The ANY-maze Synchronisation interface

Overview

The ANY-maze Synchronisation interface is designed to help synchronise tests performed in ANY-maze with other equipment, such as electrophysiology and fiber photometry systems.

It consists of 6 TTL ports which can be set to output TTL signals when a test starts, when a new frame is captured from the camera, and/or when ANY-maze stores the animal's position in its results.

Ports

- Six independent TTL channels
- Ports are available on BNC connectors for easy connection to other devices
- Channels not used for electrophysiology synchronisation can be programmed as inputs or outputs and used for general purpose I/O

Signals

Any channel can be used to output a signal when:

- A test starts
- A video frame is captured
- A position of the animal is stored

Technical specification

Connection to PC	
Connection type	USB (USB1.1, USB2.0, USB3.0 compatible)
Data isolation	5000 V_{RMS}
Power	Powered from USB
Maximum current drawn from USB	250mA
USB power isolation	500 V_{AC}
Connection indication	LED: Red=Powered; Green=Communicating (note 1)
Ports	
Number of channels	6
Direction	Individually configurable as inputs or outputs
Connector	BNC
Outputs	
Signal type	TTL
Active state	Programmable (default high)
Output low	0.6V max
Output high	3.2V min
Maximum output current	6mA (source or sink)
Inputs	
Signal type	TTL
Active state	Programmable (default high)
Input switching threshold	1.2V typical
Read frequency	1KHz

Notes
1. Indicator LED can be supressed, which is useful for tests performed in darkness and/or to avoid providing potential cues to the animals.