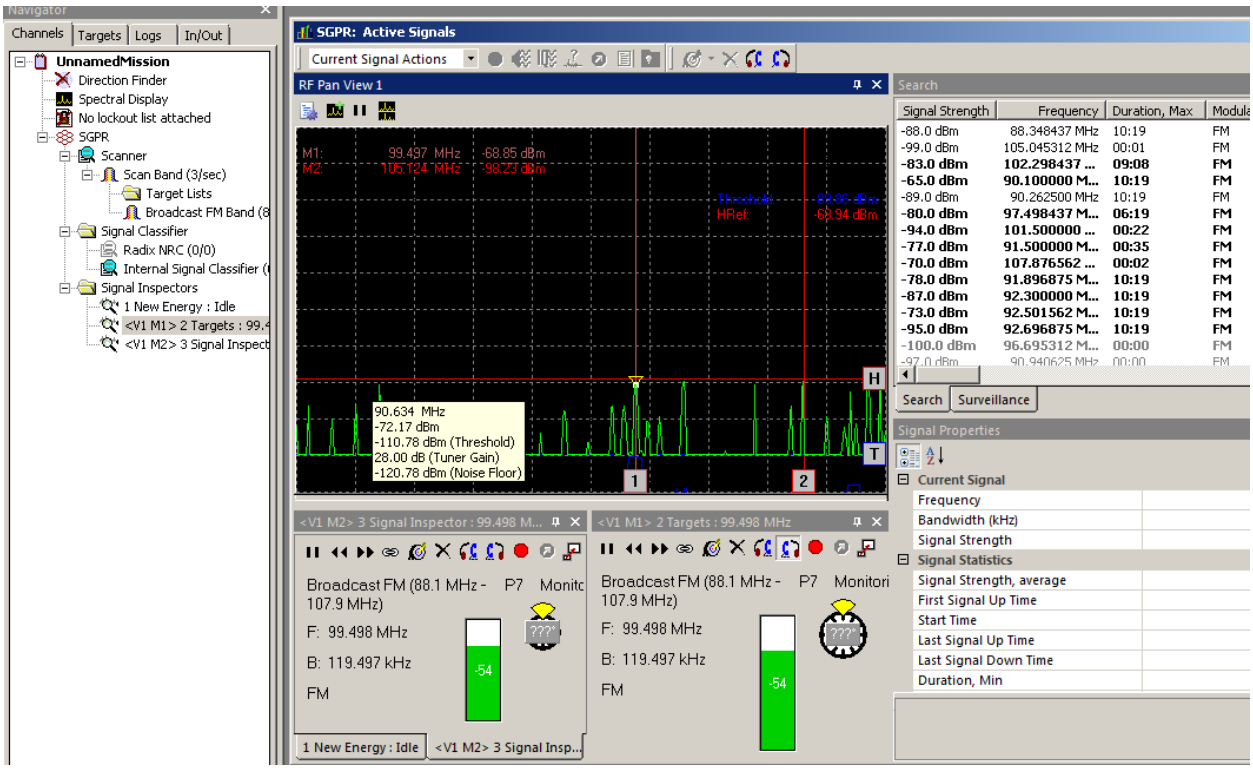
Digital Receiver Technology, Inc.

Approved for Public Release

DRT1000 System Software



DESCRIPTION

The DRT1000 System Software is a suite of applications that includes the software that runs on the DRT system, *Alaska* (GUI), *Applause* (Audio Playback), DF and Geolocation (with *DRTview*), and *Yukon* (IP Configuration utility). The DRT1000 system may be used to: identify and collect audio, data and Signal Related Information (SRI).

The DRT1000 unit software runs on the DRT1000 family of SDR receivers, transmitters and transceivers. The unit hardware and the format “keys” define which software features are active, including options such as DF.

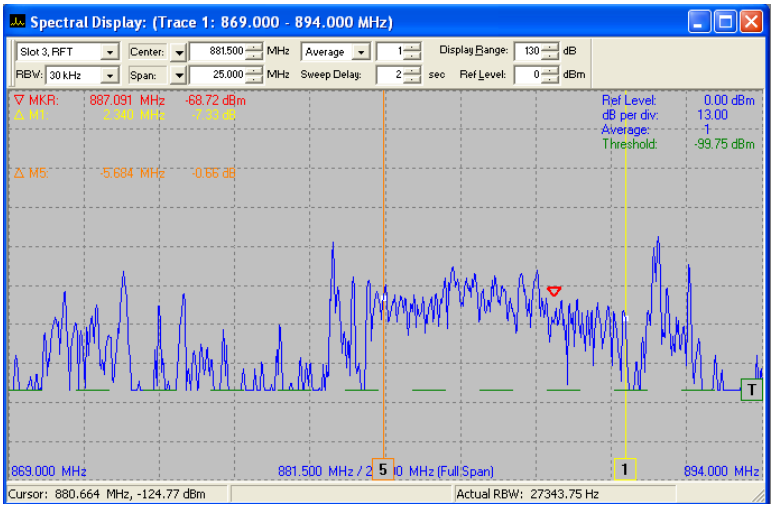
DRT units are controlled via a connected computer loaded with the DRT1000 GUI applications.

