



AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

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INSTRUCTIONS

MODEL AVO-7A-N-CRE02 PULSE GENERATOR

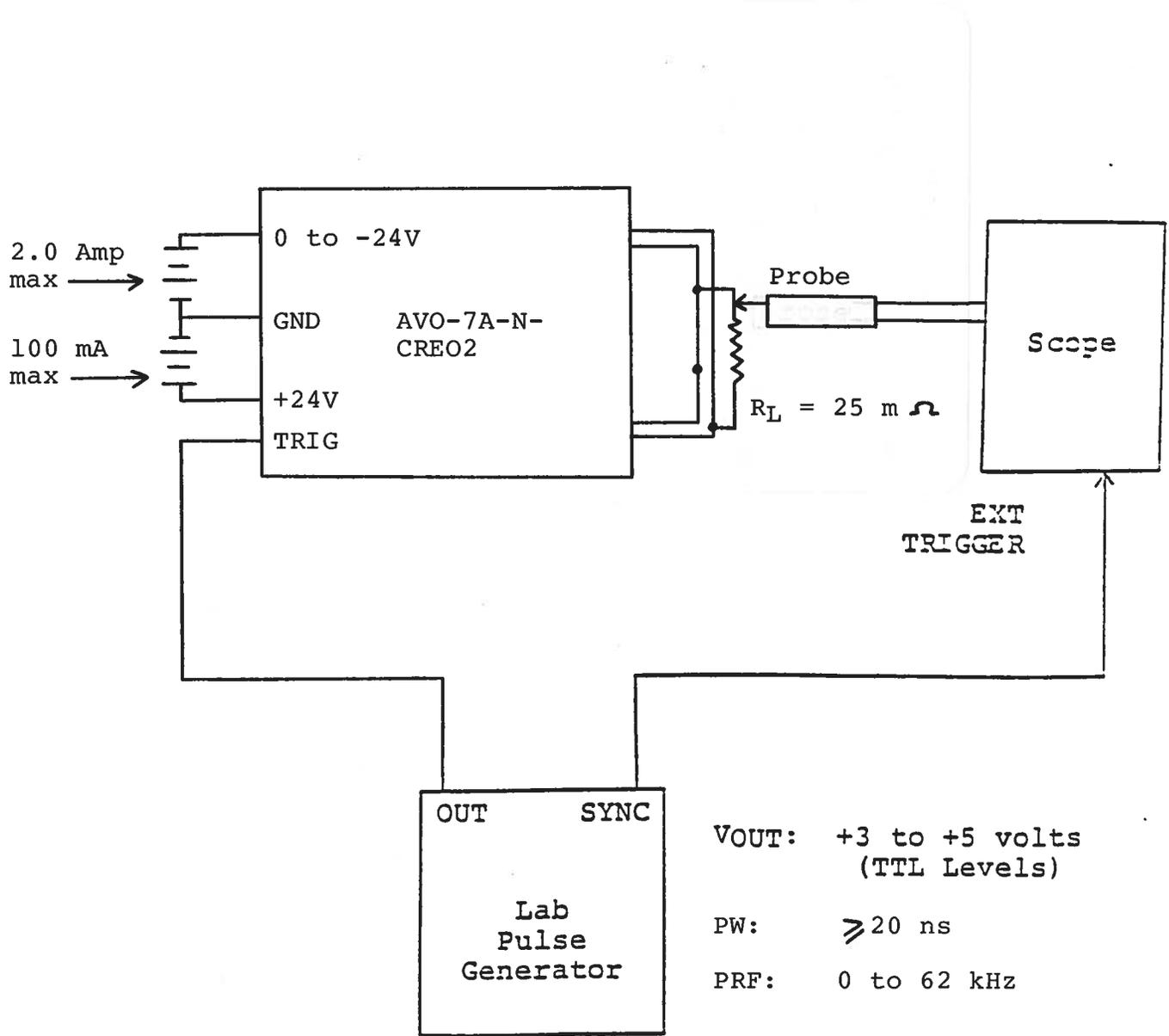
S.N. :

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.

