

General Radio EXPERIMENTER



ELECTRICAL MEASUREMENTS AND THEIR INDUSTRIAL APPLICATIONS

A VOLTAGE MULTIPLIER FOR THE VACUUM-TUBE VOLTMETER

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● **A 10:1 VOLTAGE MULTIPLIER** is now available to extend the range of voltage measurement of the TYPE 1800-A Vacuum-Tube Voltmeter to a maximum of 1500 volts.

This multiplier is a capacitive voltage divider which provides a 10:1 reduction between the voltage applied to the multiplier and the voltage appearing across the voltmeter terminals. The multiplier screws

on to the end of the voltmeter probe, adding about two inches to its length.

Since the input capacitances of the voltmeters differ slightly, an error in multiplier ratio of $\pm 2\%$ is possible, but an adjustment is provided by means of which the ratio can be adjusted to $\pm 1\%$ for any TYPE 1800-A Vacuum-Tube Voltmeter. When a multiplier and a voltmeter are ordered together, this adjustment is made at the factory.

The *effective parallel input resistance* of the multiplier is of the order of 100 times that of the voltmeter probe alone, and the effective parallel capacitance is $1.5 \mu\mu\text{f}$. When the cap and center plug are used, approximately $0.5 \mu\mu\text{f}$ is added.

The *resonant frequency* of the probe, 1050 Mc, is not changed by the ad-

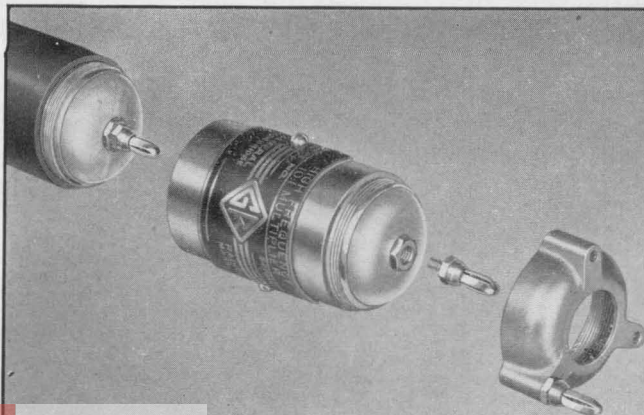


Figure 1. Exploded view of probe, multiplier, and cap.

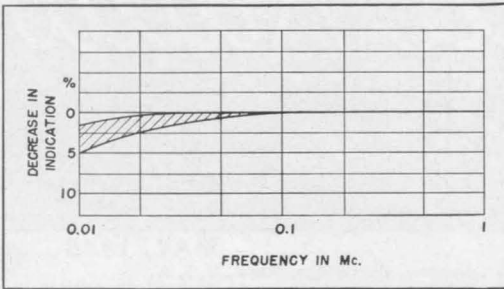


Figure 2. Plot of low-frequency error for the Type 1800-P2 Multiplier. The high-frequency correction for the voltmeter is unchanged by the addition of the multiplier.

dition of the multiplier. The multiplier frequency error is plotted in Figure 2. The multiplier is not recommended for use at frequencies below 100 kc.

SPECIFICATIONS

Multiplier Rates: 10 to 1.

Dimensions: (Length) $2\frac{5}{8}$ x (diameter) $1\frac{1}{2}$ inches, over-all.

Net Weight: 4 ounces.

Type	Code Word	Price
1800-P2	Multiplier	ABODE \$18.00

NEW STANDARD PARTS

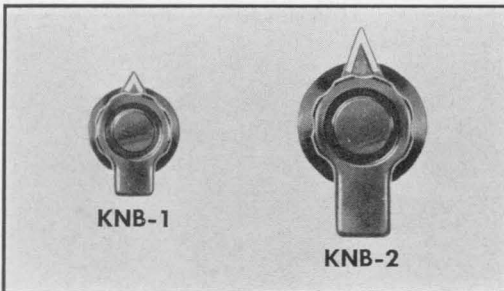
The new look that has lately been evident on General Radio instruments reflects the improvement in appearance of our standard parts. Designed to be attractive as well as useful, these knobs and dials are also available separately to those who make their own laboratory equipment.

KNOBS

TYPE KN Knobs, which replace the TYPE 637 series, are uniform in general appearance and application and were designed primarily for use on General Radio instruments. All are similarly fluted and have matching narrow skirts, so that a unity of design is achieved when different types are used on the same panel. Pointer models have large white V-shaped indicators for good visibility.

Two new types are now available, the bar knobs, KNB-1 and KNB-2, which are especially convenient for use on rotary switches, and the spinner knob, KNU-3, for rapid rotation of the control shaft on slow motion drives.

Each knob is made of black phenolic resin with a molded-in brass insert, and is fitted with two setscrews, 90° apart, which are threaded through the metal insert. The boring of the shaft hole is performed as a final operation on a precision machine, especially set up for the purpose, so as to insure an accurately sized hole which is concentric with and perpendicular to the molded portion. Holes are bored to fit a $\frac{3}{8}$ -inch diameter shaft and are equipped with removable bushings to adapt to $\frac{1}{4}$ -inch diameter shafts.



1-INCH DIAMETER — WITH BAR

Type	Net Weight for 5	Code Word	Package of 5	Package of 20
KNB-1	3 $\frac{3}{4}$ oz.	BARKNOBONE	\$3.50	\$13.00

1 $\frac{3}{8}$ -INCH DIAMETER — WITH BAR

Type	Net Weight for 5	Code Word	Package of 5	Package of 20
KNB-2	6 oz.	BARKNOBTWO	\$3.75	\$14.00