



THE TYPE 980 SWITCH

By the use of an appropriate switch, four individual capacitor units can be paralleled in various combinations to provide a decade sequence from 1 to 10. The new TYPE 980-P1² Switch, replacing the former TYPE 380-P3, is designed for this purpose. The switching sequence is designed for the use of a 1-2-2-5 series of capacitance values. This combination was selected from the several available ones to utilize for the decades the same nominal capacitance values that are stocked as individual units. The

operating principle of the switch is the same as that of its predecessor, employing sequential paralleling action by means of leaf springs, which contact the common rotor by the action of shaped cams. The outstanding characteristics of this new switch are the low capacitance, extremely low dielectric losses, and very high leakage resistance, all obtained by the use of cross-linked (thermosetting) polystyrene in the supporting structure and shaft.

²Actually in use for several years, but not hitherto announced in the *Experimenter*.

Type	Code Word	Price
980-P1 Switch.....	SWITCHBIRD	\$11.00

THE TYPE 980 DECADE CAPACITANCE UNITS

The new switch and the improved TYPE 505 Capacitors are combined to make the new TYPE 980 Decade Capacitors. The low losses of these "decades" make them suitable for use in a-c bridges, resonant circuits, and filters.

Figure 5. View of the Type 980-F Decade Capacitance Unit.

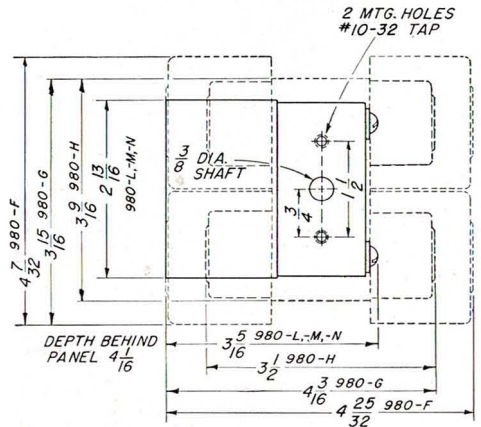
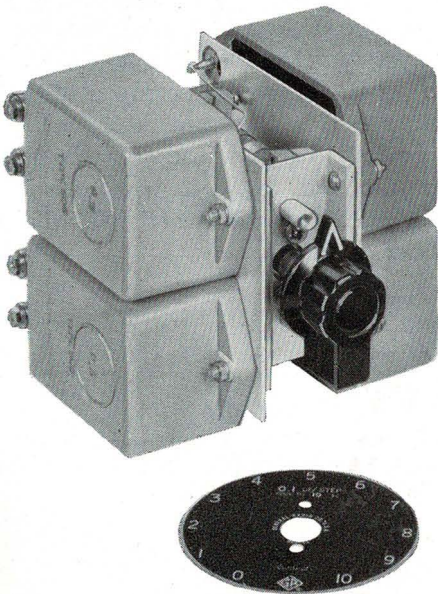


Figure 6. Dimension of Types 980-F, -G, and -H Decade Capacitor Units.

In a resonant circuit, for instance, the *Q* of 3000 is sufficiently high relative to losses in practical inductors that the capacitor loss can usually be ignored. The high leakage resistance makes them useful in many d-c circuits. Two new decades are now available, the TYPE 980-G and TYPE 980-H, with capacitance steps of 0.01 μf and 0.001 μf , respectively, in addition to the older TYPE 980-F, which has 0.1- μf steps.

SPECIFICATIONS

Electrical specifications are the same as those for TYPE 505 Capacitors.
Dimensions: See sketch.

Net Weight: TYPE 980-F, 3 pounds, 12 ounces; TYPE 980-G, 2 pounds; TYPE 980-H, 1 pound, 10 ounces.

Type		Code Word	Price
980-F	1.0 μf in 0.1 μf steps	ACUTE	\$128.00
980-G	0.1 μf in 0.01 μf steps	AVOWD	60.00
980-H	0.01 μf in 0.001 μf steps	AWAIT	45.00

TYPE 1419-K DECADE CAPACITOR

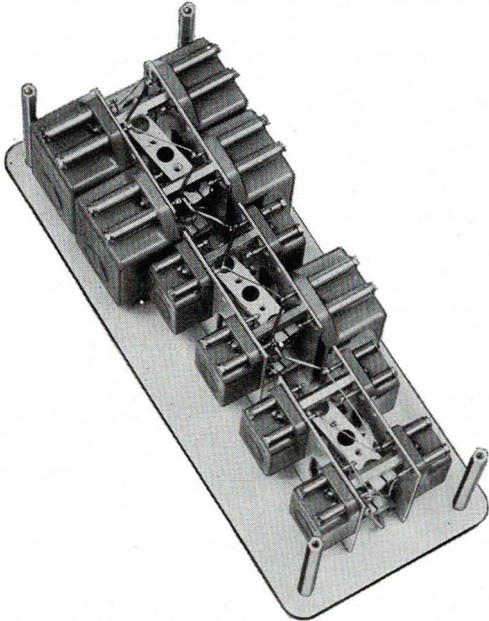


Figure 7. Interior view of the Type 1419-K Decade Capacitor.

An assembly of individual decade units, traditionally referred to as a "decade box," is a basic and popular piece of laboratory equipment. The TYPE 219-K Decade Capacitor, a fixture in the General Radio catalog for a great many years, is now replaced by a new and improved model, TYPE 1419-K.

The previous model used for the .01 μf - and .001 μf -per-step decades high

quality, molded mica capacitors specially made by a leading manufacturer; the new model uses the TYPE 505 Capacitors, described above, throughout. The new, low-loss switches are, of course, used. The result is a threefold reduction in dissipation factor on these decades. As to stability of capacitance value, observations to date suggest constancy of capacitance, well within 0.1% for a period of several years and quite probably indefinitely, since no systematic drift in capacitance value approaching this figure has as yet been observed.

The TYPE 1419-K is housed in an aluminum cabinet, similar in design and appearance to the companion TYPE 1432-Decade Resistors and TYPE 1419-A Polystyrene Decade Capacitor.³ As with all G-R laboratory components announced recently, three terminals are provided to permit use as a grounded two-terminal device or with case only grounded and both active terminals above ground.

SPECIFICATIONS

Dimensions: (Length) 14 $\frac{1}{4}$ x (width) 5 $\frac{1}{2}$ x (depth) 6 $\frac{3}{16}$ inches, over-all.

Net Weight: 11 pounds, 9 ounces.

³"New Decade Capacitors with Polystyrene Dielectric," *General Radio Experimenter*, 31, 2, July, 1956.

Type		Code Word	Price
1419-K	1.110 μf in 0.001 μf steps	CREEK	\$255.00

NOTE: Other previously listed TYPE 980 Decade Capacitance Units and TYPES 219 and 1419 Decade Capacitors are still available. These include the TYPE 219-M Decade Capacitor and the TYPES 980-L, -M, and -N Decade Capacitance Units.