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## INSTRUCTIONS

MODEL AVR-B4-C-PW-P-M1 PULSE GENERATOR

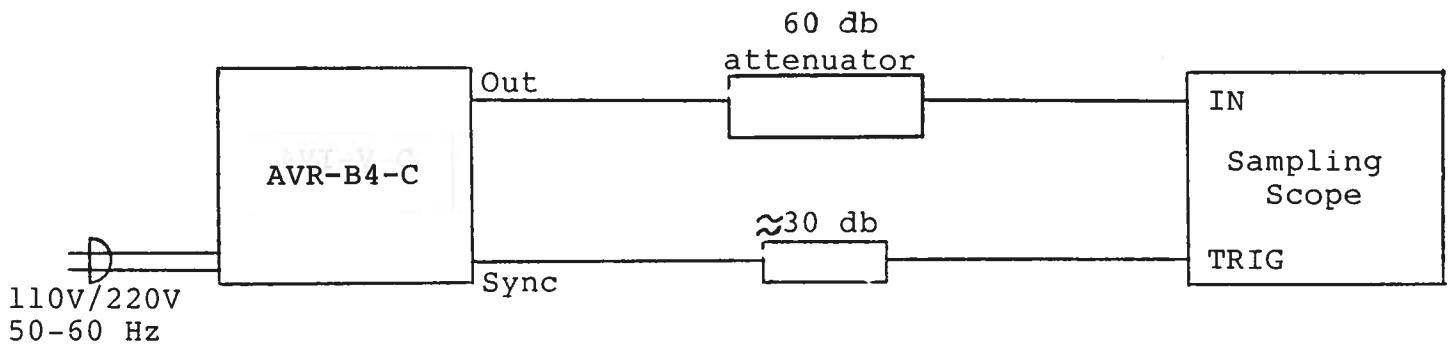
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## WARRANTY

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 five gigahertz.
- 2) The use of 60 db attenuator at the sampling scope vertical input channel will insure a peak input signal to the sampling scope of less than one volt.
- 3) The sync output channel provides TTL level signals. To avoid overdriving the TRIG input channel of some sampling scopes, a 30 db attenuator should be placed at the input to the sampling scope trigger channel.
- 4) To obtain a stable output display the PRF controls on the front panel should be set mid-range while the PRF switch may be in either range. The front panel TRIG toggle switch should be in the INT position. The front panel DELAY control and the scope triggering controls are then adjusted to obtain a stable output. The scope may then be used to set the desired PRF by rotating the PRF and PRF FINE controls and by means of the back panel toggle switch.
- 5) The output pulse amplitude is controlled by means of the front panel one turn AMP control.
- 6) The output pulse width is controlled by the two position range switch (A and B) and the PW A and PW B one turn controls as follows:

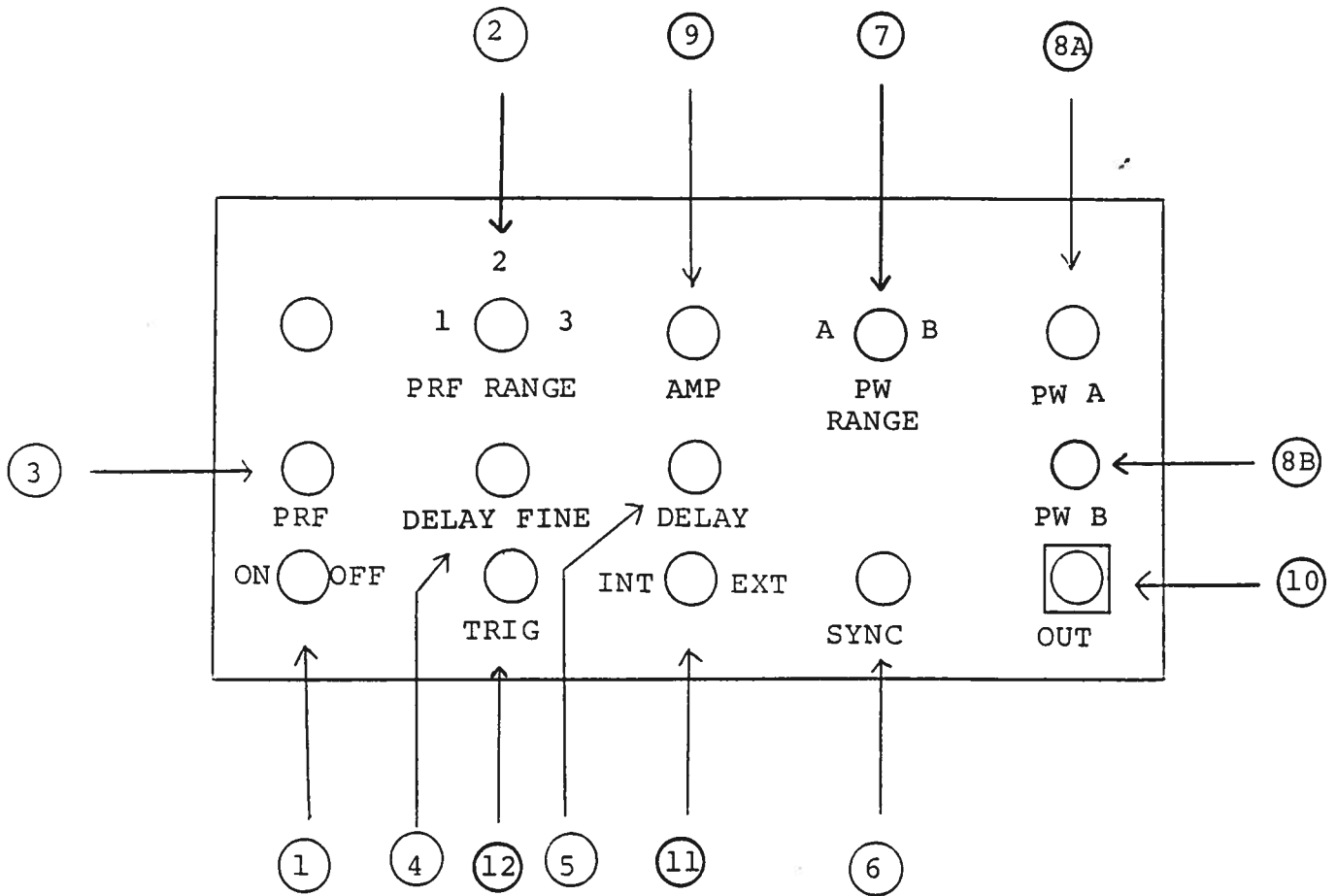
RANGE A: 1 nsec to 4 nsec  
RANGE B: 2 nsec to 8 nsec

When operating in Range A, the PW B control should initially be set max clockwise and PW A adjusted to achieve the desired output pulse width. PW B may then be rotated counter clockwise to reduce the spurious signal level following the pulse fall time. PW A is inactive when the PW range switch is in the B position.

- 7) An external clock may be used to control the output PRF of the AVR unit by setting the front panel TRIG toggle switch in the EXT position and applying a 0.2 usec (approx.) TTL level pulse to the TRIG BNC connector input. For operation in this mode, the scope time base must also be triggered by the external clock rather than from the SYNC output. The propagation delay time in the externally triggered mode is about 300 nsec.

Fig. 2

FRONT PANEL CONTROLS



- (1) ON-OFF Switch. Applies basic prime power to all stages.
- (2) PRF Control. The PRF range switch in 1 position, PRF control will vary PRF from 0.05 KHz to about 0.5 KHz.
- (3) With PRF RANGE switch in 2 position, varies PRF from about 0.5 KHz to about 5 KHz. With the PRF range switch in the 3 position, varies PRF from about 5 KHz to 50 KHz. The operating PRF should be set using a sampling scope.
- (4) DELAY Control. Controls the relative delay between the reference output pulse provided at the SYNC output (6) and the main output (10). This delay is variable over the range of 0 to at least 500 nsec.
- (5)
- (6) SYNC Output. This output precedes the main output (10) and is used to trigger the sampling scope time base. The output is a TTL level 100 nsec (approx.) pulse capable of driving a fifty ohm load.
- (7) PW. The output pulse width is controlled by the two position range switch (7) and the PW A and PW B one turn controls as follows:
- (8)

