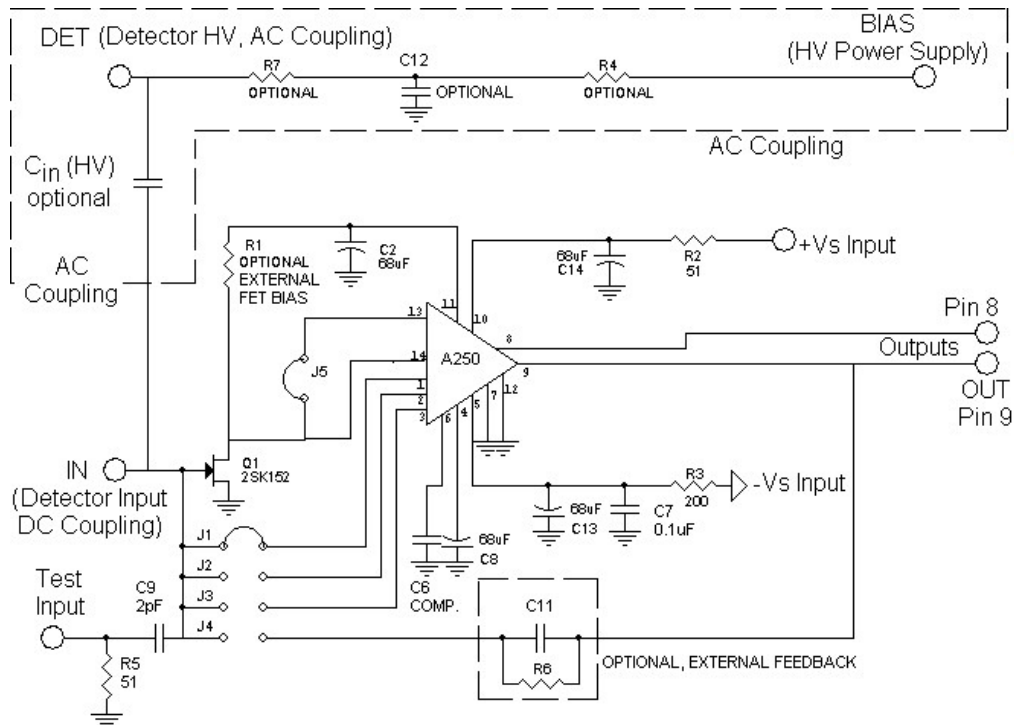


PC250 Test Board for the A250

The PC250 is a printed circuit board designed to facilitate testing of the A250. Ground plane construction minimizes external pick-up.



DC Coupling (default)

The PC250 is configured for DC coupling at the factory. This produces the lowest noise response but is also the most vulnerable to damage. In DC coupled mode the HV is applied externally to the detector. The user connects the output of the detector to the IN (Detector Input, DC Coupling) post on the PC250 as shown on the schematic.

AC Coupling (user installed components)

