AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

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INSTRUCTIONS

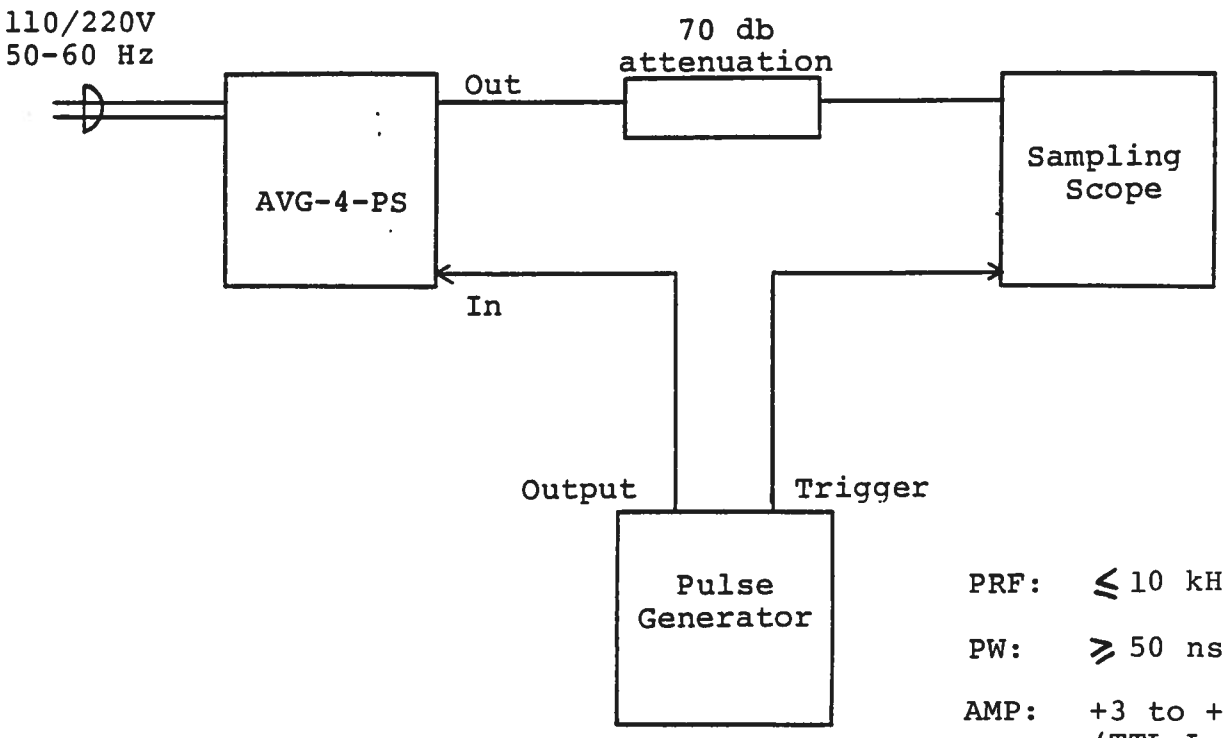
MODEL AVG-4B-PS-VS2 PULSE GENERATOR

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 dissembled, 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.

IMPULSE GENERATOR TEST ARRANGEMENT



CAUTION: Excercise due caution when employing this instrument as it provides output pulses as high as 1000 Volts!!

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 use of 70 dB attenuator at the sampling scope vertical input channel will insure a peak input signal to the sampling scope of less than one Volt. CAUTION: Insure that the attenuator can withstand the exceptionally high input voltage level (1000 Volts). If in doubt, use the rear panel monitor output.

3) MONITOR Output. The rear panel monitor output provides an attenuated replica (x 12.86 down) of the output. The monitor output is designed to operate into a 50 Ohm load. Since the peak voltage at the monitor out (to 50 OHms) is less than 100 Volts, the attenuator voltage ratings are less critical.

