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**NANOSECOND WAVEFORM ELECTRONICS
ENGINEERING . MANUFACTURING**

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INSTRUCTIONS

MODEL AVNC-2-C PULSE GENERATOR

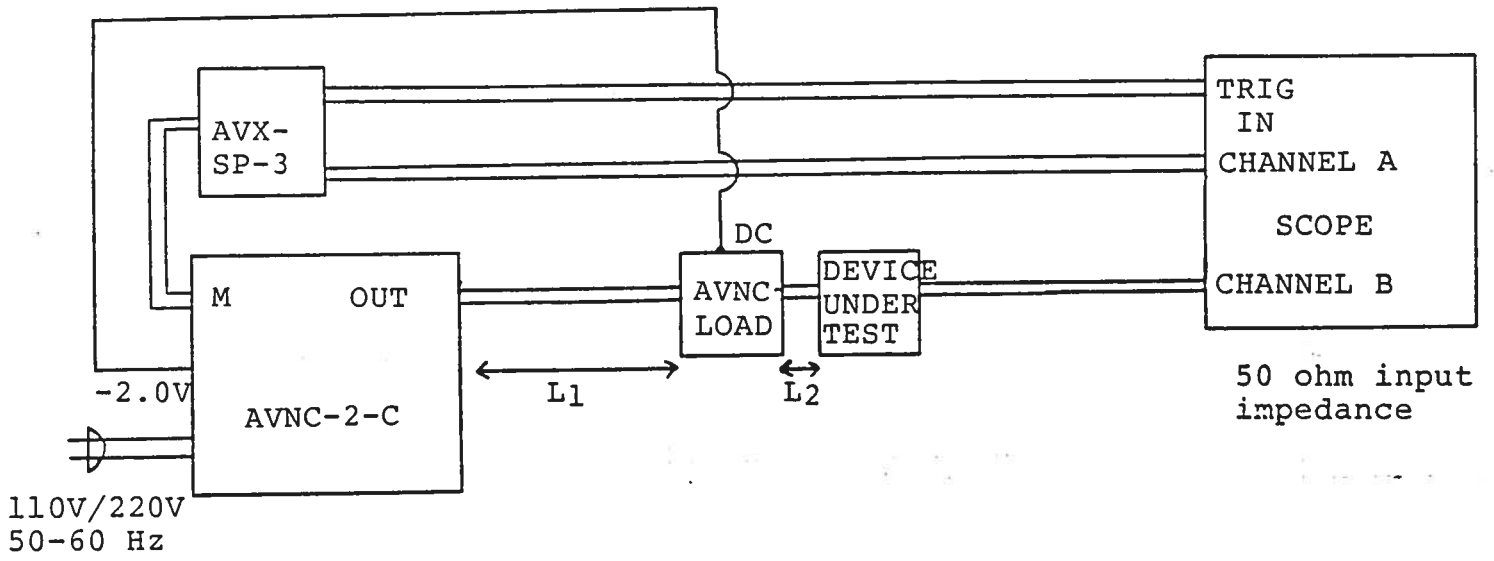
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WARRANTY

