

SARATOGA

AMATEUR RADIO PRODUCTS

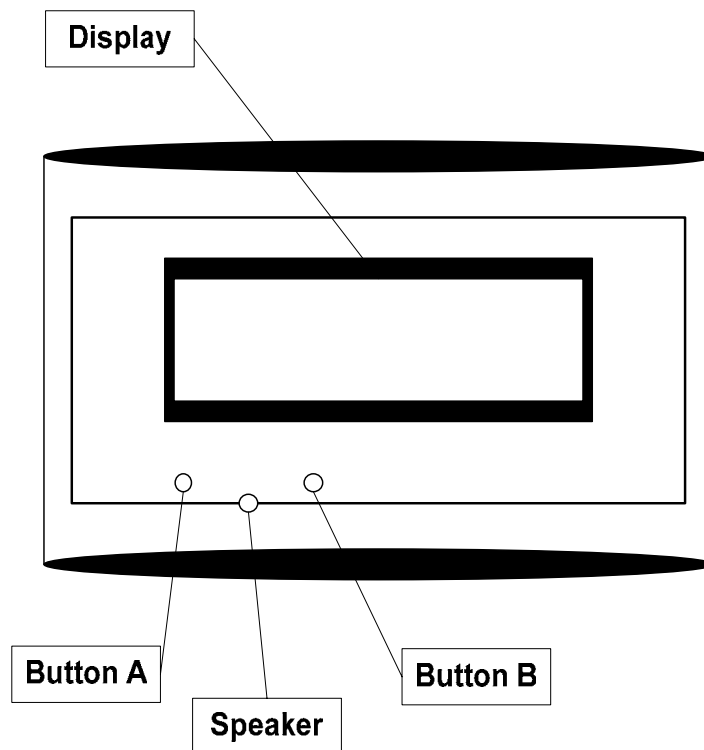
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PowerMeter User's Manual

Version 1.2



Overview

The PowerMeter™ is a power measurement device that continuously monitors the following parameters. The display can show any four of these parameters simultaneously.

Instantaneous	Cumulative Since Last Reset
Voltage	Amp Hours
Current	Watt Hours
Power	Time
High Voltage Warning	High Voltage
Low Voltage Warning	Low Voltage
Alarm Status – On/Off	High Current
Current Bar Graph	Low current

Features

The PowerMeter is designed specifically to meet the needs of the amateur radio operator. It incorporates several features that make it superior to competing products.

- The PowerMeter's sense resistor is on the positive side. This provides a good power ground for the equipment when the PowerMeter is connected. Competing products often put the sense resistor on the ground side. This design can compromise the power ground when connected.
- Extensive RF filtering is used to allow the PowerMeter to operate in strong RF Fields without problems.
- The PowerMeter measures current flow in both directions. This allows it to monitor charge and discharge of a battery system.

Parameter	Range	Resolution
Voltage	7 to 20 Volts	10 mV
Current	-30 to 30 Amps	10 mA
Power	- 600 to 600 Watts	10 mW
Amp Hours *	-1,400,000 to -1,400,000 AH	
Watt Hours *	-1,400,000 to -1,400,000 AH	

* Displays 5 most significant digits

Display Legion

Display Symbol	Indication
AL ☹	Alarm Status - On / Off
V ↓	Lowest voltage since last reset
V ↑	Highest voltage since last reset
A ↓	Lowest current since last reset
A ↑	Highest current since last reset
Ver. XX	Firmware version
Saratoga	Manufacturer
XX:XX:XX	Time since last reset
V	Measured Voltage
A	Measured Current
W	Measured Power
ah	Cumulative Amp hours
wh	Cumulative Watt hours
☹ ↓	Low voltage alarm set-point
☹ ↑	High voltage alarm set-point

Operation

Simply connect the PowerMeter inline with the main power feed to the equipment you wish to monitor.

Initially, the display will show: Volts, Amps, Amp Hours and Watts. The display can be customized to display the desired four parameters from the list above.

Changing to a new display parameter

- Press and hold Button A you will immediately hear a beep, continue to hold the button until you hear the second beep. The PowerMeter is now in command mode and the display can be adjusted. If no button is pressed for two seconds the display will revert to normal mode and it will be necessary to press and hold Button A to reenter command mode.
- Notice the tall block cursor flashing to the left of the first displayed parameter. Continue to press Button A to move this cursor to the parameter you wish to change.
- Once the cursor is on the direct left of the parameter to be changed, begin to press Button B. Each press of Button B will produce a confirmation beep and display the next parameter. Once you arrive at the desired parameter, stop pressing Button A. The PowerMeter will automatically revert to normal mode after two seconds.
- To adjust the high voltage or low voltage set-points, simply follow the above steps to display the one you wish to adjust in one of the display slots. Once displayed, press and hold Button A until you hear the double beep. You are now in adjust mode. Button A will decrease the set-point and Button B will increase the set-point. Each press of the either button will produce a 0.1 volt change in the set-point. Once you arrive at the desired set-point. Wait for two seconds for the meter to revert to normal mode. You have now adjusted the set-point.
- To toggle the voltage alarm on or off, follow the above steps to display it in one of the slots. Then press and hold Button A until you hear the double beep. Release Button A. The alarm status can now be toggled on or off by pressing Button A. Once it is in the desired mode, wait two seconds and the PowerMeter will revert to Normal Mode.

Resetting the PowerMeter

- To reset all the parameters, disconnect the PowerMeter from the power supply for two minutes.

WARRANTY

Saratoga Amateur Radio Products PowerMeter is warranted for a period of one-year, from the date of purchase by the consumer, to be free of electrical defects in materials and workmanship. If the PowerMeter is determined to be defective, the defective item will be repaired or replaced, at the sole discretion of Saratoga Amateur Radio Products, provided that the purchaser returns the product, postage prepaid, with proof of purchase to Saratoga Amateur Radio Products. Should you need to return a product, for warranty repair please contact us at 888-676-4426 to obtain a Return Merchandise Authorization (RMA) number. Any modification to the PowerMeter or its connectors, or operation out of the specification by the purchaser voids this warranty. The warranty applies only to the original purchaser and is not transferable.

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