

Recording Lab Manual

If you require assistance or encounter any further issues, please contact: tonstudio@coli.uni-saarland.de

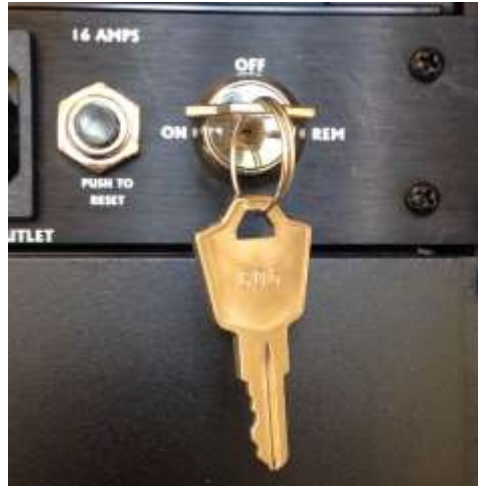
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1. Turning on the system

ATTENTION: Do not turn on the loudspeaker in the recording booth without assistance or it will create a very loud feedback loop!

1. In audio rack above computer desktop, turn the key to 'ON' (as shown below). There's is no need to use any other buttons on audio rack.



2. Turn on the computer and select the account 'Tonstudio' (No password required).
3. The computer will automatically boots into Windows operating system.

2. Recording booth configurations

The recording booth inventory consists of one (1) standing microphone, two (2) headset microphones, two (2) pairs of headphones, and two (2) HDMI screens.

There are also two labeled stageboxes that can handle the microphone and headphone connections to the PC and mixing board. Make sure the cables to the microphones are plugged into the appropriate inputs of the stagebox. By default, the I/O (Input and output configurations) for these boxes are set to the following (Note: Stagebox 1 is the only box with working inputs in the default settings):

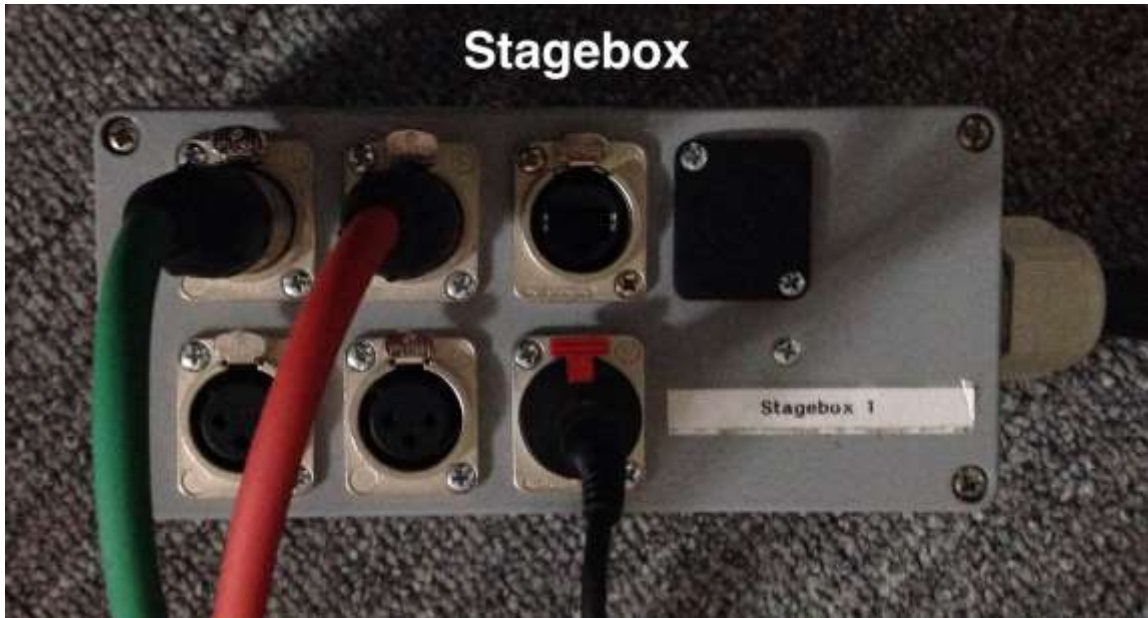
ProTools

ADAT 1 & 2 - Mikrophone 1 (Stagebox 1)
ADAT 3 & 4 - Mikrophone 2 (Stagebox 1)

Cubase (Default_HDMI template)

Track: Mic 1 - Mikrophone 1 (Stagebox 1)
Track: Mic 2 - Mikrophone 2 (Stagebox 1)
Track: Mic 3 - Mikrophone 3 (Stagebox 1)
Track: Mic 4 - Mikrophone 4 (Stagebox 1)

The headphones connected to **Kopfhörer 1** (Stagebox 1) are the ones that can be controlled using the mixing board.



