
Specifications

Antenna Testing

Test Port

Connectors	Female N normally supplied
Impedance	50 Ohms

Directivity, After Calibration	Connector	Frequency	Directivity
	N	25 – 2500 MHz	– 42 dB
	N	2.5 – 4.0 GHz	– 38 dB
	7/16	25 – 2500 MHz	– 40 dB
	7/16	2.5 – 4.0 GHz	– 35 dB

Source VSWR

SA-2500A	1.2
All other models	1.12

Measurement Speed

< 4 seconds / sweep, test port open, Y-axis set to full scale

Immunity to Interfering Signals

≥ 13 dB interferer at desired measurement frequency.

Maximum Input Signal (Damage Level)

≥ 22 dBm

Output Power

< 0 dBm

Match Measurement

Frequency Range

SA-2500A	780 – 2500 MHz
SA-1700, SA-1700-P	25 – 1700 MHz
SA-4000	25 – 4000 MHz

Frequency Resolution

SA-2500A	50 kHz
All other models	
25 – 800 MHz	25 kHz
800 – 2500 MHz	50 kHz
2500 – 4000 MHz	100 kHz

Frequency Accuracy

± 150 kHz (75 ppm)

Number of Points

238

Measurement Range and Resolution

	Range	Resolution
Return Loss	0.0 to -60.0 dB	0.1 dB
VSWR	1.00 to 99.99	0.01

Measurement Uncertainty (after 1 display refresh)*

Return Loss	Determined graphically from composite of source VSWR, instrumentation error, and directivity. Refer to the figures on page 108, page 109, and page 110.
VSWR	Calculated from Return Loss

* Accuracy only guaranteed when using the the Bird Calibration Combo listed in this manual (See page 112).

Distance to Fault (DTF) Measurement

Mode	Internal
Resolution [R]	
X-Axis	$R \equiv 150 \times \frac{V_p}{\Delta F}$ <p>Where R=Resolution (meters), V_p=Velocity of Propagation, ΔF= Frequency Span (MHz)</p>
Y-Axis	0.1 dB, 0.01 VSWR
Range	
X-Axis	238 x R
Y-Axis	0 to -60 dB
Accuracy	
X-Axis	± 2% of full-scale range with $V_p = 1$
Y-Axis	Same as for Return Loss Measurements
V_p Range	0.20 to 1.00, or 1 to 99%

Power Measure Mode

Function	Displays power from Bird 5010B, 5011, and 5012 power sensors, VSWR Alarm and BPM (specifications determined by sensor)
-----------------	--

General

Data Storage	300 traces (250 for SA-1700 and SA-1700-P) in fundamental data format stored in non-volatile memory. Traces may be recalled and displayed in any of the display formats.
---------------------	--

PC/Remote Power Sensor Interface Port

Connector	Female DB-9, compatible with PC serial port
Protocol	Serial RS-232, 9600 baud, 8 data bits, 1 stop bit, no parity, and no handshake

Printer Interface Port

Connector	Female DB-25, compatible with PC parallel port
Compatibility	HP Deskjet printers with PCL Level 3 protocol

Power Requirements

Internal	Lithium-ion rechargeable battery 3 hours minimum operating time
External DC	9 to 16 Vdc
External AC	90 to 264 Vac @ 45 to 66 Hz

Physical Specifications

Dimensions	10.5" x 8.4" x 3.3" (265 x 212 x 83 mm)
Weight	< 5 lbs. (2.3 kg)

Environmental Specifications

Operating Temp	-10 to +50°C (14 to 122°F)
Storage Temp	-40 to +80°C (-40 to +176°F)
Humidity	95% maximum (non-condensing)
Altitude	15,000 feet (4,572 m) max

Calibration

Calibration Cycle	User Defined
Recommended Calibration Interval	12 months