

## TECHNICAL ASSISTANCE

If you have difficulty or need additional information please feel free to contact us. Most installation questions can be handled via email or phone call.

### *Contact Information:*

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The logo for Dunestar, featuring the word "Dunestar" in a stylized, gothic-style font. A five-pointed star is positioned above the letter 'a'.

**RF Filter Manual**

**Model 300**

**HF Band Pass Filters**

## OTHER PRODUCTS

Dunestar manufactures several types of RF filters, remote antenna selectors, antenna coupling devices and accessories. Please contact us for further information.

The logo for Dunestar Systems, featuring the word "Dunestar" in a stylized, gothic-style font. A five-pointed star is positioned above the letter 'a'. Below "Dunestar" is the word "systems" in a smaller, lowercase, sans-serif font.

# 300-Series

## HF Bandpass Filter (Single Band)



*Thank you for choosing the Dunestar Model 300 Bandpass Filter.* With just a few simple steps your new filter system can be placed in operation.

### INSTALLATION

The frequency of each filter can be found in the Model number on the label. The 300-2 is for 160M, 300-4 for 80-meters, 300-7 indicates 40-meters, 300-14 for 20-meters and so on. Check the filter you are installing to be sure it is for the appropriate usage band.

### RF CONNECTIONS:

Use a short coax jumper between the output of your transceiver and the filter unit. The Model 300 is small enough to place directly at the output of your transceiver in many cases, allowing coupling with a double-male UHF connector. Hand tighten connectors, use of pliers is not recommended. The output cable goes directly to the antenna system or amplifier input connector.

The coax fittings can be used interchangeably for Input or Output. Depending on your station cables you may note better apparent VSWR one direction or the other. Some variation is expected due to tolerances of components and the electrical length of the coax lines in the station.

### POWER RATING:

These filters are intended for use with 200W PEP transceivers. This is not to imply a 100% duty cycle. For example, if you were to operate RTTY for two minutes (continuous carrier, 100% duty) as much heating would occur as if you had run SSB speech (without compression, 50% duty) at the same power for roughly twice that length of time, as the average power is less with speech than with a continuous carrier. With speech compression, the average power increases with the amount of compression (60-80% duty) in use. CW average power is roughly comparable to speech.

### VSWR CONSIDERATIONS:

VSWR can have a profound effect on the RF voltages appearing in the bandpass filter. Excessive RF voltages lead to component failures. In general, the better the SWR, the less likely you will be to experience difficulties. Every effort should be made to maintain minimum VSWR.

## CAUTION:

*The 300-Series is designed to handle  
Transceiver output levels .  
It cannot be used on high power amplifier outputs*

### *Additional data on Model 300 Single Band Filters*

These filters are top-C coupled. High-Q capacitors and inductors are used for tuned circuits. Filters are constructed on glass epoxy PC boards. Input and outputs are at DC ground potentials.

### *Specifications:*

Insertion : Typical, 0.5-.7db  
Rejection: Typical, 40db band-to-band  
Bandwidth: VSWR <1.5/1 typical  
160M 1.8 - 1.93  
80M 3.5 - 3.85  
40M 7.0 - 7.30  
20M 14.0 - 14.35  
15M 21.0 - 21.50  
10M 28.0 - 28.70  
50 Ohm In and Out , Connectors: UHF

*(Note: If you are interested in rapidly changing from band-to-band, you may wish to consider our Model 600 Series Remote Switched Multi-band filters for more convenient operation.)*