

WIRELESS Product Selection Guide



The Right Technology - when you want it!



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Welcome

to our Product Solutions Guide

Livingston can supply to you the right equipment to match your test and measurement needs so that you can meet your critical business challenges:

The First Challenge - to be Competitive in the tender process and Win Business

By using the rental option your offer will have the competitive edge. You can precisely allocate the cost of rental, not the cost of equipment, towards each specific project.

The Second Challenge - to Deliver

At project implementation stage, Livingston can provide the equipment right on time, exactly when you need it. And Livingston can deliver a complete service, globally, equipment and training.

The Third Challenge - to be Time and cost Effective

Because rental is an operational and not capital expense some of the difficult, and timely, approval processes can be removed. Combined with the high availability of products, equipment from Livingston can be with the end user much quicker than with a purchase.

Choosing the rental option also eliminates the associated costs of equipment ownership: depreciation, obsolescence, calibration, storage, asset management and disposal.

Equipment rental from Livingston can therefore give you greater flexibility to meet your customer's needs.

Building capacity without expensive investment.

Livingston will supply you the right equipment to match your measurement needs. Last year we invested 23M\$ in brand new equipment from prestigious suppliers such as Agilent, Anite-Nemo, Anritsu, Narda, Rohde & Schwarz, Spirent, Tektronix etc... for your benefit.



Livingston

The Right Technology - when you want it!

Agilent Technologies - N9330A

Cable and Antenna Tester, 25 Mhz to 4 Ghz

PRODUCT DESCRIPTION



Cable and Antenna Tester, 25 MHz to 4 GHz.

Frequency range: 25 MHz to 4 GHz.

iFrequency domain. Return loss vs. Frequency. VSWR vs. frequency.

Cable loss test

Distance to Fault (DTF). Return loss vs. distance. VSWR vs. distance.

Sweep time: 3.0 ms/data point (full span, 521 trace point, CW sweep, typically)

Battery: Lithium-ion, 4 hours operating time

Support USB connectivity for memory stick and PC connection

7.2" sunlight viewable LCD with 640 x 480 pixels

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Antenna and Cable Measurement

Anritsu - MS2712E

Spectrum Master Compact Handheld Spectrum Analyzer

PRODUCT DESCRIPTION



Frequency Range: 100kHz to 4GHz.

Spectrum Analyzer, Interference Analyzer

High Accuracy Power Meter, 2-port Transmission Measurements, Channel Scanner, GPS. Field-proven design: Three-hour battery life, rugged, compact, lightweight, daylight viewable display. Intuitive menu-driven touchscreen user interface. Applications. Spectrum monitoring. Transmitter Verification: occupied bandwidth, channel power, adjacent channel power ratio. Interference Analysis of cellular system, land mobile radio systems, Wi-Fi. Signal Strength Mapping. Field analysis of 2G/3G/4G signals. Field Strength Measurements.

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Antenna and Cable Measurement

Anritsu - MS2721B

9kHz-7.1GHz Spectrum Analyzer with Tracking Generator

PRODUCT DESCRIPTION



9kHz-7.1GHz Spectrum Analyzer with Tracking Generator

Frequency Range 9 kHz to 7.1 GHz

Dynamic Range 95 dB

Resolution Bandwidth 1 Hz to 3 MHz

Tracking Generator 100 kHz to 7.1 GHz

USB and Ethernet Interfaces

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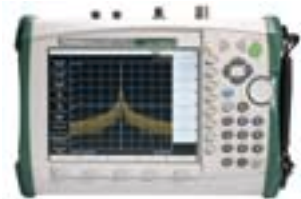
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Antenna and Cable Measurement

Anritsu - MS2724B

9kHz-20GHz Spectrum Analyzer

PRODUCT DESCRIPTION



9kHz-20GHz Spectrum Analyzer
Frequency Range 9 kHz to 20 GHz
Dynamic Range 101 dB
Resolution Bandwidth 1 Hz to 3 MHz
USB and Ethernet Interfaces

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Antenna and Cable Measurement

Anritsu - S251C

Cable & Antenna Tester - Site Master (625 - 2500MHz)

PRODUCT DESCRIPTION



Cable & Antenna Tester - Site Master (625 - 2500MHz)
Frequency range 625 - 2500 MHz. 2-port. Dynamic Range: 54dB
Internal memory saves up to 200 traces and 10 instrument configurations.
6 Markers. Test port connector : N female, RS-232 Interface
Fitted options: 05: RF Wattmeter power monitor.

