

Test & Measurement Rental Catalogue

 **RF, Microwave &
General Purpose**

WELCOME

Dear Customer,

Welcome to Livingston's RF, Microwave and General Purpose Test Equipment Catalogue. This catalogue is intended as a quick reference guide to a wide range of products available for rental within these technology sectors. If you cannot find what you are looking for, please give us a call and we will be happy to try and source this for you. And if you are not sure which equipment you need, our applications engineers will discuss your application to identify the most suitable product.

All prices quoted in this catalogue are for guidance only and are correct at the time of printing.

Livingston is Europe's leading rental company with over 40 years of experience and expertise in the field of test & measurement solutions. We trust that you will find this catalogue useful and we look forward to hearing from you in the future.

Masten Evans
Director & General Manager, Livingston UK Ltd

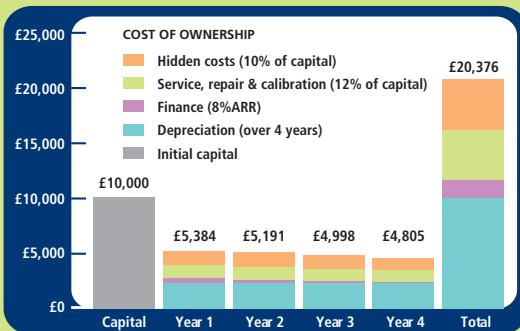
SHOULD I RENT OR BUY MY TEST EQUIPMENT?

Research shows that over 50% of purchased equipment is either infrequently or never used after the initial reason for purchase.

You can decide if it is better to rent or buy by asking yourself two key questions:

- How long do I **really** need the equipment for?
- How much will it cost me to own it?

COST OF OWNERSHIP v RENTAL COSTS



Real cost of ownership for a £10,000 item is **£20,400** or £98 per week for 4 years and below is the rental cost for exactly the same equipment.

No of months	Rental per week	Total Cost
6	£151	£3,926
12	£110	£5,700
24	£110	£11,400

So, if you know you will need the equipment for more than 2-3 years without upgrading it in that time, purchase is the right decision. But if there is any uncertainty or risk (financial or obsolescence), rental costs you less and gives you greater flexibility and control.

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NEW PRODUCTS

Livingston recognizes the need to make significant, regular investment in the latest technology. That is why we typically invest £20,000,000 per annum on T&M equipment - through us you always have access to the newest and best equipment on the market. This page shows some of our recent investments, all of which are available to rent today.



Tektronix DPO70404 Digital Oscilloscope

- 4 Channels • 3 GHz Bandwidth
- Up to 50GS Real Time Sampling
- 10M Samples per Channel

**STAR
BUY**

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NOW**

R&S FSP40 Spectrum Analyser

- Frequency Range 9kHz to 40GHz
- Resolution Bandwidth 1Hz to 10MHz
- Displayed Average Noise -155dBm

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Nemo Outdoor - Outdoor Base Software

- Drive Test Software Package
- Will require Scanner or Test Mobile
- Enables Monitoring of the Air Interface
- Includes GPS Location System

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R&S SMJ100A Vector Signal Generator

- Frequency Range : 100kHz - 3/6GHz
- RF Output Level from -144 to +13dBm
- Frequency Resolution : 0.01Hz
- AM, FM, Phase & Pulse Mod • IEEE and LAN Interfaces

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Aeroflex 3920 Analog/Digital Radio Test Set

- TETRA Mobile/Base Station & DMO Tests
- P25 Parametric Analysis
- HPD® (High Performance Data)
- Spectrum Analyser with Tracking Generator
- GPIB, Ethernet, USB & RS-232 Interfaces

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OTHER SERVICES

NOT JUST RENTAL...

In addition to rental, here are some of the other services available from Livingston.

Easy2Source

An innovative alternative to purchase. Initial contracts for 6 or 12 months with the option then to either extend to 12 or 18 months at preferential rates, or to convert to a purchase (with rebates). Alternatively, the contract can be extended on a monthly basis or you can simply return the equipment. The key benefit of Easy2Source is flexibility: it passes the equipment risks to Livingston, it is off the balance sheet, avoids CapEx approvals and is cost effective. Make your decision to own at the time that is most appropriate to your business. Includes service, calibration and maintenance.

Rent to Buy

Key features of this finance package are that the cost is spread over 6 to 36 months (non-cancellable) with simple documentation and a nominal purchase option. Tax allowances may be available. Key benefits to this are improved cash flow and liquidity, fixed payments ensure easy budgeting and it preserves existing lines of credit. Excludes service, calibration and maintenance.

Leasing

Key features are payment periods of 3 to 5 years with simple documentation, you can return equipment at the lease end, and tax allowances may be available. You can also add new products and extend the lease term. Key benefits to Leasing are that it preserves capital, fixed payments ensure easy budgeting, it preserves existing lines of credit and there are no equipment disposal costs. Excludes service, calibration and maintenance.



