



ABN 43 064 478 842

➤ 231 osborne avenue clayton south, vic 3169
PO box 1548, clayton south, vic 3169
t 03 9265 7400 f 03 9558 0875
freecall 1800 680 680
www.tmgtestequipment.com.au

Test & Measurement

- sales
- rentals
- calibration
- repair
- disposal

Complimentary Reference Material

This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

If you click on the “Click-to-Call” logo below, you can call us for FREE!

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Site Master™ S820A

Microwave Transmission Line
and Antenna Analyzer

3.3 GHz to 20.0 GHz



*Improve Quality and Reduce Maintenance Expense
With Frequency Domain Reflectometry*

FEATURES

- **Broadband Frequency Coverage (3.3 GHz to 20 GHz)**
- **Accurately Tests Coax/Waveguide and Antennas**
- **Fast Sweep Tune Mode for Waveguide Component Alignment/Testing**
- **Extended Range in Distance-To-Fault**
- **K Connector®**
- **Immunity to Live Site RF Interference**
- **Synthesizer Accurate to 75 ppm**
- **Internal Memory Saves Up to 70 Traces**
- **Six Instrument Configurations with Calibration**
- **Wattmeter Optional**
- **Database Management Software Tools**

The Anritsu S820A is a portable, one-port microwave transmission line and antenna analyzer. Site Master S820A targets microwave site installers, point-to-point operators, radio manufacturers, PCS/Cellular operators, and utility companies that support microwave links. The S820A provides a convenient way to measure, trouble shoot, and verify transmission line and antenna systems compared to laboratory sized scalar analyzer or microwave test set. Site Master S820A extends the frequency range of the Microwave Site Master family to 20.0 GHz. The main application is to test and measure the full 18 GHz radio frequency band (17.7 to 19.7 GHz) microwave waveguide and antenna system.

The Site Master Software Tools supplied with each S820A operates with Windows 95®, Windows 98® and Windows NT®.

Specifications¹

Frequency Range	3.3 to 20.0 GHz
Frequency Accuracy (CW mode)	75 ppm
Frequency Resolution	1 MHz
Immunity to Interfering RF Signals up to²	−10 dBm
Return Loss (SWR)	Range: 0 to 54 dB (1 to 65) Resolution: 0.01 dB (0.01)
Distance-to-Fault	Vertical range Return loss: 0 to 54 dB SWR: 1 to 65 Horizontal range (meter): 0 to 129X (resolution) Horizontal resolution, (meter): coax: $(1.5 \times 10^6) (v_p) / \Delta \text{ frequency}^3$ (Rectangular windowing) waveguide: $(1.5 \times 10^6) \sqrt{1 - (f_c/f_1)^2} / \Delta \text{ frequency}^3$
Wattmeter (RF power monitor, Option 5)	Display range: −80 to +80 dBm, 10 pW to 100 kW Detector range: −50 to +20 dBm, 32 nW to 100 mW Offset range: 0 to +60 dB Resolution: 0.1 dB, 0.1 x W
Coax/Waveguide Insertion Loss	Range: 0 to 54 dB Resolution : 0.01 dB
Test port connector	Precision K female, 50 Ω
Maximum input without damage	K(f) test port: +22 dBm RF power detector: +20 dBm, 50 Ω
Trace memory	70
Instrument configuration/calibration	6
Temperature	Operating: 0 to 50°C Storage: −20° to 75°C
Weight	1.14 kg nom
Size	203.2 mm x 177.8 mm x 57.2 mm
General	Electromagnetic compatibility: Meets European community requirements for CE marking. RS232: 9 pin D-sub, three wire serial

1: All specifications apply when calibrated at ambient temperature after a five minute warm up.

2: Immunity performance represents a typical worst-case condition. Measurements were made in CW mode by injecting a signal into the Site Master through a coupler with the same signal injected through the coupled arm. In field applications, signals are modulated and varying in frequency rather than CW. Immunity is typically better when swept frequencies are used.

