

LibertyGT™ 1211B

Modular, COTS, Benchtop SDSI for Realtime Microwave RF & Wireless Comms Stimulus, Measurement & Test



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Preliminary Product Overview

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LibertyGT 1211B Modular, COTS, Benchtop SDSI™

The newest member of the RADX® LibertyGT™ 1200B Family, the LibertyGT 1211B (“LGT1211B”) is a Modular, COTS, multifunction, programmable, benchtop Software Defined Synthetic Instrument (SDSI) that is designed to support a broad range of realtime, mission critical Radio, Wireless Communications, RF and Microwave stimulus, test and measurement applications.

Developed in close collaboration with National Instruments® (NI), the LGT1211B combines an extensive library of RADX Realtime Measurement Science Firmware and Software (MSFS) (that includes patented and patent-pending realtime Synthetic Instrumentation technology exclusively licensed to RADX by BAE Systems®) with advanced RF stimulus and measurement NI PXIe modules and an NI LabVIEW® Software Foundation. The LGT1211B is housed in a modular, PXIe aluminum enclosure that features an innovative hinged front panel design by RADX and Core Systems™ that is optimized for field-level service, reconfiguration, upgrades and tech insertion at the module level. The LGT1211B also includes a RADX designed comprehensive, RADX RF Interface Unit (RFIU) for ready interfacing with “Units Under Test” (UUTs) and a High-Definition (HD) touchscreen display with a state-of-the-art, intuitive user interface with support for auxiliary display.

With unmatched capabilities in its class, the LGS1211B sets a new standard for cost-effective, high-throughput, multifunction, parametric testing of commercial and military radios, avionics, mobile devices and infrastructure, data links and other RF systems with transmit and/or receive frequencies from DC to 6 GHz. The LGT1211B excels in RF test and measurement applications where the combination of user programmability, flexibility, performance, throughput and long life cycle support and total cost of ownership is of paramount importance.



LibertyGT 1211B Key Features and Benefits

- **Modular, COTS SDSI Solution**
 - RADX Base and Advanced Realtime Measurement Science Software and Firmware Bundles
 - Extensive Set of Advanced NI RF Stimulus and Measurement PXIe Modules and LabVIEW Software Framework Support DC to 6 GHz (Upgradeable to 26.5 GHz)
 - RADX and Core Systems Modular PXIe Benchtop Enclosure with HD touchscreen display optimized for flexibility and field-level serviceability
- **Repeatable and Reproducible**
 - Unique Calibration and Alignment at RFIU and Instrument Bulkhead for Repeatable, Traceable & Reproducible Results
 - Easy and Repeatable Interfacing to UUTs
- **High-Performance, Realtime**
 - Industry leading multifunction throughput via RADX Realtime Measurement Science Software and Firmware’s optimal use of NI PXIe FPGA and Compute Resources
- **Extremely Cost Effective**
 - SDSI Architecture eliminates multiple, “box instruments” by leveraging high performance NI PXIe modules with flexible RADX software and firmware to save cost and reduce SWAP
 - Included RADX Measurement Science Bundles Provide Comprehensive Functionality at Bundled Price
 - Modular PXIe Enclosure with innovative hinged front panel for in-the-field module replacement, reconfiguration, upgrades and tech insertion for optimal TCO
- **Programmable, Open Architecture & 3rd Party Friendly**
 - Support for TPS development and scripting via key standards including LabVIEW, IVI and XML
 - Optimized Support for 3rd Party Measurement Science using popular programming environments including LabVIEW, C, C++, C# and Java
 - Binary Compatible with and Functionally Equivalent and Traceable to RADX LibertyGT 1211R Test & Development Reference Systems (TDRS) for Rapid Development and Deployment

For more info...
Visit www.radxtech.com/products/libertygt1200b.html
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LibertyGT 1211B: Comprehensive, Turnkey, Integrated Radio & Comms System Test Solution

The LGT1211B is fully configured to provide comprehensive, multifunction support for a wide range of wireless communications, RF and microwave stimulus, test and measurement functions from DC to 6 GHz— *right out of the box*. Accordingly, the LGT1211B includes a comprehensive set of advanced NI PXIe modules (for both stimulus and measurement), RADX Base and Advanced Measurement Science Software and Firmware Bundles and the 1200B enclosure with HD touchscreen display, RFIU, accessories and transit case. For applications above 6 GHz, RADX will, in the future, offer a modular upgrade support within the LGT1211B for applications up to 26.5 GHz.

