



DESCRIPTION

The PA220S is a solid-state, UHF power amplifier intended for use with S-Band telemetry transmitters when greater transmission power is required. L-3 Communications Telemetry-East's T602S, ST802S and ST2002S-Band transmitters can be mounted directly on top of, and electrically connected to, the PA220S. An efficient, compact highpower transmitter is the result. Due to the broad-bandwidth response of the PA220S Amplifier, it can be used with the assigned frequency transmitter within a 50 MHz Band; wider bandwidths are optional. PA220S performance specifications are in accordance with the latest IRIG standards.

PA220S output filtering provides spectral purity; output isolation prevents damage from operation into shorted or open loads. A power line regulator and reverse polarity diode provide line protection and assure uniform performance over the range of input voltages.

PA220S enclosures are milled nickel-plated aluminum alloy. The connector configuration shown in the outline drawing is standard; customer-specified configurations will be provided as an option.

FEATURES

- 20 Watt Output from Two-Watt Transmitters
- Video or Telemetry Applications
- Useable with Single-frequency (T602S) and Multifrequency (ST2002S, ST802S Synthesized) Transmitters
- Direct-Mount compatibility with T602S, ST802S, ST2002S Transmitters
- State-of-the-Art Design and Construction

ELECTRICAL SPECIFICATIONS

Input Characteristics

Line Regulation:	All units have internal voltage regulators and are reverse polarity protected
Power Supply Voltage:	28 ± 4 Vdc
Input Current:	6 amps max. at 20 watts output
RF Input Power Range:	2 to 4 watts for specified RF output power
RF Input Impedance:	50 ohms
Frequency Range:	2200 MHz to 2300 MHz 2300 MHz to 2400 MHz



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ELECTRICAL SPECIFICATIONS

(Continued)

Output Characteristics

RF Power Output:	20 watts minimum
Output Impedance:	50 ohms
Performance	3 dB bandwidth is 150 MHz;
Bandwidth:	simultaneous usable bandwidth is 100 MHz; wider bandwidths are optional
Output Mismatch Capability:	All units have internal output isolators ensuring performance without PA damage when operating into any output load condition, up to ∞ :1 VSWR
Spurious Emissions:	-68 dB relative to carrier.

MECHANICAL SPECIFICATIONS

Size:	See outline drawing
Weight:	12 ounces maximum
Connector Configuration:	DC Power Input Connector: Viking VR514AG15, Mate: VP514CE15 Pin Connections: A. +28 V input B. +28 V input C. Power Return and Chassis D. Power Return and Chassis E. No Connection

Note: A and B are common, C and D are common.

RF Input Connector: SMA Type, Mate: OSM 501-3

RF Output Connector: TNC Type, Mate: GRFF 4000-0009

ENVIRONMENTAL SPECIFICATIONS

Baseplate Temperature: -20°C to +71°C
(extended range available as an option.)

QUALITY CONTROL

The PA220S Power Amplifier is manufactured under Quality Control procedures accordant with ISO 9001 and MIL-Q-9858A. Each assembled unit is fully tested to a comprehensive Acceptance Test Procedure that includes full performance testing at thermal extremes.

Through the heritage of Aydin Vector/Telemetry, L-3 Communications Telemetry-East has supported numerous Hi-Rel aerospace programs requiring exhaustive component screening, preconditioning and selection procedures. Hi-Rel procedures or specific customer-generated procedures can be invoked during the manufacture of the PA220S Power Amplifier.

ORDERING INFORMATION

When ordering, specify model number and exact operating frequency band in Megahertz.

For special applications or additional information, contact L-3 Communications Telemetry-East, Bristol, PA or your nearest L-3 Communications Telemetry-East Sales Representative.

PA220S Outline Drawing