3: Where v_p is the cable's relative propagation velocity. Δ frequency is the stop frequency minus the start frequency (in Hz). f_c is the waveguide cutoff frequency in GHz. f_1 is the start frequency in GHz. Wider frequency sweeps improve resolution but reduce maximum display range.

UNIVERSAL WAVEGUIDE COMPONENT ACCESSORIES

Precision Waveguide Calibration Components					
Part Number	Description	Freq Range	Waveguide Type	Compatible Flanges	
xxUM40 xxUM48 xxUM58 xxUM70 xxUM84 xxUM100 xxUM120 xxUM140 xxUM220 xxUA229	1/8, 3/8 λ Offset Short and Load, Metric 1/8, 3/8 λ Offset Short and Load, Metric 1/8, 3/8 λ Offset Short and Load, Metric 1/8, 3/8 λ Offset Short and Load, Metric 1/8, 3/8 λ Offset Short and Load, Metric 1/8, 3/8 λ Offset Short and Load, Metric 1/8, 3/8 λ Offset Short and Load, Metric 1/8, 3/8 λ Offset Short and Load, Metric 1/8, 3/8 λ Offset Short and Load, Metric 1/8, 3/8 λ Offset Short and Load, US	3.30 to 4.90 GHz 3.95 to 5.85 GHz 4.90 to 7.05 GHz 5.85 to 8.20 GHz 7.05 to 10.00 GHz 8.20 to 12.40 GHz 10.00 to 15.00 GHz 12.40 to 18.00 GHz 17.00 to 26.50 GHz 3.30 to 4.90 GHz	WR229, WG11A WR187, WG12 WR159, WG13 WR137, WG14 WR112, WG15 WR90, WG16 WR75, WG17 WR62, WG18 WR42, WG20 WR229, WG11A	PDR40 CAR48, PAR48, UAR48, PDR48 CAR58, PAR58, UAR58, PDR58 CAR70, PAR70, UAR 70, PDR70 CBR84, UBR84, PBR84, PDR84 CBR100, UBR100, PBR100, PDR100 CBR120, UBR120, PBR120, PDR120 CBR140, UBR140, PBR140, PDR140 CBR220, UBR220, PBR220, PDR220 CPR229F, CPR229G, UG-1350/U, UG-1351/U, UG-1726/U, UG-1727/U CPR187F, CPR187G, UG-1352/U, UG-1353/U, UG-1728/U, UG-1729/U, UG-148/U, UG-149A/U CPR159F, CPR159G, UG-1354/U, UG-1355/U, UG-1730/U, UG-1731/U CPR137F, CPR137G, UG-1356/U, UG-1357/U, UG-1732/U, UG-1733/U, UG-343B/U, UG-344/U, UG-440B/U, UG-441/U CPR112F, CPR112G, UG-1358/U, UG-1359/U, UG-1734/U, UG-1735/U, UG-52B/U, UG-51/U, UG-137B/U, UG-138/U CPR90F, CPR90G, UG-1360/U, UG-1361/U, UG-1736/U, UG-1737/U, UG-40B/U, UG-39/U, UG-135/U, UG-136B/U WR75 UG-541A/U, UG-419/U, UG-1665/U, UG1666/U UG-596A/U, UG-595/U, UG-597/U, UG-598A/U CMR229 CMR187, UG1475/U, UG1480/U CMR159 CMR137, UG1476/U, UG1481/U CMR112, UG1477/U, UG1482/U CMR90, UG1478/U, UG1483/U UER40 UER48 UER58 UER70 UER84 UER100	
xxUA187	1/8, 3/8 λ Offset Short and Load, US	3.95 to 5.85 GHz	WR187, WG12		
