MICROWAVE RADIO COMMUNICATIONS
A Division of Vislink, Inc.

Microwave Radio Communications
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WARNING!
RF RADIATION EXPOSURE HAZARD

Microwave Radio Communications (MRC), a Vislink Inc. Company, is providing the following information to help you safely manage RF Radiation Exposure at your installation.

Maximum Permissible Exposure Limits

The US Federal Communications commission (FCC) has set Maximum Permissible Exposure (MPE) limits for RF radiation (OET Bulletin 65, Edition 97-01). These MPEs define the RF power density in mW/cm^2 to which both station employees and members of the general public can be exposed.

In order to help you comply with these regulations, MRC provides the following information.

CodeRunner 2 RF Radiation

The CodeRunner 2 is a radio transmitter. It is designed to produce and emit RF radiation into an antenna for the purpose of delivering a digital or FM modulated signal to an appropriate receiving device.

For equipment such as the CodeRunner 2, the MPE limit is 1.0mW/cm2.

The CodeRunner 2 is a low power device, and by itself it generally will not create RF exposure in excess of the MPE limits defined by the FCC.

However, when properly connected to an antenna, the radiated power can exceed the MPE limits. This is particularly true when using antennas that provide gain, such as parabolic antennas.

MRC has calculated RF Exposure levels for the CodeRunner 2 using the formula specified in OET Bulletin 65. We have done this for an isotropic radiator (0 dBi gain), as well as for generic antennas having gains of 5 dBi, 16 dBi, and 30 dBi. These gains correspond roughly to those provided by the MRC OmniPole, Megahorn, and 7A30 antennas, respectively.

These calculated values are based on two transmitter power levels: 5 watts (Psat), which is typical for transmission using digital modulation; and 12 watts (Psat), which is the maximum output of the CodeRunner 2 in analog transmission.

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The results of these calculations are shown in the accompanying graphs. These graphs provide the predicted Power Density in mW/cm^2 at various distances from each of the 4 generic antennas. The MPE of 1.0 mW/cm^2 is also indicated.

Note that these predictions are for exposure in the main lobe of the antenna's radiation pattern; outside the main lobe exposure would be reduced.

Controlling Your Exposure

The simplest way to control exposure to RF is to maintain a safe distance from any actively radiating antenna. Moving out of the main lobe of the radiation pattern will also reduce the exposure.

As can be seen in the graphs and the table below, the minimum allowable distance from an antenna depends on the gain of the antenna and on the power used:

Antenna Gain	Min. Allowable Distance From Antenna 5 Watts Power	Min. Allowable Distance From Antenna 12 Watts Power
0 dBi	20 cm (.7 ft)	31 cm (1.0 ft)
5 dBi	35 cm (1.2 ft)	55 cm (1.8 ft)
16 dBi	126 cm (4.1 ft)	195 cm (6.4 ft)
30 dBi	631 cm (21 ft)	977 cm (32 ft)

Your actual exposure will probably differ from these calculated values. Actual exposure depends on your distance and direction from the antenna, as well as transmitter power, antenna gain, and the radiation pattern of the antenna.

It is the responsibility of the station licensee to perform these calculations as needed for the actual antenna and transmitter is use, as required by OET Bulletin 65. Likewise, any remediation required to bring a particular installation into compliance with Bulletin 65 is the responsibility of the licensee.

Resources for RF Exposure Safety

Following are links to Web resources to help you ensure your compliance with these regulations:

- FCC Bulletins On Line
  http://www.fcc.gov/oet/info/documents/bulletins/
- Bulletin 65 (Adobe PDF file)
  http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65.pdf

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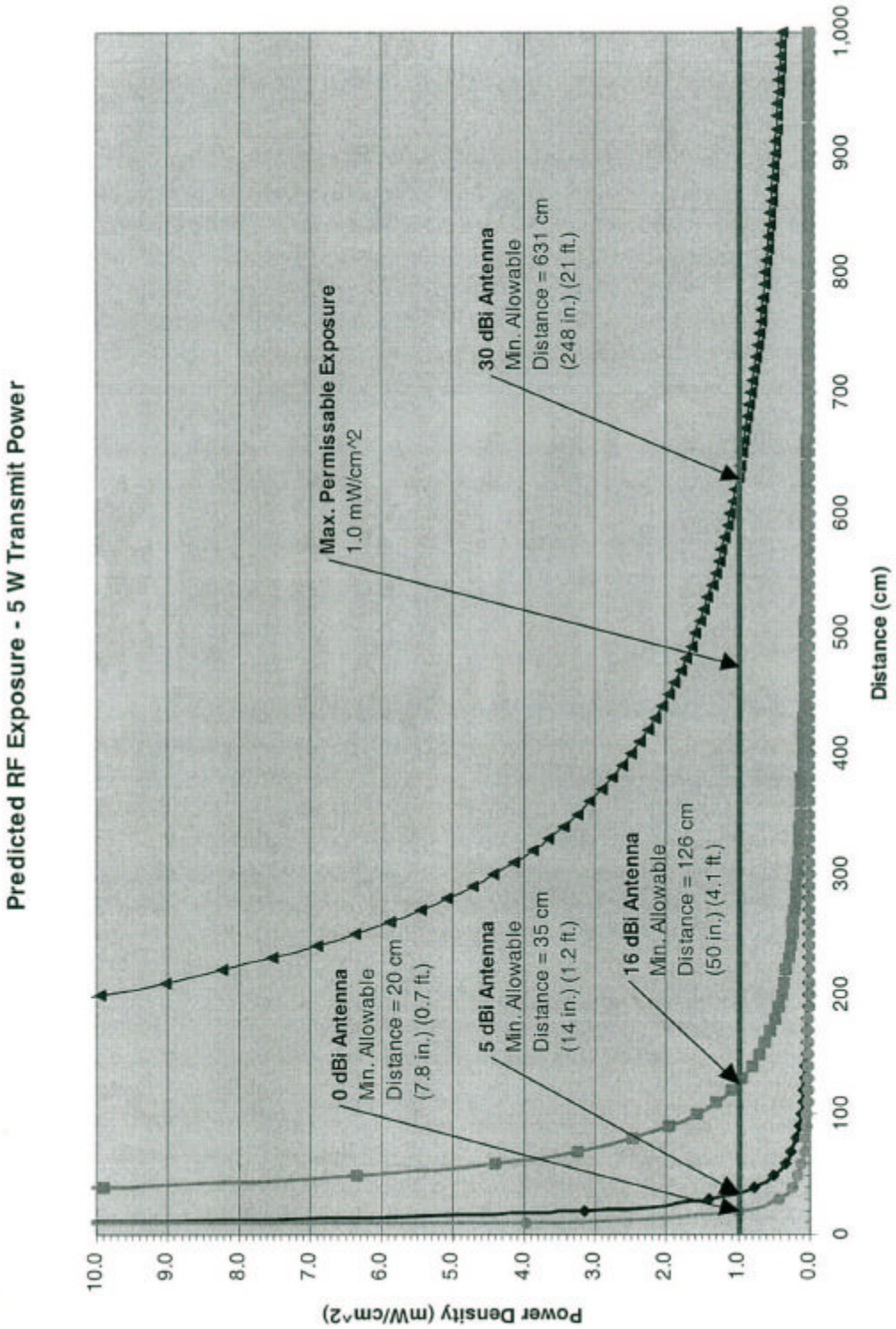

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