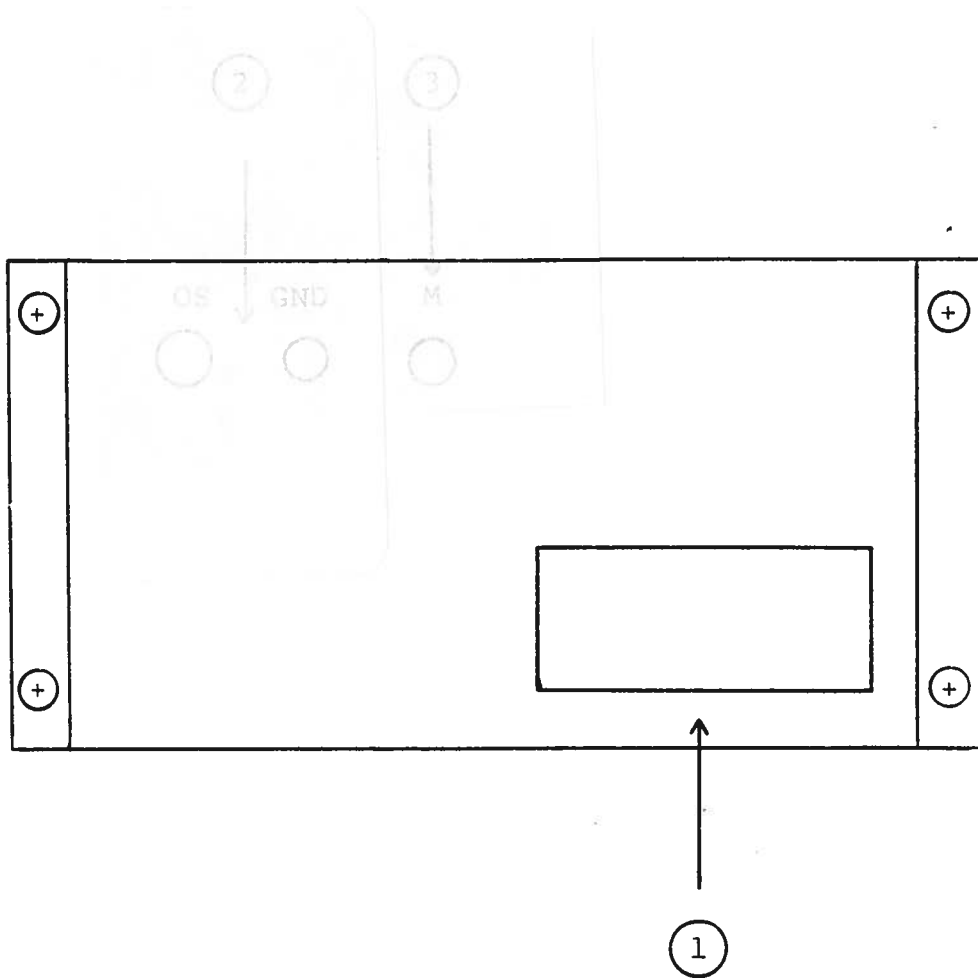
RANGE A: 1 nsec to 4 nsec  
RANGE B: 2 nsec to 8 nsec

When operating in Range A, the PW B control should initially be set max clockwise and PW A adjusted to achieve the desired output pulse width. PW B may then be rotated counter clockwise to reduce the spurious signal level following the pulse fall time. PW A is inactive when the PW range switch is in the B position.

- (9) AMP Control. A one turn control which varies the output pulse amplitude from 0 to rated maximum to a fifty ohm load.
- (10) OUT Connector. SMA connector provides output to a fifty ohm load.
- (11) EXT-INT Control. With this toggle switch in the INT position, the PRF of the AVR unit is controlled via an internal clock which in turn is controlled by the PRF controls. With the toggle switch in the EXT position, the AVR unit requires a 0.2 usec TTL level pulse applied at the TRIG input in order to trigger the output stages. In addition, in this mode, the scope time base must be triggered by the external trigger source.
- (12) TRIG Input. The external trigger signal is applied at this input when the EXT-INT toggle switch is in the EXT position.

