VARIABLE ATTENUATORS

model 375A

OPERATING NOTE 1 APRIL 68

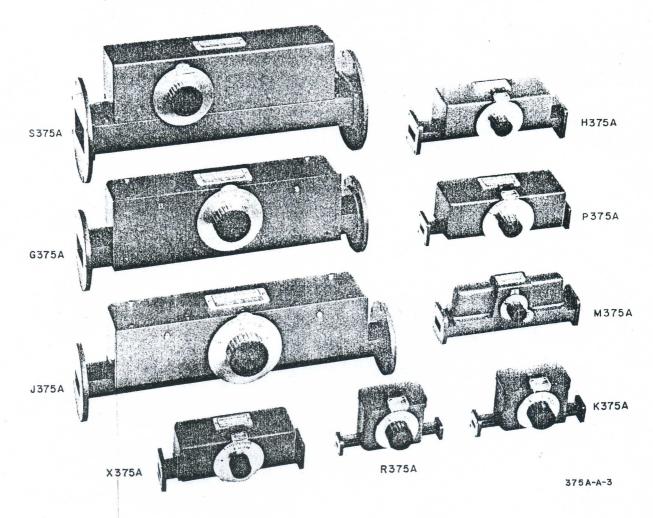


Figure 1. Model 375A Variable Attenuators

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00375-90002

1501 Page Mill Road, Palo Alto, California, U.S.A., Cable: "HEWPACK" Tel: (415) 326-7000

Europe: 54 Route Des Acacias, Geneva, Switzerland, Cable: "HEWPACKSA" Tel. (022) 42.81.50

