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NANOSECOND WAVEFORM ELECTRONICS

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INSTRUCTIONS

MODEL AVD-7A-P-PW-CRE01 PULSE GENERATOR

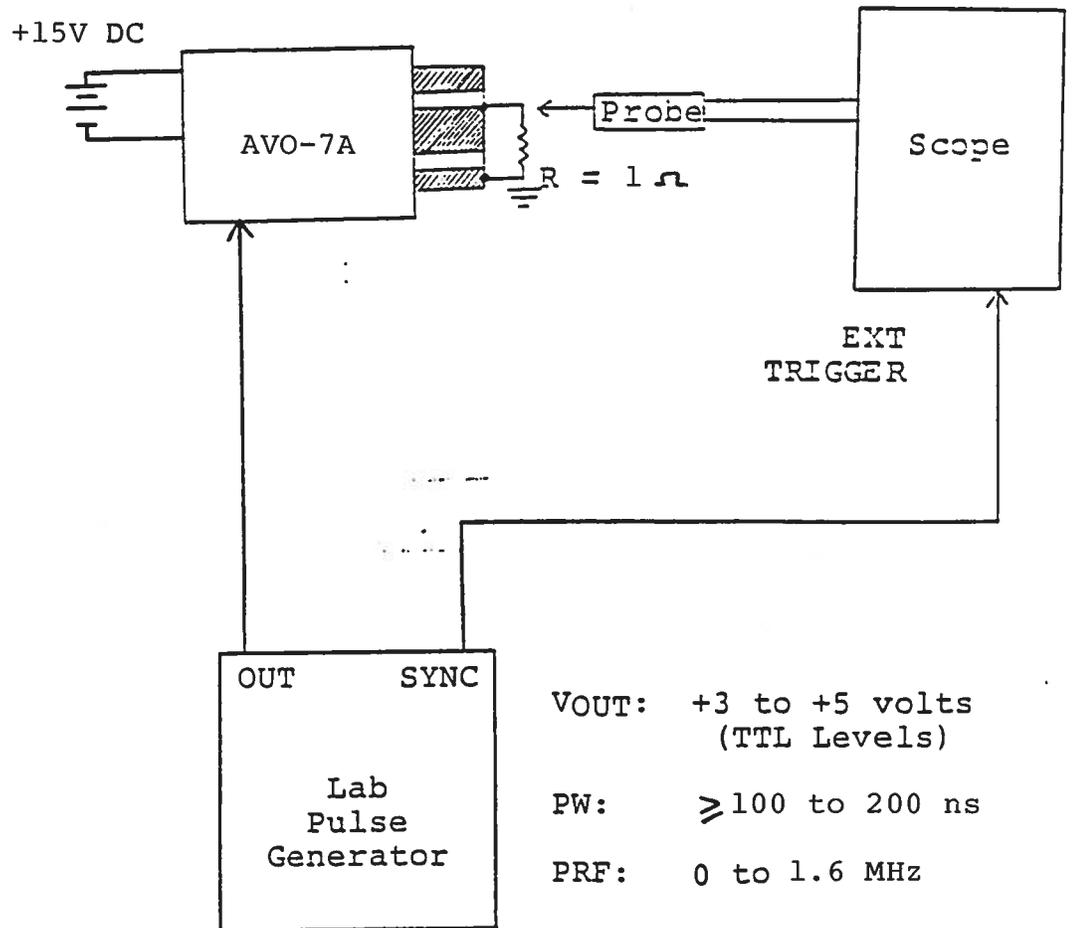
S.N. :

## 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.

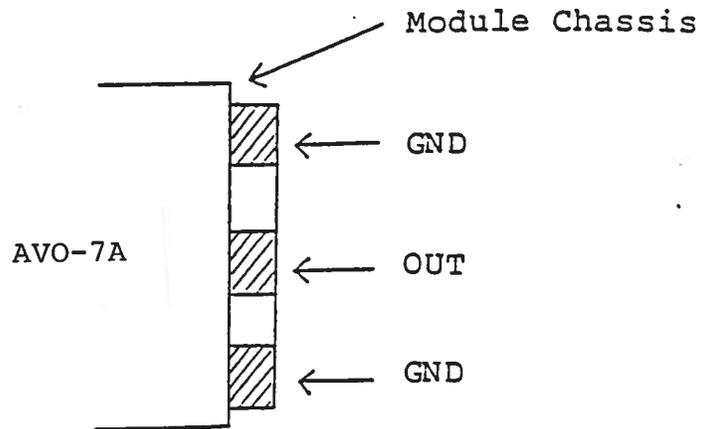
Fig. 1

PULSE GENERATOR TEST ARRANGEMENT



## GENERAL OPERATING INSTRUCTIONS

- 1) The equipment should be connected in the general fashion shown above. Since the unit provides an output pulse rise time as low as 10 nsec a fast oscilloscope (at least 50 MHz and preferably 200 MHz) should be used to display the waveform.
- 2) The output pulse width is equal to the input trigger pulse width.
- 3) The output pulse amplitude is controlled by the one turn AMP control.
- 4) The output terminals of the pulse generator module consists of a short length of microstrip transmission line protruding from the module chassis. The OUT terminal is the center conductor which is bounded on both sides by the ground plane (see below):



