# Quick Start

Version: 3.8.40 - December, 2020

Thank you for choosing Trinnov.

Our goal is to create products that meet the monitoring requirements of the most demanding audio professionals.

Our solutions enable them to produce the highest quality sound possible for music, broadcast, film, or any type of audio content.

**This is a Quick start document for the Trinnov Audio ST2 Pro.**

This guide includes the essential information you need to start using your device in your studio setup. We will make sure to help you through every step of the setup process using your ST2 Pro as a room optimizer.

For more detailed information on this product, please refer to the Trinnov Audio ST2 Pro User Manual.

# SUMMARY

# SAFETY INSTRUCTIONS

*1. Read the following instructions carefully. Save all instructions for future reference.*

*2. Follow all warnings and instructions.*

*3. TRINNOV Audio expressly forbids unauthorized modification of this equipment.*

*4. Using the unit in the following locations can result in a malfunction:*

- *In direct sunlight*
- *Locations of extreme temperature or humidity*
- *Excessively dusty or dirty locations*
- *Locations of excessive vibration*
- *Close to magnetic fields*

*5. Condensation can form on the inside of the apparatus if it is suddenly moved from a cold environment to a warmer location. Before switching the unit on, it is recommended that the unit be allowed to reach room temperature.*

*6. Clean only with a dry cloth. Do not use liquid solvent-based cleaners.*

*7. Do not cover of bloc ventilation slots or openings. Never push objects of any kind into ventilation slots on the equipment casing.*

*8. Install in conformance with the manufacturer's instructions.*

*9. Maximum permissible operating conditions: 0°C to 40°C, 20-65% relative humidity.*

*10. Protect the power chord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.*

*11. Always replace damaged fuses with the correct rating and type (T1A).*

*12. Unplug this apparatus during lightning storms or when unused for long periods of time.*

*13. Do not open the equipment case. There are no user serviceable parts in this equipment. Refer all servicing to qualified service personnel.*

*14. Please connect the designated AC/AC power supply to an AC outlet of the correct voltage. Do not connect it to an AC outlet of voltage other than that for which your unit is intended.*

> ⚠ *TO COMPLETELY DISCONNECT THIS APPARATUS FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE.*
>
> ⚠ *THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED 'DANGEROUS VOLTAGE' WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.*
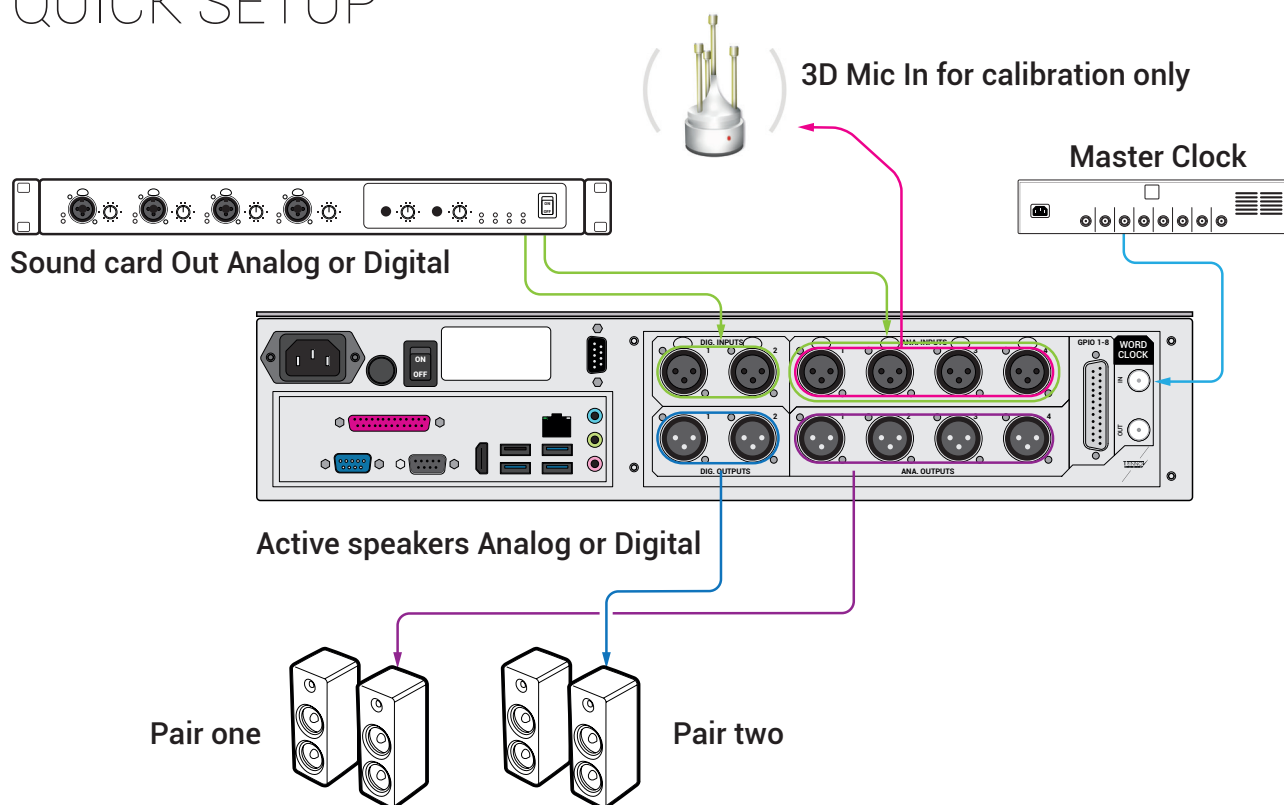
# 1 | SETTING UP YOUR ST2 PRO IN A PRE-EXISTING CONFIGURATION