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

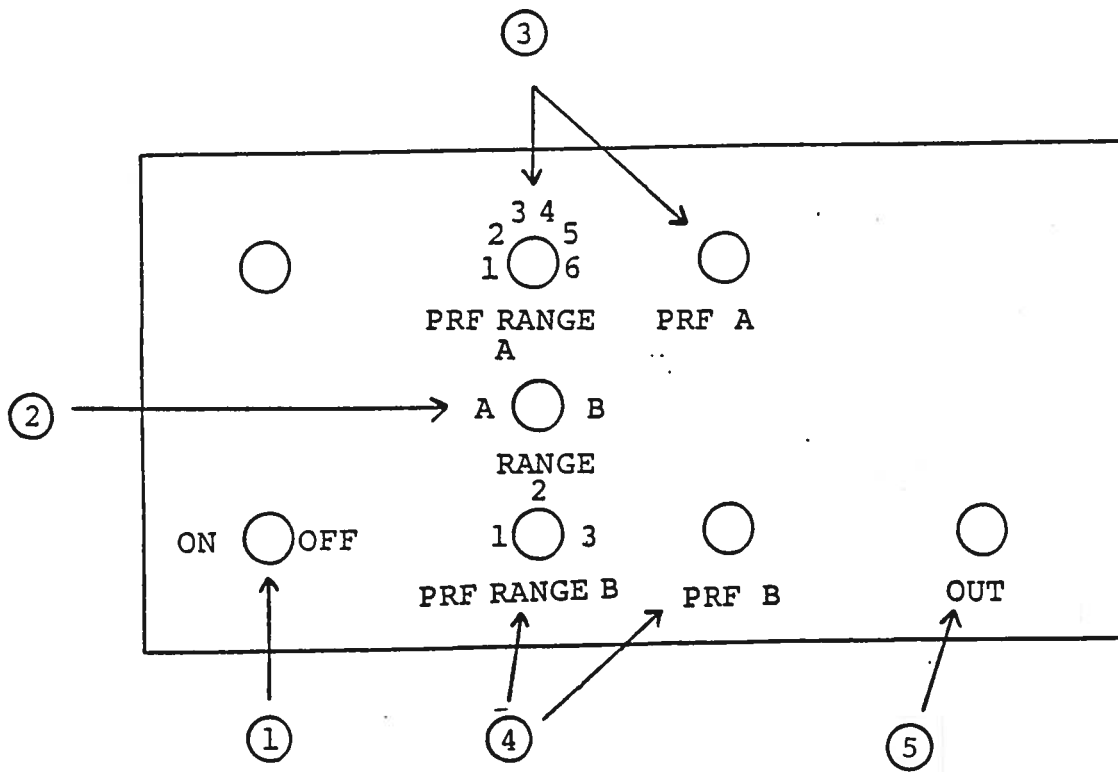


Notes:

- 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) The device under test should be placed directly in the output of the AVNC-LOAD module. 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 AVNC-LOAD module contains the 50 ohm -2.0 volt termination required by the AVNC pulse generator. The -2.0 volt is supplied from the rear panel of the AVNC mainframe.
- 3) The back panel M port provides a coincident attenuated replica ($\times 10$ to 50 ohms) of the front panel output A or output B. 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).
- 4) Front panel output A 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.
- 5) Front panel output B 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.
- 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.
- 8) 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, output provides square wave pulses covering PRF range of 10 KHz to 50 MHz. When switch in B position, output 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 A 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

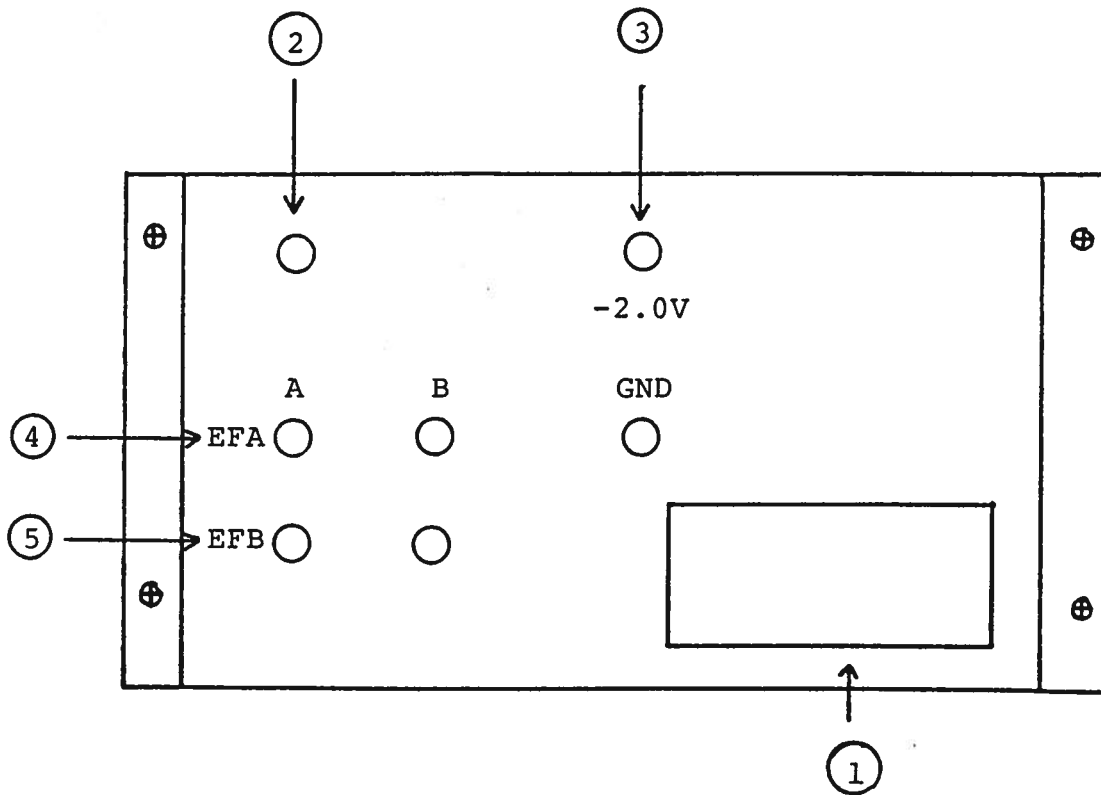
- (4) PRF B Control. PRF RANGE B and PRF FINE B control output B PRF as follows:

