

# Easy to Build Test Tools and Rig Accessories





WM1 140W Computing Wattmeter and SWR Bridge

**AF1 Active Audio Filter and Amplifier** 



AT1 41 dB Switched HF/VHF Attenuator

# High Performance for the Shack and Lab

Our Mini-modules are inexpensive, ideal for first-time builders, and will serve many useful functions in your shack and at your electronics workbench. They can be built in a single evening, and include complete, illustrated assembly manuals with complete test and debug sections.

The WM1 140W Computing Wattmeter and SWR Bridge, AF1 Active Audio Filter with Amplifier and the AT1 41 dB HF/VHF Step Attenuator are our three newest Mini-Modules. (See reverse side for full product details, specifications and prices.)

Our other mini-modules include HF receiver test oscillators (XG1, XG2), a wideband noise generator (N-gen), 20-watt dummy load (DL1), Directional Coupler (CP1) and 150 W / 250W baluns (BL1, BL2). See our other Mini-Module datasheet for more info on these products. All are small, PC-board-only modules that can be used as is--with the supplied rubber feet--or installed in an enclosure of your choice. Each module includes a PC board-mount BNC connector to facilitate connection to station equipment.

## Easy to Build, Understand and Use

All of our Mini-Modules kits are straightforward, one night projects. The kits are easy to assemble, featuring our "nowires" construction. They are also a great way to get back into the swing of building and to improve your building skillsAll of our Mini-modules use no user installed surface-mount technology, so they are an ideal project for first-time builders.

## **Strong Customer Support**

Our technical support via telephone and the Internet will get your kit up and running quickly. On-line downloadable manuals, frequently asked questions (FAQ), and our very active user group on the Elecraft email list make building the Mini-Modules a great experience.

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## WM1 140W Computing Wattmeter and SWR Bridge

The Elecraft WM1 is a versatile microprocessor based RF power and SWR meter than can be used with any transmitter from QRP levels to 140 watts output from 1.8 to 30 MHz. The WM1 automatically selects the proper power range of up to 1.4, 14 or 140 watts and indicates the peak forward power and SWR on built in bar-graph LEDs.

High resolution power and SWR readings are also available through a connector as RS232 serial data for display on a computer. (This interface uses a simplified RS-232 style interface that can drive short cables of less than six feet or directly to a USB adapter.) Elecraft will also be supplying a WM1 compatible USB adapter as an option for the WM1. The LEDs can be turned off under computer control for use as a dedicated remote computer read Wattmeter / SWR Bridge.

The WM1 designed to be used as a stand-alone unit. Optionally, it may be built into existing equipment or an enclosure of your choice. (Battery and BNC connectors can be mounted on the rear of the PCB.)

### **Specifications**

□ Power Measurement Ranges (Auto-ranging):

Specifications and Pricing subject to change without notice. 10/2006

- □ 150 mW to 1.4 W
- □ 1.5 W to 14 W
- □ 15W to 140 W
- □ SWR Range: 1.1 to greater than 5:1
- ☐ Frequency Range: 1.8 30 MHz
- ☐ Computer readable via modified RS-232 or optional USB Computer Interface. (Free VB6 Program.)
- □ Accuracy: 0.5 dB typical.
- ☐ Dimensions: 5-3/8" x 2-11/16" (13.7 cm x 6.8 cm)
- □ Power: 9V battery or external 12 to 14 VDC

# **AF1 Active Audio Filter and Amplifier**

The Elecraft AF1 is a versatile audio filter that can be used with any receiver or transceiver. It can improve intelligibility of CW, phone, or data signals, and is especially well suited to radios that have inadequate I.F. or audio filtering. The AF1 uses straightforward analog circuitry and no surface-mount components, so it's an ideal project for first-time kit builders.

A rotary switch on the unit allows you to select a low-pass characteristic with adjustable upper frequency roll-off, or a narrow bandpass characteristic. The bandpass filter offers two levels of selectivity, and its center frequency may be tuned from about 350 Hz to about 950 Hz. The low-pass filter is active during bandpass operation, allowing you to further control the upper frequency response. The output amplifier drives low impedance phones or a small loudspeaker. Power can be supplied via either an on-board 9-V battery or an external supply. An LED indicates power on/off status.

### **Specifications**

- ☐ Filters: Variable Cutoff Low pass (SSB/CW) plus two levels of narrow CW bandpass with tunable center frequency.
- □ Built-in audio amplifier with volume control.
- □ Dimensions: 5-1/2" L x 2-7/8" W x 7/8" H (14 cm x 7.3 cm x 2.2 cm). Height not including feet or knobs
- Power: 9V battery or external 12 to 14 VDC

## AT1 40 dB Switched HF/VHF Attenuator

The Elecraft AT1 is a versatile and accurate HF/VHF step attenuator that permits selecting any level of attenuation between 0 and 41 dB in 1 dB steps. The AT1 features an unusually high upper power limit of 2 watts, making it ideal for many applications where attenuators with a lower power rating cannot be used such as at the output of a QRP transmitter for QRPp experimentation.

The AT1 step attenuator is designed to be used as a standalone unit. Optionally, it may be built into existing equipment or an enclosure of your choice.

#### **Specifications**

- □ Range: 0 to 41 dB in 1 dB steps
- □ Power Handling: 2 W (continuous)
- Accuracy: Below 50 MHz:  $\pm 0.25+0.01(A) dB$

54 to 220 MHz:  $\pm$  0.50+0.01(A) dB (Where A is the attenuation in dB.)

- ☐ Dimensions: 5-3/8" x 2-11/16" (13.7 cm x 6.8 cm)
- No power source required

#### **Pricing**

WM1 LED Bar-Graph Wattmeter \$89.95 BNC-MM Male-Male BNC Adapter \$5.00 AF1 Active Filter \$59.95 AT1 40 dB HF/VHF Attenuator \$49.95



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