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Antenna and Cable Measurement

Anritsu - S331E

Site Master Compact Handheld Cable and Antenna Analyzer 2 MHz to 4 GHz

PRODUCT DESCRIPTION



Site Master Compact Handheld Cable and Antenna Analyzer 2 MHz to 4 GHz
Features & Benefits: Return Loss, VSWR, Cable Loss, Distance-To-Fault Phase, 2-port Transmission Measurements. High Accuracy Power Meter, GPS.
Field-proven design: Four-hour battery life, rugged, compact, lightweight, daylight viewable display USB connectivity, built-in touch screen keyboard. Intuitive menu-driven touch screen user interface.

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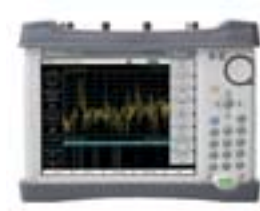
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Antenna and Cable Measurement

Anritsu - S332E

Site Master Compact Handheld Cable and Antenna Analyzer with Spectrum Analyzer

PRODUCT DESCRIPTION



Site Master Compact Handheld Cable and Antenna Analyzer with Spectrum Analyzer Features & Benefits: Frequency Range: 2 MHz to 4 GHz Cable & Antenna Analyzer. Frequency Range: 100 kHz to 4 GHz Spectrum Analyzer. Return Loss, Cable Loss, VSWR, Distance-To-Fault. Phase, 2-port Transmission Measurements. Spectrum Analyzer, Interference Analyzer, High Accuracy Power Meter, Channel Scanner, GPS
Field-proven design: Four-hour battery life, rugged, compact, lightweight, daylight viewable display.

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Antenna and Cable Measurement

Anritsu - S810D

Cable & Antenna Tester - Site Master (25 MHz - 10 GHz)

PRODUCT DESCRIPTION



Cable & Antenna Tester - Site Master (25 MHz - 10 GHz)

Frequency range 25 MHz - 10.5 GHz

1-port, Dynamic Range: 60 dB

Internal memory saves up to 200 traces and 21 instrument configurations

6 Markers, Test port connector : K female, RS-232 Interface

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Antenna and Cable Measurement

Anritsu - S820D

Cable & Antenna Tester - Site Master (25 MHz - 20 GHz)

PRODUCT DESCRIPTION



Cable & Antenna Tester - Site Master (25 MHz - 20 GHz)

Frequency range 25 MHz - 20 GHz

1-port, Dynamic Range: 60 dB

Internal memory saves up to 200 traces and 21 instrument configurations

6 Markers, Test port connector : K female, RS-232 Interface

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Antenna and Cable Measurement

Compass - 4011

GPS Compass System for Antenna Alignment

PRODUCT DESCRIPTION



GPS Compass System for Antenna Alignment

GPS Compass System

Azimuth Alignment 0.4 rms ;

Azimuth Calculation < 30 sec

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Antenna and Cable Measurement

CP Towers - SPAA05

Antenna Alignment System

PRODUCT DESCRIPTION



Antenna Alignment System
GPS Based Antenna Alignment System
Achievable accuracy of 0.5 degrees
Suitable for GSM, DCS and UMTS Systems
Bluetooth communications

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Antenna and Cable Measurement

Narda - D8862

RF Personal Monitor

PRODUCT DESCRIPTION



RF Personal Monitor. Shaped Response to International Standards
100 kHz to 100 GHz Frequency Range.
Shaped Frequency Response to the following standards.
ENV 50166-2 Occupational.
DIN VDE 0848 part 2 Occupational.
ICNIRP 1998 Occupational.
AS/NZ 2772.1 Occupational.
Five high intensity LED level indicators.
Tri-Sensor Handles all types of fields.
Two adjustable Audio Alarms
Adjustable vibrator Alarm.
Long Battery Life.

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Antenna and Cable Measurement

Anritsu - ML8720C

Triband Area Tester

PRODUCT DESCRIPTION



Triband Area Tester. GSM 925 to 960 MHz, and 1805 to 1880 MHz, W-CDMA 2110 to 2170 MHz. USB interface for PC connection and RS-232 for GPS Receiver. Compatible with NEMO and Ericsson Drive Test Software Packages Built in colour display for stand alone operation. Simultaneous W-CDMA and GSM Measurement. Simultaneous Measurement of Two Carrier Frequencies and Diversity function.

Simultaneous W-CDMA and GSM Measurement. Simultaneous Measurement of Two Carrier Frequencies and Diversity function. Checking Broadcast Information by BCH Demodulation Supports Indoor Measurement. Long life Battery Operation. High-speed and High-accuracy Area Analysis. High-speed Search with SCH. Correlation with GPS Positioning Data. Specific Distance Measurement Using Car Speed Pulses.

