

Radius® RKR1225

# Repeater

## RKR1225



Repeater relays both 12.5 kHz and 25 kHz.

*Motorola made it hard to hear a difference.*

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# Repeater Transceiver Specifications

| General                           |   |       |             |       |
|-----------------------------------|---|-------|-------------|-------|
|                                   | VHF   |       | UHF         |       |
| <b>Programmable Power:</b>        | 1-10W   |       | 25-50W      |       |
| <b>Model Series:</b>              | M03GRC  | H5165 | M43GRC      | H5158 |
| <b>Frequency Bandwidth:</b>       | 146-174 MHz   |       | 444-474 MHz |       |
| <b>Channel Spacing:</b>           | Switchable 12.5/20/25/30 kHz  |       |             |       |
| <b>Frequency Separation:</b>      | 28 MHz  |       | 30 MHz      |       |
| <b>Channel Capacity:</b>          | 16 Channels   |       |             |       |
| <b>Dimensions:</b>                | 5.25"H x 19"W x 13.5"D (133 x 482 x 343 mm)                           |       |             |       |
| <b>Weight:</b>                    | 22 lbs. (10 Kilos)  |       |             |       |
| <b>Duty Cycle:</b>                | Continuous @ 25W and 1-10W<br>50% @ 45/50W (5 min. on/5 min. standby) |       |             |       |
| <b>Input Voltage Repeater:</b>    | 115/230 Vac ± 10%   |       |             |       |
| <b>Transceiver:</b>               | 13.8 Vdc ± 10%  |       |             |       |
| <b>Input Current Repeater:</b>    | 2.6 Aac (maximum) @ 115 Vac   |       |             |       |
| <b>Transceiver (@13.8 Vdc)</b>    | 1.3 Aac (maximum) @ 230 Vac   |       |             |       |
| <b>Standby:</b>                   | 0.45 Ad   |       |             |       |
| <b>RX@7.5W:</b>                   | 1.5 Adc   |       |             |       |
| <b>TX@50/45W:</b>                 | 14.0 Adc  |       |             |       |
| <b>12.5 Adc</b>                   |   |       |             |       |
| <b>Squelch Code Capabilities:</b> | TPL/DPL/CSQ   |       |             |       |

| Transmitter                    |  |              |                         |              |
|--------------------------------|--|--------------|-------------------------|--------------|
|                                | VHF  |              | UHF                     |              |
| <b>RF Output:</b>              | 1-10W  |              | 25-50W                  |              |
| <b>Frequency Stability:</b>    | ±2.5 ppm (-30C to +60C)                                    |              | ±1.5 ppm (-30C to +60C) |              |
| <b>Spurs/Harmonics:</b>        | -23 dBm  |              | -23 dBm                 |              |
| <b>Audio Response:</b>         | TIA603<br>(From a 6 dB/Octive Pre-emphasis 300 to 3000 Hz) |              |                         |              |
| <b>Audio Distortion:</b>       | <3% EIA<br>(@ 1000 Hz 60% rated Maximum Deviation)         |              |                         |              |
| <b>Modulation Sensitivity:</b> | 80 mV (rms for 60% deviation @ 1000 Hz)                    |              |                         |              |
| <b>FM Noise:</b>               | 12.5 kHz   | 20/25/30 kHz | 12.5 kHz                | 20/25/30 kHz |
|                                | -40 dB   | -45 dB       | -40 dB                  | -45 dB       |
| <b>FM Modulation:</b>          | 11K0F3E  |              | 16K0F3E                 |              |
| <b>FCC Designation:</b>        | ABZ99FT3024  | ABZ99FT3023  | ABZ99FT4024             | ABZ99FT4023  |

| Receiver                              |   |              |          |              |
|---------------------------------------|---|--------------|----------|--------------|
|                                       | VHF   |              | UHF      |              |
| <b>Sensitivity - 12dB SINAD:</b>      | .35µV (-116.1 dBm)  |              |          |              |
| <b>Internal Squelch (SINAD)</b>       | 10 dB nominal setting; Adjustable from off to 20 dB       |              |          |              |
| <b>Selectivity:</b>                   | 12.5 kHz  | 20/25/30 kHz | 12.5 kHz | 20/25/30 kHz |
|                                       | -65 dB  | -85 dB       | -65 dB   | -80 dB       |
| <b>Intermodulation:</b>               | -80 dB  |              | -80 dB   |              |
| <b>Usable Bandwidth:</b>              | 1.2 kHz   | 2.0 kHz      | 1.2 kHz  | 2.0 kHz      |
| <b>Spur Rejection:</b>                | -85 dB  |              |          |              |
| <b>Image Rejection:</b>               | -80 dB  |              |          |              |
| <b>Audio Output Internal Speaker:</b> | 3 Watts   |              |          |              |
| <b>External Speaker:</b>              | 7.5 Watts with 8Ω speaker                                 |              |          |              |
| <b>Audio Response:</b>                | TIA603<br>(From a 6 dB/Octive De-emphasis 300 to 3000 Hz) |              |          |              |
| <b>Input Impedance:</b>               | 50Ω   |              |          |              |

| Equipment Physical Characteristics   |               |              |               |                    |  |
|--|---------------|--------------|---------------|--------------------|--|
|  | Height        | Width        | Depth         | Weight             |  |
| <b>RKR1225 Repeater Station (includes the weights of chassis, mounting brackets, front panel, control head and cables &amp; fan assembly):</b> | 5.25" (138mm) | 19" (482mm)  | 13.5" (343mm) | 22 lbs. (10kg)     |  |
| <b>R1225 Transceiver (High Power Models):</b>  | 2.0" (51mm)   | 7.0" (178mm) | 8.37" (213mm) | 5.5 lbs. (2.5kg)   |  |
| <b>Repeater Controllers (Maximum Dimensions):</b>  | 1.3" (33mm)   | 7.1" (180mm) | 8.7" (221mm)  | 1.7 lbs. (0.77kg)  |  |
| <b>Preselector (Maximum Dimensions):</b>   | 1.3" (33mm)   | 4.2" (105mm) | 9.3" (235mm)  | 2.1 lbs. (0.9kg)   |  |
| <b>Duplexer (Maximum Dimensions):</b>  | 1.3" (33mm)   | 6.3" (160mm) | 9.5" (241mm)  | 3.5 lbs. (1.59kg)  |  |
| <b>Power Supply:</b>   | 2.0" (51mm)   | 7.0" (178mm) | 7.5" (191mm)  | 3.1 lbs. (1.41kg)  |  |
| <b>Fan Assembly:</b>   | 4.8" (122mm)  | 4.8" (122mm) | 1.5" (38mm)   | 0.5 lbs. (0.23kg)  |  |
| <b>Battery Revert Module:</b>  | 1.7" (43mm)   | 5.4" (137mm) | 2.9" (74mm)   | 0.61 lbs. (0.27kg) |  |

Typical specifications. All measurements per TIA/EAI-603.

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