

MARK-IV UHF NARROWBAND SIGNAL BOOSTER

RF Exposure Information

REVISION 0
SUBMITTED BY:

CANAM TECHNOLOGY, INC.

May, 2011

CANAM TECHNOLOGY, INC. (CTI)
MARK-IV UHF NARROWBAND SIGNAL BOOSTER

RF Exposure recommendations

The RF Field Strengths that an individual will be exposed to while doing maintenance is well below the limits set forth by the FCC & State Laws.

Nevertheless, there are Safety Precautions that should be adhered when performing any RF Tests:

1. Never Operate a Transmitter, or Booster Amplifier without adequate Load/Termination on the Output Port.
2. Ensure all Connections are tight and secured.
3. Ensure all Coaxial Cable Insulation covers the Outer Shield of the cable.
4. Do Not Touch Exposed System Ports or Coaxial Cable if system is Transmitting.



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Maximum Antenna Gain



The Input antenna and output antenna are not included with this equipment. Nevertheless, if this device is used in an application that requires direct connection to an antenna, Canam Technology recommends following the FCC guidelines for its installation.

According to FCC rule § 1.1310 Radiofrequency radiation exposure limits the limits for maximum permissible exposure (MPE) are as follow:

Table 1 – Limits for maximum permissible exposure (MPE)

	Frequency range (MHz)	Power density (mW/cm ²)
Occupational Controlled Exposures	300-1500	f/300
General Population Uncontrolled Exposure	300-1500	f/1500

The Maximum antenna gain is determined using the Friis transmission equation:

$$P_d = (P_{out} * G) / (4 * \pi r^2)$$

where:

P_d = Power density (mW/cm²).

P_{out} = Output power (mW).

G = Antenna gain (linear scale).

r = Distance between observation point and center of the radiator in cm

The calculated Antenna Gain for $r = 100\text{cm}$ the maximum permissible exposure (MPE) is shown in Table 2.

Table 2 – Limits for maximum permissible exposure (MPE)

	Frequency (MHz)	Maximum Antenna Gain (dBi)
Occupational Controlled Exposures	480	16.04
General Population Uncontrolled Exposure	480	9.053

- Antenna Installation should be performed by qualified technical personnel. The installations instructions are for the purpose of complying with FCC RF Exposure and are not optional.
- All antennas should be fixed mounted and physically secured to one location.
- Non-building mounted donor antennas must be greater than 10 meters above ground.



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