POWER SUPPLY, MULTIMETERS & ANTENNAS

CONTENTS

Power Meters ..................178
Power Supply Units ..............180
Digital Multimeters .............181
Antenna Tester ................183
Antennas ......................184

Due to rapid changes in manufacturing costs & material, our published prices are subject to change without notice.
**BIRD 4410A Multipower Meter**

The 4410A high-sensitivity wattmeter is a solid choice for field-service applications where the greater dynamic range of the plug-in elements substantially reduce the number of elements needed to cover multiple power and frequency ranges. It is also well-suited to laboratory work where power levels as low as 2 milliwatts must be measured with high accuracy.

Each 4410A wattmeter plug-in element is capable of reading seven different power ranges cover 0.002* to 10,000 watts. The power ranges of the different elements overlap and include: 0.002–10 W, 0.02–100 W, 0.2–1000 W and 2–10,000 W. All ranges are in frequency bands from 200 kHz to 2300 MHz. Any one of the seven power ranges is selected by a rotary switch located on the front of the wattmeter. Forward and reflected power measurements are accomplished by rotating the element.

Exceptional ±5% of reading accuracy is achieved via a built-in temperature compensation circuit. This stated accuracy applies from 100% of full scale down to 20% of full scale across all seven ranges.

**Specifications:**

**Power Range:** 2 mW to 10 W, 20 mW to 100 W, 200 mW to 1 kW or 2 W to 10 kW full scale in one single Plug-in Element. Any Bird Series 4410-Element may be used.

(This meter is not compatible with elements for the Bird 43.)

**Frequency Range:** 200 kHz to 2.3 GHz CW or FM

**Insertion VSWR:** with N Connectors 1.25 max to 2300 MHz

**Accuracy:** ±5% of reading for any reading above 20% of the Power Range selected for FM or CW signals without AM. This accuracy is maintained for a full 37 dB dynamic range with each 4410 Element (except No. 4410-1 200 kHz–535 kHz which is accurate to ±10% of reading, and 4410-15 1.0–1.8 GHz and 4410-16 1.8–2.3 GHz which are accurate to ±8% of reading.)

**Ambient Temp Range:** Elements 4410-1 through -8 and -10 through -16 are temperature compensated for rated accuracy from 0°C to 50°C (32°F to 122°F), and 4410-20 through 27 from 20°C to 30°C (68°F to 86°F).

**Over-Range Protection:** To 120% of nominal full scale (i.e. 12 W, 120 W, 1,000 W, or 12,000 W). No damage or degradation to the unit will result, regardless of the Range Selector Switch position.

**Battery Life:** 24 hours min. with standard 9V Alkaline “transistor” battery (NEDA No. 1604A supplied)

**Connectors:** QC Type (Female N normally supplied)

**Nominal Size (includes connectors):** 6 7/8” H x 5 1/8” W x 3 5/8” D

**Weight:** 3 lbs.

*Accuracy is ±8% of reading

**Part #: 4410A · Price: $805.00 ea.**
Power/SWR Meters

DIAMOND ANTENNA POWER/SWR METERS

SX-Series
Installs between transmitter and antenna for measurement of forward and reflected average (CW) and SSB (P.E.P.) RF power, and SWR. Accuracy is approximately that of the Bird 43; carrier measurements ±5% (typical) of full scale depending on frequency and power. Illuminated meter, sensor switch and LED indicator. Power ratings listed below are for intermittent operation. For continuous mode (CW, FM, etc.) maximum ratings vary with frequency and are listed in the instructions. (SX100 requires 20W minimum power for VSWR measurement.) All models have SO-239 connectors except SX-1100 with Type-N. SX-600 & SX-1100 have dual directional couplers. Requires 12V DC if you wish to light meter.

6"w x 2 1/2"h x 4"d, 2 lbs.