Anritsu - ML8740C

Triband Area Scanner GSM/DCS/UMTS

PRODUCT DESCRIPTION



Triband Area Scanner GSM/DCS/UMTS

925 to 960 MHz,

1805 to 1880 MHz and 2110 to 2170 MHz frequency bands

Supports GSM and W-CDMA

GPS receiver Input for location data

USB Interface

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Cellsite Evaluation Equipment

Digital Receiver Technology - 4301A WiMax

WiMax Receiver

PRODUCT DESCRIPTION

WiMAX Quad-Band Tuner

2300 - 2400 MHz, 2496 - 2690 MHz, 3300 - 3800 MHz, 5150 - 5825 MHz (optionnal)

WiMAX protocol support for measurements and decoding features.

Real time decoding of WiMAX broadcast messages: FCH, DL-MAP, UL-MAP, DCD, UCD?

Support for the most common wireless scanner measurements. Integrated Spectrum Analysis Tool for all protocols and bands. Supported with Nemo Outdoor tool.

MIMO Support. Internal GPS receiver with frequency and timing discipline.

100 Mbps Ethernet interface to the host allows for high throughput of logged test data and remote operation.



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Cellsite Evaluation Equipment

ETSA - PVER402001

UMTS Radio Coverage Transmitter

PRODUCT DESCRIPTION



Frequency band 2110-2170 MHz in 2.5 MHz steps
Output power: 25W (CW mode) or 10W (Spectrum mode)
Dynamic range 22 dB in 0.5dB steps (CW mode)
UMTS Spectral Mode

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Cellsite Evaluation Equipment

LMW - ST16

Survey Signal Transmitter 1800MHz

PRODUCT DESCRIPTION



Survey Signal Transmitter 1800MHz
Output Power 20Watts
Output Frequency 1750 - 1900 MHz
Channel Spacing from 20kHz to 200kHz
Mains and external Battery (12V) Supplies

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Cellsite Evaluation Equipment

LMW Electronics - ST24

Survey Signal Transmitter 2100MHz

PRODUCT DESCRIPTION



Output Power 20Watts
Output Frequency 2100 - 2200 MHz
Channel Spacing from 20kHz to 200kHz
Mains and external Battery (12V) Supplies

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Cellsite Evaluation Equipment

Nemo Technologies - Outdoor

Outdoor Base Software

PRODUCT DESCRIPTION



Drive Test Software Package
Will require scanner or test mobile
Enables monitoring of the air interface in Wireless Networks
Includes GPS location system
Please contact Livingston for configuration

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Cellsite Evaluation Equipment

Nemo Technologies - Voice Quality

Voice Quality Option for Nemo Outdoor

PRODUCT DESCRIPTION



Nemo Outdoor is a laptop-based drive test tool that combines cost-efficiency with superior performance. Supports multiple simultaneous measurements on all major network technologies and on over 200 different terminals and scanners. Nemo Outdoor you to perform optimization measurements based on PESQ, the ITU P.862.1.

Nemo Technologies - Handy

Hand Held Drive Test Tool

PRODUCT DESCRIPTION



Nemo Handy is a pocket-sized solution for thorough measurements on the wireless air interface and mobile application QoS/QoE.

Standard 64 MB MMC card can store up to 6 hours of measurement data.
Graphical realtime user interface

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Cellsite Evaluation Equipment

Nokia - N95

Test Terminal

PRODUCT DESCRIPTION



Nokia Test Terminal
Quad Band Operation
GSM, UMTS
Support for HSDPA
Built in GPS Receiver

Nokia - 6720

Test Terminal

PRODUCT DESCRIPTION



Operating frequency: Quad-band GSM 850/900/1800/1900 WCDMA bands RM-424 900/1900/2100 and RM-564 GSM/EDGE networks. WCDMA, maximum speed PS 384/384 kbps (UL/DL), CS 64 kbps HSDPA, maximum speed 10.2 Mbps (DL), HSUPA 2 Mbps (UL)

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Buy this product. Contact us directly for sales prices.

Related products. Nemo Technologies Outdoor. Nemo Technologies Multi Cradle

Last viewed products. Brand Model Description. Nokia 6720 HSPA Terminal 850/900/1800/1900/2100 Details

» Need advice? Let us help you find a product that fits your requirements. Tell us what you need » Simple class A, multi slot class 11, max speed DL/UL= 178.8/118.2 kbp/s850/900/2100 GPRS/EGPRS class B, Multi Slot Class 32 max speed DL/UL= 298/178.8kbps

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Cellsite Evaluation Equipment

PCTel - EX Quad

EX Scanner GSM 900/1800 WCDMA 2100/900

PRODUCT DESCRIPTION



EX Scanner GSM 900/1800 WCDMA 2100/900
High Speed Top N Scrambling Code Scanning
GSM Color Code (BSIC) Scanning
Multiple Concurrent Measurements
RSSI & Immediate RSSI Reporting
Spectrum Analysis Measurements
Layer 3 BCH/BCCH Decoding
High Accuracy C/I Measurements
Built-in GPS Receiver

