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II. Hardware connection

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1. What you need

Figure 2: Sybox-Opto4 (front and back side)

Figure 3: adapter

Figure 4: Power supply (only for Sybox-Opto4)

Figure 5 : Sweep – Line input

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Figure 7: Microphone

Figure 8: Alesis iO2 EXPRESS Sound card

2. Connecting

Connect the adapter (Figure3) to one of the 9-pin connectors of the Sybox
Connect the Sybox cable (Figure 6) which is connected with the the E-Box to the 15 pin socket of the Sybox.

Figure 9: Sybox connection

Plug the microphone into mic input2 of the alesis sound board.
Connect the black plug of the adapter cable (the one labeled ‘sweep’) with the respective end of the sweep – line in adapter (Figure 5)
Connect the Sweep – Line input adapter with the left Line input of the Alesis sound board

Figure 10: sweep - adapter connection

3. Power supply for Sybox-Opto4

Connect the phone jack of the power supply with the black connector of the adapter which is marked “+5V power”.

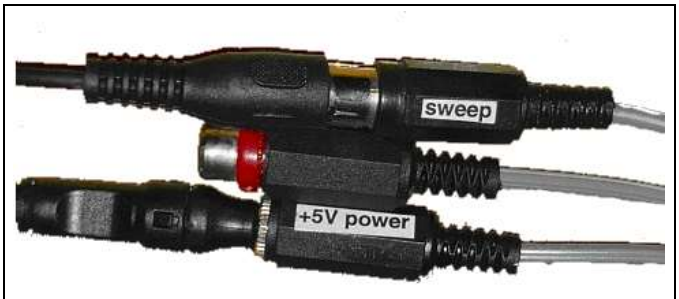

Figure 11: Power supply connection for Sybox-Opto4

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Figure 3: Sound set-up

1. What you need

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Figure 17: Sybox cable

Figure 18: Microphone

Figure 19: Alesis iO2 EXPRESS Sound card

2. Connecting

Connect the adapter (Figure15) to one of the 9-pin connectors of the Sybox 2

Connect the Sybox cable (Figure 17) which is connected with the the E-Box to the 15 pin socket of the Sybox.

Figure 20: Sybox 2 connection

Plug the microphone into mic input2 of the alesis sound board.

Connect the black plug of the adapter cable (the one labeled ‘sweep’) with the respective end of the sweep – line in adapter (Figure16)

Connect the Sweep – Line input adapter with the left Line input of the Alesis sound board

Figure 21: sweep - adapter connection

Figure 22: The Wiring of Alesis sound card with the Sybox 2

C. Alternative 3: Tascam US-2x2 sound card and Sybox 2:

Figure 4: Sound set-up

1. What you need

Figure 24: Sybox2

Figure 25: adapter

Figure 26 : Sweep – Line input

Figure 27: Sybox cable

Figure 28: Microphone

Figure 29: Tascam US-2x2 sound card

2. Connecting

Connect the adapter (Figure 25) to one of the 9-pin connectors of the Sybox 2

Connect the Sybox cable (Figure 27) which is connected with the the E-Box to the 15 pin socket of the Sybox.

Figure 30: Sybox2 connection

Plug the microphone into mic input2 of the Tascam US-2x2 sound board.

Connect the black plug of the adapter cable (the one labelled ‘sweep’) with the respective end of the sweep – line in adapter (Figure 26)

Connect the Sweep – Line input adapter with the left Line input of the Tascam US-2x2 sound board

Figure 31: sweep - adapter connection

Figure 32: The Wiring of Tascam US-2x2 sound card with the Sybox2

D. Alternative 4: Tascam US-2x2 sound card and Sybox-Opto4:

Figure 5: Sound set-up

1. What you need

Figure 34: Sybox-Opto4 (front and back side)

Figure 35: adapter

Figure 36: Power supply (only for Sybox-Opto4)

Figure 37 : Sweep – Line input

Figure 38 Sybox cable

Figure 39: Microphone

Figure 40: Tascam US-2x2 soundcard

2. Connecting

Connect the adapter (Figure 35) to one of the 9-pin connectors of the Sybox2
Connect the Sybox cable (Figure 38) which is connected with the E-Box to the 15 pin socket of the Sybox.

Figure 41: Sybox2 connection

Plug the microphone into mic input2 of the Tascam US-2x2 sound board.
Connect the black plug of the adapter cable (the one labelled ‘sweep’) with the respective end of the sweep – line in adapter (Figure 37)
Connect the Sweep – Line input adapter with the left Line input of the Tascam US-2x2 sound board

Figure 42: sweep - adapter connection

3. Power supply for Sybox-Opto4

Connect the phone jack of the power supply with the black connector of the adapter which is marked “+5V power”.

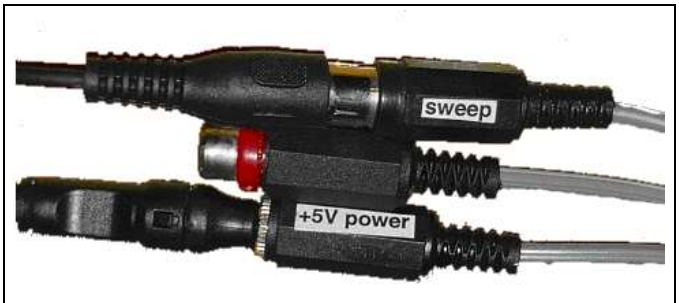

Figure 43: Power supply connection for Sybox-Opto4

Figure 44: The Wiring of Tascam US-2x2 sound card with the Sybox-Opto4

III. Software settings & trouble shooting

A. Monitor sound recording

To activate sound recording in cs5recorder select the *record audio data*-option (Figure -45).

