Overview of Notam's studio 3

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This document contains an overview of the setup and use of Notam's studio 3. It is composed of two parts, with the first detailing the hardware and the second containing a quick first use setup guide.

1 Technical overview

Loudspeakers

The loudspeaker setup is a slightly irregular hemisphere consisting of 24 loudspeakers in three rings. The lower ring of 12 speakers is placed in the horizontal plane at head height. The two additional rings placed further up consists of 8 and 4 loudspeakers respectively. In addition there is currently one subwoofer. The measured loudspeaker positions can be found in various formats on the USB stick. It is highly recommended that you utilize these if your software supports it because of the irregular distances to the top four speakers.

The loudspeaker type is KEF LS-50. The subwoofer (Genelec 7070A) is intended to provide the majority of the low frequency content, so the bass has been rolled off somewhat in the loudspeakers.

The sweet spot in the middle of these loudspeakers is at head height above the markings on the floor.

Controls

The controls you'll find on the desk are quite simple:

- There is a mute/panic switch on the metal box. The 24 loudspeakers are together capable of excessive sound levels, so keep this switch close if there is a possibility of loud mistakes being made. This switch will disable all the loudspeakers (except the subwoofer) in all positions but the topmost/forward one. It's also a handy way of quickly muting all loudspeakers if you do something you know will generate a loud glitch, for example switching the sample rate. Please make liberal use of this switch, the amplifier is powerful enough to damage the speakers if you are supplying a loud enough signal. Please mute all speakers whenever you leave the studio. The mute switch currently does not mute the subwoofer, this is normal.

- There is a volume controller in the shape of a white round knob. This controls the level of all loudspeakers, including the subwoofer. If you find that you need an even higher level than this can provide, ask the staff. Be advised that this indicates your material is at a rather low level.

Audio connectivity

On the table you will find an RME Madiface USB. This connects to your Windows or Mac computer via USB. When using this, your computer's output channels 1-24 will be sent to the loudspeakers (see diagram on last page for channel numbering). Output 25 is sent to the subwoofer.

The Madiface USB is supposed to be set up as clock master to allow you to select the sample rate yourself, but thanks to limitations in the hardware, the only easily supported sample rates are 44.1 kHz and 48 kHz. If you have a good reason for requiring either 88.2 kHz or 96 kHz, tell the staff. 192 kHz is not supported.

The audio connections in the studio are MADI based, which makes it non-trivial to connect other hardware to the system. We do however have solutions in place, so feel free to ask. As a quick summary, we can easily accomodate seven analogue line/mic inputs (via the patch panel in the front of the room) and MADI.

Gear list

Here follows the list of gear making up the signal chain in studio 3 for those who are curious.

- RME Madiface USB. Used as an interface to the user's computer inside the studio.
- RME Madiface XT. Connected to the Madiface USB inside the studio. Functions as a standalone volume controller and loudspeaker signal processor (bass management, etc.).
- Ferrofish A32. Converts the MADI signal from the Madiface XT to analogue line signals. Also optionally converts any analogue signals from external equipment to digital MADI signals for use in the studio.
- Sonible D:24. Amplifies the A32 line level signals and drives the 24 loudspeakers inside the studio. The subwoofer is currently active and needs no amplifier.

2 First time use

Setting up

1. Set the mute switch to one of the lower positions and the volume controller to a very low level (counter-clockwise).

2. Install the RME Madiface USB drivers at http://www.rme-audio.de/en/ (feel free to do this in advance if you are comfortable doing it, if in doubt ask the staff). Of the two available drivers for Apple computers, the “Driverkit” one is recommended. Once the driver is properly installed and you’ve rebooted, the Totalmix FX window should pop up.

3. Some caveats involved with the driver install and Totalmix:

    - If Totalmix shows up with a dialog window saying “mismatch detected”, featuring “yes” and “no” buttons, press “yes” until it goes away.
    - If you are using MacOS 10.13 (High Sierra) or higher, read the special notice contained in the driver package for this operating system, or the *driver will possibly not work*.

4. In the ’”File” menu of Totalmix, press “Load Workspace“ and load the “Studio 3 Totalmix.tmws” file on the USB stick. Click “yes” if it asks you whether to discard all changes.