OTHER RENTAL CATALOGUES FROM LIVINGSTON



- Datacomms & Transmission
- Industrial & Power
- Optical & Datacomms



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IFR CPM46

Microwave Frequency/Power Meter

- Frequency Range 10MHz - 46GHz
- Power Range 1nW-25W(Sensor Dependent)

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Manufacturer	Product	Description
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POWER SUPPLY

Chroma ATE	61503	AC Power Supply <ul style="list-style-type: none">• Output Voltage 0- 300V AC, 0- 150 V DC• Output Current 0 - 5 Amps• Single Output• Maximum 1500 W AC• Output Frequency 15Hz - 1kHz
Chroma ATE	61701	AC Power Supply, Three Phase 500W <ul style="list-style-type: none">• Output Voltage 0 - 300V AC• Output Current 0 - 4 Amps per Phase• 3 Phase Output• Max Output Power 500 VA per Phase• GPIB and RS-232 Interfaces
Kikusui	PCR1000LA	Voltage / Frequency Converter 1000VA <ul style="list-style-type: none">• Output Voltage 1- 300V AC/1.4 -424V DC• Max Output Current 10 Amps AC 5 Amps DC• Single Output• Max Output Power 1000 VA• Optional GPIB Interface
Kikusui	PWR1600L	DC Power Supply 0-80V 0-100A,1600W <ul style="list-style-type: none">• Voltage Ranges 0 to 80Volts• Current Range 0 to 100 Amps• Maximum Power Rating 1600 W

FREQUENCY COUNTERS

IFR	CPM46	Microwave Frequency/Power Meter <ul style="list-style-type: none">• Frequency Range 10MHz - 46GHz• Power Range 1nW-25W(Sensor Dependent)• Mains / Battery Operation• Use 69XX Series Power Sensors• Includes 46 GHz Frequency Counter• RS-232 Interface
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Agilent 33250A

Function/Arbitrary Waveform Generator

- 80 MHz Sine and Square Wave Outputs
- Sine.Square.Ramp.Noise/other Waveforms

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Manufacturer	Product	Description
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FUNCTION GENERATORS

Agilent	33250A	Function/Arbitrary Waveform Generator <ul style="list-style-type: none"> • 80 MHz Sine and Square Wave Outputs • Sine.Square.Ramp.Noise/other Waveforms • Output Levels 10 V pp into 50 • 12-bit. 200 MSa/s. 64 Kpoint D.A.W • GPIB and RS-232 Interfaces
Agilent	33220A	Waveform Generator <ul style="list-style-type: none"> • Frequency Range DC to 20 MHz • Sine.Square.Ramp.Triangle, Pulse & Arbitrary. • Max Output Level 10 V pp into 50 • 14-bit.50 MSa/s. 64 KpointAW • USB,GPIB -LAN Interfaces
Tektronix	AWG710B	Arbitrary Waveform Generator 2Ch <ul style="list-style-type: none"> • 4.2 GS/s Sample Rate • Simulates Real-world Signals Up -2.1 GHz • 2 Markers with 2.0 psRMS • Jitter deliver stable timing to the (DUT) • 32.4M/ 64.8M Point Record Length
Tektronix	AFG3252	Arbitrary/Function Generator <ul style="list-style-type: none"> • 1 MHz -240 MHz • Sine,Square, Pulse Ramp and Triangle Functions • Sin(x)/x and Exponential Rise Functions • Decay, Gaussian, Lorentz and Haversine Functions • DC and Noise Functions • Output Level 50 mV to 5 Vp.p • Max Sampling Rate 2GHz, Max Memory 128k • GPIB, USB and LAN Interfaces



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**Agilent 4284A
Precision LCR Meter**

- 6-Digits of Resolution at any Range
- 20 Impedance Parameters to Access & Measure

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Manufacturer	Product	Description
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METERS

Agilent	3458A	Digital Multimeter 8.5 Digit <ul style="list-style-type: none">• 8.5 to 4.5 Digit Resolution• Measurement Modes DC & ACV.,• DC & AC Current, Ohms, Frequency/Period.• Mains Operation• Frequency Range DC - 10 MHz• GPIB Interface
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When it comes to offering the right solutions...
...we tick all the right boxes

- Quick turnaround for delivery & collection**
- Superior customer support**
- The very latest products and services**



Agilent	4284A	Precision LCR Meter <ul style="list-style-type: none">• 6-Digits of Resolution at any Range• 20 Impedance Parameters to Access & Measure• Mains Operation• 20Hz to 1MHz Frequency Range• GPIB Interface
Agilent	4291A	RF Impedance Material Analyser <ul style="list-style-type: none">• Frequency Range from 1 MHz - 1.8 GHz• Full Graphical Display of Measured Parameters• Full Range of Resistance Parameters Measured• Mains Operation• GPIB Interface



Tektronix TPS2014
Digital Power Scope

- 4 Channels -100 MHz Bandwidth
- 1 GS/s Sampling Rate

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Manufacturer	Product	Description
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OSCILLOSCOPES 100 - 350MHZ

Tektronix	TDS3014B	Digital Oscilloscope <ul style="list-style-type: none">• 4 Channels• 100 MHz Bandwidth• 1.25 GS/s Sampling Rate• 10 kpoints Record Length per Channel• Floppy Drive for Data and set up Storage
Tektronix	TPS2014	Digital Power Scope <ul style="list-style-type: none">• 4 Channels -100 MHz Bandwidth• 1 GS/s Sampling Rate• 2.5 kPoint Record Length• Compact Flash Interface for Data Storage
Fluke	199CS	Scopemeter <ul style="list-style-type: none">• 2 Oscilloscope Channels & Single DMM Channel• 200 MHz Bandwidth• 2.5 GHz Sampling Rate• 3 k Datapoints per Channel• Internal Storage of up to 100 Waveform
Agilent	MSO6034A	Mixed Signal Oscilloscope: <ul style="list-style-type: none">• 300 MHz Bandwidth• 4 Analog Channels• 16 time-correlated Digital Channels• 2 GSa/s Sample Rate• Stdard 8 Mpts MegaZoom III Deep Memory
Tektronix	DPO4034	Digital Oscilloscope <ul style="list-style-type: none">• 4 Channel Digital Oscilloscope• 350 MHz Bandwidth• 2.5 GS/s Sampling Rate• Record Length 10M• Compact Flash, USB & LAN Interfaces



