

AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
ENGINEERING - MANUFACTURING

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(315) 472-5270

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OTTAWA, ONTARIO
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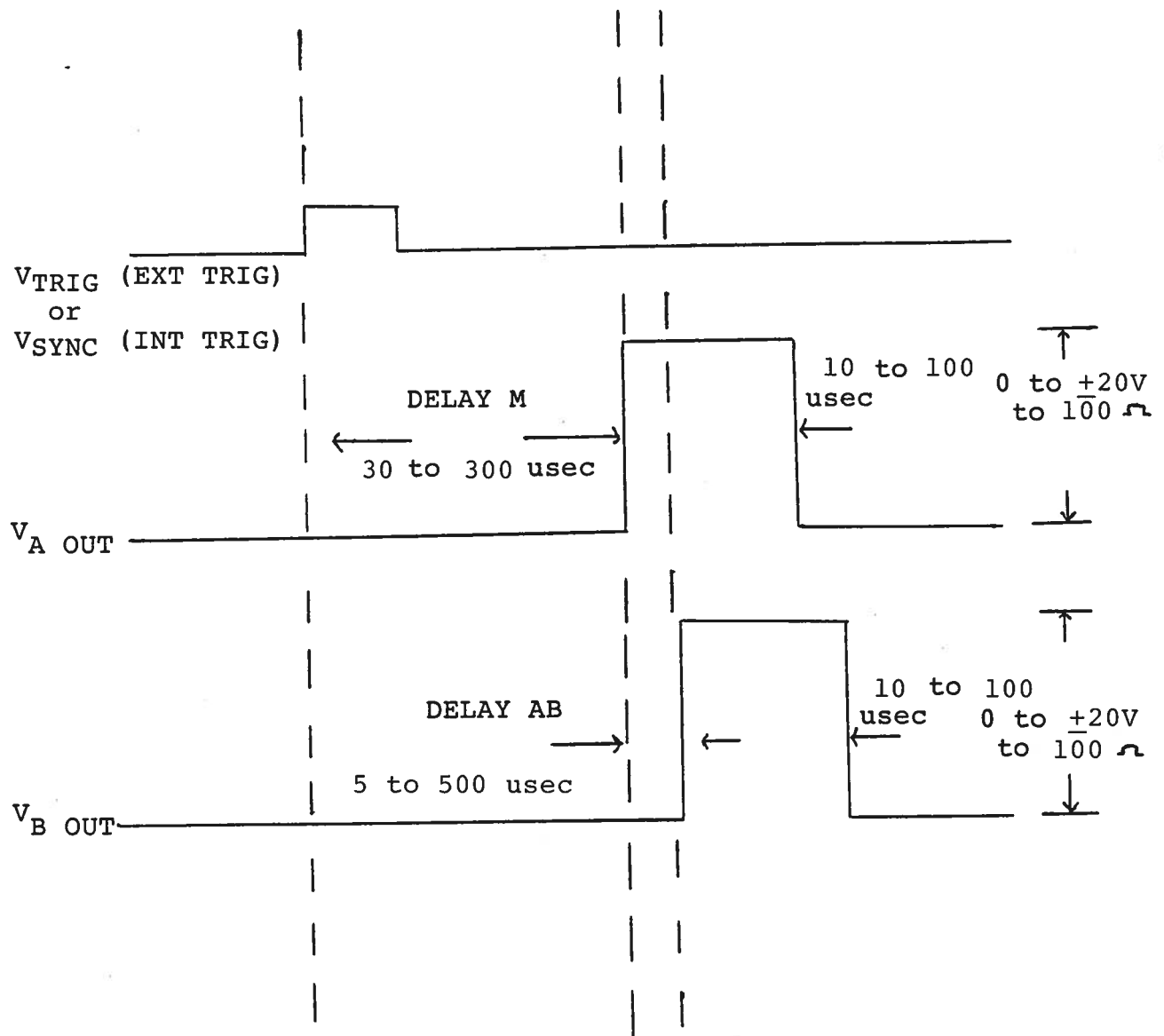
INSTRUCTIONS

MODEL AVX-D-4-C-UIA-R4-PNS DELAY GENERATOR

S.N.:

