50	°C
Altitude			1000	M
Shock/Vibration	MIL-STD-810G Method 514 and 516			

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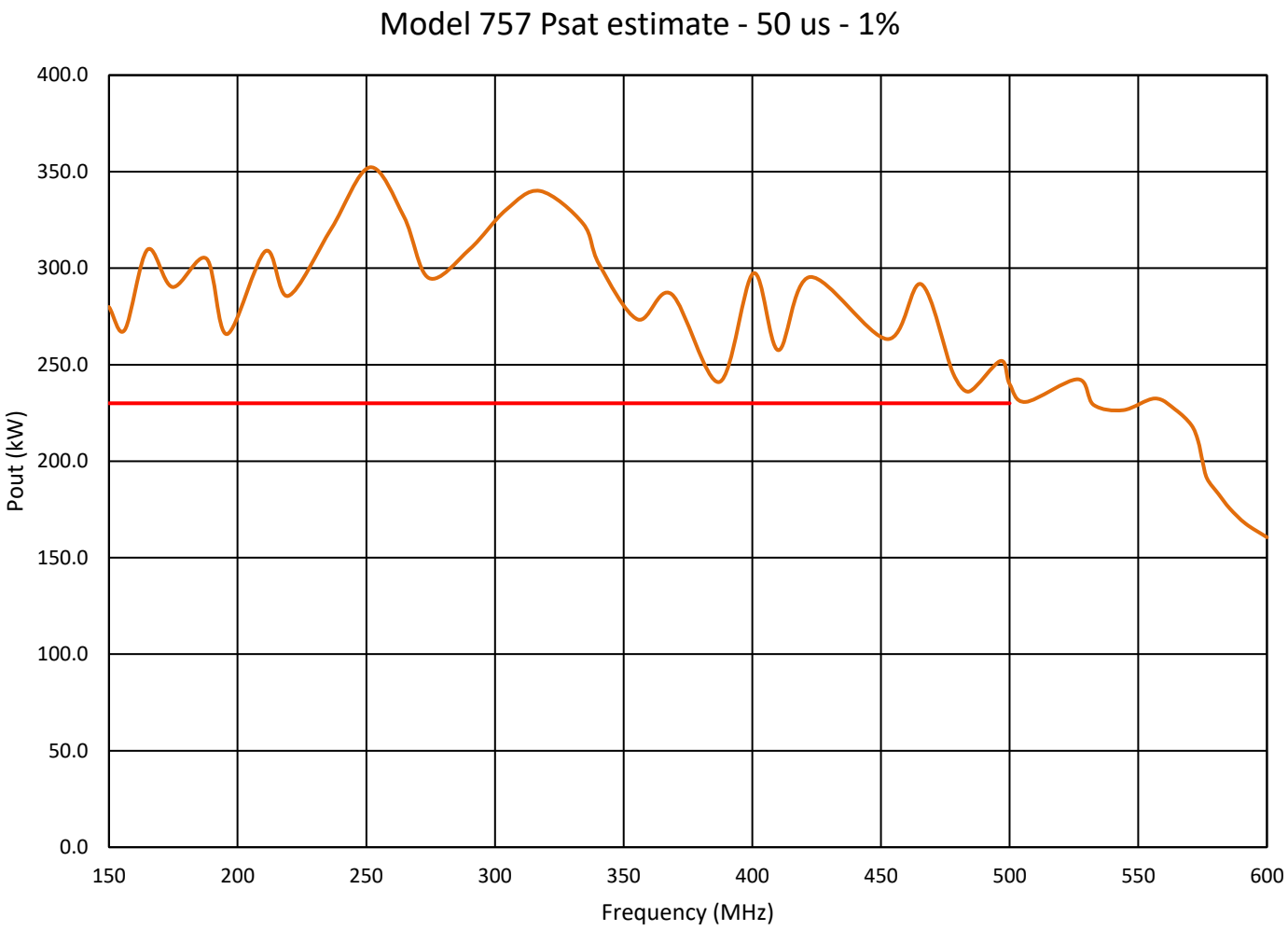
Mechanical Specifications		
Parameters	**Typical**	**Unit**
Dimensions (W x H x D), 9x 45U Racks	518 x 213.8 x 103	cm
	235 x 84.2 x 40.6	in
Weight	7200	kg
	15,900	lb
Cooling	Forced air (self-contained fans) Air flow 1400 liters per second Δt = +15°C (typical)	
Acoustical Noise Measured @ 1 Meter	75	dBA

Regulatory Compliance	
Type	**Standard**
EMC	EN 61326-1
Safety	UL 61010-1
	CAN/CSA C22.2 #61010-1
	CENELEC EN 61010-1
RoHS	Directive 2011/65/EU
Export	EAR99

Connector Interfaces	
Function	**Type**
RF Input	N, female, rear (50 Ω)
RF Output	3-1/8 EIA, (50 Ω)
RF Sample	N, female, rear (50 Ω) (80dB typical)
Pulse Input	BNC, rear
IEEE-488	24-pin
RS-232	9 pin subminiature D
Ethernet	RJ-45
RS-232 (fiber optic)	ST
USB 2.0 Type B	Type B
Interlock	15-pin subminiature D
AC Power	3 phases screw terminal block with protective cover and cable attachment

Pulse Capability	
Parameter	**Value**
Pulse Width	50 µs maximum
Pulse Droop-50 µs pulse@ 270 kW	< 0.5 dB
Pulse Rate (PRF)	1000 Hz maximum
Duty Cycle	1% maximum
RF Rise and Fall	30 ns maximum (10 - 90 %) (Internal RF switch)
Delay/Trigg	12 µs from pulse input to RF 90%
Pulse Width Distortion	±25 ns maximum (difference between Pulse input gate and RF pulse)
Pulse Off Isolation	60 dB minimum
Pulse Trigger	+5 V nominal / 50 ohms internal termination



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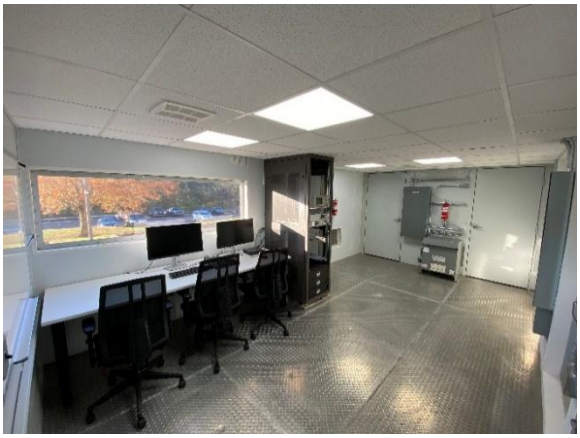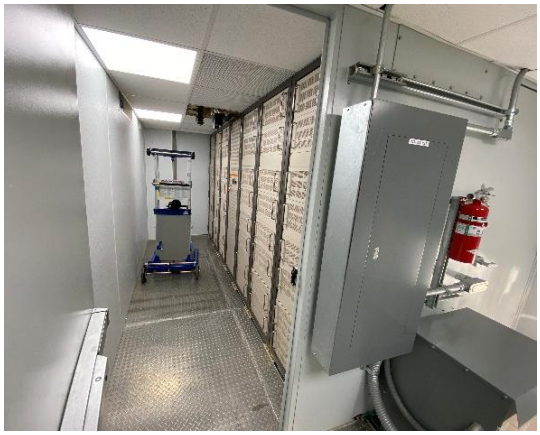
AR can propose the amplifier installed in a Marine Container with needed electrical and mechanical options. List of available options on request.