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Range</th>
<th>Display</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SX100</td>
<td>3KW</td>
<td>1.6-60MHz</td>
<td>30W/300W/3KW</td>
<td>$144.95</td>
</tr>
<tr>
<td>SX200</td>
<td>200W</td>
<td>1.8-200MHz</td>
<td>5W/20W/200W</td>
<td>$99.95</td>
</tr>
<tr>
<td>SX400</td>
<td>200W</td>
<td>140-525MHz</td>
<td>5W/20W/200W</td>
<td>$114.95</td>
</tr>
<tr>
<td>SX600</td>
<td>200W</td>
<td>1.0-160MHz +</td>
<td>5W/20W/200W</td>
<td>$184.95</td>
</tr>
<tr>
<td></td>
<td></td>
<td>140-525MHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX1100</td>
<td>200W</td>
<td>1.8-160MHz +</td>
<td>5W/20W/200W</td>
<td>$234.95</td>
</tr>
<tr>
<td></td>
<td></td>
<td>430-1300MHz</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Power Supply by Diamond Antenna

**Very Low Noise – Ideal for HF & VHF Transceivers**

- Voltage Control Knob has center detent at 13.5 VDC.
- Over Temperature Protection.
- Meter Selector allows monitoring of voltage & current.
- Access to front panel DC Terminals and Cigarette Lighter jack. Standard 40A terminals on rear panel.

- Built in Speaker.
- Circuitry yields high RFI protection from external sources.
- AC line filter for EMI protection.
- Standard 3-wire Heavy Duty line cord.
- Power Indicator & Overload Indicator.
- Accepts 120 VAC ± 20% 50-60 cps.
- Ripple & Noise less than 8 mV r.m.s.

**GZV4000**

- 40 Amp Continuous Rating, 100% Duty Cycle.
- Variable Voltage Control 5–15 VDC.
- Overload & short-circuit protection with Current Foldback at approximately 42 Amp.
- Size: 8.25” x 4.5” x 13”  Weight: 8 lbs.

Part #: GZV4000  Price $179.95

**GZV6000**

- 60 Amp Continuous Rating, 100% Duty Cycle.
- Variable Voltage Control 1–15 VDC.
- Overload & short-circuit protection with Current Foldback at approximately 62 Amp.
- Size: 8.25” x 4.5” x 16”  Weight: 12.8 lbs.

Part #: GZV6000  Price $399.95

The GZV4000 & GZV6000 are available in 220-240 VAC. Add -220 to part number.

* 1 Year Limited Warranty.

---

Power Supply by Lambda

**SWS300-24 Power Supply**

Mfg: Lambda

Adjustable 20-28.8V

Rated 24VDC @ 13A

Input 100-240VAC 50-60 Hz

L x W x H (In.): 7 13/16 x 4 x 2-1/16

Part #: SWS300-24  Price: $49.95 ea.

---

DC Power Supply

**+5V & +12V**

UL Listed. Quality computer power supply. Ideal power source for home projects, relay control circuits, QRP Station, etc. Just remove the plug and wire directly. New in box.

Input: 120VAC 60 Hz

Output: +5.1 VDC 600ma
          +12 VDC 1000ma

Net weight: 3.5 lbs.

Connector: 5 pin DIN Male Plug

Part #: T66R

Special  $4.95 ea.
**Fieldpiece Digital Multimeters**

**HS26 Stick Meter with optional Current Clamp Head**

**4 Functions – 11 Ranges**
- Clamp head snaps on to directly display AC current
- Housing: small size, made of rugged Valox®, “O” ring sealed
- Hi voltage safety indicator – red LED blinks and beeper sounds when probes touch voltage greater than 28V
- Hold button – freezes display on command
- Max hold – holds highest reading
- Continuity beeper
- Protection: input protected by MOVs to 6000V transients, voltage withstand capability to 1000V peak
- Functions: volts, amps, ohms, capacitance

**HS26 Digital Multimeter**

*Regular Price $79.95 · RF Parts Special $29.95 ea.*

**ACH Current Clamp Head**

*Regular Price $29.95 · RF Parts Special $19.95 ea.*

**Model LT83**

The Model LT83 is an excellent meter for testing basic electrical parameters, including current, at a great price. Includes test leads and a rubber holster for added shock protection.

