

## GlueX Preamp Card User' Manual

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### 1. Preamp Card

The GlueX preamp card (GPC-01) is shown in figures 1 and 2, top and bottom views, respectively. The GPC-01 is shipped in its default configuration, with all configuration resistors set for a logic low at the ASIC switches. The output back-terminating resistors or load resistors, which are connected to +1.25V, are not installed. Further assembly details are shown in Figures 3 and 4.

The preamp cards are configured for either anode or cathode readout. The input selection resistors are installed on the top side of the card for anode operation.

The preamp cards may also be configured for 16-channel operation. In this case, the bottom ASIC is not installed and signal outputs are available on channels 1 through 8 and 17 through 24, as depicted in fig. 3. The proposed pinout, labeling, connector and cable are also included in appendix A.

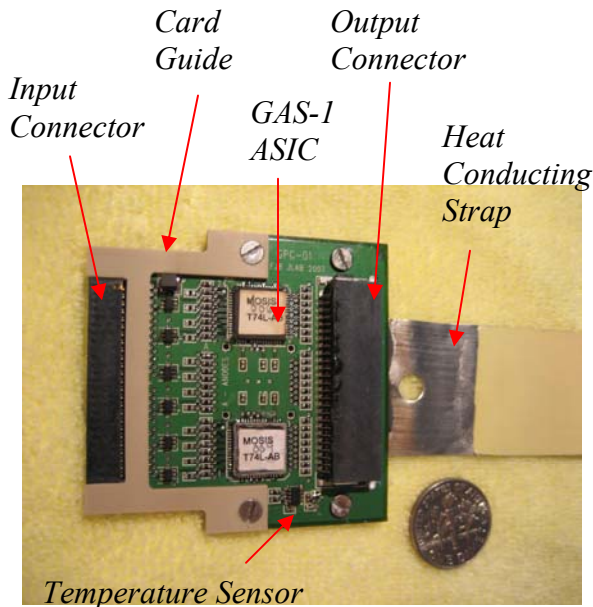


Figure 1: GPC-01 – Top View

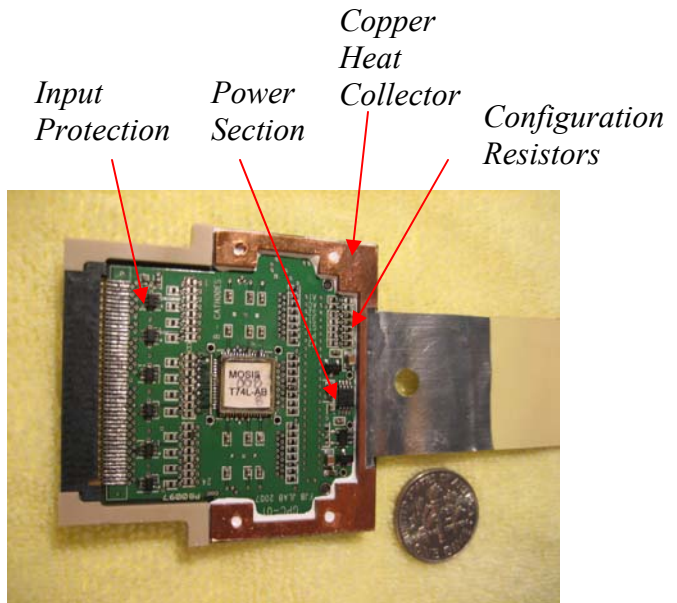
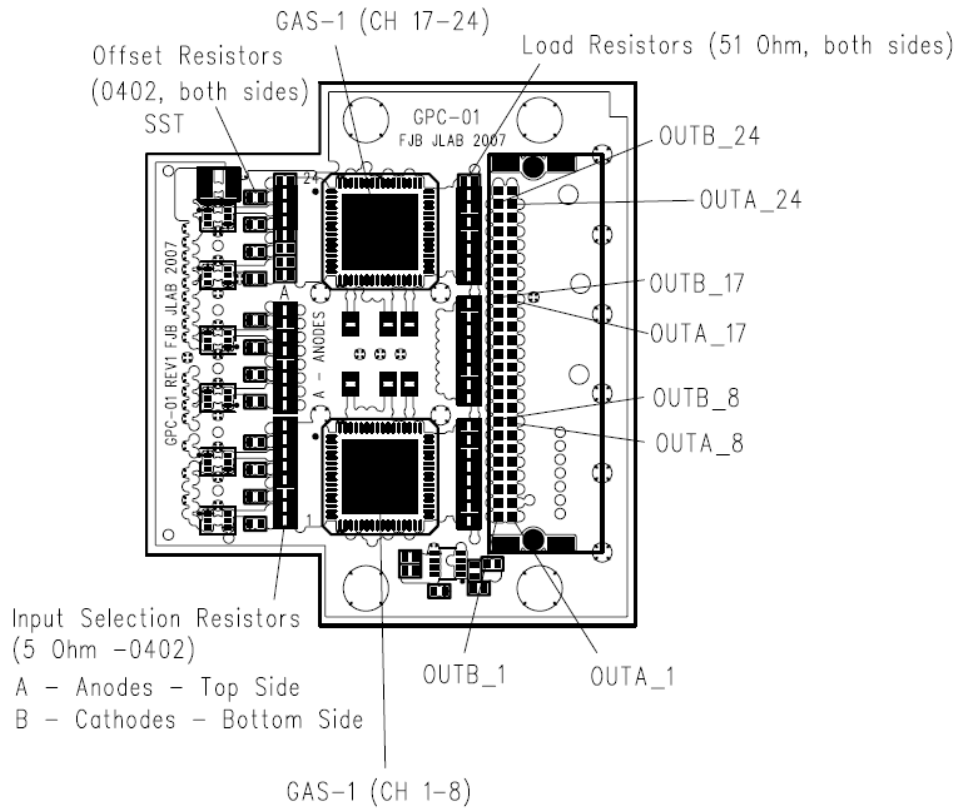
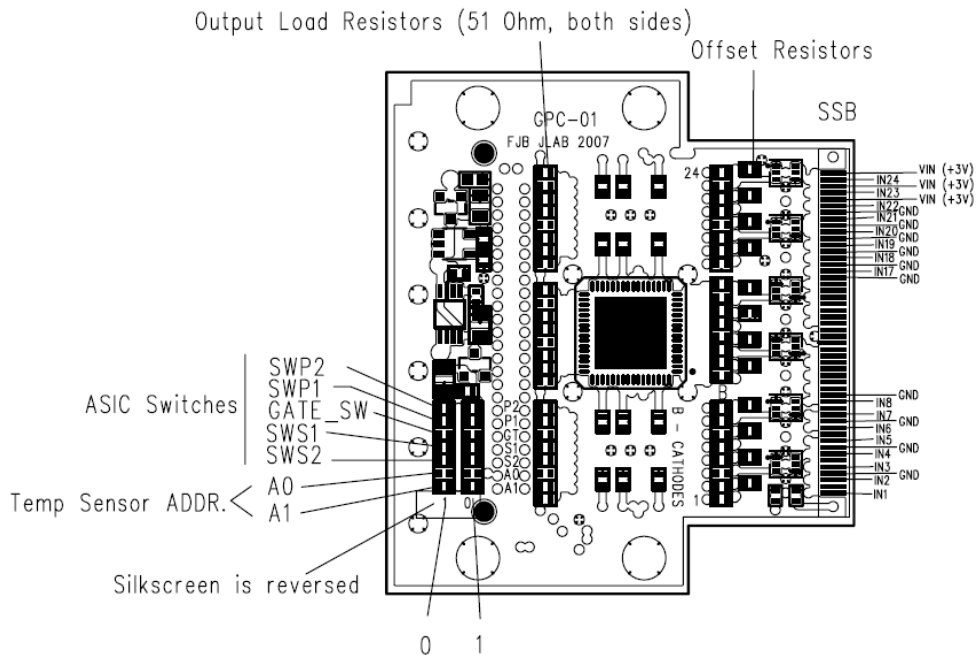