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Agilent DSO 81041

Infinium Oscilloscope

- 4 Channels, 1 GHz Bandwidth
- 4 GS/s Sampling Rate

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Manufacturer	Product	Description
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OSCILLOSCOPES 500 - 1GHZ

Agilent	MSO6054A	Mixed Signal Oscilloscope <ul style="list-style-type: none"> • 4 Channels Analogue+16 Channels Logic • 500 MHz Bandwidth • 4 GSa/s Sampling Rate • 1 M Points Memory Depth per Channel • Front Panel USB for external Data Storage
Agilent	MSO6104A	Mixed Signal Oscilloscope <ul style="list-style-type: none"> • 4 Channels Analogue+16 Channels Logic • 1 GHz Bandwidth • 4 GSa/s Sampling Rate • 1 M Points Memory Depth per Channel • Front Panel USB for external Data Storage



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Tektronix	TDS7054	Digital Phosphor Oscilloscope <ul style="list-style-type: none"> • 4 Channels • 500 MHz Bandwidth • 5 GSa/S Sampling Rate for 2 Channels • 2.5 GSa/S for 4 Channels • Memory Depth 2 M Points for 1 Channel • Internal 20 GB HD, Floppy Disk & CD-RW
Tektronix	DPO4054	Digital Oscilloscope <ul style="list-style-type: none"> • 4 Channels • 500 MHz Bandwidth • 2.5 GS/s Sampling Rate • 10 Mpoints Memory Depth • Internal HD & Compact Flash Drive.
Agilent	DSO8104	Infinium Oscilloscope <ul style="list-style-type: none"> • 4 Channels • 1 GHz Bandwidth • 4 GS/s Sampling Rate • 1 Mpoints Memory Depth per Channel • Internal HD for Data Storage



**Tektronix TDS7104
Digital Oscilloscope**

- 4 Channels
- 1 GHz Bandwidth
- 5 GS/s Sampling Rate on all channels

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Manufacturer	Product	Description
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OSCILLOSCOPES 500 - 1GHZ

Agilent	54832B	Infinium Oscilloscope <ul style="list-style-type: none"> • 4 Channels • 1GHz Bandwidth • 4 GS/s Sampling Rate • 2 Mpoints memory length • Storage to internal
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OSCILLOSCOPES 1GHZ - 1.5GHZ

LeCroy	WR 6100	Digital Oscilloscope <ul style="list-style-type: none"> • 4 Channels • 1 GHz Bandwidth • Sampling Rate 5 GS/s • 1 Mpoint Memory Depth • Storage to Internal HD
Tektronix	DPO7104	Digital Oscilloscope <ul style="list-style-type: none"> • 4 Channel Digital Oscilloscope • 1 GHz Bandwidth • 5 GS/s Sampling Rate on all channels • Record Length 10M • Internal 80 GB HD
Tektronix	DPO4104	Digital Oscilloscope <ul style="list-style-type: none"> • 4 Channel Digital Oscilloscope • 1 GHz Bandwidth • 5 GS/s Sampling Rate • Record Length 10M • Compact Flash, USB & LAN Interfaces
Tektronix	MSO4104	Mixed Signal Oscilloscope <ul style="list-style-type: none"> • 4 Analogue Channels & 16 Logic Channels • Analogue Bandwidth 1 GHz • Sampling Rate 5 GS/s • 10Mpoint Memory Depth

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Agilent 54855

Digital Oscilloscope

- 4 Channels
- 6 GHz Bandwidth
- 20 GSa/S Sampling on all Channels

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Manufacturer	Product	Description
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OSCILLOSCOPES 1.5 - 6GHZ

Tektronix	TDS7154B	Digital Oscilloscope <ul style="list-style-type: none">• 4 Channels• 1.5 GHz Bandwidth• Max Sampling Rate on one Channel 20 GHz• 4 Msamples per Channel
Yokogawa	DL9240L	Digital Oscilloscope <ul style="list-style-type: none">• 4 Channels• 1.5 GHz Bandwidth• Max Sampling Rate 10 GS/s• Max Record Length 6.25 M word/channel
Tektronix	DPO7254	Digital Oscilloscope <ul style="list-style-type: none">• 4 Channels• 2.5 GHz Bandwidth• 10 GS/s Sampling Rate• 10 M Samples per Channel
Tektronix	TDS7404B	Digital Oscilloscope <ul style="list-style-type: none">• 4 Channels• 4 GHz Bandwidth, up to 20GS/s Sampling• 4 Mb Max memory for all channels• Windows Operating System• USB, Serial, LAN & Parallel Ports
Tektronix	DPO70404	Digital Oscilloscope <ul style="list-style-type: none">• 4 Channels• 3 GHz Bandwidth• Up to 50GS Real Time Sampling• 10M Samples per Channel
Agilent	54855A	Digital Oscilloscope <ul style="list-style-type: none">• 4 Channels• 6 GHz Bandwidth• 20 GSa/S Sampling on all Channels• Memory Dpth 1MPoints at all speeds• 32 M Points at 2 GSa/S or lower



