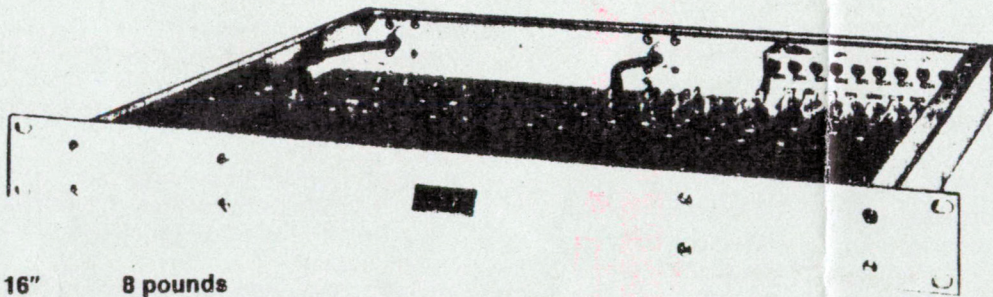


HF ANTENNA FILTER UNIT | RA 6397

OUTSTANDING FEATURES

- Frequency range 1 MHz to 30 MHz
- Instantaneous reaction to change of frequency
- Completely passive design
- Fully RFI protected
- Suitable for remote control

Courtesy of <http://BlackRadios.terryo.org>



1 3/4" x 19" x 16"

8 pounds

■ The RA6397 Antenna Filter Unit is designed for use with the majority of RACAL HF receivers including the RA17UA, RA6117 and RA6217 series. By its employment, immediate preselection is obtained automatically in accordance with the frequency setting of the receiver. It is particularly useful when rapid changes of frequency are required, since manual tuning is avoided. The linear characteristic of the passband response makes the unit ideal for panoramic reception applications.

■ The unit consists of a number of accurately designed bandpass filters which are selected according to operating frequency and introduced into the antenna input circuit of the associated receiver. Selection is performed by means of a control voltage originating from the MHz tuning control of the receiver or associated synthesizer.

■ The RA6397 may be used directly with RA6217D and RA6217E receivers. Other receivers in the RACAL series require modification or external control circuitry.

■ The RA6397 can also be used with other makes of HF receiver with a 75 ohm input. Control requirements, however, call for individual examination of conditions in each case.

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TECHNICAL DESCRIPTION

■ The RA6397 Antenna Filter Unit employs 21 separate filters. All are of similar design and have pass-bands with a ripple of less than ± 1 dB. 19 filters have a nominal bandwidth of 1MHz and cover the range 1 to 20 MHz. The remaining two filters have bandwidths of 5 MHz to cover the range 20 to 30 MHz.

■ Individual filters are selected by the appropriate application of a DC control potential of 12 to 16 volts. The negative pole of this voltage is applied to one of three control lines to select tens of MHz and the positive pole is applied to one of ten lines to select the units of MHz. Reed relays located at the input and output of each filter perform switching to comply with the control voltage instructions.

■ RFI filters are included in each control line combined with series and shunt diodes to insure compatibility with other units in the receiving system and suppress switching transients arising from the relay magnetic circuits during switching operations.

■ The unit is entirely passive in operation and requires no power supplies from the associated receiver other than actuating currents for the relays.

■ The unit is designed for mounting in a standard 19 inch rack and has a panel height of 1 $\frac{3}{4}$ inches. All external connections are at the rear of the unit.

Courtesy of <http://BlackRadios.terry.org>

TECHNICAL SPECIFICATIONS

FREQUENCY RANGE:

1 - 30 MHz
1 - 20 MHz, 1 MHz intervals
20 - 30 MHz, 5 MHz intervals

INPUT IMPEDANCE:

75 ohms (nominal)

OUTPUT IMPEDANCE

75 ohms (nominal)

INSERTION LOSS:

3dB (nominal, measured at center frequency)

PASSBAND RIPPLE:

± 1.0 dB or better

SHAPE FACTOR:

1:2 or better (-3 dB to 30dB)

OUT-OF-BAND ATTENUATION:

30 dB (nominal)

CONTROL:

Application of 12 to 16 volts DC to one of ten control lines (positive) and to one of three lines (negative).

Relay current: 22 ma.

ENVIRONMENTAL CONDITIONS:

- Operating 0° to 55°C
- Storage -40° to 70°C

DIMENSIONS:

19" wide x 1 $\frac{3}{4}$ " high x 16" deep

WEIGHT:

8 pounds (approx.)

The RACAL policy is one of continuous improvement, consequently the equipment may vary in detail from the description and specification in this publication.

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