



### FEATURES

- Ultra-Wide Coverage From 0.01-3,000 MHz
- Real-Time Remote Operation w/Software
- Optional Built-In HuntMaster Dongle
- Ethernet Control of DFP, Receiver & GPS
- Simultaneous DF & Receiver Listen-Through
- Fast Pulse Response Capability
- 6/15/30/200 kHz IF Bandwidths
- Excellent HF Performance

### DESCRIPTION

The RDF Products Model DFP-1010D is a single-channel software defined Watson-Watt DF bearing processor unit that, in conjunction with an appropriate RDF Products DF antenna economically adds DF capability to almost any receiver. The DFP-1010D is a professional-quality unit that is compact, rugged, and easy to operate.

DF receivers traditionally have been very expensive as a result of low-volume production. With the “add-on” DF bearing processor concept as embodied in the DFP-1010D, however, DF capability can be achieved far more economically by using either an existing receiver or one of the many highly capable wide frequency coverage low-cost consumer-market receivers.

The DFP-1010D easily interfaces to most receivers via its standard 10.7 MHz IF input. Since this IF is software defined, the DFP-1010D can be programmed to accept any IF input from 3.5-52.0 MHz. With this extreme flexibility, the DFP-1010D can interface with almost any receiver with excellent results.

Unlike most competing add-on DF bearing processors, the bearing accuracy of the DFP-1010D is nearly impervious to host receiver anomalies associated with group delay variations and AGC characteristics. As a result, there is no need to implement expensive and time-consuming modifications to the host receiver in order to make it “DF-ready”.



The DFP-1010D is designed exclusively for computer-controlled operation and has no operational manual controls, displays, or indicators. It is ideal for fixed-site DF applications, unmanned remote DF applications, and any DF application in general where computer-controlled rather than manual operation is necessary or preferred.

Full remote capability is provided via a single Ethernet port. With the software provided, all features can be controlled and outputs displayed at the host computer. Additional serial ports are provided for connection with a host receiver, GPS receiver, and optional digital compass. All of these peripheral system components can be managed at the host computer via the single Ethernet connection without the need for cumbersome external data multiplexers or hubs. The “open” TCP/IP control protocol is published in detail for the benefit of users who wish to write custom software.

The DFP-1010D software controls the host receiver frequency, demodulation mode and IF bandwidth allowing for simultaneous DF operation and listen-through capability. RF attenuator, squelch, volume and FFT display controls are also included for easy operation. Other features include four selectable IF bandwidths, bearing display track & hold, and eight selectable bearing integration times with pulse response down to 35 ms.

# SPECIFICATIONS

(subject to change without notice)

DF Technique:	Single-channel Watson-Watt	DF Processing:	Software defined (FPGA+DSP)
Frequency Coverage:	0.01-3,000 MHz (subject to frequency limitations of attached DF antenna)	Ethernet Interface (to host computer):	100 Mbps (UDP I/Q, TCP for ctrl) IP embedded gateway for receiver, GPS, & compass
DF Sensitivity:	Established by DF antenna	Power Requirements:	11-16 VDC @ 2.2 ampere (negative ground)
RF Input Impedance:	50 ohms nominal	Over- And Reverse-Voltage Protection:	18 volt shunt power Zener diode with resettable fuse
IF Bandwidths:	6/15/30/200 kHz	Operating Temp.:	0 to +50 degrees C
Bearing Accuracy:	0.5° RMS (using 160 milli-second bearing integration)	Storage Temp.:	-40 to +70 degrees C
Bearing Resolution:	0.1°	Humidity:	0-95% (no condensation)
Bearing Integration:	35/50/80/100/160/200/275/400 ms	Dimensions:	6.4"x8.6"x10.6" (HxWxD)
Track & Hold:	3 sec nominal holding time	Weight:	12.8

# APPLICATIONS INFORMATION

The RDF Products Model DFR-8600D 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-8600D is recommended for all HF/VHF/UHF mobile and fixed-site DF applications that require a compact, self-contained, easy-to-operate high-performance unit employing premium components. 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-8600D is especially well-suited for HFDF applications. Unlike other wide-coverage receivers, the Icom R8600 is specifically designed for superb HF performance and includes front-end HF sub-octave filters for optimum preselection and low intermodulation.

The DFR-8600D is directly compatible with all RDF Products DF antenna models (both mobile and fixed-site). It is also compatible with the optional HuntMaster digital mapping and location software.

The R8600 receiver can be dismantled from the DFP-1010D for convenience of storage and transit. See the DFP-1010D product data sheet for important additional information.



HuntMASTER's 'DF Processor/Receiver' Controller Main Screen