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DEM 1WTR

Low Level Transmit Power Amplifier and Low Noise Receive Amplifier

Description: The DEM 1WTR is a power amplifier/receive amplifier combination designed for many transceiver /transverter applications that require TX power amplification of up to 1 watt on any amateur band 6 Meters through 23 Centimeters. It also includes a low noise receive amplifier. This design is perfect for any low level SDR transceiver or our new line of Miniverters. The 1WTR can operate in a "wide band" (30-1300 MHz) configuration or optimized on any specific amateur band between 6M and 23 CM.

The 1WTR can operate as a 2, 3, or 4 port device depending on your requirement. As a 2 port device, it is complete with its own Transmit/Receive switch for low level transceivers and single antennas. For the 3 and 4 port applications, the antenna and transceiver ports may be separated to provide separate receive amplifier inputs and outputs. This most accommodating for SDR transceivers that have separate TX and RX ports and the user desires to utilize a single antenna. And of course, transverter users understand the importance of this feature. Then depending on your requirements, drive levels as low as 1 mW or as high as 100 mW may be utilized. If a single band requirement is selected, band pass filtering of SAW technology is utilized on both transmit and receive.

The DEM 1WTR is housed in a 3.0" x 1.75" x .875" (L x W x H) not including connectors. Because of the 1WTR's enclosure, it does not include any heat sink. Connector choice is BNC, SMA or type "N" depending on configuration. Power and PTT inputs are connected through RF bypassed feed through connectors. Its connector spacing lines up with our Miniverter making it a perfect add on.

We do specify the 1WTR at 1 watt power output @ +13.8 VDC but certain configurations will affect the gain and actual power output. Transmit/receive switching is accomplished with PIN diodes that introduce attenuation and the attenuation increases with frequency. As a single band device, the 1WTR is optimized for best gain on both TX and RX along with TX output power. Filtering also will affect the performance. See chart below.

BAND of Operation	Minimun TX output power	Minimum RX Gain and NF
6M, and 23 CM	500 milliwatts	17 dB G @ 0.7 dB NF
2M, 1.25 M, 70 CM	800 milliwatts	18 dB G @ 0.6 dB NF
33 CM	700 milliwatts	17 dB G @ 0.7 dB NF
Wideband Function	600 milliwatts	18 dB G @ 0.7 dB NF