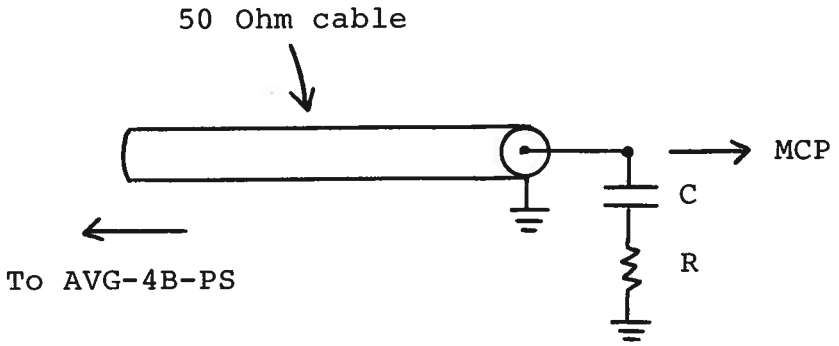
4) The general pulse shape is controlled by the following two controls:

   PULSE WIDTH A: The main shape control. Clockwise rotation increases the pulse width (and amplitude).

   PULSE WIDTH B: Should normally be set mid-range (to provide max output amplitude). Not a sensitive control.

   After changing the PRF dramatically, it may be necessary to readjust the two controls to reobtain the desired output pulse shape.

5) The main output must see a well-defined 50 Ohm load and low loss 50 Ohm cable (eg. 80 mil or larger semi-rigid) should be used. This cable can be as long as several feet. The termination load should be of the form shown below:



The resistor must be a non-inductive high voltage 50 Ohm resistor. Two series carbon composition resistors can be used (to attain the necessary voltage capability). The DC blocking capacitor must have a voltage rating of at least 50 Volts. Three parallel 0.1 ufd 50 Volt ATC ceramic block capacitors are acceptable. It is extremely critical that the component lead lengths be extremely short (≤ 0.1") so as to reduce the parasitic inductance.

6) The internally generated +50 VDC offset voltage can be turned ON or OFF by the rear panel two position switch.

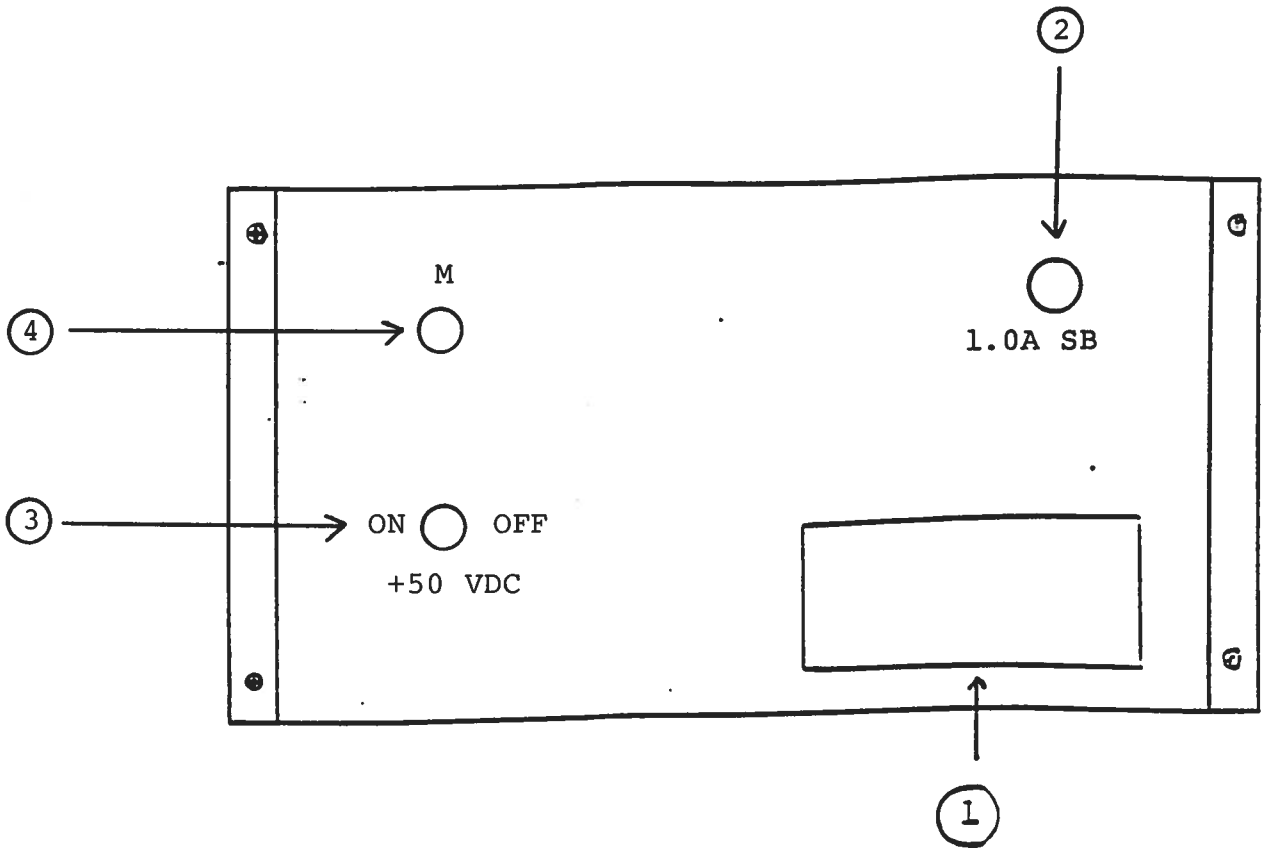
7) The AVG-4B-PS unit requires a TTL input trigger pulse (+5 Volts, PW > 50 ns, R_{IN} = 1K). The propagation delay time is about 50 ns.

