

# AVTECH ELECTROSYSTEMS LTD.

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ENGINEERING - MANUFACTURING

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## INSTRUCTIONS

MODEL AVNC-3-C PULSE GENERATOR

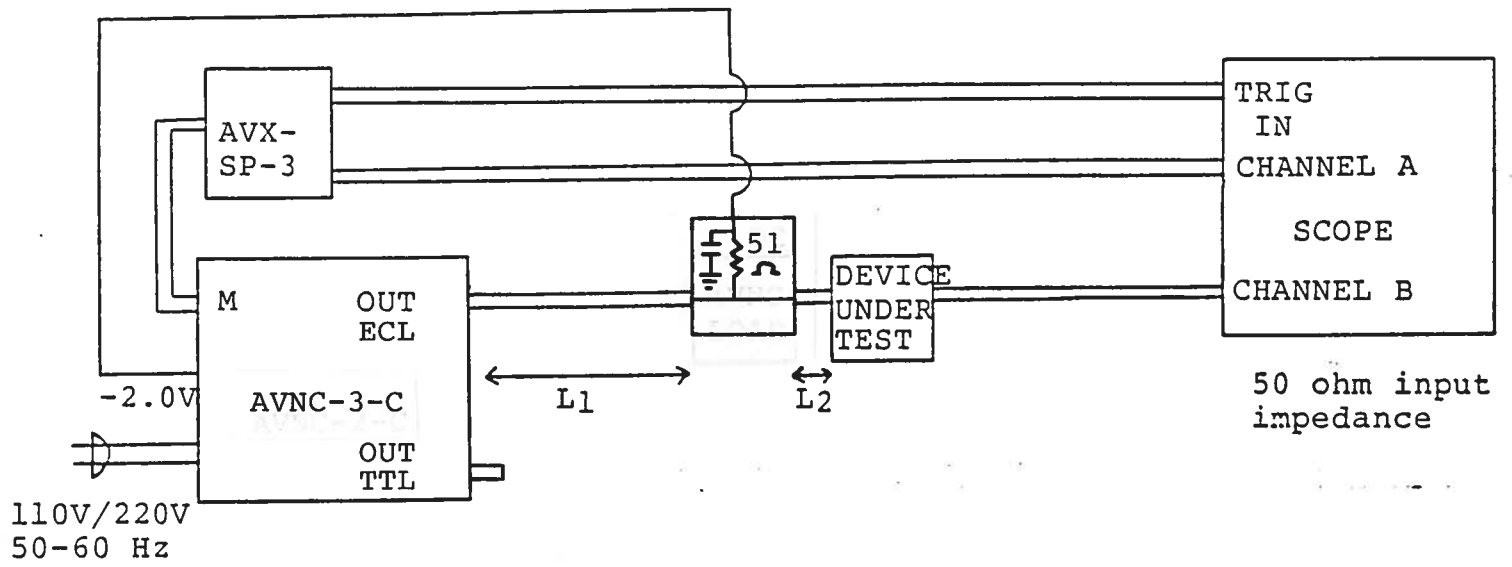
S.N.:

