



Dual Impedance Antenna Auto/Transformer™ MM-1

DXE-MM-1-INS –Rev 1



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Figure1: MM-1 Installed on Vehicle

The DX Engineering MM-1 Auto/Transformer is an unbalanced to unbalanced (UNUN) matching system that matches a 50Ω feedline connection to a 25Ω or a 12.5Ω antenna connection. It is used to improve the match between the feedline and a typical mobile antenna. It is especially useful for antennas equipped with a Hot Rodz™ top hat system.

Specifications

- Operating Frequency Range – 1.8 to 30 MHz
- Power Handling with the SWR less than 2:1 on the 50Ω port:
 - Mid-Z Connection:750 watts PEP
 - Low-Z Connection:500 watts PEP

Shortened antennas (such as one using the DX Engineering Hot Rodz™ capacity hat) often have a feed point impedance significantly lower than 50 Ohms. When mated to a 50 ohm feedline, some kind of matching is needed to lower the SWR. The MM-1 provides the matching inputs needed to obtain the lowest SWR. The MM-1 also DC grounds the antenna which can help reduce static and noise.

Screwdriver antennas often include a small shunt coil to improve tuning on the lower bands. This may be insufficient when using a shortened whip or capacity hat. The effect of the coil also varies with frequency.

Mounting and Connections

There are three connectors on the MM-1:

- **Radio:** 50Ω connection to the transceiver
- **Mid-Z:** 25Ω connection to the antenna
- **Low-Z:** 12.5Ω connection to the antenna

Mount the MM-1 as close to the antenna as possible. Connect the feedline from your transceiver to the Radio connector. Make a short pigtail feedline that will run between the MM-1 and the feed point of your antenna. Make sure it is long enough to reach either connector on the MM-1. The case of the MM-1 should be grounded to the same ground used for the antenna and transceiver.

Connect the antenna to the 25Ω connector. On each band covered by your antenna, the SWR should be 1.5:1 or less. If not, use the 12.5Ω port and recheck the SWR. If your SWR is still high, the overall length of your antenna may need to be adjusted. If you are using HotRodz™, adjust the rod length. Use of an antenna analyzer is helpful.

Technical Support

If you have questions about this product, or if you experience difficulties during the installation, contact DX Engineering at (330) 572-3200. You can also e-mail us at DXEngineering@DXEngineering.com.

For best service, please take a few minutes to review this manual before you call.

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