Custom Designed – Precision Delay Lines

Over the past three decades, Allen Avionics has produced custom-designed delay line designs for many applications.

There have been thousands of variations covering every type of passive delay line, including fixed, tapped, and variable. Sizes range from standard to ultra-miniature.

Applications cover virtually the complete signal spectrum from sub-audio through sonar, RF, HF, and VHF with a wide variety of pulse rates, pulse widths and duty cycles.

These specifications cover the ranges for which Allen Avionics can produce custom delay lines for your special applications.

We can also use our standard products and modify the electrical parameters or packaging to fit into custom applications.

Using HF & VHF Technology, Allen Avionics has manufactured delays with over 180 MHz bandwidth. Our "H", "HR", and "VHR" series delay lines have delay-to-rise-time-ratios of up to 250:1.

This chart illustrates some of the important electrical parameters of various delay lines for different applications.

	Precision Delays Audio/Radio Paging	Video Broadcast Applications	HF, VHF & UHF Applications	Standard Lumped-Constant Types	Variable and Continuously Variable	Distributed Constant Delay Lines	DIP & SIP 24-Pin Types
Delay Range	0-61.1ms	0-10us	0-100us	0-20us	0-4105us	0-6us	0-2us
Delay Tolerance	1 to 5%	2 to 5%	1-2%	1,5,10%	1,2, 5%	1,2,5,10%	5%
Impedance Range	500 to 10k Ohms	75 Ohms	50 Ohms	50-1000 Ohms	50-1000 Ohms	50-1000 Ohms	50-200 Ohms
Delay Step/ Resolution	5 & 10%	1 ns	1ns	.5 ns	.5 ns	.5 ns	.5 ns
Delay-to-Rise Time Ratio	up to 250:1	up to 100:1	up to 250:1	50- to- 1	50- to- 1	up to 30:1	10:1
Delay Linearity ±	.5%	1%	1%	1%	1%	1%	2%
Maximum Bandwidth	800 MHz	30 MHz	72 MHz	25 MHz	30 MHz	77 MHz	180 MHz
Distortion	Less Than 1%	1-4%	5-10%	5-10%	5%	1%	5-10%
Working Volts	100	50-100	50	50	50	50-1000	50
Operating Range (Degrees Celcius)	-55° to 85°	0° to 70°	0° to 70°	-55° to +105°	-55° to +105°	-55° to +105°	-55° to +105°

Custom Designed – Precision Delay Lines

FAX OR MAIL SPECIFICATION FORM

COMPANY NAME: _____
ADDRESS: _____
CITY: _____ STATE : _____ ZIP: _____
CONTACT NAME: _____
PHONE NO. ( ) _____ FAX NO.( ) _____
DATE: _____

Please provide as much detailed information as possible

ELECTRICAL SPECIFICATIONS

Delay Line Type: ☐ Passive ☐ Active (Digital)
Application: _____

Total Time Delay: _____ ☐ Millisecond ☐ Microsecond ☐ Nanosecond
Total Delay Tolerance: _____ %
Taps: ☐ YES ☐ NO No. of Taps _____
Delay at Taps: _____ -3dB Bandwidth _____
Distortion: _____ Impedance: _____ Ohms Attenuation: _____
Temp. Coefficient: _____ PPM/°C Operating Temp. _____

INPUT SIGNALS

Pulse Width: _____
Pulse Voltage: _____
Input Rise Time: _____

ACTIVE DELAY LINES

Logic Required: ☐ STD Schottky ☐ Low Power Schottky
☐ TTL ☐ ECL
Quantity Required: _____

MECHANICAL SPECIFICATIONS

Case : ☐ Metal Case ☐ Epoxy Case
Length (Max) _____ Width (Max) _____ Height (Max) _____
PC Mount : ☐ Yes ☐ No
# of Pins : _____ Length _____ Diameter _____
Connectors : ☐ Yes ☐ No
Type : _____
Other : _____

ADDITIONAL COMMENTS

_____
_____
_____
_____