

Monitor/ Create/ Terminate RTP Sessions

Echo Canceller Testing (Manual or Automated)

Provides Oscilloscope and Spectrum Analyzer

Generates or Captures Single/ Dual/ Multitones

Generates or Captures DTMF/ MF/ MFR2 Digits

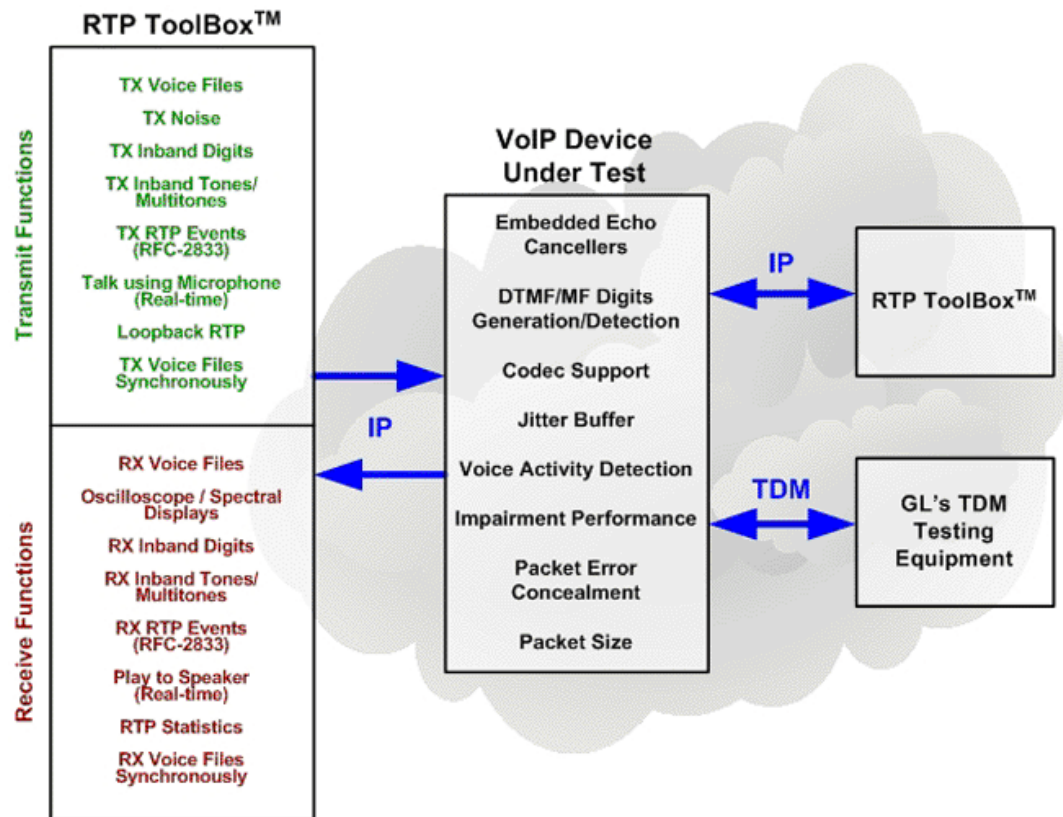
Generates Impairments of type Latency, Out-of-Sequence Packets etc

Generates/ Detects RFC-2833 Digits and Events

Supports Synchronous Tx/Rx of Voice Files

Provides Statistical Report of RTP and RTCP Packets

## RTP ToolBox™



GL's RTP ToolBox™ testing tool is designed not only to monitor RTP and RTCP packets, but also to allow users to manually create and terminate RTP sessions using a user-friendly GUI, independent of call-signaling protocols such as SIP, H323, MEGACO, or MGCP.

### RTP ToolBox™ Testing Applications:

- Testing and developing enhanced voice features (VAD, Echo Cancellation, Codec, Digit Regeneration, Digit Generation, Fax over IP, Jitter Implementation etc) within end-user equipment (IP Phones, ATA, MTA etc).
- Testing media gateway telephony interfaces.
- End-to-End network testing before and during VoIP deployment.
- Automated testing of Digital Signal Processing embedded into network elements.

### RTP ToolBox™ Features:

- Supported Codec's: G.711 (Mu-law/A-law), G.729, G.726-40/32/24/16, GSM.
- Automatic scan option to capture all incoming RTP traffic.
- Monitoring RTP streams using scalable Oscilloscope and Spectrum Analyzer.
- Generation and Detection of in-band Digits/Tones (DTMF, MF, user-defined, etc.)
- Generation and Detection of out-of-band Digits/Tones/Events per RFC-2833.
- User-defined impairments: latency, packet loss, out of sequence and duplicate packets.
- Detailed statistical information of RTP and RTCP packets.
- Sending and recording of voice files with a synchronous TX/RX option.
- G.168 testing for echo cancellation equipment.
- Talk and Play to Speaker options using PC sound card.
- Limited SIP calling capabilities.