- Full function DMM at a great price: 5 functions, 25 ranges
- Works with all Fieldpiece accessories: 200mV ranges for 0.1 resolution on all accessory heads
- Measures current: from 0.1 microamps to 10 amps

**Specifications**

- Includes:
- Data Hold: “HOLD” button “locks” reading. Any range, any function.
- Max Hold: “MAX” button displays the largest reading. Any range, continuity beeper.
- Overload protection: indicated by a continuous “beep” 600VAC/600VDC for DCV, ACV, and phase indication. 500VAC/500VDC for capacitance, ohms, and diode test.
- Amps and capacitance ranges are protected.

**UL Listed**

**LT83** | **Ranges** | **Best Accuracy** | **Resolution**
---|---|---|---
**VAC** | 200mV, 2000mV, 20V, 200V, 600V | ±(1.2%+4) | 0.1mV
**VDC** | 200mV, 2000mV, 20V, 200V, 600V | ±(0.5%+1) | 0.1mV
**AAC** | 200mA, 200mA, 200mA, 10A, (300A AC clamp optional) | ±(1.5%+4) | 0.1mA
**ADC** | 200mA, 20mA, 200mA, 10A | ±(1.0%+1) | 0.01mA
**Resistance** | 200W, 2KW, 200KW, 200KW, 2MW, 20MW | ±(1.0%+4) | 0.1W

*percent plus reading

**Part # LT83 · Reg. Price $44.95 · RF Parts Special $29.95**
Digital Multimeters

**Model HB74**

Heavy Duty construction with high voltage indication for safety. Valox case has tilt stand and fieldhanger on back and is fully gasketed. Functions were selected based on what field service technicians said they needed to do their job.

- Phase rotation: for correct connection to 3 phase power.
- Max hold: freezes highest reading.
- Capacitance to 20,000 microfarads: for motor start/run capacitors.
- Microamps: resolution down to 0.01 microamps DC for flame safety diode circuit.
- Heavy duty test lead set.
- Rugged case: fully gasketed Valox housing.
- MOVs: for transient voltage protection.
- Safe: LCD indicator and audible “beep” to warn of high voltage.
- UL Listed

**Specifications**

Display HOLD: "HOLD" button "locks" reading. Any range, any function.

MAX Hold: frozen display on highest reading.

Dangerous voltage indication: LCD blinks and beeper sounds intermittently. (<150W) indicated by a continuous “beep” within 100 msec.

Continuity beeper: in the LCD.

Low battery indicator: LCD indicator and audible “beep” to warn of high voltage.

Heavy duty: Case of hi-impact, fire retardant yellow Valox, 0"O" ring sealed.

Overload protection: all volts ranges withstand 1200VDC and 850VAC (30 sec on 200mV ranges). All volts ranges are protected against transient voltages to 6000V/10 microseconds by a MOV (metal oxide varistor). All ohms and frequency ranges protected to 500V AC/DC. Phase rotation to 450VAC. Amps and capacitance ranges are protected by a fast blow 0.5A/500V (6.35mmx32mm) fuse (RFM74) on mA jack, high energy 20A/600V (1.5x.375”) fuse (RFLT01) on 20A jack.

Auto-power off: Approximately 50 minutes.

Part #: HB74  •  Reg Price $119.95  •  RF Parts Special $69.95

Fieldpiece® accessories are available from most Fieldpiece® distributors, including Johnstone Supply which has 245 nationwide stocking locations. Look up Johnstone Supply on the internet at www.johnstonesupply.com.

**Model LT17**

HVAC/R Fieldpiece at a Great Price

Measures temperature accurately, even when ambient temperatures are changing fast. Measures amps three ways: 200μA range for flame rectifier diodes; 20mA range for 4-20mA loops; current clamp for currents to 300AAC with up to 0.1A resolution. Use the optional current clamp for remotely measuring AC current on hard to reach wires. Ideal for electricians, motor and refrigeration servicing technicians.

