



Broadcast  
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## Frequently Asked Questions

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**Installing the USB 1024ls Trigger & Closure Kit (discontinued product)**

### Overview

The USB-1024LS is low-cost, self-contained, USB-powered and very compact. When used as a trigger kit, it offers up to 24 trigger inputs for your Simian automation system. When used as a closure\* kit, it offers up to 24 TTL outputs for your Simian automation system to control outboard devices (there is no physical difference between the Trigger Kit and the Closure Kit, it is just a matter of how it is configured and used).

As the USB-1024LS is a USB (Universal Serial Bus) device it is powered directly by your computer and is very easy to install and configure (there is no need to open up your PC). All connections are via convenient screw terminals at each side of the device.

Typically, triggers are controlled by closing contacts on your satellite receiver but can also be used to interface your mixing console or start buttons with Simian and thus facilitate “remote control” of your Simian automation software. Check the Components Unpack the USB1024-LS taking care to observe static precautions.

Closures\* are signals used to control other devices (think of closures as an outgoing signal and a trigger as an incoming signal). Outboard devices such as cart decks, cd players, transmitters, consoles, and more, use closures to allow automation control. Some devices interface with 'dry closures' (IE: a physical relay with open and closed states), an 'open collector' (IE: a solid state transistor with open and closed states), or a TTL signal (IE: a voltage from ~0v off on to ~3-5v when on). When the USB-1024ls is set up as a closure kit, it generates TTL signals. Ensure that you have the following:

- USB1014-LS USB Trigger/Closure Kit & User Manual
- BSI Software Installation CD
- USB (“A”to “B”) Cable



*Figure 1: The USB 1024ls and supplied USB cable are shown.*

## Connecting to your Computer

Take the USB cable and plug one end into the USB-1024LS and the other end into a spare USB port on your computer (i.e. next to your Simian dongle).

The cable will only plug in one way as the two ends are different as shown here. If you need a longer cable you can order a replacement from your local computer store – the cable is known as an “A to B USB cable”.

**IMPORTANT NOTE:** It is not normally possible to use USB cables over distances greater than 5 metres.



*Figure 2: "Found New Hardware" message indicates the USB 1024ls has been detected.*

The first time the USB 1024ls is plugged into a USB port Windows will automatically identify and install the USB-1024LS as a “USB Human Interface Device” and display the notice shown in Figure 2.

## Installing the Instacal Software

The Instacal Software facilitates the communication between applications and the USB 1024ls. The installation process only takes a couple of minutes. Insert the BSI Software Installation CD into your computer’s CD-ROM drive and the installation application should start automatically. If you do not see a window appear that is similar to the one in Figure 3, you may have disabled the “autorun” feature of your CD-ROM. In this case, you can use Windows Explorer to run the Install.exe program contained on the BSI Software & Driver installation CD-ROM. Alternately, if you do not have the BSI Software Installation CD you can download the Instacal software from the BSI support website.



Figure 3: After inserting the BSI Software Installation CD, the application installer should automatically start



Figure 4: Click 'install' to start installation of the Instacal driver

Choose 'Measurement Computing - Instacal Drivers' from the **Application** dropdown. Click on the **Install** button as shown in Figure 4 to start the Instacal installer.



Figure 5: The 'Open File - Security Warning' dialog

On Windows versions XP and newer, you will be prompted with an "Open File - Security Warning" dialog as shown in Figure 5. Click the **Run** button to continue.



Figure 6: Click 'OK' to run the built-in WinZip Self-Extractor

Since the Instacal driver installer is a compressed file, you will be prompted to run the built-in WinZip Self-Extractor. As Figure 6 shows, click **OK** to continue

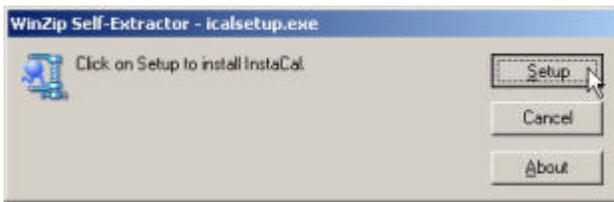


Figure 7: Click Setup on the 'Winzip Self-Extractor - icalsetup.exe' window

The 'Winzip Self-Extractor - icalsetup.exe' window will now appear. Click on the **Setup** button to start the installer.



Figure 8:

The Instacal installer will now start. Click on the **Next** button to configure the installation.