3. Setting up a basic sound recording in ProTools

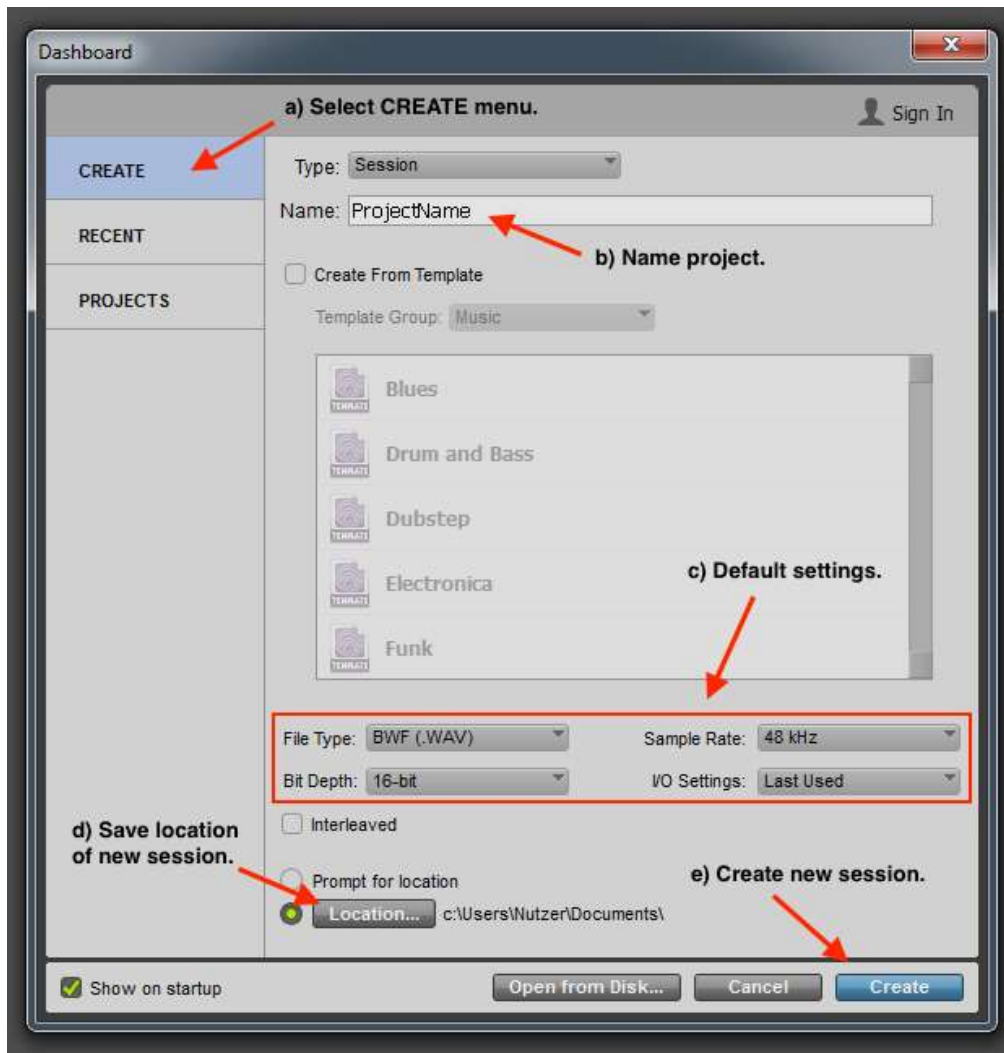
Important notes: Before opening the audio workstation (ProTools/Cubase), please make sure that all your hardware is plugged-in (HDMI/Midi). ProTools will search for and activate the required hardware as it loads.

3.1. Creating a new project

1. Open the ProTools application from the desktop.

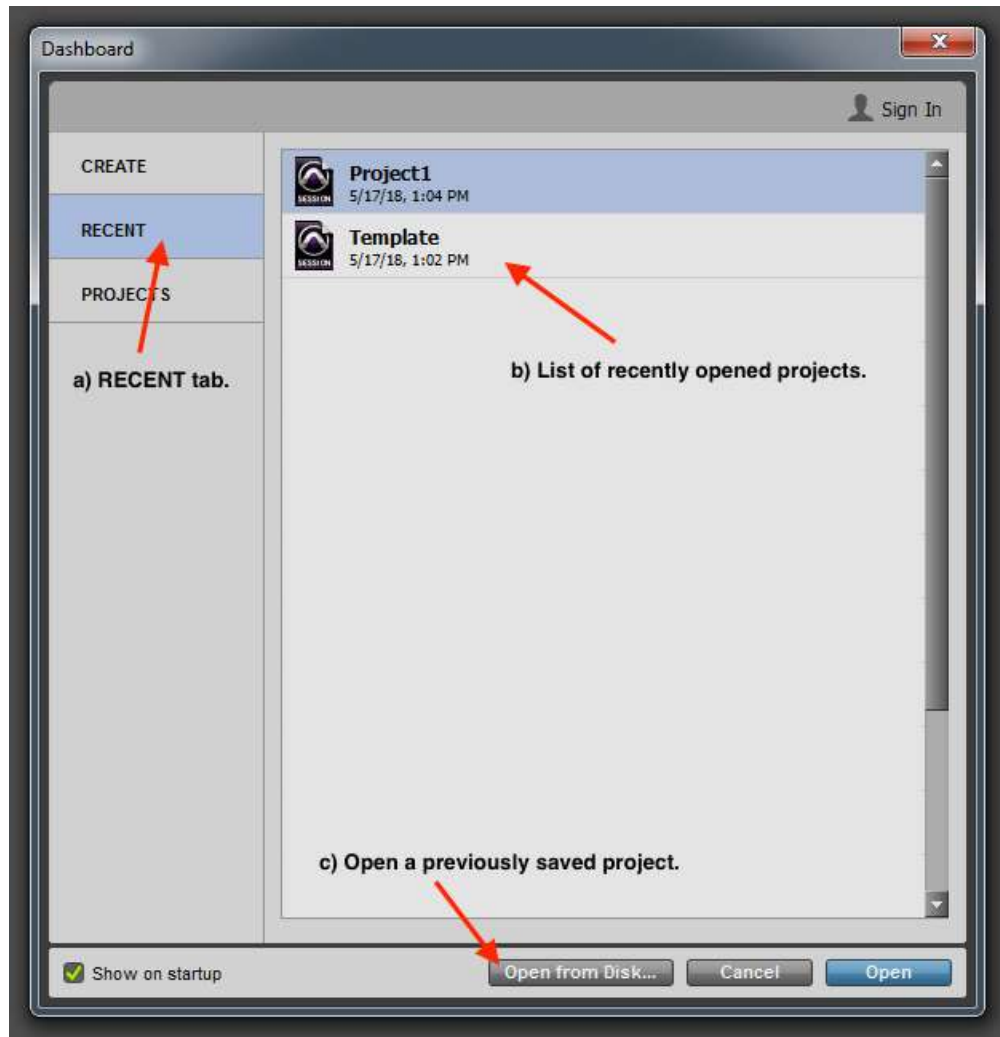


2. A ProTools project is called a 'Session', and it will have the extension .ptf. To start a new session, select the CREATE tab in the window that appears after opening ProTools. When creating a new session, the sample rate will be automatically 48kHz. This can be changed later when you export your recordings.