## 1.1 | YOU ARE USING A MIXING DESK OR A SOUND CARD (DAC) WITH ANALOG OUTPUTS

If in the analog domain (meaning using analog sources from your sound card or digital audio converters):

The most important thing is to put the ST2 Pro at the end of the chain.

## QUICK SETUP



3D Mic In for calibration only

Master Clock

Sound card Out Analog or Digital

Active speakers Analog or Digital

Pair one     Pair two

If you are using a monitor controller in your setup, start by plugging it to the ST2 Pro. In this example, we will be using a DB-25 breakout cable from the controller to the Analog inputs 1 and 2 of the ST2 Pro.
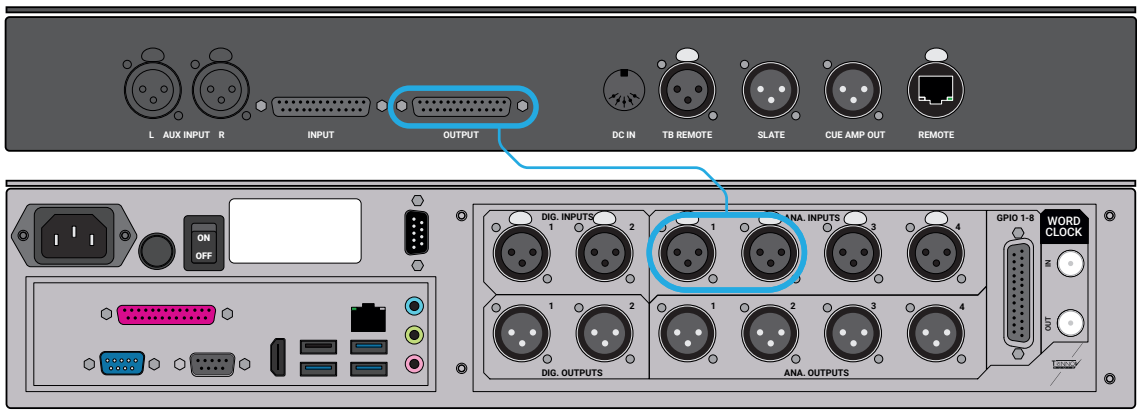
Figure 1: Using a monitor controller

