

Power Amplifier Users Manual

1. General Information.

- 1.1. The Power Amplifier (PA) is a C-class unit. It is intended for amplification of single carrier phase (frequency) modulated narrowband signals.
- 1.2. PA is intended to work with a radio, operated in simplex mode using a switching bypass relay.
- 1.3. The single amplifier covers both frequency ranges 896.8875-897.9875 MHz and 935.8875-936.9875 MHz.
- 1.4. Nominal output power is 30 W and nominal gain is 5 dB with 10 W input power.
- 1.5. Working input power range is 10 W - 15W.
- 1.6. Input VSWR is not greater than 2:1.
- 1.7. DC power supply voltage range is 13.0 – 13.6 V.
- 1.8. DC current consumption is not greater than 9 A.
- 1.9. The base plate temperature range is -30°C to +70°C.

1. Caution: Be very careful to not stress the 13.6 VDC red wire/filter interface near the two rf connectors.

2. The Power Amplifier (PA) should be screwed to a flat surface of massive metal construction that is able to serve as its heatsink. A good thermal contact between the lower base of PA chassis and heatsink must be provided (a thin layer of thermal grease is highly recommended). Take care that all dirt and dust has been removed before screwing the PA to the mounting surface.

3. The red DC wire should be connected to + 13.6 VDC line; black (return) DC wire should go to ground. The amplifier is protected against reverse voltage polarity (it shorts a circuit with the wrong polarity) but for time not greater than 0.3 sec.

3. The nominal DC power supply voltage should be 13.6 V.

4. RF input power shall be in limits 10 W – 15 W within the over the specified frequencies and should not exceed 2 W outside this range.

5. Output load VSWR shall not exceed 2:1.

6. It is recommended to keep the temperature of heatsink in the place of PA installation less than +70°C. The unit has an overheat protection that activates and blocks switching to transmit mode when the lower base temperature reaches +85°C. The unit returns to normal operation when the temperature drops to approximately +70°C.

7. The unit is designed for a transmit/receive duty cycle up to 1:4 with the transmitting duration not greater than 1 min.