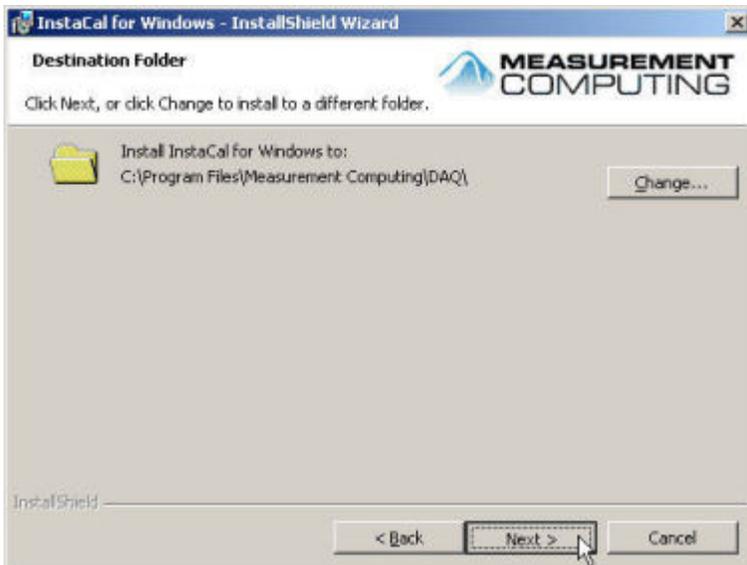


Figure 9: Choose the path to your desired installation folder, then click **Next**

You will be prompted to choose the path to your desired installation folder. We recommend that you accept the default suggestion (C:\Program Files\Measurement Computing\DAQ\ ) and click the **Next** button.

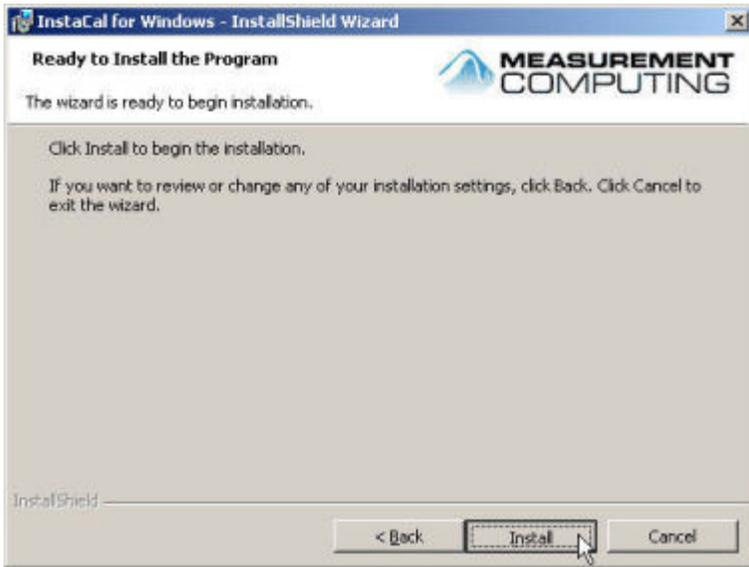


Figure 10: You're ready to install!

You are now ready to install, click on the **Install** button to continue.

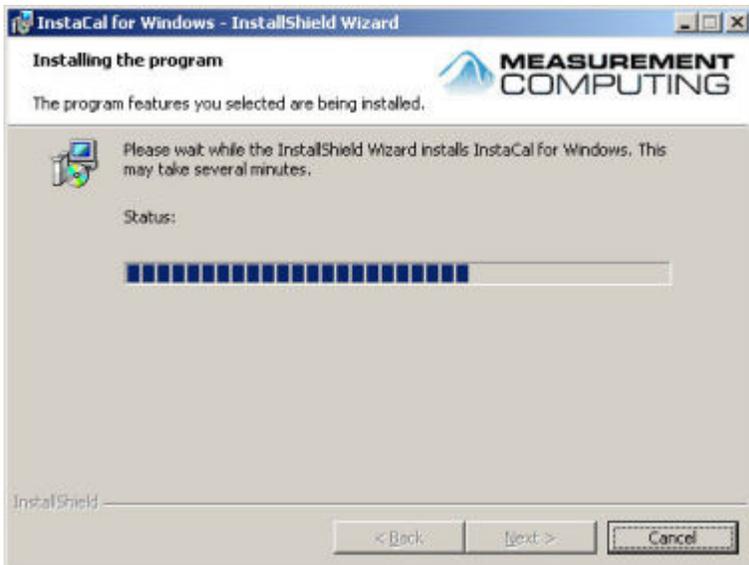


Figure 11: Installation progress

You will see a progress bar as the files and folders are copied to your computer.