- Volts, amps & ohms measurement
- Microamps: for flame rectifier diodes
- Temperature: 0.1°F resolution
- Capacitance: for motor start/motor run capacitors
- Frequency: for variable frequency motor controls

**Specifications**

<table>
<thead>
<tr>
<th>LT17</th>
<th>Ranges</th>
<th>Best Accuracy</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAC</td>
<td>200mV, 2000mV, 20V, 200V, 600V</td>
<td>±(1.2%+4)</td>
<td>100μV</td>
</tr>
<tr>
<td>VDC</td>
<td>200mV, 2000mV, 20V, 200V, 600V</td>
<td>±(0.5%+1)</td>
<td>100μV</td>
</tr>
<tr>
<td>AAC</td>
<td>200μA, 20mA, 2000mV clamp optional</td>
<td>±(1.5%+1)</td>
<td>100mA</td>
</tr>
<tr>
<td>ADC</td>
<td>200μA, 20mA</td>
<td>±(1.0%+1)</td>
<td>100mA</td>
</tr>
<tr>
<td>Resistance</td>
<td>200W, 2000W, 20mAh</td>
<td>±(1.0%+4)</td>
<td>0.1W</td>
</tr>
<tr>
<td>Capacitance</td>
<td>20μF, 200μF, 2000μF</td>
<td>±(4.0%+10)</td>
<td>0.01μF</td>
</tr>
<tr>
<td>Frequency</td>
<td>10 to 40kHz</td>
<td>±(0.1%+3)</td>
<td>1Hz</td>
</tr>
<tr>
<td>Temperature</td>
<td>-50°F to 750°F</td>
<td>±(1°F w/cal)</td>
<td>0.1°F</td>
</tr>
</tbody>
</table>

Part #: LT17  •  Reg Price $89.95  •  Special Price $69.95
Bird Antenna Testers

Bird’s AT-Series Antenna Testers can test an entire band in a matter of seconds, with accurate results regardless of antenna cable length. Menu driven, software-defined keys and digital keypad quickly select operating mode and enter test parameters. A self-contained RF source precisely sets the test frequency. A moveable cursor pinpoints scan frequency and digitally displays the corresponding measurement value.

- **Single-Frequency Mode** – Can be used to optimize antenna performance and troubleshoot intermittent problems.
- **Limit Testing** – Quick Pass-Fail indication compares measurements to user-selected.
- **Audible Indicator** – Pitch varies with match condition for easy, hands-on antenna adjustment.
- **Field-Strength Measurements** – Verifies the output of devices such as portable radios and cell phones.
- **Data Storage** – Saves and recalls up to 12 scans in nonvolatile memory for long-term monitoring of antenna performance.
- **Serial Communication Link** - Optional Software uploads data to a personal computer for analysis for storage.
- **Backlit Liquid Crystal Display** – Produces text and high-resolution graphics.
- **Portable** – Lightweight, easy-to-carry, with rechargeable batteries.
- **Rugged** – Designed to meet the harsh environment requirements of MIL-T 28800.

The AT-Series contains a serial interface for downloading and analyzing test data with a personal computer.

---

**Model AT-800**

- **Frequency Range:**
  - AT-500: 2 - 520 MHz
  - AT-800: 806 - 960 MHz
- **Frequency Resolution:**
  - AT-500: 20 kHz
  - AT-800: 30 kHz
- **Frequency Accuracy:**
  - AT-500: ±50 kHz
  - AT-800: ±50 kHz
- **Measurement Range:**
  - VSWR: 1.00 - 99.99
  - Match Efficiency: 00 to 100.0%
  - Return Loss: 0.0 to -32.0 dB
- **Measurement Speed (Typical):**
  - Single Frequency: 5 readings / second
  - Swept Frequency: 1 sweep / second
- **Preprogrammed Bands:**
  - AT-800 only: AMPS, NADC, GSM, PDC, CT2
- **Field Strength:**
  - 0 to 100% (relative)
- **Sensitivity for full-scale deflection:**
  - AT-500: 0.22 v / m @ 400 MHz
  - AT-800: 0.22 v / m @ 400 MHz
- **Impedance:**
  - AT-500: N (F)
  - AT-800: N (F)
- **Interface:**
  - Serial (female DB-9 connector)
- **Power Requirements:**
  - Batteries: 6 rechargeable AA
  - External DC: 11 - 16 Vdc
  - External AC Adapter: 100-132 VAC @ 57-63 Hz, or 207-253 VAC @ 48-52 Hz
- **Operating Temperature:**
  - 0° to 50°C (32° to 122°F)
- **Storage Temperature:**
  - -41° to 71°C (-40° to 160°F)
- **Size:** (including connector) 8” H x 4 5/8” W x 1 3/4” D
- **Weight:** 2 lbs.

