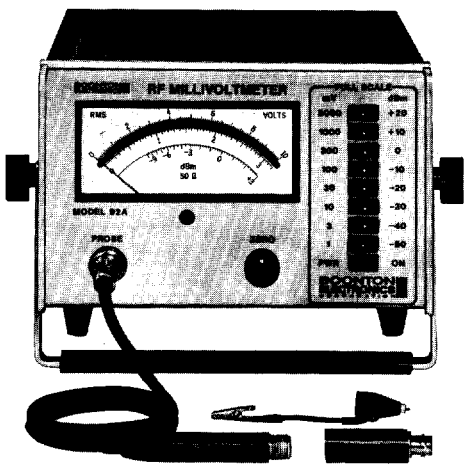
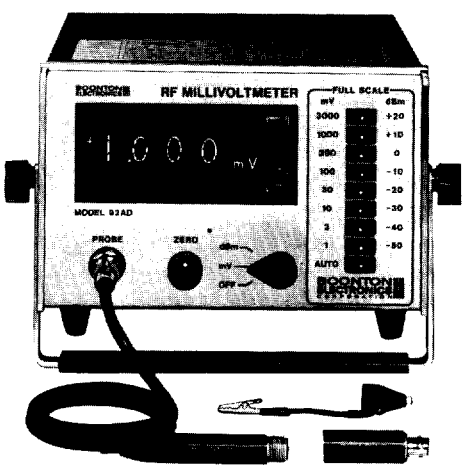
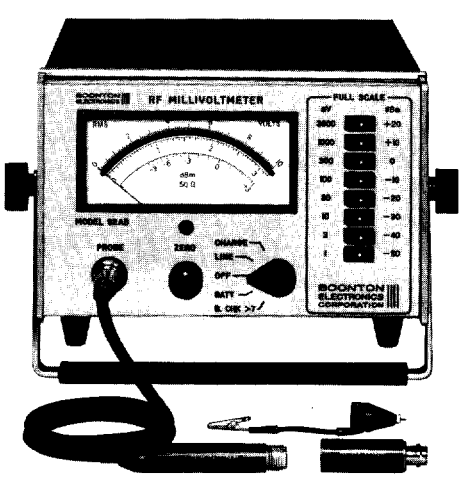
RF Millivoltmeters







Model 92A Series RF Millivoltmeters

These three programmable rf millivoltmeters offer an unrivaled choice of features and options to satisfy almost any application.

Analog and digital readout versions are available. Digital readout of dBm available. Digital readout dBm is optional on Model 92AD.

All are equipped with linear dc output, and BCD outputs are included as standard on the digital version.

Eight-line contact-closure programming is standard with logic-level programming and autoranging (92AD only) being optional.

Accuracy is the best ever offered for an rf millivoltmeter and the Boonton reputation of low-noise, drift-free operation is maintained.

One independent control calibrates each range making service adjustments an easy matter.

All units are supplied complete with rf probe, probe tip, and 50 Ω BNC adapter, and use the standard line of Boonton rf voltmeter accessories.

Single or dual rack mounting kits are available to adapt the trim 5.2 inch high package for 19 inch rack use.
(For accessories see pages 10 and 12.)

Model 92A Analog Readout Version

Voltage Range: 200 μV to 3 V (300 V up to 700 MHz with divider). Useful indications down to 100 μV.

Frequency Range: 10 kHz to 1.2 GHz (uncalibrated response to approximately 8 GHz).

Accuracy:

	1% fs, plus			
300 mV to 3 V	1% rdg	1% rdg	3% rdg	10% rdg
200 μV to 300*mV	2% rdg			7% rdg
	10 kHz	50 kHz	150 MHz 700 MHz	1.2 GHz

*Below 1 mV add 1% fs

Programming: External closure or PNP transistor to ground selects each range. Speed, 100 ms per range change.

DC Output: 0 to 10 V proportional to rf input voltage.

Options: Logic-level programming, many scale variations, rear input.

Model 92AD Digital Version

Voltage Range: 200 μV to 3 V (300 V up to 700 MHz with divider).

Display: Nixie-type, non-blinking, 3 digits + 1 for 50% overrange. Blanked for overrange and below 20% fs. Display period 250 ms; encode period 10 ms. Vertically-mounted edge-meter to right of display is calibrated in dBm, 50 Ω.

Data Outputs: 1-2-4-8 binary coded decimal information. 1-2-4 binary coded range information. Overrange, underrange, encode complete.

Commands: Encode hold, encode trigger, manual disable. Auto-enable and dBm-enable, as optioned.

Logic Levels: Logic 1 > 3 V; logic 0 < 0.3 V. TTL compatible.

Options: Autorranging, digital dBm readout, logic-level programming, rear input.

All other specifications are the same as Model 92A.

Model 92AB Battery Version

Battery Use/Charge Time: 16 h use for 14 h charge (charges at half rate during line operation).