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Cellsite Evaluation Equipment

PCTel - LX 850/1900

Dual Band 850/1900MHz GSM Scanner

PRODUCT DESCRIPTION



Dual Band 850/1900MHz GSM Scanner
Superior Performance & Unparalleled Precision
GSM Color Code (BSIC) Decoding
RSSI Measurements
Spectrum Analysis Measurements
Layer 3 BCH/BCCH Decoding
High Accuracy C/I Measurements
Built-in GPS Receiver

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Cellsite Evaluation Equipment

Rohde & Schwarz - TSMQ

Radio & Network Analyzer

PRODUCT DESCRIPTION



Simultaneous multitechnology measurements in a single drive test
WCDMA, GSM, CDMA2000[®] and CW
Fastest scanner worldwide
WCDMA PN scanning with up to 20 ms per measurement (50 Hz)
in high speed mode
GSM network scanning with up to 10 ms per channel (100 Hz)
CDMA PN scanning with up to 100 ms per measurement (10 Hz)

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Cellsite Evaluation Equipment

Tektronix - K15

Protocol Analyzer GSM/GPRS/EDGE/UMTS/CDMA2000

PRODUCT DESCRIPTION



Protocol Analyser GSM/GPRS/EDGE/UMTS/CDMA2000.
Protocol Analyzer to monitor Mobile Networks such as GSM, GPRS, EDGE, UMTS, HSDPA, Cdma One and CDMA2000 Networks. UMTS Iub Deciphering. Deciphers in Real-Time all Messages on the Iub Interface. Extensive Troubleshooting by Enabling Full Access to the Content of all Frames H324.M Protocol Suite. HSDPA Protocol Suite. EDGE Test Suite. Troubleshooting Video Telephony Services and Interactive Multimedia Services. Multi Interface Call Trace. Availability of E1/DS1/J1. STM-1/OC-3c. 10/100 Fast Ethernet, 1000Base Tx (Gb Ethernet)

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Cellular/Mobile Backhaul

Spirent Communications - CM-1G-D12

HyperMetrics 12-port Gigabit Ethernet Test Modules

PRODUCT DESCRIPTION



12 Ports 10/100/1000 Ethernet.

Dual Media, Electrical and Optical SFP Interfaces

For use with the TestCenter Mainframes.

Triple Play: Testing and service validation from the user's point of view (quality of experience) using realistic voice calling, unicast and multicast streaming videos as well as Internet traffic. Device Benchmarking: Test using IETF RFC 2544, RFC 2889 and RFC 3918 methodologies with easy test setup using dynamically bound traffic and automated wizards.

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IP Network Performance Tester

Spirent Communications - CM-1G-D4

HyperMetrics 4-port Gigabit Ethernet Test Modules

PRODUCT DESCRIPTION



4 Ports 10/100/1000 Ethernet.
Dual Media, Electrical and Optical SFP Interfaces.
For use with the TestCenter Mainframes.
Triple Play: Testing and service validation from the user's point of view (quality of experience) using realistic voice calling, unicast and multicast streaming videos as well as Internet traffic. Device Benchmarking: Test using IETF RFC 2544, RFC 2889 and RFC 3918 methodologies with easy test setup using dynamically bound traffic and automated wizards.

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IP Network Performance Tester

Spirent Communications - CV-10G-S2

HyperMetrics CV 2-PORT 10 Gigabit Ethernet Test Module

PRODUCT DESCRIPTION



HyperMetrics CV 2-PORT 10 Gigabit Ethernet Test Module

Traditional test module design fixes CPU resources to specific ports.

These 1-dimensional architectures necessitate three hardware designs to achieve the usage goals of high port scalability, virtual network emulation and high-capacity application traffic.

HyperMetrics architecture relegates these design limitations to the past.

Value-priced 2-port 10GbE test modules

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IP Network Performance Tester

Spirent Communications - EDM-1003B

12 Port Dual Media 10/100/1000 Interface Module

PRODUCT DESCRIPTION

12 Port Dual Media 10/100/1000 Interface Module
12 Ports 10/100/1000 Ethernet
Dual Media, Electrical and Optical SFP Interfaces
For use with the TestCenter Mainframes



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IP Network Performance Tester

Spirent Communications - EDM-2001B

4 Port Dual Media Gigabit Ethernet Module

PRODUCT DESCRIPTION

4 Port Dual Media Gigabit Ethernet Module
4 Port 10/100/1000 Ethernet Module
2 connectors per port
Copper and 1Gb SFP Fibre
Requires Test Centre Mainframe



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IP Network Performance Tester

