



MDS eNETL2W 20-Watt RF Amplifier

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INTRODUCTION

The eNETL2W (Figure 1) is a 20-watt RF power amplifier designed for use in the 217–222 MHz frequency range. It is intended to serve as a 100% duty cycle amplifier for MDS entraNET 220 radio modules (ROR220) operating in point-to-multipoint repeater applications. The amplifier is designed to comply with FCC Part 90 and FCC Part 15 requirements.

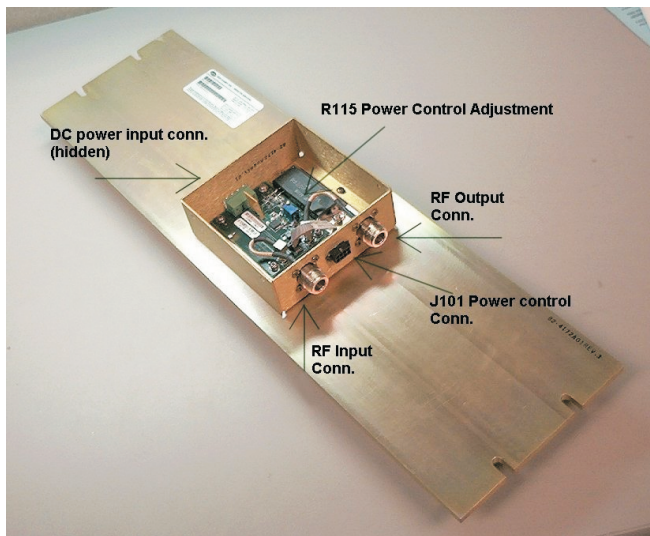


Figure 1. MDS eNETL2W RF Power Amplifier
(Top cover removed to show internal layout)

Product Description

The eNETL2W power amplifier consists of a RF amplifier and PCB mounted to a heat sink, with a DC Power interface, power control interface, and input/output RF connections on the sidewalls of the chassis. DC power is supplied to the amplifier from a regulated and filtered DC source capable of supplying 10-16 Vdc at a maximum current of 5 Amperes. The DC power source should be current limited or have a protective fuse or circuit breaker.

INSTALLATION

Mounting the Unit

The amplifier is designed for mounting in a standard 19 -inch rack cabinet using the 3U panel provided. Four screws (not provided) are required to attach the panel to the rack sides. This panel also serves as a heat sink for the PA module, and is normally mounted with the cooling fins facing outward.

External Connections

To place the amplifier module in service, make the following cable connections:

1. Using low loss 50-ohm coaxial cable, connect the RF Input connector (J103) to the RF output connector of the MDS entraNET 220 radio module (ROR220).
2. Using low loss 50-ohm coaxial cable, connect the RF Output connector (J102) to the station duplexer.
3. Connect the Power Control interface (J101) to the MDS entraNET 220 radio module (ROR220) in accordance with the pin connections listed below. J101 is an 8-pin Molex polarized connector.
 - Pin 1—3 Vdc enable TX, low=off
 - Pin 2—0.7 Vdc (varies to set RF power)
 - Pin 3—Not used
 - Pin 4—Ground
4. Connect 10-16 Vdc power supply to the Power connector (J100). The left pin is positive (+); the right is negative(-).

RF Power Output Check/Adjustment

To check/set the amplifier's RF power output level, proceed as follows:

1. Connect a wattmeter (rated for use at 220 MHz, and at least 20 watts) to the amplifier's RF output connector (J102). Terminate the wattmeter into a 50-ohm, non-inductive load.
2. Apply RF drive from the MDS entraNET 220 radio module (ROR220) and note the RF power indication at J102.
3. If necessary, adjust R115 (see Figure 1) with an insulated flat blade tool to achieve the desired output level. Access to R115 is available through a top cover vent slot.

UNIT SPECIFICATIONS

Operating Voltage: 10-16 Vdc
Maximum Current Draw: 5 Amperes
RF Drive Power: 100 mW
RF Out: +40 to +43 dBm (10-20 watts), adjustable
Operating Frequency: 217-220 MHz
Mounting: standard 19-inch rack cabinet
Weight: 5.15 lbs.
Dimensions: 5.25" H x 19" W x 2.88" D
(13.34 H x 48.26 W x 7.31 D cm)

TECHNICAL ASSISTANCE

Technical assistance for MDS products is available by using one of these methods to contact us:

Telephone: 585.241.5510

FAX: 585.242.8369

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