

AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
ENGINEERING - MANUFACTURING

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INSTRUCTIONS

MODEL AVX-D-SP1 DELAY GENERATOR

S.N.:

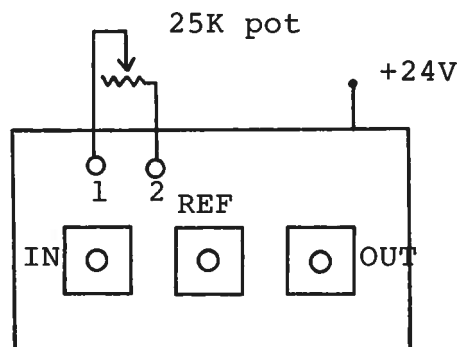
WARRANTY

Avtech Electrosystems Ltd. warrants products of its manufacture to be free from defects in material and workmanship under conditions of normal use. If, within one year after delivery to the original owner, and after prepaid return by the original owner, this Avtech product is found to be defective, Avtech shall at its option repair or replace said defective item. This warranty does not apply to units which have been disassembled, modified or subjected to conditions exceeding the applicable specifications or ratings. This warranty is the extent of the obligation or liability assumed by Avtech with respect to this product and no other warranty or guarantee is either expressed or implied.

SPECIFICATIONS

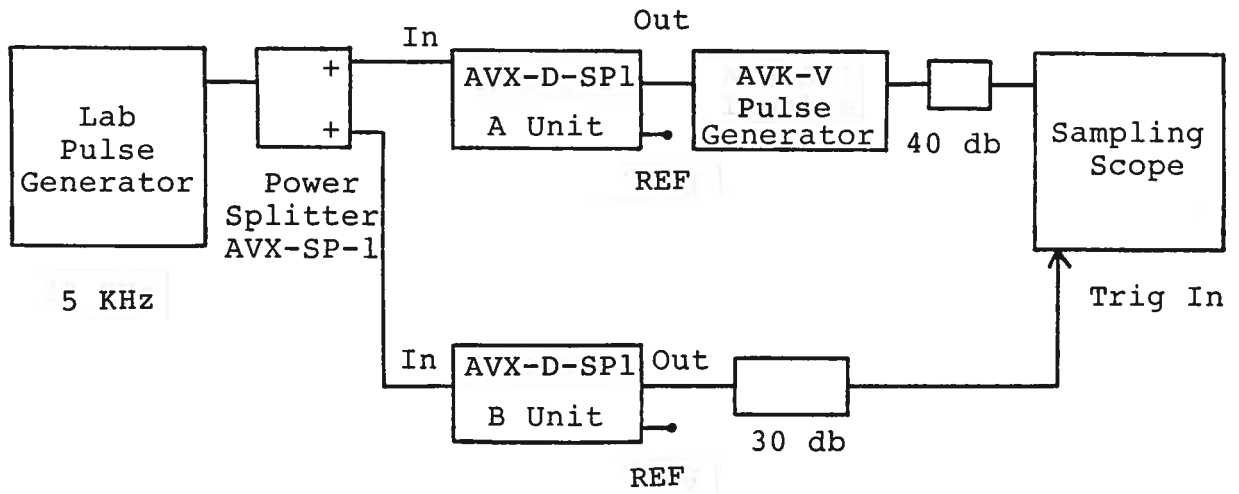
MODEL AVX-D-SP1

Model designation:	AVX-D-SP1
Delay range: (IN to OUT)	70 nsec to 370 nsec. Delay controlled by 25K pot connected to Pins 1 and 2
PRF range:	0 to 5 KHz
Jitter:	$\leq \pm 20$ psec
Input TRIG:	PW \geq 20 nsec, +5 volts
Out PW:	1.0 usec
Ref. PW:	1.0 usec
Prop delay, IN to REF port:	≤ 70 nsec (fixed)
OUT and REF amplitudes:	+15 volts Will drive 50 ohm loads
Power requirement:	+24V DC 125 mA
Connectors:	SMA

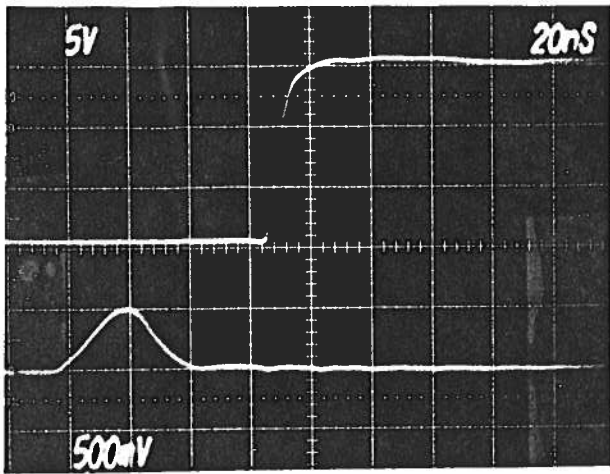


MODEL AVX-D-SP1

JITTER AND DELAY TEST ARRANGEMENT



- 1) A worse-case jitter test of the AVX-D-SP1 unit was conducted using the above arrangement. The use of two delay generators serves to aggravate the jitter since the resultant jitter is the consequence of two units. The AVK-V pulse generator exhibited a rise time of 100 psec. Any jitter introduced by the AVX-D-SP1 unit serves to significantly increase the rise time of the AVK-V output.
- 2) The delays of the A and B units should be such that the time base of the sampling scope is triggered slightly ahead (eg. 20-100 nsec) of the application of the pulse to the vertical amplifier.
- 3) The AVX-D-SP1 delay can be calibrated by means of a real time scope monitoring the time delay between the IN (or REF) and OUT ports.



