RADX TECHNOLOGIES INC

ACQUIRED DATA SOLUTIONS

TURNING DATA INTO ACTION

DATA ACQUISITION • ANALYSIS • REPORTING

SPECTRUM FIDELITY ZX

RF AND EMULATION CAPTURE SYSTEMS

Spectrum Fidelity ZX™, our next generation family of Emulation and Capture (EAC) Systems, is a significant leap forward in technology and software capability. Four significant enhancements are featured in this generation to address the current and emerging demands of RF EAC Platforms.

KEY FEATURES & APPLICATIONS

Single and Multi-channel
Single and multi-channel, very wide bandwidth RF Player (Emulation) and Recorder (Capture) System.

Output Frequency Range
9kHz - 6.0GHz output frequency range.

Maximum Output Bandwidth
500 MHz maximum output bandwidth.

Real-Time Signal Analysis
Real-time signal analysis and triggered event capture (recording). Trigger multi-channels on analysis of one or more channels.

Chassis Configuration
Single or multi-chassis configurations.

Testing and Simulation
Testing and simulation using emulated/generated RF waveforms.

High Data Throughput System
High data throughput system

1. Incorporating the RADX® Technologies (RAD LibertyGT® COTS, Software-Defined, Synthetic, Modular, Integrated RF Measurement Science Firmware and Software (MSFS) Suite with app driven modules and touch screen implementation for improved ease of use.

2. Real-time full bandwidth signal processing capability - a powerful option of the LibertyGT MSFS software suite.

3. Incorporation of the NI VST 2.0 (PXIe 5840) RF transceiver to that provides advanced, real-time RF record/playback capabilities that can scale to provide up to 1 GHz bandwidth performance level. Operational as stand-alone playback (Emulation), stand-alone record (Capture) or dual mode configurations. System can implement all NI VSA and VSG products.

4. Re-architecting of the overall system to include in-Chassis, solid state RAID subsystems, higher performance data flow approaches and new multi-chassis rack configurations for both enhanced RF performance and reduced Size, Weight, and Power (SWaP).

LGT MSFS FRAMEWORK

The Spectrum Fidelity ZXTM Executive is the COTS LibertyGT (LGT) MSFS Framework that support real-time and non-real-time emulation and capture processing.

LGT MSFS Framework Includes:

- Home Screen
- Concurrency Manager
- Hardware Abstraction Layer
- API with support for LabVIEW
- TestStand
- Python
- C++
- 1080HP Touchscreen GUI with Dual Display Support License Manager with USB Key
- LabVIEW and TestStand runtimes
- Examples
- Remote Interface (I/F and Performance Verification

COTS APP

COTS APP Supporting RF Single & Multi-Channel Processing Includes:

- LGT Spectrum Analyzer App with Meters (including PVT)
- LGT Real-time Vector Signal Analyzer (RTVSA) App with Modulation Analysis including: LGT Standard Demodulators, Narrowband Analysis, and Narrowband Recorder (including PVT)
- LGT Real-time Vector Signal Generator (RTVSG) App with Arbitrary Waveform Generator (AWG) Module and LGT Standard Modulators (including PVT)
- LGT Bit Error Rate Tester (GERT) App (Real-time and Non-Real-time; including PVT)
- LGT Audio / Low-Frequency Analyzer App (including PVT)
- LGT Real-time Spectrum Analyzer App (RTSA-1 and RTSA-2 [export controlled]; including PVT
- LGT Advanced Wideband Record and Review App (AWBRR; including PVT)
- LGT Advanced Wideband Playback App (AWBPB; including PVT)
- LGT Multi-channel Sync App
- LGT SDR App
- LGT SATCOM Channel Emulator App

Sampling of Touch Screen GUI and Apps Available within the COTS Software Suite

CONFIGURATION OVERVIEW

System Configurations

- Single or multi-channel very high wide band RF Record Systems
- Single or multi-channel very high wide band RF Playback Systems
- Single or multi-channel very high wide band RF Dual Mode Systems
- Multi-Chassis (> 5 channels) Stand-alone or Dual Mode
- Real-time Configurations or One or More Channels

System Architecture

- National Instruments Modular RF PXI Express Form Factor
- High Performance Quad Core Embedded CPU
- Vector Signal Transceiver (VST) 2.0
- High Speed in Chassis Single Slot RAIDS
- FlexRIO PXIe 79xx for Real-time Processing

CONTROL INTERFACES

Primary User Interface

- Microsoft Windows Desktop Application
- Accessible via locally attached keyboard/video/mouse or remotely via Windows Remote Desktop Protocol (RDP) over Ethernet

Primary Programming Interface

- Native LabVIEW Application Programming Interface (API)

PHYSICAL

Form Factor

- 19" Rack Mount, 4RU (Max 4-channels)
- Rack System available for configurations requiring more than a single 4RU chassis

Weight

- Actual weight depends on configuration

Power Source

- 110VAC/60Hz nominal

Power Consumption

- Actual power consumption depends on configuration

Spectrum Fidelity ZX™ supports the family of Vector Signal Analyzers (VSA) and Vector Signal Generators (VSG). Configurations and performance varies based upon attributes of the respective Modules.

Spectrum Fidelity ZX

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