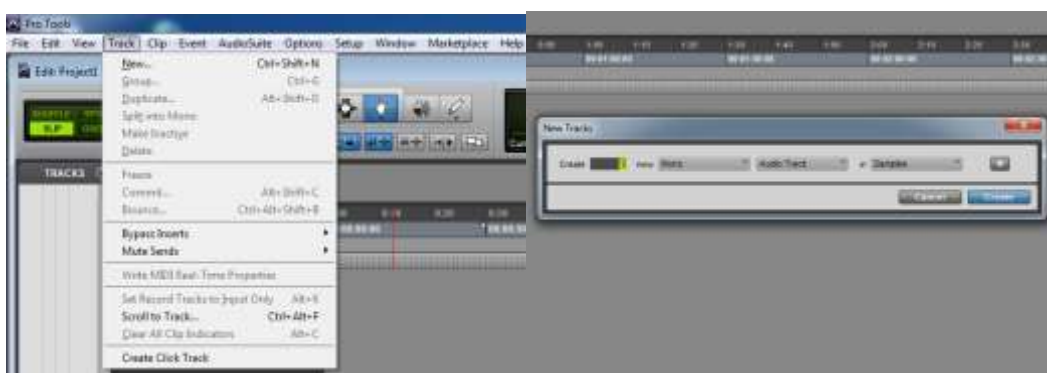
3.2. Opening/editing an existing project

1. If you already have a sound recording that you would like to continue or edit, select the RECENT tab in the window that appears after opening ProTools. Here, you can either find your project in the list of recent ProTools projects, or if your project can not be found there, select "Open from Disk..." and navigate to where your project was saved.

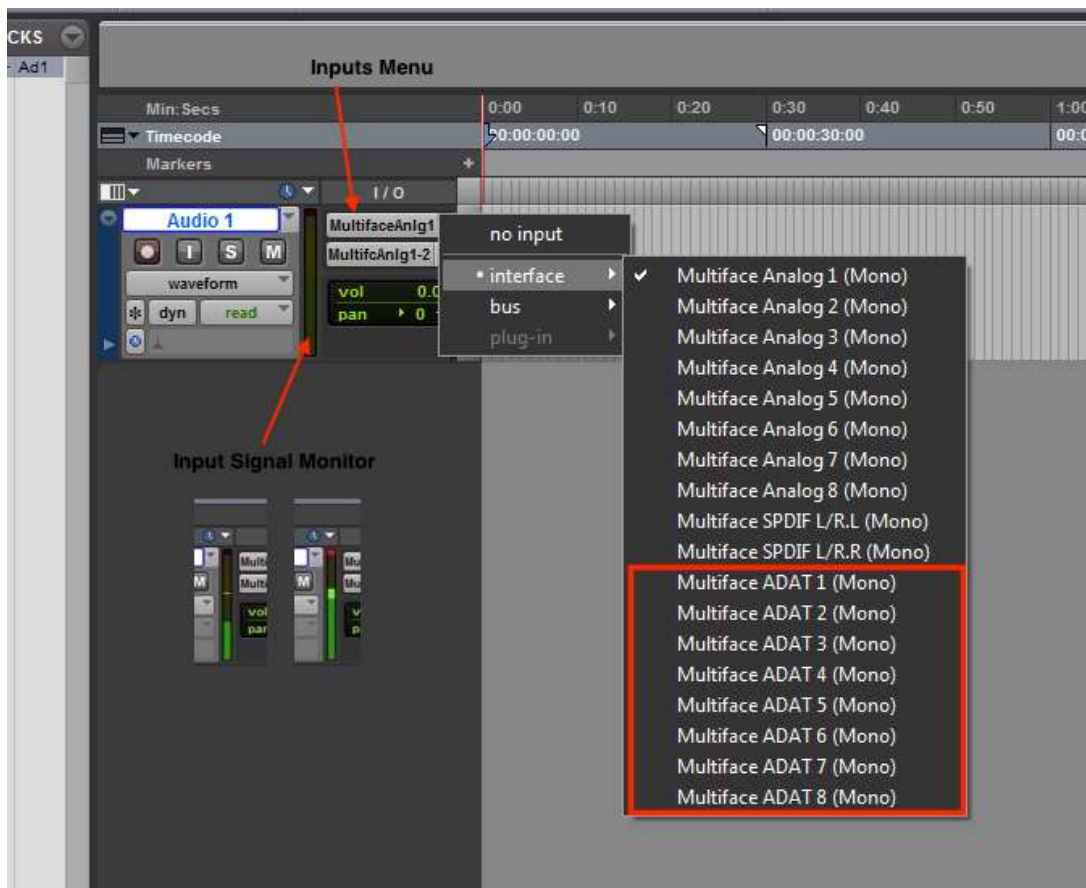


3.3. How to set up a recording

1. To set up a track for recording audio, go to 'Track' in the menu, and select 'New'. For a basic audio track to record voice, select "Mono", and 'Audio Track' in the window that appears.



- Depending on your recording booth setup, your audio track settings may differ. If the recording equipment is set to its default configurations, then the main audio microphone will be called 'ADAT 1' and the headset will be 'ADAT 3'. If these settings do not work, please consult the '*Recording booth configurations*' section to properly set up your microphones.
- In the track you will be using, go to I/O (the input menu is the first button), and select the corresponding microphone that you want to record from in the selected track. If not using mixer, ignore the the output menu (second button). Check to make sure you are getting a signal by looking at the input signal bar between the track and I/O menu.



- To start recording, select the REC symbol on the track you will be using, this tells the program which tracks will record. Then ready the whole program by selecting the main record button, this puts the program into record mode as opposed to play mode. When you are ready to start recording, select the play button at the top.



- It is important to keep an eye on the input levels while recording. The inputs monitor bar represents the actual volume of your track, as what you hear is not an accurate depiction of the volume once exported or played on other devices. The most important thing to keep an eye on is that the bar does not reach the red zone, the loudest sound should be roughly in the yellow range.



