

AVTECH ELECTROSYSTEMS LTD.

**NANOSECOND WAVEFORM ELECTRONICS
ENGINEERING . MANUFACTURING**

□ P.O. BOX 265
OGDENSBURG
NEW YORK
13669
(315) 472-5270

□ BOX 5611 STN. "F"
OTTAWA, ONTARIO
CANADA K2C 3M1
(613) 226-5772
TELEX 053.4591

INSTRUCTIONS

Model AVO-1-OP2 Pulse Generator

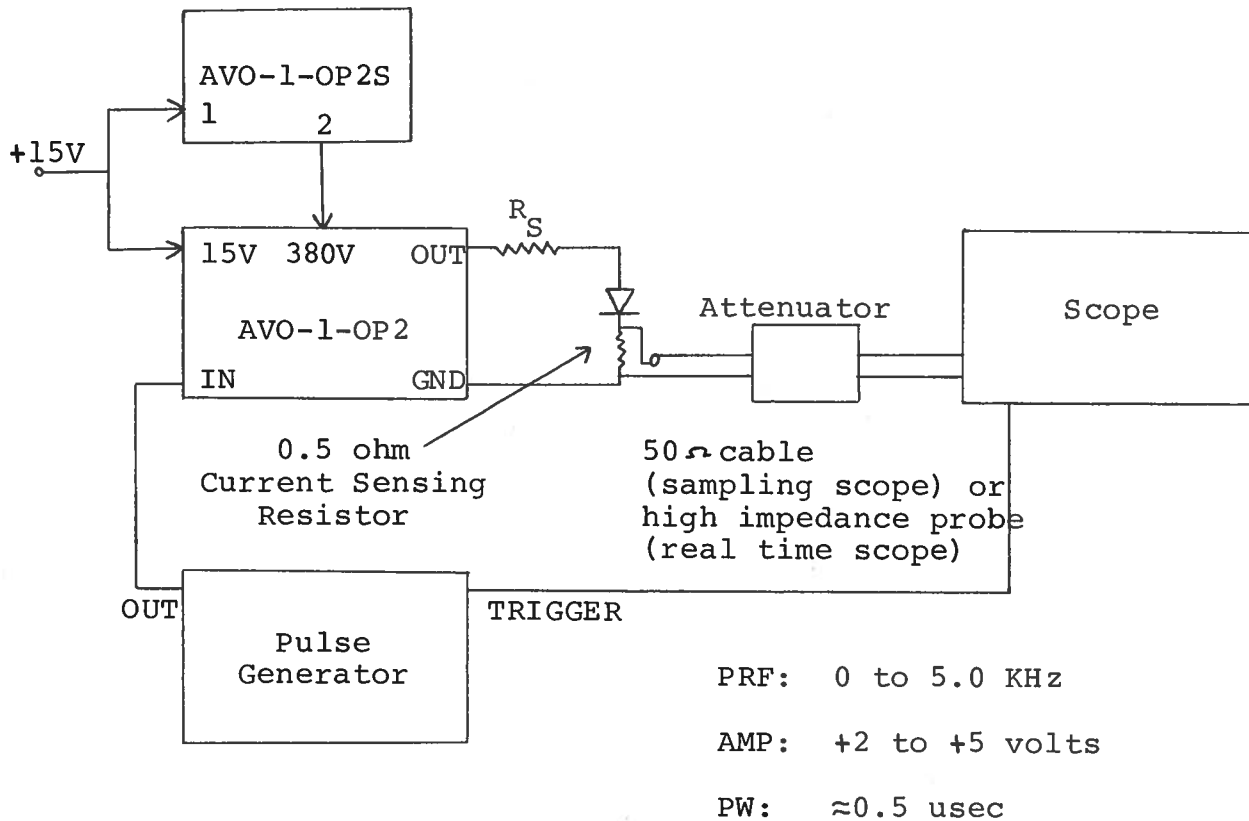
Model AVO-1-OP2S Power Supply

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.

AVO-OP1 TEST ARRANGEMENT



- 1) The laser diode is connected in series with a current limiting resistor ($0.5 < R_S < 5 \Omega$) between the GND and OUT terminals on the front panel. In order to monitor the diode current a 0.5 ohm current sensing resistor may be connected in series with the diode and the resistor R_S . $\frac{1}{4}$ watt carbon film or carbon composition resistors may be used but all leads must be as short as possible (≤ 0.1 in). Solder leads directly to the GND and OUT terminals.
- 2) In general the pulse generator trigger delay control should be set in 0.1 to 1.0 usec range. Other settings should be as shown in the above diagram.
- 3) Either a sampling oscilloscope or a high speed real time oscilloscope ($BW > 200$ MHz) may be used to monitor the voltage across the current sensing resistor and therefore the laser diode current. If a sampling scope is used at least 40 db attenuation should be used to insure a scope input voltage of less than 1.0 volt.

- 4) The amplitude of the diode current is determined by the series resistor $R_S + 0.5\Omega$, and by the series resistance of the laser diode. The performance check results given in the following page were obtained using a 1.0 ohm resistor to simulate the net load. A 50 ohm sampling scope probe was placed across this resistor in order to monitor the resistor voltage and therefore the output current. A peak output of 100 amps was obtained with a net load of 1.0 ohm. The peak current may be reduced by increasing the net load resistance and or by shunting the diode by resistive elements.
- 5) WARNING:
 - a) The unit may fail if triggered at a PRF exceeding 5 KHz.
 - b) Use moderate heat when soldering to the OUT terminal.
- 6) The AVO-1-OP2S unit dissipates up to about 5 watts and so should be heatsunk to avoid over-heating.