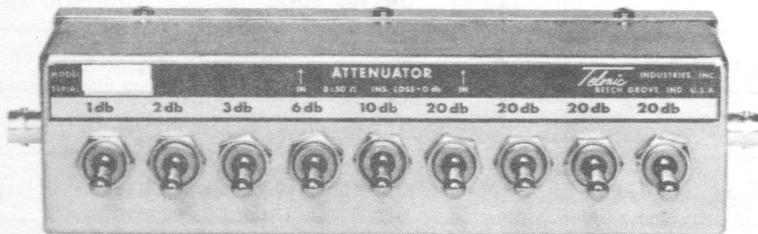


OPERATION AND MAINTENANCE MANUAL T.O.M. 109

RF ATTENUATOR

MODEL

TG-950



Telonic INSTRUMENTS
Division of Telonic Industries Inc.
BEECH GROVE, INDIANA

SPECIFICATIONS

MODEL	TG-950
ATTENUATION STEPS	0-102 dB 1, 2, 3, 6, 10, 20, 20, 20, and 20 dB
IMPEDANCE	50 OHMS
FREQUENCY RANGE	0-300 MHz
ACCURACY	0-50 MHz 1% or .05 dB 0-200 MHz 1% or .2 dB NOTE Whichever is greater 0-300 MHz .5 dB per step
INSERTION LOSS	0.8 dB per 100 MHz
POWER RATING	1/2 Watt (For Higher Power Input see Operating Instructions)
VSWR	1.2:1 0-100 MHz 1.5:1 100-300 MHz
CONNECTORS	BNC Jacks
DIMENSIONS	Approx. 1 7/8" x 2" x 8"
WEIGHT	Approx. 1 lb. 13 oz.

OPERATING INFORMATION

When using the TG-950 Attenuators it is important to utilize interconnecting Cables and Connectors having a characterisitic Impedance of 50 ohms. Also the device under test must properly match the Impedance of the Attenuator.

The Attenuator switches are additive and enable the operator to vary attenuation in 1 dB steps (or any combination of fixed steps as desired) throughout the range of the Attenuator.

Half watt resistors are used throughout and an input signal of 5 volts RMS can be applied to any pad as long as the system is properly terminated into 50 ohms. Also, if certain precautions are taken considerably more power may be applied to the Attenuator without exceeding the rating of any part.

CAUTION

If larger input signal than those recommended are to be used, connector J1 must be used as the input jack and the 3 dB pad inserted in the circuit. At no time shall the 3 dB pad be removed from the circuit while the signal is connected to the attenuator. Under this condition a maximum of 10 volts RMS may be applied.

GENERAL DESCRIPTION

The TG Toggle Switch Attenuators use sturdy, low capacity, molded phenolic switches and are suitable for continuous production-line use or for laboratory applications. Each precision attenuator pad is independently shielded for minimum radiation, and since the resistive pads are of constant impedance each step is independent of the others and any combination may be used.

TYPICAL APPLICATIONS

The TG-950 Attenuators may be used:

1. To provide accurate attenuation for signal sources having insufficient, inaccurate, uncalibrated, or no attenuation facilities within themselves.
2. As an integral part of a test fixture or an equipment item.
3. As a laboratory secondary standard for gain, loss or sensitivity measurements by either direct reading or comparison methods.
4. As a component in a VSWR test measuring system.
5. In any application requiring a 50 ohm attenuator having attenuator steps and power rating within the capabilities of the TG units.

MAINTENANCE

Maintenance on the TG-950 Attenuators will normally be limited to replacement of component parts damaged by overload, normal wear, accident, etc. The items leading themselves to field replacement are connectors, switches, and precision resistors. Factory authorized replacement parts should be used and physical layout of component parts and wiring should not be altered if satisfactory electrical characteristics are to be retained.

When re-assembling the Attenuator it is important that the screen shields of the 42 dB and 60 dB sections be placed in a manner shielding their respective sections and yet physically spaced apart. In event the screens touch, leakage will result, full 102 dB attenuation will be impossible, and calibration will be in error.

REPLACEMENT PARTS LIST

CIRCUIT REFERENCE	VALUE	MANUFACTURER	TELONIC PART NO.
C1 & C2	3pf	Quality Components	C-34
J1 & J2	UG-625/U	Dage	J-7
1 dB a	5.76 Ω	Electra Type DC 1/2W	R-811
1 dB b	866.00 Ω	Electra Type DC 1/2W	R-810
2 dB a	11.5 Ω	Electra Type DC 1/2W	R-800
2 dB b	432.0 Ω	Electra Type DC 1/2W	R-809
3 dB a	17.8 Ω	Electra Type DC 1/2W	R-813
3 dB b	294.0 Ω	Electra Type DC 1/2W	R-812
6 dB a	37.4 Ω	Electra Type DC 1/2W	R-815
6 dB b	150.0 Ω	Electra Type DC 1/2W	R-814
10 dB a	71.1 Ω	Electra Type DC 1/2W	R-838
10 dB b	96.2 Ω	Electra Type DC 1/2W	R-839
20 dB a	249.0 Ω	Electra Type DC 1/2W	R-817
20 dB b	61.9 Ω	Electra Type DC 1/2W	R-818
S1 thru S9	DPDT	Cutler-Hammer	SW-3

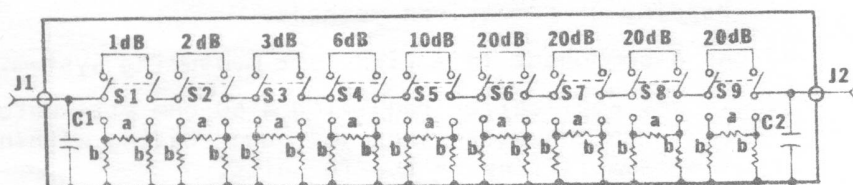


Figure 1. Schematic

WARRANTY

TELONIC INSTRUMENTS AND ACCESSORIES

Products manufactured by TELONIC INSTRUMENTS; Division of Telonic Industries, Inc. are guaranteed against defective materials and workmanship for a period of one year (vacuum tubes excepted) from date of purchase. This warranty does not apply to instruments that have been altered, improperly handled or damaged in any way beyond our control.

Instruments must be examined immediately upon receipt, since claims for damage in transit will not be honored by the carrier unless prompt action is taken.

CHANGES IN SPECIFICATIONS

The right is reserved to change the published specifications of equipment at any time, and to furnish merchandise in accordance with current specifications, without incurring any liability to modify equipment previously sold.

RETURNING EQUIPMENT TO FACTORY

Factory service is available for repair and readjustment of this instrument. However, a description of the trouble, plus the MODEL AND SERIAL NUMBERS of the unit must be forwarded FIRST, whereupon instructions for correcting the trouble OR authorization for returning the equipment will be given. This applies to all units, whether under warranty or not. Contact TELONIC INSTRUMENTS at Post Office Box 87, Beech Grove, Indiana 46107 or your local TELONIC representative.