Tektronix TDS6604B

Digital Oscilloscope

- 4 Channels
- 6 GHz Bandwidth
- 20 GS/s Sampling Rate

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Manufacturer	Product	Description
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OSCILLOSCOPES 6 - 8GHZ

Tektronix	TDS6604B	Digital Oscilloscope <ul style="list-style-type: none">• 4 Channels• 6 GHz Bandwidth• 20 GS/s Sampling Rate• 32 Mb/Channel acquisition Memory Depth• Internal HD & CD-RW for Data Storage
Tektronix	TDS7704B	Digital Oscilloscope <ul style="list-style-type: none">• 4 Channels• 7.25 GHz Bandwidth• 20 GS/s Max Sampling Rate• 1 M per Channel Acquisition Memory• Internal HD & Floppy Drive for Data Storage
Tektronix	TDS6804B	Digital Oscilloscope <ul style="list-style-type: none">• Bandwidth of 8GHz• 40 GS/s real-time sample rate on 2 channels• Up to 64 Megasamples on 2 channels• MultiView Zoom™ function for quick navigation

ETHERNET TESTER

Tektronix	TF-GBE-ATP	Ethernet Test Package <ul style="list-style-type: none">• Fixture for use with Tektronix Oscilloscopes
Tektronix	TDSUSBF	Compliance Test Fixture USB 2.0 <ul style="list-style-type: none">• Fixture for use with Tektronix Oscilloscopes



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**Agilent 81134A
Pulse Pattern Generator**

- 2 Channels
- 15 MHz -3.35 GHz Data Rates



Manufacturer	Product	Description
LOGIC ANALYSERS		
Agilent	16911A	Channel Logic Analyser Module <ul style="list-style-type: none"> • 68 Channels • 4GHz Timing Zoom, • 500MHz Conventional Timing, 500 MHz State • 256kB Memory Depth • Compatible with 16900 Mainframe
Agilent	16900A	Logic Analyser Mainframe <ul style="list-style-type: none"> • Accepts up to 6 Cards • Suitable for 16700 & 16900 Series Cards • Requires External Display • Internal 80 GB HD • USB & LAN Interfaces
Agilent	16950A	Logic Analysis Module <ul style="list-style-type: none"> • 68 Channels • 4 GHz High Speed Timing / 64k Memory Depth • Max Sampling Rate 1.2 Ghz/half Channel Mode • Max State Clock 600 MHz • Voltage Threshold -3V to 5V
Agilent	81130A	Pulse Generator <ul style="list-style-type: none"> • 2 Channels • 400 MHz Dual Channel/660 MHz Single Ch. • Output Level to 3.8 V into 50 Ohms • Pulse and Burst Pattern Modes • GPIB Interface
Agilent	81134A	Pulse Pattern Generator <ul style="list-style-type: none"> • 2 Channels • 15 MHz -3.35 GHz Data Rates • Output Levels from 50 mV to 2.00 V • Pulse, Data Pattern & PRBS Generation • GPIB, LAN and USB Interfaces
Tektronix	TLA5204	Logic Analyser <ul style="list-style-type: none"> • 136 Channels, 2 Ghz Timing, 235 MHz State • 512Kb Memory Depth per Channel



R&S SMJ100A

Vector Signal Generator

- Frequency Range : 100kHz - 3/6GHz
- RF Output Level from -144 to +13dBm

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Manufacturer	Product	Description
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SIGNAL GENERATORS 2 - 3GHZ

R & S	SML02	Signal Generator <ul style="list-style-type: none"> • Frequency Range 9kHz - 2.2GHz • RF Output Level from -140 to +13dBm • Frequency Resolution : 0.1Hz • AM, FM Pulse & Phase Modulation • RS-232 & IEEE Interfaces
Aeroflex	3413	RF Digital Signal Generator <ul style="list-style-type: none"> • Frequency Range 250kHz to 3GHz • Output Levels -140dBm to +13dBm • Frequency Resolution 1Hz • AM, FM, Phase & IQ Modulation Formats • GPIB, RS-232 & Ethernet Interfaces



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Agilent	N5181A v1	MXG Analogue Signal Generator <ul style="list-style-type: none"> • Frequency Range 250 kHz to 3 GHz • Output Levels -110 dBm to +10 dBm • Frequency Resolution 0.01 Hz • Amplitude Phase, Frequency & Pulse Mod. • GPIB, USB and LAN Interfaces
R & S	SMJ100A	Vector Signal Generator <ul style="list-style-type: none"> • Frequency Range : 100kHz - 3/6GHz • RF Output Level from -144 to +13dBm • Frequency Resolution : 0.01Hz • AM, FM, Phase & Pulse Mod • IEEE and LAN Interfaces
R & S	SMU200A	Dual Channel Generator <ul style="list-style-type: none"> • Frequency Range: <ul style="list-style-type: none"> • (1st RF Path): 100kHz - 2.2/3/4/6GHz • (2nd RF Path): 100kHz - 2.2 or 3GHz • RF Output Level from -144 to +19dBm • Frequency Resolution : 0.01Hz • AM, FM Phase and Pulse Modulation