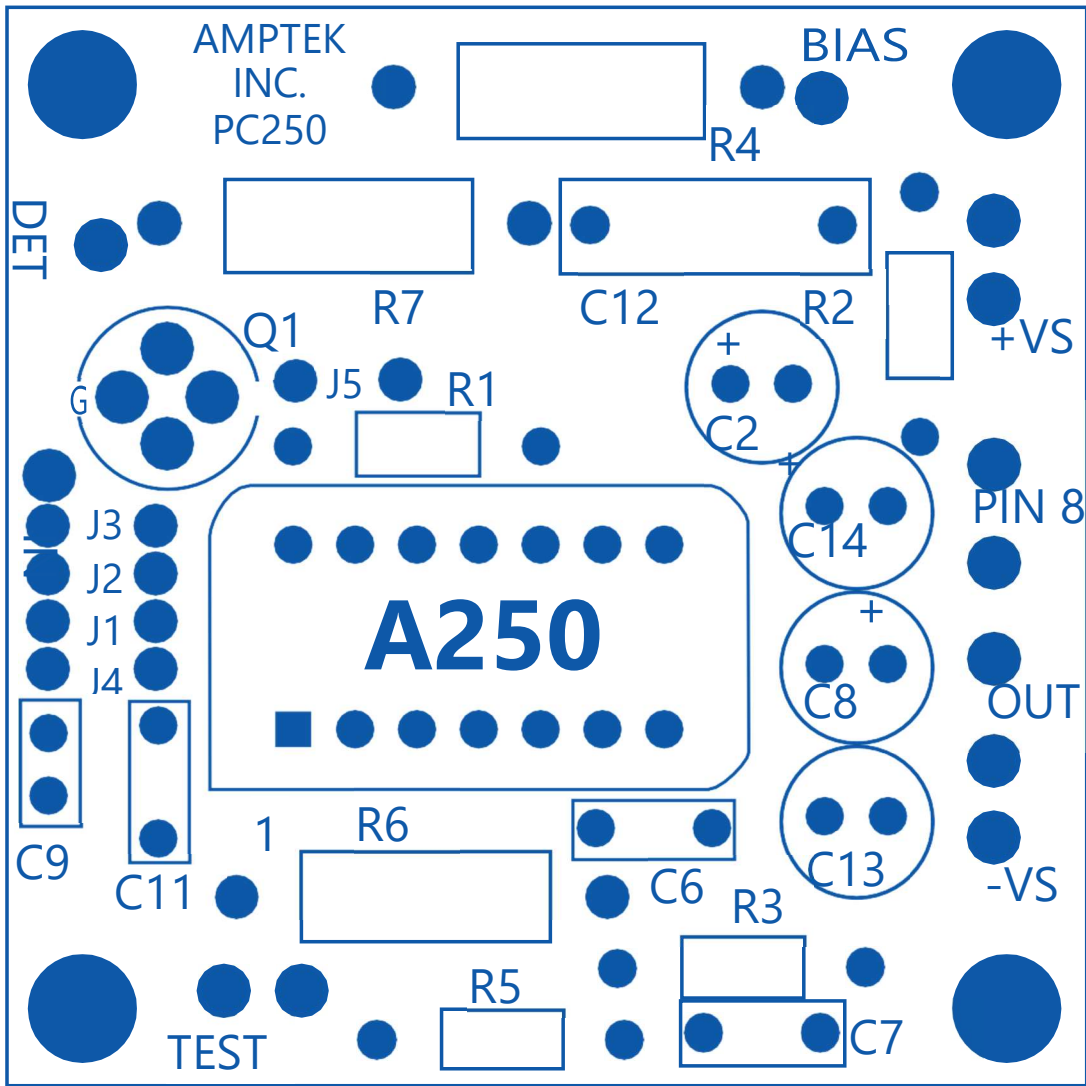
AC coupling is often a more convenient and safer method to connect the detector when the lowest noise performance is not required. In this configuration the HV bias is applied through the PC250 test board. In order to configure the board for AC coupling the user must do the following:

- Install the HV bias filter network: R4, R7, and C12. These components are not included as they are dependent on the leakage current of the detector and the noise of the HV supply. Common values are C12 = 47 nF, R4 = 10 MOhm, R7 = 10 to 400 MOhm.
- Install the C_{in} input high voltage capacitor. This capacitor must have a HV rating that exceeds the HV that will be applied to the detector. Common values are 1 to 47 nF NPO, 1000 V. This capacitor is installed between the DET and IN posts on the PC250.
- The detector is connected to the DET (Detector HV, AC Coupling) post on the PC250 as shown in the schematic.

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PC250 Layout – Rev B1



Dimensions: 1.75 in x 1.75 in (4.5 cm x 4.5 cm)

Material: Teflon

Optional RC Feedback Kit available (1 GOhm resistor, 0.1 pF capacitor)

PC250 Layout – Rev B2

