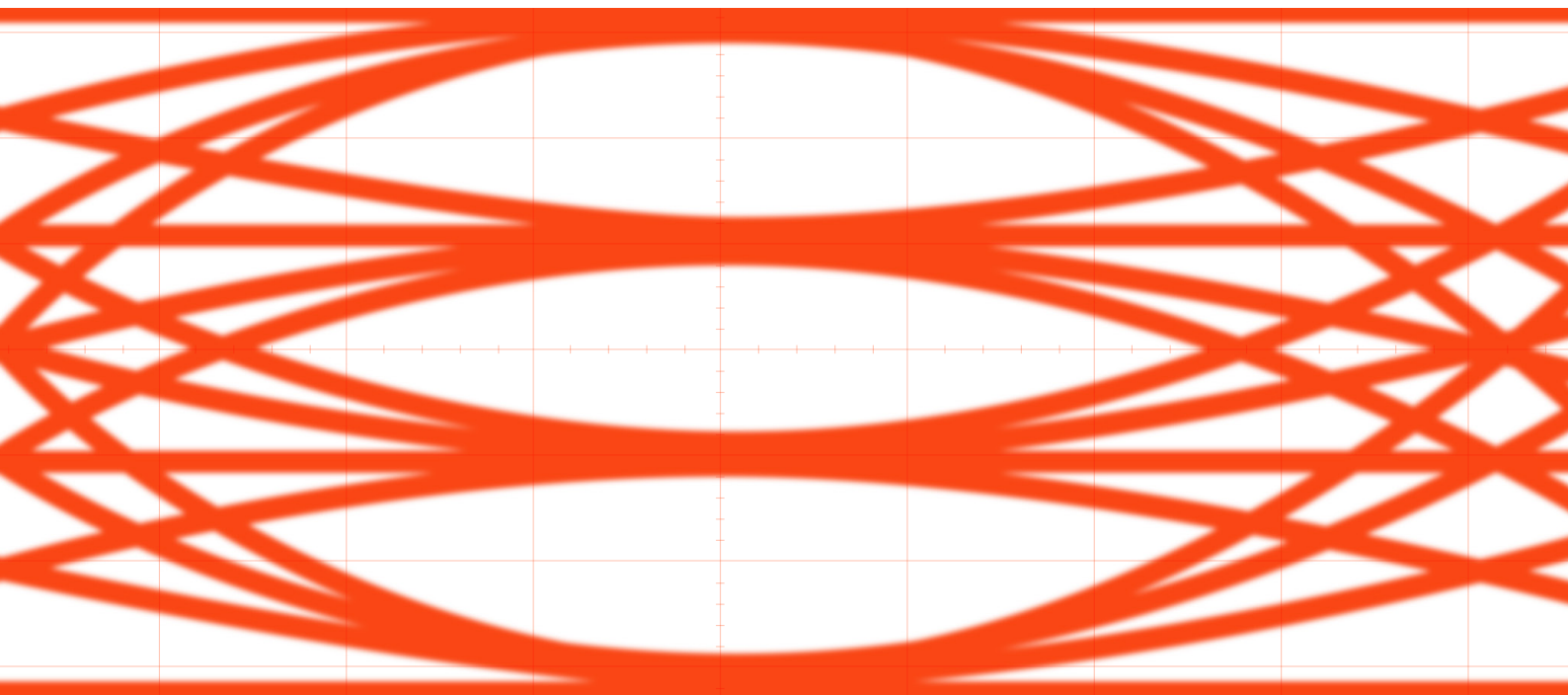


# High-Speed Semiconductor Catalogue

A Better Way to Procure Your Equipment



## High-Speed and Semiconductor Test Equipment

Electro Rent specialises in providing industry-leading equipment to support testing in the high-speed semiconductor industry. Evolving high-speed data rates often places pressure on companies to make additional investments to keep up with ever-increasing standards. Each year, we make significant investments in our inventory to make the latest technologies available as they are introduced.

## Your Premier Test Equipment Partner

Formerly Microlease and Livingston, Electro Rent are experts in RF Test Equipment. We know what it takes to deliver the right configurations on time, with rental and financial solutions that make sense for your organization.

Through our global fleet of €1B worth of electronic test equipment assets from more than 200+ manufacturers, our solutions help companies solve test and measurement in today's fast-moving business environment.

## Experience Our Extensive Inventory

Browse our catalog for the most popular high-speed semiconductor test equipment offerings. If you don't see what you need, give us a call. We have thousands of additional models in stock and new acquisitions arrive all the time.

# Table of Contents

Global Reach	1
Rental Solutions	2
BERTs – Bit Error Rate Testers	3
ARBS – Arbitrary Waveform Generators	4
Semiconductor Test	6
Sampling Oscilloscopes	8
High-Speed Digital Oscilloscopes	10
Phase Noise Analysers	12
Optical Test	13
LCR & Impedance	14
Full Range of Services	15
Contact Directory	16

## Global Reach, Local Support

Supported by our inventory, we help businesses around the world with unrivaled local support, logistics hubs, and expertise.

Our innovative test procurement solutions are designed to integrate seamlessly into your existing operations. We work with you to drive down your overall cost of testing by increasing productivity while reducing equipment management costs.