Then, make sure to plug the speakers to the ST2 Pro. Take the two cables that feed your main Left and Right speakers and plug them into the analog outputs 1 and 2 to the ST2 Pro.
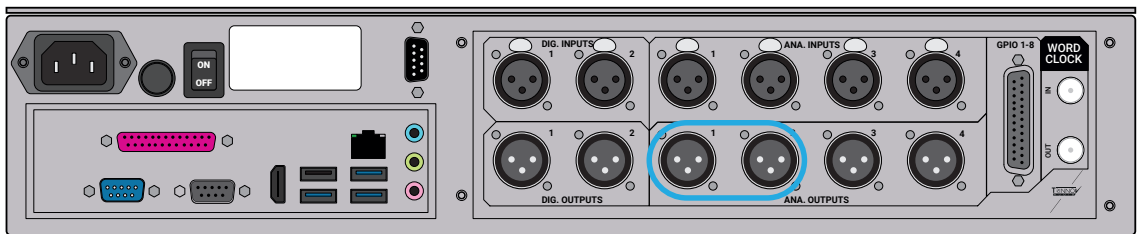


Figure 2: Plugging the speakers to the ST2 Pro

This wiring will work with any other monitoring controller (Avocet, SPL, ...) and even controller outputs from a console (SSL, Neve, ...).

## 1.2 | YOU ARE USING SOURCES WITH DIGITAL OUTPUTS

If in the digital domain (meaning you have your own set of digital audio converters or use loudspeakers with digital inputs):

Insert the ST2 Pro as an AES insert or directly output to your speakers through AES if they have a digital input. If so, ensure that the system clock and synchronization parameters are correctly set (see user manual for more information).
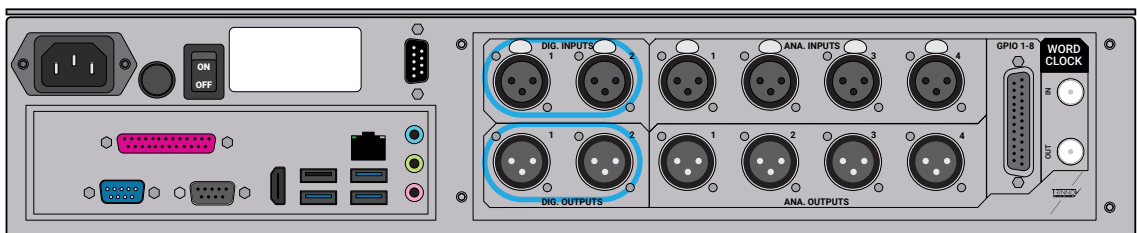


Figure 3: Using digital io

Don't forget to plug the AC power cord to the ST2 Pro and a network connection into your router to use the Trinnov Mac App and control the ST2 Pro over the network. For more information, you can refer to the Trinnov App section of the Quickstart.

On the left side of the ST2 Pro, a VGA and/or HDMI port are available for video monitors* as well as USB inputs for keyboard and mouse to control the ST2 Pro directly.

**Important Note:** Make sure to remove any USB stick plugged in the ST2 Pro during the boot sequence.
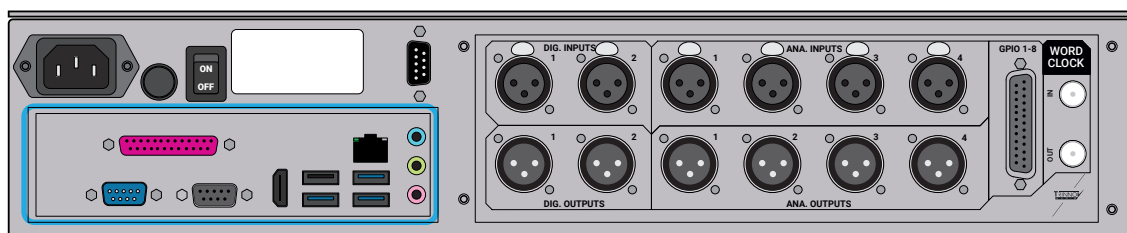


Figure 4: The motherboard part of the device

Once you have everything plugged in (including AC power), you need to turn on the power switch on the back panel of the ST2 Pro and engage the booting switch on the front panel of the ST2 Pro.

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\*         May differ depending on the generation of ST2 Pro.

