



AVTECH ELECTROSYSTEMS LTD.  
NANOSECOND WAVEFORM ELECTRONICS

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INSTRUCTIONS

MODEL AVR-3-P-EW-EF-DAY2 PULSE GENERATOR

S.N.:

### WARRANTY

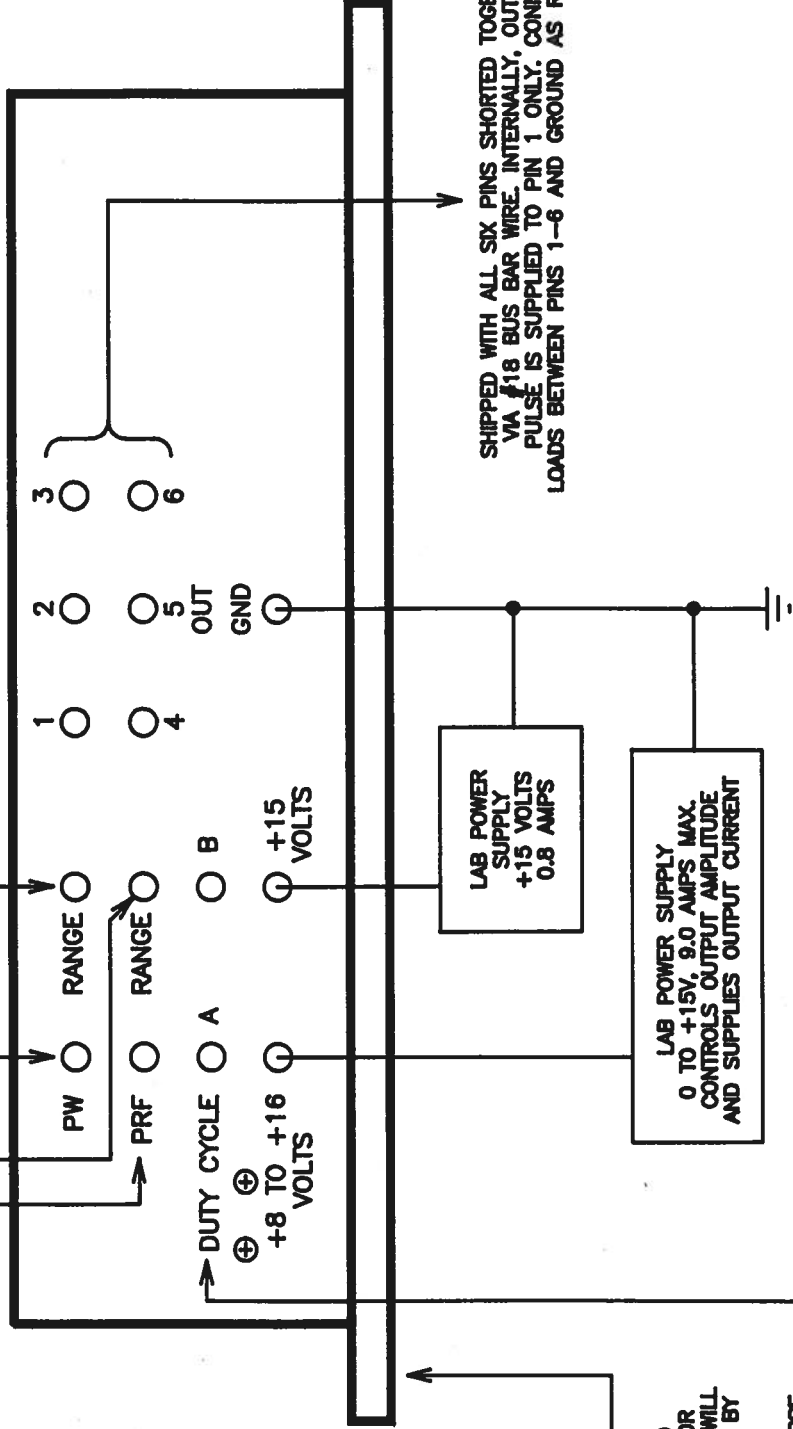
Avtech Electrosystems Ltd. warrants products of its manufacture to be free from defects in material and workmanship under conditions of normal use. If, within one year after delivery to the original owner, and after prepaid return by the original owner, this Avtech product is found to be defective, Avtech 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.

WITH 0V APPLIED (OR OPEN CIRCUITED)  
 PRF RANGE IS 1Hz TO 10Hz.  
 WITH +5V APPLIED, PRF RANGE  
 IS 10Hz TO 100Hz.

VARIES PRF IN EACH RANGE FROM  
 MIN TO MAX (x10) AS APPLIED VOLTAGE  
 VARIES FROM 0 TO +5 VOLTS.

VARIES PW IN EACH RANGE FROM MIN TO MAX (x10)  
 AS APPLIED VOLTAGE VARIES FROM 0 TO +5 VOLTS.

WITH 0V APPLIED (OR OPEN CIRCUIT), PW RANGE IS 1ms TO 10ms.  
 WITH +5V APPLIED, PW RANGE IS 10ms TO 100ms.



SHIPPED WITH ALL SIX PINS SHORTED TOGETHER  
 VIA #18 BUS BAR WIRE. INTERNALLY, OUTPUT  
 PULSE IS SUPPLIED TO PIN 1 ONLY. CONNECT  
 LOADS BETWEEN PINS 1-6 AND GROUND AS REQUIRED.

**CAUTION NOTES**

1. ATTACH TO HEAT SINK CAPABLE OF DISSIPATING AT LEAST 15 WATTS.
2. THE +15V SUPPLY MUST BE APPLIED BEFORE APPLYING +5V TO THE PW OR PRF TERMINALS. FAILURE TO DO SO WILL CAUSE UP TO 200mA TO BE DRAWN BY THE PRF (OR PW) TERMINALS.
3. THE UNIT WILL BE DAMAGED IF REVERSE POTENTIALS ARE APPLIED TO ANY OF THE TERMINALS.