Controller PC System Requirements: DRT GUI software runs under the *Windows XP or Windows 7* operating system.

Features

Integrated Spectrum Analysis Tool

The Spectral Display Unit (SDU) provides a graphic display of detected radio-wave activity. User-defined parameters such as frequency range, threshold, etc. control the display. More than one spectral display can be monitored simultaneously. Spectral displays may be recorded and played back for post-collection analysis.

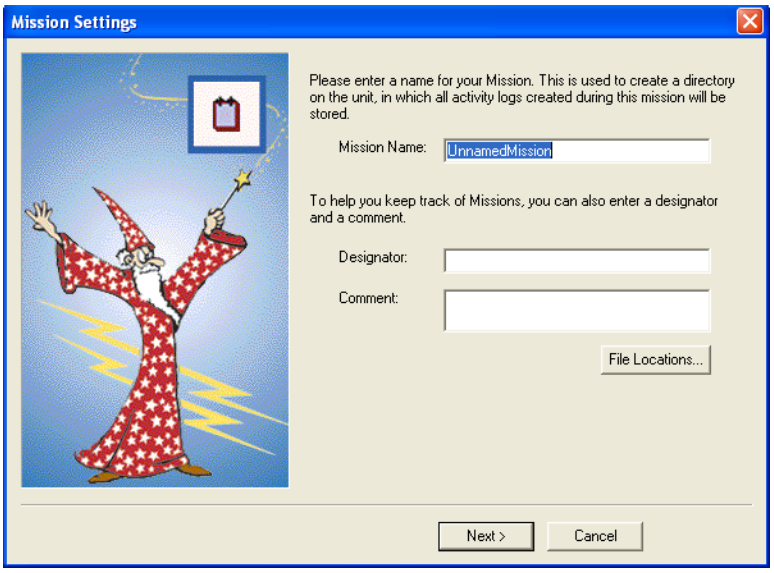


Configuration Wizard

Alaska is the primary GUI used to configure the DRT system and monitor the mission.

Within *Alaska*, the Configuration Wizard facilitates setup of a unit. This mode steps through a complete mission configuration for all formats, automatically assigning receivers and tuners in response to user input.

For some services a web interface may be used in addition to *Alaska*.



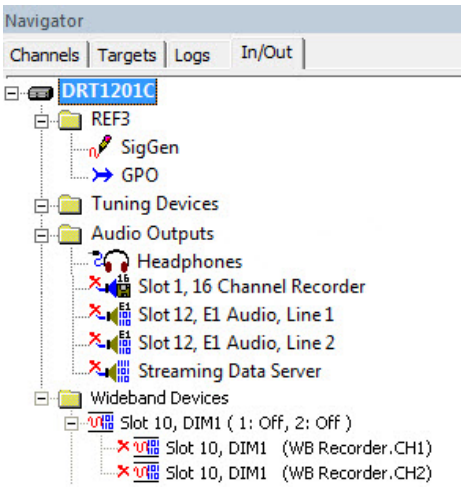
Audio and SRI

Audio Outputs

16-Channel Digital Call Recording and Playback Capability
Wideband Digital Output and Playback Capability – requires optional output module such as DRT's Digital Interface Module (DIM)
E1 – requires optional E1 module
384-Channel Digital Call Recording & Playback
- requires optional Recorder Interface Module (RIM)

SRI Output Interfaces:

Ethernet
RS-232
E1 Timeslot 16



Audio Playback and Transcription

Applause, DRT's playback and transcription tool, is the default audio playback tool (any audio playback utility can be set as the default playback tool). *Applause* can playback and compress digitally recorded audio, bookmark audio sections, display SRI data, and provide a means to create audio transcriptions.

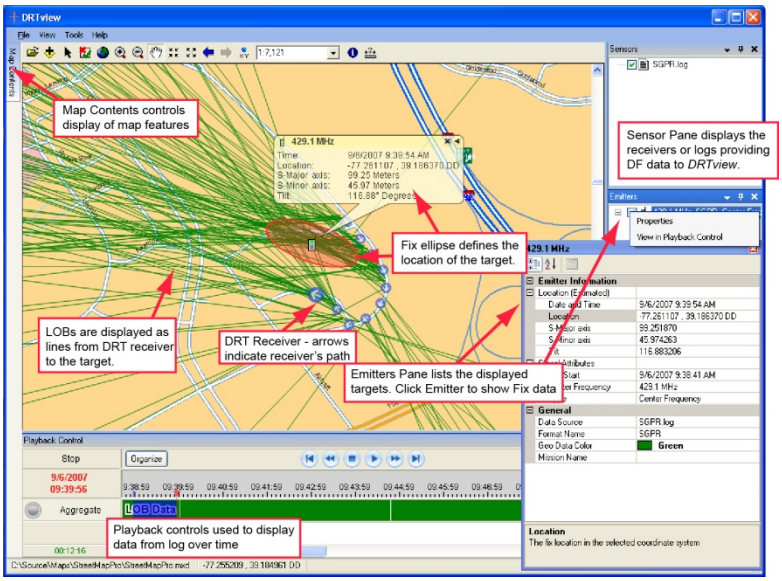
Streaming Data Service (SDS)

SDS can stream timestamped audio and I/Q data to a connected server.