50 years of innovation	22 locations worldwide
600 global team members	180 test experts
€1B inventory	60k+ instruments
200+ manufacturers	12k product lines

## Industry-Leading Test Equipment Rental Solutions

The ultimate in flexibility, our rental packages provide access to the latest test equipment in a fast and affordable way. With the world's largest inventory and constant investment to keep our product portfolio up to date, renting helps you access the latest equipment, when and where you need it.

### **FULL FLEXIBILITY**

Upgrade, extend, or end your rental as needed

### **EXTENSIVE INVENTORY**

Thousands of instruments are in stock and ready to rent today

### **PAY FOR USE, NOT FOR LIFE**

Rent from as little as one week, with low-cost, long-term plans available

### **MINIMIZE OWNERSHIP COSTS**

Maintenance and calibration included

### **LOCAL PRESENCE**

Local logistics hubs, as well as sales and support offices

### **FAST DELIVERY**

Delivery typically within 24-48 hours of your order

### **EXPERT SUPPORT**

Support and advice from our team of specialists, supported by our OEM partners

### **THE LATEST TECHNOLOGY**

Our updated and refreshed inventory ensures leading products from world-class manufacturers

We offer independent advice on products from 200+ world-class manufacturers.




**Keysight M8050A** | High-Performance BERT, 120 GBaud

- Symbol Rates from 2 to 120 GBaud
- Support for Non-Return-To-Zero (NRZ), PAM3, PAM4, PAM6, and PAM8 Line Coding
- Next Generation 800G/1.6T Ethernet, USB4v2 and other Receiver & Transmitter Conformance Standards Supported


**Keysight M8040A** | High-Performance BERT, 64 GBaud

- Data Rates from 2 to 64 GBaud
- Support for Non-Return-To-Zero (NRZ), PAM3, PAM4 Line Coding
- IEEE 802.3 ethernet support for 100, 200, and 400 Gigabit


**Keysight M8020A** | High-Performance BERT, 16 or 32 Gb/s

- Data rates from 8.5/16 Gb/s for Pattern Generator and Error Detector
- Applications Include: PCI Express, USB, MIPI M-PHYTM, SATA/SAS, DisplayPort, SD UHS-II, Fibre Channel, Thunderbolt, 10 GbE, 100 GbE (optical and electrical), SFP+, CFP2/4 transceivers, CEI.

**Also Available: Keysight M8062A** | 32Gb/s BERT Front End for M8020A

- Extends Data Rate of the M8020A BERT to 32 Gb/s
- Built-In Jitter Injection and Calibrated (LFPJ, HF PJ, Clk/2, BUJ, RJ, SSC)
- Built-In Clock Recovery


**Anritsu M1900A** | Signal Quality Analyzer

- Data rates to 64 GBaud NRZ, PAM4
- 58 GBaud PAM4 BER Measurements Supported
- PCIe Gen1-5 Link Training Supported with Jitter Tolerance for PCIe Gen 6


**Anritsu MP2110A** | BERTWave Sampling Oscilloscope

- All-In-One Sampling Oscilloscope Plus BERT
- 4-Channel 25 GHz Sampling Oscilloscope Plus Clock-Recovery Unit
- Low-cost solution for Testing 10G to 800G Optical Modules
- SFP28, QSFP28, CFP2/4/8, SFP56, QSFP56, OSFP, QSFP-DD Modules Supported


**Keysight M8054A** | Interference Source Module, 1-slot AXIe, 32 GHz

- Signal Impairment Generation up to 64 GBaud
- Receiver Test for Devices with PCIe Gen 4/5, OIF CEI, SAS
- Channel Margin Test and Optical Receiver Stress Test IEEE 802.3bs, bj, by, cd, Fibre Channel



**Keysight M8199B** | Arbitrary Waveform Generator; 2-Channel, 128 Gsa/s

- Analog Bandwidth to 70 GHz (90 GHz @ -10 dB)
- 2 and 4-Channel Models with 128 Gsa/s and 256 Gsa/s
- Perfect for higher-order QAM modulation at 160 GBaud and Above



**Keysight M8194A** | Arbitrary Waveform Generator; 4-Channel, 120 GSa/s

- 45 GHz Bandwidth with 400G and 1 Terabit Applications
- 8 -Bit Resolution with 512 kSa Waveform Memory
- Use with 81195A Optical Modulation Generator Software



**Keysight M8195A** | Arbitrary Waveform Generator; 4-Channel, 65 GSa/s

- 25 GHz Bandwidth for Wideband SATCOM, Radar, and Optical Applications
- Controllable from M8070A BERT Software for MIPI C-PHY and D-PHY Signals
- 16 GSa Extended Memory Capable of Generating PRBS7, PRBS10, PRBS11, PRBS15 up to PRBS31 Patterns



**Keysight M8190A** | Arbitrary Waveform Generator; 2-Channel, 12 GSa/s

- Analog Bandwidth of 5 GHz
- 14-Bit Resolution to 8 GSa/s, 12-Bit Resolution to 12 GSa/s
- Up to 2 GSa Arbitrary Waveform Memory with Advanced Sequencing
- 90 dBc Spurious Free Dynamic Range (SFDR) with DC and AC Amplifiers

**SCAN  
QR CODE**

We have thousands more instruments in our comprehensive equipment inventory.