xxUA159	1/8, 3/8 λ Offset Short and Load, US	4.90 to 7.05 GHz	WR159, WG13		
xxUA137	1/8, 3/8 λ Offset Short and Load, US	5.85 to 8.20 GHz	WR137, WG14		
xxUA112	1/8, 3/8 λ Offset Short and Load, US	7.05 to 10.00 GHz	WR112, WG15		
xxUA90	1/8, 3/8 λ Offset Short and Load, US"	8.20 to 12.40 GHz	WR90, WG16		
xxUA75 xxUA62 xxUA42 xxCMR229 xxCMR187 xxCMR159 xxCMR137 xxCMR112 xxCMR90 xxUER40 xxUER48 xxUER58 xxUER70 xxUER84 xxUER100	1/8, 3/8 λ Offset Short and Load, US 1/8, 3/8 λ Offset Short and Load, US 1/8, 3/8 λ Offset Short and Load, US 1/8, 3/8 λ Offset Short and Load, CMR 1/8, 3/8 λ Offset Short and Load, CMR 1/8, 3/8 λ Offset Short and Load, CMR 1/8, 3/8 λ Offset Short and Load, CMR 1/8, 3/8 λ Offset Short and Load, CMR 1/8, 3/8 λ Offset Short and Load, CMR 1/8, 3/8 λ Short and Load, UER 1/8, 3/8 λ Short and Load, UER 1/8, 3/8 λ Short and Load, UER 1/8, 3/8 λ Short and Load, UER 1/8, 3/8 λ Short and Load, UER 1/8, 3/8 λ Short and Load, UER 1/8, 3/8 λ Short and Load, UER	10.00 to 15.00 GHz 12.40 to 18.00 GHz 17.00 to 26.50 GHz 3.30 to 4.90 GHz 3.95 to 5.85 GHz 4.90 to 7.05 GHz 5.85 to 8.20 GHz 7.05 to 10.00 GHz 8.2 to 12.4 GHz 3.30 to 4.90 GHz 3.95 to 5.85 GHz 4.90 to 7.05 GHz 5.85 to 8.20 GHz 7.05 to 10.00 GHz 8.2 to 12.4 GHz	WR75, WG17 WR62, WG18 WR42, WG20 WR229, WG11A WR187, WG12 WR159, WG13 WR137, WG14 WR112, WG15 WR90, WG16 WR229, WG11A WR187, WG12 WR159, WG13 WR137, WG14 WR112, WG15 WR90, WG16		
Note: Part Number Ordering Information		Prefix (xx) - 23 for 1/8 λ Offset Short - 24 for 3/8 λ Offset Short - 26 for Precision Waveguide Load			
Precision Waveguide-to-Coaxial Adapters					
35UM40N 35UM48N 35UM58N 35UM70N 35UM84N 35UM100N 35UM120N 35UM140N 35UM220K 35UA229N	Coaxial Adapter, N(m), Metric Coaxial Adapter, N(m), Metric Coaxial Adapter, N(m), Metric Coaxial Adapter, N(m), Metric Coaxial Adapter, N(m), Metric Coaxial Adapter, N(m), Metric Coaxial Adapter, N(m), Metric Coaxial Adapter, N(m), Metric Coaxial Adapter, K(m), Metric Coaxial Adapter, N(m), US	3.30 to 4.90 GHz 3.95 to 5.85 GHz 4.90 to 7.05 GHz 5.85 to 8.20 GHz 7.05 to 10.00 GHz 8.20 to 12.40 GHz 10.00 to 15.00 GHz 12.40 to 18.00 GHz 17.00 to 26.50 GHz 3.30 to 4.90 GHz	WR229, WG11A WR187, WG12 WR159, WG13 WR137, WG14 WR112, WG15 WR90, WG16 WR75, WG17 WR62, WG18 WR42, WG20 WR229, WG11A	PDR40 CAR48, PAR48, UAR48, PDR48 