Digital Receiver Technology, Inc.

Approved for Public Release

DF300A

DESCRIPTION

Direction Finding Antenna System

The DF300A is a Direction Finding (DF) antenna system with high sensitivity 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, an external GPS antenna connection and electronic compass. The system is powered through the DRT receiver. It may be mounted in a variety of ways. The DF300A 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.

DF300A Specifications	
Frequencies	20 – 3000 MHz
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.
Power Consumption	12W max
DF Accuracy (RMS Error)	3 Degree, 10 dB SNR*
DF Antenna 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	–10°C (–20°C goal) to +60°C (14°F to +140°F)
Array Size	~ 30.45 in. (77.34 cm) Diameter ~ 16.75 in. (42.55 cm) High
Weight	~ 63 lbs (28.6 kg)
Compatible with	DRT1183C, DRT12xxC, DRT1301C

* The standard 25 ft. DF cable was used to achieve the stated specifications. Use of optional DF cable lengths of 50 ft. and 75 ft. will result in degraded performance. Additional equipment may be required for certain mounting situations. Please contact your DRT representative for details.

Software Control

Using state-of-the-art algorithms, the DF software module (running on the DRT receiver) controls the antenna module and computes line-of-bearing (LOB) results continuously or on demand. *Alaska,* DRT's standard control software, provides integrated direction finding control and reporting.

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

DF300A-V1 (For use with DRT1301C+)

- Cable Assy - Antenna Array to DRT Receiver, MS/MS, 50 ohm, 25 ft.
- Cable Assy - DRT1301C+ RF Adapter

DF300A-V2 (For use with DRT11xx or DRT12xx)

- Cable Assy – Antenna Array to DRT Receiver, MS/MS, 50 ohm, 25 ft.
- Cable Assy – DRT11xx/DRT12xx DF Power/Control Adapter
- Cable Assy – DRT11xx/DRT12xx RF Adapter

Optional (Specify V1 or V2 System)

- Cable Assy – Antenna Array to DRT Receiver, MS/MS, 50 ohm, 10 ft.
- Cable Assy – Antenna Array to DRT Receiver, MS/MS, 50 ohm, 15 ft.
- Cable Assy – Antenna Array to DRT Receiver, MS/MS, 50 ohm, 50 ft.
- Cable Assy – Antenna Array to DRT Receiver, MS/MS, 50 ohm, 75 ft.

.

12409 Milestone Center Drive, Germantown, MD 20876-7114
Phone: 855-401-4185 ~ Fax: 301-916-5787 ~ www.drti.com ~ international@drti.com

Rev. 2.6-INT, January 2014