Table 1. Specifications

Model Frequency (Gc)	Fits Waveguide Size (in.)	Fits Waveguide Type	Fits Flange JAN Type	Length (in.)	Net Weight		Avg Power Dissipation
					lbs	kg	(watts)
2.60- 3.95	3 x 1-1/2	WR284	UG-53/U	14-1/8	7-3/4	3,5	2
3.95- 5.85	2 x 1	WR187	UG-149A/U	13	4	1,8	2
5.30- 8.20	1-1/2 x 3/4	WR137	UG-344/U	13	3	1,4	2
7.05-10.0	1-1/4 x 5/8	WR112	UG-51/U	8-1/4	2-1/4	1	2
8.20-12.4	1 x 1/2	WR90	UG-39/U	7-8/10	2	0,9	2
10.0 -15.0	.850 x .450	WR75		6-1/4	1-7/8	0,83	1
12.4 -18.0	.702 x .391	WR62	UG-419/U	7-1/4	1-3/4	0,79	1
18.0 -26.5	.500 x .250	WR42	UG-595/U	4-1/2	1-1/2	0,68	0.5
26.5 -40.0	.360 x .220	WR28	UG-599/U	4-3/8	1-1/4	0,56	0.5
	(Gc) 2.60- 3.95 3.95- 5.85 5.30- 8.20 7.05-10.0 8.20-12.4 10.0 -15.0 12.4 -18.0 18.0 -26.5	Frequency (Gc) 2.60-3.95 3 x 1-1/2 3.95-5.85 2 x 1 5.30-8.20 1-1/2 x 3/4 7.05-10.0 1-1/4 x 5/8 8.20-12.4 1 x 1/2 10.0 -15.0 12.4 -18.0 12.4 -18.0 18.0 -26.5 1.500 x .250	Frequency (Gc) Waveguide Size (in.) Waveguide Type 2.60-3.95 3 x 1-1/2 WR284 3.95-5.85 2 x 1 WR187 5.30-8.20 1-1/2 x 3/4 WR137 7.05-10.0 1-1/4 x 5/8 WR112 8.20-12.4 1 x 1/2 WR90 10.0-15.0 .850 x .450 WR75 12.4-18.0 .702 x .391 WR62 18.0-26.5 .500 x .250 WR42	Frequency (Gc) Waveguide Size (in.) Waveguide Type Flange JAN Type 2.60-3.95 3 x 1-1/2 WR284 UG-53/U 3.95-5.85 2 x 1 WR187 UG-149A/U 5.30-8.20 1-1/2 x 3/4 WR137 UG-344/U 7.05-10.0 1-1/4 x 5/8 WR112 UG-51/U 8.20-12.4 1 x 1/2 WR90 UG-39/U 10.0-15.0 .850 x .450 WR75 12.4-18.0 .702 x .391 WR62 UG-419/U 18.0-26.5 .500 x .250 WR42 UG-595/U	Frequency (Gc) Waveguide Size (in.) Waveguide Type Flange JAN Type Length (in.) 2.60-3.95 3 x 1-1/2 WR284 UG-53/U 14-1/8 3.95-5.85 2 x 1 WR187 UG-149A/U 13 5.30-8.20 1-1/2 x 3/4 WR137 UG-344/U 13 7.05-10.0 1-1/4 x 5/8 WR112 UG-51/U 8-1/4 8.20-12.4 1 x 1/2 WR90 UG-39/U 7-8/10 10.0-15.0 .850 x .450 WR75 6-1/4 12.4-18.0 .702 x .391 WR62 UG-419/U 7-1/4 18.0-26.5 .500 x .250 WR42 UG-595/U 4-1/2	Frequency (Gc) Waveguide Size (in.) Waveguide Type Flange JAN Type Length (in.) Rest (in.) Ibs 2.60-3.95 3 x 1-1/2 WR284 UG-53/U 14-1/8 7-3/4 3.95-5.85 2 x 1 WR187 UG-149A/U 13 4 5.30-8.20 1-1/2 x 3/4 WR137 UG-344/U 13 3 7.05-10.0 1-1/4 x 5/8 WR112 UG-51/U 8-1/4 2-1/4 8.20-12.4 1 x 1/2 WR90 UG-39/U 7-8/10 2 10.0-15.0 .850 x .450 WR75 6-1/4 1-7/8 12.4-18.0 .702 x .391 WR62 UG-419/U 7-1/4 1-3/4 18.0-26.5 .500 x .250 WR42 UG-595/U 4-1/2 1-1/2	Frequency (Gc) Waveguide Size (in.) Waveguide Type Flange JAN Type Length (in.) Result (in.) Length (in.) Length (in.) Length (in.) kg 2.60-3.95 3 x 1-1/2 WR284 UG-53/U 14-1/8 7-3/4 3,5 3.95-5.85 2 x 1 WR187 UG-149A/U 13 4 1,8 5.30-8.20 1-1/2 x 3/4 WR137 UG-344/U 13 3 1,4 7.05-10.0 1-1/4 x 5/8 WR112 UG-51/U 8-1/4 2-1/4 1 8.20-12.4 1 x 1/2 WR90 UG-39/U 7-8/10 2 0,9 10.0-15.0 .850 x .450 WR75 6-1/4 1-7/8 0,83 12.4-18.0 .702 x .391 WR62 UG-419/U 7-1/4 1-3/4 0,79 18.0-26.5 .500 x .250 WR42 UG-595/U 4-1/2 1-1/2 0,68

Maximum SWR: 1.15

Calibration Accuracy: 0 to 10 db; ±1 db

10 to 20 db; ±2 db

* Flange adapters for circular waveguide are available for K and R bands:

K-band: UG-425/U R-band: UG-381/U

1. INTRODUCTION.

2. The 375A series Variable Attenuators (Figure 1) permits adjustment of power level in a waveguide system or provides isolation between source and load. The Model 375A series covers the frequency range from 2.6 to 40 Gc (S through R bands). Attenuation is continuously variable from 0 to 20 db. For the Model 375A series, SWR is less than 1.15 over the waveguide frequency band.

3. DESCRIPTION.

4. The Model 375A consists of a single slotted section in which a matched resistive strip is inserted into the center of the waveguide. Attenuation is accomplished by varying the depth of penetration of the resistive material. The dial indicates attenuation in db and is accurate to ± 1 db from 0 to 10 db and ± 2 db from 10 to 20 db. On the Model M375A a locking screw holds the dial at the desired setting.

5. PERFORMANCE CHECKS.

6. INTRODUCTION.

7. The performance checks given in Paragraphs 10 through 25 verify that the Model 375A Variable Attenuator meets its specifications. These checks are useful as an incoming quality control inspection or to verify instrument performance after repair.

8. REQUIRED TEST EQUIPMENT.

9. Test equipment for the performance checks is listed in Table 2. Equipment having similar characteristics can be substituted for the equipment listed.

Note

Test setups and instructions are given only for X band. Measurement techniques for the other frequency bands are similar.