Direction Finding and Geolocation (Optional)

Using state-of-the-art algorithms, the DF software module (running on the DRT receiver) controls the DF antenna and computes line-of-bearing (LOB) results continuously or on demand. *Alaska,* the DF control software, provides integrated direction finding control and reporting.

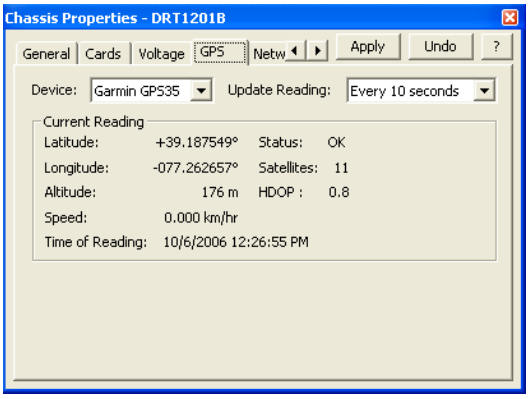
DRTview, the DRT geolocation tool, provides LOB display and map overlay. Using the integrated GPS antenna, *DRTview* can estimate the target's latitude/longitude and display fix ellipses. *DRTview* accepts LOB input from multiple DRT receivers on a network and/or logs.



GPS Integration and External Time Synchronization

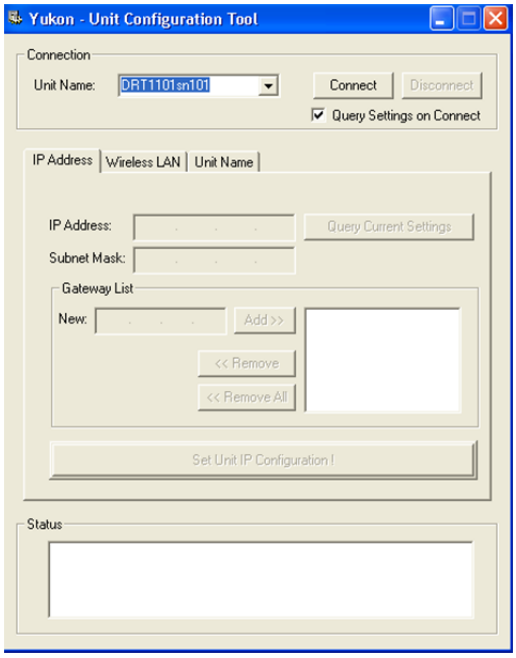
The DRT1000 Software integrates DRT unit location information provided by GPS receivers. The GPS receiver may be external or internal. Collected GPS information can be saved to the logs and exported. The DRT system's clock can be synchronized to GPS time. Additionally, the system supports:

- Optional 10 MHz/1PPS synchronization to external sources.
- Optional synchronization to external timing sources.
- Time and frequency disciplining and timestamping of collected raw and demodulated data using internal GPS or externally supplied reference.



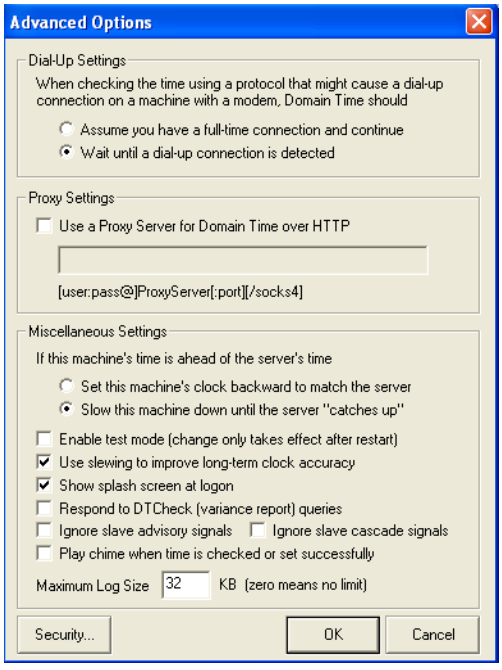
IP Configuration

DRT's software utility *Yukon* provides IP configuration capability for DRT1000 units. DRT1000 systems support both static and dynamic (DHCP) IP addresses.



Network Time Protocol

The DRT1000 Software package includes *Domain Time II*, a COTS network time protocol program to synchronize the DRT system's time with an NTP server.



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