# 2 | ACCESSING THE INTERFACE

The ST2 Pro is now online and connected to the internet. No need to configure your network settings as they are set as Automatic DHCP (by default).

In order to connect to the interface, there are a few possibilities.

Ensure both of your devices (ST2 Pro + Windows/ Android/ ...) are on the same network before proceeding.
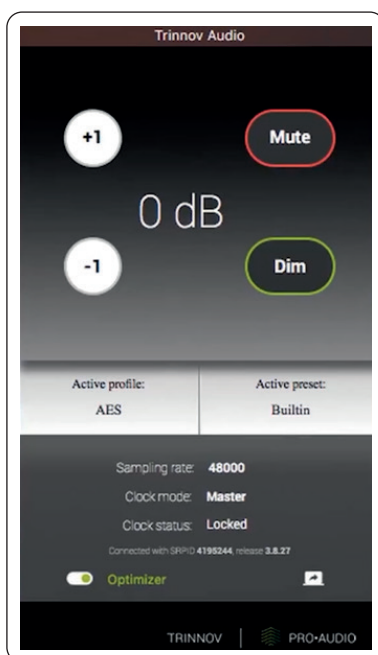
## 2.1 | TRINNOV APP (FOR MACOS USERS)

The most straightforward way is to use the Trinnov App.*

After downloading the Trinnov App, you can launch it directly on your Mac.

The first thing that will appear is a small interface. This interface contains the basic monitoring parameters needed.

**These features are as follows:**



Figure 5: The Trinnov App

- Volume change per 1dB steps.

- Mute: Mutes all audio outputs

- Dim: Decreases the volume by 20dB (by default)

- Optimizer: Tick to have the Optimizer ON/
  Untick to have it bypassed.

**Some useful information is also displayed:**

- Active preset

- Sampling rate

- Clock mode

- Clock status

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\*        Please visit the Trinnov website to download the latest version of the software. www.trinnov.com/support/

The unit's ID connected to the interface, and its current software version is located at the bottom.

In order to access the Optimizer settings, hit the Icon located at the bottom right of the app.

To get information about using the Optimizer settings, please refer to the Chapter 3 of this Quickstart manual.

## 2.2 | LOCATING YOUR ST2 PRO IP ADDRESS

> Each ST2 Pro processor includes a dedicated web server and, therefore, the GUI can be accessed from a networked device with a web browser interface such as a desktop computer, laptop, smartphone, tablet, etc.

If both your computer and ST2 Pro are connected on the same network, you can access the interface through your web browser (Chrome preferred). It requires is to have your ST2 Pro updated to its latest software release.

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First, locate your ST2 Pro IP address.

There are 2 ways of achieving this:

- With a physical screen plugged to it.
  You will require an external monitor, a keyboard, and a mouse.
  Plug them all to the motherboard part of the ST2 Pro (see the previous chapter on setting up your ST2 Pro). Go to the Network settings to get the IP address.
- If you have a "Trinnov Remote" plugged in, navigate up to the network page.
  In your web browser address bar, type in "http://**<ip>**/vnc.html
  Replace **<ip>** with the ST2 Pro address.
  You are connected to the interface.