**Scan QR Code to view our full selection.**





**Tektronix AWG7002B** | Arbitrary Waveform Generator; 2 Channel at 25 GSa/s

- 10-bit Vertical Resolution, 16 GS Waveform Memory Per Channel
- Generate Wideband RF Signals Up To 20 GHz
- Suitable for Radar with Options for Pulsed Waveforms and Impairments



**Tektronix AWG5208** | Arbitrary Waveform Generator; 8 Channel, 4 GHz

- 2-Port and 4-Port Versions with Configurable Test Sets
- Up to 4 Sources Available
- High Dynamic Range 147 dB with Receiver Attenuators
- Internal Pulse Modulators and Pulse Generators
- Wide Range of Software Options Available for Rental



**Keysight 81160A** | Pulse/Function/Arbitrary Noise Generator; 2-Channel

- Pulses to 330 MHz, Sinewaves to 500 MHz Sine, 2.5 GSa/s Arbitrary Waveforms
- Applications Include Automotive Ethernet 1G Rx Compliance
- 14-Bit Resolution with Programmable Rise/Fall Times
- High Voltage Amplifier Output (10Vpp/100 Ω)



**Keysight M8197A** | Multi-Channel Synchronisation Module; for M8195A

- Synchronize up to 4 M8195A Modules or 16 Independent Channels
- Create Phase-Coherent I/Q Signal Pairs, MIMO and Multi-Lane Serial Applications



**NI PXIe-5451** | PXI Waveform Generator; 2-Channel, 145 MHz

- 16-Bit Resolution
- Advanced Synchronisation and Data Streaming Capabilities
- DSP Features for Pulse Shaping, Interpolation Filters, and Oscillator Control



**Keysight 81134A** | Pulse Pattern Generator; 2-Channel, 3.35 GHz

- 12 Msa Memory-Based Pattern Generation
- Applications Include Jitter Generation with RZ/NRZ/R1 Data Formats
- PRBS with CCITT/ITU Formats to 2-31





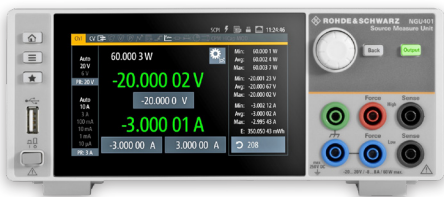
**Keysight B2912B** | Precision Source Measure Unit, 2-Channel

- Four-Quadrant Sourcing and Measurement Capability
- 10 fA Resolution, 210 V, 3 A DC, 10.5 A Pulse
- Digitizes 100k Measurements per Second



**Keithley 2450** | Graphical Digitising SourceMeter

- Four-Quadrant Sourcing and Measurement Capability
- 200 V/1 A DC, 10 nA to 1 A
- High-Resolution Graphical Touchscreen



**Rohde & Schwarz NGU411** | Four-Quadrant Source Measure Unit

- -20 V to 20 V, 20 W
- 500 kS/s for Voltage and Current
- Battery Simulation Software Available
- Graphical Touchscreen



**NI PXIe-4147** | PXI Source Measure Unit; 4-Channel, 8 V/3 A

- 4-Quadrant, 4-Channel SMU in PXIe Format
- High-Speed Sequencer for Synchronizing with other SMUs and PXIe Instruments
- 100 fA/100 nV Resolution

**FEATURED**

**NI Instrument Portfolio**

The National Instruments portfolio from Electro Rent includes RF and Microwave Generators, RF and Microwave Analysers, PXI Vector Signal Transceivers, PXI Arbitrary Waveform Generators and related PXI platform instruments.





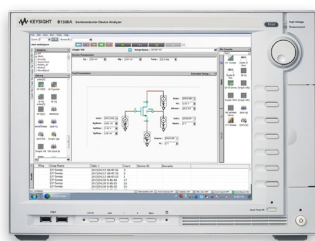
### Keysight PZ2100A | Precision Source Measure Unit Mainframe

- Four Slots for 5 SMU Module Options
- Scalable to 20 Channels
- Choose from High-Resolution SMU, High-Speed SMU, Precision SMU, High-Density SMU, and 5-Channel Precision SMU



### Keysight CX3324A | Device Current Waveform Analyser; 1 GSa/s, 4-Channel

- Technology Marries Precision Scope with High-Sensitivity DMM
- High-Resolution/High-Speed Sampling @ 14-Bit 1 GSa/s or 16-Bit 75 MSa/s
- Applications Include Low-Power IoT Devices, Chipset Device Characterization, Power Delivery, and Power Rail Testing



### Keysight B1500A | Semiconductor Device Analyser Mainframe

- Modules support IV Measurements, Capacitance Measurements, Pulsed IV and Transient IV Measurements
- B1511A Module: 100V/100mA Four-Quadrant Operation
- B1520A Module: Capacitance Measurement, AC Impedance with 1 kHz to 5 MHz Source and 25 VDC Bias



