

MDS eNETL2T/U 40-Watt RF Amplifier

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INTRODUCTION

The eNETL2T is a 40-watt RF power amplifier designed for use in the 220–222 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. The eNETL2U is a similar model designed as an intermittent duty amplifier for the same purpose.

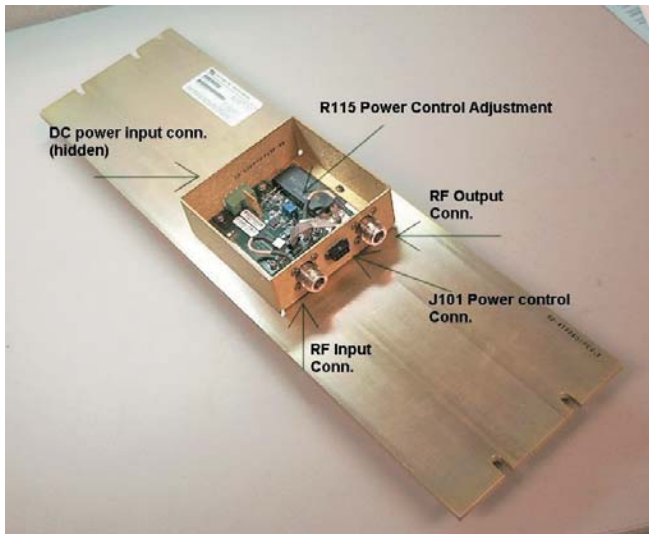


Figure 1. MDS eNETL2 Series RF Power Amplifier
(T-model shown, cover removed to show internal layout)

Product Description

The eNETL2T/U 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 6 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:

- 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).
- Using low loss 50-ohm coaxial cable, connect the RF Output connector (J102) to the station duplexer.
- 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
- 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:

- Connect a wattmeter (rated for use at 220 MHz, and at least 40 watts) to the amplifier's RF output connector (J102). Terminate the wattmeter into a 50-ohm, non-inductive load.
- Apply RF drive from the MDS entraNET 220 radio module (ROR220) and note the RF power indication at J102.
- 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: 6 Amperes
 RF Drive Power: 100 mW
 RF Out: +40 to +46 dBm (10-40 watts), adjustable
 Operating Frequency: 220-220 MHz
 Mounting: standard 19-inch rack cabinet
 Approximate Weight: 5.15 lbs.
 Dimensions (T-model): 5.25" H x 19" W x 2.88" D
 (13.34 H x 48.26 W x 7.31 D cm)
 Dimensions (U-model): 5.25" H x 7" W x 2.88" D
 (13.34 H x 17.78 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

E-mail: techsupport@GEmds.com **Web:** www.GEmds.com

RF Exposure



Professional installation required. The radio equipment described in this guide emits radio frequency energy. Although the power level is low, the concentrated energy from a directional antenna may pose a health hazard. Do not allow people to come closer than 2.07 meters (6.79 feet) to the antenna when the transmitter is operating in indoor or outdoor environments. More information on RF exposure can be found on the Internet at: www.fcc.gov/oet/info/documents/bulletins.

FCC Part 15 Notice

This unit complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This device is specifically designed to be used under Section 15.247 of the FCC Rules and Regulations. Any unauthorized modification or changes to this device without the express approval of GE MDS may void the user's authority to operate this device. Furthermore, the unit is intended to be used only when installed in accordance with the instructions outlined in this document. Failure to comply with these instructions may also void the user's authority to operate this device.

Industry Canada RSS Notice

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.