## 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



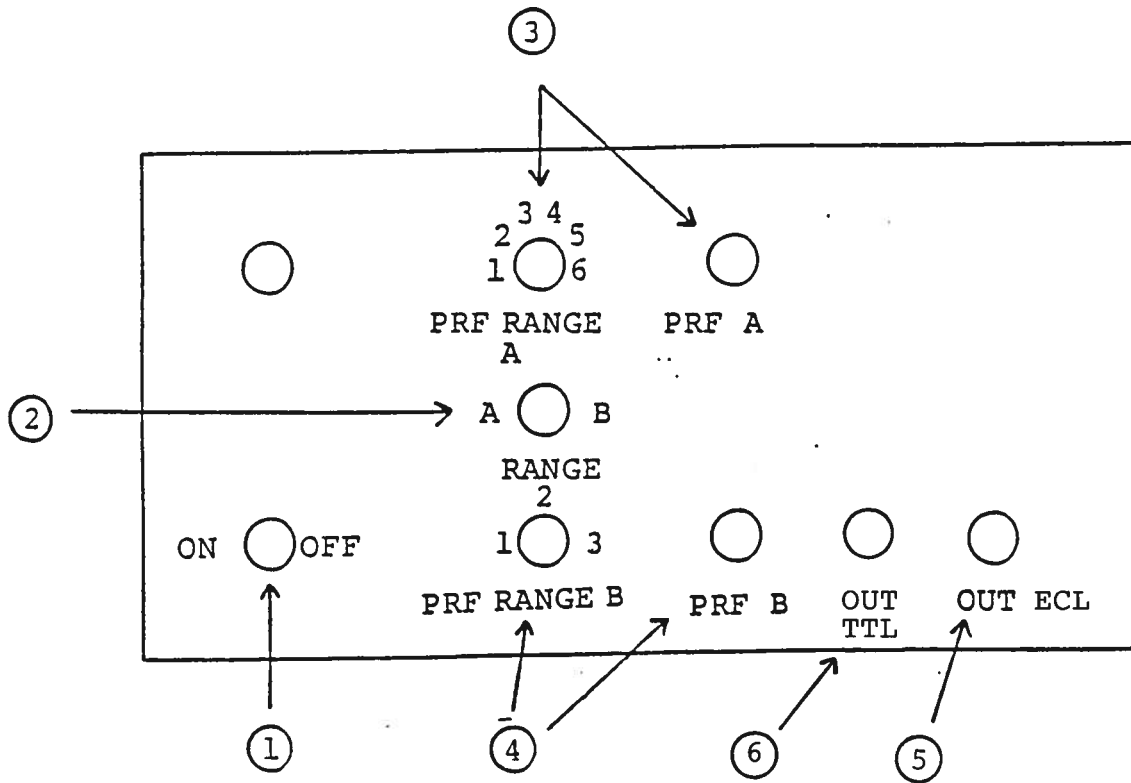
Notes:

- 1) The bandwidth capability of components and instruments used to display the pulse generator output signal (attenuators, cables, connectors, etc.) should exceed one gigahertz.
- 2) Front panel output ECL provides a -0.9, -1.8 volt level ECL square wave (to 50 ohms, -2.0 volts) covering the PRF range of 10 KHz to 50 MHz when the front panel PRF range switch is in the A position. The PRF is controlled by the six position PRF RANGE A switch and the ten turn PRF A control. The device under test should be preceded by a 50 ohm -2 volt termination. The length of 50 ohm line  $L_2$  should not exceed several inches or the resulting reflection from the device under test will distort the ECL level waveforms. The length of 50 ohm line  $L_1$  can be of any length. The -2.0 volt is supplied from the rear panel of the AVNC mainframe.
- 3) Front panel output ECL provides a -0.9, -1.8 volt level ECL square wave (to 50 ohms, -2.0 volts) covering the PRF range of 50 MHz to 250 MHz when the front panel PRF range switch is in the B position. The PRF is controlled by the three position PRF RANGE B switch and the ten turn PRF B control.
- 4) Front panel output TTL provides a 5 volt square wave to 50 ohms covering the PRF range of 10 KHz to 50 MHz when the front panel PRF range switch is in the A position. The PRF is controlled by the six position PRF RANGE A switch and the ten turn PRF A control.
- 5) The back panel M ports provides a coincident attenuated replica ( $\times 10$  to 50 ohms) of the front panel outputs. The use of an Avtech AVX-SP-3 power splitter connected at the M output provides a convenient means for triggering the time bases of the oscilloscope and for displaying a replica of the output pulse. It is essential that the output ports of the AVX-SP-3 unit be terminated in 50 ohms. Note that in the absence of an AVX-SP-3, the M ports may be connected directly to the TRIG IN port of the scope (use 50 ohm termination).
- 6) The AVNC-C unit can be converted from 110 to 220V 50-60 Hz operation by adjusting the voltage selector card in the rear panel fused voltage selector-cable connector assembly.
- 7) To voltage control the output PRF when in Range A, remove the jumper wire between A and B terminals on the back panel and apply 0 to +10 volts between the B terminal and ground ( $R_{IN} > 10K$ ). EF option.

