



Cleverscope Ltd
Phone +64 9 524 7456
Fax +64 9 524 7457
Email info@cleverscope.com
28 Ranfurly Rd, Epsom
P.O. Box 26-527
Auckland 1003
New Zealand

Stacking CS328's to increase channel count

Summary

The CS328 has been designed from the ground up to include a capability to stack units to achieve higher channel counts.

Stack and connect units by plugging the CS022 link cable into the Link socket on the CS328 rear panel.

The CS304 multi-channel PC application recognizes the units and displays multiple channels on the graph.

Operation

Each Cleverscope CS328 includes a Link Socket. The link socket presents a differential Trigger Output signal, and a Differential Trigger Input Signal, and a common ground. The differential drivers and receivers include 15kV Human Body Model ESD protection, and are certified to IEC 1000-4-2 ± 12 kV Air gap discharge, and ± 6 kV contact discharge. The propagation delay is less than 15 ns. They are RS485 compatible.

Each driver includes a Tri-state control to allow use in multi-unit applications. The simplest cable, the CS022, simply connects the Trigger Out from one unit to the Trigger In on the other unit, and vice versa. The user determines which unit is the trigger unit using the PC application, and the software automatically determines which direction is used.

In operation the trigger unit generates a Trigger Out when the trigger condition has been met. The slave unit is programmed to trigger on receiving a Link Trigger In. The internal software compensates for the propagation delay through the Link.

The Trigger condition may be determined by either unit. However it is not possible to have a trigger condition span both units.

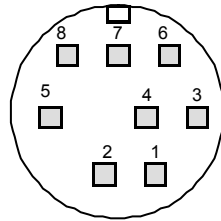
Each Unit has a USB serial number, of the form CS328A01, CS328A02.... The lowest serial number automatically becomes unit 1, the next lowest unit 2, and so on. The Help/About Cleverscope menu option displays the USB serial number for a particular CS328. You may wish to mark the units appropriately. Cleverscope does provide a tool to setup USB serial numbers if required.

CS022 Link Cable

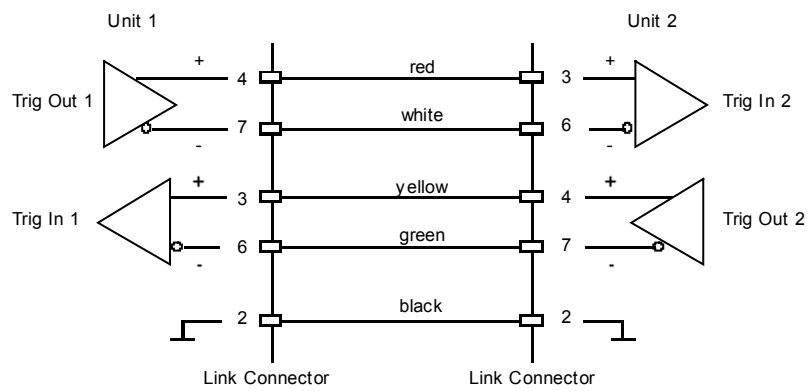
The link cable connections are as follows:

LINK - 8 pin Mini DIN socket

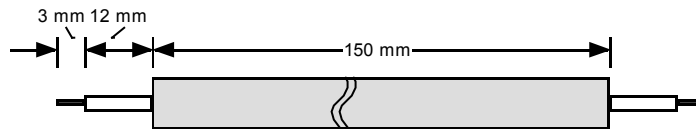
Looking into socket from rear of CS328



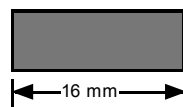
- 1 - 1kHz Reference signal
- 2 - Gnd
- 3 - Trig In (RS422+)
- 4 - Trig Out (RS422+)
- 5 - Dig Out 2
- 6 - Trig In (RS422-)
- 7 - Trig Out (RS422-)
- 8 - Dig Out 1



Solder the pins in the following order: 4, 7, 3, 6, 2



Flexible PVC sheathed, 5mm OD, 6 core cable.
 Each core is 7 x 0.2mm stranded. Remove blue core.
 Fit 8 pin Mini DIN plug, cable mounted, at each end,
 wired as above, with heatshrink sleeving as below.



2 x 16mm sections of heatshrink, 7.9 mm diameter, applied over soldered connections and PVC sheath.