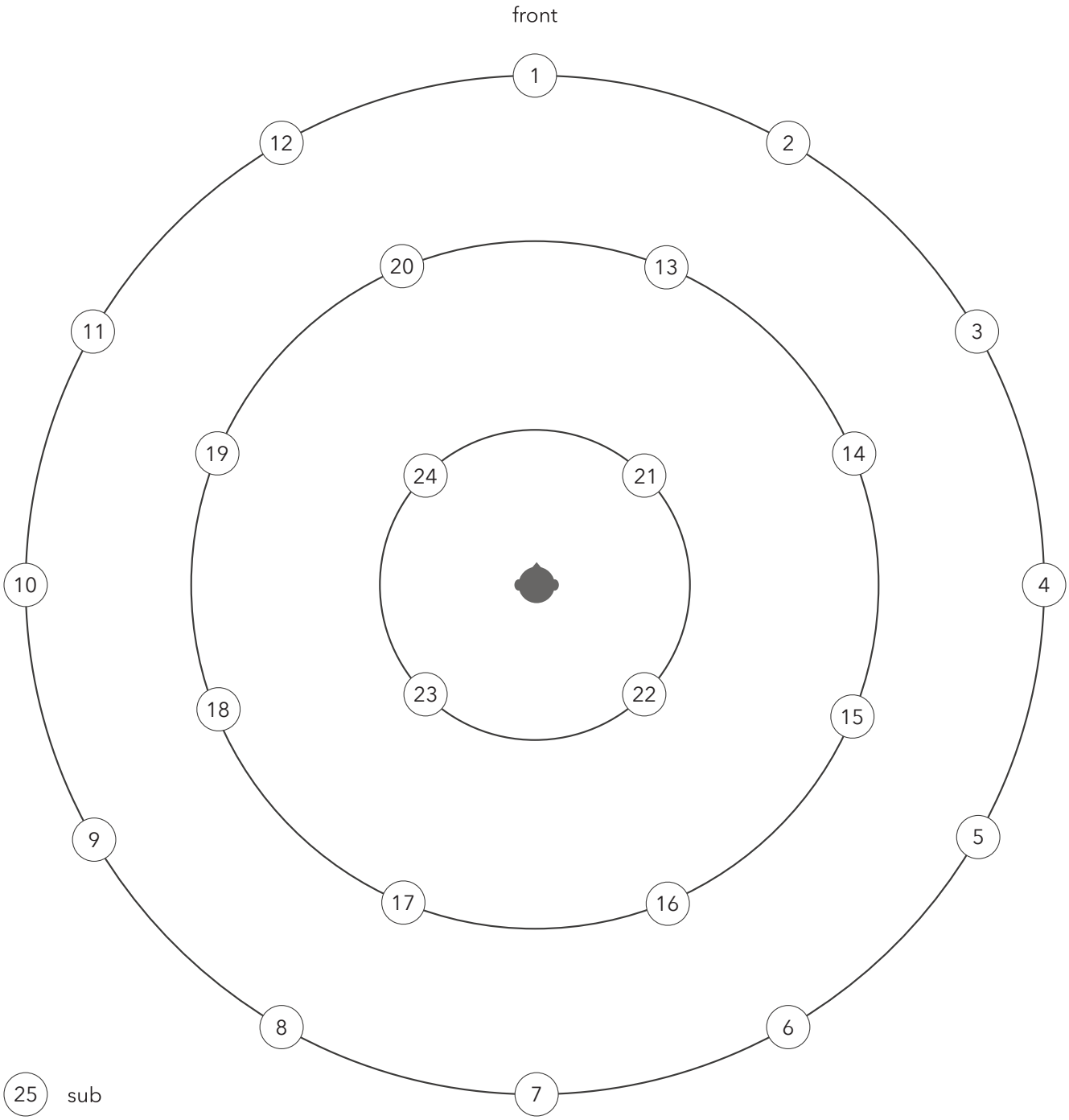
5. After switching the mute switch to the top position you should now be good to go, and all the loudspeakers in the studio will be available from your software of choice.

If you have any questions about the Madiface USB setup, please check the troubleshooting section.

Troubleshooting

- If you have any problems, first bring up the “Fireface USB settings” dialog window (should be found in your dock/task bar/system tray), and make sure the following options are set correctly (top to bottom):
    - Output format set to “64 (32) ch.” and “96K Frame”
    - Sample rate is set to either 44100 Hz or 48000 Hz
    - Clock source is set to “internal”
- Totalmix should be set up properly after loading the workspace file provided, but as a quick summary, all output channels from 1 to 25 should be set to 0 dB, and channel routing from software to hardware outputs should be 1:1, as it is after performing a “Straight playback” mix reset in the options menu.
- If the volume controller or mute switch does not work, please contact the staff.

NOTE: When troubleshooting, please remember to set the studio volume knob at a low level and *mute all speakers with the mute switch* whenever you are doing something drastic like restarting equipment or connecting cables. There might be no sound when you are troubleshooting, but when you find the problem or manage to properly insert that last cable you forgot, you might be surprised at how loud you were really playing....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