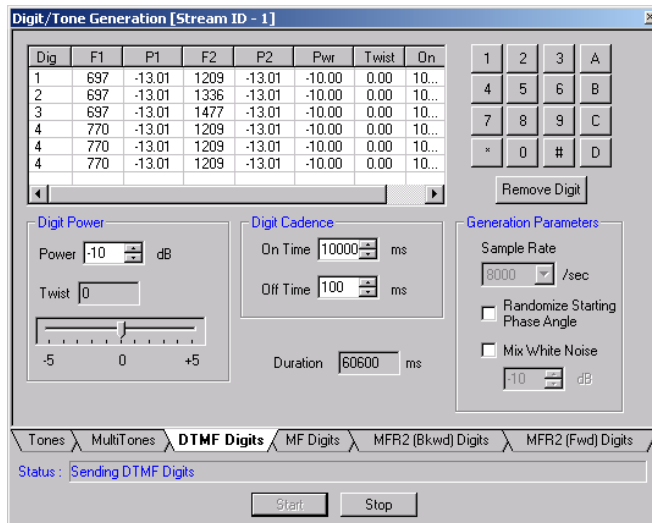
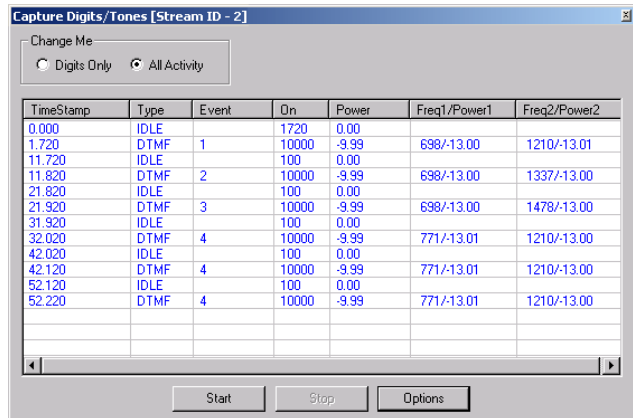
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## Generation/Detection of Digits/Tones/Events

### Generation

RTP ToolBox™ application can be used to generate in-band digits and tones. The supported tones include single, dual, and multi-tones. Supported digits include DTMF, MF, and MFR2 forward and backward digits. The generation of RTP Events/Digits per RFC-2833 is also available.

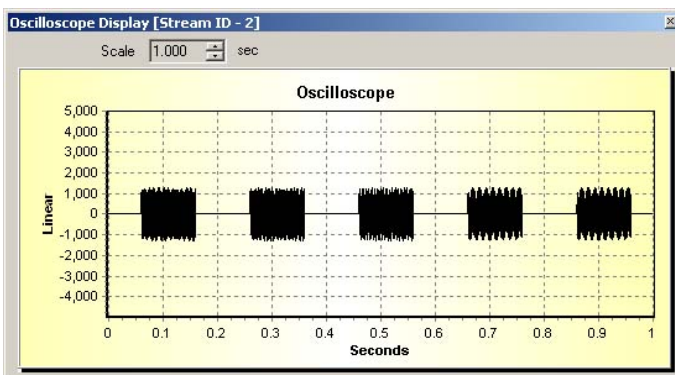
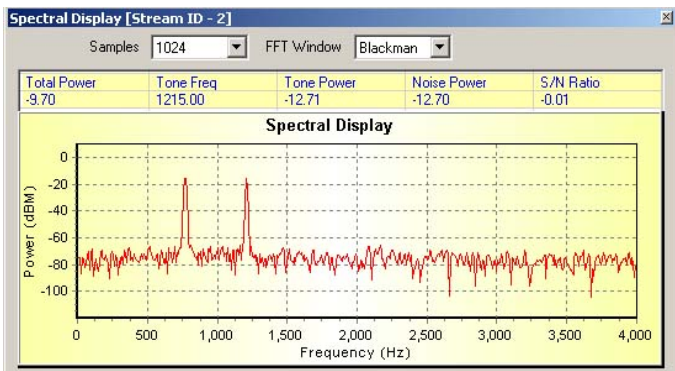
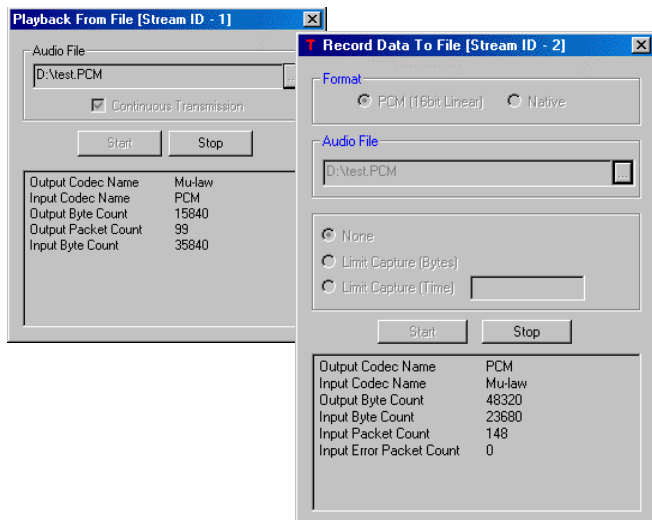


### Detection

Similar to generation, RTP ToolBox™ application allows users to capture tones and digits in the traffic. It also displays additional information about the captured signal such as type of the signal, timestamp, event, power, and accept/ reject frequencies. This is completely supported for both in-band digits/tones and RTP digits/events per RFC-2833.

## Playback from File and Record Data to File

RTP ToolBox™ allows the user to send voice files (\*.wav and \*.pcm). In addition to the Playback from File option, the application can record the incoming data to file. These files can be compared with GL's optional Voice Quality Testing software, providing PESQ, PAMS and PSQM score. The ability to send and record files also allows G.168 testing for echo cancellers.



## Oscilloscope and Spectrum Analyzer

The PCM codes (amplitude of the incoming signal) for any selected session are graphically displayed in real-time as a function of time.

The data received on a specified receive timeslot can be viewed in the spectral domain (spectral amplitude vs frequency). A Fast Fourier Transform (FFT) is applied to successive sample sets of the incoming data and displayed in graphic form. The FFT length can adjust the frequency resolution. (from 32 points to 8192 points).

## Buyer's Guide

PKB100 - RTP ToolBox™

## Related Software

- PKB105 - G.168 Echo Canceller Test Compliance Suite
- XX067 - Automated Echo Canceller Testing
- PKB110 - Client / Server for RTP ToolBox™