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R & S SML03

Signal Generator

- Frequency Range 9kHz - 3.3GHz
- RF Output Level from -140 to +13dBm

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Manufacturer	Product	Description
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SIGNAL GENERATORS 3 - 6GHZ

R & S	SML03	Signal Generator <ul style="list-style-type: none"> • Frequency Range 9kHz - 3.3GHz • RF Output Level from -140 to +13dBm • Frequency Resolution : 0.1Hz • AM, FM Pulse & Phase Modulation • RS-232 and IEEE Interfaces
Agilent	E4433B	ESG-D Digital RF Signal Generator <ul style="list-style-type: none"> • Frequency Range :250kHz - 4GHz • RF Output Power from -136 to +7dBm • Frequency Resolution : 0.01Hz • AM, FM and Pulse Modulation • W-CDMA/CDMA2000
Agilent	E4438C	ESG Vector Signal Generator <ul style="list-style-type: none"> • Frequency Range 250 kHz to 4 GHz • Output Levels -136 dBm to +7 dBm • Frequency Resolution 0.01 Hz • PSK, QAM, FSK and MSK Modulation • GPIB, RS-232 and LAN Interfaces
R & S	SMIQ04B	Vector Signal Generator <ul style="list-style-type: none"> • Frequency Range : 300kHz - 4.4GHz • RF Output Level from -144 to +10dBm • Frequency Resolution : 0.1Hz • AM, FM Pulse, Phase & Digital Modulation • W-CDMA
Agilent	E4438C	Signal Generator <ul style="list-style-type: none"> • Range : 250kHz - 1/2/3/4/6GHz • RF Output Power from -136 to +17dBm • Frequency Resolution : 0.01Hz • AM, FM, Phase & Pulse Modulation • Intra Baseband Generator/Digital Bus capability



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Agilent N5182A Vector Signal Generator

- Frequency Range 250 kHz - 6 GHz
- Amplitude Range -110 dBm to +7 dBm

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Manufacturer	Product	Description
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SIGNAL GENERATORS 6 - 40GHZ

Agilent	N5182A	Vector Signal Generator <ul style="list-style-type: none">• Frequency Range 250 kHz - 6 GHz• Amplitude Range -110 dBm to +7 dBm• Frequency Resolution 0.01 Hz• Digital Modulation• GPIB, USB and LAN Interfaces
Agilent	E8257D	CW and Analogue Signal Generator <ul style="list-style-type: none">• Frequency Range: 250kHz - 40GHz• Output Power +9dBm (with step attenuator)• Frequency Resolution : 0.001Hz• AM,FM, Pulse Modulation• Available Options

AMPLIFIERS

Amplifier Res	25S1G4A	RF Amplifier <ul style="list-style-type: none">• Frequency Range 0.8 - 4.2GHz• Output Power 25W (CW)• Gain 44dB Minimum• IEEE & RS-232 Interfaces
Amplifier Res	30W1000B	RF Amplifier <ul style="list-style-type: none">• Frequency Range 1MHz to 1000MHz• Power Output 30 Watts• Maximum Gain 45dB• Impedance 50 Ohms

SPECTRUM ANALYSERS 1 - 6GHZ

Agilent	85024A	High Frequency Probe <ul style="list-style-type: none">• Frequency Range 300kHz to 3GHz• Input Impedance 1M O• Connector 50 O Type-N(m)• Use with Network & Spectrum Analysers
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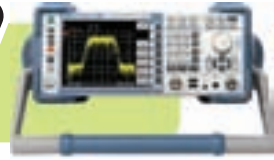
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R & S FSL6

Spectrum Analyser

- Frequency Range 9 kHz - 6 GHz
- Dynamic Range 108dB



Manufacturer	Product	Description
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SPECTRUM ANALYSERS 1 - 6GHZ

Agilent	4396B	Network/Spectrum/Impedance Analyser <ul style="list-style-type: none"> • 100 kHz - 1.8 GHz (Network & Impedance) • 2 Hz - 1.8 GHz (Spectrum) • Output Level -60 dBm to +20 dBm • Resolution Bandwidth 1 Hz to 3 MHz • Dynamic Range 100 dBm to +30 dBm • Inc opts 010/706/800
Agilent	E4402B	ESA-E Series Spectrum Analyser <ul style="list-style-type: none"> • Frequency Range 9kHz - 3GHz • Dynamic Range 108dB • Resolution B/W 9kHz & 120kHz (EMI) • Built-in 3.5in Floppy Disk Drive • IEEE Interface
R & S	FSH3	Spectrum Analyser <ul style="list-style-type: none"> • Frequency Range 100kHz - 3GHz • DANL +20 to -125dBm • Resolution Bandwidths 100Hz - 1MHz • Built In Tracking Generator • RS-232 Interface
Agilent	N1996A	Handheld Spectrum Analyser <ul style="list-style-type: none"> • Frequency Range: 100 kHz - 3/6 GHz • DANL: -156 dBm. Normalized to 1 Hz • Resolution B/W 10Hz to 200kHz • Tracking Generator: 10 MHz - 3/6 GHz • USB and LAN Interfaces
R & S	FSL6	Spectrum Analyser <ul style="list-style-type: none"> • Frequency Range 9 kHz - 6 GHz • Dynamic Range 108dB • Resolution B/W of 1Hz - 10MHz (20 MHz zero span) • Channel Filters, EMI filters, FFT filters • Tracking Generator to 6 GHz • Interfaces: GPIB, LAN, USB, DVIs



