RDF PRODUCTS

Vancouver, Washington, USA +1-360-253-2181

Product Data Sheet; Model DFR-1000B *Wideband HF/VHF/UHF*

Radio Direction Finding Receiver & Watson-Watt DF Bearing Processor/Display

FEATURES

- **Ultra-Wide Coverage From 0.1-3000 MHz**
- **Real-Time TFT Polar Bearing Display**
- **Precision 3-Digit Numeric Bearing Display**
- **AM/FM/CW/SSB Demodulation Capability**
- **Simultaneous DF & Listen-Through**
- **Fast Pulse Response Capability**
- **6/15/30/200 kHz Selectable IF Bandwidths**
- **Real-Time RS-232 Bearing Output**

DESCRIPTION

The RDF Products Model DFR-1000B is a compact, self-contained wideband HF/VHF/UHF DF receiver and bearing processor/display designed for both mobile and fixed-site DF applications. Frequency coverage is from 500 kHz to 3000 MHz, limited only by the accompanying DF antenna.

Comprising the all-new DFP-1000B DF Processor/ Display and AOR AR8600 Mk2 Wideband Compact Communications Receiver, the DFR-1000B replaces the earlier DFR-1000A Dual-Band DF Receiver/Display and its companion DFS-1000 Frequency Synthesizer. Although its pricing is the same, the DFR-1000B offers the added features of ultra-wide frequency coverage in addition to all the enhanced features, performance, and versatility provided by the DFP-1000B.

Operationally, the AR8600 serves as a wideband tuneable down-converter for the DFP-1000B processor. Physically, the AR8600 mounts atop the DFP-1000B in exactly the same fashion as the DFS-1000A Synthesizer is mounted atop the DFR-1000A (the AR8600 is very similar in size to the DFS-1000).

The DFR-1000B employs a 360° degree real-time polar TFT bearing display that is unsurpassed in dynamic DF environments where either the signal source or the DF station is in motion. This highly intuitive display format is essential for discriminating valid bearings from noise, reflections, and interference. For fixed-site or other applications where higher bearing accuracy and resolution is required, the numeric bearing display allows bearing resolution down to 0.5°. Using the supplied Windows software controller package “DefCon2b”, the DFR-1000B can be remotely operated by computer as a “virtual DF receiver” as illustrated on the following page.

The DFR-1000B features excellent listen-through capability. With most signal formats, undistorted signal audio output is obtainable simultaneously with DF operation. Demodulators are included for AM, FM, CW, and SSB with built-in speaker or external headset audio output, along with two selectable IF bandwidths for optimum reception.

Five selectable bearing integration times are available for optimum DF performance for a wide variety of signal formats. With pulse response capability down to 35 milliseconds, the DFR-1000B can respond to very short duration signals (including A.I.D. beacons). Other features include bearing display Track & Hold, Range Tone, and GPS receiver/digital compass interfaces.

Rev B01/11-06/dfr1000b_pds_01

SPECIFICATIONS (subject to change without notice)

DF Technique:	Single-channel Watson-Watt
Frequency Coverage:	0.1-3000 MHz (subject to frequency limitations of attached DF antenna)
DF Sensitivity:	Established by DF antenna
RF Input Impedance:	50 ohms nominal
IF Bandwidths:	6/15/30/200 kHz
Maximum Undistorted Audio Output:	>3 watts into 4 ohms (external speaker impedance must be 4 ohms or greater)
Audio Frequency Response:	250-3300 Hz nom. @ -3 dB (measured at headset jack)
Bearing Displays:	Real-time 360° polar TFT and 3-1/2 digit numeric displays
Bearing Accuracy:	0.5° RMS (using 200 milli-second bearing integration)
Bearing Resolution:	0.5°/0.1°
Bearing Integration:	35/50/80/160/200/275/400 ms
Track & Hold:	3 sec nominal holding time
RS-232 Interface (to host computer)	19200-N-8-1; data string includes embedded data from receiver, GPS, & compass
Power Requirements:	11-16 VDC @ 1.4 amperes (negative ground)
Over- And Reverse-Voltage Protection:	18 volt shunt power zener blows fuse
Operating Temp.:	0 to +50 degrees C
Storage Temp.:	-40 to +70 degrees C
Humidity:	0-95% (no condensation)
Dimensions:	6.6"x7.1"x10.2" (HxWxD)
Weight:	9.5 lbs

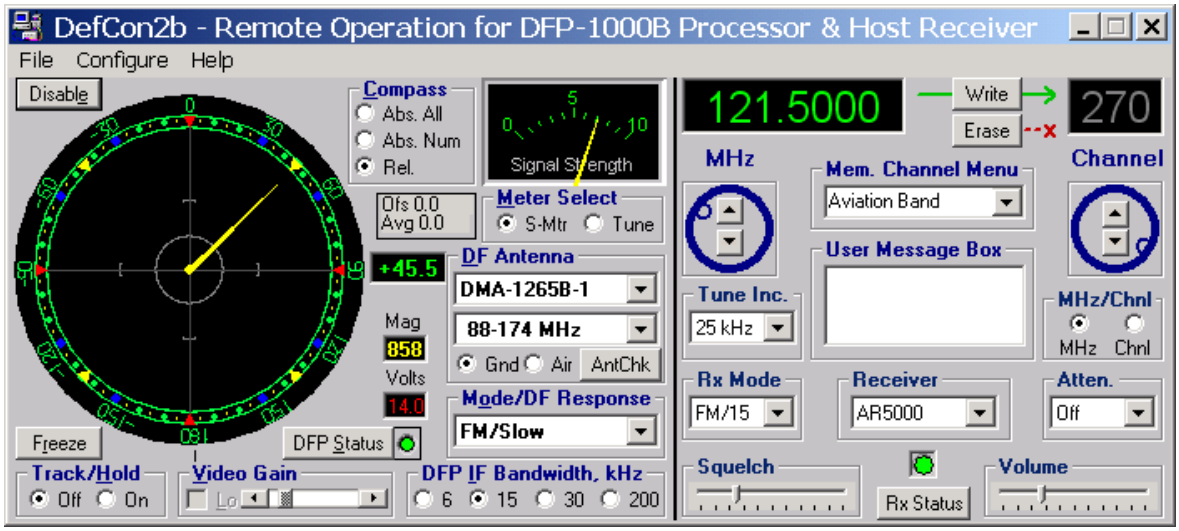
APPLICATIONS INFORMATION

The RDF Products Model DFR-1000B has been specifically designed for three primary DF applications. First, it is intended to be used in applications where a compact, self-contained, easy-to-operate DF receiver capable of accepting a wide variety of signal formats is required. (In this regard, it is particularly well suited for mobile DF missions). Second, it is intended for applications where wide frequency coverage is required. Finally, it is intended for applications where the ability to respond to short-duration signals is important (pulsed beacon tracking, for example).

In general, the DFR-1000B is recommended for most HF/VHF/UHF mobile DF applications that require a compact, self-contained, easy-to-operate unit. It is particularly effective for mobile DF applications due to its compactness and ease-of-installation, and is one of the very few units capable of DF operation in motion on a wide variety of signal formats.

The DFR-1000B is directly compatible with all RDF Products DF antennas (both mobile and fixed-site) models.

The AR8600 receiver can be dismounted from the DFP-1000B so that the DFP-1000B can be used with a different host receiver if desired. See the DFP-1000B product data sheet for important additional information.



DefCon2b "Virtual DF Receiver" Controller Main Screen