UZ2 USB 2.0 Interface

Overview

The USB 2.0 zBus Interface mounts in the rear bay of a zBus device chassis and handles communication and data transfer between your computer and zBus mounted programmable devices, such real-time processors or programmable attenuators. Most nonprogrammable devices, such as speaker drivers or signal mixers, do not require an interface. You will need a USB2.0 port available on the host PC for each UZ2 in a multi-chassis system. We recommend upgrading to an Optibit interface if a system requires more than three chassis.

Note: If using the USB 2.0 interface on a 64-bit operating system, you must install version 76 TDT drivers or greater.

Connecting the UZ2

The UZ2 connects to your computer with standard USB 2.0 A to B cables (provided with each module). Interface drivers are bundled with the TDT Drivers and will be installed when the device is connected to the host computer for the first time. The UZ2 can be safely connected or unconnected while the computer is running.

Important! Wait ten seconds after devices have gone through the boot sequence or 30 seconds after turning on devices (with the computer already running) before running applications that use TDT devices. We also recommend using zBUSmon to verify the logical order of devices before beginning any experiment. See "Boot Up Sequence" below, for more information.

Sync

The Sync allows users to synchronize several modules that are mounted in different device chassis. Each USB module has its own clock. Clocks on multiple USB devices will drift relative to each other. The Sync line uses the clock from one USB module, the master, to synchronize the clocks across all zBus device chassis.

To connect several zBus chassis, one module (the highest logical module) is designated as the master and the other clocks are slaved to the master clock. Connect the Sync Out of the master clock to the Sync In of the slave with a short

patch cable. To connect several device chassis, daisy-chain the connections between the slave chassis as shown below. When the Sync lines are connected correctly the LED to the left of the Sync connectors should be lit on each slave devices. The LED on the master will remain unlit. The LED should only flash when the Sync lines are not connected.

Sync LEDs	Indicates
Flashing (on slave)	Connected incorrectly
Master device not lit and slave devices lit	Connected correctly
No devices lit	Not synced to any device

Logical Order of Devices

The logical order of devices is determined each time the zBus chassis are powered on. You can verify the current logical order using the zBUSmon software.

Boot Up Sequence

The boot up sequence for the USB 2.0 interface is driven from the PC and follows the communication protocol described below.

The first time the hardware is turned on a device driver is loaded to the interface. Depending on your operating system, the PC might beep to indicate that the device driver has been loaded.

A second set of drivers will be loaded and the devices will reboot.

The TDT hardware is queried to determine the logical order of the devices and zBus chassis.

Important! If the zBus is accessed during step three, the devices will fail to ID. To ensure that step three is completed, wait ten seconds after the devices have rebooted (step two) before loading any TDT application or viewing the devices in zBUSmon. If the hardware fails to ID shut down the TDT hardware and restart the device.