

# WBT-3003

Self-Contained Software Defined Radio Platform (SDRP)  
for Radio Frequency Capture and Playback

## Capturing up to 100 MHz of RF Spectrum from 50 MHz to 6 GHz

The WBT-3003 is a fully self-contained RF recording and playback system and includes many performance upgrades over our WBT-3002. With one box it is now possible to record two 50 MHz sections of RF spectrum from 50 MHz to 6 GHz.

The 1PPS and Reference Signal are 1 part per billion accurate with GPS lock and now bi-directional for seamlessly networking multiple WBT's together. This allows you to infinitely increase your recording bandwidth by adding as many WBT's to your network as you desire.

WBT-3003 can now act as a master clock and control multiple units simultaneously.

The internal storage has increased from 1 TB to 2 TB with multiple options for adding removable media including dedicated USB 3.0 and eSATA ports. The WBT-3003 can play back recorded signals anywhere within the same tuning range at the same recorded power level without any additional equipment.



### Features

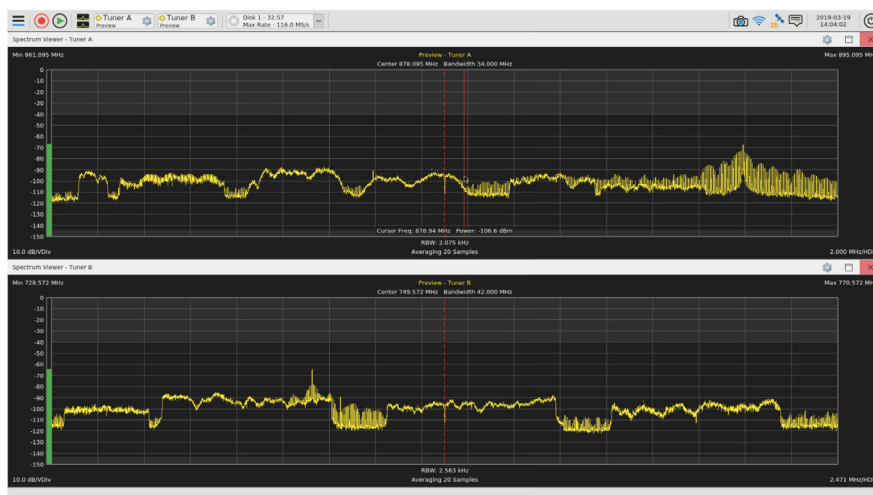
- 2 TB of internal storage
- Dual-core 2.6 GHz processor
- Software upgradeable over network
- Unattended sensor capability
- Easy one-button record/playback interface
- Man packable
- Fully contained solution (no external receiver or transmitter needed)
- Power match record & playback
- Playback at any frequency

### RF Connections

- Tuner (Tx/Rx)
- Reference Clock: SMA 10 MHz
- 1PPS: SMA
- GPS in: SMA

### Applications \*

- RF signal recording & playback
- Signal analysis
- Interference analysis
- Remote spectrum monitoring
- Training
- Receiver test & design
- Spectrum allocation

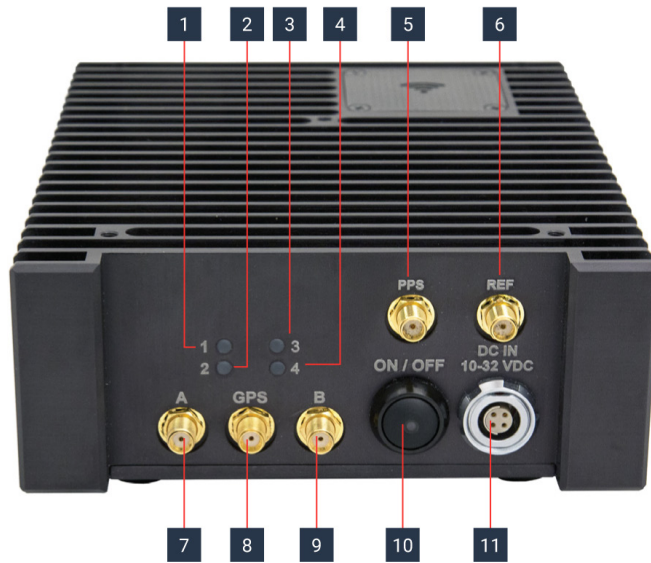


Displaying Both Tuner Traces



This item is subject to the EAR. Accordingly, an export authorization may be required for certain clients, uses, and/or destinations. The time required to obtain an authorization may impact international delivery.

