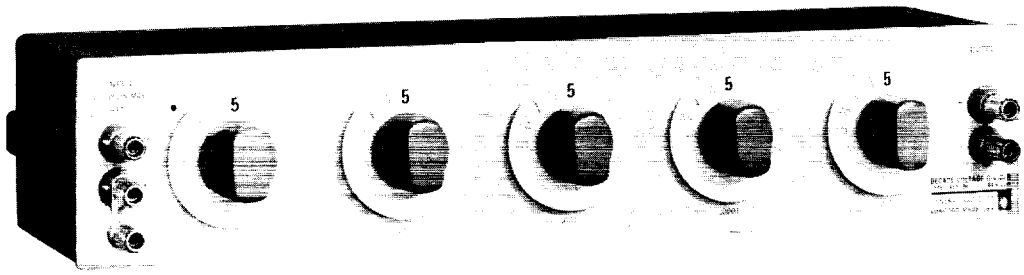
Type 1455 DECADE VOLTAGE DIVIDER

- linearity better than 20 ppm (5-dial model)
- input impedance: 1, 10, or 100 kΩ
- high-frequency model, down 3 dB at 7.5 MHz



The GR 1455 Decade Voltage Dividers provide accurately known voltage ratios from 0.00001 to 1.00000 for use in many common measurements:

- voltage gain or attenuation,
- linearity of potentiometers and other controls,
- frequency response of audio and rf networks,
- transformer turns ratio,
- voltmeter calibration.

A resistive divider of the Kelvin-Varley type, the 1455 has precision resistors throughout rather than in selected positions only for over-all high accuracy. Linearity is as low as 0.02 ppm of input.

Match your needs exactly. Select input impedance, voltage rating, frequency range, 4- or 5-dial resolution, bench or rack mounting.

— See **GR Experimenter** for April 1967.

specifications

Type	1455-AH	-A	-AL	-BH	-B
Dials:	4	4	4	5	5
Input Resistance (accuracy given below):	100 kΩ	10 kΩ	1 kΩ	100 kΩ	10 kΩ
Input Voltage Rating (may be 20 ppm linearity change at full rating, see below):	700 V	230 V	70 V	700 V	230 V
Frequency Response (unloaded, at max output resistance setting), frequency at 3 dB down:	85 kHz	850 kHz	7.5 MHz	69 kHz	690 kHz
Resolution (in ppm of input):	100	100	100	10	10
LINEARITY					
Absolute Linearity (in ppm of input). Output taken with respect to output zero-setting at low audio frequencies with input voltage <½ rating:					
Ratio					
0.00001 to 0.00010	—	—	—	±0.02	±0.03
0.00010 to 0.00100	±0.2	±0.3	±0.7	±0.2	±0.3
0.00100 to 0.01000	±2	±2	±3	±2	±3
0.01000 to 0.10000	±15	±15	±20	±10	±10
0.10000 to 1.00000	±30	±30	±50	±20	±20
Terminal Linearity (in ppm of input). Add to absolute linearity.					
Four-Terminal (output with respect to low output terminal):	±0.004	±0.04	±0.4	±0.004	±0.04
Three-Terminal (low terminals common or output with respect to low input terminal):	±0.02	±0.2	±2	±0.02	±0.2
Max Output Resistance (input shorted):	27.9 kΩ	2.79 kΩ	333 Ω	28.8 kΩ	2.88 kΩ
Effective Output Capacitance (typical, unloaded):	67 pF	67 pF	67 pF	80 pF	80 pF

Frequency Characteristic: Acts like simple RC circuit below f_o so that

$$\frac{E_o}{E_{in}} \approx \frac{\text{reading}}{\sqrt{1+\left(\frac{f}{f_o}\right)^2}}.$$

Tabulated value of f_o is at setting that gives max output resistance so that f_o at all other settings is higher. At $0.044f_o$, response is down <0.1%.

Accuracy of Input Resistance: +0.015%, except for 1455-AL, which is +0.025%.

Temperature Coefficient: <20 ppm for each resistor. Since voltage ratios are determined by resistors of similar construction, net ambient temperature effects are very small.

Dimensions (width x height x depth): Rack models, 19 x 3½ x 4⅝ in. (485 x 89 x 120 mm); 4-dial bench models, 14¾ x 3½ x 6 in. (375 x 89 x 155 mm); 5-dial bench models, 17⅞ x 3½ x 6 in. (455 x 89 x 155 mm).

Net Weight: Bench models, 4-dial, 6¾ lb (3.1 kg); 5-dial, 7¾ lb (3.6 kg).

Shipping Weight: Bench models, 4-dial, 8 lb (3.7 kg); 5-dial, 9 lb (4.1 kg). Add 1 lb (0.5 kg) to net and shipping weights for rack models.

Catalog Number	Description
	1455 Decade Voltage Divider
	Bench Models
1455-9700	1455-A, 4-dial, 10-kΩ
1455-9702	1455-AH, 4-dial, 100-kΩ
1455-9704	1455-AL, 4-dial, 1-kΩ
1455-9706	1455-B, 5-dial, 10-kΩ
1455-9708	1455-BH, 5-dial, 100-kΩ
	Rack Models
1455-9701	1455-A, 4-dial, 10-kΩ
1455-9703	1455-AH, 4-dial, 100-kΩ
1455-9705	1455-AL, 4-dial, 1-kΩ
1455-9707	1455-B, 5-dial, 10-kΩ
1455-9709	1455-BH, 5-dial, 100-kΩ