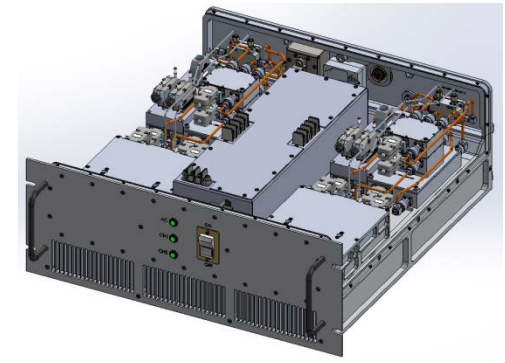
Model Number: QBS-620

200W Dual Channel, Rack Mount Power Amplifier

Power Amplifier Assembly using GaN Technology



Features

- 200W Peak Output Power
- Typical frequency range of 30-512 MHz
- Broadband CW, FM, FSK, PSK, CPM, AM Modulation HPA
- Integrated Harmonic Switched Filter Bank and AC/DC Power Supply
- Switched harmonic filters to ensure 60 dBc harmonic levels
- Shipboard and Military Communications

API Technologies' Model QBS-620 is a 200W peak output power, solid state amplifier designed in a rack mount configuration for use in communications applications. Operating from a +28VDC isolated supply, the QBS-620 offers 55dB gain with performance up to 200 watts output. The unit incorporates a high power switched harmonic filter bank developed and manufactured by API Technologies.

This unit measures 19"(L) x 20"(W) x 7"(H).

Technical Specifications @ 25°C

Parameter	Specification
Frequency	30-512 MHz
Output Power	200W
Input Power RF Power	-4.5 to +10dBm
Duty Cycle	100% @ +50°C
Gain	55 dB
Efficiency	>16%
Harmonic Distortion	10% max @ 90% modulation
Spurious (non-harmonic)	60 dBc
Input / Output Impedance	1.5:1 at 50 ohms
Frequency Switching	Between Bands: <15 µsec Within Bands: <25 µsec
DC Prime Power	+28VDC
Power Control Limits	Forward power leveling; 0.1dB increments; ±0.5 dB accuracy

Mechanical Specifications

Parameter	Specification
Case Dimensions	19" (L) x 20" (W) x 7" (H)
Material	Aluminum (6061-T6) (TR)
Finish	Clear Iridite per MIL-DTL-SS41, Type II, Class 3
Connectors	
RF Input	MIL-STD-38999 Connectors
RF Output	MIL-STD-38999 Connectors
Supply Voltage	Voltage: 115V ± 20% Current: 12.94 – 19.41 Amps Frequency: 47-63 Hz Efficiency: 84%
Control / Interface	SCI/SPI Interface
Weight	65 lbs. (max)
Grounding	Chassis

Environmental Specifications

Ambient Operating Temperature	0-50°C	—
Absolute Max Baseplate Temperature	+85°C	—
Storage Temperature	-40 to 71°C, <95% humidity	—
Cooling	Forced air with intake at front, exhaust at rear	—
Relative Humidity	0-95%	Non-condensing
Acoustic Noise	<75 dB(A)	

Miscellaneous

MTBF	20,000 hrs, MIL-HBK-338, BITE to determine system readiness in < 30 seconds	
System Safety	IAW Guideline 1 of MIL-HDBK-454A	
EMC Requirements	MIL-STD-461F	Comply

Outline Drawing