8) The unit can be converted from 120 to 240V 50-60 Hz operation by adjusting the voltage selector card in the rear panel fused voltage selector cable connector assembly.

9) For additional assistance:

Tel: (613) 226-5772
Fax: (613) 226-2802

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 (0.5 A SB).

(2) 1.0 A SB. Protects output stage against overload condition.

(3) +50 VDC. The internally generated +50 Volts DC offset may be turned ON or OFF using this two-position switch.

(4) M. This monitor output provides an attenuated (x 12.86 times) replica of the main output. The monitor must be terminated in 50 Ohms in order to provide the attenuation.

TOP COVER REMOVAL AND RACK MOUNTING

1) The interior of the instrument may be accessed by removing the four Phillips screws on the top panel. With the four screws removed, the top cover may be slid back (and off). CAUTION: DC potentials as high as 425 Volts are employed in the chassis interior and so it is recommended that the unit be returned to AVTECH for any required servicing.

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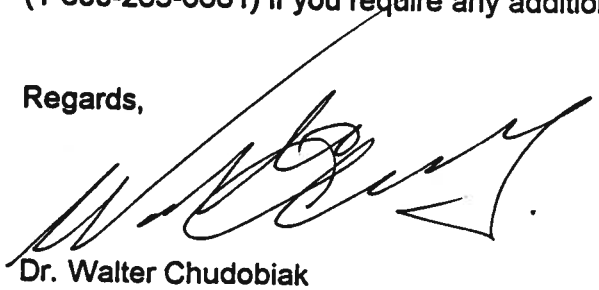
Fax Ref. No:	3129	From:	Avtech Electrosystems Ltd.
To:	Video Scope	Our Fax No:	(613) 226-2802
		Date:	December 12, 1997
Attn:	Tom Lynch	Receivers Fax No:	703-742-8947
Phone:	703-437-5534	No. of pages:	2
Subject:	Quotation	C.C.	

Following our recent telephone conversation, I am pleased to quote as follows:

Quote No:		8421.
Model designation:		AVG-4B-N-PS-VS2.
Peak Output amplitude: (fixed)	a)	≥ -1000 Volts to 50 Ohms. Note that coax cable length to load should not exceed 0.5 meter.
	b)	≥ -950 Volts to 50 Ohms shunted by 30 pfd.
Pulse width: (to 50 Ohms shunted by 30 pfd)	a)	At -900 Volts: 3 to 7 ns (one turn control).
	b)	At 100 Volts: 10 to 13 ns.
Other:		See standard AVG-4B-PS, page 89, Catalog #9.
Price:		$4,998.00 US each, FOB destination.
Delivery:		60 days ARO.

Thank you for your continuing interest in our products. Please call me again (1-800-265-6681) if you require any additional information.

Regards,



Dr. Walter Chudobiak
Chief Engineer

WC:my

April 8/98 in WP

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-M