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INSTRUCTIONS

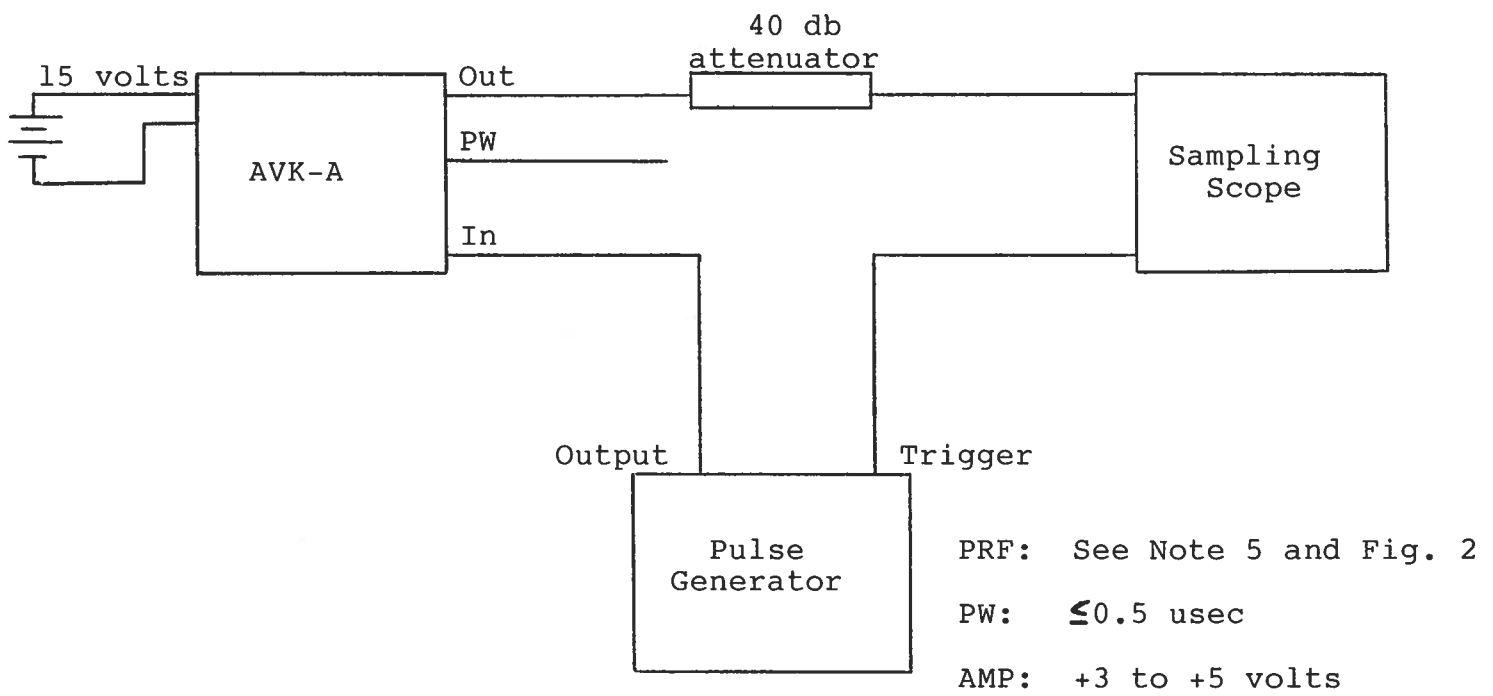
MODEL AVK-A PULSE GENERATOR

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.

MODEL AVK-A PULSE GENERATOR TEST ARRANGEMENT



Notes:

- 1) The bandwidth capability of components and instruments used to display the pulse generator output signal (attenuators, cables, connectors, etc.) should exceed ten gigahertz.
- 2) The use of a 40 db attenuator will insure a peak input signal to the sampling scope of less than one volt.
- 3) In general, the pulse generator trigger delay control should be set in the 100 nsec range. Other settings should be as shown in the above diagram. The Avtech pulse generator output is delayed with respect to the trigger input signal by about 50 nsec. (typically).
- 4) The Model AVK-A output pulse width is a linear function of the length of open circuited coaxial cable connected to the "PW" port (see Fig. 1). The open circuited delay line should be formed from high-quality semi-rigid 50 ohm coaxial cable (eg. 0.085 inch copper 50 ohm semi-rigid). Miniature flexible coaxial cable such as RG 174 may be used but may result in a degraded fall time. In the absence of an external cable connected to the tune port, Model AVK-A outputs a 4 nsec pulse.
- 5) The minimum pulse repetition frequency period is related to the delay line cable length (or pulse width) as shown in Fig. 2. If the PRF period for a given cable length is less than that specified in Fig. 2, the output pulse amplitude will be less than the specified value and prolonged operation in this mode could result in damage to the unit. Therefore, operation in or beyond the shaded region should be avoided.
- 6) The Model AVK-A pulse generator can withstand an infinite VSWR on the output port.
- 7) The output pulse amplitude is controlled by means of the one-turn potentiometer (AMP). The pulse width may reduce by several nanoseconds as the output amplitude is reduced from maximum to minimum.
- 8) Some properties of the output pulse may change as a function of the amplitude pot setting. For some demanding applications, it may be desirable to use a combination of external attenuators and the amplitude pot to achieve the desired output amplitude.

