

4040A STAND ALONE INSTRUMENTATION AMPLIFIER

Stand Alone Multi-card Operation

A differential instrumentation amplifier is an essential and versatile tool for use in various tests and experiments. The wide bandwidth and low noise performance of TEGAM's Model 4040A uniquely qualifies it for many applications including medical electronics, Piezo transducers and automotive testing. However, the PXI format can appear to limit some of the usefulness by not providing a simple stand alone configuration. TEGAM has addressed this limitation with a unique combination of software and a low cost PXI chassis. The National Instrument's PXI-1033 enables the control of up to 5 amplifier channels without the need for a PXI controller. A desktop PC or laptop* can independently control each channel through a basic interface that permits the manipulation of all of the input amplifiers parameters. For convenience, TEGAM offers a complete package (Part Number 1000036) that includes a 4040A instrumentation amplifier, LabVIEW control software and a PXI-1033 chassis. Up to 4 additional channels may be added by purchasing extra 4040A's at any time.

**The desktop PC or laptop requires a standard PCI Express or ExpressCard interface.*

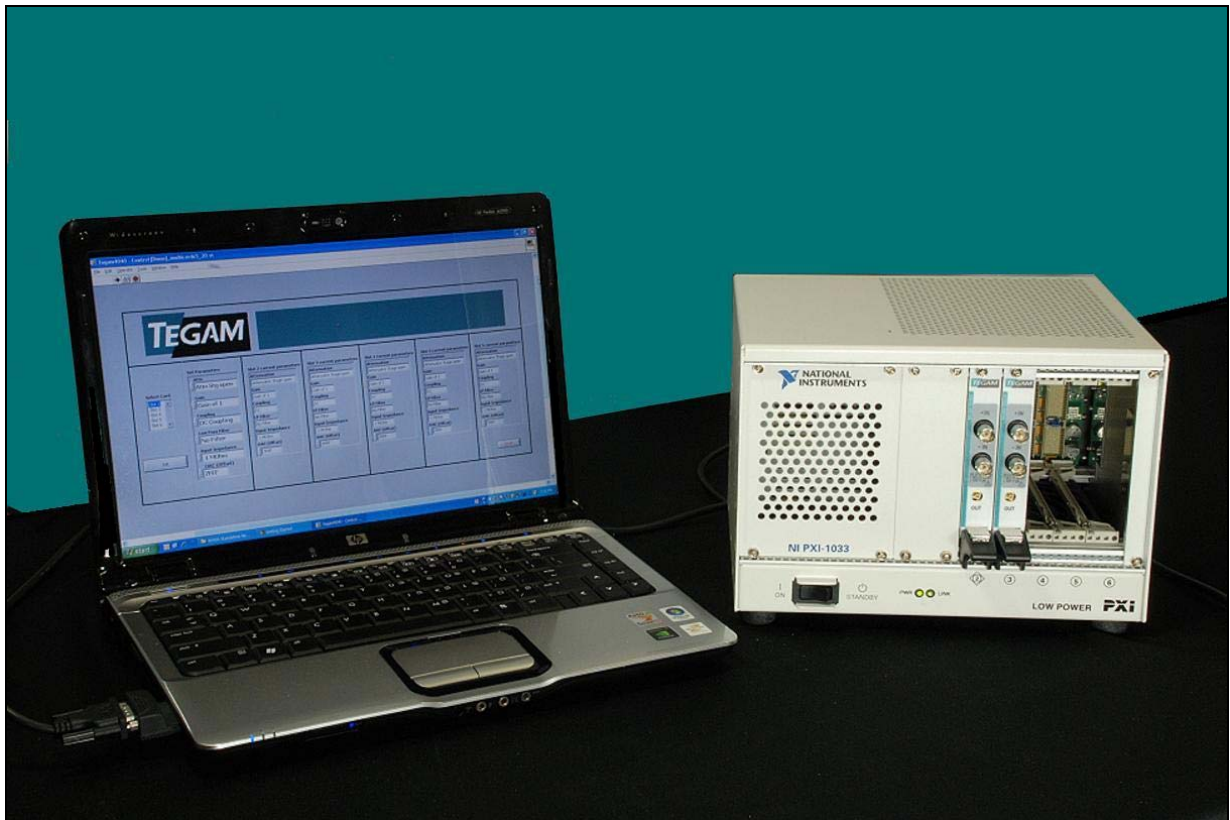


Figure 1 - Two TEGAM 4040A's installed in a chassis with the laptop.