All other specifications and options are the same as for Model 92A.

Model 91DA RF Millivoltmeter (Not Shown)

This rf voltmeter provides reliable, reproducible voltage measurements from the low radio frequencies to the gigahertz region.

Its versatility plus accuracy and convenience of operation have established it as a standard of performance for the industry. The Model 91DA is characterized by low noise, excellent stability, high input impedance, and low input capacitance. (For accessories, see Page 10.)

Model 91DA

Voltage Range: 300 μV to 3 V (300 V with divider).

Frequency Range: 20 kHz to 1.2 GHz.

Accuracy: Basically ± 2% fs.

RF Millivoltmeter Options

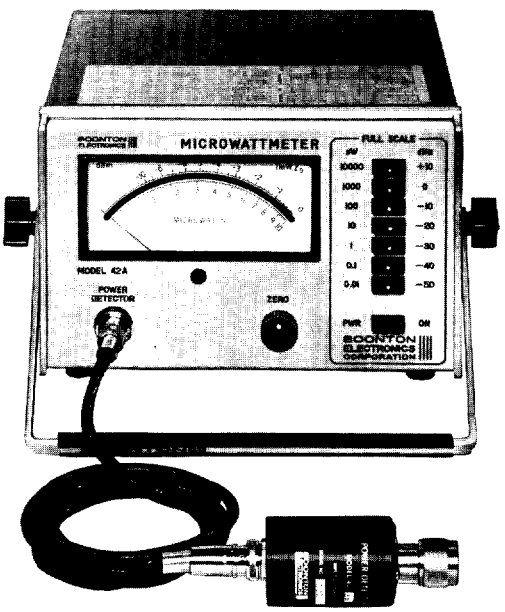
Options for Models 92A and 92AB

02 Logic-level programming
03-07 Various meter calibrations
08 Rear signal-input
12 dBmV CATV meter calibration (referred to 75 Ω)

Options for Model 92AD

01 Autoranging
02 Logic-level programming
08 Rear signal-input
09 dBm/mV readout (referred to 50 Ω)
10 dBm/mV readout (referred to 75 Ω)

RF Power Meters



Model 42 Series RF Microwattmeters

The new Model 42A and 42AD Microwattmeters are exceptionally sensitive programmable MF to K band (200 kHz to 12.4 GHz) power meters that virtually eliminate zero drift and temperature stability problems.

Three coaxial power detector heads, two 50 Ω and one 75 Ω are available. Each measures the full power range of from 1 nW to 10 mW with an overload rating of 0.3 W cw. The 75 Ω head for CATV applications has a frequency range from 200 kHz to 1 GHz.

Long-term absolute accuracy of the combined instrument and power detector is specified to allow the power meter to be used without frequent calibration checks.

Analog and digital readout versions are available. Digital readout of dBm is optional on the Model 42AD.

The dc output on both versions and the additional BCD outputs on the digital version are standard on the basic units. Single or dual rack mounting kits are available and adapt the trim 5.2 inch high package for 19 inch rack use. (See page 12.)

General Specifications:

Power Range: 1 nW to 10 mW (−60 to +10 dBm).

Full Scale Ranges: Seven, 10 nW fs to 10 mW fs.

Frequency Ranges: 200 kHz to 12.4 GHz (Standard Head); 200 kHz to 7 GHz (Low-cost Head); 200 kHz to 1 GHz (CATV Head)

Accuracy: 10 nW to 10 mW (−50 to +10 dBm)

0.5% fs plus*		
0.2 dB	0.3 dB	0.4 dB

1 nW to 10 nW (−60 to −50 dBm)

1% fs plus		
0.4 dB	0.5 dB	0.6 dB

200 kHz 4 GHz 8.2 GHz 12.4 GHz

*0.1% fs on Model 42AD

Stability: Zero, 1 nW/h max.; temperature, typically 0.007 dB/°C.

Programming: Closure or PNP transistor to ground selects range. Speed, 100 ms per range change.

Model 42A

Analog Version: 4½" taut band meter; two scales, power and dBm; dc output. Options: logic-level programming; reverse scales.

Model 42AD

Digital Version: 3½" digit power readout plus vertical edgemeter for analog readout of dBm. Display period 250 ms; encode period 10 ms. BCD outputs: linear dc output. Options: Logic-level programming; auto-ranging; digital dBm readout.

Options for Model 42A

02 Logic-level programming
08 Rear signal-input
11 Reverse scale (dBm as bottom)

Power Detectors

41-4A 200 kHz — 7 GHz 50 Ω input
41-4B 200 kHz — 12.4 GHz 50 Ω input
41-4C 200 kHz — 1 GHz 75 Ω input

Options for Model 42AD

01 Autoranging
02 Logic-level programming
08 Rear signal-input
09 dBm/power readout