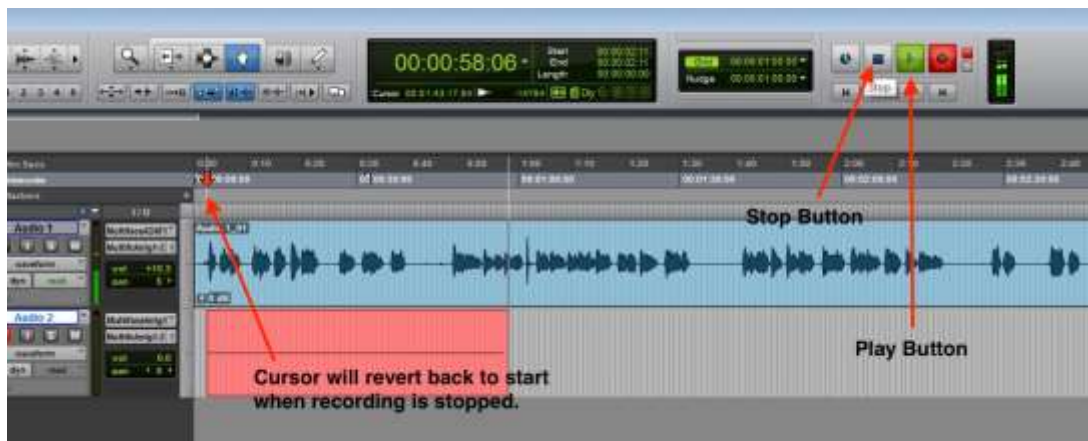
The size of the sound wave also does not tell you the volume and can be changed without altering the actual amplitude using the increase button.



If input levels are too low/high, try adjusting the input signal using the gain controls on the audio rack (The numbers correspond to the ADAT inputs). It is advisable to check the levels before recording and to avoid adjusting them while or between recordings.



7. You can pause a recording using the 'Stop' button. If paused the cursor will go back to the start. To avoid recording over your existing files, select the area you'd like to start from after pausing above the tracks and it will start from there when you resume.

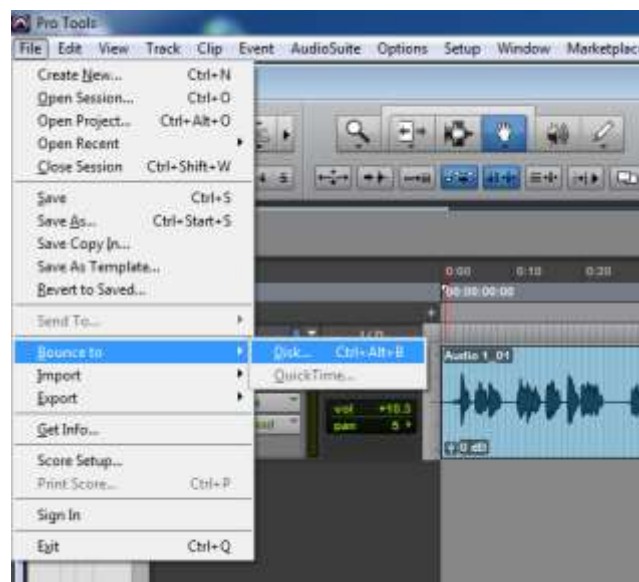


3.4. Saving the project and recordings

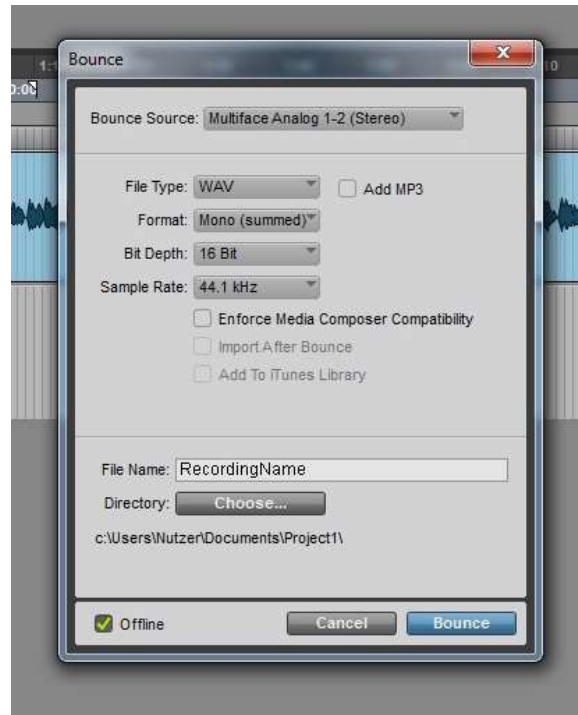
1. Note for HDMI users: do not unplug the HDMI cable from the computer until after all the file have been exported and you have closed ProTools.
2. To export your file, solo the tracks you want to be in the exported file by selecting the 'S'. This should mute all other tracks that are not solo. All tracks not muted will be merged together into one sound file during the exportation process.



3. Select the area of the track you want to export by using the shift key (click the starting point on the time bar that you would like to include, hold shift and then click the end point). Then, go to the 'File' menu, select 'Bounce to...', and choose 'Disk...'.



4. In the menu that appears, you can select the settings you want and export your file to the 'Bounced Files' folder in your project. It is recommended that you not save the files elsewhere. *The default and most commonly used export settings for professional use are WAV files with a 48 kHz sample rate and a bit depth of 16-bit.*

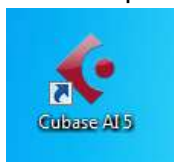


4. Setting up a basic sound recording in Cubase

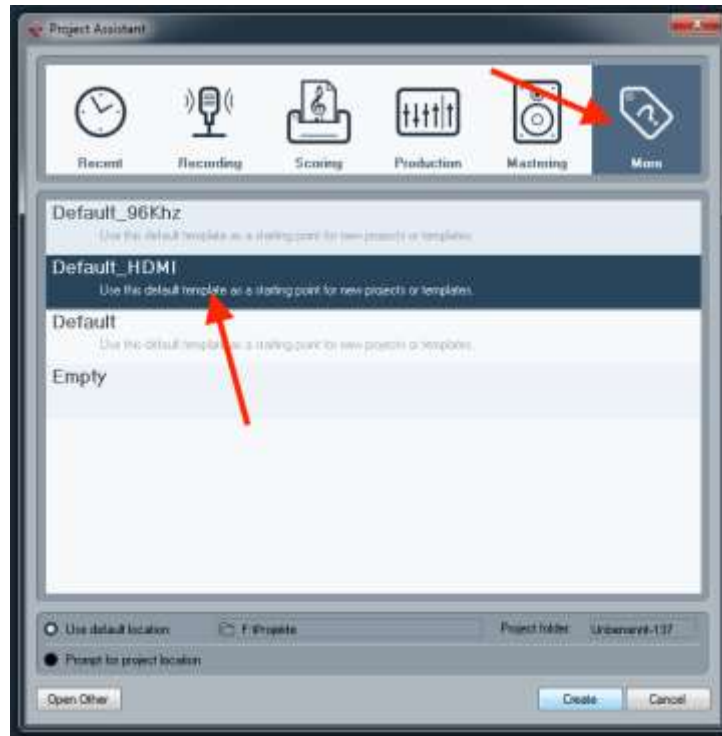
Important notes: Before opening the audio workstation (ProTools/Cubase), please make sure that all your hardware is plugged-in (HDMI/Midi). ProTools will search for and activate the required hardware as it loads.

