

## STP100W STIMULUS PRESENTATION SYSTEM (SUPERLAB™)

The STP100W system includes:

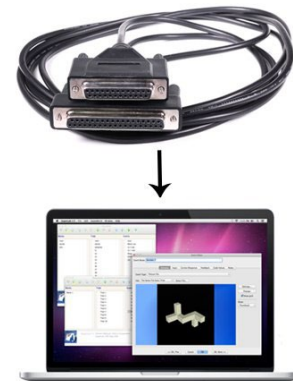
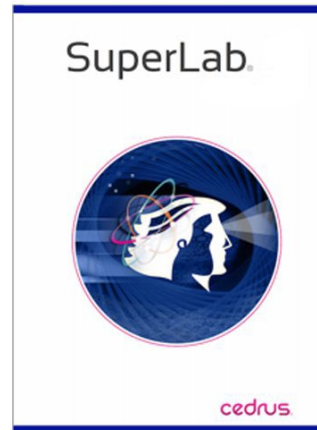
- SuperLab™ Pro Software (Windows)
- STP100D Optical Interface (w/3-meter ribbon cable)\*
- ✓ Measures physiological responses to stimuli
- ✓ Permits up to eight synchronization signals (input or output) between the STP100W and the MP System
- STM-C-POD-STP for MP160
- Pushbutton Keycap Color Change Kit
- Seven Pushbutton Response Box
- ✓ Performs accurate (1 ms resolution) reaction time measurements

The STP100W is a stand-alone system that measures subject responses to visual or auditory stimuli. It can present visual stimuli on a computer screen, or auditory stimuli via headphones or speakers, and simultaneously (1ms resolution) send trigger signals to an MP System on a different computer for data synchronization and collection purposes.

The SuperLab™ Pro software can change the placement of visual stimuli on the screen or change the screen's background color. It offers a variety of input and timing options, and will provide feedback based on the subject's response or reaction time. Different trigger channels can be paired to different visual or auditory stimuli to perform sophisticated evoked response averaging tests (e.g., P300).

**Second PC required**— The synchronization signal(s) coming from the STP100W can be directed to an MP System running on a Mac or PC, but it's not recommended to run the STP100W on the same computer as the MP System. The STP100W requires that the SuperLab™ software and a STM-C-POD-STP be placed on a PC.

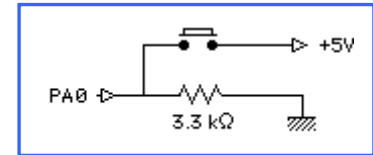
\*To interface the STP100D with devices that use BNC outputs, such as the fNIR System trigger ports, use the CBL125 BNC-to-BNC cable.



| Analog Digital Calculation          |                                     |                          |         |                    |           |
|-------------------------------------|-------------------------------------|--------------------------|---------|--------------------|-----------|
| Acquire                             | Plot                                | Value                    | Channel | Label              |           |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | D0      | Digital input      | 2,000 kHz |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | D1      | Digital input      | 2,000 kHz |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | D2      | Digital input      | 2,000 kHz |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | D3      | Digital input      | 2,000 kHz |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | D4      | Digital input      | 2,000 kHz |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | D5      | Digital input      | 2,000 kHz |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | D6      | Digital input      | 2,000 kHz |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | D7      | Digital input      | 2,000 kHz |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | D8      | SuperLab Channel 1 | 2,000 kHz |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | D9      | SuperLab Channel 2 | 2,000 kHz |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | D10     | SuperLab Channel 3 | 2,000 kHz |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | D11     | SuperLab Channel 4 | 2,000 kHz |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | D12     | SuperLab Channel 5 | 2,000 kHz |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | D13     | SuperLab Channel 6 | 2,000 kHz |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | D14     | SuperLab Channel 7 | 2,000 kHz |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | D15     | SuperLab Channel 8 | 2,000 kHz |

### SuperLab Set up

1. Connect the **SuperLab** output card via the STP100D to the AMI100D, HLT100C, or UIM100C and the BIOPAC MP160 or MP150 System.
2. Create the presentation using the appropriate digital outputs from the **SuperLab** PC to the MP160/150.
  - See the **SuperLab Manual** for instructions on how to create the presentation.
3. Setup digital channels 8-15 (as used in the presentation) using the MP160/150>Setup Channels>Digital dialog.
  - The **SuperLab** stimulus output synchronization signals will be output on digital lines 8 through 15. In order to record the changes and use the stimulus for analysis purposes, the appropriate channels must have “Acquire” enabled.



- ✓ **SuperLab** employs a STM-C-POD-STP that uses Port A for input and Port B for output (Port C is unused). For input, lines must be “pulled low” (connected to ground by a resistor). The diagram illustrates how this is done for line A0 (pin 37). The same diagram applies for lines A1 to A7. The resistor’s value may range from 2.2 kilo-ohm to 5 kilo-ohm.

Cedrus highly recommends that all lines on Port A are pulled low even if all 8 input lines will not be used. **Better yet:** connect unused lines directly to ground.

To add other digital inputs and outputs to the system, simply remove the 2 mm pin plugs from the STP100D Interface Module. The 2 mm pins are screwed in and can be removed and added to mirror the particular application.