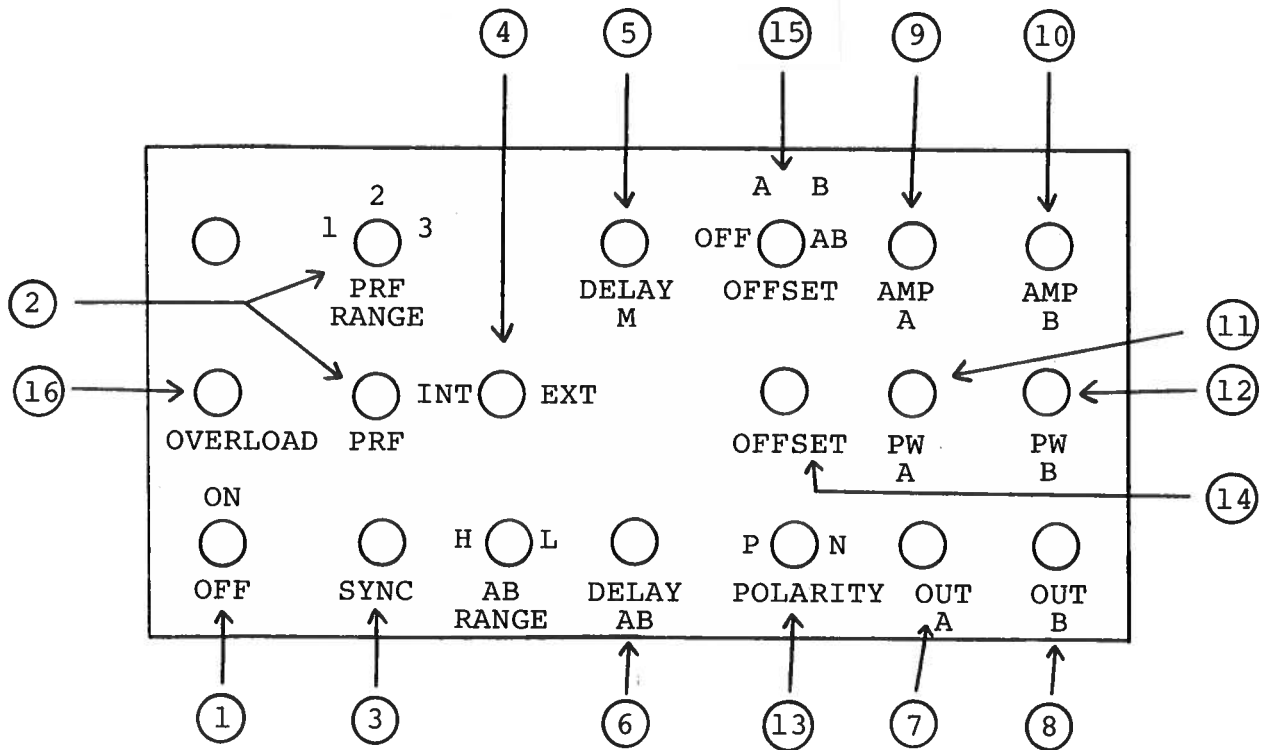
WARRANTY

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.