The load should be connected between the OUT and GND terminals using very short leads ( $\ll 0.5$  cm). Take care to insure that during soldering the OUT conductor is not shorted to the chassis. Also, use minimal heat when soldering.

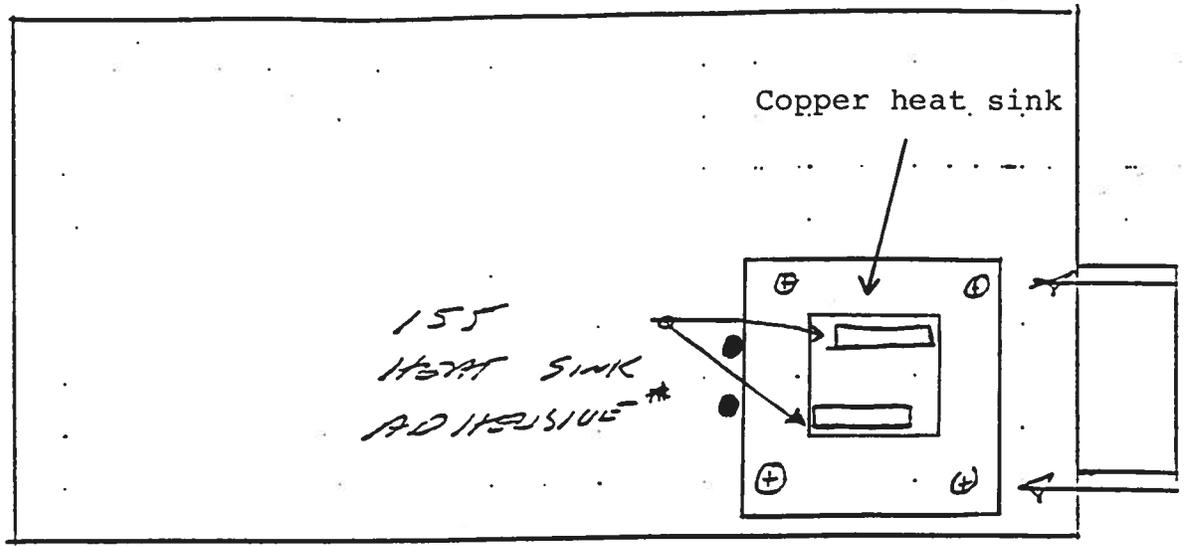
- 5) CAUTION: The output pulse width must not exceed 200 ns (or the unit may fail).
- 6) CAUTION: The duty cycle must not exceed 25% (or the unit may fail).
- 7) CAUTION: For operation at high duty cycles (eg.  $> 10\%$ ) the module should be bolted to a heat sink capable of dissipating about 20 watts.

## REPAIR PROCEDURE

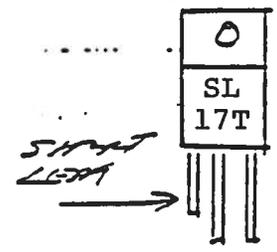
In the event of an instrument malfunction, it is most likely that some of the output switching elements (SL17T) may have failed due to an output short circuit condition or to a high duty cycle condition. The switching elements may be accessed by removing the cover plate on the bottom side of the module. The cover plate is removed by removing the four counter sunk 6-32 Phillips screws. NOTE: First turn off the prime power. The elements may be removed from their sockets by means of a needle nosed pliers after removing the four counter sunk 2-56 Phillips screws which attach the small copper heat sink to the body of the module. The SL17T is a selected VMOS power transistor in a TO 220 package and may be checked on a curve tracer. If defective, replacement units should be ordered directly from Avtech. When replacing the SL17T switching elements, take care to insure that the short lead (of the three leads) is adjacent to the black dot on the chassis. The SL17T elements are electrically isolated from the small copper heat sink but are bonded to the heat sinks using WAKEFIELD TYPE 155 HEAT SINK ADHESIVE.

AVO-7A SL17T HEAT SINKING

BACK



FRONT



Schroff

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