wisy RDS

wisytech
Wireless Systems
T e c h n o l o g y

WisyRDS is a flexible toolkit for AM/FM/RDS signals modulations addressed to receivers manufacturing test equipment as well as R&D product validation tests.

WisyRDS package includes also a complete set of NI LabVIEW® VIs and source code examples of common radio applications. This set allows the user to easily integrate AM/FM/RDS modulations functionalities into NI LabVIEW® applications to create dedicated RF tests.

WisyRDS supports a widely selectable formats of audio signals and all most common RDS features such as Radiotext (RT), Enhanced Other Network, and Alternative Frequencies (AF).

The RDS/RBDS signals are generated according to the European standard "IEC/CENELEC 621061" (RDS) and the American "NRSC-4-A United States RBDS Standard" (RBDS).

WisyRDS is compliant with the **WisyPLAY** kit composed by the NI PXI-5610 RF Upconverter and the NI PXIe-5641R IF Transceiver.

The Signal waveforms are stored and played according to the signal format created by the user within the modulation framework in single or loop play.
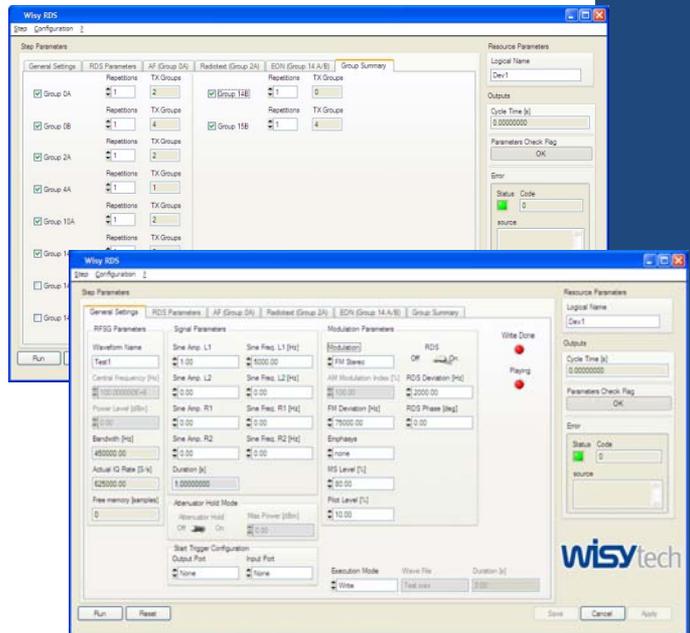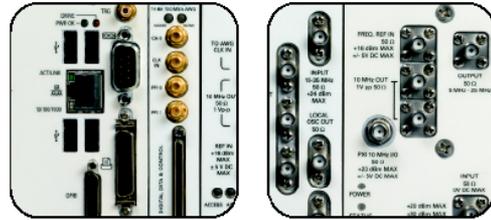
Features & Benefits

❑ **WisyRDS creates AM/FM/RDS/RBDS signals through a user-friendly NI LabVIEW based API.**

❑ **The generated waveforms can be stored and played with WisyPLAY dual-RF Generator.**

❑ **The signal configuration (e.g., FM deviation, RDS groups) can be programmatically modified by the user application**

RDS/RBDS Key Features

- RDS deviation: 0 kHz to 7.5 kHz;
- RDS initial phase: 0 degree to 360 degree;

Supported RDS Groups:

- 0A (Alternative Frequencies).
- 0B (Basic Information).
- 2A (Radiotext).
- 4A (Clock-time and Date).
- 10A (Program Type Name).
- 14A (EON Program Name, Program Type and
- Alternative Frequencies).
- 14B (EON Traffic Announcements).
- 15B (Fast Tuning Information).
- PI (Program Identification).
- PS (Program Service Name max 8 characters).
- TP (Traffic Program flag).
- TA (Traffic Announcement flag).
- MS (Music/Speech flag).
- DI (Decoder Information field).
- PTYN (Program Type Name max 8 characters).
- Clock-Time and Date information.
- Radiotext (max 64 characters).
- Alternative Frequencies list (max 25 frequencies).
- EON (Enhanced Other Network) for 8 network with PS, AF list and PTY for each.

Other Features

WAV file (mono or stereo at 48 kHz sampling rate) may be used as the modulation source:
AM audio signals up to 10 kHz bandwidth,
FM mono or stereo audio signal up to 15 kHz bandwidth (with optional RDS signal);
VIs library for custom application in NI LabVIEW;

RF Hardware

Compliant with WisyPlay kit composed by the NI PXI-5610 RF Upconverter and the NI PXIe-5641R IF Transceiver;

RF Power range: -140 dBm to +10 dBm;
RF Frequency range: 250 kHz to 2.7 GHz;
Clock stability: better than 0.1 ppm;
RF Power Accuracy: +/-1 dB;
Frequency resolution: 1 Hz;
Spurious: max.-40 dBc (2nd Harmonic);

For more hardware details, see also the
NI PXI-5610 RF Upconverter and the
NI PXIe-5641R IF Transceiver datasheets.

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Authorized Agent/Distributor

Alfautomazione S.p.A.