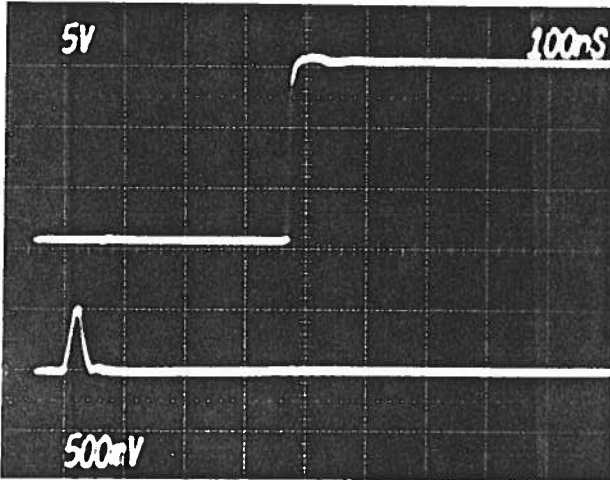
(A)

TYPICAL
DATA SHEET FORMS

OUT

MIN DELAY
& RISE TIME

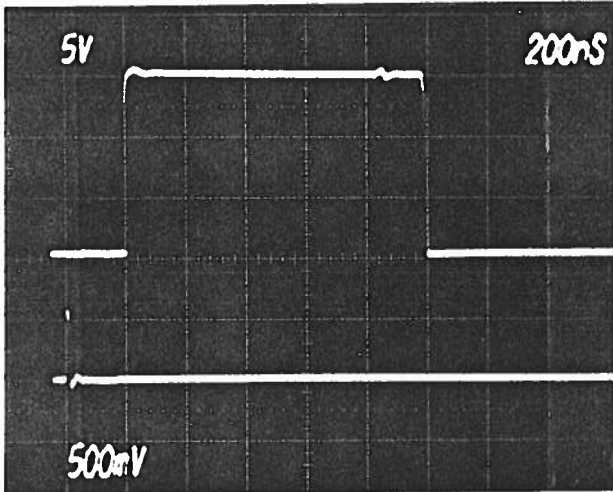
IN



(B)

OUT MIN DELAY

IN



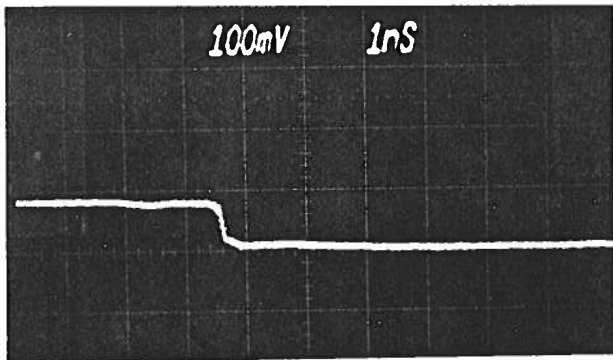
(C)

OUT

OUT PHASE

IN SET AT 15 NXR
DLO

IN



(D)

AVK - V OUTPUT
FOR JITTER
TEST.

↑ RISE TIME
NOT DEGRADED.

[Signature]

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March 20, 1989.

Jim Clark
MS: 2-35
Spectra Physics Inc.
1250 West Middlefield Road
Mountain View, CA 94039

Dear Jim:

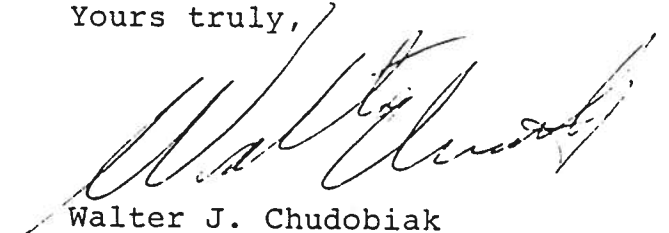
With reference to our phone conversation of March 17, I am pleased to provide a price and delivery quotation for a special purpose delay generator meeting the following specifications:

Model designation:	→	AVX-D-SP1.
Input trigger: (V_{IN})		TTL impulse with 20 nsec rise and fall times. Fall time has one usec tail from 20% to 0 (see waveform sketches).
Output delay:	1) Main output: (V_{OUT})	Variable from 70 nsec to to 370 nsec. Controlled by user-supplied 25 K pot which connects to two solder terminals.
	2) Reference output: (V_{REF})	Fixed at 70 nsec.
Output amplitude: (Main & Reference)		Fixed at +15 volts to 50 ohms.
Output pulse width: (Main and Reference)		Fixed at 1.0 usec.
Jitter: (Input trigger to output)		≤ + 20 psec.
Input prime power:		+ 24 VDC, 200 MA.