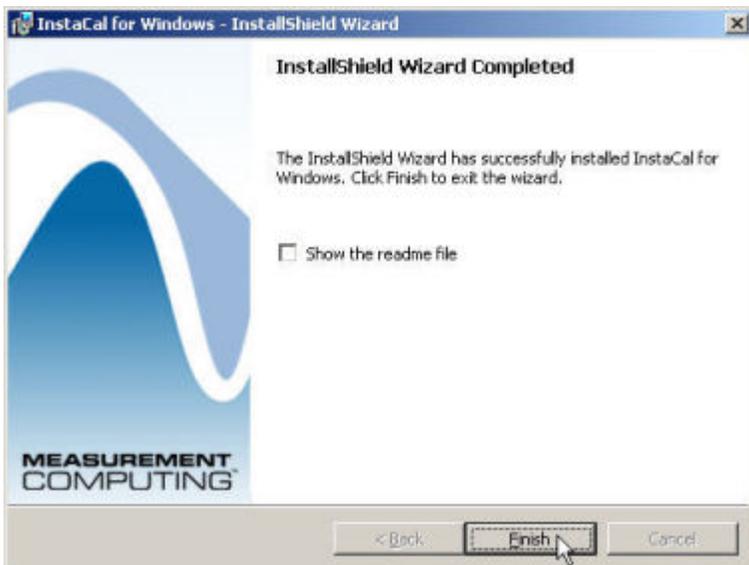


Figure 12: The installation is complete!

Once the program files and icons have been created, you'll be offered the opportunity to view the README file. Since you are already reading this document you can uncheck the **Show the readme file** option and click **Finish**.



Figure 13: ---image caption text---

When installation has completed, it's very important to restart (reboot) your computer. Just click **Yes** when you see the message shown in Figure 13 and your machine will automatically restart. If you have other applications open with files you need to save, click **No**. You can then save and exit your other applications and restart your computer when you are ready. Once you have your computer rebooted and logged back into Windows, you are ready to move on to the next section to configure your USB 1024ls for use.

## Configuring the USB 1024ls



Figure 14: ---image caption text---

Close any other applications you have running (including Simian, WaveCart, or any other BSI application you might have running). Start the InstaCal configuration application by clicking on the Windows **Start** button, then select **Programs, Measurement Computing, then Instacal**. When the software is run the first time, you will receive a **Plug and Play Board Detection** message as shown in Figure 14. Your USB 1024ls will be listed. Make sure the selection box is checked, then click **OK**.

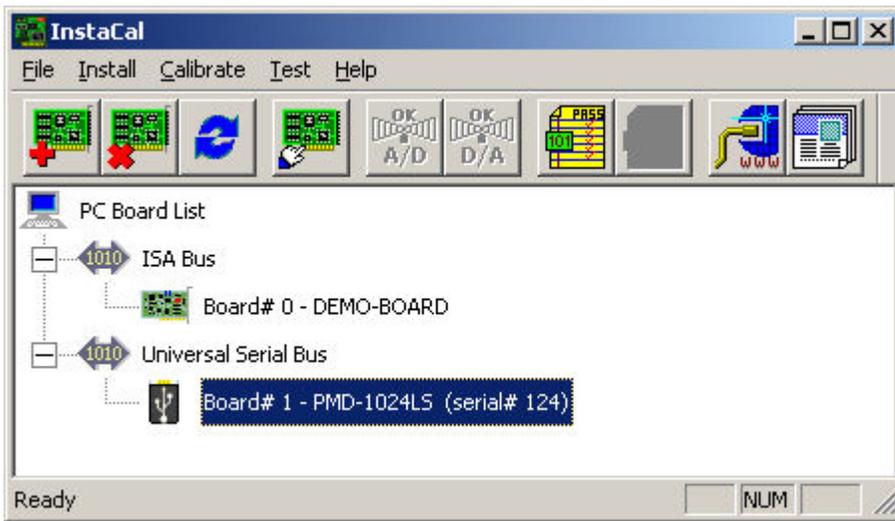


Figure 15:

Your USB 1024ls will be listed in the device 'tree' under the 'Universal Serial Bus' section. You may also see a listing for a 'Demo-Board'.



