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PC Boot-up Process for TestStation Systems with PXI Expansion Board

To all owners of TestStation systems configured with PXI Expansion Board option;

The purpose of this notice is inform all owners of Teradyne's TestStation systems about the specific boot-up and shut-down procedures that are required when the tester has the PXI Expansion Board option installed in their system.

During the PC boot process the BIOS automatically detects various devices and allocates required bus resources. For TestStation systems configured with the PXI Expansion Board, the PC must allocate resources for the PXI backplane on the PXI Expansion Board as well as any PXI instruments that might be installed. This puts unique requirements on how power is applied to TestStation systems that are configured with a PXI Expansion Board.

To ensure that proper communication between the PC and the PXI backplane/instruments is correctly established operators must follow the process described below whenever powering up or powering down the test system:

Installing the PXI hardware and Booting the PC for the First Time

1. Be sure that the PC and the TestStation pin bay are both powered down.
2. Install the PXI controller module into a PCI Express connector on the motherboard of the tester PC.
3. Install all PXI instruments that are to be used as part of the application into the PXI Expansion Board(s).
4. Install the PXI Expansion Board(s) into the pin bay of the tester.
5. Connect the necessary HDMI cables between the PXI controller in the PC and the PXI Expansions Board(s) in the pin bay.
6. Power up the TestStation pin bay.
7. Boot the tester PC

NOTE

The pin bay must be powered before booting the PC otherwise the PXI backplane and any PXI instruments that are installed in the PXI Expansion Boards will not be detected by the PC. It is also critical that the pin bay remain powered as the PC is booting. There is a **System** power switch on the user console that allows the operator to shut off power to the pin bay while maintaining power to the PC. This **System** switch should be maintained in the **On** position.

Day to Day Operation

The pin bay should remain powered once the PC has booted. Re-cycling power to the pin bay without re-booting the PC will result in the PC losing communication to the PXI backplane in the PXI Expansion Board as well as any PXI instruments that might be installed. There is also a slight possibility that the PC could crash as the pin bay is powered down.

It will sometimes be necessary, however, to power down the pin bay to perform maintenance, to add or remove PXI instruments from the PXI Expansion Boards, etc. Since there is a chance that suddenly turning off power to the pin bay with a PXI Expansion Board could crash the PC, the recommended approach is to always power down the PC before powering down the pin bay by following these steps:

1. Exit any applications that may be running.
2. Shut down the PC operating system.
3. Turn off power to the PC.
4. Power down the pin bay.
5. Perform the necessary maintenance.
6. Power up the pin bay.
7. Power up the PC.

If the user chooses to power down the pin bay without shutting down the PC first, it will still be necessary to reboot the PC to re-establish communication to the PXI backplane and any PXI instruments that might be installed. In this case, the user can simply perform a software reboot of the PC – it is not necessary to turn off power to the PC. Note, however, that the pin bay must be powered back on before rebooting the PC.