Instructions for Use

Hardware Set-up

You can add and select up to 5 cards in the PXI chassis depending on the application requirement. Slot 1 in the NI 1033 chassis is reserved for chassis system controller functions and slots 2 to 6 are available for use.

- Make sure that the chassis is turned off.
- Insert 4040A cards in the PXI chassis. Insert the PCI Express or ExpressCard in the computer.
- Turn on the chassis and then turn on the PC.

Figure 2 shows the screenshot of the application.

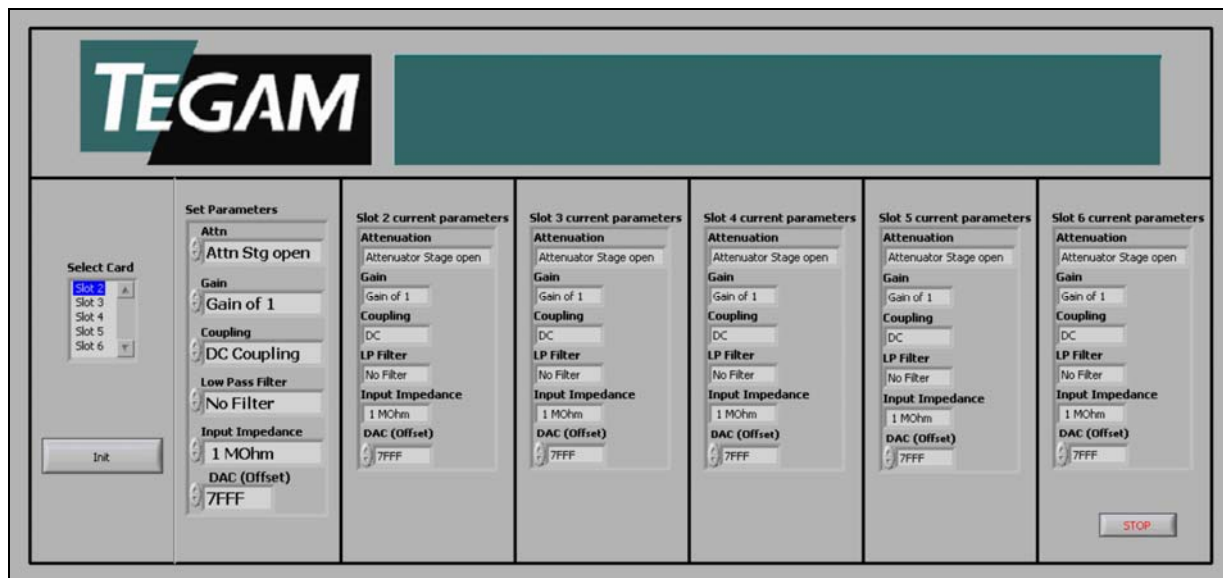


Figure 2 - Screenshot of software

Software Set-up

Follow the procedure given below:

- Open the CD that came with 4040A.
- Open the 'Multicard Operation' folder present in the CD or download the application exe from the TEGAM website (www.tegam.com).
- NI LabVIEW 8.5 runtime and VISA runtime should be installed to run this application without LabVIEW. They can be installed from the setup files present in the 'Multicard Operation' folder or can be downloaded and installed from the NI website (www.ni.com).
- Run the exe named 'TEGAM4040 – Multicard operation' by double clicking it. Select the required slot number in the 'Select Card' box and set the parameters in 'Set Parameters' box. To select the correct slot number, check the slot number written on the chassis below the card.
- Press 'Init' and the parameters will be set for the specified slot. You can see the set parameters in the respective 'Slot X current parameters' window.
- Change the slot number and follow the same procedure to set parameters for the rest of the cards. If a slot is empty in the chassis and is selected in the vi, the parameters will not be set as there is no card present.