4.1. Creating a new project

1. Open the Cubase application from the desktop.



2. To start a new session in Cubase, it is recommended to use the template Default_HDMI. This can be found under the 'More' tab of the window that appears when Cubase is launched.

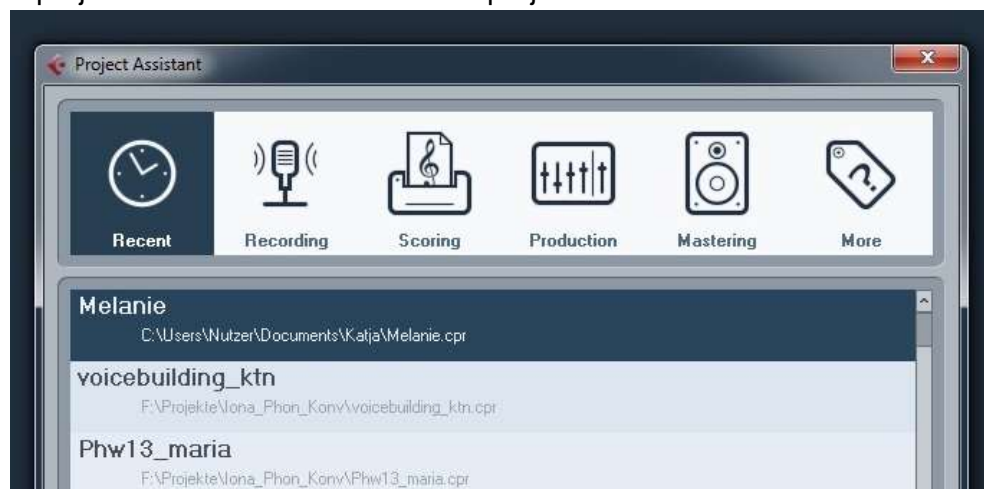


3. If you would like to make a custom project, select 'Empty' to open a blank project. New tracks can be added by going to 'Project' in the menu > 'Add Track' > the appropriate track type (usually 'Audio'). For a track that will export into one file, selecting Mono in the configuration that appears.

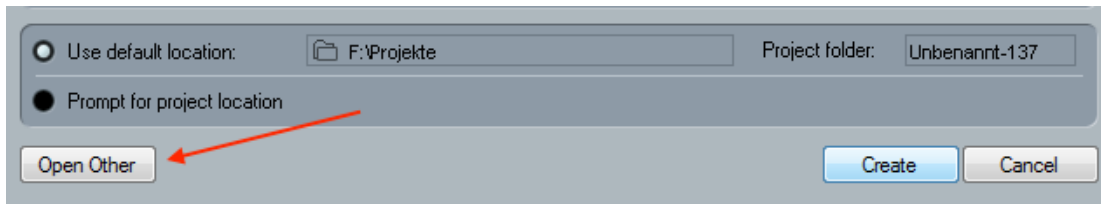


4.2. Opening/editing an existing project

1. If you already have a sound recording that you would like to continue or edit, select the 'Recent' tab in the window that appears after opening Cubase. Here, you can either find your project in the list of recent Cubase projects.



If your project can not be found there, select 'Open Other' and navigate to where your project was saved.

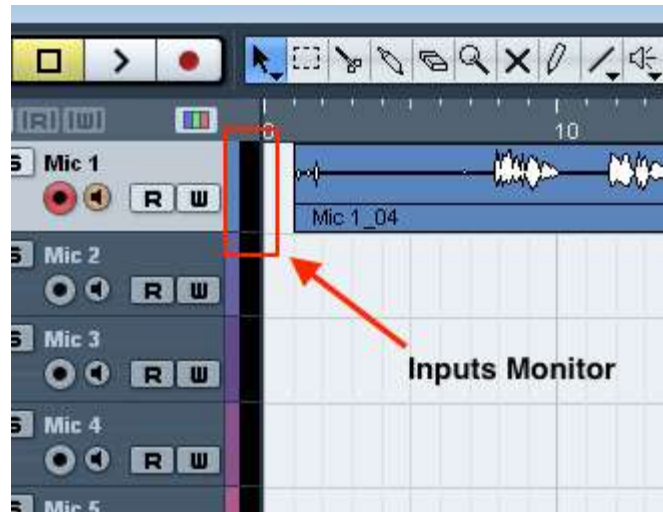


4.3. How to set up a recording

1. If you are using a template, a number of tracks have already been created for you. Select the track you would like to record to and set your cursor to the positions you would like to begin recording from. Press the 'Record' Button above your tracks to start recording.

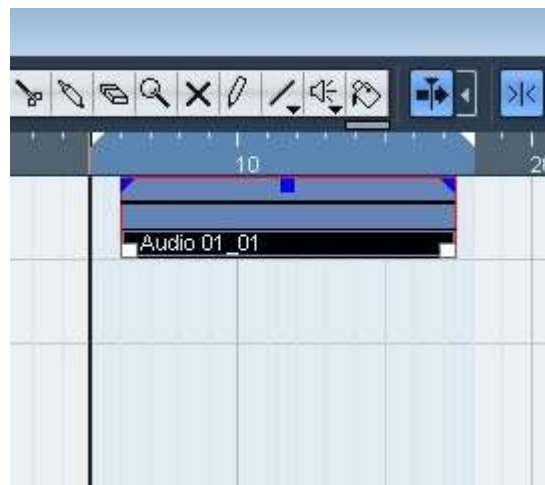


2. Be sure to watch the inputs monitor (located between the track menu and the recording space as shown below) and adjust your sound levels to avoid going into the red zone.