Figure 2: GPC-01 – Bottom View



GPC-01.pcb - Wed Oct 17 14:46:28 2007

Figure 3: Top Assembly Details



GPC-01.pcb - Wed Oct 17 14:47:11 2007

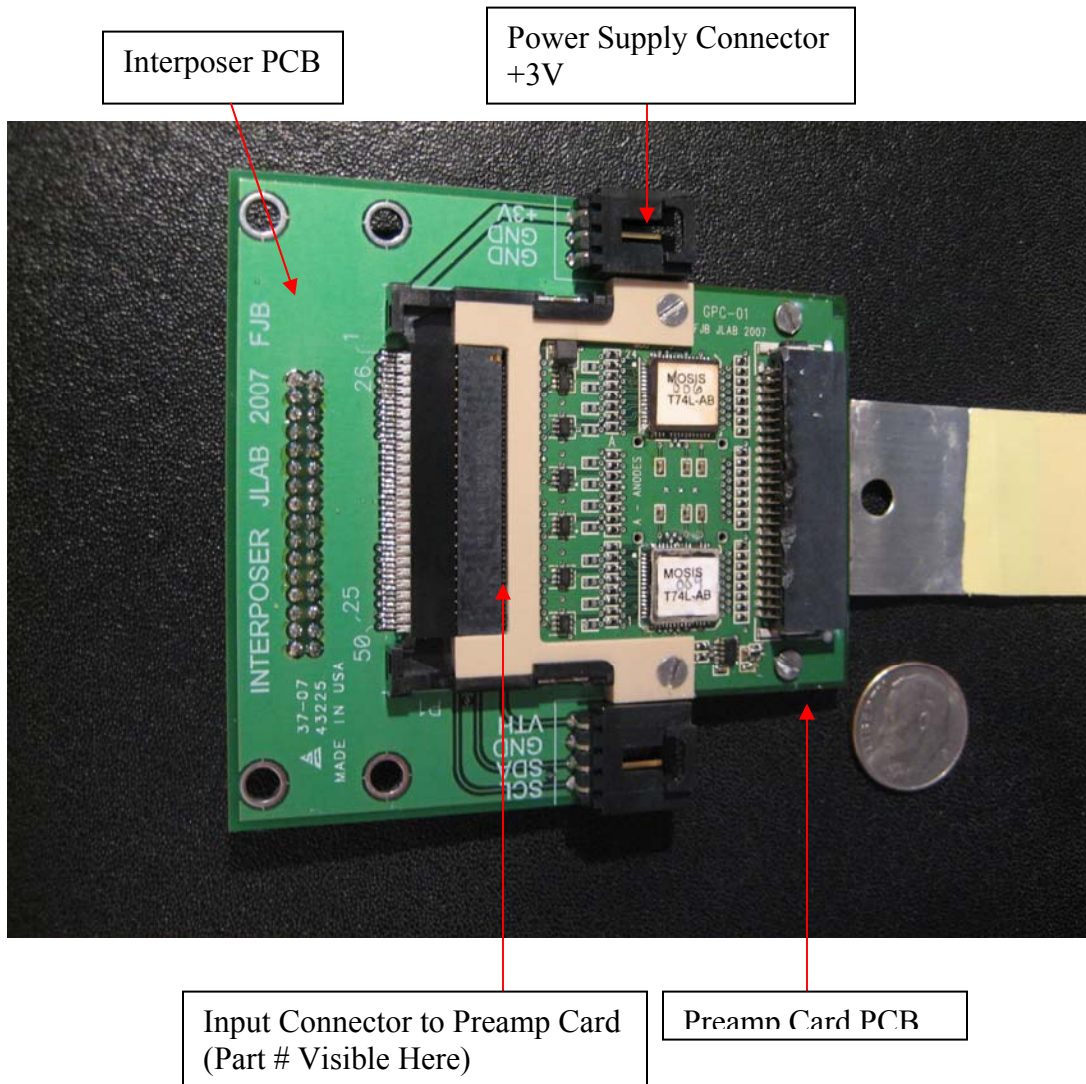
Figure 4: Bottom Assembly Details

## 2. Interposer and GPC-01

The Interposer PCB was developed to allow using the GPC-01 with the prototype CDC and FDC detectors. Fig. 5 shows the preamp card installed into the Interposer PCB and ready for installation.

A 10 feet power cable is included with each Interposer. There are three power supply leads: one is labeled +3.2V and needs to be connected to the positive terminal of the power supply; the other two leads must be connected to the ground and negative terminals of the power supply. Once properly attached to the power supply, connect the cable to the Interposer's power supply connector and turn on the power supply. A power supply setting of +3.2V should be enough to account for any cable losses and still maintain 500 mV of headroom at the preamp card. The headroom is necessary for correct operation of the +2.5V regulator and to minimize power dissipation. Preamp cards configured for 16-channel operation draw about 280 mA.

The heat conductive strap serves at a heat sink and may be attached to ground.



# Appendix A