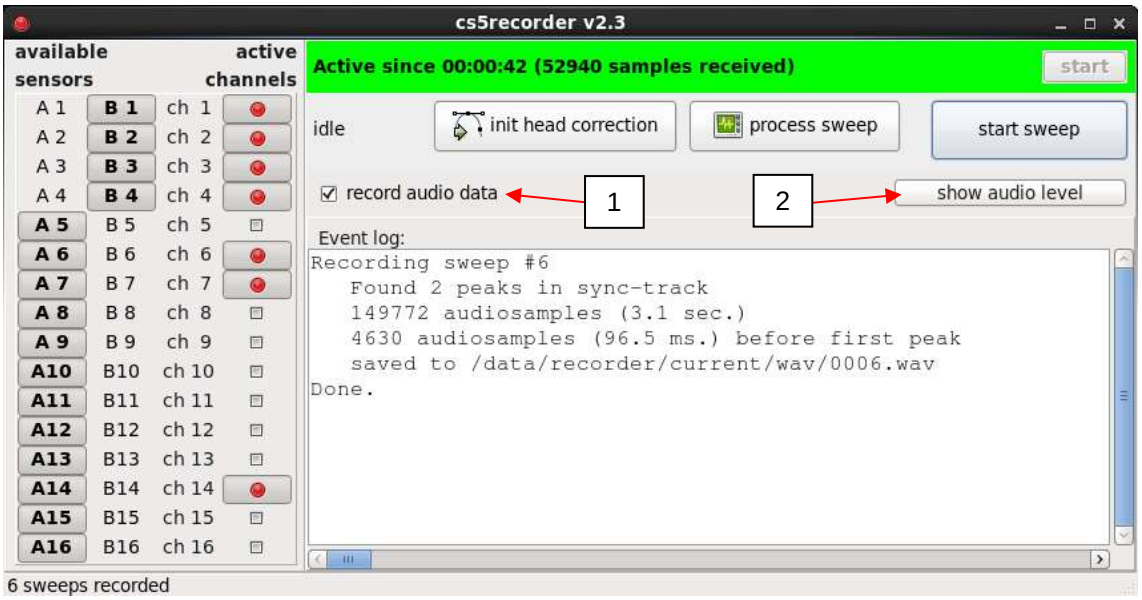

Figure 45: Audio recording in cs5recorder

Normally it says "found 2 peaks". This means that during the last sweep, the start and stop peak was correctly detected.
With the *show audio level*-button it is possible to show and adjust the audio level (Figure -46). Please note: The window must be closed using Ctrl-C before the recording of data is started. Otherwise, the sound recording will fail.

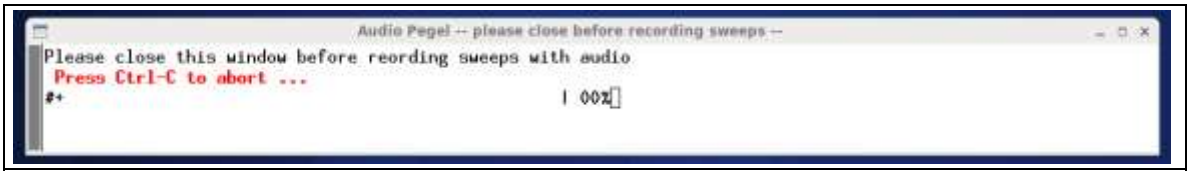

Figure 46: Audio recording in cs5recorder

B. Data storage

The synchronized data are stored within separate folders within the Control server data/recorder/"sessionname"/wav
The full sound data including the synchronization signal are stored in the folder wav.all

C. Trouble shooting

1. Error-message 1:

```
Event log:
Recording sweep #5
Error starting audio recorder:
arecord: main:546: audio open error: Device or resource busy
Done.
```

Please close the Window “audio pegel”

2. Error-message 2:

```
Event log:
Recording sweep #7
Error analysing audio file:
   Found 0 peaks in sync-track
   0 audiosamples (0.0 sec.)
   not saved!!  Please cut manually. Full audio data can be found in 0007.wav.all
Done.
```

The synchronization signal is missing. Please control the set up.

Control the Sybox cable. Control the and power supply in case you are using sybox opto4.

Is the white (or black) plug of the audio cable connected to the adaptor plug marked “sweep”?

Is the audio cable plugged in the line-in connector of your sound card?

Does your sound card driver cross the left and the right channel? (The sweep signal is expected to be on left channel!)

Within the wav.all file you will find the synchronization signal in channel1, the sound signal in channel2

3. Error-message 3:

```
/data/recorder/current/amps/0018.amp - Size: 2634033
Data-size: 2632320 - 16 Channels at 1250Hz
Data samples recorded: 4570 -> 3.656 seconds
Sound samples recorded: 127 -> 0.003 seconds
Critical sample variation found for expected sampling rate (99.928):
Sound rate: 48000Hz -> calculated data rate: 1727244.094Hz
Data rate: 1250Hz -> calculated sound rate: 34.737Hz
Done.
```

Gain for the line in is too high: Please make sure that the gain button is in the correct position.

4. Nothing recorded or to low

Is the microphone turned on?

IV. Revision history - AG501_sound

Date	Revision	Annotation
June 12th, 2012	1	Brigitta Carstens
February 6th, 2013	2	Grammar & spelling, readability (by Johannes)
February 24th, 2014	3	Updated cs5recorder screenshots
September 22nd, 2015	4	Sybox2 added; photographs optimized
January 19th, 2016	5	Tascam US-2x2 sound card added