

Preamp Test Note

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Tests were performed with the Interposer PCB, Preamp card (GPC-01 with GAS-1 ASICs), 50-conductor cable (10 ft) with 100 Ohm termination resistors at the far end of the cable. The cable plugs into the preamp card with the specified ERNI connector.

Two scope probes were employed to measure the differential characteristics across the 100 Ohm terminating resistors. A scope math function (Ch1-Ch2) is applied to provide the traces shown below.

Baseline Noise Test

Figure 1 shows the wideband baseline noise. Note the 20 mV scale. The RMS noise is quite low.

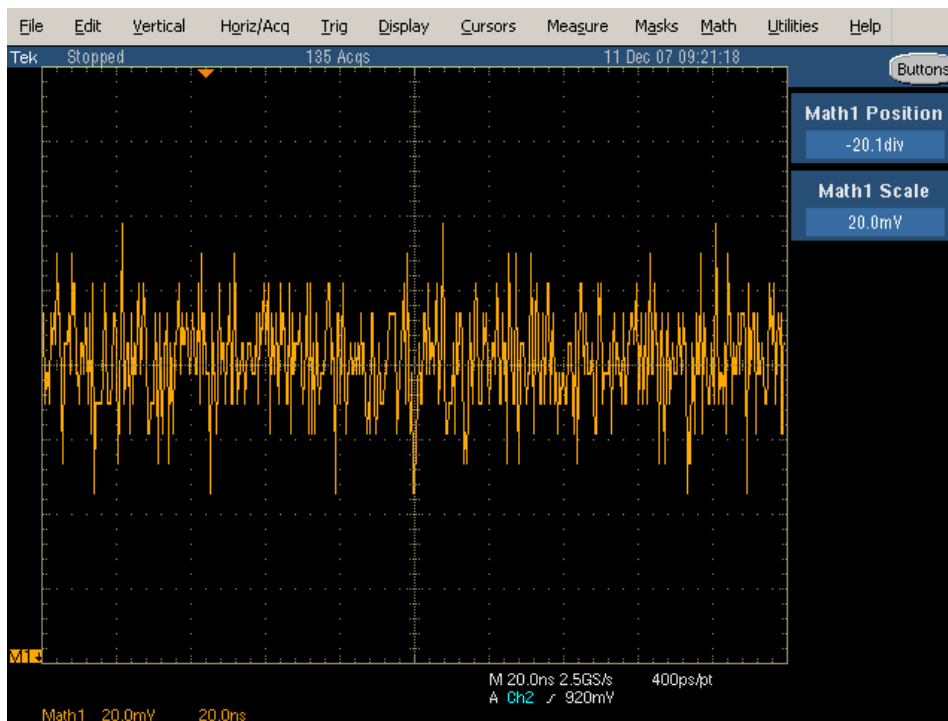


Fig. 1: Baseline Noise (Interposer+preamp+cable+Rt=100 Ohm)

Signal Test

A charge pulse was then applied to the inputs via a 1pf capacitor. Figure 2 shows the resulting pulse at the end of the cable after amplification by the preamp card. The pulse has an amplitude of about 1.3 V with a rise time of about 15 ns (Peaking time + cable dispersion).

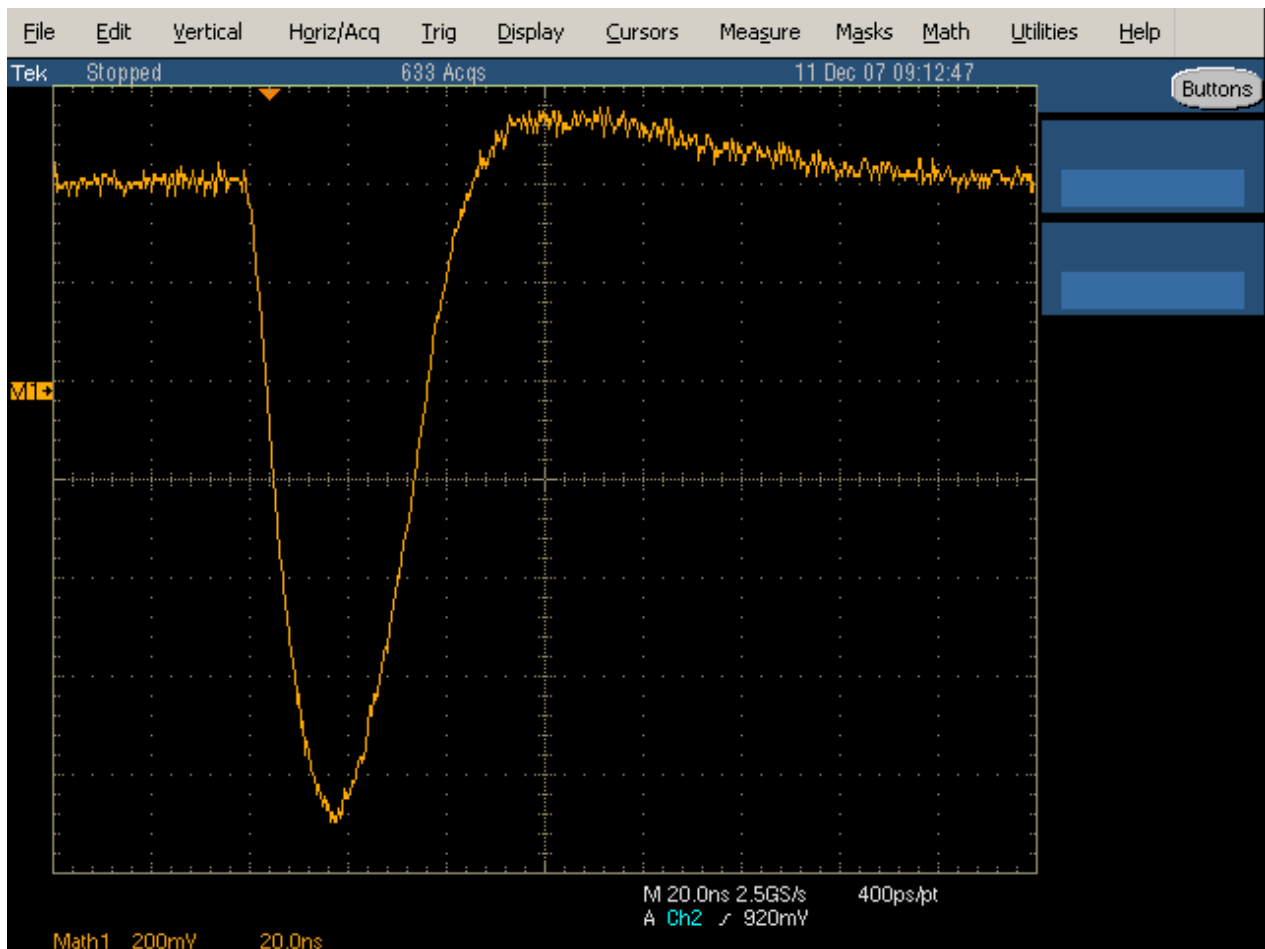


Fig. 2: Pulse Response (Interposer+preamp+cable+Rt=100 Ohm)

Summary

The interposer, preamp card and cable combination perform well and are intrinsically stable with very low noise.