



RF320 Series

Narrowband UHF/VHF Radios

Narrowband, UHF/VHF, licensed-radio communications

High quality radios



Overview

Campbell Scientific's RF320-series narrowband UHF/VHF radio transceivers provide a long-distance telemetry option for communicating with remote measurement stations. They are based on Ritron's rugged line of DTX-L narrowband analog radios. Each

radio includes a configured Ritron DTX-L radio, mounting bracket, and cable for connecting the radio to a radio modem. The different models vary by the frequency ranges they support.

Benefits and Features

- › Over-the-air compatible with our RF300-series radios and RF310-series radios
- › Compatible with the RF500M, RF500B, RF310M, and RF310B
- › Eight channels with programmable frequency and power settings
- › Low standby current

Technical Details

Each measurement station, repeater station, and computer base station in an RF network must have a radio, a user-supplied antenna, and radio modem. The Narrowband RF Networks brochure provides a more complete listing of components used in the mea-

surement stations, repeater stations, and computer base stations. Contact Campbell Scientific for more information about selecting the antenna and cable.

You must submit an application to the Federal Communications Commission (FCC) to acquire an FCC license and be assigned a frequency range. Go to <http://wireless.fcc.gov/uls> to file for an FCC license on-line. Once there, you can register then log in and apply for the license. The FCC-assigned frequency must be specified on your order.

More info: 780.454.2505

campbellsci.ca/rf320



Ordering Information

Radios

- RF320** VHF Radio programmed for 136 to 174 MHz frequency
- RF321** UHF Radio programmed for 400.5 to 416.5 MHz frequency
- RF322** UHF Radio programmed for 411 to 429 MHz frequency
- RF323** UHF Radio programmed for 450 to 470 MHz frequency

Configuration Options

- M1** Radio is configured for the RF500M or RF310M radio modem. An interface cable is also included.
- M2** Radio is configured for the AL200 ALERT2 Encoder. An interface cable is also included.

Accessories

- 31332** Surge Suppressor Kit for UHF/VHF radios
- 13855** Optional push-to-talk switch that triggers a brief transmission to verify operation of radio.

Specifications

General

- › Ritron Module: DTX-145 (VHF), DTX-445 (UHF)
- › FCC ID: AIERIT17-145 (VHF), AIERIT17-445 (UHF)
- › Industry Canada ID: 1084A-RIT17145 (VHF), 1084A-RIT17445 (UHF)
- › FCC Rule Parts: 90
- › Industry Canada Rule Parts: RSS-119
- › RF Channels: 8 Independent Tx/Rx frequencies
- › Synthesizer Step: 2.5 kHz (VHF), 6.25 kHz (UHF)
- › Frequency Stability (-30° to +60°C): ±2.5 PPM (VHF), ±1.5 PPM (UHF)
- › Channel Spacing: 12.5 kHz
- › Input Voltage: 9 to 17 Vdc
- › Dimensions: 14.5 x 7.6 x 3.5 cm (5.7 x 3 x 1.375 in)
- › Weight: 0.2 kg (7.3 oz)
- › Antenna Connector: BNC female

Current Drain @ 12.5 Vdc

- › Receive Standby: 25 mA
- › Transmitter (2 W output): < 0.9 A
- › Transmitter (5 W output): < 1.2 A

Transmitter

- › RF Power Output @ 12.5 Vdc: 2 W or 5 W
- › Duty Cycle (<13.5 V, 5 W output, 25°C): 50%
- › Voice Emissions Designator: 10K0F3E
- › Data Emissions Designator: 9K8F1D, 11K0F2D, 11K0F3D
- › Transmitter Attack Time: < 10 ms

Receiver

- › 12.5 kHz narrowband
- › Sensitivity (12 dB SINAD): 0.25 µV
- › Adjacent Channel: -60 dB
- › Receiver attack time (Tx to Rx): < 10 ms
- › Noise squelch sensitivity: PC adjustable; factory set for -121 dBm



Field stations are located at the measurement site. The above field station uses a Yagi antenna to transmit the data.



Repeater stations act as communication relays between stations that cannot communicate directly due to distance or obstacles. Repeater stations use omnidirectional antennas.