	PRF MIN	PRF MAX
Range 1	40 MHz	120 MHz
Range 2	50 MHz	200 MHz
Range 3	100 MHz	250 MHz

- (5) OUTPUT. 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.

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. Connect to DC terminal of AVNC-LOAD module which is connected to output of AVNC mainframe.
- (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

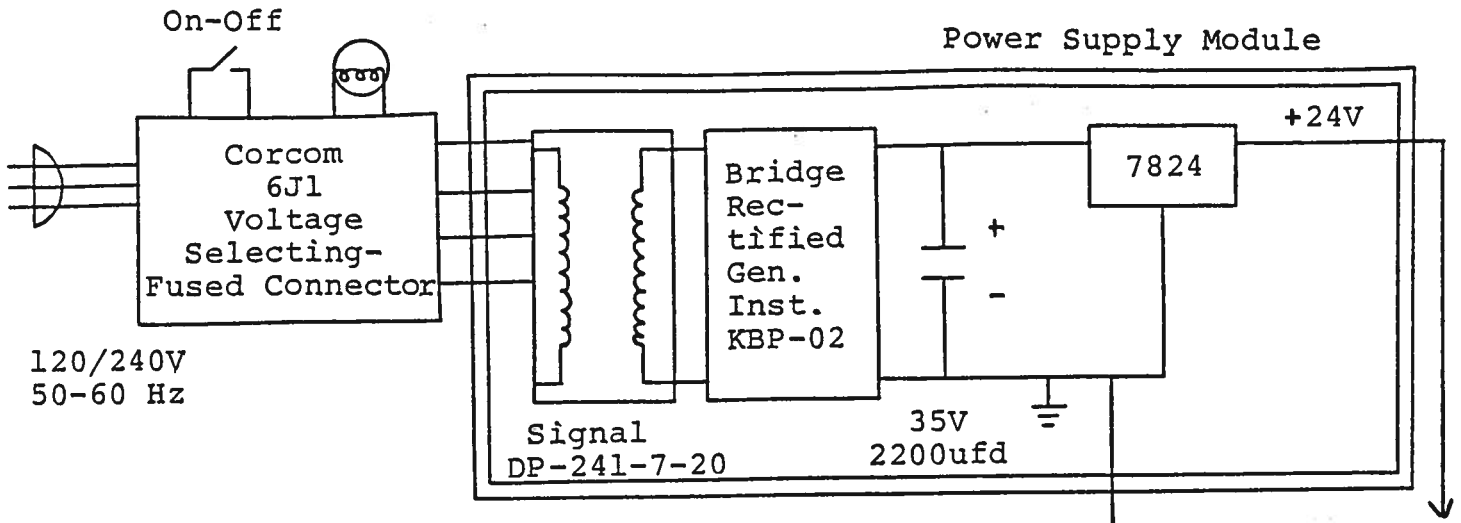
