



## DESCRIPTION

### Small / Low Power Multi-Channel VHF/UHF Receiver

The DRT4411B unit is a miniature Software Defined Radio system (SDR) with a powerful digital signal processing engine to support electronic surveillance of conventional Push-to-Talk signals. The system is available in configurations that support one (-V1), two (-V2) or three (-V3) RF receiving channels. The flexible internal tuner stacking enables the software configuration of tuners for independent or coherent operation. Multiple tuners allow simultaneous scan and drop channels, or direction finding. The small size and low-power operation is ideal for small air and ground vehicles applications, portable systems, as well as low-power multi-unit systems. Key features include:

- Up to three independent or coherent wideband RF Tuners each providing frequency coverage from 2 MHz to 3000 MHz.
- High-performance low-power FPGA and DSP processing engines.
- Capable of processing a variety of wireless signal standards.
- Field upgradeable to support new signal waveforms and applications as well as software and firmware updates.
- Auto-configuration mode facilitates unit setup.
- User-friendly Graphical User Interface (GUI).
- Removable SD/MMC storage media.
- Collected signals information can be logged or streamed to other networked devices.
- Small size. Low weight. Quiet (no fans).
- Integrated 50-channel parallel tracking GPS receiver provides position information.
- Optional 10 MHz/1PPS synchronization to external sources
- Supports time and frequency disciplining and timestamping of collected raw and demodulated data using internal GPS or externally supplied reference.
- 40 MHz instantaneous bandwidth supports wideband multicarrier operation
- DSP demodulation, application specific. AM, FM, CW, USB, LSB for SGPR application.
- Controlled from PC using Windows XP & Windows 7 via Ethernet interface.

## Specifications

Parameter	Value	Comments
Maximum # of RX Channels	12	Half Duplex
Frequency Coverage	2 MHz to 3000 MHz	Degraded performance below 5 MHz
Analog IF Bandwidth	40 MHz	
RF Tuning Resolution	4 MHz	
Digital Tuning Resolution	Less than 1 Hz	Application specific
Frequency Accuracy	+/- 0.05 ppm +/- 1.0 ppm	GPS Locked GPS Unlocked
RF Input Impedance	50 Ohms	
RF Input VSWR	2.5:1	Typical
Safe input Level	+30 dBm	
Amplitude Accuracy	+/- 1.5 dB	
Spurious Free Dynamic Range	75 dB IMD3, 25 kHz BW	
IF Output Frequency	120 MHz	-15 dBm @ IF Out = 0 dBFS
LO Radiation	-100 dBm max, f < 10 GHz	
Internal Generated Spurious Coherent & Independent Tuners	-100 dBm input equivalent	
Gain Control	50 dB	
Audio Outputs	2-Channels-Front Panel 2-Channels streamed to PC	

**Dimensions (V2):**

1.3 in H x 3.0 in W x 6.8 in D w/o battery  
(3.3 cm H x 7.6 cm W x 17.3 cm D)

1.6 in H x 3.0 in W x 10.0 in D w/ battery  
(4.1 cm H x 7.6 cm W x 25.4 cm D)

**Weight (V2):**

1.59 lbs. (721 g) w/o battery

2.44 lbs. (1107 g) w/ battery

**Operating Temperature (Ambient):**

−4°F to +140°F (−20°C to +60°C)

Battery charging is enabled only over 0°C to +45°C.

**Integrated System Temperature Control**

The DRT4411B is designed to be integrated into customer systems. These integrated systems must provide thermal management to maintain the DRT4411B case temperature between −20°C and +77°C. This can be achieved using conduction or forced convection cooling. If your integration utilizes forced convection cooling, the table below shows the minimum airflow required when the ambient temperature is 60°C. If additional system integration support is needed, contact DRT.

**System Power Consumption  
and Air Flow Requirements**

Unit	Power Consumption	Air Flow
DRT4411B-V1	10.0 W	125 LFM
DRT4411B-V2	11.5 W	150 LFM
DRT4411B-V3	13.0 W	250 LFM*

\*250 LFM = 2.84 mph

**Battery Pack: DRT4411-V2**

4 hour life at max power consumption  
(application dependent)

**Power Required:**

7.4V nominal Battery Power

9-30 VDC External Power

100-240 VAC 50/60Hz (external adapter)

**Compatible with:** Windows XP, Windows 7

**Interfaces:**

- DC IN
- RJ45 – Ethernet 100Base-T
- Removable MMC/SD Flash Memory Card
- USB 2.0 – OTG Mini A/B Connection
- SMA - 50Ω RF Inputs
- SSMC - 50Ω IF Outputs
- SMB - 50Ω GPS Antenna Input
- Mini DB-9 Serial (RS-232)
  - 10 MHz Reference & 1PPS
- Audio (2-channel headset)

**Standard system ships with:**

- External AC Power Adapter & cables
- User-friendly software
- Ethernet crossover cable
- Mini-USB adapter cable
- Stereo Headphones
- Omni-directional Cellular/PCS Band antenna with magnetic mount and coaxial cable
- Omni-directional GPS antenna w/cable
- Cigarette Lighter adapter cable
- SD Flash Removable Media
- Carrying Case

**Options:**

- Fully configured Laptop PC – including installed Ethernet card & CD-ROM Drive; Office or Ruggedized Model
- Application Programming Interface drivers and documentation
- Additional Software Enabled Protocols and Measurements
- Battery Pack
- 10 MHz and 1PPS Breakout Cable

**Configurations:**

- -V1: Single Tuner (consult factory)
- -V2: Dual Tuner
- -V3: Triple Tuner

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