### Keithley 2651A | High Power System SourceMeter SMU

- Four-Quadrant Sourcing and Measurement Capability
- 50 A/40 V/2000 W
- Connect two units in Series or Parallel for 100 A or 80 V Operation

## Source Measure Units

Model	OEM	Description	Type	Power	Quadrants	Channels
N6784A	Keysight	4-Quadrant General-Purpose Source Measure Unit	Module	$\pm 20\text{ V}$ , $\pm 1\text{ A}$ or $\pm 6\text{ V}$ , $\pm 3\text{ A}/20\text{ W}$	4	1
N6785A	Keysight	SMU for Battery Drain Analysis	Module	$20\text{ V}$ , $\pm 4\text{ A}$ or $15\text{ V}$ , $\pm 5\text{ A}$ or $10\text{ V}$ , $\pm 6.7\text{ A}$ or $6\text{ V}$ , $\pm 8\text{ A}/80\text{ W}$	2	1
N6782A	Keysight	2-Quadrant Source Measure Unit for Functional Test	Module	$20\text{ V}$ , $\pm 1\text{ A}$ or $6\text{ V}$ , $\pm 3\text{ A}/20\text{ W}$	2	1
B2912B	Keysight	Precision Source Measure Unit	Benchtop	$\pm 210\text{ V}$ , $\pm 3\text{ A}/10.5\text{ A pulse}$ , 6½ Digit Resolution	4	2
B2902B	Keysight	Precision Source-Measure Unit	Benchtop	$\pm 210\text{ V}$ , $\pm 3\text{ A}/10.5\text{ A Pulse}$ , 5½ Digit Resolution	4	2
B2962B	Keysight	Low Noise Power Source, 6½ Digit	Benchtop	$\pm 210\text{ V}$ , $\pm 3\text{ A}/32\text{ W}$	4	2
NGU201	Rohde & Schwarz	2-Quadrant Source Measure Unit	Benchtop	$20\text{ V}$ , $\pm 8\text{ A}/60\text{ W}$	2	1
NGU401	Rohde & Schwarz	4-Quadrant Source Measure Unit	Benchtop	$\pm 20\text{ V}$ , $\pm 8\text{ A}/60\text{ W}$	4	1
NGU411	Rohde & Schwarz	4-Quadrant Source Measure Unit	Benchtop	$\pm 20\text{ V}$ , $\leq 10\text{ V}$ , $\pm 2\text{ A}$ > $10\text{ V}$ , $\pm 1\text{ A}/20\text{ W}$	4	1
2470	Keithley	SourceMeter SMU Instrument	Benchtop	$\pm 1000\text{ V}$ , $\pm 1\text{ A}/20\text{ W}$	4	1
2461	Keithley	High-Current SourceMeter SMU	Benchtop	$\pm 100\text{ V}$ , $\pm 10\text{ A}/1000\text{ W}$	4	1
2450	Keithley	SourceMeter SMU Instrument	Benchtop	$\pm 200\text{ V}$ , $\pm 1\text{ A}/20\text{ W}$	4	1
2651A	Keithley	High Power System SourceMeter SMU Instrument	Benchtop	$\pm 40\text{ V}$ , $\pm 50\text{ A}/2000\text{ W}$	4	1
2657A	Keithley	High Power System SourceMeter SMU Instrument	Benchtop	$\pm 3000\text{ V}$ , $\pm 120\text{ mA}/180\text{ W}$	4	1
6430	Keithley	Sub Femtoamp Remote Source Meter	Benchtop	$\pm 200\text{ V}$ , $\pm 100\text{ mA}/2.2\text{ W}$	4	1
2400	Keithley	SourceMeter SMU Instrument	Benchtop	$\pm 200\text{ V}$ , $\pm 1\text{ A}/20\text{ W}$	4	1
PXIe-4147	NI	PXI Source Measure Unit; PXIe, 4-Channel	PXIe	$\pm 8\text{ V}$ , $3\text{ A}/24\text{ W}$	2	4
PXIe-4139	NI	PXI Source Measure Unit; PXIe, 1-Channel	PXIe	$\pm 60\text{ V}$ , $\pm 3\text{ A}$ , $\pm 10\text{ A Pulsed}/40\text{ W}$	4	1
PXIe-4142	NI	PXI Source Measure Unit; PXIe, 4-Channel	PXIe	$\pm 24\text{ V}$ , $150\text{ mA}/3.6\text{ W}$	2	4



**Keysight N1000A DCA-X** | Wide-Bandwidth Oscilloscope Mainframe

- Mainframe Supports Modules Greater than 100 GHz with up to 16 Channels.
- 4-Channel 25 GHz Sampling Oscilloscope Plus Clock-Recovery Unit
- Replaces 86100C/D and Supports Legacy Modules



**Keysight N1060A** | Precision Waveform Analyser Module; 2-Channel, 50/85 GHz

- High Bandwidth to > 90 GHz, residual jitter as low as 45 fs
- Adjustable Clock Recovery Peaking and Loop Bandwidth
- Supported Communication Data Rates from 125 MBd to 64 GBd



