USES. These attenuators can be used as pads to reduce the VSWR of a generator or load. Figure 3 shows the input VSWR obtained when a pad is inserted ahead of a load of a given VSWR. The same effect will be produced on the source impedance of a generator or oscillator.

The attenuators can also be used to reduce the signal level by a known amount. The attenuation characteristics of each attenuator are shown in Figure 2. The attenuation indicated is that produced in a matched 50-ohm system. If the system is not matched, the insertion loss will not necessarily be the same as the attenuation produced in a matched 50-ohm system. If either the source or the load is matched, the insertion loss will be equal to the indicated attenuation. The Types 874-G6, 874-G14, and 874-G20 are engraved with the voltage ratio, 2x, 5x, and 10x, to indicate the ratio of the input voltage to the output voltage when terminated in 50 Ω. For example, with the 14 dB 5x attenuator, the output voltage is 1/5 the input voltage.

Inserted between a signal source and load, the attenuators will isolate the source from changes in the load to prevent frequency pulling or amplitude variations.

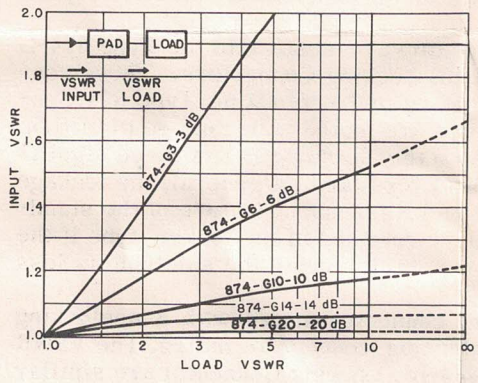

Figure 3. Effectiveness as pads in reducing the VSWR of sources or loads. These curves do not include the VSWR introduced by the pads alone at the higher frequencies.

SPECIFICATIONS

Dc Resistance: 50 ohms ±1% when terminated in 50 ohms.
VSWR: Less than 1.1 to 1 Gc/s, 1.2 to 3 Gc/s for all units; to 4 Gc/s, less than 1.4 for -G3 and -G6, 1.35 for -G10, 1.32 for -G14, and 1.30 for -G20.
Accuracy of Attenuation in 50-ohm system: At dc — ±0.045 dB for Type 874-G3, ±0.09 dB for -G6, ±0.15 for -G10, ±0.21 for -G14, and ±0.30 for -G20. At rf — ±0.2 dB from value indicated on curve to 1 Gc/s, ±0.4 dB to 2 Gc/s, ±0.6 dB to 4 Gc/s.
Temperature Coefficient: Less than 0.0003 dB/°C/dB.
Maximum Power: CW — 1 Watt continuous; pulse — 2000 Watts peak, 1 Watt average.
Physical Length: 3-1/2 inches (90 mm) over-all.
Net Weight: 874-G — 3 ounces (85g)
874-GL — 4 ounces (115g).

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