CAR58, PAR58, UAR58, PDR58 CAR70, PAR70, UAR 70, PDR70 CBR84, UBR84, PBR84, PDR84 CBR100, UBR100, PBR100, PDR100 CBR120, UBR120, PBR120, PDR120 CBR140, UBR140, PBR140, PDR140 CBR220, UBR220, PBR220, PDR220 CPR229F, CPR229G, UG-1350/U, UG-1351/U, UG-1726/U, UG-1727/U CPR187F, CPR187G, UG-1352/U, UG-1353/U, UG-1728/U, UG-1729/U, UG-148/U, UG-149A/U CPR159F, CPR159G, UG-1354/U, UG-1355/U, UG-1730/U, UG-1731/U CPR137F, CPR137G, UG-1356/U, UG-1357/U, UG-1732/U, UG-1733/U, UG-343B/U, UG-344/U, UG-440B/U, UG-441/U CPR112F, CPR112G, UG-1358/U, UG-1359/U, UG-1734/U, UG-1735/U, UG-52B/U, UG-51/U, UG-137B/U, UG-138/U CPR90F, CPR90G, UG-1360/U, UG-1361/U, UG-1736/U, UG-1737/U, UG-40B/U, UG-39/U, UG-135/U, UG-136B/U WR75 UG-541A/U, UG-419/U, UG-1665/U, UG1666/U UG-596A/U, UG-595/U, UG-597/U, UG-598A/U CMR229 CMR187, UG1475/U, UG1480/U CMR159 CMR137, UG1476/U, UG1481/U CMR112, UG1477/U, UG1482/U CMR90, UG1478/U, UG1483/U UER40 UER48 UER58 UER70 UER84 UER100	
35UA187N	Coaxial Adapter, N(m),US	3.95 to 5.85 GHz	WR187, WG12		
35UA159N	Coaxial Adapter, N(m), US	4.90 to 7.05 GHz	WR159, WG13		
35UA137N	Coaxial Adapter, N(m), US	5.85 to 8.20 GHz	WR137, WG14		
35UA112N	Coaxial Adapter, N(m),US	7.05 to 10.00 GHz	WR112, WG15		
35UA90N	Coaxial Adapter, N(m),US	8.20 to 12.40 GHz	WR90, WG16		
35UA75N 35UA62N 35UA42K 35CMR229N 35CMR187N 35CMR159N 35CMR137N 35CMR112N 35CMR90N 35UER40N 35UER48N 35UER58N 35UER70N 35UER84N 35UER100N	Coaxial Adapter, N(m), US Coaxial Adapter, N(m), US Coaxial Adapter, K(m), US Coaxial Adapter, N(m), CMR Coaxial Adapter, N(m), CMR Coaxial Adapter, N(m), CMR Coaxial Adapter, N(m), CMR Coaxial Adapter, N(m), CMR Coaxial Adapter, N(m), CMR Coaxial Adapter, N(m), CMR Coaxial Adapter, N(m), UER Coaxial Adapter, N(m), UER Coaxial Adapter, N(m), UER Coaxial Adapter, N(m), UER Coaxial Adapter, N(m), UER Coaxial Adapter, N(m) UER	10.00 to 15.00 GHz 12.40 to 18.00 GHz 17.00 to 26.50 GHz 3.30 to 4.90 GHz 3.95 to 5.85 GHz 4.90 to 7.05 GHz 5.85 to 8.20 GHz 7.05 to 10.00 GHz 8.2 to 12.4 GHz 3.30 to 4.90 GHz 3.95 to 5.85 GHz 4.90 to 7.05 GHz 5.85 to 8.20 GHz 7.05 to 10.00 GHz 8.2 to 12.4 GHz	WR75, WG17 WR62, WG18 WR42, WG20 WR229, WG11A WR187, WG12 WR159, WG13 WR137, WG14 WR112, WG15 WR90, WG16 WR229, WG11A WR187, WG12 WR159, WG13 WR137, WG14 WR112, WG15 WR90, WG16		

