



HF Solid State Power Amplifier

700 -1000MHz

5KW CW/Pulsed Power

Special Features include:

- Built in divider and combiner.
- 1 Driver and 32 SSPAs, each at 280W
- Remote monitoring with BITE (Built-In Test Equipment)



This is a high power, 700 to 1000MHz, Amplifier, that is one of a family of highly efficient, linear Class A/AB amplifier, that uses the latest, state of the art LDMOS and latest GaN (Gallium Nitride) technology.

This amplifier is capable of delivering pulsed or continuous (CW) operation, at up to 5KW output.

The SSPA/PSUs are controlled by a microcontroller that monitors all the critical functions. This microcontroller has the optional ability to receive requests and data from the driving exciter to pre-tune the amplifier (at any specific frequency) for greatest efficiency and signal purity.

The microcontroller also enables *BITE* (Built In Test Equipment) functions, providing continuous SSPA monitoring of all critical operating parameters that can be read with an Ethernet connection. Monitoring of the amplifier may be done by the customer over the Internet. In addition, it incorporates front panel metering for the SSPA voltages and current for each of the 32 x SSPA modules (and a driver).

Order Examples: RAMP-700-1000M-Sf-67d220Vac-5kW-CW-d16

Option:

Pulsed

Description: (Amplifier, HF Band (700-1000MHz), 67dB Gain, 220Volt AC, 5kW Continuous, Single Phase)

HF Power Amplifier 700MHz -1GHz, 5KW CW/Pulsed Power

Specifications	
Frequency Range	700-1000 MHz
Output Power	5KW PEP(Peak Envelope Power)
Duty cycle	20% max (1 μ s pulse)
Gain	67dB (0dBm in), input attenuator optional (to meet lower gain).
Input Power	0 dBm for Full Output Power, 1mW average for rated power output
Input Impedance	50 Ω (1.5:1 VSWR)
Spurious Emissions:	<-60dBc within \pm 5% of operating frequency
Harmonic Levels:	<-65 dBc at rated power (into a 50 Ω load)
3rd order IMD:	< 32 dBc below PEP
RF Noise	<- 75 dBc/Hz below the rated 5KW output signal
Power (Built in EMI and surge protection)	
Power Supply	Modular (to power 32 x SSPA modules and 1 driver etc)
AC Line Input (Single phase)	1 phase 220 VAC ~25KW
Internal power supply output	48VDC 480A (in CW mode)
Power Supply Efficiency	92% typically
Monitors.. Monitoring/control:	
Indicator LEDs	Front Panel Monitoring and remote monitoring via Built in Test Equipment (BITE)
Control	RS232/ RS422/RS485 (standard) Ethernet Read only,
LCD readout	RF power (out), Module temperature, DC supply voltage
Monitor Interface	Transmitter RS232/485, USB interface Optional and Ethernet (read only)
Alarms	
Over temp; Over current; excess VSWR	
Enclosures Size and Weight	
30 x 20.98 x 31.49 (unit 1)	70.31" (H) x 31.5" (D) x 23.0" (W) , Standard 19" rack
L x W x D (unit 2)	30" (H) x 20.98" (D) x 31.49" (W) , Standard 19" rack
Weight	< 800 LBs (unit 1), < 200 LBs (unit 2)
Interfaces	
TX Interface	Transmitter RS232/485/USB Note: USB with an adapter.
Monitoring Interface	Ethernet (read only with RS485); Ethernet is interactive, if no RS485.
Connectors	RF In (Type SMA female) RF Out (7/16" standard) others as options
Monitor & Control	RS232/ RS485 (standard) USB (with an adapter), Ethernet (Option)
Environmental	
Altitude:	Operating: 0-10,000 ft. ASL (not airborne) Non-operating: 0-50,000 ft
Temperature	Operating over 0-50°C at sea level Operating: maximum temp. de-rated linearly to + 20 °C at 10,000 ft Non operating: -40 to + 60°C
Humidity	0-95% relative humidity, non-condensing
Cooling	Internal Forced Air Cooling (from bottom to top of rack. Requires ~4inches headroom above the rack to exhaust hot air.) Ideally 4" at base of Rack for air flow