

Connecting an Antenna



WARNING

Antenna Radiation

The antenna used with the MDR must be installed such that the resultant radiated field strength is below 10 W/m² in areas normally accessible to personnel. If the equipment is part of a system employing other transmitters, expert guidance may be required to ensure personnel safety with regard to RF radiation.

The RF field strength from the antenna can be predicted from the equation $S=1.4PG/4\pi R^2$

[Where S = power density; P = power input to antenna; G = antenna gain; R = distance to centre of radiation and 1.4 = multiplication factor for average power based on a modulation index of 90%.]

Based on this formula for a 25 watt transmitter and using a 2 dBi antenna, the predicted safe distance from the centre of radiation would be approximately 0.7 m for a field strength of 10 W/m² (1 mW/cm²).

This meets the requirements of Health Canada Safety Code 6 for RF and microwave exposed workers. For persons not classed as RF and microwave workers and including the general public the limit is 2 W/m² (0.2 mW/cm²) which increases the minimum safe distance to 1.5 m.

Further information on calculating the field strengths and power levels can be found in Health Canada Safety Code 6 'Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range 3 kHz to 300 GHz', and also in FCC document OET Bulletin 65.



WARNING

Antenna Radiation

Ensure an antenna, or dummy load, is connected before switching on the MDR. There is high RF voltage present at the antenna connector when the radio is keyed.

The MDR uses a common antenna for transmission and reception. The rear panel N-type (female) antenna connector accepts a straight or right-angle N-type plug as listed in [Table 9](#) on [page 40](#). Park Air recommends that RG214 1/2" flexible feeder cable, part number 10-05120610, be used for that part of the feeder circuit that is within a building.

Checking the ac Input Fuse



Caution

Fuse Rating

For continued protection against risk of fire, replace only with the same type and rating of fuse.

The ac input fuse is located in a pull-out holder that is an integral part of the ac connector. Check that the fuse type is of the correct rating:

100 - 240V T4AH 250V IEC (Park Air part number, 29E01120108S)