**Anritsu MP2110A** | BERTWave Sampling Oscilloscope

- All-In-One Sampling Oscilloscope Plus BERT
- 4-Channel 25 GHz Sampling Oscilloscope Plus Clock-Recovery Unit
- Low-cost solution for Testing 10G to 800G Optical Modules
- SFP28, QSFP28, CFP2/4/8, SFP56, QSFP56, OSFP, QSFP-DD Modules Supported



**Keysight N1030A** | Single Channel Optical Module; 65 GHz

- 1250 to 1600 nm Nominal Wavelength, Factory Calibrated 1310, 1550 nm
- Reference Receivers for 25 Gb/s Ethernet, 400GBASE-SR16, 32G Fibre Channel & More



**Keysight N1040A** | Dual Electrical Channel Module; 33/60 GHz

- High Bandwidth to > 60 GHz, residual jitter as low as 90 fs
- Lower Cost Module with up to 8 Channels per Mainframe



**Keysight N1055A** | Remote Sampling Head Module; 2/4 Port, 35/50 GHz

- Fully Integrated TDR/TDT/S-Parameter Measurement System
- Multiple S-Parameters up to 16 Simultaneous Ports
- TDR Step Times as Fast as 6 ps



**Keysight N1032A** | Single Channel Optical Module; 90/120 GHz

- 120 GHz Optical Bandwidth with Jitter as Low as 90 fs
- Perfect for Analyzing 112 GBd (224 Gbps) Optical Signals
- Supports NRZ and PAM4 Applications



**Keysight N1092A** | Single Channel Oscilloscope, DCA-M; 45 GHz

- Direct Connection with USB to PC. No Mainframe Required.
- 1250 nm to 1600 nm for 45 GHz Channel
- Fast Throughput with 250 kHz sample rate
- Accurate high data rate analysis with <200 fs jitter



**Keysight N1094A** | Dual Channel Oscilloscope, DCA-M; 50 GHz

- Direct Connection with USB to PC. No Mainframe Required.
- 1250 nm to 1600 nm for 45 GHz Channel
- Fast Throughput with 250 kHz sample rate
- Accurate high data rate analysis with <200 fs jitter



**Keysight N1076B** | Electrical Clock Recovery Module

- Provides Standards-Compliant Clock Recovery Capability on Electrical NRZ and PAM4 Signals from 125 MBd up to 64 GBd
- Includes Adjustable Loop Bandwidth and Selectable Peaking



**Keyight UXR0334B** | Infiniium UXR Real-Time Oscilloscope; 4 Channels, 25 GHz

- Up to 2G Memory with 256 GS/s on All Channels
- Low Noise Inputs: 129  $\mu$ V (rms) Noise with 10 GHz of Bandwidth
- Includes InfiniiSim Basic De-embedding, PrecisionCable, and PrecisionProbe as Standard Options
- 70% Faster Application Speeds vs UXR A



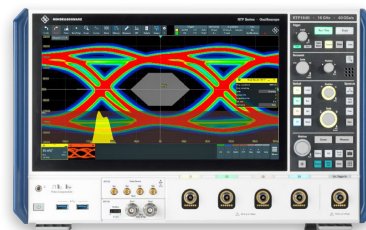
**Keyight UXR0254AP** | Infiniium UXR Real-Time Oscilloscope; 4 Channels, 25 GHz

- Up to 2G Memory with 256 GS/s on All Channels
- 1mm Input Connectors on 4 Phase-Coherent Channels
- AP Version License Key Upgradeable to 110 GHz
- Real-time Digital Down Conversion with 2.16 GHz Bandwidth
- Applications: USB4 v2, PCIe Gen5/6, DDR4/5, Phase Noise



**Tektronix MSO68B** | Mixed Signal Oscilloscope; 8 Channel to 10 GHz

- Frequency Range: 1, 4, 6, 8, 10 GHz Models
- Low Noise Inputs: < 1.25 mV of Noise at 50 mV/div at 10 GHz
- Built-In FFT Spectrum Analysis on all Channels
- 50 GS/s on 2-Channels, 25 GS/s on 4-Channels



**Rohde & Schwarz RTP164** | High Performance Digital Oscilloscope; 4 Channel, 16 GHz

- Sample Rate: 40 GS/s with 2G Record Length
- Real Time De-Embedding with S-Parameters in Hardware
- Software Options for: USB3.2, 10G Ethernet, MIPI D-PHY, DDR3/4, Automotive Ethernet



**Tektronix DPS75004SX** | ATI Performance Oscilloscope System, 33/50 GHz

- 2 Channels @ 50 GHz 200 GS/s, or 4 x 33 GHz 100 GS/s
- > 25 GHz Edge Trigger
- Software Available for PCIe Gen 5/6 Debugging and Compliance Testing



**Keyight MXR608B** | Infiniium MXR-Series Real-Time Oscilloscope; 8 Channels, to 6 GHz

- Sample Rate: 16 GS/s on 8 Channels, 200M Record Length per Channel
- 10-Bit ADC with 16-Bits in High Resolution Mode
- Low Noise: 1mV/div 43  $\mu$ V, Low Jitter: 120 fs rms
- Real Time Spectrum Analysis on 8 Scope Channels
- Faster Application Speeds vs MXR A



