

PRODIGI™, the Intelligent Choice for Digital Two-Way Communication

RDR42x0 Portables



RDR4220 RDR4250 RDR4280

**5 Watts VHF / 4 Watts UHF,
16/1000 Channels, Analog,
DMR Tier II, Prodigy™ Plus**



ADVANCED MULTI-MODE FUNCTIONALITY With different operating modes — Conventional Analog, Conventional Digital DMR Tier II, Digital DMR based PRODIGI™ Plus, the portable will truly meet even the most demanding communication needs. The RCA RDR42x0 series digital portables radios are designed to connect your workforce efficiently and provide you with reliable communication allowing you focus on growing your business.

CROSS-BRAND COMPATIBILITY Utilizing the DMR Digital technology according to the ETSI Standards the RDR42x0 series portables are compatible with all RCA two-way radios as well as all other major brands, including digital equipment, such as Motorola, Kenwood, Hytera and Vertex series digital two-way radios and repeaters.

INDUSTRIAL DURABILITY AND RELIABILITY Designed with durability in mind with lightweight and rugged aluminum alloy die-cast chassis, 3.5 mm thick high quality, polycarbonate thermoplastic housing with superior toughness, flame retardancy, scratch and heat resistance and seven (7) battery locking points to the radio chassis.

WATERPROOF AND DUSTPROOF DESIGN The RDR42x0 series portables are designed and built with the most demanding conditions in mind. Your team needs radios that will not fail them, regardless of the working environment. The radios are designed to the Military 810C, D, E, F, G and the IP67 Water Resistant and Dust Proof standards.

FEATURE RICH AND VERSATILE The RDR42x0 series portables come in 3 different models, the standard non-display RDR4220 unit; the upgraded RDR4250 with large, 1.8 inch Full Color Display and navigation keys; the advanced RDR4280 unit with a large, 1.8 inch Full Color Display, full keypad. Businesses, Departments and Government Agencies can choose the best model for their needs, taking advantage of advanced features such as Caller ID, Group and Private Call, Radio Check, Radio Monitor, Radio Enable/Disable, Emergency, Man Down, Lone Worker Alerts, Text Messaging, Pre-saved Status Messaging, Encryption and more.

IMPROVED COMMUNICATION RANGE The RDR42x0 Radios utilize the DMR digital technology allowing for the transmissions to stay clear from background noise regardless of the distance between two radio units, providing virtually no deterioration of the voice quality, thus increasing the usable coverage area where analog communication will be very poor or not possible at all.

FULL SHIFT PERFORMANCE The RCA PRODIGI™ RDR42x0 series portables provide up to 40% improved battery performance in digital mode over analog, allowing for longer operating time on a single battery charge. With a typical duty cycle of 5 (Rx) - 5 (Tx) - 90 (Stand By), the RDR4220 non-display unit with 2300mAh Lithium Ion battery can provide up to 10 hours* of operation in Analog mode and up to 14 hours* of operation in Digital mode.

INTRINSICALLY SAFE OPTION Certified to the requirements of UL 913 5th Ed., TIA 4950-A, CSA C22.2 No. 157- 92 | Class I, II, III; Division 1; Groups C-G; Division 2; Groups A-G; Temp T3C (with B4223LIIS IS Approved Battery Only) for use in hazardous locations where flammable gas, vapors or combustible dust may be present. The RDR42x0 Series Intrinsically Safe Certified Radios can be used in a wide range of applications and industries such as Oil and Gas Extraction, Chemical

Features and Options

- DMR TII Conventional
- Prodigi™ Plus Mode*
- Analog Conventional
- Group and Private Calling, All Call
- PTT ID
- Text Messaging
- Scanning & Priority Scanning
- Radio Check
- Remote Radio Monitor
- Radio Enable/Disable
- Call Alert
- One Touch Access
- Emergency Alarms
- Man Down Alert
- Lone Worker Alert
- Advanced Digital Encryption Options*
- Roaming*
- GPS*
- DTMF, 2-Tone, 5-Tone and MDC1200 Signalling Options
- Up to 8 Programmable Function Keys
- X-Sound+HD Enhanced Audio
- Large 1.8 inch Full Color LCD Display
- Ergonomic Design with Large Knobs and Keys
- Battery Packs with High Quality Japanese Cells
- IP67 Design
- 3 Year Warranty

*** Optional Features**

RDR4220 / RDR4250 / RDR4280 SPECIFICATIONS

and Paint Manufacturing, Refineries and more.

AVAILABLE ADVANCED OPTIONS When workers safety and communication security are of utmost importance, the RDR42x0 radios offer optional GPS Location tracking service* and advanced 40-bit ARC4 type encryption. Encrypting your radio communications and tracking your asset's location results in improved worker safety, increased productivity and shortened incident response time.

