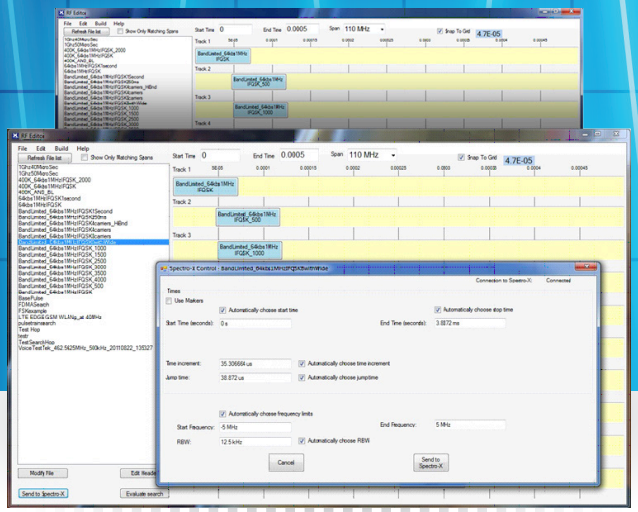
The RF Experts

GRAPHICAL RF SIGNAL EDITOR
Software Toolkit

RF EDITOR



Drag & Drop Simplicity

RF Editor is a drag-and drop graphical editing tool for the modification or creation of I&Q signals of any length. It's an invaluable tool for modifying and building signal waveforms in the time and frequency domains and is integrated with Spectro-X signal analysis software.

This highly versatile software allows for a broad range of frequency domain signal modifications to move any signal or slice of spectrum anywhere among 10 time domain tracks in the recording. Seemingly difficult tasks such as building a new composite waveform, or bringing the file into Spectro-X for review and analysis, can be accomplished with a single mouse click

The Advanced Modify feature allows operations to be performed sequentially and automatically. Shift frequency, perform file decimation by any integer value, apply a filter with a bandwidth as narrow as 10% of the decimated signal span, and interpolate a new span to adjust occupied bandwidth. Also allows for alignment of the frequency domain modified files on 10 different time tracks.

This highly flexible software accepts recordings captured with the IQC5000B or IQC91000A Record and Playback Systems, other systems, or waveform segments created from MATLAB. Once modified in RF Editor and analyzed in Spectro-X, recordings are available to the IQC5000B or IQC91000A Record and Playback Systems for direct playback, or output to any vector signal generator.

PRODUCT FEATURES

- Quickly build signal libraries using menu-driven filters, decimation and interpolation, and frequency-shifting functions. No limitation on file duration.
- Build custom waveforms using search results from Spectro-X. Select non-contiguous waveform segments stitch them into a custom waveform.
- Change time duration and time track position of waveform segments with drag and drop mouse operation and simple menu inputs.
- Presets allow quick frequency shifting and span adjustment.
- Adjust power levels of each signal with resolution greater than 0.1 dB.
- Reduce signal span with a simple decimation operation.
- Replicate and offset spectrum from the original by any amount of frequency shift.
- Extend waveform segment duration and modify its end time with a mouse click.
- Drag-and-drop placement and alignment of signals in the time domain.
- Apply bandpass filters to waveform segments with a 3 dB passband as a percentage of the capture bandwidth of the signal.
- Apply linear or file-driven time domain magnitude profiles to signals at the beginning and end of waveform segments or between consecutive signals to avoid frequency domain spreading.

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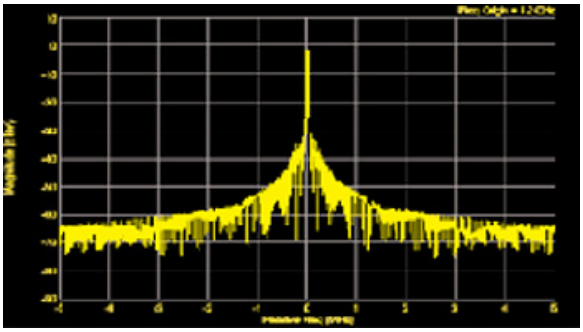
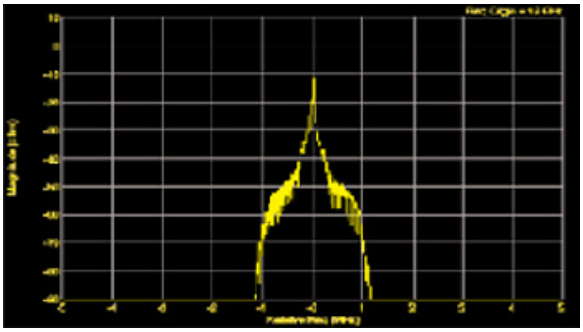
RF-EDITOR