Connector: 1) Input and
Output pulses: SMA.
2) Prime power and
delay pot: Solder terminal.
Package Size: 1.7"x 2.6"x 4.3"
(Avtech style A, see
page 9, Cat. No. 7).
Other: See AVX-D, page 79
Cat. No. 7
Price: \$980.00 US each
FOB destination.
Delivery: 60 days ARO.

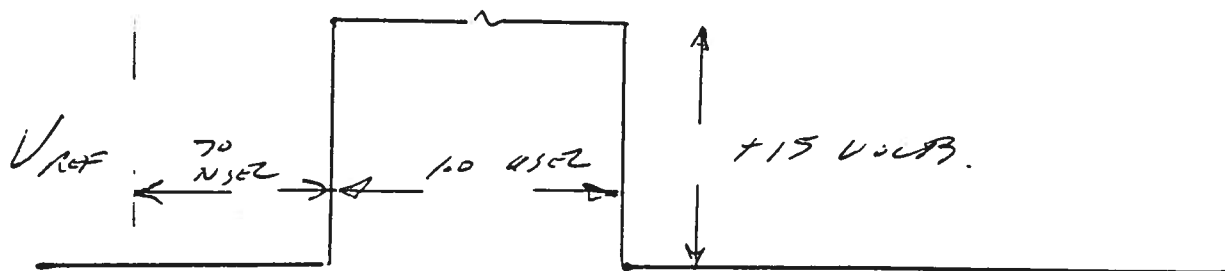
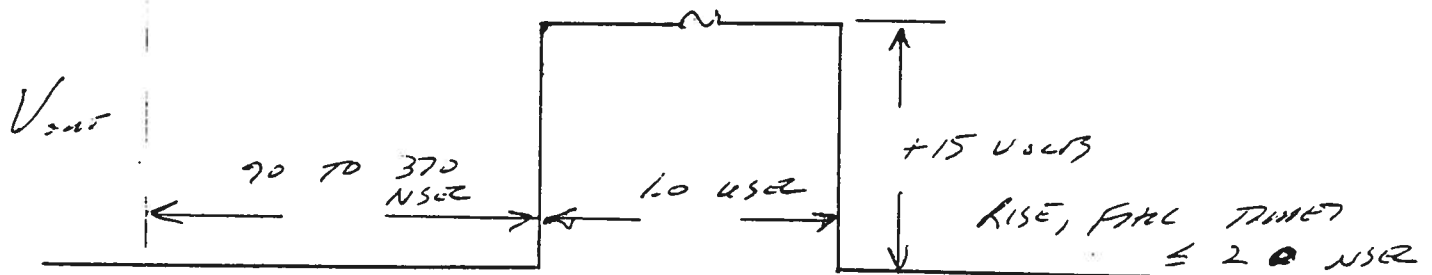
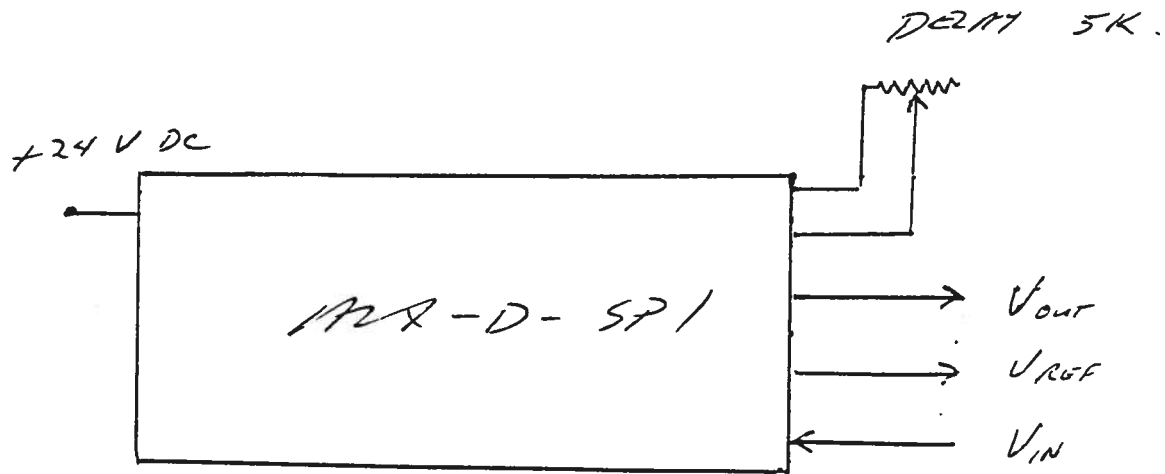
Thank you for your interest in our products. Please call me again if you require any additional information or modifications to the above quotation.

Yours truly,



Walter J. Chudobiak
Chief Engineer

WJC:mam
Encl.: Cat. No. 7
Cat. No. 7S
Price list



MAX-D-SPI WAVEFORMS