WITH 0V (OR OPEN CIRCUIT) APPLIED TO A AND B, PW AND PRF ARE DETERMINED BY PRF AND PW CONTROLS.  
 WITH +5V APPLIED TO A (AND 0V, OR OPEN CIRCUIT TO B) OUTPUT DUTY CYCLE IS 100% (i.e. DC OUT).  
 WITH +5V APPLIED TO B (AND 0V, OR OPEN CIRCUIT TO A) OUTPUT DUTY CYCLE IS 0% (i.e. NO OUTPUT).

**MODEL AVR-3-P-EW-EF-DAY2 TEST ARRANGEMENT AND GENERAL INSTRUCTIONS**



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July 13, 1993.

Bob Payne  
Daytronic Co.  
2589 Corville Place  
Miamisburg, OH 45342

Tel: 513-866-3300  
Fax: 513-866-3327

Dear Bob:

Following our telephone conversation of July 12, I am pleased to provide a revised specifications table for a six-channel pulser module as follows:

Model designation: AVR-3-P-EW-EF-DAY2.

Number of output channels: 6. The six output channels are all driven in parallel from one high speed, high efficiency switch.

Output amplitude:  
(each channel) +7 Volts to 14.5 Volts to  $10 \leq R_L \leq 20$  Ohms. Output amplitude controlled by user-supplied prime power supply (from 8 to 16 Volts). Prime power supply must be capable of providing 9.0 Amperes (for worse case of 14.5 Volts to 10 Ohms).

Source impedance:  $\leq 0.5$  Ohms.

Output pulse width: 1 ms to 100 ms as follows:  
Range 1: 1 ms to 10 ms.  
Range 2: 10 ms to 100 ms.

Within each range, pulse width controlled by 0 to +5 VDC control voltage ( $R_{IN} \geq 10K$ ). For Range 1 selection, apply 0 V to solder terminal. For Range 2, apply +5 Volts ( $R_{IN} \geq 1K$ ).

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Pulse repetition rate: 1 Hz to 100 Hz as follows:  
Range 1: 1 Hz to 10 Hz.  
Range 2: 10 Hz to 100 Hz.  
Within each range, PRF controlled by 0 to +5 VDC control voltage ( $R_{IN} \geq 10K$ ). For Range 1 selection, apply 0 V to solder terminal. For Range 2, apply +5 Volts ( $R_{IN} \geq 1K$ ).

Duty cycle: Range 1: 0.1% to 90%.  
Range 2: 100%. +12 VDC out from all six outputs.  
Range 3: 0%. All outputs off.  
For Range 1 selection, apply 0 V to solder terminal A. For Range 2, apply +5 Volts to terminal A ( $R_{IN} \geq 1K$ ). For Range 3, apply +5 Volts to terminal B.

Rise, fall time:  $\leq 100$  ns.

Prime power: a) +8 to +16 Volts, 9.0 Amperes (max).  
b) +15 Volts, 300 mA.

Chassis size: 1.7" x 3.0" x 6.0", AVTECH style A1, see page 109, Cat. No. 8 (see enclosed sketch).

Chassis material: Cast aluminum, blue enamel.

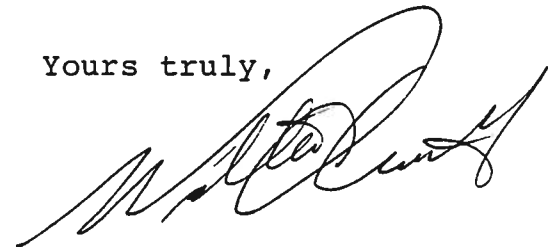
Connectors: Solder terminals.

Price: \$1,495.00 US each, FOB destination.

Delivery: July 23, 1993.

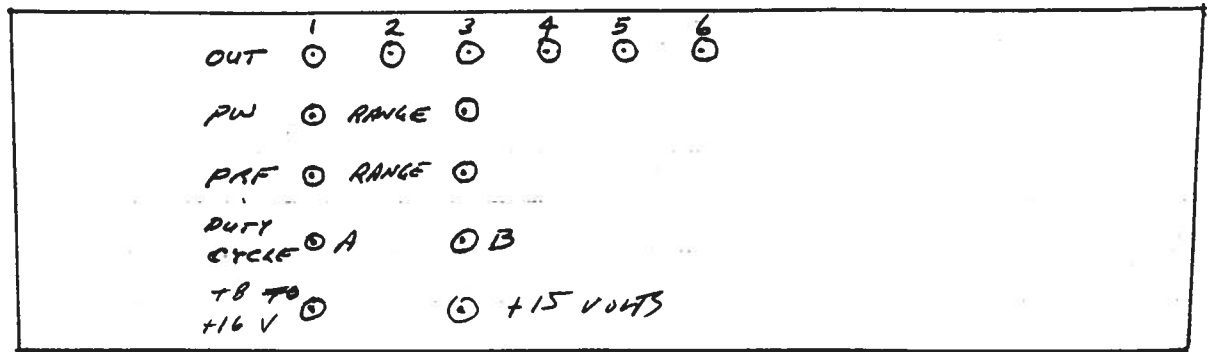
If you accept the above specification changes, please issue a purchase order amendment to account for the model number change.

Yours truly,



Dr. Walter Chudobiak  
Chief Engineer

WC:pr  
Encl. Sketch



4-40 THREADED  
 MOUNTING  
 HOLES

SOLID  
 TERMINALS

APR - 3 - P - EW - EF - DAY 2

CYTHESIS TERMINAL CONNECTIONS

July 27/93