Function Highlights

Original

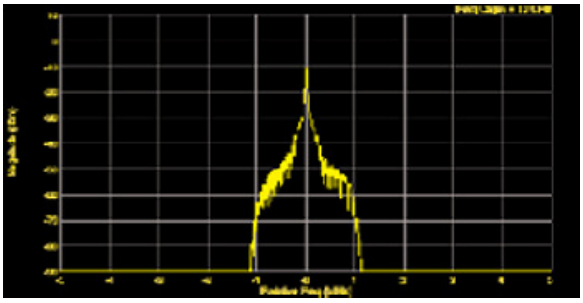


Filtered

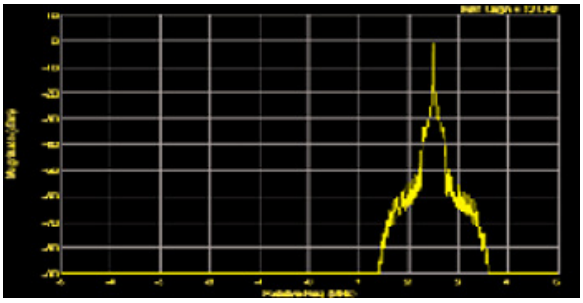


Apply bandpass filters to waveform segments with a 3 dB passband that is a selected percentage of the file's capture bandwidth.

Original

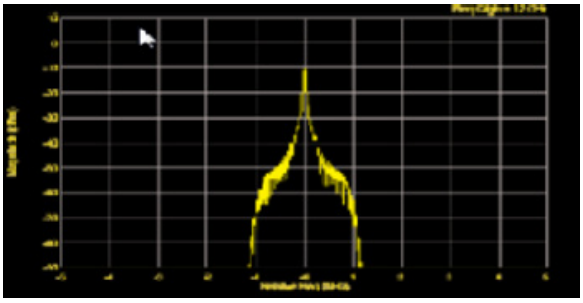


Shifted

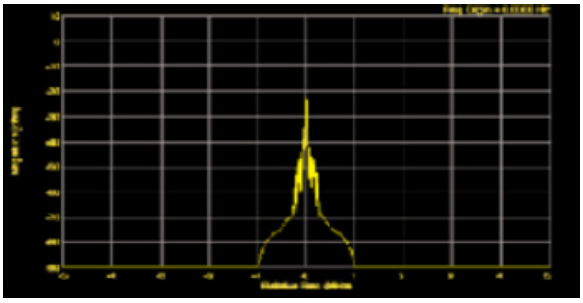


Spectrum can be replicated and offset from the original by an amount you specify.

Original

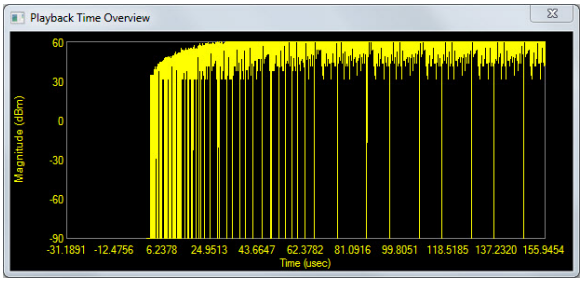


Attenuated

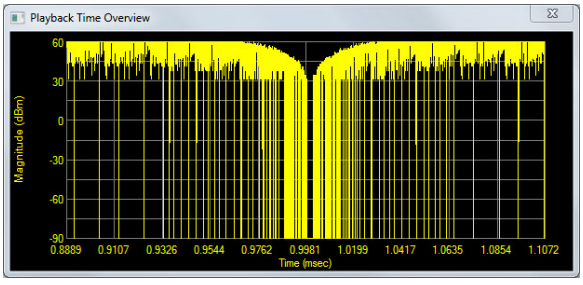


Power levels of each signal can be adjusted with resolution finer than 0.1 dB.