**Tektronix DPS75904SX** | ATI Performance Oscilloscope System, 33/50 GHz

- 2 Channels @ 50 GHz 200 GS/s, or 4 x 33 GHz 100 GS/s
- For Datacom Standard: 100GBASE KR-4, CR-4, 25 Gb Phy KR, CR for 100G
- Software Available for PCIe Gen 5/6 Debugging and Compliance Testing



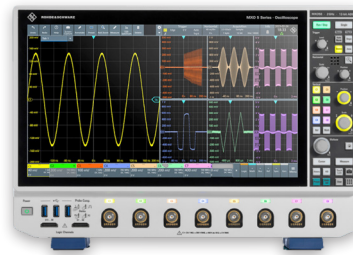
**Tektronix MS058B** | Mixed Signal Oscilloscope; 8-Channel

- Frequency Range: 350, 500 MHz, 1, 2 GHz Models
- Record Length: 500 M
- Built-In FFT Spectrum Analysis on all Channels
- Serial Decode Trigger Support for: I2C, SPI, USB 2.0, Ethernet, CAN, LIN,
- Perform RF Measurements: Channel Power, ACPR, OBW



**Rohde & Schwarz RTO2064** | Digital Oscilloscope; 4 Channels, 6 GHz

- Record Length: 2 G sample @ 20 GS/s
- Digital Triggering on 16-Bit High-Definition Signals
- Real Time De-embedding with S-Parameters in Hardware



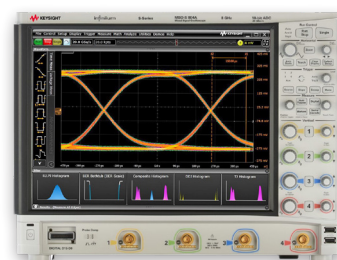
**Rohde & Schwarz MX058** | Digital Oscilloscope; 8 Channels

- Frequency Ranges: 100, 200,350, 500 MHz, 1, 2 GHz
- 500 Mpts Memory Standard on 8 Channels
- 12-Bit ADC for High Vertical Resolution and Digital Triggering
- 45k FFT/s on 4 Simultaneous Displays



**Keysight EXR608A** | Infiniium EXR-Series Real-Time Oscilloscope; 8 Channels, to 6 GHz

- Sample Rate: 16 GS/s 100 Mpts Record Length Upgradeable to 400 Mpts
- 10-Bit ADC with 16-Bits in High Resolution Mode
- Upgradeable Bandwidth from Available Stock



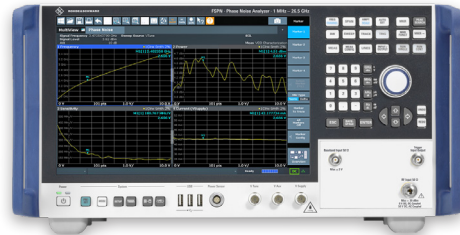
**Keysight MSOS804A** | Infiniium S-Series Digital Oscilloscope; 4-Channels, 8 GHz

- Sample Rate: 20 GS/s with 100 M/Chan, upgradeable up to 400 M/Chan
- 10-Bit ADC with 16-Bits in High Resolution Mode
- 260  $\mu$ V Full Bandwidth Noise Floor



**Keysight E5055A** | SSA-X Signal Source Analyser, 10 MHz to 8 GHz

- Fast Cross Correlation Measurements
- Phase Noise: -169 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Software Options Include: Pulsed Analysis, Spectrum Analysis
- Two Built-in Isolated DC Voltage Channels



**Rohde & Schwarz FSWP26** | Phase Noise Analyser; 1 MHz to 26.5 GHz

- Full-featured Phase Noise Analyser and Spectrum Analyser
- Phase Noise: -166 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Low Phase Noise Internal LO, Needs No External Sources
- Cross-Correlation Measurements for 25 dB Improved Sensitivity



**Rohde & Schwarz FSWP50** | Phase Noise Analyser; 1 MHz to 50 GHz

- Full-featured Phase Noise Analyser and Spectrum Analyser
- Phase Noise: -166 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Low Phase Noise Internal LO, Needs No External Sources
- Phase Noise @ 50 GHz: -138 dBc/Hz (10 kHz Offset)



**Rohde & Schwarz FSPN26** | Phase Noise Analyser and VCO Tester; 1 MHz to 26.5 GHz

- Cross-Correlation and High-Speed for VCOs, OXCOs, DROs
- Phase Noise: -163 dBc/Hz @ 1 GHz Carrier (10 kHz Offset)
- Offset Frequency Range: 1 μHz to 1 GHz.

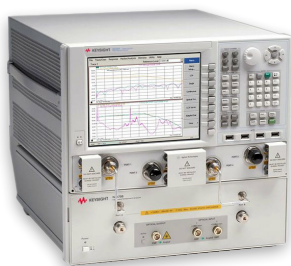
**COMING SOON!**

**The New mmWave SSA-X Series Phase Noise Analyser/VNA**

**NEW! Keysight E5058A SSA-X Phase Noise Analyser**

The SSA-X Series now extends to mmWave with the addition of 26.5, 44 and 54 GHz models to the Series. Typical enhanced low phase noise performance of -148 dBc/Hz @26.5 GHz with 10 kHz offset and -143 dBc/Hz @ 50 GHz with 10 kHz offset. With optional VNA ports and spectrum analysis, this full-featured instrument will make significant improvements in 5G and SATCOM mmWave workflows.