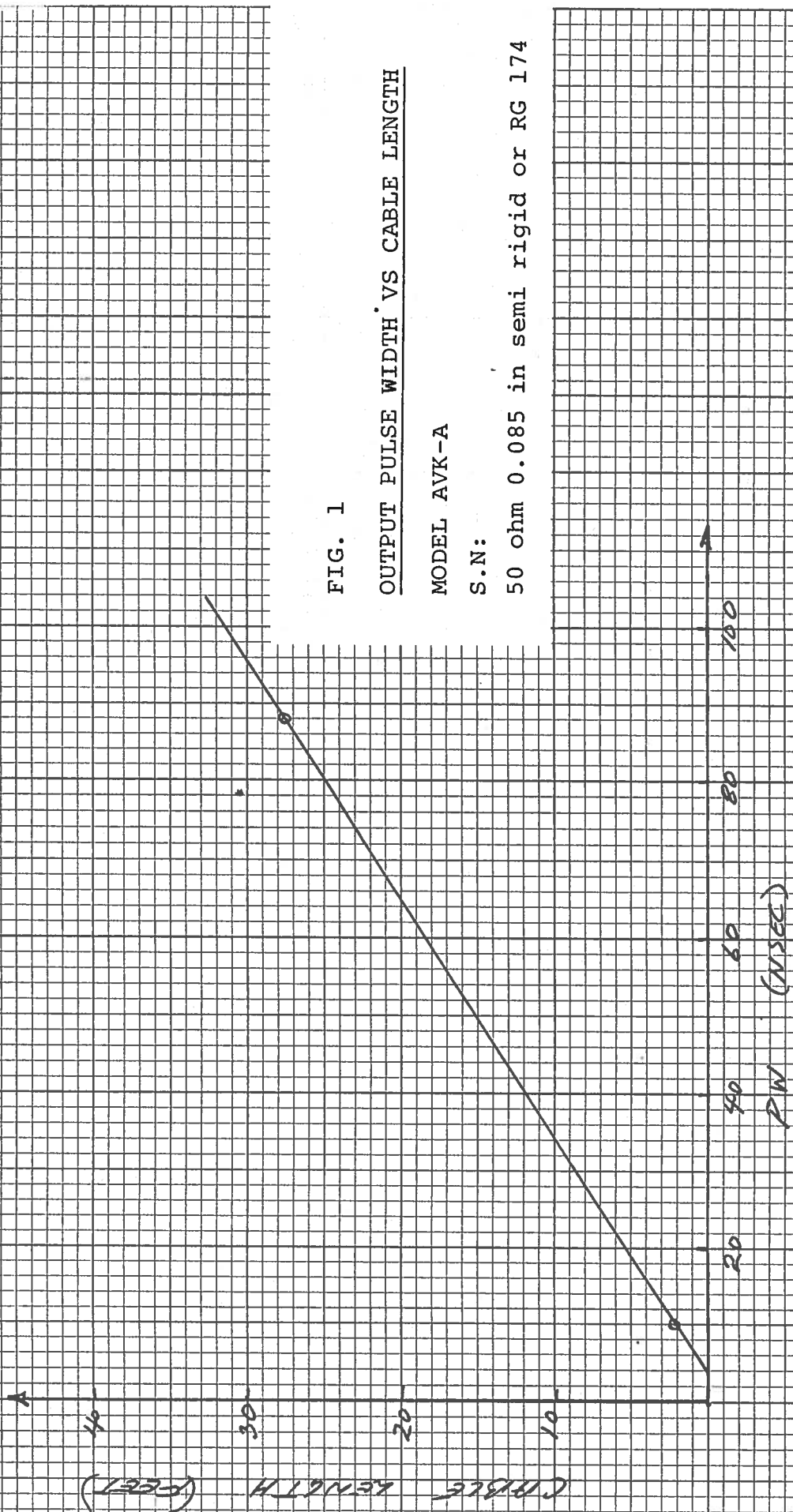


FIG. 1

OUTPUT PULSE WIDTH VS CABLE LENGTH

MODEL AVK-A

S.N:

50 ohm 0.085 in semi rigid or RG 174

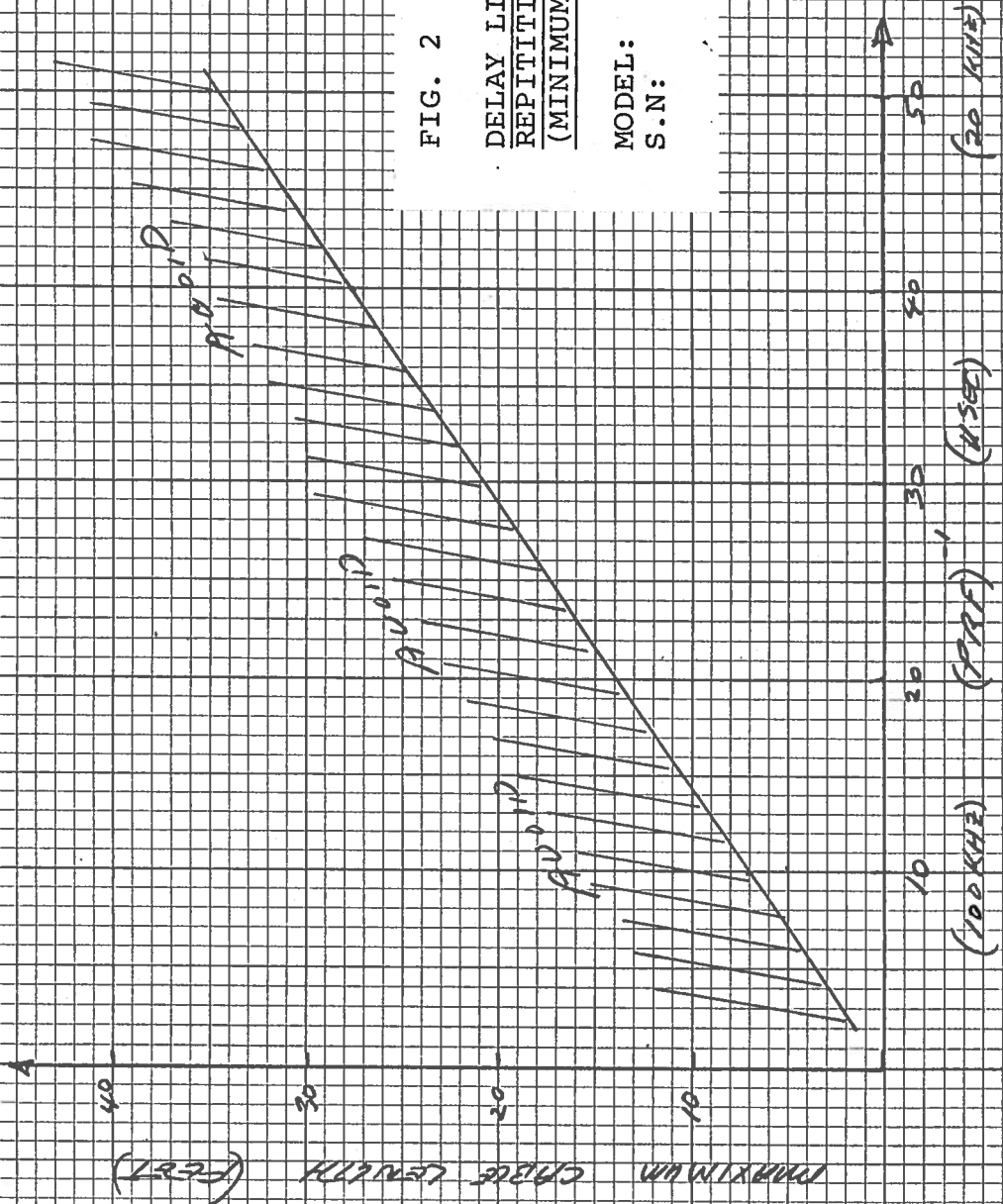


FIG. 2

DELAY LINE CABLE LENGTH VS PULSE  
REPETITION FREQUENCY PERIOD  
(MINIMUM ALLOWABLE PERIOD)

MODEL: AVK-A

S.N:

For units with the dual output polarity option (-PN) a positive output pulse is obtained at the OUT SMA connector. To obtain a negative output pulse, connect the AVX-2-AVK module to the OUT SMA connector. A negative output pulse is then obtained at the output of the AVX-2-AVK module.

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- PN

For units with the dual output relay (type 4-PP) a  
positive output pulse is obtained at the OUT 2MS  
connector. To obtain a positive output pulse, connect  
the 0V-2 VV module to the OUT 2MS connector. A  
negative output pulse is then obtained at the output of  
the 0V-2 VV module.