SWR AUTOTESTERS

97 Series and 560-97, 560-98 Series 10 MHz to 50 GHz

97A50

560-97A50

560-97N50

The Series 97, 560-97 and 560-98 SWR Autotesters integrate a high directivity bridge, a detector, a low reflection test port, and a precision reference termination. The 560-97 and -98 Series units are broadband microwave measurement components that are used with the Model 56100A Scalar Network Analyzer and with Series 54100A Scalar Measurement System for making fixed-frequency and swept-frequency return loss (SWR) measurements. Return loss measurements are used over a wide range of radio and microwave frequencies to check the performance of systems, subsystems, and microwave components such as amplifiers, directional couplers, attenuators, filters, splitters, and terminations.

560-97, 98 Series SWR autotester features

- *Up to 40 dB directivity*
- *10 MHz to 50 GHz range*
- *Test port connectors to fit most measurement applications; avoids use of adapters*

97 Series SWR autotester features

- *High 40 dB directivity*
- *Low test port reflections*
- *Broadband 10 MHz to 18 GHz frequency range*
- *Small package including bridges, termination, and detector*
- *Selection of GPC-7, WSMA, or Type N test port connectors*

Specifications

Models	Directivity (dB)	Accuracy①		Frequency Sensitivity (dB)	Test Port Connection	Physical
97 Series SWR Autotesters, 10 MHz to 18 GHz②						
		10 MHz-8 GHz	**8-18 GHz**			
97A50	36	0.016 ±0.06ρ²	0.016 ±0.10ρ²	±1.5 max.	GPC-7	Dimensions③ 7.6 x 5 x 2.8 cm plus connectors Weight: 340 g
560-97 Series SWR Autotesters, 10 MHz to 18 GHz②						
		0.01-8 GHz	**8-18 GHz**			
560-97A50	36	0.013 ±0.08ρ²	0.016 ±0.10ρ²	±1.2	GPC-7	
560-97A50-1	40	0.010 ±0.06ρ²	0.010 ±0.10ρ²	±1.2	GPC-7	
560-97N50 560-97NF50	35	0.018 ±0.08ρ²	0.018 ±0.12ρ²	±1.5	Type N (m) Type N (f)	
560-97N50-1 560-97NF50-1	38	0.013 ±0.08ρ²	0.013 ±0.12ρ²	±1.5	Type N (m) Type N (f)	

① Where ρ is the reflection coefficient being measured. Accuracy includes the effects of test port reflections and directivity.
② Input Connector: Type N Female
③ Plus connectors and cable

Temperature range: +25°C ±5°C

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SWR AUTOTESTERS

97 Series and 560-97, 560-98 Series 10 MHz to 50 GHz

Models	Directivity (dB)	Accuracy①				Freq. Sensitivity (dB)	Test Port Connection	Physical
560-98 Series SWR Autotesters, 10 MHz to 40 GHz②								
		0.01-8 GHz	8-18 GHz	18-26.5 GHz	26.5-40 GHz			
560-98S50 560-98SF50	37 36		0.014 ±0.01ρ²	0.016 ±0.13ρ²		±2.0	WSMA (m) WSMA (f)	Dimensions④: 1.9 x 3.8 x 2.9 cm Weight: 198 g
560-98S50-1 560-98SF50-1	40 38	0.010 ±0.07ρ²	0.010 ±0.01ρ²	0.013 ±0.13ρ²		±2.0	WSMA (m) WSMA (f)	
560-98K50 560-98KF50	35 32 30	0.018 ±0.07ρ²	0.018 ±0.07ρ²	0.026 ±0.15ρ²	0.032 ±0.18ρ²	±3.0	Type K (m) Type K (f)	
560-98 Series SWR Autotesters, 10 MHz to 50 GHz③								
		0.01-50 GHz						
560-98VA50 560-98VFA50	30	0.032 ±0.11ρ²				±4.0	Type V (m) Type V (f)	Dimensions④: 2.2 x 6.6 x 5.3 cm Weight: 198 g
560-97, 560-98 Offset SWR autotesters, 10 Mhz to 40 GHz								
		500 MHz-18 GHz⑤						
560-97A50-20	20	0.0015				±2.5	GPC-7	Dimensions④: 7.6 x 5.1 x 2.8 cm Weight: 340 g
		800 MHz-40 GHz⑥						
560-98KF50-15	15	0.0100				±4.0	Type K (m)	Dimensions④: 2.2 x 6.6 x 5.3 cm Weight: 198 g

All Models:

Input Port Impedance: 50Ω
Insertion Loss (from input to test port): 6.5 dB nominal
Detector Output Polarity: Negative
Output Time Constant: 2 ms
Maximum Power Input: 0.5 watts (+27 dBm) (560-98C50A: +24 dBm)
Cable Length: 122 cm (4 ft.)

① Where ρ is the reflection coefficient being measured. Accuracy includes the effects of test port reflections and directivity.
② Input Connector: Ruggedized Type K Female
③ Input Connector: Ruggedized Type V Female
④ Plus connectors and cable
⑤ When used with 18A50 Airline
⑥ When used with 19K50 Airline

Ordering information

Please specify model/order number, name, and quantity when ordering.

Model/Order No.	Name
	SWR Autotester
97A50	10 MHz to 18 GHz, GPC-7, 36 dB directivity
560-97A50	10 MHz to 18 GHz, GPC-7, 50 Ω, 36 dB directivity
560-97A50-1	10 MHz to 18 GHz, GPC-7, 50 Ω, 40 dB directivity
560-97N50	10 MHz to 18 GHz, N(m), 50 Ω, 35 dB directivity
560-97N50-1	10 MHz to 18 GHz, N(m), 50 Ω, 38 dB directivity
560-97NF50	10 MHz to 18 GHz, N(f), 50 Ω, 35 dB directivity
560-97NF50-1	10 MHz to 18 GHz, N(f), 50 Ω, 38 dB directivity

Model/Order No.	Name
	SWR Autotester
560-98S50	10 MHz-26.5 GHz, WSMA(m), 50 Ω, directivity = 37 dB (<18 GHz), 36 dB (18 GHz)
560-98S50-1	10 MHz-26.5 GHz, WSMA(m), 50 Ω, directivity = 40 dB (<18 GHz), 38 dB (18 GHz)
560-98SF50	10 MHz-26.5 GHz, WSMA(f), 50 Ω, directivity = 37 dB (< 18 GHz), 36 dB (18 GHz)
560-98SF50-1	10 MHz-26.5 GHz, WSMA(f), 50 Ω, directivity = 40 dB (< 18 GHz), 38 dB (18 GHz)
560-98K50	10 MHz-40 GHz, K(m), 50 Ω, directivity = 35 dB (<18 GHz), 32 dB (18 to 26.5 GHz), 30 dB (26.5 GHz)
560-98KF50	10 MHz-40 GHz, K(f), 50 Ω, directivity = 35 dB (<18 GHz), 32 dB (18 to 26.5 GHz), 30 dB (26.5 GHz)
560-98VA50	10 MHz-50 GHz, V(m), 50 Ω, directivity = 36 dB (<20 GHz), 30 dB (20 GHz)
560-98VFA50	10 MHz-50 GHz, V(m), 50 Ω, directivity = 36 dB (<20 GHz), 30 dB (20 GHz)
	Offset SWR Autotester
560-97A50-20	10 MHz to 18 GHz, GPC-7, 20 dB offset reference in bridge
560-98KF50-15	10 MHz to 40 GHz, K(f), 15 dB offset reference in bridge