Part #: AT-500 and AT-800 • Price: $1407.00 each

---

**Model HD110**

Heavy Duty construction with high voltage indication for safety. Valox case has tilt stand and fieldhanger on back and is fully gasketed. Functions were selected based on what field service technicians said they needed to do their job.

- Completely sealed and environment-proof meters
- VDC accuracy of 0.1 %
- Large 20mm (0.8”) high display
- Continuity test with continuous tone
- Superior 1500-hour battery life

Part #: HD110 • $179.95

Limited Quantity

---

Technical Questions?

Contact our tech help line and speak with an engineer at

760-744-0500

Minimum Order: $25

Price and availability subject to change.
**D130 Series Super Discone Antennas**

The most popular ultra-wideband antenna for Scanners and general communications.

- Ideal Service Shop bench antenna.
- Rated 200 watts CW/FM.
- 25-1300 MHz receive, 50-1300 MHz transmit
- Whip tunable for 6m, 50 watts (1.5 MHz BW transmit)

Part #: D130J (UHF Connector)  
Price: $99.95 ea.

Part #: D130NJ (Type-N Connector)  
Price: $99.95 ea.

**Diamond D220 Mobile Scanner Antenna**

**Mobile Mini Discone Antenna**

100 to 1600 MHz receive, 144/430/904/1200 MHz transmit  
1/2 wave (144 MHz), 2x5/8 wave (430 MHz)

<table>
<thead>
<tr>
<th>Bands:</th>
<th>100-1600 MHz</th>
</tr>
</thead>
</table>
| Gain dBi: | 2.15 dB (144/904/1200 MHz)  
5.5 dB (430 MHz) |
| Max Power Rating: | 50W |
| Impedance: | 50 ohms |
| VSWR: | Less than 1.5:1 |
| Height: | 35.5" |
| Weight: | 1.2 lbs. |
| Max Diameter: | 8.5" |
| Connector: | UHF |
| Element Phasing: | Wideband Discone. |
| 6m: | 50 Watts |

Part #: D220  
Price: $99.95.

**GPS Antenna Module**

Mfg. Larson

**Electrical Specifications:**

- Frequency: 1575.42 ± 1.023 MHz
- Nominal Impedance: 50 Ohms
- VSWR: 2:1 Max
- LNA Gain: 25 dB ± 2
- Polarization: R.H.C.P.
- Noise Figure: 2.5 dB Max
- Current: 20 dB Max  
Dc +4.5 ~ 12 V  
30 mA Max

**Connector:** Type-N Female  
w/ Male Adapter

**Mechanical Specifications:**

- Weight: 1 lb.
- Overall Dimensions: 4.28" W x 15.8" H

**Environmental Specifications:**

- Operating Temperature: -85 / +176 F (-30 / +80 C)
- Storage Temperature: -85 / +194 F (-30 / +90 C)

Comes with mounting bracket and pole.

Part #: GPS0015  
List Price: $272.00  
RF Parts Special Price: $89.95

**UHF Vertical Antenna**

Mfg. Sinclabs (Canada)

UHF Omni-directional Base Antenna. 450-470 MHz, 3dB (<1.5 vswr from 440-480 MHz). Made from durable schedule 80 PVC. Excellent for fixed station applications or is durable enough to take portable or for Field Day use.

Antenna comes with 30’ Belden RG58/U cable, mini-UHF fitting, mounting hardware, U Bolts & weatherproofing.

Part #: SVU4500SP1  
Regular Price: $49.95  
RFP Special Price: $19.95 ea.