- B) To voltage control the output PRF when in Range B, remove the jumper wire between A and B terminals on the back panel and apply 0 to +10 volts between the B terminal and ground ( $R_{IN} > 10K$ ). EF option.

Fig. 2

FRONT PANEL CONTROLS



- (1) ON-OFF Switch. Applies basic prime power to all stages.
- (2) RANGE A-B. When switch is in A position, outputs TTL and ECL provide square wave pulses covering PRF range of 10 KHz to 50 MHz. When switch in B position, output ECL provides square wave pulses covering PRF range of 50 MHz to 250 MHz.
- (3) PRF A Control. PRF RANGE A and PRF FINE A controls output PRF as follows:

	PRF MIN	PRF MAX
Range 1	10 KHz	50 KHz
Range 2	50 KHz	250 KHz
Range 3	185 KHz	650 KHz
Range 4	650 KHz	3.3 MHz
Range 5	3.3 MHz	13.3 MHz
Range 6	10.0 MHz	50 MHz

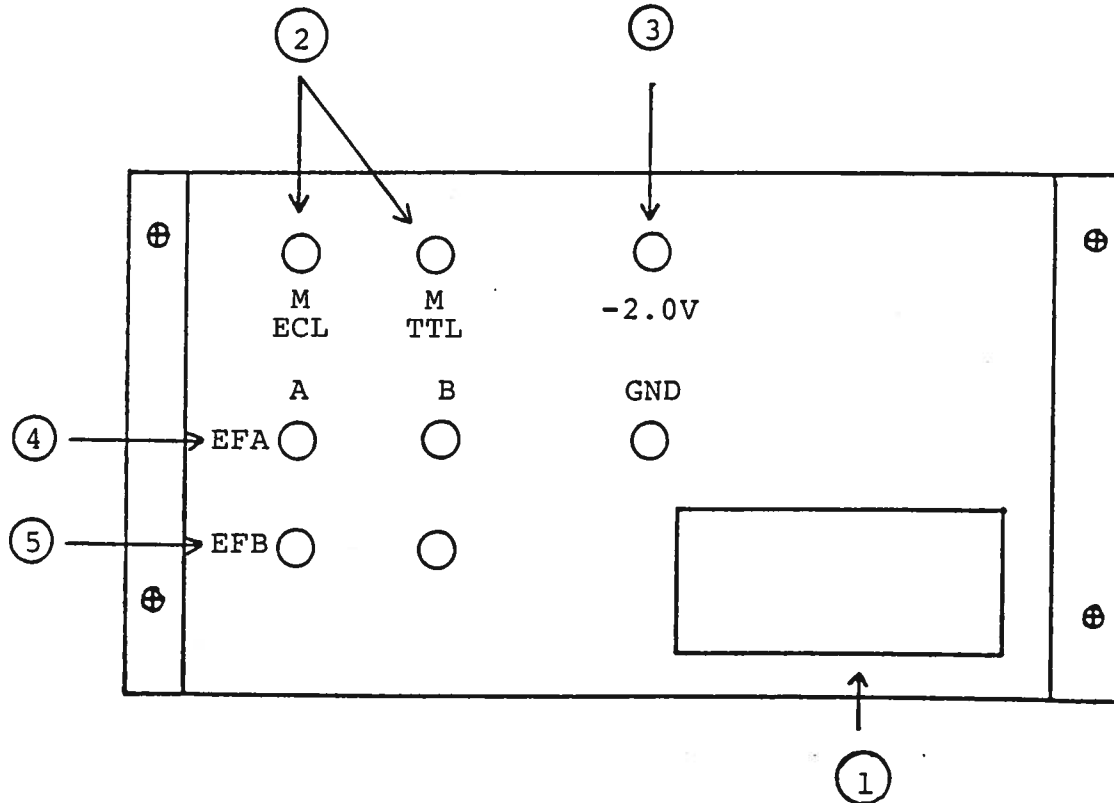
- (4) PRF B Control. PRF RANGE B and PRF FINE B control output B PRF as follows:

	PRF MIN	PRF MAX
Range 1	40 MHz	120 MHz
Range 2	50 MHz	200 MHz
Range 3	200 MHz	250 MHz

- (5) OUTPUT ECL. Provides a -0.9, -1.8 volt level ECL square wave (to 50 ohms, -2.0 volts) covering the PRF range of 10 KHz to 250 MHz.
- (6) OUTPUT TTL. Provides a +5 volt (to 50 ohms) square wave covering the PRF range of 10 KHz to 50 MHz.

Fig. 3

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.
- (2) MONITOR OUT. Provides an attenuated (x10) coincident replica of output to fifty ohms.
- (3) -2.0V OUT. Output voltage available for 50 ohm -2 volt termination of ECL out port.
- (4) EFA. To voltage control the output PRF when in Range A, remove the jumper wire between A and B terminals on the back panel and apply 0 to +10 volts between the B terminal and ground ( $R_{IN} > 10K$ ). EF option.
- (5) EFB. To voltage control the output PRF when in Range B, remove the jumper wire between A and B terminals on the back panel and apply 0 to +10 volts between the B terminal and ground ( $R_{IN} > 10K$ ). EF option.

SYSTEM BLOCK DIAGRAM

Fig. 4

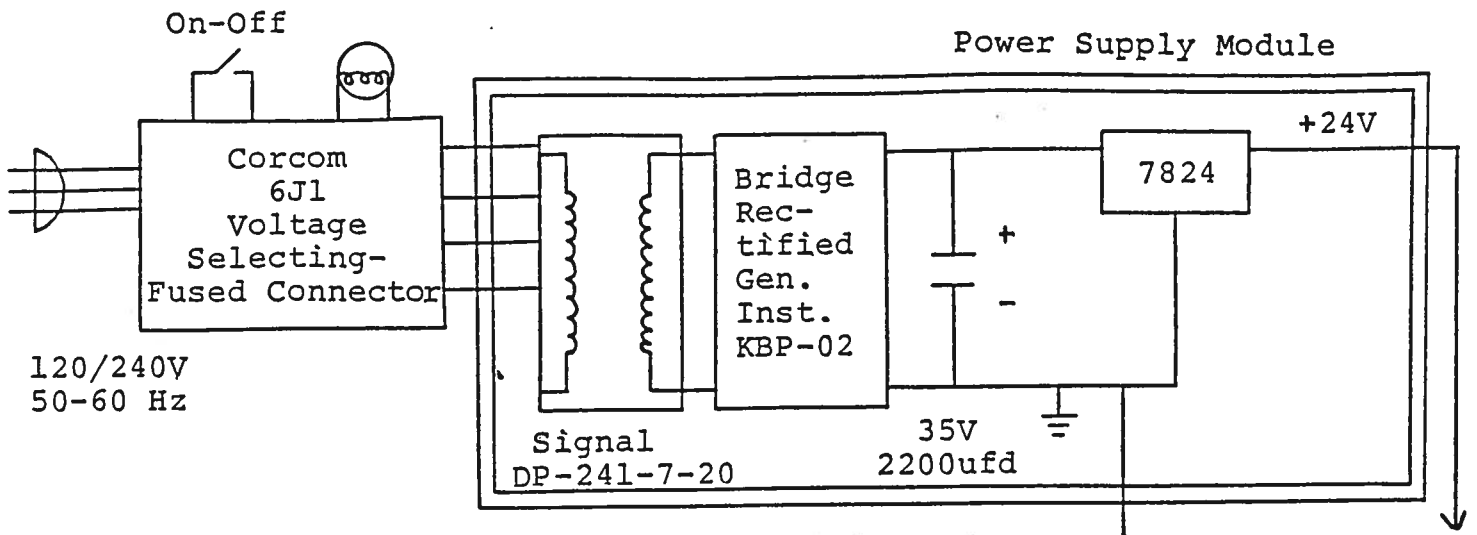
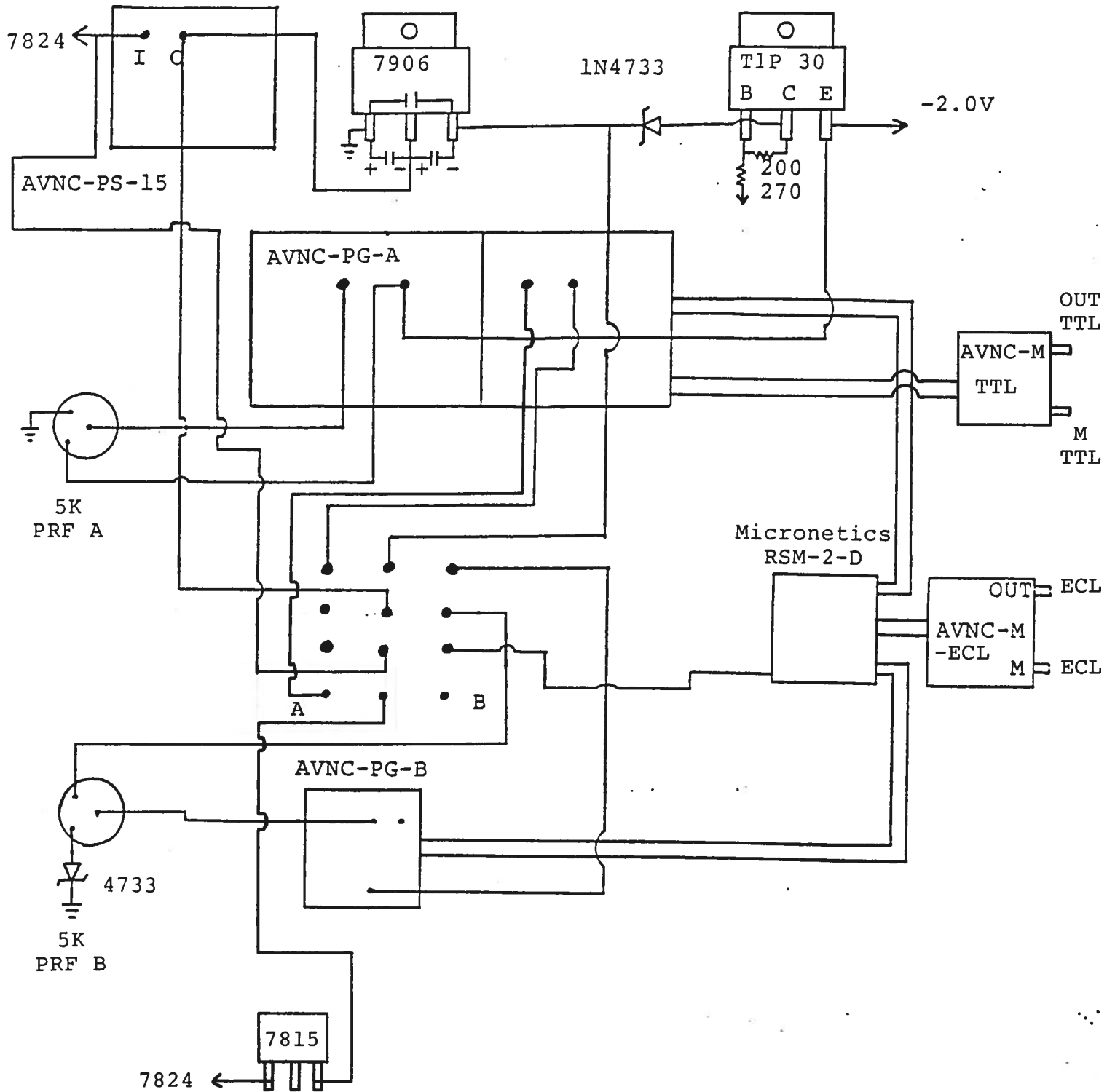


Fig. 5



SYSTEM BLOCK DIAGRAM AVNC-3-C

Schroff

04.04.89

-M

-EF



0-14.07