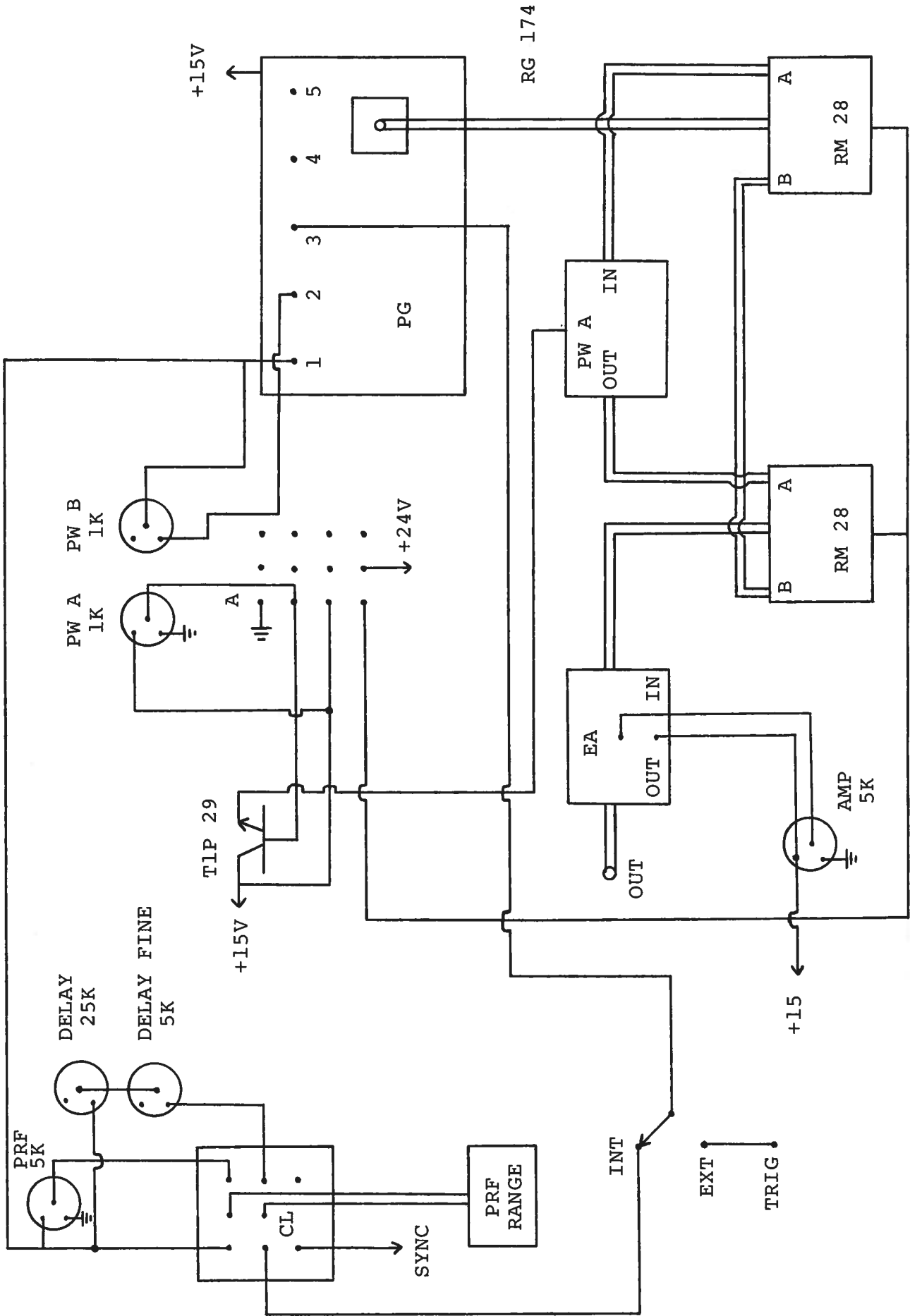
Fig. 3

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.



