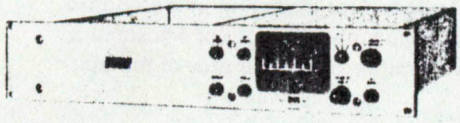
PANORAMIC ADAPTER SPECTRUM DISPLAY UNIT

RA 6366 RA 6367

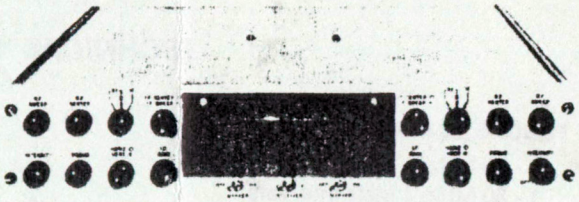
OUTSTANDING FEATURES

RA6366/RA6367

- Spectrum continuously variable to 1 MHz bandwidth
- Wide band RF and narrow band IF indication
- Clear indication of signals at 1 microvolt level
- Simultaneous spectrum display and signal analysis
- Marker indication of receiver setting



RA6366 PANORAMIC ADAPTER SPECTRUM DISPLAY UNIT



RA6367 DUAL-PANORAMIC ADAPTER DISPLAY UNIT

RA6367

- Displays a 1-MHz RF spectrum over an effective length of 5¾ inches (two CRT)
- Displays RF and IF spectrums simultaneously
- Displays 1-MHz RF spectrum from two receivers

■ The RA6366 and RA6367 Panoramic Adapter Spectrum Display Units are used with the RACAL RA6217 series* of high-frequency receivers to provide a visual display of RF and IF signals between 980 kHz to 30 MHz (extended down to 3kHz with use of the RA6337 Low-Frequency Converter).

■ The RA6367 is essentially two RA6366 units built into one chassis; two CRT's (2¾" x 1⅛") are arranged adjacent to each other to give an effective display length of 5½ inches.

■ The RF-1 mode (narrow band) provides for the resolution of two RF signals separated by 1kHz or more at a RF sweep width of 100 kHz (adjustable). The RF-2 mode (wideband) provides for the resolution of two RF signals separated by 10 kHz or more at a RF sweep width of 100 kHz to 1MHz (adjustable). The frequency spectrum to be displayed is selected by the MHz tuning control of the receiver.

■ The IF mode provides for the resolution of two signals separated by 1kHz or more at an IF sweep width adjustable to 75 kHz. The frequency spectrum to be displayed is selected by the kHz tuning control of the receiver.

■ A marker showing the frequency to which the receiver is set permits the operator to select any part of the wide band spectrum for examination. Markers are also available at 100 kHz intervals and at the center IF frequency.

■ The RA6367 may be used with two receivers to display different MHz bands or, by presenting the first 500 kHz on the left and the remaining 500 kHz on the right, to show a 1 MHz spectrum over the double screen length. It also has the unique capability of permitting any selected signal to be analyzed in a narrow band IF mode while retaining the display of the wide band RF spectrum on the other trace.

■ The basic RA6366M occupies a half rack-width. The standard unit, RA6366A, is mounted on a 19 inch panel 3½ inches high with a supporting framework suitable for carrying slides. The RA6367 occupies the full 19 inch rack width with the same panel height. A combination of the RA6366 with an RA6337 L.F. Converter on a single panel is available as an RA6503 Converter/Display Unit.

*Also compatible with other RACAL receivers.

RACAL

COMMUNICATIONS, INC.

Publication No. 236U2

TECHNICAL DESCRIPTION

■ The novel frequency converting circuit of the RA6217 series of Receivers allows the RA6366 to use the wide band intermediate frequency (2 to 3 MHz) to display a spectrum of up to 1 MHz in width.

■ In the IF mode, the Adapter is fed with a spectrum of 13 kHz bandwidth at 1.6 MHz. The RA6217E Receiver has a 1.6 MHz output with 75 kHz bandwidth permitting a wider spectrum to be analyzed. The RA6366B-1 unit incorporates a switch to select the narrow or wide band IF mode of operation.

■ A sawtooth generator, which provides the 'X' deflection for the cathode ray tube, drives the two respective sweep oscillators for the RF and IF modes. The output from one of these oscillators is mixed with the wide or narrow band IF from the receiver according to the selection of RF or IF mode; signals appearing at the mixer output will thus depend on the instantaneous frequency of the sweep oscillator and consist successively of the signal levels occurring in the spectrum under observation. These appear in the final IF of 455 kHz and, after suitable band-pass filtering, are rectified, amplified, and applied to the 'Y' plates of the cathode ray tube.

■ Part of the output of the receiver 2nd VFO is also mixed with the output from the sweep oscillator using the resulting output to initiate a trace marker which shows the point to which the receiver is tuned. Alternatively, a harmonic generator can be switched into circuit to produce markers to calibrate the trace at 100 kHz intervals.

■ Power for the RA.6366 can be derived from the associated receiver. The RA.6367, however, has its own self-contained power unit and is operated from regular line supplies.

TECHNICAL SPECIFICATIONS

(The use of a Racal RA6217 series Receiver is assumed where applicable)

OPERATION:
a) RF Mode: Panoramic display up to 1 MHz wide
b) IF Mode: Spectrum analysis facilities of up to 75 kHz bandwidth centered on the receiver tuned frequency

INPUT FREQUENCIES:
RF Mode: 2-3 MHz
IF Mode: 1.6 MHz, 75 kHz bandwidth

SWEPT FREQUENCY RANGE:
RF Mode: Adjustable from 100 kHz to 1 MHz
IF Mode: Adjustable from 7.5 kHz to 75 kHz

RESOLUTION:
RF Mode: Separates two equal amplitude signals 10 kHz apart
IF Mode: Separates two equal amplitude signals 1 kHz apart

SWEEP RATE:
4 per second (approx)

FREQUENCY MARKERS:
RF Mode: (a) Movable marker indicates receiver tuned frequency
(b) At fixed 100 kHz intervals across spectrum
IF Mode: IF center frequency

SENSITIVITY:
Normally ¼ scale deflection for 1 microvolt input signal depending on type of associated receiver.

SPURIOUS RESPONSES:
At least 50 db below deflection level of a 1 microvolt input signal

DISPLAY:
Rectangular cathode ray tube (2¾" x 1⅛")
RA.6366: Single tube
RA.6367: Two tubes (total screen length 5½")

POWER SUPPLY:
RA.6366: Derived from receiver
(a) – 16 volts DC regulated, 135 ma (nominal)
(b) 21 to 40 volts DC unregulated, 205 ma (nominal)
RA.6367: Self-contained power supply unit operating from AC line supply:
100-125 v and 200-250 v, 48-420 Hz

ENVIRONMENTAL CONDITIONS:
Temperature: 0°C to 55°C Operating
– 40°C to 70°C Storage
Altitude: 10,000 feet Operating
30,000 feet Storage

DIMENSIONS:
RA.6366M: 3½" high x 8¼" wide x 16" deep
RA.6366A & B: 3½" high x 19" wide x 17" deep
RA.6367: 3½" high x 19" wide x 17" deep
RA.6503: 3½" high x 19" wide x 17" deep

WEIGHTS:
RA.6366M: 12 pounds (approx)
RA.6366A & B: 14 pounds (approx)
RA.6367: 27 pounds (approx)
RA.6503: 19 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.

RACAL
COMMUNICATIONS, INC.
5 RESEARCH PLACE, ROCKVILLE, MARYLAND 20850
PHONE: (301) 948-4420 • TELEX 898-456 • CABLE RACOMINC

Printed in the U.S.A.