The LGT1211B may be ordered directly from RADX. The LGT1211B includes the following hardware and software as standard, all of which are subject to tech refreshment over time and which will be integrated and tested by NI, Core Systems and RADX prior to shipment:

- **Unique, Hinged Benchtop Aluminum PXIe Enclosure with HD Touchscreen LCD Display**
 - NI 18-Slot PXI/PXIe Backplane and Card Cage
 - Autosensing, Int'l Power Supply: 100-240VAC, 50-60Hz, 6-12A with 15A circuit breaker
 - Front-to-Back Cooling
 - Rack Mount Accessories
 - Innovative, Hinged Front Panel for Serviceability
 - Integrated HD (1366 x 960 +) Touch Screen LCD Display
 - Auxiliary Display Support
 - Designed and Integrated by Core Systems
- **NI PXIe-8135 Embedded Controller**
 - 64-bit MS Win7 OS
 - 8+ GB DDR3
 - 500GB+ Removable HDD
 - 2 x GigE
 - 2 x USB 3.0, 2 x USB 2.0
 - 1 x External Display Port
 - 1 x GPIB
 - 1 x RS-232
- **NI PXIe-5644R Vector Signal Transceiver (VST)**
- **NI PXIe-7966R FlexRIO with NI 5782 250 MSPS FPGA Adapter Module (FAM) Transceiver**
- **NI PXI-5160 2-Ch, 10-bit, 2.5 GSPS Digitizer with 2 GB On-board Memory**
- **NI PXI-4065 Digital Multi-Meter (DMM)**
- **Key Hardware Options**
 - MIL-STD-1553B Test Module
 - NI PXIe-5442 Arbitrary Waveform Gen.
- **RADX and Core Systems Factory System Integration and Test**
 - 1 Year Std. RTF Warranty
 - Transit Case Included
- **RADX Comprehensive RFIU with Front Panel (FP) and Rear Panel (RP) I/O for Repeatable Calibration and UUT Interfacing:**
 - 2-CH Audio Out (FP)
 - Full Duplex Transmit Receive or Dedicated RF I/O (FP)
 - 2-CH DSO Input with Ext'l Triggering (FP)
 - DMM Input (FP)
 - 168-Pin UUT ZIF Connector (FP)
 - Modulation Inputs: Analog & Dig I/Q (RP)
 - Demodulation Outputs: Analog & Digital I/Q (RP)
 - Internal 10 MHz Ref or 10 MHz Ref Input with PLL Ref Output (RP)
 - SINAD/BER I/O (RP)
 - SINAD/Distortion Input (RP)
 - Flux Capacitor I/O with Optional Time Dilation Support (RP)
 - +28VDC, 0.5A Output for Precision Ext'l Noise Source Power for NF Measurements
- **Designed to Comply with Environmental Standards (Certification Pending)**
 - FCC B, CE, UL/ETL, IEC 60068-2-1 and -2
 - MIL-PRF-28800F Class 3, Low Temp Limit and Class 2 High Temp Limit
- **RADX LibertyGT Base Measurement Science Firmware and Software (MSFS) Bundle**
 - Operating Environment for MS Win7 64-bit with LabVIEW and LabVIEW FPGA Runtime Software and RADX SDSI GUI
 - Standard Calibration & Alignment Module
 - Realtime Spectrum Analyzer Measurement Module
 - Dual Channel DSO Measurement Module
 - Remote Interface Module
 - User Test Procedure Set (TPS) Scripting API Foundation and Screen Template
 - GUI and RFIU Interface
 - Commercial Performance Verification Test (PVT) (per Module)
 - USB Software Media, Binary Software License, License Key and User Docs
 - 1 Year Maintenance and Bug Fixes
- **RADX LibertyGT Advanced MSFS Bundle**
 - Stimulus Control Module
 - Realtime RF Receiver Chain Module (Demodulation Modules Sold Separately)
 - Realtime Vector Signal Generator Module (Modulations Optional)
 - 2-Ch Digitizer Module
 - RF Power Meter
 - Realtime Internal Waveform Modulation Module (AM, FM, PM Pulse Included; Other Internal Digital Modulations Optional)
 - Realtime External Waveform Modulation Module
 - Realtime Internal Demodulation Module (AM, FM, PM Pulse Included; Other Demodulations Optional)
 - Realtime External Waveform Demodulation Module with Analog External Demodulation Port
 - User Digital I/O Module
 - Realtime Bit Error Rate Tester Module
 - User Test Procedure Set (TPS) Scripting API and Screen Template (per Module)
 - GUI and RFIU Interface (per Module)
 - Commercial Performance Verification Test (PVT) (per Module)
 - USB Software Media, Binary Software License Addendum, License Key and User Documentation
 - 1 Year Maintenance and Bug Fixes

Additional MSFS modules RADX intends to offer as options include Signal Analysis, Modulation Analysis, Modulated Signal Generation and Stimulus, Advanced Calibration/Alignment, Virtual Instrument and Integrated RF and Communications System unit testing. In addition, RADX may also develop customer specific modules under NRE contract as part of its value-added services offerings.

Contact RADX for more info.

For more info, please visit www.radxtech.com or contact RADX Sales at info@radxtech.com or at +1 (619) 677-1849 x 1.

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