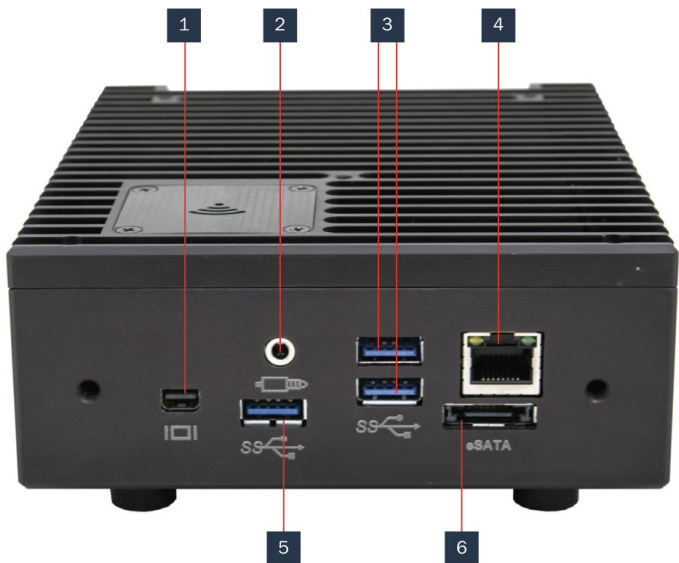
## WBT-3003 Front View



| No. | Description                          | No. | Description                      |
|-----|--------------------------------------|-----|----------------------------------|
| 1   | Tuner 1 Status LED                   | 7   | Tuner A Tx/Rx Antenna Port (SMA) |
| 2   | Disk 1 Storage Status                | 8   | GPS Antenna Port *               |
| 3   | Tuner 2 Status LED                   | 9   | Tuner B Tx/Rx Antenna Port (SMA) |
| 4   | Disk 2 Storage Status                | 10  | On/Off Power Switch              |
| 5   | 1PPS Input/Output                    | 11  | Power Connector                  |
| 6   | 10 MHz Reference Signal Input/Output |     |                                  |

\* This connector provides bias power for an active antenna. A compatible antenna is a standard accessory.

## WBT-3003 Back View



| No. | Description       | No. | Description   |
|-----|-------------------|-----|---------------|
| 1   | Mini Display Port | 4   | Ethernet Port |
| 2   | Audio Jack        | 5   | USB 3.0       |
| 3   | USB 3.0 (2X)      | 6   | eSATA         |

### Technical Data: WBT-3003

|                                       |                                        |
|---------------------------------------|----------------------------------------|
| Receiver Type                         | Direct Conversion                      |
| Number of Transceiver Channels        | 2                                      |
| Channel Instantaneous Bandwidth (IBW) | 50 MHz                                 |
| System Instantaneous Bandwidth        | 100 MHz                                |
| Frequency Range                       | 50 MHz to 6 GHz                        |
| Phase Coherency                       | Phase Coherent or Independent          |
| Instantaneous Dynamic Range           | 74 dB                                  |
| Preselection Filtering                | Sub-Octave filtering (50-6000 MHz)     |
| Internal Reference Clock Stability    | +/- 1 ppb using GPSDO-conditioned TCXO |
| Internal 1 PPS Accuracy               | +/- 12.5 nsec with GPS lock            |
| Processor                             | i7 Dual Core, 32 GB RAM                |
| Operating System                      | Linux                                  |
| Storage                               | 2 TB Internal                          |
| Sampling Rate                         | 61 MS/s                                |
| I/O                                   | GbE, USB 3.0, 1 PPS, 10 MHz Reference  |
| Dimensions                            | 5.3" W x 2.1" H x 6.7" L               |
| Weight                                | 3.12 lbs.                              |
| Power Consumption                     | 33 W (typical)                         |
| DC Input Voltage                      | 10 - 32 VDC                            |
| Operating Temperature                 | -10 to 50 °C                           |
| Data File Format                      | VITA 49                                |

### WBT-3003 Recording Times

| Bandwidth  | Total Recording Time (Hours:Minutes) |
|------------|--------------------------------------|
| 100 MHz    | 01:20                                |
| 50 MHz     | 02:40                                |
| 25 MHz     | 05:20                                |
| 12.5 MHz   | 10:40                                |
| 6.25 MHz   | 21:20                                |
| 1.5625 MHz | 64:00                                |

This Product is Covered by the Following U.S. Patent No.:

U.S. Patent No. 8,763,004 B1

U.S. Patent No. 9,348,608 B2

U.S. Patent No. 9,356,642 B1

## QRC Technologies - A Parsons Company / Sales

Direct: +1 540.446.2270 / Fax: +1 540.548.4080 / 1191 Central Park Boulevard, Fredericksburg, Virginia 22401

qrctech.com