



RPA-SAT-100D

Remote Amplifier System

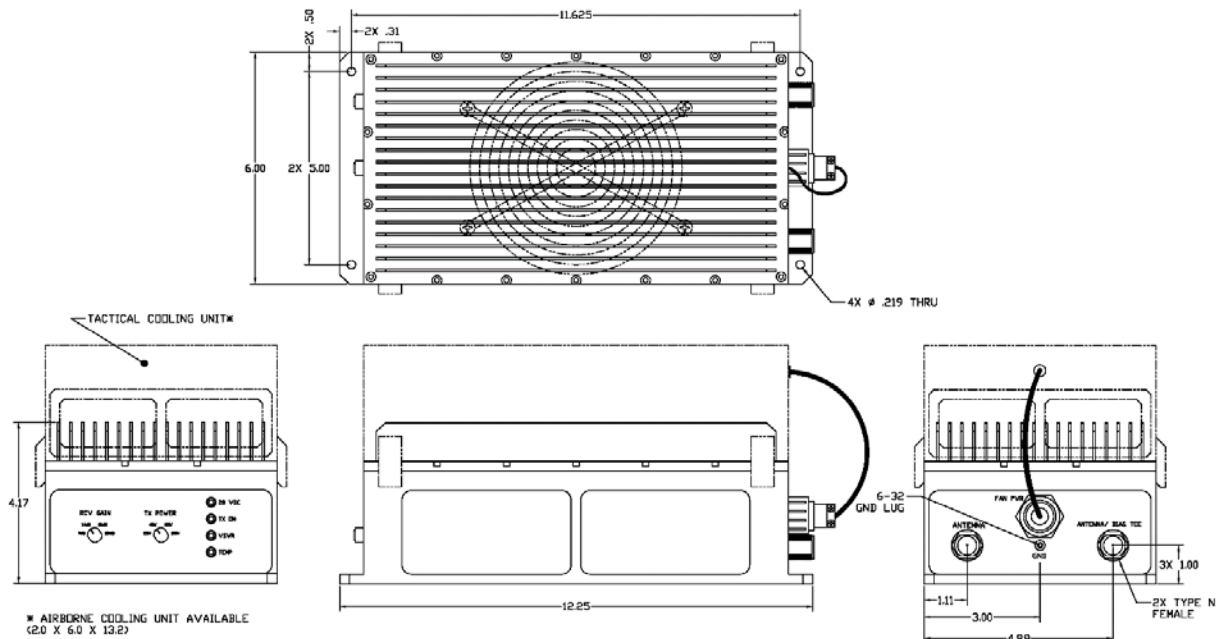


DESCRIPTION

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



ELECTRICAL SPECIFICATIONS

RECEIVE CHARACTERISTICS

Frequency Range	243-270 MHz
Gain, nominal	7, 14, 21, 28 dB
Out of Band Rejection	
0-200 MHz	> 50 dB
291-2000 MHz	> 50 dB
Noise Figure	
7 dB gain	3.5 dB max.
14, 21, or 28 dB gain	2.5 dB max.

TRANSMIT CHARACTERISTICS

Frequency Range	291-318.3 MHz
Out of Band Rejection, 243-270 MHz	70 dB min.
Transmit Power, ± 1.0 dB at each setting*	
25 W setting	44 dBm
40 W setting	46 dBm
65 W setting	48 dBm
100 W setting	50 dBm
Radio Input Power, Operational	0.5 to 5.0 W
Radio Input Power, Protection (30 seconds max.)	25 W max.
Harmonics	-60 dBc
VSWR	
Typical	1.5:1
Maximum	2.1:1**

*Nominal 2 dB increment steps

** higher with transmitter off

GENERAL CHARACTERISTICS

Remote Distance	Up to 163 ft. with RG-214/U
Supply Voltage	+24 to +32 VDC
Supply Current	
Receive	600 mA typ.
Transmit, at 100W	14 A max.
Protection modes	VSWR and Temperature
Operating Temperature	-20°C to +55°C
Environment	Weatherproof, except cooling unit
Size (inches)and Weight	
Amplifier (base unit)	4.25H x 6.0W x 12.25D, 11 lbs.
Amplifier w/ Airborne Cooling	5.0H x 6.0W x 13.2D, 14 lbs.
Amplifier w/ Tactical Cooling	7.0H x 6.0W x 13.2D, 13 lbs.
Bias Tee	1.7H x 3.0W x 4.75D, 15 ozs.

REV: 10/18/16