RECTANGULAR WAVEGUIDE DELAY LINES
220 SERIES

DATA SHEET No.T44D

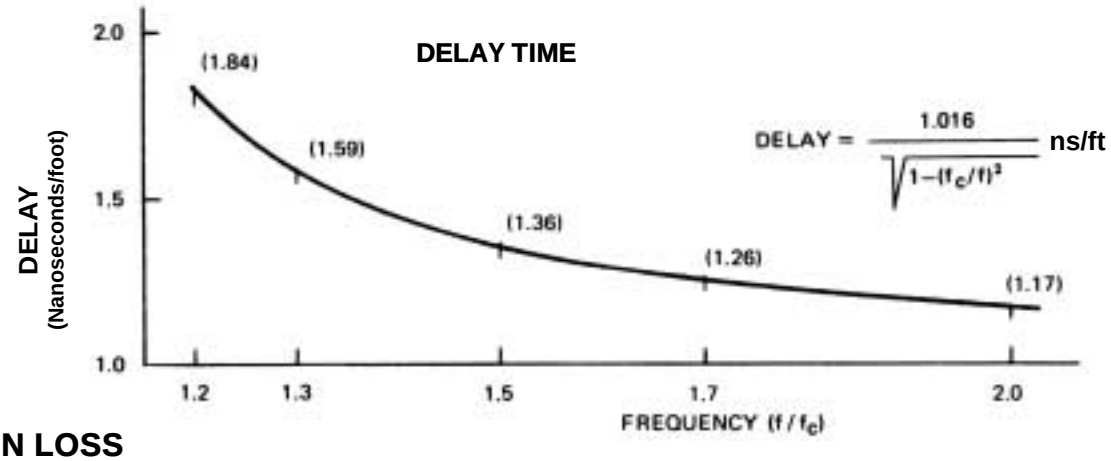
- **LOW VSWR**
- **LOW INSERTION LOSS**

DESCRIPTION

MEC's 220 Series of DELAY LINES in rectangular waveguide offer full frequency bandwidth coverage with state-of-the-art low VSWR and insertion loss. These fixed-length lines have been built with delays ranging from tens to hundreds of nanoseconds. They are compact, lightweight, rigidly constructed, and designed to comply with the environmental requirements specified in MIL-E-16400. Standard assemblies are supplied with cover flanges. Other flanges (e.g., choke, CPR, CMR, etc.) may be specified. Delay lines are swept-frequency tested in both directions to insure low VSWR and insertion loss over the entire band of the waveguide. Fine grain structure is measured completely and is kept well within acceptable limits of operation.

TYPICAL SPECIFICATIONS

Model:	**P220-117**	**Time Delay:**	**185 to 140 nanoseconds**
Waveguide:	**WR-62**	**VSWR:**	**1.2 max.**
Frequency:	**12.4-18.0 GHz**	**Size:**	**3.25" x 15.5" x 22.0"**
Length:	**117 feet Ins.**	**Loss:**	**14 dB max. at 12.4 GHz, 10 dB max. 18 GHz**
Finish:	**Chromate conversion per MIL-C-5541 & gray epoxy enamel**		



INSERTION LOSS

To estimate insertion loss for a given length, use the tabulated approximate loss values. They are based on aluminum waveguide. Attenuation is minimum at the highest frequency, l.9 f_c, where f_c = cutoff frequency.

MODEL SERIES	FREQUENCY RANGE (GHz)	WAVEGUIDE SIZE	f_c (GHz)	ATTENUATION (dB/ft.)	
				f low	f high
J220	5.85-8.20	WR-137	4.285	.050	.028
H220	7.05-10.0	WR-112	5.260	.050	.039
W220	7.0-11.0	WR-102	5.780	.063	.040
X220	8.2-12.4	WR-90	6.560	.078	.054
M220	10.0-15.0	WR-75	7.847	.092	.065
P220	12.4-18.0	WR-62	9.490	.12	.086

ORDERING INFORMATION

Delay lines are also available in reduced height waveguide in any of the above bands, in MEC FLATGUIDE® (Data Sheet B20C) and in Double-Ridge waveguide (Data Sheet T27B). For packaging and shape contact MEC. Specify waveguide type, size, and length. EXAMPLE: P220-117 is the model number for WR-62 waveguide covering 12.4-18 GHz, 117 feet long.

Data subject to change without notice

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