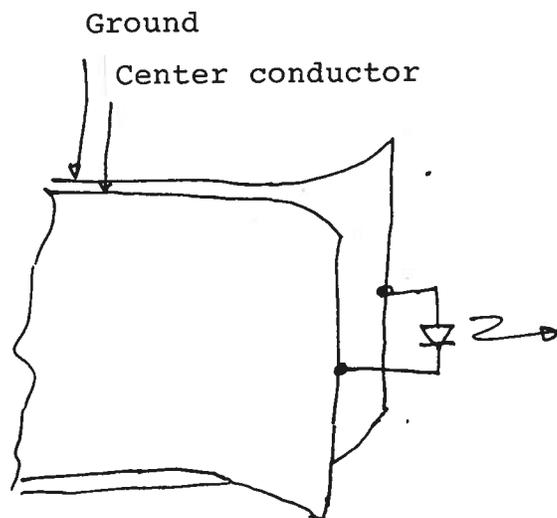
Fig. 1

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 20 ns, a fast oscilloscope (at least 50 MHz) should be used to display the waveform.
- 2) The unit must be attached to a heat sink which will maintain the bottom surface at a temperature of less than 35°C. Note that if the output switching elements are overheated, the peak output amplitude will decrease (with time). If this effect is observed, the power applied to the unit should be significantly reduced (or the cooling improved). Failure to take these steps may result in failure of the output stage.
- 3) The output pulse width is controlled by the one turn PW control.
- 4) The output pulse amplitude is controlled by the 0 to -24 VDC power supply.
- 5) 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 narrower than the two copper strips.



- 6) The leads used to attach the laser diode must be extremely short and exhibit extremely low inductance. The unit was shipped with an SR505 HLD and 33 m Ohm connected in series as a test load. This load will provide for a peak diode current of about 200 Amperes. Removing the diode and installing a 25 m Ohm load provides a peak current in excess of 300 Amperes (for - 24 VDC in). Note that the load inductance must not exceed that exhibited by the test load.
- 7) CAUTION: The duty cycle must not exceed 1% (or the unit may fail).
- 8) For additional assistance:
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Fax Ref No: 6436 From: Avtech Electrosystems Ltd.
 To: CREO Products Inc. Our fax No: (613) 226-2802
 Date: August 13, 1993
 Attn: Dan Gelbart Receivers Fax No: 604-437-9891
 Tel: 604-437-6879
 Subject: Laser diode driver No. of pages: 4

Following our recent telephone conversations, I am pleased to provide the following price and delivery quotation:

- Model designation: AVO-7A-P-CRE02.
- Output amplitude: 0 to +300 Amperes to the SDL 3490 diode. Diode connects to 4.0 cm length of AV-LZ1 line which protrudes from chassis. Output amplitude controlled by 0 to +24 VDC supply voltage.
- Output pulse width: 100 ns to 200 ns. One turn locking pot control.
- PRF: 0 to 62 kHz. PRF equals input trigger PRF.
- Input trigger: TTL, PW > 20 ns.
- Propagation delay: ≤ 50 ns.
- Duty cycle max: 10%.
- Rise, fall time: ≤ 30 ns.
- Overshoot: ≤ 20%.
- Undershoot: ≤ 10%.

Prime power: a) +24 VDC, 100 mA.
b) 0 to +24 VDC, 3.5A max.

Package size: 1.7" x 2.6" x 4.3", Avtech Style A.

Connectors: Output: 4.0 cm length of AV-LZ1
flexible microstrip line
(solder connect).

Trigger input: Solder terminal.

Prime power: Solder terminals.

Price: 1st unit: \$4,750.00 US each, FOB destination.
2nd unit: \$2,900.00 US each, FOB destination.

Subsequent units should be well below
\$2,000.00 US.

Any applicable taxes are extra.

Delivery: 30-45 days ARO (for a quantity of two).

My apologies for the delay in quoting but I wanted to solve at least some of the horrendous problems before quoting (there are still some remaining problems, such as cooling, capacitor supplier, etc.). I am enclosing a copy of the new product data sheet for the AV-LZ line.

Rgds



Dr. Walter Chudobiak
Chief Engineer

WC:pr

Oct. 28/93