Figure 16:

If it exists, remove the 'Demo-Board' device by highlighting its listing and clicking the Remove Board icon (as shown in Figure 16). You will then be prompted with a confirmation message stating '**Remove Board DEMO-BOARD**'. Click **OK** to finalize the deletion of the Demo-Board.

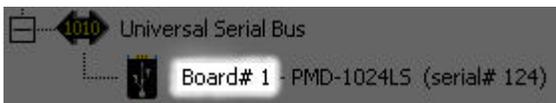


Figure 17:

Take a careful note of the '**Board#**' (Board Number) given to your USB 1024ls, as this information will be needed when configuring Simian and/or WaveCart.



Figure 18:

To test that your computer is communicating with your USB 1024ls, or physically identify your device (IE: if you have 2 USB 1024ls' installed on your computer), highlight the USB 1024ls in the device 'tree', then click the **Configure** button (as shown in Figure 18). Click the **Flash LED** button to flash the led on your device. With multiple devices, only the device you highlighted will flash its LED.

Now that your USB 1024ls is installed and configured, you can proceed to the next section pertaining to your situation: Configuring Triggers in Simian, or Configuring Closures\* in Simian, Configuring Triggers in WaveCart.

## Configuring Simian

Start Simian by double-clicking the Icon on your desktop.

Make sure that all playback is halted and select Tools, Hardware Options from the main menu, then click the Hardware tab.

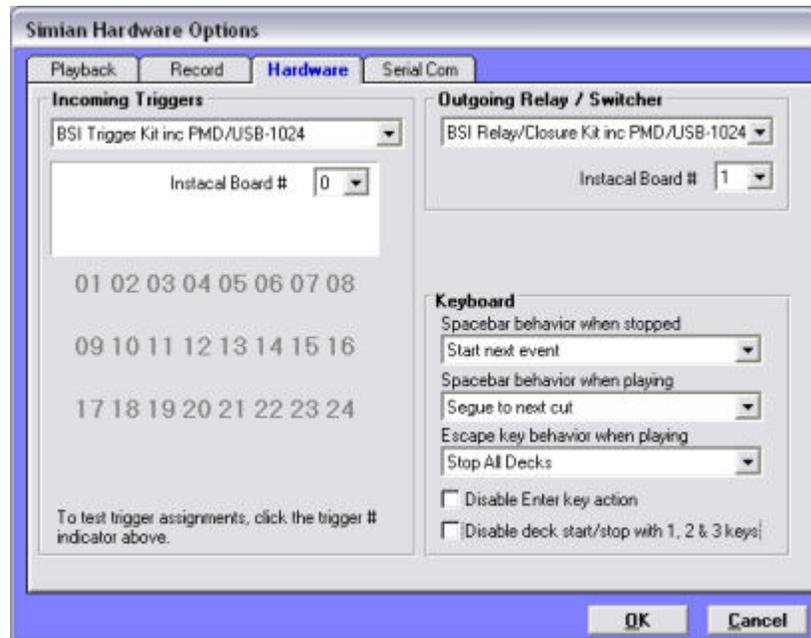


Figure 19: The **Hardware** tab within Simian's **Hardware Options** window.

## Configuring Triggers

NOTE: Each USB-1024ls device can be utilized by Simian as a 24 port trigger device, or a 24 port closure device (IE: it isn't possible to use 8 ports as triggers and 16 as relays, etc.). You can, however, connect multiple USB-1024ls devices to a single machine and configure Simian to use one of the USB-1024ls devices as triggers and a second USB1024ls device for closures\*.

Under the **Incoming Triggers** heading, select "**BSI Trigger Kit inc PMD/USB-1024**" in the drop down box as shown on the left side of Figure 19.

You'll also see a setting for the **Instacal Board #** - this should correspond to the board number shown in Instacal (if you only have one USB-1024ls connected to your system, this will usually be set 0).

Click **OK** when you have finished.

You should shut down and restart Simian to initialize the new trigger settings. When Simian restarts you should also make sure that Triggers are enabled by checking Async, Triggers, Enabled on the main menu as shown below.

## Configuring Closures\*

NOTE: Each USB-1024ls device can be utilized by Simian as a 24 port trigger device, or a 24 port closure device (IE: it isn't possible to use 8 ports as triggers and 16 as relays, etc.). You can, however, connect multiple USB-1024ls devices to a single machine and configure Simian to use one of the USB-1024ls devices as triggers and a second USB1024ls device for closures\*.