Spirent Communications - EDM-2003B

10/100/1000 Dual Media, 12 port Test Module

PRODUCT DESCRIPTION

10/100/1000 Dual Media, 12 port Test Module
12 Port 10/100/1000 Ethernet
Dual Media, Electrical and SFP Optical Interfaces
For use with TestCenter Mainframes



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IP Network Performance Tester

Spirent Communications - FBC-3602A

Fibre Channel 1G/2G 2-port Module

PRODUCT DESCRIPTION



Full line-rate traffic generation and analysis at 1 and 2Gb/s. Dual Port, GBIC interface. Supports Point-to-Point and Loop (public and private) modes. Test Module can be used in SMB-600 or SMB-6000. Generates up to 512 independent data streams and analyses up to 64K streams at any given time. Performs loop initialisation. fabric login. and name server registration for one or many devices.

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IP Network Performance Tester

Spirent Communications - LAN-3320A

Gigabit Ethernet 10/100/1000 Base 2-port Smart Metric Module

PRODUCT DESCRIPTION



Dual Media 10/100/1000 Mbps and Gigabit Ethernet .
2 Ports 10/100/1000Base-T (RJ-45) and two port 1000Base-SX/TX
RFC-2544 (Throughput, Latency, Frame Loss rate, Back to back frame, system
Recovery en Reset) Gigabit Ethernet module for model SMB-600 or SMB-6000,
1 Slot.

Measure specific control plane performance of network-embedded applications
such as routing. Multicast IP. MPLS. and security. Measure Layer 4 to 7 performance of devices like web servers.
firewalls. load balancers. streaming media. SSL accelerators. and IPSec VPNs. Key Features. Realistic higher
application traffic and protocol breadth for Layer 4 to 7 testing.

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IP Network Performance Tester

Spirent Communications - LAN-3324A

Smartmetrics XD 4 port GigE Module

PRODUCT DESCRIPTION

Dual Media 10/100/1000 Mbps and Gigabit Ethernet .

4 Ports 10/100/1000Base-T (RJ-45) and four port 1000Base-SX/TX

RFC-2544 (Throughput, Latency, Frame Loss rate, Back to back frame, system Recovery en Reset)

Gigabit Ethernet module for model SMB-600 or SMB-6000, 1 Slot



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IP Network Performance Tester

Spirent Communications - MSA-2001B

10-Gigabit Ethernet Multiple MSA Test Solution

PRODUCT DESCRIPTION

Support for Deficit Idle Count (DIC), Link Fault Signaling (LFS), loop line timing, Ethernet preamble editing, Management Data Input/Output (MDIO) and diagnostic loopback. The RFC 2544 and 2889 test package software options allow the user to rapidly setup and execute tests using industry standard test methodologies. Traffic wizards allow easy setup of unicast, multicast, RFC-based tests, VLAN tagged, IPv4 and IPv6 test configurations



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IP Network Performance Tester

Spirent Communications - SMB 6000C

Smartbit 12 slot Mainframe

PRODUCT DESCRIPTION

12 Slot Mainframe

For use with the full range of Smartbit Modules

RS-232 and RJ45 Interfaces for connection to PC



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IP Network Performance Tester

Spirent Communications - SMB-600

Smartbits 600 Mainframe

PRODUCT DESCRIPTION

Small. lightweight. and portable 2-slot chassis

Holds up to two modules

Available with SmartWindowsfi. SmartFLOW. SmartMulticast IP.

SmartFlow and Websuite/Firewall PC-based software applications for comprehensive performance analysis Please contact Livingston for configuration

Supports 10/100Mb/s Ethernet connections to a host PC



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IP Network Performance Tester

Spirent Communications - SPT-2000

Portable High End (10) Gig/Ethernet Performance Test System

PRODUCT DESCRIPTION

Supports up to 144 Dual Media Gigabit ports or up to 24 10Gig Ethernet ports
Supports high density 10/100/1000 Ethernet and 10Gig Ethernet test modules
RFC-2544 (Throughput, Latency, Frame Loss rate, Back to back frame, system Recovery en Reset)
Highly portable, easy to use Gigabit Ethernet Analyser
User friendly user interface. Multiple interface cards and various mainframes available.



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IP Network Performance Tester

Spirent Communications - SPT-9000A

TestCentre 9U Mainframe

PRODUCT DESCRIPTION



Testcenter Mainframe
Will hold upto 9 modules
Various software packages available

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IP Network Performance Tester

Spirent Communications - TestCentre

Portable High End (10) Gig/Ethernet Performance Test System

PRODUCT DESCRIPTION

Supports up to 144 Dual Media Gigabit ports or up to 24 10Gig Ethernet ports
Supports high density 10/100/1000 Ethernet and 10Gig Ethernet test modules
RFC-2544 (Throughput, Latency, Frame Loss rate, Back to back frame, system Recovery en Reset)
Highly portable, easy to use Gigabit Ethernet Analyser
User friendly user interface. Multiple interface cards and various mainframes available.