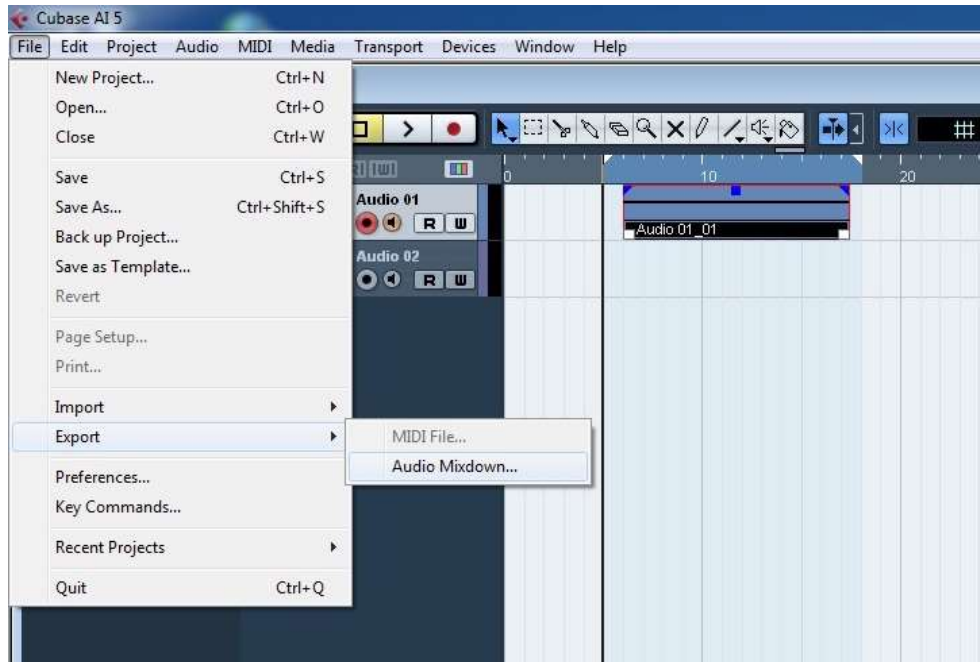


4.4. Saving the project and recordings

1. To export your file, solo the tracks you want to be in the exported file and mute ones that should be excluded by selecting the 'S'. All tracks not muted will be merged together into one sound file during the exportation process.
2. Select the area of the track you want to export by using the Alt key (click the starting point on the time bar that you would like to include, hold down the alt key and then click the end point).



3. To export, go to File > Export > Audio Mixdown. In the window that appears, you can choose your export preferences.



5. Storing projects and files

Save your project in a folder with your name or project name. Inside the folder generated by ProTools, there will be a designated folder titled 'Bounced Files' where your exported work will be automatically saved to unless otherwise specified during the export process. It is recommended that you keep your exported files organized here and not outside the folder.

Note: If you move other files outside of this folder, ProTools may not be able to find them in the future, and you will have to either automatically or manually relink the files.

6. Mixing board controls and playing back audio

The mixing board can be used to control the levels of the input to the external speakers, playing back recorded audio through both internal and external headphone sets, and using the talkback feature (to communicate to people inside the recording booth from the outside). The mixing board will not modify or change the input levels of your recordings, it will only affect the inputs for the headphones and speakers.

There are two dials in the upper right corner of the mixing board, these control the overall volume of the headphones. The one labeled 'Kopfhörer 1' controls the volume of the headphones inside the booth, and the one labeled 'Kopfhörer Regie' control the headphones outside of the booth next to the mixing board.



The controls of the mixing board can become a bit complicated, so for your convenience, the settings for common headphone and speakers set ups/requirements are listed below:

6.1. Talkback Only

To set the mixing controls so that only talkback can be heard by the participant, use the following configuration.

- Set the Aux dials on 'Summe Cubase' and all used channels to the lowest setting.
- Press the button labeled 'Talkback', located on the right side of the mixing board, to talk to participants wearing headphones inside the recording booth.



6.2. Playing back only recorded audio from ProTools/Cubase

To set the mixing controls so that a played-back recording from ProTools is the loudest thing heard by the participant wearing headphones, use the following configuration.

- In the relevant channel, select DAW instead of A.IN, 'Summe Cubase' should remain set to A.IN.
- Turn down the Aux dial on the channels used (1-8) and turn up the Aux dial on the 'Summe Cubase' channel.
- The external headphones, located next to the mixing board, can give you a good idea of what the participant is hearing through the internal headphones inside the booth.



6.3. Having the participants only hear themselves

To set the mixing controls so that participants wearing headphones hear themselves as they speak, use the following configuration.

- Set all channels to A.IN.
- Turn up the Aux dial on the channels used (1-8) and turn down the Aux dial on the 'Summe Cubase' channel.
- The external headphones, located next to the mixing board, can give you a good idea of what the participant is hearing through the internal headphones inside the booth.



6.4. Having the participants hear both themselves and recordings from ProTools/Cubase

To set the mixing controls so that both a played-back recording from ProTools/Cubase and the participants voice can be heard in the headphones, use the following configuration.

- Set all channels to A.IN.
- Adjust the Aux dial on the channels used (1-8) to control the loudness of the participants own voice that they hear in real time
- Adjust the Aux dial on the 'Summe Cubase' channel to control the loudness of a played-back recording.
- The external headphones, located next to the mixing board, can give you a good idea of what the participant is hearing through the internal headphones inside the booth.



6.5. Changing the volume of the speakers/headphones

The sliders are the main controls for what comes out of the speakers and do not affect what the participant hears in their headphones.

- **To adjust the volume of the participants real time voice**, move the slider in the used channel or channels.
- **To adjust the volume of previously recorded audio** from ProTool/Cubase, move the slide in the 'Summe Cubase' channel.