ORDERING INFORMATION

Model S820A (3.3 GHz to 20.0 GHz), Built-in DTF

Standard Accessories:

User's Guide
Soft Carrying Case
AC-DC Adapter
Precision Adapter, Ruggedized K(m) to N(f)
Automotive Cigarette Lighter/12 Volt DC Adapter
CD ROM containing Fault Location (DTF)
Smith Chart and Software Management Tools
Serial Interface Cable
One Year Warranty

Optional Accessories:

Option 5	RF Watt Meter Power Monitor (RF Detector not included)
560-7N50B	RF Detector, N(m), 50 Ohm, 10 MHz to 20 GHz
IN50C	5W Limiter, N(m)-N(f), 18 GHz
22N50	Precision N(m) Short/Open, 18 GHz
22NF50	Precision N(f) Short/Open, 18 GHz
22K50	Precision K(m) Short/Open, 40 GHz
22KF50	Precision K(f) Short/Open, 40 GHz
28K50	Precision Termination, DC to 40 GHz, 50 Ohm, K(m)
28KF50	Precision Termination, DC to 40 GHz, 50 Ohm, K(f)
28N50-2	Precision Termination, DC to 18 GHz, 50 Ohm N(m)
28NF50-2	Precision Termination, DC to 18 GHz, 50 Ohm, N(f)
15NNF50-1.5A	Test Port Cable Armored, 1.5 meter N(m) to N(f) 18 GHz
15KKF50-1.5B	Test Port Cable Armored, 1.5 meter K(m) to K(f) 20 GHz
800-109	Detector Extender Cable, 7.6 m
800-110	Detector Extender Cable, 15.2 m
800-111	Detector Extender Cable, 30.5 m
800-112	Detector Extender Cable, 61 m
34NN50A	Precision N(m) to N(m) Adapter, 18 GHz
34NFN50	Precision N(f) to N(f) Adapter, 18 GHz
34RKNF50	Precision Adapter, Ruggedized K(m) to N(f), 20 GHz
34RSN50	Precision Adapter, Ruggedized WSMA(m) to N(m), 20 GHz
K220B	Precision Adapter, K(m) to K(m), 40 GHz
K222B	Precision Adapter, K(f) to K(f), 40 GHz

1091-26	Adapter N(m)-to SMA(m), 18 GHz
1091-27	Adapter N(m)-to SMA(f), 18 GHz
1091-80	Adapter N(f)-to SMA(m), 18 GHz
1091-81	Adapter N(f)-to SMA(f), 18 GHz
42N50-20	5W Attenuator, N(m)-N(f), 18 GHz
D41955	Soft Carrying Case
40-115	AC/DC Adapter
806-62	Automotive Cigarette Lighter/12 Volt DC Adapter
800-441	Serial Interface Cable
760-213	Transit Cases for Microwave Site Master
2300-347	Site Master Software Tools
10580-00030	Site Master S820A User's Guide
10580-00031	Site Master S820A Maintenance Manual

Printers:

2000-766	HP DeskJet Printer Includes: Interface Cable, Black Print Cartridge, and U.S. Power Cable
2000-753	Spare Serial-to-Parallel Converter Cable
2000-661	Black Print Cartridge
2000-662	Rechargeable Battery for DeskJet Printer
2000-663	Power Cable (Europe) for DeskJet Printer
2000-664	Power Cable (Australia) for DeskJet Printer
2000-665	Power Cable (U.K.) for DeskJet Printer
2000-667	Power Cable (So. Africa) for DeskJet Printer
2000-754	Seiko DPU-414-30B Thermal Printer (120VAC) Includes: Internal Battery, Thermal Printer Paper, Serial Cable, U.S. Adapter
2000-761	Seiko DPU-414-30B Thermal Printer (220VAC) Includes: Internal Battery, Thermal Printer Paper, Serial Cable, Europe Adapter
2000-1002	U.S. Adapter (for Seiko DPU-414-30B Printer)
2000-1003	Europe Adapter (for Seiko DPU-414-30B Printer)
2000-1004	Battery Pack (for Seiko DPU-414-30B Printer)
2000-1012	Spare Serial 9-pin (male) to 9-pin (female) Cable
2000-755	Five rolls of Thermal Paper

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Sales Centers:

US (800) ANRITSU
Canada (800) ANRITSU
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Anritsu

Microwave Measurements Division • 490 Jarvis Drive • Morgan Hill, CA 95037-2809
<http://www.global.anritsu.com> • FAX (408) 778-0239

Sales Centers:

Europe 44 (01582) 433200
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