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IP Network Performance Tester

Spirent Communications - XFP-3731

Terametrics 10GigE Single Port Module

PRODUCT DESCRIPTION

10 Gigabit Ethernet module
XFP Optical Interface
Specify required wavelengths when ordering
Requires Smartbits Mainframe



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IP Network Performance Tester

Spirent Communications - XLW-3720A

Smartmetrics 10 Gigabit Ethernet Module

PRODUCT DESCRIPTION



10 Gigabit Ethernet LAN/WAN Interface module .

1 Port 10 Gig Ethernet XENPAK transceiver 1310nm

RFC-2544 and RFC 2889 (Throughput, Latency, Frame Loss rate, Back to back frame, system Recovery on Reset). 10 Gigabit Ethernet module for model SMB-600 OR smb-6000, 2 SlotA. Performs negative testing by injecting errored traffic. Tests MulticastIP performance. as well as Diffserv and VLAN-enabled devices. Tests the forwarding performance of devices with a mix of IPv6 and IPv4 streams.

Performs negative testing by injecting errored traffic. Tests MulticastIP performance. as well as Diffserv and VLAN-enabled devices. Tests the forwarding performance of devices with a mix of IPv6 and IPv4 streams.

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IP Network Performance Tester

Aeroflex - 3920

Analog and Digital Radio Test Set

PRODUCT DESCRIPTION



TETRA Mobile, Base Station and DMO tests
P25 parametric analysis
HPD' (High Performance Data)
Spectrum analyzer with tracking generator
GPIB, Ethernet, USB and RS-232 Interfaces

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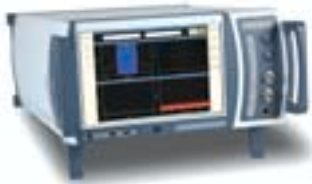
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R&D and Test for 3G / 4G / LTE

Aeroflex - 7100

LTE Radio Test Set

PRODUCT DESCRIPTION



The Aeroflex 7100 delivers the most comprehensive testing capability for LTE mobile devices available in a single bench-top instrument enabling chip-set designers, software developers and handset manufacturers to accelerate the pace of development projects.

2 cells, 6 GHz, MIMO, AWGN, Multiple Standard
InteRAT Handover, FDD & TDD
3GPP 36.523-3, 3GPP 36.521-1
RF / Protocol integration testing

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R&D and Test for 3G / 4G / LTE

Agilent Technologies - E4407B

Spectrum Analyzer 9kHz-26.5GHz

PRODUCT DESCRIPTION



Frequency Range 9 kHz to 26.5 GHz

Dynamic Range -140 dBm to +30 dBm

Resolution Bandwidth 1 Hz to 5 MHz

3 GHz Tracking Generator

GPIB and Parallel Interfaces

Options Available:

1DN 50 ohm tracking generator (3.0 GHz)

1DR Fast Time Domain Sweep

1DS Preamplifier built-in for enhanced sensitivity (3.0 GHz)

A4H GPIB and parallel printer interface

AYX Fast time domain sweep; IF, sweep, and video output ports

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R&D and Test for 3G / 4G / LTE

Agilent Technologies - E4445A

PSA Spectrum Analyzer

PRODUCT DESCRIPTION



Frequency Range 3Hz to 13.2GHz
+/-0.19 dB absolute amplitude accuracy
-155 dBm displayed average noise level (DANL)
-118 dBc/Hz phase noise at 10 kHz offset
81 dB W-CDMA ACLR dynamic range
Standard 10 MHz analysis bandwidth

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R&D and Test for 3G / 4G / LTE

Agilent Technologies - E5071C

Network Analyzer 4 Port 100kHz to 8.5GHz

PRODUCT DESCRIPTION



Frequency Range 300kHz - 8.5GHz

2 or 4-ports

Dynamic range > 123dB

Fast measurement speed: 41 ms @ full 2-port cal, 1601 points

Low trace noise: 0.004 dB rms @ 70 kHz IFBW

Integrated S-parameter test set

Balanced measurements (4-port option)

Options available:

008 Frequency Offset Mode

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R&D and Test for 3G / 4G / LTE

Agilent Technologies - E5515C

Wireless Communications Test Set

PRODUCT DESCRIPTION



Supports GSM/GPRS/EDGE, W-CDMA, and CDMA2000 mobile standards
Full transmit, receive and audio functional tests. Stand Alone system.
GPIB and LAN Interfaces.