Anritsu MS2721B

Spectrum Analyser

- Frequency Range 9 kHz to 7.1 GHz
- Dynamic Range 95 dB

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Manufacturer	Product	Description
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SPECTRUM ANALYSERS 6 - 7GHZ

Agilent	E4404B	Spectrum Analyser <ul style="list-style-type: none">• Frequency Range 9kHz - 6.7GHz• Dynamic Range 108dB• Resolution B/W 1Hz to 5MHz (seq.1, 3 & 10)• 9kHz & 120kHz (EMI)• Built-in 3.5in Floppy Disk Drive
Agilent	N8974A	Noise Figure Analyser <ul style="list-style-type: none">• 10 MHz to 6.7 GHz in a one box solution• APC 3.5 (m) Connector as Standard• SNS Series Noise Source Compatibility
Agilent	E5052A	Signal Source Analyser <ul style="list-style-type: none">• 10 MHz - 7 GHz• Phase Noise Measurement• Transient Measurement.(freq./phase/power)• Frequency,Power,DC Current Measurement• Parallel, IEEE, USB & LAN Interfaces
R & S	FSP7	Spectrum Analyser <ul style="list-style-type: none">• Frequency Range 9kHz - 7GHz• DANL +30 to -155 dBm• Resolution Bandwidth 10Hz - 10MHz• Built-in 3.5in Floppy Disk Drive• RS-232, Parallel, & IEEE Interfaces
Anritsu	MS2721B	Spectrum Analyser <ul style="list-style-type: none">• 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
Advantest	R3267	Spectrum Analyser <ul style="list-style-type: none">• Frequency Range 20Hz - 8GHz• Input Level +30 to -130dBm• Resolution Bandwidth 1Hz to 10MHz• Digital Demodulation Capability

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Tek_RSA3308

Real Time Spectrum Analyser

- Frequency Range DC - 8GHz
- DANL -164dBm
- Resolution Bandwidth 1Hz to 10MHz

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Manufacturer	Product	Description
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SPECTRUM ANALYSERS 7 - 13GHZ

Tektronix	RSA3308A	Real Time Spectrum Analyser <ul style="list-style-type: none">• Frequency Range DC - 8GHz• DANL -164dBm• Resolution Bandwidth 1Hz to 10MHz• Built-in 3.5in Floppy Disk Drive• IEEE, USB & LAN Interfaces
Agilent	N9020A	MXA Spectrum Analyzer <ul style="list-style-type: none">• Frequency Range 20 Hz to 8.4 GHz• Dynamic Range -170 dBm to +30 dBm• Resolution Bandwidth 1 Hz to 3 MHz• GPIB, USB and LAN Interfaces
Agilent	E4405B	Portable Spectrum Analyser <ul style="list-style-type: none">• Frequency Range 9kHz - 13.2GHz• Dynamic Range 108dB• Resolution B/W 1Hz to 5MHz (seq. 1, 3 & 10)• 9kHz & 120kHz (EMI)• Built-in 3.5in Floppy Disk Drive• IEEE Interface

SPECTRUM ANALYSER 20 - 50GHZ

Anritsu	MS2724B	Spectrum Analyser <ul style="list-style-type: none">• Frequency Range 9 kHz to 20 GHz• Dynamic Range 101 dB• Resolution Bandwidth 1 Hz to 3 MHz• USB and Ethernet Interface
R & S	FSQ26	Vector Signal Analyser <ul style="list-style-type: none">• Frequency Range 20Hz - 26GHz• DANL +30 to -145 dBm• Resolution B/W 10Hz - 20MHz, 50MHz• Built-in 3.5in Floppy Disk Drive• RS-232, Parallel, IEEE, USB & LAN Interfaces



Agilent E4440A Spectrum Analyser

- Frequency Range 3Hz - 26.5GHz
- Resolution Bandwidth 1Hz to 3MHz

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Manufacturer	Product	Description
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SPECTRUM ANALYSERS 20 - 50GHZ

Agilent	E4440A	Spectrum Analyser <ul style="list-style-type: none">• Frequency Range 3Hz - 26.5GHz• Resolution Bandwidth 1Hz to 3MHz• Built-in 3.5in Floppy Disk Drive• RS-232, Parallel, IEEE, USB & LAN Interfaces
Agilent	E4446A	PSA Spectrum Analyser <ul style="list-style-type: none">• Frequency Range 3 Hz - 44 GHz• -154 dBm displayed average noise level• 81 dB W-CDMA ACLR dynamic range• Resolution B/W 1Hz to 3MHz• Built-in 3.5in floppy disk drive• RS-232, Parallel, IEEE, USB & LAN Interfaces• Opts included 1DS/B7J
Agilent	8565EC	Portable Spectrum Analyser <ul style="list-style-type: none">• Frequency Range 9kHz - 50GHz• Dynamic Range 100dB• Resolution B/W 1Hz to 1MHz & 2MHz• IEEE Interface



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NETWORK ANALYSERS 2.5 - 8.5GHZ

Anritsu	S251C	SiteMaster Cable & Antenna Tester <ul style="list-style-type: none">• Frequency Range 625 - 2500MHz• 2-ports• Distance-to-fault (DTF).• Precision SWR & Return Loss Measurements• Dynamic Range: 54dB• Portable, Battery Operated
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Agilent E5071B
Network Analyser

- Frequency Range 300kHz - 8.5GHz
- 2, 3 or 4-ports (Option 214, 314 or 414)