Beginning ramp



Repeating ramp



Apply ramp functions to beginning and end of waveform segments to minimize frequency splatter.

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RF-EDITOR

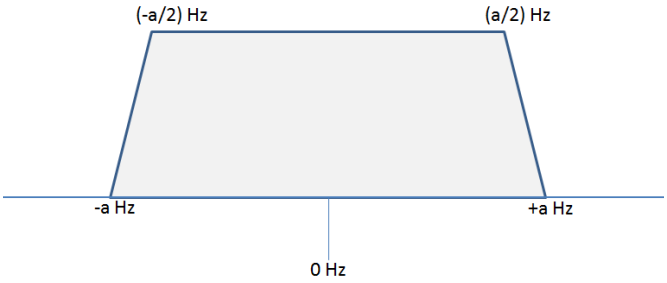
Specifications

FILTERING

Bandpass	Ripple less than 0.001 dB
Bandstop	Rejection greater than 80 dB
Filter Parameters	Filter type, start frequency (Hz), stop frequency (Hz)

FILTER CHARACTERISTICS

RF Editor Band Pass Filter Characteristics (Invert for Band Stop)



a = Filter percentage * file sample rate (Hz)

RAMPING

Magnitude Ramping	Straight line slope over user-specified number of samples or user-created functions stored in file (single precision, float). Apply to spectrum segment beginning and end or in between repeated segments.

WAVEFORM EDITING

Interpolation/Decimation	User specified span change; integer ratio required between initial and final spans.
Frequency Shifting	Replication and offset from original frequency by user specified amount (1Hz resolution).
Signal Duration	Length and duration of sample file; single sample time resolution.
Signal Level Adjustment	Scalar multiplier on I&Q magnitudes. If resulting magnitude >32,767, all sample files are scaled by a fixed amount to maintain relative levels. Multiplier is then applied to selected file.
Time Tracks	Up to 10

DATA

Input and Output File Formats	XDAT, XIQ, TIQ, MATLAB
Hardware Requirements	Windows 7 (32 bit min, 64-bit recommended), 10 MB free space on OS drive, USB 3.0 or eSATA, mouse or trackball, 1 GB RAM (required, 2 GB or more recommended)

Related Products

IQC5000B RECORD AND PLAYBACK SYSTEM

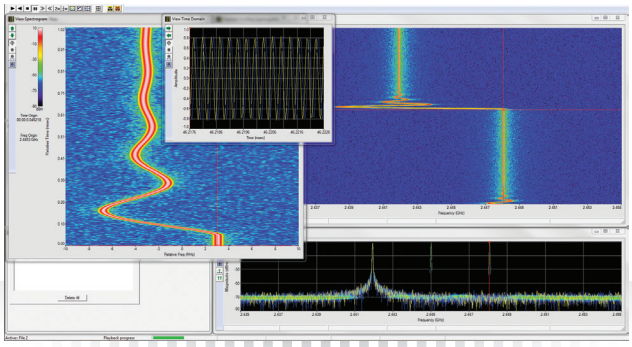
The IQC5000B series is the smallest, lightest, best-performing system available for the capture and replay of RF and microwave signals. Up to 255 MHz of record and playback bandwidth per channel, the IQC5000B can meet recording needs from HF to millimeter wavelengths in mission-critical applications.

IQC91000A RECORD AND PLAYBACK SYSTEM

With its 12 bit fidelity, the IQC91000A can continuously record 90 minutes of 1000 MHz wide waveforms to ensure designers capture transient and unexpected events.

SPECTRO-X RF SIGNAL ANALYSIS TOOLKIT

Spectro-X is the essential signal extraction tool that enables users to sift through multi-terabytes of RF data recordings to quickly identify signals of interest based on user input. The fast, spectral search enables visualization and analysis, with high resolution, for system or test engineers developing Active Electronically Scanned Array (AESA) and conventional radar, ELINT, SIGINT, ECM, ESM, multi-channel communications, telemetry and MIMO systems.



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