Digital Receiver Technology, Inc.

Approved for Public Release

DF100B

DESCRIPTION

Direction Finding Antenna System

The DF100B is a tactical Direction Finding (DF) antenna system with high sensitivity. The DF100B is used with DRT receivers to locate the source emitters for signals in the 20 MHz to 3000 MHz frequency range.

The DF antenna connects to the DRT receiver using coaxial RF and control cabling. The system includes a built-in ultra-wideband omni antenna, electronic compass, and an external GPS antenna connection. The system is powered through the DRT receiver. It can be mounted in a variety of ways. The DF100B is weather-resistant for continuous outdoor operation.

Features

- Broad frequency range: VHF, UHF
- Mapping and geolocation
- Capable of tracking multiple targets
- Integrated wideband omni antenna
- DRT receiver compatibility
- Tripod and vehicle mount standard. Can be adapted for airborne and shipboard use.

DF100B Specifications	
Frequencies	20 – 3000 MHz
DF Modes	Standard commutated DF
Integrated Omni Antenna	Includes a wideband omni antenna
Polarization	Vertical
Mounting Options	Fixed site, vehicle mount (pole mount) standard. May be adapted for airborne or shipboard mount. Do not mount directly to metal tripod/mast.
Power Consumption	12 W typical. 14 W max. Higher than 12 W usage only applies when using cables longer than 25 ft. Note: DRT1301C does not support DF100B power consumption greater than 12 W. When using cables longer than 25 ft. with DRT1301C, RF sensitivity may be reduced.
DF Accuracy (RMS Error)	Typical performance: 5° 20 - 500 MHz, 3° 500 - 3000 MHz
Sensitivity	Contact DRT for detailed information on typical sensitivity with DRT Receiver.
LOB Rate	10-32 LOBs per second (depending on format and DRT system type); typically 10 for SGPR
Navigation	Compass & GPS
Operating Temperature	– 4° F to +140° F (–20° C to +60° C)
Array Size	~16.5 in. (41.8 cm) Dia. ~12.4 in. (31.6 cm) H
Weight	23.0 lbs. (10.43 kg)
Compatible with	DRT1183C, DRT12xxC, DRT1301C
Water Resistance	Wind driven rain
Colors	Black

Software Control

Alaska, DRT's standard control software, provides integrated direction finding control and reporting.

Using state-of-the-art algorithms, the DF software module (running on the DRT receiver) controls the antenna array and computes line-of-bearing (LOB) results continuously or on demand.

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 Cables and Adapters

DF100B-V1 (For use with DRT1301C+)

- Cable Assy – DF Interface Cable, DSUB/MS, 50 ohm, 25 ft. (7.62 m)
- Cable Assy – DRT1301C+ RF Adapter

DF100B-V2 (For use with DRT11xx or DRT12xx)

- Cable Assy – DF Interface Cable, DSUB/MS, 50 ohm, 25 ft. (7.62 m)
- Cable Assy – DRT11xx/DRT12xx DF Power/Control Adapter
- Cable Assy – DRT11xx/DRT12xx RF Adapter

Optional Cables and Adapters (Specify V1 or V2 System)

- Cable Assy – DF Interface Cable, DSUB/MS, 50 ohm, 50 ft. (15.24 m)
- Cable Assy – DF Interface Cable, DSUB/MS, 50 ohm, 75 ft. (22.86 m)

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