INDUSTRY LEADING WARRANTY The RCA RDR42x0 series portables are backed standard by an industry leading, hassle-free Three (3) Year Warranty.

| GENERAL SPECIFICATIONS | |
|--|--|
| Model | RDR4220 / RDR4250 / RDR4280 |
| Communication Protocols & Standards | DMR TII ETSI-TS102 361-1, -2, -3 Analog Conventional |
| Frequency Bands | 136-174MHz / 400-512MHz |
| Channel Capacity | 16 / 1000 (model dependent) |
| Channel Spacing | 12.5KHz / 25KHz |
| Operating Voltage | 8.4V (Max) 7.4V (Nominal) |
| Battery Pack | 2300mAh / 17.02Wh (Lithium-Ion) 3250mAh / 24.05Wh (Lithium-Ion) |
| Current Drain (Approx.) | Standby: 0.14A TX: 1.4A RX: 0.35A |
| Working Time (5-5-90 Duty Cycle) *w/o Display | Analog: up to 10h Digital: up to 14h |
| Dimensions (Standard battery, not including antenna) | 5.1 x 2.2 x 1.4 inch (H*W*D) 130.2 x 57 x 35.8 mm (H*W*D) |
| Weight (Standard battery, including antenna) | With LCD Display- 365gr. (12.8oz) No LCD Display- 340gr. (11.9oz) |
| Antenna Impedance | 50Ω |
| Antenna Gain | 0dBi |
| LCD Display | 1.8 inches, 160x128 px., Full Color |
| Emission Designators | Analog 11K0F3E, 16K0F3E Digital 7K60F1D, 7K60F1E |

| ENVIRONMENTAL SPECIFICATIONS | |
|---|---|
| Operation Temperature* | -22°F (-30°C) / 140°F (60°C) |
| Storage Temperature* | -40°F (-40°C) / 185°F (85°C) |
| ESD | IEC 61000-4-2 (Level 4); ±8KV(Contact); ±15KV(Air) |
| Designed to meet Environmental Test Standard for Temperature, Fall, Vibration | MIL-STD-810 C; D; E; F; G |
| Water and Dust Proof Level | IP67 |

| INTRINSICALLY SAFE CERTIFICATION | |
|--|--|
| UL 913 5th Ed., TIA 4950-A, CSA C22.2 No. 157- 92 I Class I, II, III; Division 1, Groups C-G; Division 2, Groups A-G; Temp T3C. (*Requires B4223LIIS or B4233LIIS Battery Packs) | |

| TRANSMITTER | |
|-------------------------------|---|
| Power Output | 5 Watts VHF / 4 Watts UHF |
| FM Modulation | 11K0F3E @12.5KHz |
| 4FSK Digital Modulation | 12.5kHz Data: 7K60F1D 12.5kHz Voice: 7K60F1E |
| Frequency Stability | ±1ppm |
| FSK Error | ≤3% |
| Conducted / Radiated Emission | -36dBm <1GHz / -30dBm >1GHz |
| Modulation Limiting | ±2.5KHz @12.5KHz ±5.0KHz @25KHz |
| FM Hum and Noise | -40dB@12.5KHz / -45dB@25KHz |
| Adjacent Channel Power | 60dB(12.5kHz) / 70dB(25kHz) |
| Audio Response (TIA603D) | +1 dB to -3 dB |
| Audio Distortion (typical) | ≤3% |

| RECEIVER | |
|--|---|
| Sensitivity (typical) | Analog 0.22µV (12dB SINAD) Digital 0.20µV (5% BER) |
| Intermodulation (TIA603D) | 70dB |
| Adjacent Channel Selectivity (TIA603D) | 60dB @12.5KHz / 70dB @25KHz |
| Conducted Spurious Emission (TIA603D) | < -57dBm |
| Spurious Rejection (TIA603D) | 70dB |
| Hum and Noise | -40dB @12.5KHz; -45dB @25KHz |
| Rated Audio | 0.75W @ 3% Distortion / Max 1.5W |
| Rated Audio Distortion (typical) | ≤3% |
| Audio Response (TIA603D) | +1 dB to -3 dB |

| GPS | |
|---|---------------------|
| Accuracy is applicable for long time tracking. (95% with -130dBm signal strength, and min. 5 accessible satellites) | |
| TTF Cold Start | < 60 sec |
| TTF Hot Start | < 10 sec |
| Horizontal Location Accuracy | < 16.5 ft. (< 5 m.) |

*Battery usage is measured based on 5 (Rx) - 5 (Tx) - 90 (Stand By) cycle w/ non-display model and w/o advanced features turned on.

*GPS Location Reporting requires compatible dispatch console. Requires outdoor use to access satellite signals. Digital mode only.

*Operating and Storage temperature specifications listed are for the radios only. Using and storing battery packs in extreme temperatures can decrease their performance and may lead to damage of the cells. For more information please refer to the battery and charger user guides.

Disclaimer: The above specifications are tested according to the listed standards. Due to continuous technical development, they are subject to changes at any time without a prior notice.