INPUT AND OUTPUT WAVEFORMS FOR AVTECH MODEL AVX-D-4-C DELAY GENERATOR

AVX-D-4-C FRONT PANEL



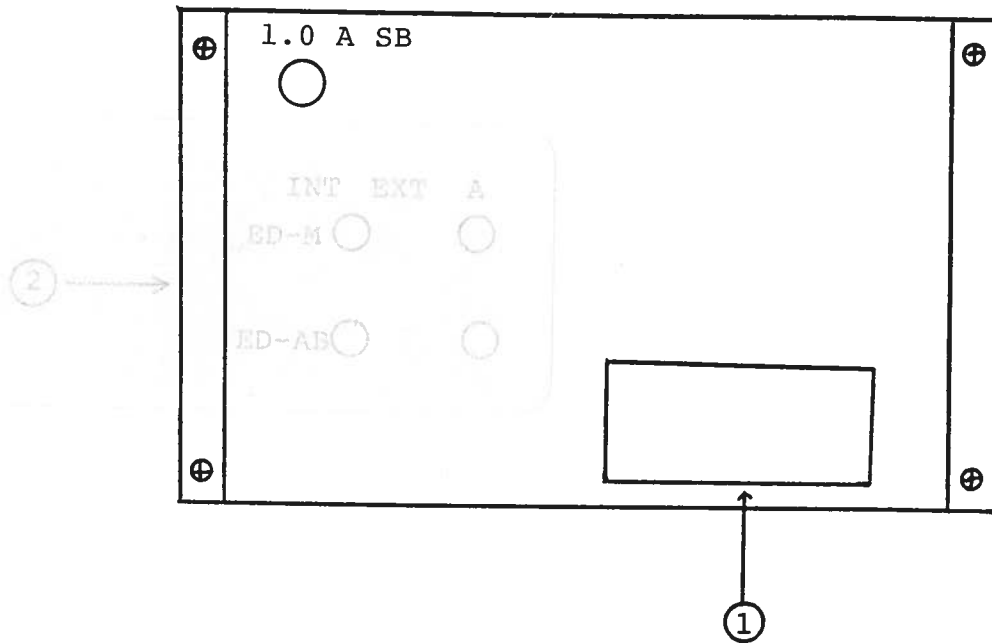
- (1) ON-OFF Switch. Applies prime power to all stages.
- (2) PRF. One turn control and 3 position range switch varies PRF from 5 Hz to 5 KHz as follows:

Range 1	5 Hz	50 Hz
Range 2	50 Hz	500 Hz
Range 3	500 Hz	5 KHz
- (3) SYNC. +5 volt 200 nsec wide pulse output for scope triggering when operating on INT TRIG mode.
- (4) INT-EXT. To control PRF using internal clock (i.e. INT TRIG) set switch in INT position. Clock will trigger channels A and B and provide SYNC pulse at SYNC out. To control PRF using external pulser, set switch in EXT position and apply +5 volt 50 nsec or wider pulse at SYNC input (3).
- (5) DELAY M. 10 turn locking pot varies relative delay between OUT A and input trigger (or SYNC) from 30 to 300 usec.
- (6) DELAY AB. 10 turn locking pot varies relative delay between OUT B and OUT A from 5 usec to 500 usec independently of setting of DELAY M.
- (7) OUT A. BNC connector provides output pulse to 100 ohm load.
- (8) OUT B. BNC connector provides output pulse to 100 ohm load.
- (9) AMP A. One turn control varies output amplitude for A from 0 to ± 20 volts.
- (10) AMP B. One turn control varies output amplitude for B from 0 to +20 V.
- (11) PW A. One turn control varies output pulse width for A from 10 to 100 usec.
- (12) PW B. One turn control varies output pulse width for B from 10 to 100 usec.
- (13) POLARITY. Two position switch controls polarity of output pulses A and B.
- (14) OFFSET. One turn control varies DC offset at outputs A and B from 0 to +5 volts.
- (15) OFF SELECTOR. Four position switch turns offset on or off, applies offset to A only, applies offset to B only or applies offset to A and B.

(16) AVX-D-4-C units with a serial number higher than 5600 are protected by an automatic overload protective circuit which controls the front panel overload light. If the unit is overloaded (by operating at an exceedingly high duty cycle or by operating into a short circuit), the protective circuit will turn the output of the instrument OFF and turn the indicator light ON. The light will stay ON (i.e. output OFF) for about 5 seconds after which the instrument will attempt to turn ON (i.e. light OFF) for about 1 second. If the overload condition persists, the instrument will turn OFF again (i.e. light ON) for another 5 seconds. If the overload condition has been removed, the instrument will turn on and resume normal operation. Overload conditions may be removed by:

- 1) Reducing PRF (i.e. switch to a lower range)
- 2) Reducing pulse width (i.e. switch to a lower range)
- 3) Removing output load short circuit (if any)

BACK PANEL CONTROLS



- (1) FUSED CONNECTOR, VOLTAGE SELECTOR. The detachable power cord is connected at this point. In addition, the removable cord is adjusted to select the desired input operating voltage. The unit also contains the main power fuse (0.5 A SB).
- (2) 1.0 A SB. Protects output stage against overload conditions.

