



# AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS  
SINCE 1975

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## INSTRUCTIONS

**MODEL AVR-3-PS-P-RAYB**

**0 to +28V AMPLITUDE,  
5 to 15 ms PULSE WIDTH**

**PULSE GENERATOR**

SERIAL NUMBER: \_\_\_\_\_

### 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 assumed by Avtech with respect to this product and no other warranty or guarantee is either expressed or implied.

### TECHNICAL SUPPORT

Phone: 613-226-5772 or 1-800-265-6681

Fax: 613-226-2802 or 1-800-561-1970

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TABLE OF CONTENTS

<b>WARRANTY</b>	<b>2</b>
<b>TECHNICAL SUPPORT</b>	<b>2</b>
<b>TABLE OF CONTENTS</b>	<b>3</b>
<b>INTRODUCTION</b>	<b>4</b>
<b>SPECIFICATIONS</b>	<b>5</b>
<b>INSTALLATION</b>	<b>6</b>
<b>VISUAL CHECK</b>	<b>6</b>
<b>PLUGGING IN THE INSTRUMENT</b>	<b>6</b>
<b>FRONT PANEL CONTROLS</b>	<b>7</b>
<b>REAR PANEL CONTROLS</b>	<b>8</b>
<b>GENERAL INFORMATION</b>	<b>9</b>
<b>TOP COVER REMOVAL</b>	<b>9</b>
<b>NEVER APPLY AN EXTERNAL VOLTAGE TO THE OUTPUT</b>	<b>9</b>
<b>ALWAYS USE A HIGH IMPEDANCE LOAD</b>	<b>9</b>
<b>OPEN AND SHORT CIRCUITS</b>	<b>9</b>
<b>ORIGINAL QUOTATION</b>	<b>10</b>
<b>PERFORMANCE CHECK SHEET</b>	<b>11</b>

## INTRODUCTION

The Model AVR-3-PS-P-RAYB pulse generator is capable of producing pulses with amplitudes as high as +28V into high impedance loads ( $> 1\text{M}\Omega$ ), with rise and fall times of less than  $50\ \mu\text{s}$ . The output pulse width can be varied between 5 and 15 ms.

The instrument is triggered by a front-panel pushbutton.

SPECIFICATIONS

Model:	AVR-3-PS-P-RAYB
Amplitude:	0 to +28 Volts (Ten-turn control) into load impedances > 1 M $\Omega$
Output Impedance:	1 k $\Omega$
Rise time:	$\leq 50 \mu\text{s}$
Fall time:	$\leq 50 \mu\text{s}$
Pulse width:	5 to 15 ms, Ten-turn control
Connectors:	Out: BNC
Power requirements:	120/240 Volts (switchable) 50 - 60 Hz
Dimensions:	100 mm x 215 mm x 375 mm (3.9" x 8.5" x 14.8")
Chassis material:	cast aluminum frame and handles, blue vinyl on aluminum cover plates
Mounting:	Any
Temperature range:	+15° to +40° C

## INSTALLATION

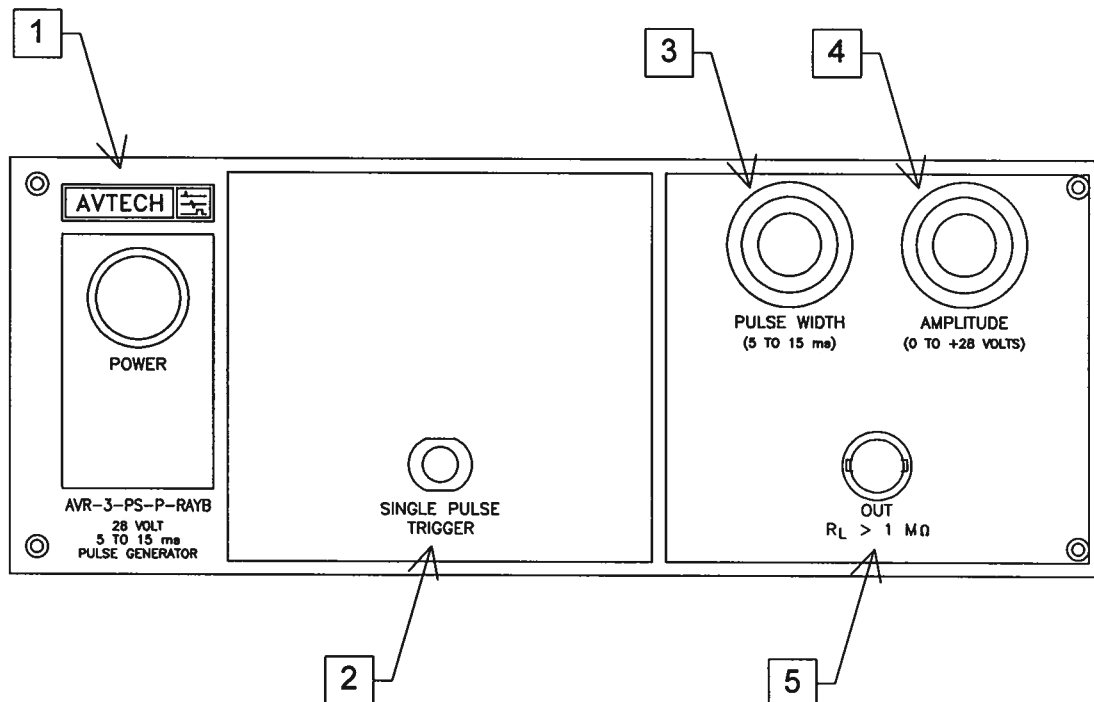
### VISUAL CHECK

After unpacking the instrument, examine to ensure that it has not been damaged in shipment. Visually inspect all connectors, knobs, and handles. Confirm that a power cord and an instrumentation manual (this manual) are with the instrument. If the instrument has been damaged, file a claim immediately with the company that transported the instrument.