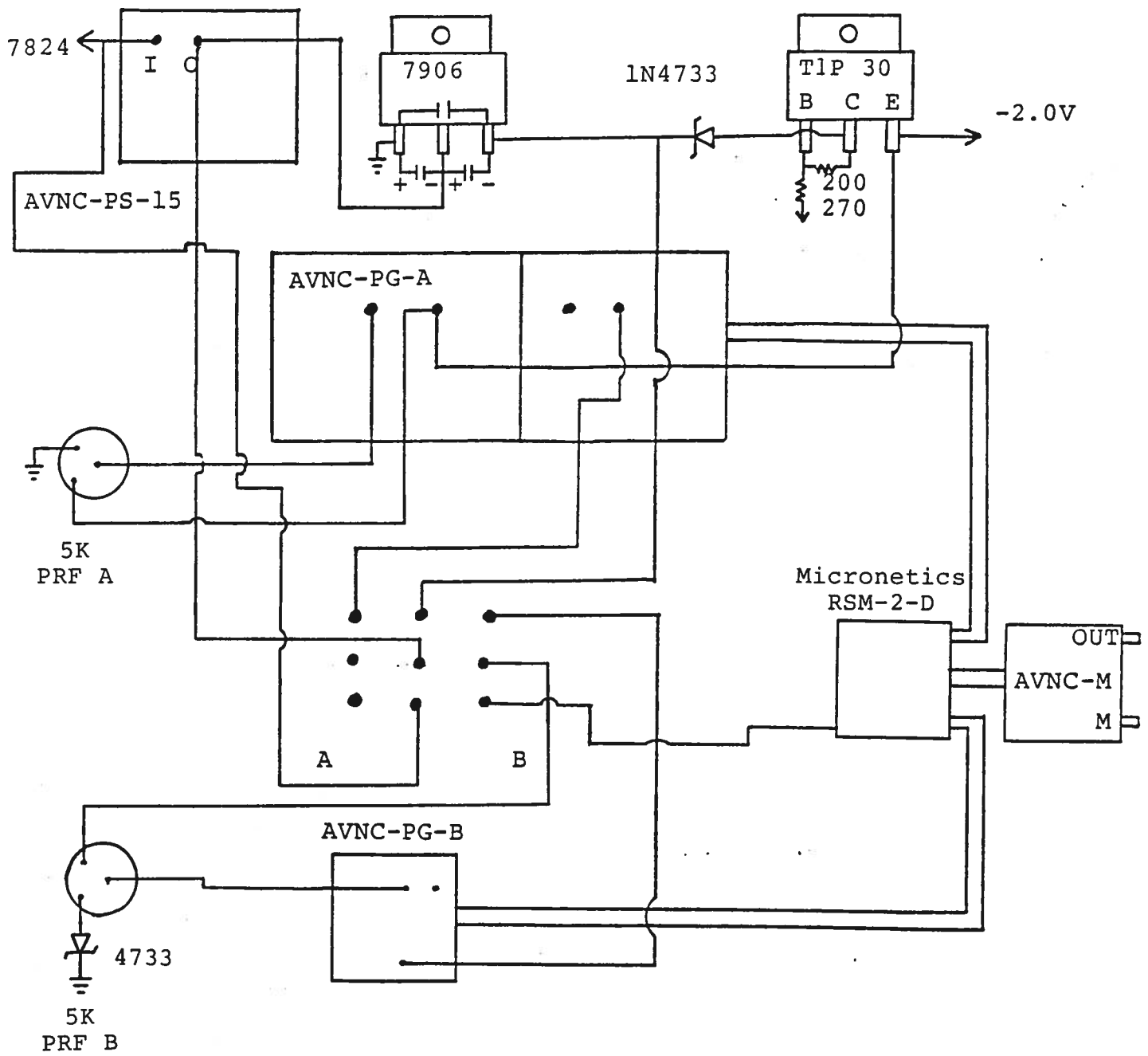
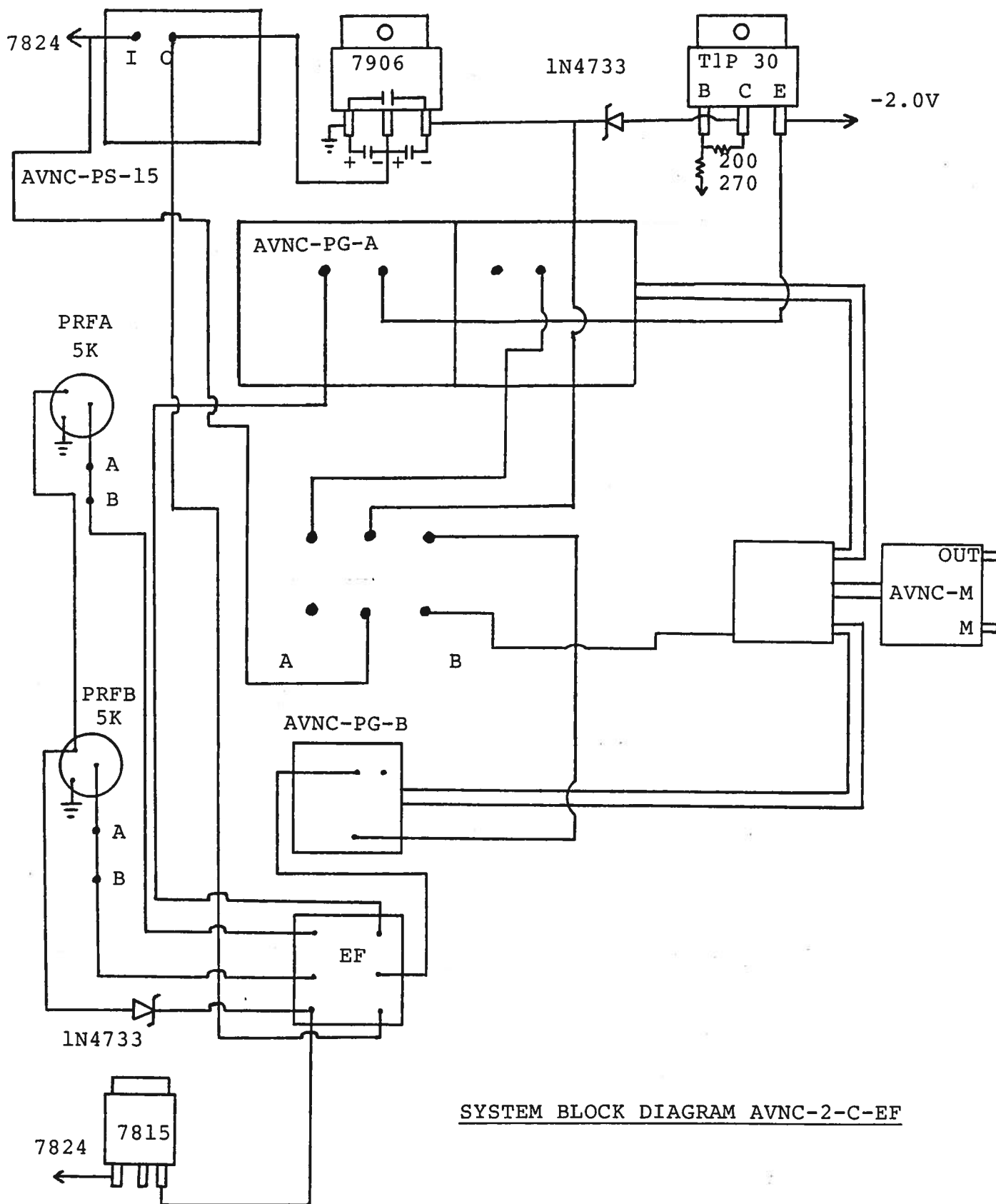


Fig. 5



SYSTEM BLOCK DIAGRAM AVNC-2-C



SYSTEM BLOCK DIAGRAM AVNC-2-C-EF

Schroff

05.06.88

Edition A

11

- M

- EF