



## RPA-SAT-100D • Remote Amplifier System



### DESCRIPTION

A remote, bidirectional power amplifier/low noise preamplifier designed to be used with DAMA-compatible UHF SATCOM Systems. The weatherproof amplifier is located remotely with the SATCOM antenna. The radio port and the antenna port use diplexer filters to separate transmit and receive bands, easily meeting DAMA switching times without the additional noise of the solid-state switches. Transmit and receive filters and a wide range low noise amplifier allow multiple antennas to be side-by-side without interfering with one another. The output power and the receive gain switch both have four settings. When DC power is off the unit automatically switches to RF bypass mode with insertion loss of <math><1\text{dB}</math>. The RPA-SAT-100D is certified for DAMA operation with the AN/PSC-5 transceiver.

### FEATURES

- ▶ Allows remote mounting of antennas without transmit power or receive signal loss
- ▶ Provides 25/40/65/100 Watts of transmit power
- ▶ User selectable receive gain of 7/14/21/28 dB
- ▶ LNA noise figure of 2.5 dB provides good system G/T performance
- ▶ Minimizes interference from co-located antennas
- ▶ Operating voltage supplied over coaxial cable
- ▶ Proven in fixed site, field, and mobile applications
- ▶ Operational cooling units for 65 and 100 Watt operation
- ▶ Certified for DAMA operation

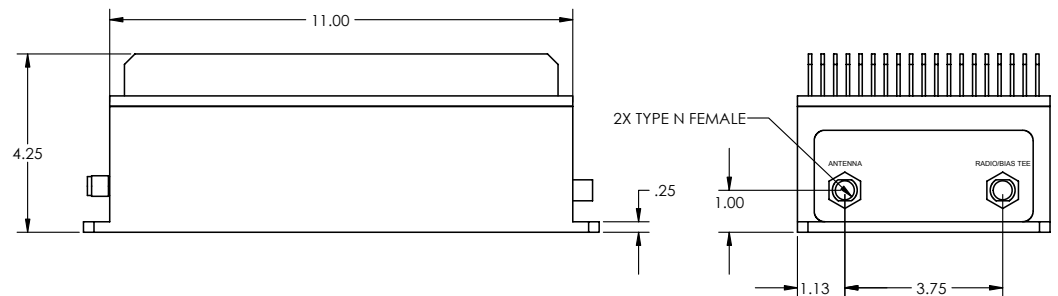
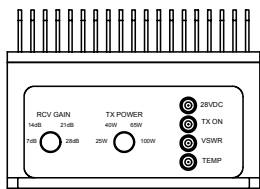
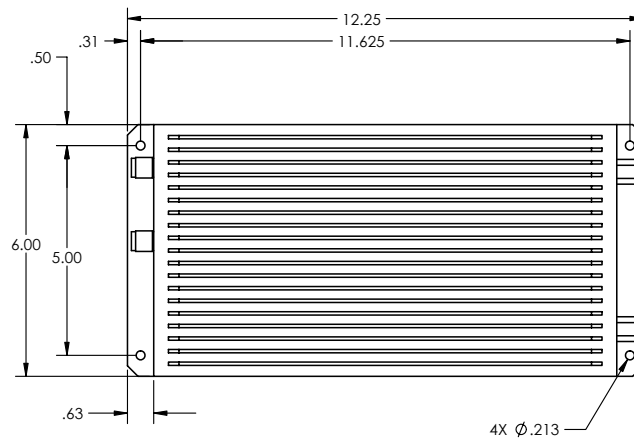
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**ELECTRICAL SPECIFICATIONS**

**RECEIVE CHARACTERISTICS**

Frequency Range.....240 – 270 MHz  
 Gain.....7, 14, 21, or 28 dB  
 Out of Band Rejection .....>50 dB (DC to 230 MHz and 292 MHz to 1000 MHz)  
 Noise Figure.....2.5 dB max. except 3.5 dB max. @ 7 dB gain  
 VSWR ..... 1.5:1 typical, 2:1 max.  
 Frequency Range..... 292 to 318 MHz  
 Out of Band Rejection ..... 70 dB (243 to 270 MHz)  
 Transmit Power .....25, 40, 65, or 100 Watts (14-20 dBW in 2 dB steps)  
 Tolerance +1.0/-0.5 dB at each power level

**TRANSMIT CHARACTERISTICS**

Radio Input Power, operational..... 27 to 37 dBm (0.5 to 5.0 Watts)  
 Radio Input Power, protection.....44 dBm max. (25 Watts)  
 Harmonics.....-60 dBc  
 VSWR ..... 1.5:1 typical, 2:1 max. (higher with transmit off)

**GENERAL CHARACTERISTICS**

Remote Distance ..... Up to 163 ft. with RG-214 @ 100 Watts  
 Supply voltage ..... 22 to 32 VDC  
 Supply Current..... 600 mA max receive, 14 Amps max transmit @ 100 Watts  
 Protection.....VSWR and Temperature  
 Operating Temperature .....-20 to +50 C  
 Environment..... Weatherproof (except optional cooling unit)

**Size and Weight**

Amplifier (base unit) ..... 4.25 H x 6 W x 12.25 D inches, 11 lbs.  
 Amplifier with airborne cooling unit.... 5 H x 6 W x 13.2 D inches, 13 lbs.  
 Amplifier with tactical cooling unit ..... 7 H x 6 W x 13.2 D inches, 13 lbs.  
 Bias Tee..... 1.5 H x 5 W x 4 D inches, 15 oz.