



RPA-SAT-100D-2

Remote Amplifier System

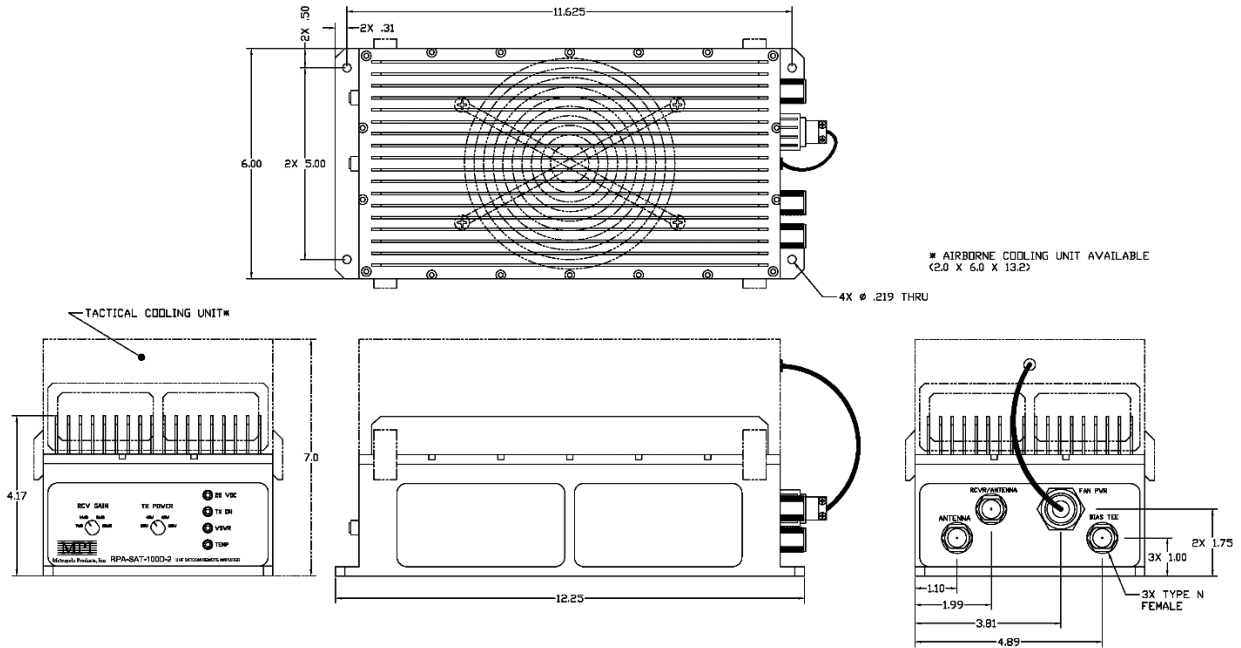


DESCRIPTION

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-2 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	7, 14, 21, or 28 dB
Stopband Rejection	
0-225 MHz	80 dB min.
225-232 MHz	40 dB min.
281-288 MHz	40 dB min.
288-2500 MHz	80 dB min.
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
Stopband	
0-250 MHz	70 dB min.
370-2500 MHz	90 dB min.
Transmit Power, ± 1.0 dB at each setting	25/ 40/ 65/ 100 W
Radio Input Power, Operational	0.5 to 5.0 W
Radio Input Power, Protection (30 seconds max.)	25 W max.
Harmonics	-90 dBc
VSWR	
Typical	1.5:1
Maximum	2.1:1*

* with TX on

BYPASS MODE PERFORMANCE (no DC power applied, RADIO port to XMTR port)

Insertion Loss, 90-530 MHz	0.5 dB max.
VSWR, 100-500 MHz	1.4:1 max.

GENERAL CHARACTERISTICS

Remote Distance	Up to 350 ft. with RG-214/U
Supply Voltage	+24 to +32 VDC
Supply Current	
Receive	600 mA max.
Transmit, at 100W	14 A max.
Protection	VSWR and Temperature
Operating Temperature	-20°C to +55°C
Environment	
Base Unit	Weatherproof, except cooling unit
Bias Tee	Splash resistant
Size (inches) and Weight	
Amplifier (base unit)	12.25" x 6.0" x 4.25", 12 lbs. max.
Amplifier w/ Tactical Cooling	12.25" x 6.0" x 7.0", 15 lbs. max.
Connectors	
RF	Type N (Female)
DC	Integral Bias-Tee with the Type N (Female), Radio Port

REV: 11/14/2019