Under the **Outgoing Relay / Switcher** heading, select "**BSI Relay/Closure Kit inc PMD/USB-1024**" in the drop down box as shown on the right side of Figure 19.

You'll also see a setting for the **Instacal Board #** - this should correspond to the board number shown in Instacal (if you only have one USB-1024ls connected to your system, this will usually be set 0).

Click **OK** when you have finished.

You should shut down and restart Simian to initialize the new trigger settings. When Simian restarts you should

also make sure that Triggers are enabled by checking Async, Triggers, Enabled on the main menu as shown below.

## Configuring WaveCart

Start WaveCart by double-clicking the Icon on your desktop.

Make sure that all playback is halted and select **Tools, Program Options** from the main menu, then click the **Hardware** tab.

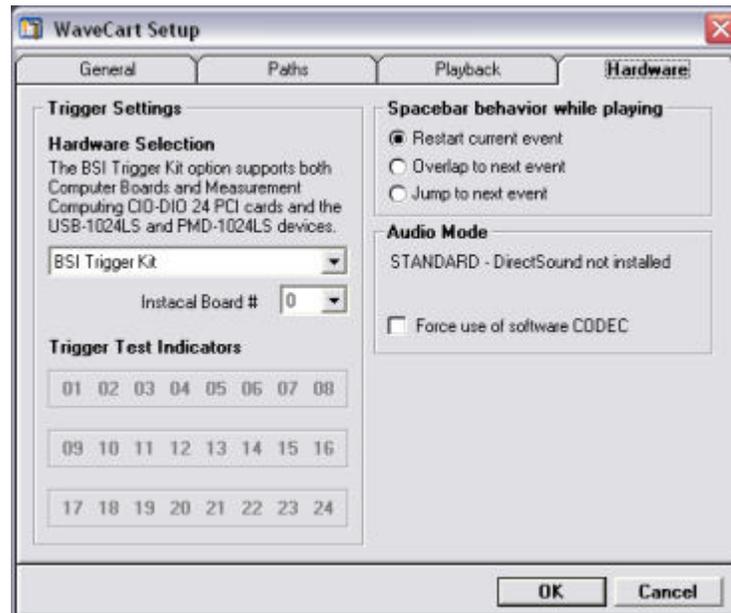


Figure 20: Go to the **Hardware** tab in WaveCart's **Program Options** window to configure your USB-1024ls

Under the **Trigger Settings** heading, select "**BSI Trigger Kit**" in the drop down box as shown in Figure 20. You'll also see a setting for the **Instacal Board #** - this should correspond to the board number shown in Instacal (this will usually be set 0).

Click **Done** when you have finished.

You should shut down and restart Simian to initialize the new trigger settings. When Simian restarts you should also make sure that Triggers are enabled by checking Async, Triggers, Enabled on the main menu as shown below.

## Connecting the USB-1024ls to Your Hardware

Now that you've installed and configured your USB-1024ls and configured Simian or WaveCart (or both), it is time to connect the USB-1024ls to your outboard device(s). The pin-out specification is the same whether using the USB-1024ls as a trigger kit or a closure\* kit. Figure 21 shows a diagram of the pin-out structure. By looking at the diagram in Figure 21, it becomes apparent that the physical pins on the USB-1024ls do not have a one-to-one correspondence to what Simian/WaveCart see for each trigger/closure. For instance, the pins that correspond to what Simian/WaveCart see as trigger 1 are pin 21, and a ground pin (the USB-1024ls has common grounding, so any trigger can use pin 29, 31, 40, 9, 12, 15, 17, and 19 as a ground). When using your USB-1024ls as a Trigger Kit, each pin will be wired to a dry relay closure (as on a satellite receiver's GPO/GPIO connector) or a mechanical switch (as on a GO/START/PLAY/STOP button on a console). When using the USB-1024ls as a closure device, each corresponding pin will be wired to your outgoing device (as in a TTL GPI/GPIO on a console, transmitter, or other outboard device).

NOTE: See the \* note at the bottom of this document regarding the TTL "closure" functionality of the USB-

1024ls.

