DF3000 3,000 WATT, 30MHz LOW PASS FILTER

- The DF3000 low pass filter is designed for use with all types of HF transceivers (Citizen Band, Amateur, and Commercial Radios).
- The effective frequency range of the filter is DC to 30 MHz.
- The DF3000 will handle 3,000 watts PEP (voice peak) of power.
- Installed inline between the antenna and transceiver, the DF3000 filters out any transmitted signal over 32 MHz.
- The DF3000 has an ultimate attenuation of -60 dB at 60 MHz and achieves maximum attenuation before the second harmonic.
- The DF3000 filter is constructed of copper/nickel plated steel cabinets, copper coils, and high voltage capacitors.

Installation

The DF3000 low pass filter connects with antenna feed line via SO-239 connectors. Follow the steps below for proper installation.

1. Install the DF3000 low pass filter after the transceiver or after the amplifier if one is being used.
2. Disconnect the antenna feed line from the transceiver or amplifier and connect it to one side of the low pass filter. The DF3000 low pass filter is non-polar; therefore either SO-239 connector can be used for the input or output.
3. Connect the transceiver or amplifier to the low pass filter via a coax jumper cable with PL-259 connectors at each end. Always try using as short a coax jumper cable as possible
   a. If the addition of the coax jumper cable increases your standing wave to an unacceptable ratio, please use the information below to make a coax jumper cable that is a 1/2 wavelength.

$$\frac{468}{\text{frequency}} \times \text{velocity factor} = \text{coax jumper length (in feet)}$$

Frequency is the center frequency in megahertz (MHz) of the band you are operating. The *velocity factor* for coaxial cable with a polyvinyl center material is 0.66. Coaxial cable with a foam center material has a *velocity factor* of 0.78. For example, if your center operating frequency is 28.850 MHz (center of the 10 meter amateur band) and you are using a polyvinyl center coax then the 1/2 wavelength measurement would be:

$$\frac{468}{28.850} \times 0.78 = 12.65 \text{ feet}$$

Therefore, the coax jumper cable length should be 12.65 feet in length for it not to interfere with the standing wave ratio.

4. After the addition of any new equipment it is necessary to check the standing wave ratio of your station. If installed properly, the addition of the DF3000 low pass filter should not affect the standing wave ratio of your station. If the standing wave ratio is too high it can sometimes be corrected by switching the antenna feed line with the coax jumper cable on the low pass filter.

RF Limited
PO Box 1124
Issaquah WA 98027
USA

www.RFLimited.com
info@rflimited.com

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