Digital Receiver Technology, Inc.

Approved for Public Release

DRT1211C and DRT1212C

DESCRIPTION

The DRT1211C provides a compact, yet powerful, collection capability against Push-to-Talk (PTT) signals. The system is based on an industry-standard bus format, and uses the latest digital signal processing (DSP), RF, and microprocessor technology. The DRT1211C, a ruggedized system, provides the same functionality as the DRT1201C. The DRT1211C I/O connectors are located on the rear of the chassis adding 1U of height. In addition, the modules are recessed behind a removable panel which contains an air filter. DRT1211C supports a full complement of third generation modules.

DRT1212C – DC powered-version of the DRT1211C. Same features and accessories, but DC power input replaces AC power input. AC/DC adapter included.

- Monitors up to 816 half-duplex channels (up to 48 channels per WPM3A).
- Software configurable.
- DF option available.
- Flexible tuner configuration provides frequency coverage of all bands of interest.
  - RFT3A-40 (Standard): Dual channel transceiver VHF/UHF coverage from 20 – 3000 MHz; HF from 0.5 – 32 MHz
  - RFT4 (Optional): Dual channel transceiver VHF/UHF coverage from 20 – 6500 MHz; HF from 0.5 – 32 MHz
  - HFT1B (Optional): High performance HF receiver from 0.2 – 32 MHz
- FPGA based Wireless Processor (WPM3A) enables wideband signal processing.
- Auto-configuration mode facilitates setup of unit.
- Timestamped wideband and narrowband data.
- 1PPS Sync Signal Input/Output.
- 10 MHz Reference Signal Input/Output.
- Built-in GPS receiver.
- Eighteen slots are available for any combination of tuners or WPM3As. A non-blocking switch routes the Digitized IF (DIF) Data from any slot to any other slot. Up to eight DIF channels into a WPM3A.
- Supports target lists with up to 10,000 entries.
- Small size and low power.
- User-friendly Graphical User Interface (GUI).
- Controlled from PC using *Windows XP* or *Windows 7* via Ethernet interface.
- 16 half-duplex conversations can be recorded on internal disk drive or streamed to other networked devices. E1 output optional. Stereo headphone output directly from receiver or headphone output can be streamed to a PC.
- Integrated spectrum analysis tool.

Specifications

Total Number of Slots for Tuners and Wireless Processor Modules (WPM3As): 18

Maximum Number of Tuners: 18 (36 RF Channels)

Maximum Number of WPM3As: 18

Maximum Number of Channels (format dependent):
Up to 816 (half-duplex)

Frequency Coverage:
0.5 MHz – 3000 MHz (Standard, with RFT3)
0.5 MHz – 6500 MHz (Optional, with RFT4)
0.2 MHz – 32 MHz (Optional, with HFT1B)

Audio Outputs:
16-Channel Digital Recorder
Stereo Headphones
Streaming Data Service (SDS)
E1 Audio (Optional)
RIM (Optional)

IQ Data Streaming: Via SDS over TCP/IP

System Software:
DRT1000 System Software
Windows XP Operating System

Compatible with:
Controller PC running: *Windows XP* or *Windows 7*

Dimensions:

19” rack mountable W x 8.75” H (5U) (48.26 cm W x 22.23 cm H)
18.44” (46.84 cm) depth from rear surface of front panel (mounting surface) to rear panel of unit
19.50” (49.53 cm) depth from rear surface of front panel (mounting surface) to folded rear handles

Weight:

Typical weight: 78 lbs. (35.1kg)
(6 RFT3A-40s, 12 WPM3As)

Weight varies with the number and type of modules installed. Chassis with System Controller and Reference Generator modules weighs 49 lbs. (22.05 kg). See specific module data sheets for weights of additional modules.

Operating Temperature (Ambient):
-20°C to +60°C (-4°F to +140°F)

Power Consumption:
879 W – Fully loaded (6 RFT3s, 12 WPM3s)
1143 W – Max

Power Required:

DRT1211C: 100 – 240 VAC, 50 – 60 Hz;
110 – 130 VAC, 400 Hz
DRT1212C: 22-36 VDC

Control Interface: Gigabit Ethernet

SRI Output Interfaces:

RS-232
Ethernet
E1 Timeslot (Optional)

Standard system ships with:

- Receiver with custom Tuner/WPM configuration
- User-friendly software with online Help
- Integrated Spectral Display Unit (SDU)
- Ethernet crossover cable
- Stereo Headphones
- Omni-directional antenna with magnetic mount and coaxial cable
- REF3 GPS Antenna
- 128 GB Solid-State Drive (Non-Zeroize)
- Standard Rear I/O Panel. See next page for details on standard panel interfaces.

Options:

- Custom Rear I/O Panel. See next page for details on standard panel interfaces.
- Fully configured Laptop PC (Office or Ruggedized Model) – including installed Ethernet card
- WLAN Control Interface
- 19" Rack Slides
- Direction Finding (DF)

Drives:

- Zeroize capable and Non-Zeroize capable system drives are available in various sizes. Contact DRT for latest list.
- Volatile Memory Option (VMO) Drive

Modules:

- CTL28 - System Controller Module
- GPPX - General Purpose Processor
- ES5P - Ethernet Switch 5 Port
- E1C 4-port - Audio Output Module
- DIM1B - Digital Interface Module for output/playback of wideband spectrum with external digital recorder
- RIM1C – Recorder Interface Module
- RFT4 - Wideband Tuner
- HFT1B - HF Tuner
- DEL1 - Delay Module
- 10GigE (Future)
- Quad Tuner (Future)

Rear I/O Panel Interfaces

There are several Rear I/O Panels available. They have different connectors and connector arrangements to support customized RF In/Out, digital outputs, etc. provided by the many module configurations that can be installed. Panels may also have different RF connector types (SMA or QMA). Contact DRT for deails on currently available configurations and matching Rear I/O Panels.

The table below shows the available connectors on the Standard Rear I/O Panel.

Standard Rear I/O Panel Interfaces

Rear Panel Signal Name	Module Connection	Connector Type
10 MHz In	REF3-40 10 MHz In	SMA
10 MHz Out	REF3-40 10 MHz Out	SMA
1 PPS In	REF3-40 1PPS In	SMA
1 PPS Out	REF3-40 1PPS Out	SMA
RF Cal Out	REF3-40 RF Cal Out	SMA
HF Cal Out	REF3-40 HF Cal Out	SMA
GPS Ant In	REF3-40 GPS In	SMA
NMEA I/O	REF3-40 RS232	Subminiature D connector
Head Phones Jack	REF3-40 multi-pin output	3.5 mm stereo jack input
RX In (16 connectors)	RFT3A-40 RF In or HFT1B	SMA
Fiber Optic I/O	OFM2 (Future)	MTP (MPO)
DIM Ch #1	DIM1B	Amp Microdot
DIM Ch #2	DIM1B	Amp Microdot
E1 #1	E1C 4-port	RJ-45
E1 #2	E1C 4-port	RJ-45
Control 1	RFT3A-40 CTL	Subminiature D connector
Control 2	RFT3A-40 CTL	Subminiature D connector
USB	System Controller (lower)	USB
Ethernet #1	AFM1, RIM1C	RJ-45

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