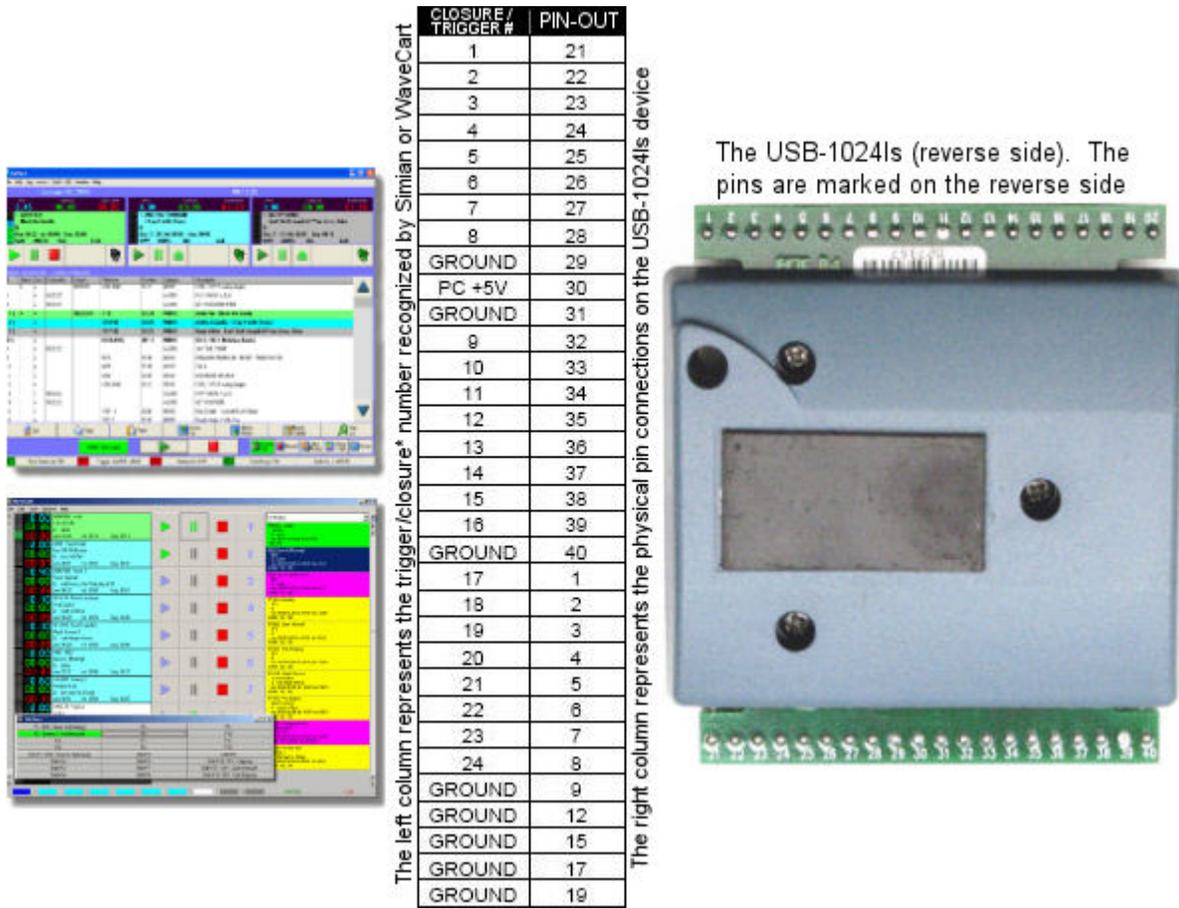


Figure 21: The pin-out specification is the same whether using the USB-1024ls as a trigger kit or a closure\* kit

## Using the USB-1024ls

Your USB-1024ls is now fully configured and ready to use. To set up trigger sets or use the RELAY macro (in Simian), refer to the sections regarding Trigger Sets (and in Simian, Macros) for instructions on setting up the desired functionality of each trigger/Closure\*.

### \* Note regarding 'closure' functionality:

When the USB-1024ls is used as a closure kit, it offers up to 24 TTL outputs, each channel providing a 0-.05mv signal when off, or a 3-5v signal when on) - not a dry relay closure capable of sinking current or an open collector. To use the USB-1024ls as a relay device, use relays with a primary coil voltage of 3-5v connected to each output. To use the USB 1024ls as an open collector device, use transistors connected between the USB-1024ls and the device you want to control (for instance, connect each of the USB-1024ls' output pins to a current limiting resistor, which is then connected to the base of an NPN transistor).

### Help Topics:

Last updated Thu, Jul 10 2014 1:25pm

**Please Wait!**

Please wait... it will take a second!