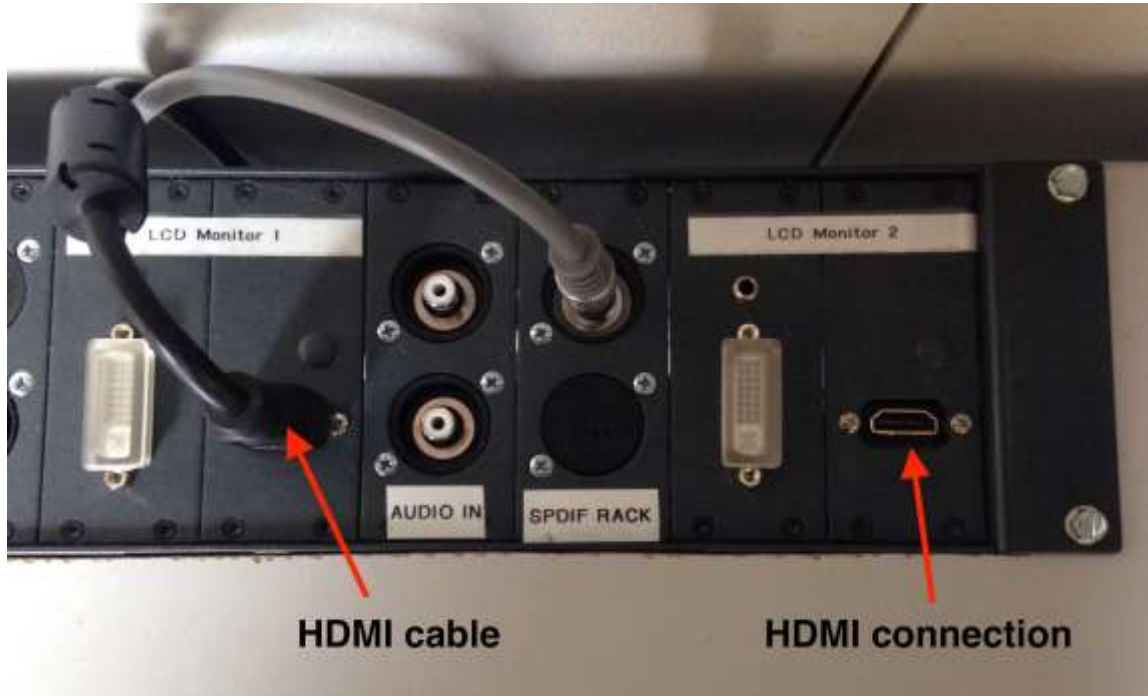


7. Using HDMI and screens

1. The HDMI monitors can be connected to a laptop with the right HDMI connection (as shown here).



2. The screens themselves are labeled as 'Screen 1' and 'Screen 2' and their connections can be found next to the PC outside of the recording booth. If you would like to change the screen being used, simply move the cable (as marked in the photo below) to the corresponding connection for the screen you would like to use.



8. MIDI controllers

Under Construction

9. Properly shutting down the recording lab

When you have finished with the lab, please:

1. Turn off the computer.
2. Set the key in the audio rack back to OFF.
3. Turn off all lights (including in the recording booth) and the fan.
4. Close the curtains.

If you have moved equipment around, it'd be appreciated if you'd return everything to how you found it and/or the default settings of the lab.

10. Frequently Asked Questions (FAQ)

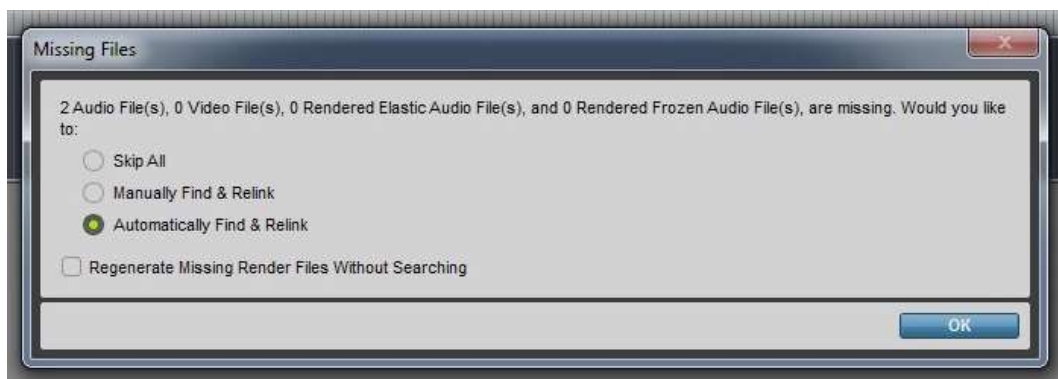
1. *My exported sound files are empty, they don't play any sound and there is no sound wave when I open them in other programs.*

This could be because the files were not exported correctly. When exporting, make sure that the volume on the track you wish to export is not too low, you have not accidentally selected mute on the track you exported, and that you have properly selected the portion of the track you want to be exported.

2. *I opened an old project in ProTools and my sound files aren't there/have been lost!*

If you are sure the sound recordings have not been deleted (this is unlikely if your project file still exists), then your recordings have most likely been saved or moved outside the project folder to another folder on the computer. To relink the lost data, locate the files on the computer and either manually move them to the 'Audio Files' folder of your ProTools project OR open the project and use the automatic relinking menu that should pop up if ProTools detects missing files.

When moving ProTools files, be sure to move the entire project file and not just the session and/or audio files.



3. *My sound recordings are too quiet/too loud/sound distorted in some parts.*

The volume levels you hear during recordings are not an accurate representation of the actual input volume of the recordings. The actual amplitude is represented by a bar that monitors the incoming signal of your track. Ideally, you would like your loudest recorded sounds to be in the yellow range of your monitor. If the range reaches the red zone, that is called clipping, which means that some part of your recording was too loud and your recording may be distorted at that part. When your recordings clip, the monitor will light up red and stay red until you click on it.



