

Preamplifier Model PA-1



Introduction

The PA-1 preamplifier provides a convenient interface between a proportional counter or CdZnTe SPEAR detector and a single or multi-channel analyzer. Due to the low output of these detectors, a preamplifier such as the PA-1 is necessary to measure low energy gamma and X-rays. The PA-1 also provides extra filtering for the high voltage bias. Power is provided for the PA-1 via a DB9 male connector and 3' cable.



Specifications

Bias (SHV Connector):	Up to + 2500 Volts.
Power Input (DB9 Male Connector):	Pin 4: +12 Volts @ 10mA Pin 9: -12 Volts @ 10mA Pin 1: Ground
Gain:	8mV/Kev, or 7.5mV/pica coulomb
Test Input:	0 to -1V pulse

Operation

(Refer to Figure 1)

2. Connect the high voltage input/signal output from the detector to the **Input** SHV connector.
3. Connect the high voltage supply to the **Bias** SHV connector.
4. Connect the **Output** BNC connector to the ST400/450, UCS20, or other preamp/analyzer via the "Amp In" input.
5. Apply the manufacturers specified high voltage value.
6. Place a radioactive source near the detector and begin data acquisition. It may be necessary to adjust the analyzer's coarse and fine gain controls until the desired energy range is obtained.

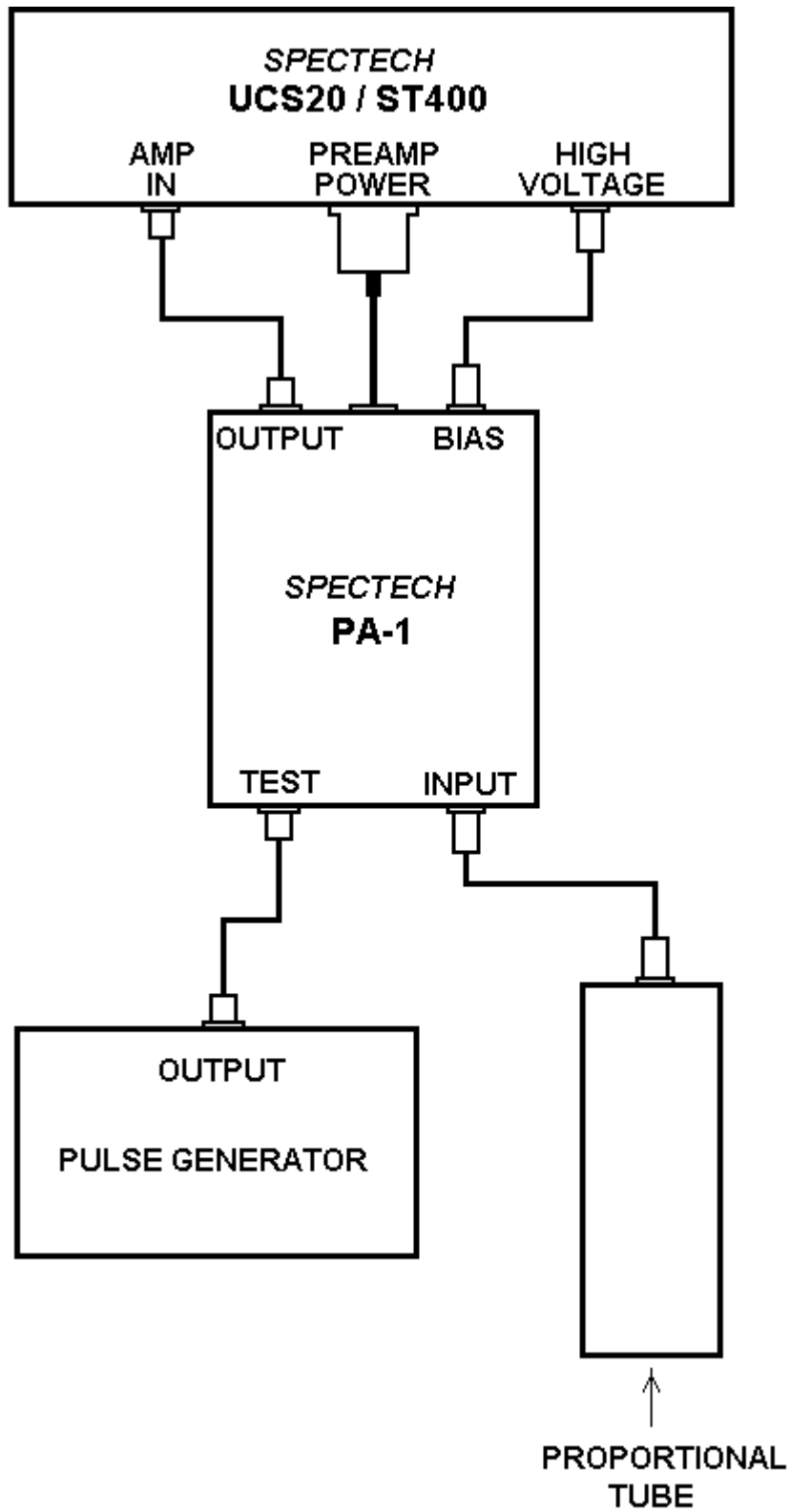
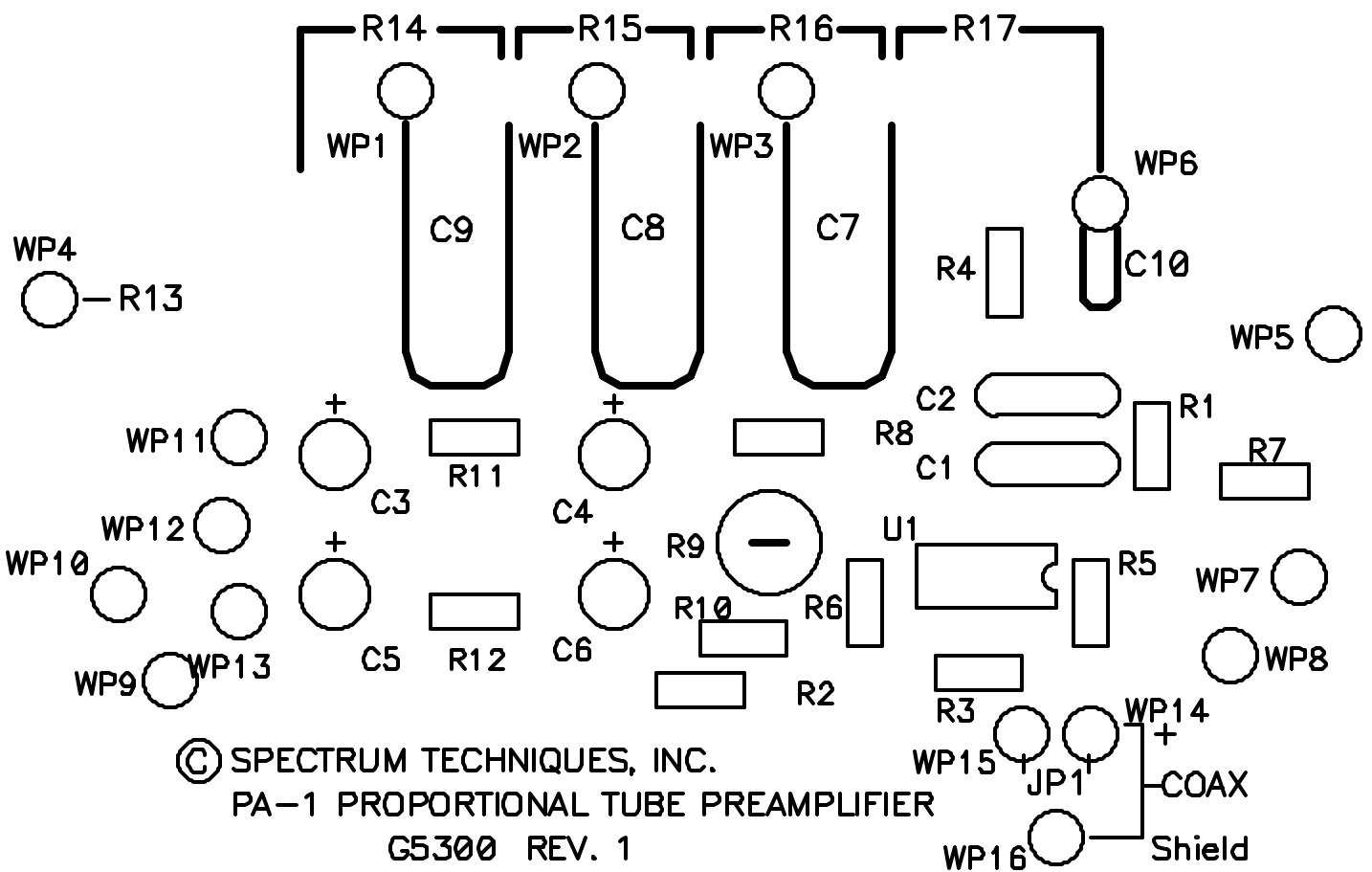
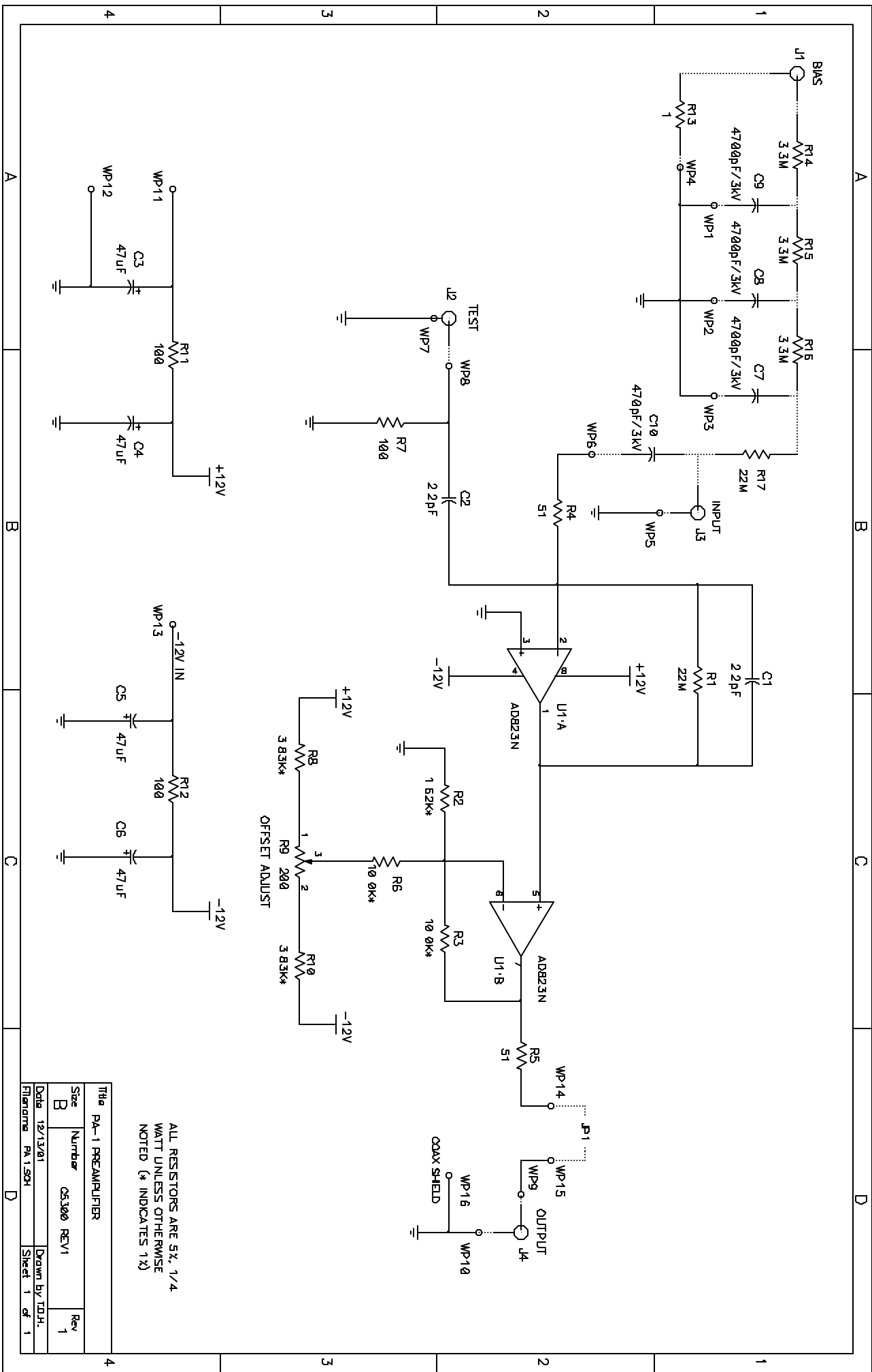


Figure 1
PA-1 Connection Diagram



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 PA-1 PROPORTIONAL TUBE PREAMPLIFIER
 G5300 REV. 1



ALL RESISTORS ARE 5%, 1/4
WATT UNLESS OTHERWISE
NOTED (* INDICATES 1%)

Title PA-1 PREAMPLIFIER			
Size B	Number 05300	Rev 1	
Date 12/13/01	Drawn by TDH		
Filename PA1.SCH	Sheet 1	of 1	

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