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Manufacturer Product Description

NETWORK ANALYSERS 2.5 - 8.5GHZ

Anritsu	S331D	SiteMasterTrans Line/Antenna Analyser <ul style="list-style-type: none">• Frequency Range 25-4000MHz• 1-port• Dynamic Range: 60dB• Memory saved to 300 traces & 25 setups• RS-232 Interface
Anritsu	S332D	SiteMasterTrans Line/ Antenna Analyser <ul style="list-style-type: none">• Frequency Range 25-4000MHz• (3000MHz for Spectrum Analyser)• 1-port• Dynamic Range: 54dB• Memory saves to 300 traces & 10 setups• RS-232 Interface
Anritsu	MS2026A	Handheld Vector Network Analyser <ul style="list-style-type: none">• Frequency Range 2MHz - 6GHz• 1-port & 1-path 2-port Magnitude/Phase Meas.• Distance-to-fault (DTF).• Precision SWR and return Loss Measurement• Portable. Battery Operated
Agilent	E5071B	Network Analyser <ul style="list-style-type: none">• Frequency Range 300kHz - 8.5GHz• 2, 3 or 4-ports (Option 214, 314 or 414)• Dynamic Range 125dB• Options available:<ul style="list-style-type: none">• 008 Frequency Offset Mode• 010 Time Domain Analysis• 016 Touchscreen Colour LCD
Agilent	E5091A	Multiport Test Set <ul style="list-style-type: none">• Multiport Test Set• Bandwidth 50 MHz to 8.5 GHz



Qualified engineers to help with your equipment set up if needed



**Anritsu S820D
SiteMaster - 1 port**

- Frequency Range 25 MHz to 20 GHz
- Single Port • Colour LCD Display

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Manufacturer	Product	Description
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NETWORK ANALYSERS 8.5 - 40GHZ

Agilent	N5230A	Vector Network Analyser <ul style="list-style-type: none"> • Frequency Range 10MHz - 20GHz • 2-ports • Dynamic Range up to 120dB • Built-in 3.5in Floppy Disk Drive • RS-232, Parallel, IEEE, USB & LAN Interfaces
Anritsu	S820D	SiteMaster -1 port <ul style="list-style-type: none"> • Frequency Range 25 MHz to 20GHz • Single Port • Colour LCD Display • Internal Memory for up to 200 Traces • RS-232 Interface



When should I rent? When should I buy?

Research shows that over 50% of purchased equipment is either rarely or never used after the initial purchase. When your equipment is not used constantly rental will often be the cheaper option.

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Agilent	8722ES	S-parameter Vector Network Analyser <ul style="list-style-type: none"> • Frequency Range 50MHz - 40GHz • 2-ports • Dynamic Range up to 100dB • Built-in 3.5in Floppy Disk Drive • RS-232, Parallel and IEEE Interfaces
Anritsu	37369C	Vector Network Analyser <ul style="list-style-type: none"> • Frequency Range 40 MHz to 40GHz • 2 Ports • Dynamic Range 120 dB • 340 Mb Internal Hard Disk for Data Storage • GPIB and Parallel Interfaces



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Narda EMR-300

Radiation Meter & E-Field Probe

- 0.6 - 800 V/m, 0.0001 - 170 mW/cm²
- 100 kHz - 3 GHz
- Storage of 1500 Measurements

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Manufacturer	Product	Description
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EMC TEST

Schaffner	NSG438-01	ESD Simulator System <ul style="list-style-type: none"> • Air and Contact Discharge 200V to 30 kV • Touch Panel Display Controlled • Battery Powered • Compliant with all known standards
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Laplace Instr.	CTK015	Active EMC Probe Set <ul style="list-style-type: none"> • E-Field and H-Field Probe Kit • E-Field Range 2 MHz - 2 GHz • H-Field Range 100 kHz - 100 MHz • DC and RF Outputs
Narda	EMR-300	Radiation Meter & E-Field Probe <ul style="list-style-type: none"> • 0.6 - 800 V/m, 0.0001 - 170 mW/cm² • 100 kHz - 3 GHz • Storage of 1500 Measurements • RS-232 Interface

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Agilent E5515C

Wireless Comm Test Set

- Supports GSM/GPRS/EDGE,W-CDMA
- CDMA2000 Mobile Standards

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Manufacturer	Product	Description
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WIRELESS - HANDSETS

Agilent	E5515C	Wireless Comm Test Set <ul style="list-style-type: none">• Supports GSM/GPRS/EDGE,W-CDMA• CDMA2000 Mobile Standards• Full Transmit, Receive & Audio Tests• Stand Alone System
Anritsu	MT8820A	Radio Communication Analyser <ul style="list-style-type: none">• Range 30 MHz to 2.7 GHz• Supports GSM, W-CDMA, TDMA, CDMA• HSDPA Mobile Standards Supported• Transmit/Receive Meas. Functions• Stand alone System
R & S	CMU200	Universal Radio Comm Tester <ul style="list-style-type: none">• Range 100 kHz - 2.7 GHz• Optional Mobile Standard Supported• Full Transmit/Receive/Speech• Data Test Functions
Aeroflex	2968	TETRA BTS Test Set <ul style="list-style-type: none">• Frequency Coverage 10 MHz -1 GHz• Supports TETRA Mobile Standard• Multiple Measurement Functions
Aeroflex	3920	Analog/Digital Radio Test Set <ul style="list-style-type: none">• TETRA Mobile/Base Station & DMO Tests• P25 Parametric Analysis• HPD[®] (High Performance Data)• Spectrum Anal with Tracking Generator• GPIB, Ethernet, USB & RS-232 Interfaces
Anritsu	MT8212B	CellMaster Antenna B/Station <ul style="list-style-type: none">• Frequency from 25 MHz - 4.0 GHz• Options to support GSM/CDMA Standards• Prime Functions Spectrum Analyser,• Portable Battery Operated Unit• RS-232 Interface