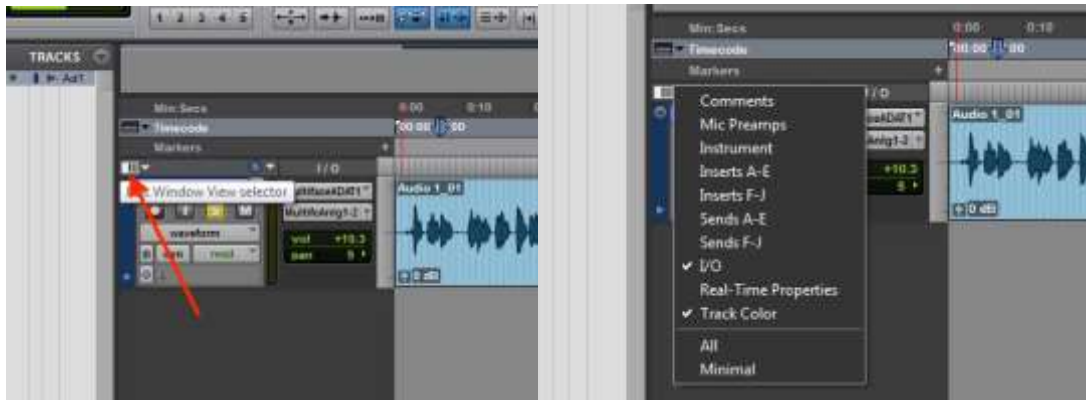
4. I get multiple files when I export, but I only recorded one track.

This may be because you have selected *stereo* or non-summed *mono* during export. To get one file out of your recordings, make sure to select *summed mono* in the bounce to... window when you export your files.



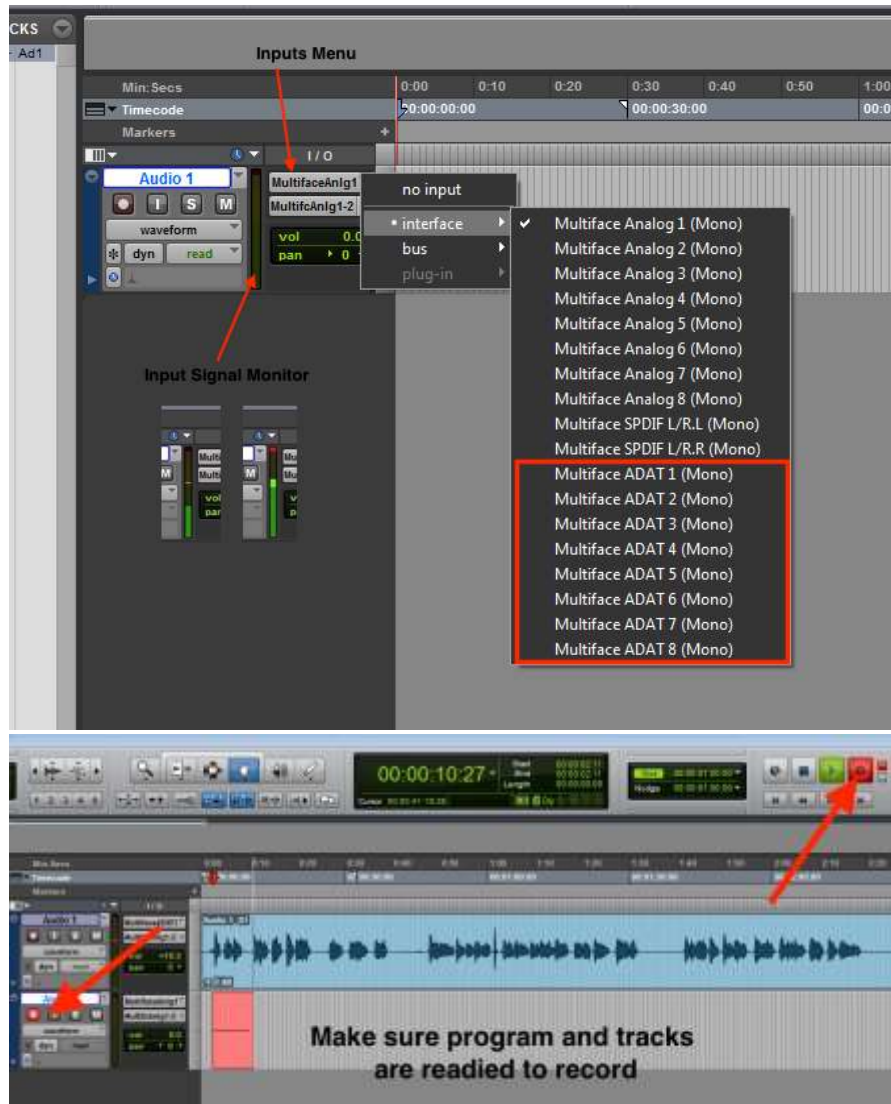
5. ProTools doesn't look the same as it did when I last used it. I can't find I/O and/or the instrument menu!

Menus and settings may have been changed by another user. To organise/reactivate the desired menus in ProTools, select the button located in the upper left corner of the Track, and choose the missing windows.



6. The program is not recording any sound/nothing is being recorded when I select record.

If a recording bar appears and it looks like the program is recording, but no sound is played and there's no waveform in the recording bar, then the inputs from the microphones may be set improperly or set to the wrong inputs. Make sure that an input signal is being displayed in the inputs monitor. No signal could mean that the input is not set to an active microphone or the track has not been readied to record (press the record button on the specific track). If there is a signal, then the session itself may not be readied to record. Make sure the larger record button above the tracks is activated and select play next to it to begin recordings (The main record button may be deactivated if you pause or stop the recordings).



7. My file is in a different sampling rate than what I selected during export. The recording sounds too fast or too slow.

If you were using HDMI as your clock source, this may be because the HDMI cable was removed during or before the files were properly exported. Exporting the files again from the original project should fix this.

8. The MIDI controller makes no sound.

ProTools searches for and activates the required hardware as it loads. Make sure that the controller is plugged in before loading ProTools. If that does not work, check to make sure there is an instrument selected in the instrument menu.

9. The program keeps recording over the same place and I've lost my original recording!

When the recording is stopped, the cursor will automatically move to the beginning of the recording. You will need to manually select the place you would like your recordings to begin from before you start the recording. You can retrieve any lost files that were recorded from the 'Clips' menu on the right side of the tracks. If the 'Clips' menu is not there, you can activate it in the 'Window' menu.

