TU Studio Documentation

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1. Introduction

This documentation enables students, researchers and composers to work in the TU Studio with their own computer. The TU Studio consists of two separate studios:

- **E-N 324**: for production, classes and workshops
- **E-N 325**: for sound field synthesis and multichannel research and production

2. EN324

2.1 E-N 324 Class Mode

The *Large Studio* is used for production, classes and workshops.

Using The screen

- Connect with HDMI, set input with the remote
- Internal functions like drawing are not available or
- Download EShare Pro
- Connect Ethernet Cable to Laptop
- In EShare connect to CTOUCH Display-EN324
- Share Screen
- Drawing with overlays are possible

2.2 E-N 324 Intro

The *Large Studio* is used for production, classes and workshops. The setup consists of two K&H o300 for stereo, 12-channel Neumann KH120 and a DB-Subwoofer.

2.3 E-N 324 Multichannel Mode

2.3.1 Important

- Make sure the power is turned off (power key 0) when leaving the studio
- Leave the place tidy (e.g. move table back, move chairs to the back)

2.3.2 Quickguide with Studio Interface

1. Turn the power key to I (beside the door)
2. Load the desired scene with the midas mixer

a. Press scenes

b. Press right-arrow key

c. scroll with left knobs to the scene

d. load the scene by pressing the left knob

3. Press DCA Button which shows the master fader

4. Roll the white table to the desired position (be careful not to roll over cable)

5. Connect to the AES50-USB interface

- Linux and Mac work without driver
- Windows user can download a driver
- The Mixer can be remote controlled when connected to ethernet.

6. Turn on the speaker by pressing "Lautsprecher 1" and "Lautsprecher 2" on the control panel

- The Neumann speaker should now glow slightly
- Also turn on the subwoofer amplifier

7. Volume adjustement

- DCA-4 for all speakers
- Main for K&H speakers

2.3.3 Volume adjustment

Volume adjustment is done with the DCA faders.

2.3.4 Scenes

- 12-channel standard
- in 1-12 -> KH120 1-12
- with crossover to sub
- in 13 -> Sub
- in 15-16 -> A&H Mixer -> K&H Stereo
- 12+1-channel
- same as above but no crossover

2.3.5 Tips and troubleshooting

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2.4 E-N 324 Stereo Mode

2.4.1 Important

- Make sure the power is turned off (power key 0) when leaving the studio
- Leave the place tidy (e.g. move table back, move chairs to the back)

Easymode

1. Turn the power key to I (beside the door)
2. Place the brown table at desired position
3. Connect your Laptop to the mixer using the jack cable
4. Adjust the volume of the corresponding channel
5. Adjust the main volume
6. Start playing

TIPS AND TROUBLESHOOTING

- If you don't hear anything
- make sure the K&H speakers are turned on
- If the fan noises are irritating
- the rack can be turned of with the switch on the bottom of it
- the subwoofer amplifier can be turned off too.

3. EN325

3.1 E-N 325 Intro

The *Small Studio* is equipped with a combined WFS/Ambisonics sound field synthesis system for production and research, alongside an eight channel loudspeaker setup for regular production. The Octa Mode can be used by regular guests with their own computer and an interface provided by the studio. The sound field synthesis system involves additional TU machines and can only be used by instructed users.

3.2 E-N 325 Octa Mode

3.2.1 Important

- Make sure the power is turned off (power key 0) when leaving the studio
- Leave the place tidy (e.g. move table back, move chairs to the back)

3.2.2 Quickguide Octachannel System

1. Turn the power key to I (beside the door)
2. Plugin the USB-Cable from the AudioInterface (Scarlett 18i20, 1st Gen)
 - The audio device is class compliant and can therefore used by linux (and in theory mac) users without driver
 - Windows and Mac User can download a driver and control application here
 - The application is not M1-mac compatible (s. troubleshooting)
3. Turn on the speakers by pressing "Lautsprecher 1" and "Lautsprecher 2" on the control terminal
 - The HEDD speaker were on channel 1-8
 - The Subwoofers were on channel 9-10
4. **Do not change the internal routing of the interface**

Troubleshooting

- After installing the driver it asks for firmware update
- Yes do it.
- Update fails or similiar?
- try the older or newer version of the driver from focusrite.

- The interface does not appear on my system
- Turn it off, disconnect USB, turn it on, plug in USB
- The interface is connected but I don't hear anything
- Make sure the internal routing is set correctly
- Use alsamixer in linux
- Use Scarlett Mixcontrol

- Apple-M1 User: in generally the interface works but you are not able to control the internal settings. If running into problems with software not playing back on all channels try to change the number of input/output channels in Apples "Audio MIDI Setup".
- I don't hear anything. Make sure...
- the speaker are turned on (HEDD speaker should have a small green LED on the front)
- in your audio-software/systemsetting the right device is set
- in Alsamixer/ScarlettMixcontrol the routing is right
- the Master Volume(s) are not muted/set to 0 in alsamixer.
- the Hardware Volume knob at the interface itself is turned full to the right.

3.3 E-N 325 Seamless Mode

3.3.1 Important

- Turn off the WFS-Panels when leaving
- Make sure the power is turned off (power key 0) when leaving the studio
- Leave the place tidy (e.g. move table back, move chairs to the back)

3.3.2 Quickguide Seamless System

1. Turn the power key to I (beside the door)
2. Plugin USB-MADIface
- Options -> Reset Mix -> Straight Playback (when connected the first time)
- Outputfader can be linked to create a "masterfader"
3. In the machineroom turn on
- Riviera: OscRouter, Ambisonics, WFS 1-64
- Wintermute: WFS 65-192
- Taunus: Dante-Madi Conversion
4. In the machineroom set MADI-Bridge
- Out 8 <- In 6 (seamless mode)
- Out 8 <- In 5 (Madiface Direct)
5. Turn on
- Ambisonics speaker with switch besides the door
- WFS-Panels with switches under the Dante-Network switch
6. The seamless system is controled via OSC e.g. with the seamless plugins
- ip-address: xxx.xxx.xxx.24
- port (oscrouter): 4455
- port (reverb/master): 57120
7. play audio through madiface
- 1-32 Sources
- 33-36 Ambisonics 1st Order
- 37-52 Ambisonics 3rd Order
- 53 LFE direct

4. Templates and Configs

4.1 Config Files

4.1.1 IEM Decoder

http://ringbuffer.org/download/config/TU_Studio/