Digital Receiver Technology, Inc.

Approved for Public Release

DF240C

DESCRIPTION

Direction Finding Antenna System

The DF240C is a tactical, man-portable Direction Finding (DF) antenna system with high sensitivity. The DF240C is used with DRT receivers to locate the source emitters for signals in the 100 MHz to 3000 MHz frequency range. The DF240C is compatible with DRT4411B-R, and DRT4413B-R receiver systems.

The DF antenna connects to the DRT receiver using coaxial RF and control cabling. There are two auxiliary RF connectors on the antenna so it can be joined and used in concert with a DF520 – Low Frequency Extender (LFE). The DF520 extends the low frequency range to 20 MHz and improves performance in the 100 to 600 MHz range. The system includes an integrated electronic compass. The system is powered through the DRT receiver. It may be mounted in a variety of ways. The DF240C is weather-resistant for continuous outdoor operation and is water resistant to 1 meter for a period of 30 minutes.

Features

- Tactical, Man-Portable
- Broad Frequency Range: VHF, UHF
- Extensible down to 20 MHz with LFE option
- Mapping and Geolocation
- Capable of Tracking Multiple Targets
- DRT Receiver Compatibility
- Auxiliary port for use with optional DF520 Low Frequency Extender
- Manpack, Tripod, and Vehicle mount standard. Can be adapted for Airborne or Shipboard use.

DF240C Specifications	
Frequencies	Optimized for 100 – 3000 MHz (down to 20 MHz with DF520)
DF Modes	Commutated DF
Polarization	Vertical
Mounting Options	Manpack (OTM and OTH), Vehicle Mount (pole mount) standard. Can be adapted for Airborne or Shipboard mount.
Power Consumption	3.0 W max
DF Accuracy (RMS Error):	Typical Performance: Mast-mounted, off-body: ≤ 5° 100-600 MHz ≤ 2° 600-3000 MHz Ruck-mounted, on-body: ≤ 8° 100-600 MHz ≤ 5° 600-3000 MHz DF520 LFE option: ≤ 2° 20-600 MHz
Sensitivity	Contact DRT for detailed information on typical sensitivity with DRT Receiver.
LOB Rate	14 LOBs per second
Navigation	Compass
Operating Temperature	–4° F to +140° F (–20° C to +60° C)
Array Size	**Without DF520 option**: 10.30 in (26.16 cm) W x 11.63 in (29.54 cm) D x 11.12 in (28.24 cm) H **DF520 option**: Deployed: 29 in (73.7 cm) D x 47.5 in (120.7 cm) H (includes tripod); Stowed: 7 in (17.8 cm) D x 30 in (76.2 cm) H
Weight	**Without DF520 option:** 7.7 lbs (3.5 kg) **DF520 option**: LFE weighs 9.45 lbs. (4.29 kg) including integrated tripod NOTE: All weights exclude cabling to DRT receiver
Compatible with	DRT4411B-R, DRT4413B-R
Water Resistance	Immersible up to 1 meter for 30 minutes
Auxiliary Ports	Can be used with DF520 (LFE)
Colors	Black, Desert Tan, various Camo patterns

DRTview Geolocation Mapping Software

The DF antenna includes *DRTview*, DRT's geolocation mapping software tool. *DRTview* takes geolocation data such as LOBs provided by one or more DRT receiver systems (live or from logs) and displays the data on a map or image. Using a single type of data or a combination of these data types, *DRTview* calculates and displays real-time updated geolocation estimates (fixes), their respective uncertainty ellipses, and filtered data. See the *DRTview* data sheet for more information.

Standard Cable

- Cable Assy – DF Interface Cable, DSUB/MS, 50 ohm, 6 ft. (1.83 m)

Optional Cables

- Cable Assy – DF Interface Cable, DSUB/MS, 50 ohm, 12 ft. (3.66 m)
- Cable Assy – DF Interface Cable, DSUB/MS, 50 ohm, 25 ft. (7.62 m)

Low Frequency Operation with Optional DF520 (LFE)

The DF520 extends the low frequency range to 20 MHz and improves performance in the 100 to 600 MHz range. The DF240C is placed in the middle of the DF520 array and the DF520 antenna elements connect to the auxiliary port on the rear of the DF240C.

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