

AMERITRON ARF-1000

The Ameritron ARF-1000 selectable low-pass filter is designed to reduce harmonics of transceivers or amplifiers. It has a frequency select switch for six different cutoff frequencies up to 30 MHz. When a cut-off frequency is selected, the lowpass filter attenuates harmonics on frequencies significantly above the selected frequency.

The ARF-1000 will typically handle power levels of 1 KW PEP, 600 watts CW, and 400 watts RTTY. The power rating will vary with both load impedance and the equipment it is used with.

WARNING: It is NOT possible for any external filter to reduce adjacent-frequency splatter or spurious emissions! This filter will NOT create a "clean signal", or improve or eliminate adjacent frequency QRM caused by use of poorly designed amplifiers in amateur bands. Ameritron does not express or imply this filter eliminates FCC regulations that kits or commercially manufactured HF amplifiers be FCC type-accepted, or that this filter will prevent out-of-band or in-band interference to other operators. Ameritron is not responsible for operation-of or damage-to other equipment used with this filter. Some CB-type equipment may be damaged by use of this filter, because the equipment has severe spurious emissions through lack of proper design.

Installation

Connect the output of the transceiver or amplifier to the RF IN of the ARF-1000 with a good quality 50-ohm cable capable of handling the operating power.

Connect the load (antenna) to the RF Out of the ARF-1000. This line should be a good quality 50-ohm coaxial cable that safely handles your station's operating power level.

Connect the station's RF ground to the ground terminal of the ARF-1000. You should use a single point ground buss with a separate strap from each piece of equipment to the ground post on each piece of equipment. Avoid woven ground cables or leads unless they absolutely need to be flexible.

Operation

1. Set the filter's frequency select switch to the next higher frequency you are operating on. DO NOT select a filter frequency lower than the operating frequency.

Note: The amplifier's output power, as shown on a typical power meter, may be reduced significantly as harmonics are suppressed. The final power is determined by how much operating frequency power is produced before it passes through the filter.

2. Be sure the antenna is tuned to the operating frequency and has a reasonable SWR (under 2:1).

Note: As a general rule, you should be able to use up to 1000 watts SSB, 600 watts CW, or 400 watts RTTY with this filter. The exact power rating will vary with the installation, and we can not set a specific rating.

Be aware the output power seen on a meter can be reduced up to 40 % after passing through the filter. The exact amount depends on how much harmonic content your amplifier or transmitter has.

You should derate the power rating when the antenna's VSWR is over 2.0:1. As a general rule, the power rating is reduced by the inverse of SWR. A 2:1 SWR means power rating is typically 500 watts SSB, and a 4:1 SWR means typical SSB power rating is 250 watts.

Place the filter frequency select switch in the 30 MHz range for by-pass.

Specifications

Power Capability

1000W PEP SSB
600W PEP or carrier CW
400W PEP or carrier RTTY

Frequency Coverage

0 to 30 MHz with cut-offs of 2.3, 4.4, 8.0, 14.5, 21.6, and 30 MHz.
Maximum VSWR 1.3:1 within the Amateur bands

Connections

RF Input: SO-239, 50-ohm
RF Output: SO-239, 50-ohm

Dimensions

9 ½ D X 5 ½ W X 3 ½ H