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Anritsu ML8740B

Triband Area Scanner

- Bands 925 - 960 MHz/1805 -1880 MHz
- Bands 2110 - 2170 MHz Frequency

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Manufacturer	Product	Description
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SITE SURVEY

Anritsu	ML8740B	Triband Area Scanner GSM/DCS/UMTS <ul style="list-style-type: none"> • Bands 925 - 960 MHz/1805 -1880 MHz • Bands 2110 - 2170 MHz Frequency • Supports GSM and W-CDMA • GPS Receiver Input for Location Data • USB Interface
ETSA	PVER402001	UMTS Radio Coverage Transmitter <ul style="list-style-type: none"> • Band 2110-2170 MHz in 2.5 MHz Steps • Output Power: 25W (CW) /10W (Spectrum) • Dynamic Range 22 dB in 0.5dB Steps (CW) • UMTS Spectral Mode
ETSA	PVER506001	Wimax Radio Coverage Transmitter <ul style="list-style-type: none"> • Output Power: 20W (CW)/5W (Spectrum) • Frequency 3400-3600 MHz in 1MHz Steps • Dynamic Range 17 dB in 0.5dB Steps
Kathrein	K738187	Omni directional Antenna <ul style="list-style-type: none"> • Omni Directional Antenna • Frequency Range 1710 MHz - 1880 MHz • Vertical Polarisation • Gain 11 dBi • Maximum Power 200 W
LMW Elec	STXX Series	Survey Signal Generator <ul style="list-style-type: none"> • Bands 870-960 MHz, 1750-1900 MHz • Bands 2100-2200 MHz • 20W Output Power • AC or DC Operation • Weatherproof Case
LMW Elec	ST9	Survey Signal Transmitter <ul style="list-style-type: none"> • Output Frequency 870 - 960 MHz • Output Power 20Watts • Channel Spacing from 20kHz - 200kHz • Mains and External Battery (12V) Supplies



Nemo Outdoor Outdoor Base Software

- Drive Test Software Package
- Will require Scanner or Test Mobile

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Manufacturer	Product	Description
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SITE SURVEY

LMW Elect	ST16	Survey Signal Transmitter <ul style="list-style-type: none">• Output Frequency 1750 - 1900 MHz• Output Power 20Watts• Channel Spacing from 20kHz to 200kHz• Mains & External Battery (12V) Supplies
LMW Elect	ST24	Survey Signal Transmitter <ul style="list-style-type: none">• Output Frequency 2100 - 2200 MHz• Output Power 20Watts• Channel Spacing from 20kHz - 200kHz• Mains & External Battery (12V) Supplies
Nemo	Outdoor	Outdoor Base Software <ul style="list-style-type: none">• Drive Test Software Package• Will require Scanner or Test Mobile• Enables Monitoring of the Air Interface• Includes GPS Location System
Seagull	6030	GSM / W-CDMA Triband Receiver <ul style="list-style-type: none">• Bands 925 - 959 MHz, 1805 -1880 Mhz• Bands 2210 to 2170 MHz• Supports GSM/W-CDMA Mobile Standards• USB Interface
Thales	3011 Mobil+	GPS for Antenna Alignment <ul style="list-style-type: none">• GPS Compass System• Azimuth Alignment to 0.5 °• Bluetooth Communication to PDA
Willtek	8103	Measuring Receiver <ul style="list-style-type: none">• Ideal for Transmitter Site Surveys,• Interference Tracing, & Voice Monitoring• High Dynamic Range (over 110 dB)• Range 100 kHz to 1GHz, 1.7 - 2.5 GHz.• Highly-Portable Solution

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Tektronix K15

Protocol Analyser

- Protocol Analyser to monitor Mobile Networks
- GSM, GPRS, EDGE, UMTS, HSDPA

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Manufacturer	Product	Description
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ANALYSERS

Agilent	N4010A	WLAN Tester <ul style="list-style-type: none">• Wireless LAN Test Set• Transmit/Receive Analysis at 2.4 & 5 GHz• Supports 802.11x Standards
Anritsu	MT8852A	Bluetooth Test Set with Audio <ul style="list-style-type: none">• Automated Bluetooth Testing• Measurements Performed to Bluetooth standard• Added Audio testing to 3Air Interface Codecs• Stand alone System• RS-232 and USB Interfaces
LeCroy	Tracer	USB2 Protocol Analyser <ul style="list-style-type: none">• USB2 Emulation and Analysis
Tektronix	K15	Protocol Analyser <ul style="list-style-type: none">• Protocol Analyser to monitor Mobile Networks• GSM, GPRS, EDGE, UMTS, HSDPA,• UMTS Iub Deciphering/in Real-Time• Full Access to the Content of all Frames• H324.M/HSDPA Protocol Suite. EDGE Test Suite• Troubleshooting/Multimedia Services• Multi Interface Call Trace.

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