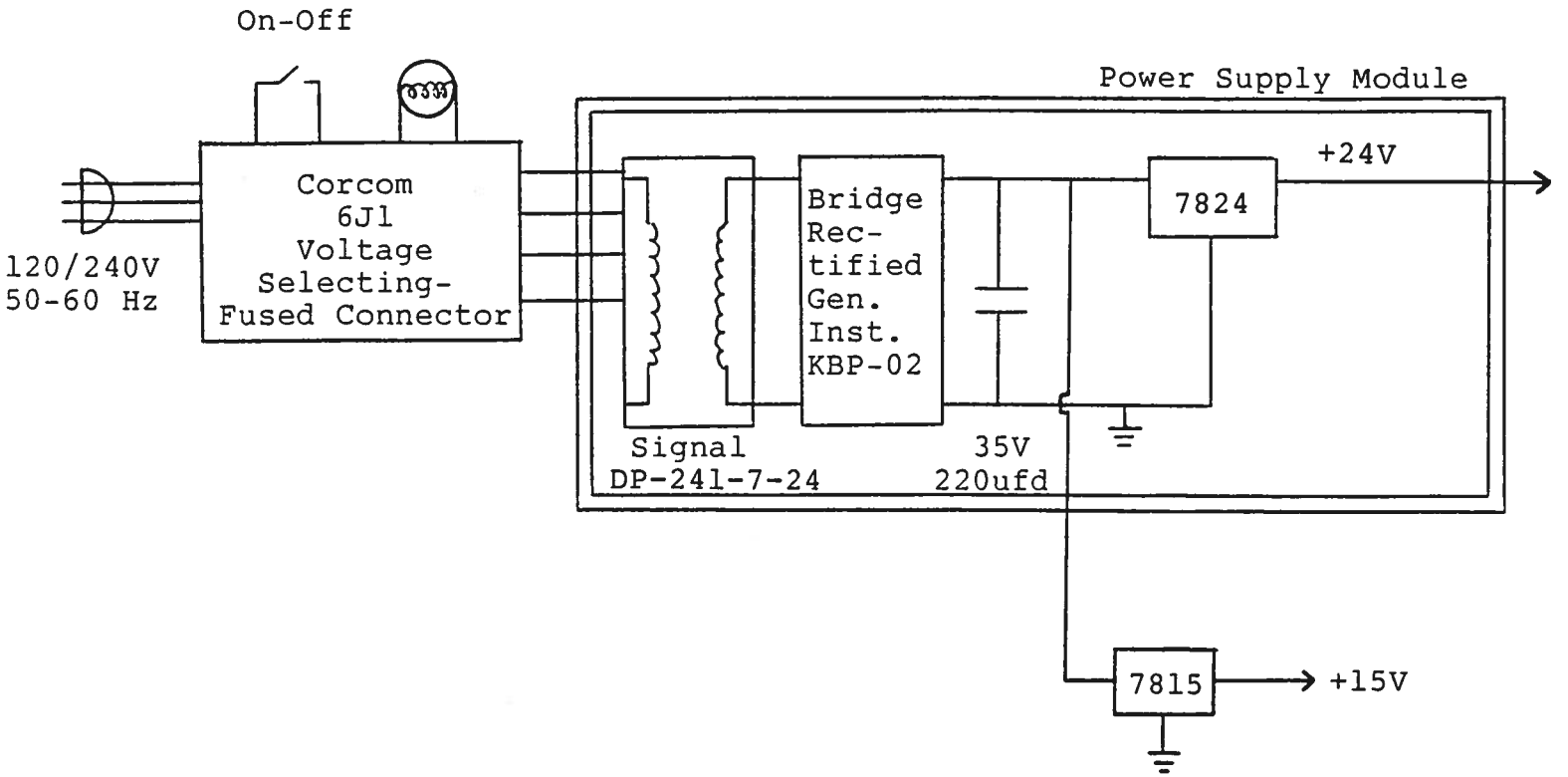


RG 174

AVR-B4-C-PW-P-M1 BLOCK DIAGRAM

Fig. 4

POWER SUPPLY



Schroff

04.03.89