

DRAKE RR-1 MARINE RESERVE RECEIVER

- Complete marine band coverage
150 kHz to 30 MHz
- Frequency displayed to 1 kHz
- All Solid State
- AM, SSB, CW, RTTY*
- Standard 19 inch x 7 inch rack mount
- Accessories available to accommodate
specific requirements

*with RY-4 Accessory

R. L. DRAKE COMPANY



*Equipment for
Radio Communications*

GENERAL

The R. L. Drake Model RR-1 receiver is a commercial grade communications receiver employing the most up to date solid state devices and circuitry offering complete marine band coverage from 150 kHz to 30 MHz. The received frequency is indicated by a two speed dial that has accurate calibrations every 1 kHz. Modular construction on easily accessible printed circuit boards is used throughout the RR-1. The large use of dual gate MOS-FET transistors in the RR-1 circuitry contributes to its superior intermodulation, AVC, wide dynamic range and overload performance. The front panel controls allow the operator to select frequency, AM, CW, LSB and USB reception, AF and RF gain, accessory crystals, range (bandswitch), preselector tuning, AC or DC power, AGC on and off, and an antenna input attenuator.

Consideration in the design of the RR-1 has been given to special customer requirements. Accessories and space have been reserved in the RR-1 so that performance and operating modes to fill special customer needs can be accommodated. The R. L. Drake RR-1 receiver is among the lowest cost commercial grade marine reserve receivers available today upholding the R. L. Drake Company's philosophy, "More Performance and Lower Cost Through Engineering."

SPECIFICATIONS

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|-------------------------------------|--|--------------------------------|-------------------------------------|---------------------------|-------------------------------|------------|-------------------------------|----------|------------------------------|---------------------|---------------------------|--------------------------------|------------|------------------------------|----------|-----------------------------|
| Frequency Range | 150-535 kHz, 1.5-4 MHz, 4-4.5 MHz, 6-6.5 MHz, 8-9 MHz, 12-13.5 MHz, 16-17.5 MHz, 22-23 MHz, 25-26 MHz. (4 additional 500 kHz ranges from 1.5 MHz to 30 MHz are available with the addition of the appropriate accessory crystals.) | | | | | | | | | | | | | | | |
| Modes of Operation | USB, LSB, CW, AM, (RTTY with RY-4 accessory installed) | | | | | | | | | | | | | | | |
| Frequency Readout | Within ± 1 kHz when receiver is calibrated to the nearest 100 kHz point against the internal 100 kHz calibrator | | | | | | | | | | | | | | | |
| Frequency Stability | Less than 100 Hz for any 8 hour period after 1 hour warm up at 25° C ambient temperature with less than $\pm 10\%$ variation in supply voltage. | | | | | | | | | | | | | | | |
| Sensitivity | <table> <tr> <td rowspan="3">Mode: AM 30% modulation 1 kHz</td><td>350-535 kHz*¹</td><td>10 microvolts for 10 dB SINAD</td></tr> <tr> <td>1.5-4 MHz*</td><td>25 microvolts for 20 dB SINAD</td></tr> <tr> <td>4-26 MHz</td><td>5 microvolts for 20 dB SINAD</td></tr> <tr> <td rowspan="3">Mode: CW and SSB</td><td>350-535 kHz*²</td><td>2.5 microvolts for 10 dB SINAD</td></tr> <tr> <td>1.5-4 MHz*</td><td>5 microvolts for 20 dB SINAD</td></tr> <tr> <td>4-26 MHz</td><td>1 microvolt for 20 dB SINAD</td></tr> </table> | | Mode: AM 30% modulation 1 kHz | 350-535 kHz* ¹ | 10 microvolts for 10 dB SINAD | 1.5-4 MHz* | 25 microvolts for 20 dB SINAD | 4-26 MHz | 5 microvolts for 20 dB SINAD | Mode: CW and SSB | 350-535 kHz* ² | 2.5 microvolts for 10 dB SINAD | 1.5-4 MHz* | 5 microvolts for 20 dB SINAD | 4-26 MHz | 1 microvolt for 20 dB SINAD |
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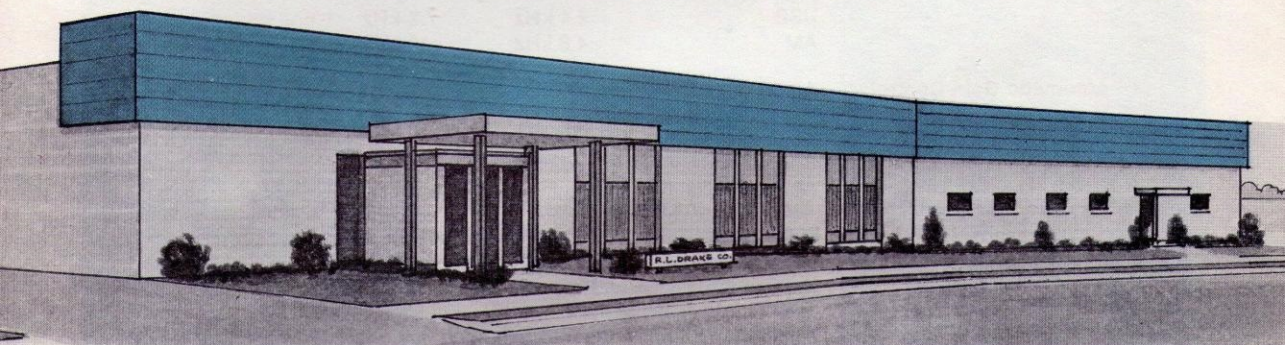
*Measurements taken with signal generator with source impedance of 10 ohms in series with 250 pF below 4 MHz. Source impedance 50 ohms above 4 MHz.