**Keysight N4375D** | Lightwave Component Analyser; Single-Mode, 26.5 GHz

- Guaranteed Responsivity to 26.5 GHz.
- Extended Calibration Support for Advanced Test Setups
- Built-in Optical Power Meter with User-selectable Transmitter Power



**Quantifi Photonics IQRX-1005-FA-EPIQ** | High Performance Coherent Optical Receiver

- Dual Polarization
- Supports PSK, QAM and Custom Modulation Formats
- Single-Ended RF 1.85mm Outputs



**Keysight 8163B** | Lightwave Multimeter Mainframe

- Consists Of Two Slots for Hosting Power Modules, Return Loss Modules, Compact Tunable Lasers, or Fixed Laser Sources
- Includes Built-In Applications: Return Loss, Passive Component Test, Stability, and Logging



**Keysight 8164B** | Lightwave Measurement System Mainframe

- 1 Slot for a Tunable Laser Source
- 4 slots for Power Modules, Return Loss Modules, Compact Tunable Lasers, or Fixed Laser Sources
- Built-in Applications: Passive Component Test, Stability, Logging



**Keysight 81491A** | Reference Transmitter

- 33 GHz Electro-Optical Bandwidth
- Can Serve as E/O Converter
- NRZ and PAM4 Signals to 32 GBaud
- 1310 & 1550 nm Single Mode Fiber, 850 nm Multimode Fiber



**Keysight 81492A** | Reference Transmitter

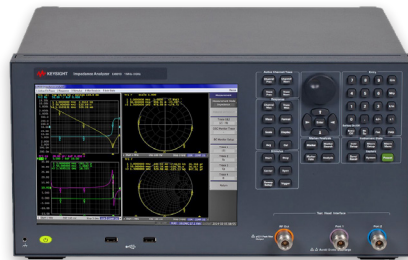
- 40 GHz Electro-Optical Bandwidth
- Can Serve as E/O Converter
- NRZ and PAM4 Signals to 56 GBaud
- 1310 & 1550 nm Single Mode Fiber





**Keysight E5061B** | ENA Series Network Analyser/Impedance Analyser, 100 kHz to 3 GHz

- 3 GHz Network Analyser and Impedance Analyser in One Unit
- Gain-Phase Test Port, 5 Hz to 30 MHz for Impedance Measurements
- Compatible with Keysight Component Measurement Fixtures



**Keysight E4991B** | Impedance Analyser; 1 MHz to 3 GHz

- Built-in DC Bias to  $\pm 40$  V
- Measures:  $|Z|$ ,  $|Y|$ ,  $L_s$ ,  $L_p$ ,  $C_s$ ,  $C_p$ ,  $R_s$  (R),  $R_p$ ,  $X$ ,  $G$ ,  $B$ ,  $D$ ,  $Q$ ,  $\theta_z$ ,  $\Gamma_y$ ,  $\Gamma_x$ ,  $y$ ,  $\theta_r$



**Keysight E4990A** | Impedance Analyser, 20 Hz to 120 MHz

- 25 m $\Omega$  to 40 M $\Omega$  Wide Impedance Measurement Range
- Measurement Parameters:  $|Z|$ ,  $|Y|$ ,  $\theta$ , R, X, G, B, L, C, D, Q, Complex Z, Complex Y, Vac, Iac, Vdc, Idc
- Built-in DC bias range: 0 V to  $\pm 40$  V, 0 A to  $\pm 100$  mA



**Keysight E4980A** | Precision LCR Meter; 20 Hz to 2 MHz

- 0.05% Basic Accuracy
- Optional DC Bias to  $\pm 40$  V
- Wide Range of Test Fixtures



**Rohde & Schwarz LCX200** | SLCR Meter, 4 Hz to 500 kHz

- Frequency Extendable to 1 MHz or 10 MHz
- Test Signal Range: 100mV to 10V, with current of up to 200 mA
- Measurement Parameters:  $C_p$ ,  $C_s$ ,  $L_p$ ,  $L_s$ ,  $D$ ,  $Q$ ,  $G$ ,  $R_p$ ,  $R_s$ ,  $R_{dc}$ ,  $R$ ,  $X$ ,  $Z$ ,  $Y$ ,  $\theta_d$ ,  $\theta_r$ ,  $B$ ,  $M$ ,  $N$



**GW Instek LCR-8210** | High-Frequency LCR Meter; 10 Hz to 10 MHz

- Models Available from 1 MHz to 5, 10, 20, 30 MHz
- Internal DC Bias Voltage  $\pm 12$  V
- Measurement Parameters:  $Z$ ,  $L_s/L_p$ ,  $C_s/C_p$ ,  $R_s/R_p$ ,  $Q$ ,  $D$ ,  $Y$ ,  $G$ ,  $X$ ,  $\theta_d/\theta_r$ ,  $B$ ,  $R_{dc}$

## A Full Range of Services from Electro Rent

We offer a comprehensive range of test equipment procurement and support services.