ADDITIONAL ASSISTANCE

For additional assistance with this instrument, call (613) 226-5772 or Fax (613) 226-2802.

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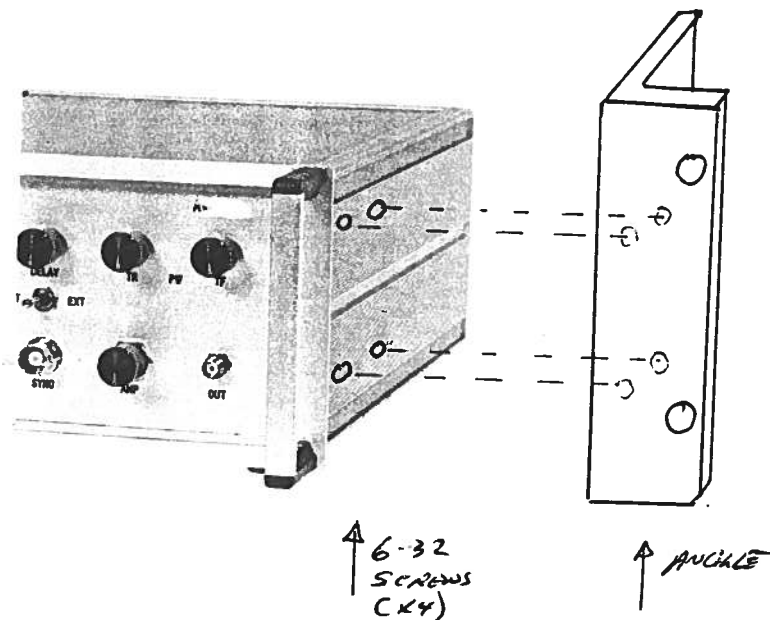
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TELEX 053.4591

-R RACK MOUNT KIT INSTALLATION INSTRUCTIONS

- 1) Remove the four 6-32 Phillips screws on each side of the instrument.
- 2) Place the rack mount angles over the holes and install the 6-32 screws as shown below.



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October 18, 1991.

Luke Hanley
Assistant Professor
Dept. of Chemistry (M/C 111)
University of Illinois at Chicago
4500 Science and Engineering South
Box 4348
Chicago, IL 60680

Dear Luke:

Following your fax of October 16, 1991, I am pleased to provide a price and delivery quotation for a special purpose dual analogue delay generator-pulser meeting the following specifications:

Model designation:	AVX-D-4-C-UIA-R4.
Delay M (main):	30 to 300 us (ten turn control).
Delay AB (A vs B):	5 to 500 us (two position range switch and ten turn control).
Output amplitude:	0 to +20 volts to 100 ohms. One turn control.
Output pulse width:	10 us to 100 us (one turn control).
Jitter:	< 1 us.
Output rise time:	< 1 us.
PRF:	0 to 5 KHz.
Dimensions:	4" x 16" x 12".
Other:	See standard Model AVX-D-4.

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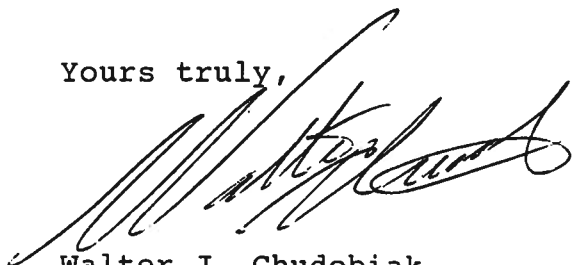
Price: \$2,490.00 US each, FOB destination.
Note that this price includes our 5% academic discount.

Delivery: 45 days ARO.

Available option: -PNS option: Provides a two position switch which controls the polarity of the output. Also includes a one turn DC offset control (0 to +5 volts) and an ON-OFF switch for this control. Add suffix -PNS to model number and add \$400.00 US to the price.

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

Yours truly,



Walter J. Chudobiak
Chief Engineer

WJC:ch

act 13 *Agreed to add 4 number units*
① OS OF
② A ON
③ B ON
④ A+B ON.
No extra charges

Schröff 12.10.91