### PLUGGING IN THE INSTRUMENT

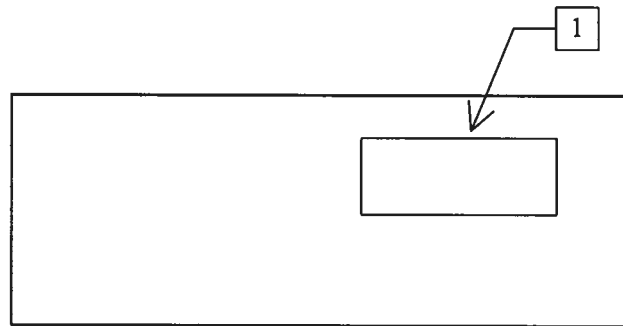
Examine the rear of the instrument. There will be a male power receptacle, a fuse holder and the edge of the power selector card visible. Confirm that the power selector is in the correct orientation - it should be marked either 120 or 240, indicating whether it expects 120V AC or 240V AC. If it is not set for the proper voltage, remove the fuse and then grasp the card with a pair of pliers and remove it. Rotate horizontally through 180 degrees. Reinstall the card and the correct fuse. In the 120V setting, a 0.25 A slow blow fuse is required. In the 240V setting, a 0.125 A slow blow fuse is required.

## FRONT PANEL CONTROLS



1. POWER Switch. The POWER push button switch applies AC prime power to the primaries of the transformer, turning the instrument on. The push button lamp (#382 type) is connected to the internal +15V DC supply.
2. SINGLE PULSE Push Button. The "SINGLE PULSE" push button will trigger the instrument. A single pulse is generated each time this button is pressed.
3. PULSE WIDTH Controls. By rotating this ten-turning locking dial, the output pulse width can be adjusted from 5 to 15 ms.
4. AMPLITUDE Controls. By rotating this ten-turning locking dial, the output amplitude can be adjusted from 0 to +28V.
5. OUT. This BNC connector is the main output.

### REAR PANEL CONTROLS



1. AC POWER INPUT. A three-pronged recessed male connector is provided on the back panel for AC power connection to the instrument. Also contained in this assembly is a 0.25A slow blow fuse and a removable card that can be removed and repositioned to switch between 120V AC in and 240V AC in.



## GENERAL INFORMATION

### TOP COVER REMOVAL

The top cover of the instrument may be removed by removing the four Phillips screws on the top panel. With these four screws removed, the top panel may be slid off by pulling it towards the rear.

Always turn off the instrument before removing the cover!

### NEVER APPLY AN EXTERNAL VOLTAGE TO THE OUTPUT

Externally generated potentials must never be applied to the output.

### ALWAYS USE A HIGH IMPEDANCE LOAD

This instrument is designed to drive loads of  $> 1 \text{ M}\Omega$ . It will not drive  $50\Omega$  loads. (Pulse generators capable of driving  $50\Omega$  loads are available at <http://www.avtechpulse.com/>.)

### OPEN AND SHORT CIRCUITS

The AVR-3-PS-P-RAYB is protected against short circuits to ground on the main output.

Operation into an open circuit will not damage the instrument in any way.

ORIGINAL QUOTATION

From: Dr. Michael J. Chudobiak [mjc@avtechpulse.com]  
 Sent: Friday, February 25, 2000 8:08 AM  
 To: jyoh@west.raytheon.com  
 Subject: Re-quote for +28V pulse generator

John Oh  
 Raytheon Missile Systems  
 520-794-1471

February 25, 2000

Dear John,

following our telephone conversation today, I am pleased to re-quote as follows:

Quote No: 9746

Model Designation: AVR-3-PS-P-RAYB

Amplitude: 0 to +28V, adjustable (ten-turn control), into a 1 Megohm load.

Pulse Width: 5 to 15 ms, adjustable (ten-turn control).

Rise Time: < 50 us.

Trigger: "Single Pulse" pushbutton.

Other: see the AVR-3-PS data sheet at <http://www.avtechpulse.com/cgi-local/info.cgi?avr-3>

Price: \$2,498.00 US, FOB Destination.

Delivery: 60 days, after receipt of order.

This is similar to the previous quote, except that the rise time has been increased, and the cost decreased. Thank you for your interest in our products. Please contact me again if you require any additional information.

Regards,  
 Dr. Michael J. Chudobiak  
 VP, New Product Development

--- Avtech Electrosystems Ltd. ----- since 1975 ---

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Nanosecond Waveform Generators  
 for general purpose, R&D and OEM applications

Pulse Generators - Laser Diode Drivers - Pulse Amplifiers  
 Impulse Generators - Delay Generators - Comb Generators - Splitters  
 Function Generators - Monocycle Generators - Frequency Dividers + more!  
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