Available Options:

- E5515C-002: 2nd RF Source
 - E5515C-003: Flexible CDMA BTS emulation
 - E1968A-201: GSM/GPRS functionality
 - E1968A-202 GSM/GPRS/EDGE Functionality
 - E1963A WCDMA Test Mobile Application
 - E1962B CDMA2000/IS-95/AMPS Application
- Mobile Handset Test Set
Designed for high volume yest

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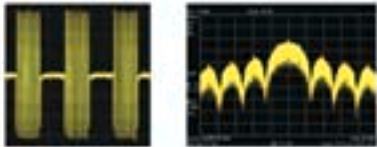
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R&D and Test for 3G / 4G / LTE

Agilent Technologies - N5182A

250kHz-6GHz Vector Signal Generator

PRODUCT DESCRIPTION



Frequency Range 250 kHz to 6 GHz
Amplitude Range -110 dBm to +7 dBm
Frequency Resolution 0.01 Hz
Digital Modulation
GPIB, USB and LAN Interfaces

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R&D and Test for 3G / 4G / LTE

Agilent Technologies - N9010A-526

EXA Signal Analyzer

PRODUCT DESCRIPTION



25 MHz analysis bandwidth
3.6 GHz Internal preamplifier and more.
0.27 dB absolute amplitude accuracy
+13 dBm third order intercept (TOI)
-146 dBm displayed average noise level (DANL)
73 dB W-CDMA ACLR dynamic range (with noise correction on)
Spectrum analysis, LTE, W-CDMA, HSDPA/HSUPA, phase noise

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R&D and Test for 3G / 4G / LTE

Agilent Technologies - N9020A

MXA Signal Analyzer

PRODUCT DESCRIPTION



25 MHz analysis bandwidth
3.6 GHz Internal preamplifier and more.
Analog baseband IQ inputs with 40 MHz baseband bandwidth
0.23 dB absolute amplitude accuracy
+15 dBm third order intercept (TOI)
-154 dBm displayed average noise level (DANL)
78 dB W-CDMA ACLR dynamic range (with noise correction on)
Spectrum analysis, LTE, W-CDMA, HSDPA/HSPA, phase noise

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R&D and Test for 3G / 4G / LTE

Agilent Technologies - N9030A-526

PXA 26.5GHz Signal Analyzer

PRODUCT DESCRIPTION



3 Hz to 26.5 GHz

10 MHz (standard), 25, 40 or 140 MHz analysis bandwidth

12 markers, marker table, and simultaneous detectors

-0.19 dB absolute amplitude accuracy

+20 dBm third order intercept (TOI)

-172 dBm displayed average noise level (DANL)

-83 dBc W-CDMA ACLR dynamic range (with noise correction on)

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R&D and Test for 3G / 4G / LTE

Rohde & Schwarz - CMU200

Universal Radio Communication Tester

PRODUCT DESCRIPTION



Frequency Range 100 kHz to 2.7 GHz.

Mobile standards supported are dependant on Option Set Full Transmit, Receive, Speech and Data Test Functions Stand Alone System, please contact Livingston for option availability

Available options: Please contact us.

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R&D and Test for 3G / 4G / LTE

Rohde & Schwarz - FSL18

Spectrum Analyzer

PRODUCT DESCRIPTION



- Frequency range 9 kHz to 18 GHz
- Optional with tracking generator
- Largest signal analysis bandwidth in its class (28 MHz)
- Low measurement uncertainty, even in microwave range
- High resolution filter accuracy owing to all-digital implementation
- Robust and compact
- Carrying handle and low weight (<8 kg/18 lbs)
- Optional battery operation
- Easy on-site upgrading with options

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R&D and Test for 3G / 4G / LTE

Rohde & Schwarz - FSQ26

Vector Signal Analyzer 20Hz-26GHz

PRODUCT DESCRIPTION



Frequency range 20Hz - 26GHz

DANL +30 to -145 dBm. Resolution Bandwidth 10Hz - 20MHz, 50MHz

Built-in 3.5in floppy disk drive. RS-232, Parallel, IEEE, USB & LAN Interfaces

Available options

B4 OCXO, B9 3.6GHz Tracking Generator, B10 External Generator Control

B12 Output attenuator for Tracking Generator, B25 Electronic Attenuator

B71 Analogue Baseband inputs, B72 I/Q Bandwidth Extension

Multiple Software options for digital applications such as
GSM/EDGE, WCDMA, HSDPA, Cdma2000, Noise figure,
phase noise, WLAN, WiMAX...