*¹ British GPO Version 100uV

*² British GPO Version 25uV

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|--|---|---|---|
| Image Rejection | <p>Greater than -60 dB below 15 MHz Greater than -50 dB above 15 MHz</p> | | |
| Blocking | <p>An unwanted, unmodulated signal 120 dB above 1 microvolt 20 kHz above or below wanted signal will not reduce the desired signal more than 3 dB as measured at the receiver output. The desired signal has a level of 60 dB above 1 microvolt and is modulated 30% at 1 kHz.</p> | | |
| Cross Modulation | <p>An unwanted signal 90 dB above 1 microvolt, modulated 30% at 1 kHz at a frequency removed more than 20 kHz above or below a desired A1 (CW) signal at a level of 60 dB above 1 microvolt will not produce interference greater than 30 dB below standard output for the desired signal.</p> | | |
| Intermodulation | <p>Between 405 and 535 kHz, two interfering signals must have a level of 100 dB or more to give products equal to standard output. The reference signal for this measurement is 40 dB above 1 microvolt. Between 1.5 and 26 MHz, the interfering signals must be 65 dB or more with the reference signal 30 dB above 1 microvolt.</p> | | |
| I. F. Bandwidth | Selectivity CW Narrow CW Broad/LSB USB AM | -6 dB 0.4 kHz 2.4 kHz 2.4 kHz 4.8 kHz | -60 dB 2.7 kHz 7.2 kHz 7.2 kHz 10 kHz |
| Automatic Gain Control | <p>Audio output rises less than 6 dB for 120 dB increase in RF input above AVC threshold level.</p> | | |
| Antenna Input Impedance | <p>Below 4 MHz: High Impedance Above 4 MHz: 50 ohms</p> | | |
| Excessive RF Input Voltage Protection | <p>Withstands 30 volts RMS with a 50 ohm impedance continuously.</p> | | |
| Audio Output | <p>3 watts into 4 ohms. Additional 10 milliwatts into balanced 600 ohm line with accessory line amplifier</p> | | |
| Power Requirements | <p>120/240 VAC 50-60 Hz 18 watts 24 VDC 6 watts</p> | | |
| Dimensions | Width Depth Height | 19 inches rack mount 11 inches 7 inches | (48.26 CM) (27.94 CM) (17.78 CM) |
| Weight | 14 pounds (rack mount) | | (6.35 KG) |
| Accessories | <p>RY-4 Radioteletype Adapter Line Amplifier 5-NB noise blanker Cabinet for desk mounting the RR-1 Accessory range crystals</p> | | |

*Any remaining questions concerning the RR-1 or any other Drake product
will be gratefully answered. Please write to the R. L. Drake Company*



R. L. DRAKE COMPANY



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