### **RENTAL AND LEASING**

*Fast, flexible, and affordable access to the latest equipment.*

- Options from one week rental to long-term leases of several years
- Flexibility to change, extend, or upgrade
- Full support throughout your hire
- Calibration and maintenance included

### **BUY NEW**

*Purchase options when buying new is right for you.*

- Excellent choice and availability from our large inventory
- Fast delivery
- Independent advice and guidance
- Ongoing local support

### **CERTIFIED PRE-OWNED**

*High-quality equipment for much less than buying new.*

- A 23-step inspection so you can deploy immediately
- One-year warranty and 14-day return policy
- Excellent availability and fast delivery
- Calibrated and ready to use

### **ASSET OPTIMIZATION**

*Optimize your existing equipment with our services and know-how.*

- Asset tracking for field or lab
- Increase equipment sharing and utilisation
- Easily manage calibration and repair
- Better management for technology obsolescence and disposal

## AMERICAS

### Corporate Headquarters USA

8511 Fallbrook Ave,  
Suite 200, West Hills,  
CA 91304, USA  
+1 800 553 2255  
[sales@electrorent.com](mailto:sales@electrorent.com)

### Canada

210 Brunel Rd, Unit 1-2,  
Mississauga, ON L4W 4M2,  
Canada  
+1 800 553 2255  
[sales@electrorent.com](mailto:sales@electrorent.com)

### Latin America

8511 Fallbrook Ave,  
Suite 200, West Hills,  
CA 91304, USA  
+1 800 553 2255  
[sales@electrorent.com](mailto:sales@electrorent.com)

## ASIA

### Asia Pacific Headquarters & Malaysia

Plot 253, Jalan Kampung Jawa,  
Bayan Lepas FIZ Phase 3,  
11900 Bayan Lepas, Penang, Malaysia  
+604 614 6000  
[info.asia@electrorent.com](mailto:info.asia@electrorent.com)

### China

Block 4, Unit 301,  
Chao Lai Hi-Tech Industrial Park  
Building No.18,  
Laiguangying West Road,  
Chaoyang District,  
Beijing, 100102, China  
+86 400 819 2800  
[info.china@electrorent.com](mailto:info.china@electrorent.com)

### India

4051-53, Vipul Square, B Block,  
Sushant Lok Phase - I,  
Gurgaon 122002,  
Haryana, India  
+91 124 4831 400  
[info.india@electrorent.com](mailto:info.india@electrorent.com)

### Singapore

38 Beach Road, #30-19  
South Beach Tower,  
189767 Singapore  
+65 6773 9136  
[info.asia@electrorent.com](mailto:info.asia@electrorent.com)

### Taiwan

12 F., No. 508, Sec. 5,  
Zhongxiao E. Rd.,  
Xinyi Dist., Taipei City 11083,  
Taiwan (R.O.C.)  
+886-701 0152 200  
[info.china@electrorent.com](mailto:info.china@electrorent.com)

## EUROPE

### Belgium

Intercity Business Park,  
Generaal de Wittelaan 9/18,  
B-2800 Mechelen, Belgium  
+32 (0) 15 740 800  
[belgium@electrorent.com](mailto:belgium@electrorent.com)

### France

Parc Tertiaire Icade,  
43 Avenue Robert Schuman,  
94150 Rungis, France  
+33 (0) 1 45 12 65 65  
[france@electrorent.com](mailto:france@electrorent.com)

### Germany

Borsigstrasse 11,  
64291 Darmstadt,  
Deutschland  
+49 6151 360 41-0  
[germany@electrorent.com](mailto:germany@electrorent.com)

### Italy

Via Melchiorre Gioia 8,  
20124 Milano, Italia  
+39 02 9239 2801  
[infoitaly@electrorent.com](mailto:infoitaly@electrorent.com)

### Nordics

Intercity Business Park,  
Generaal de Wittelaan 9/18,  
B-2800 Mechelen, Belgium  
+32 (0) 15 740 800  
[belgium@electrorent.com](mailto:belgium@electrorent.com)

### Poland

ul. Długa 44/50,  
00-24 Warszawa,  
Polska  
+48 22 331 66 66  
[poland@electrorent.com](mailto:poland@electrorent.com)

### Spain

Calle Gabriel Garcia Márquez nº 4,  
1ª Planta, Las Rozas de Madrid,  
Madrid, 28232  
+34 91 076 21 90  
[spain@electrorent.com](mailto:spain@electrorent.com)

### The Netherlands

Fokkerstraat 29,  
3905 KV Veenendaal,  
Nederland  
+31 (0) 318 588 688  
[netherlands@electrorent.com](mailto:netherlands@electrorent.com)

### UK & Ireland

Unit 1, Waverley Industrial Park,  
Hailsham Drive, Harrow,  
HA1 4TR, UK  
+44 (0) 20 84 200 200  
[info.eu@electrorent.com](mailto:info.eu@electrorent.com)

## MIDDLE EAST & AFRICA

Unit 1, Waverley Industrial Park,  
Hailsham Drive, Harrow,  
HA1 4TR, UK  
+44 (0) 20 84 200 200  
[info.eu@electrorent.com](mailto:info.eu@electrorent.com)

