

**NEW\*\*\*\*\*DEM Part Number 222PA\*\*\*\*\*NEW**  
**30 Watts, 220-225 MHz Linear Amplifier**

**Specifications**

Frequency range:	220 to 225 MHz.
Power Out (linear):	30 Watts minimum
Power Out (saturated):	>40 Watts typical
Power Input for rated power out:	50 mW typical, 75 mW saturated
Power requirements:	13.5 volts dc @ 10.0 amperes MAX.
Connectors:	Type-N female
Size with connectors:	5.5" L x 5.5" W x 4.2" H
Active device: Hybrid	RA30H2127M

The 222PA is a broadband linear power amplifier covering the entire 1.25M amateur band. It has a linear power output of 30 Watts minimum with 50 mW of drive or a saturated output of over 40 Watts. Type "N" connectors are used on both RF input and output. There is a common DC connector with the + DC and ground supply voltage, PTT-L, and a RF power output monitor. The 222PA requires well-regulated 13.8 VDC at 10A for full power output. Keying is done by connecting the PTT-L circuit to ground (activates the Bias circuit). The RF power monitor supplies a relative DC voltage to RF power.



This amplifier design utilizes the Mitsubishi RA302127M MOSFET hybrid power module. All regulated voltages and biasing that are required for proper operation are self-contained.

**Caution:** Do not exceed the specified drive level of 100 mW RF. This is the maximum level of the amplifier in its stock form. The amplifier may be fitted with internal attenuators to accommodate any higher drive level. Be sure to read your amplifiers data sheet for its drive level configuration.

Do not exceed 15 volts on the DC line. When in operation, utilize over voltage protection and any voltage sensing circuits that the power supply in use may offer. A voltage sense wire has been included in the pre-wired DC Power connector. With high current drain, voltage sag will inhibit the amplifiers output power performance and with lower quality power supplies, the voltage may soar beyond the amplifiers specified limits when un-keyed.



Use high quality coaxial cables on both RF connections. At 1300 MHz., VSWR and insertion loss become factors even in the shortest lengths of coax. Test all coaxial components at low levels before installing into the final system.

Install the amplifier with the heat sink on top or with the fins vertical so the amplifier will convection-cool. A variable speed fan is supplied to pull air through the heat sink fins and will cool the amplifier in any mode of operation

including continuous duty applications. It is recommended not to keep the amplifier continuously keyed in the transmit mode without applying RF drive.

The RF power monitor is designed to produce a relative voltage output that is capable of driving a digital volt meter up to +6 VDC for full output power. This meter may be calibrated to meet your systems requirements.

**Schematic Diagram of Model 222PA Linear Amplifier.**