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R&D and Test for 3G / 4G / LTE

Rohde & Schwarz - FSU8

Spectrum Analyzer (20Hz - 8GHz)

PRODUCT DESCRIPTION



Frequency range 20Hz - 8GHz

DANL +30 to -158 dBm. Resolution Bandwidth 1Hz - 50MHz

Built-in 3.5in floppy disk drive. RS-232, Parallel, IEEE, USB & LAN Interfaces

Available options

B4 OCXO, B9 Tracking Generator, B10 External Generator Control

B12 Output Attenuator, B25 Electronic Attenuator, B27 Broadband FM

Demodulator. Multiple Software options for digital applications such as

GSM/EDGE, WCDMA, Cdma2000, Noise figure, phase noise, ...

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R&D and Test for 3G / 4G / LTE

Rohde & Schwarz - SMU200A

Dual Channel Generator 3GHz & 6GHz WCDMA

PRODUCT DESCRIPTION



Frequency Range (1st RF Path): 100kHz - 2.2/3/4/6GHz and 2nd RF Path):
100kHz - 2.2 or 3GHz

RF Output Level from -144 to +19dBm (with high power range options)

Frequency Resolution : 0.01Hz

AM, FM Phase and Pulse Modulation

IEEE and LAN Interfaces

Two signal generators in one

Baseband generator with universal coder for real time signal generation

Arbitrary waveform generator with up to 64 MSamples

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R&D and Test for 3G / 4G / LTE

Rohde & Schwarz - TSMQ

Radio Network Analyzer

PRODUCT DESCRIPTION



Simultaneous multitechnology measurements in a single drive test WCDMA, GSM, CDMA2000® and CW. Fastest scanner worldwide WCDMA PN scanning with up to 20 ms per measurement (50 Hz) in high speed mode. GSM network scanning with up to 10 ms per channel (100 Hz) CDMA PN scanning with up to 100 ms per measurement (10 Hz) Analog CW power measurements with up to 1.6 ms per measurement (fulfilling Lee criterion even at high speeds) 3G multicarrier use for demodulating

broadcast information. 12 carriers in parallel in WCDMA/CDMA2000® Inclusion of broadcast information decoding (SIB 1-18 for WCDMA, MCC/MNC/LAC/CI/BSIC for GSM). Measurement of GSM and WCDMA neighborhoods in parallel. Neighborhood analysis with just one receiver. Low weight and low power consumption: ultra-portable backpack. Perfect for indoor use

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R&D and Test for 3G / 4G / LTE

Rohde & Schwarz - ZVB8

8GHz 4-Port Vector Network Analyzer

PRODUCT DESCRIPTION



300 kHz to 8 GHz

4 Test ports

Short measurement time (<math>< 4.5 \mu\text{s}</math> per point)

Wide dynamic range >123 dB

High output power +13 dBm

High power sweep range >50 dB

Balanced measurements

Parallel measurements

Innovative user interface

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R&D and Test for 3G / 4G / LTE

As Global's leading supplier of Test Equipment for rental, we provide the most cost effective and flexible solutions available today. For however long you need a piece of equipment, Livingston has the right options to suit. Livingston has a range of options available to support any of your needs.

Short Term Rental

Complete flexibility to use equipment to support emergency requirements, product evaluation or to cover workload peaks and troughs.

- ❖ Immediate availability
- ❖ Total flexibility - extend or shorten your contract as required
- ❖ Cost and tax effective
- ❖ Budget equipment costs with 100% certainty
- ❖ Damage waiver option for peace of mind

Long Term Rental

Ideal for project use. You get the benefits of traditional short term rental flexibility at a lower cost and avoid upfront purchase costs.

- ❖ Lower cost solution - the longer you rent, the lower the rental rates
- ❖ Plan your project requirements: Rent the equipment when you need it and return it when you've finished
- ❖ No long term lock-in if your technology requirements change
- ❖ Convenience - rental includes all maintenance and calibration and replacements in the event of equipment failure.

Sales

In today's marketplace, with reduced budgets and capital spending controls, keeping down costs to furnish your new laboratory with essential instruments, or equipping your installation and repair team can be a major headache. If you could buy equipment for substantially less than the manufacturer's list price. your limited budget would go much further. Livingston is one of the world's largest independent suppliers of quality used test and computer equipment. Buying from us gives you exceptional savings and worry free ownership.

- ❖ Big savings on manufacturer list prices
- ❖ Warranty and certificate of calibration supplied
- ❖ 7 day sale or return policy
- ❖ Immediate availability from stock
- ❖ Multi-vendor packages available from a single source

Disposal Management

You may have an abundance of test equipment you no longer use. Best case it is just taking up shelf space, worst case you may still be paying for it to be maintained. Livingston can promote this equipment for you worldwide, through one of the largest used equipment networks.

- ❖ Convert unused equipment back into cash
- ❖ Equipment valuation service available
- ❖ Access to an extensive network of used equipment sellers
- ❖ Achieve best re-sale price for equipment

Worldwide Offices



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