> **Note:** Also, as a Mac user, your ST2 Pro will be automatically listed in the "network". You can double-click on the device, then, select "share screen".
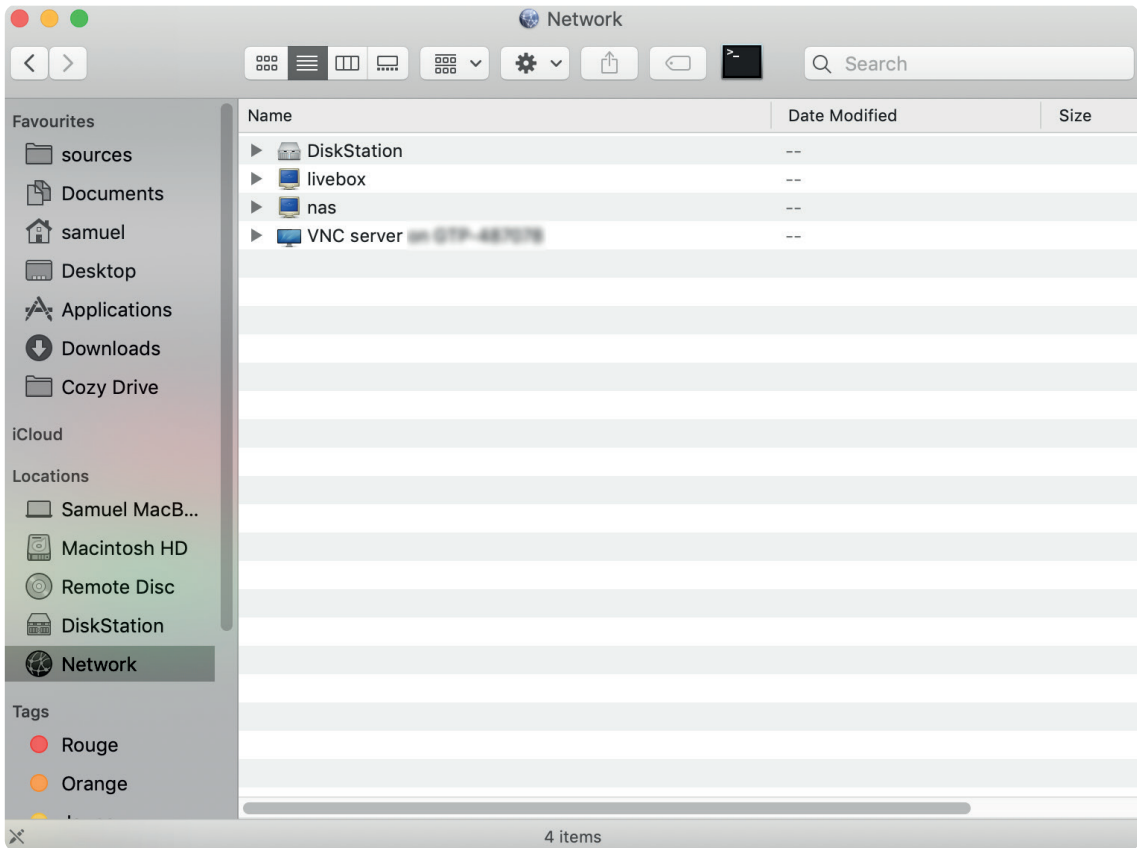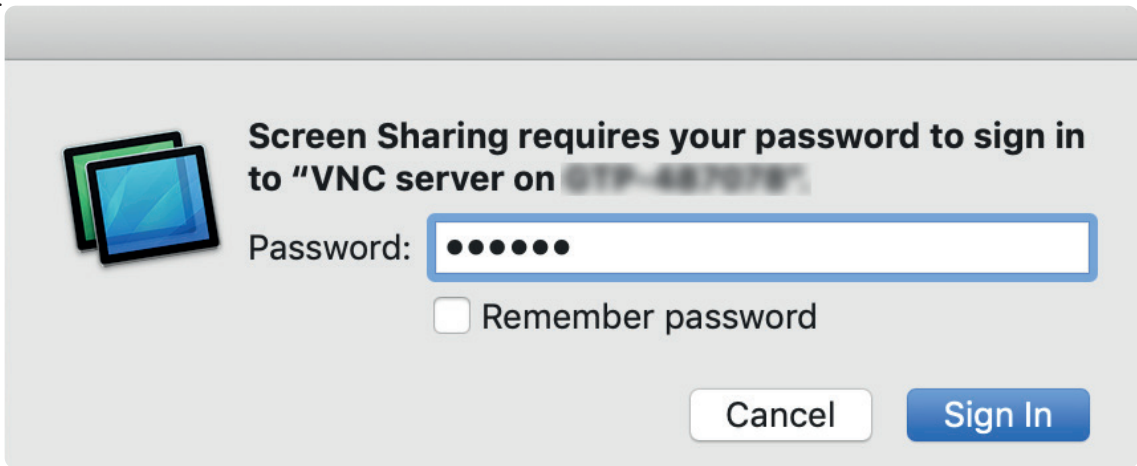
Figure 6: The password is the serial number of your device (Six-digit number)
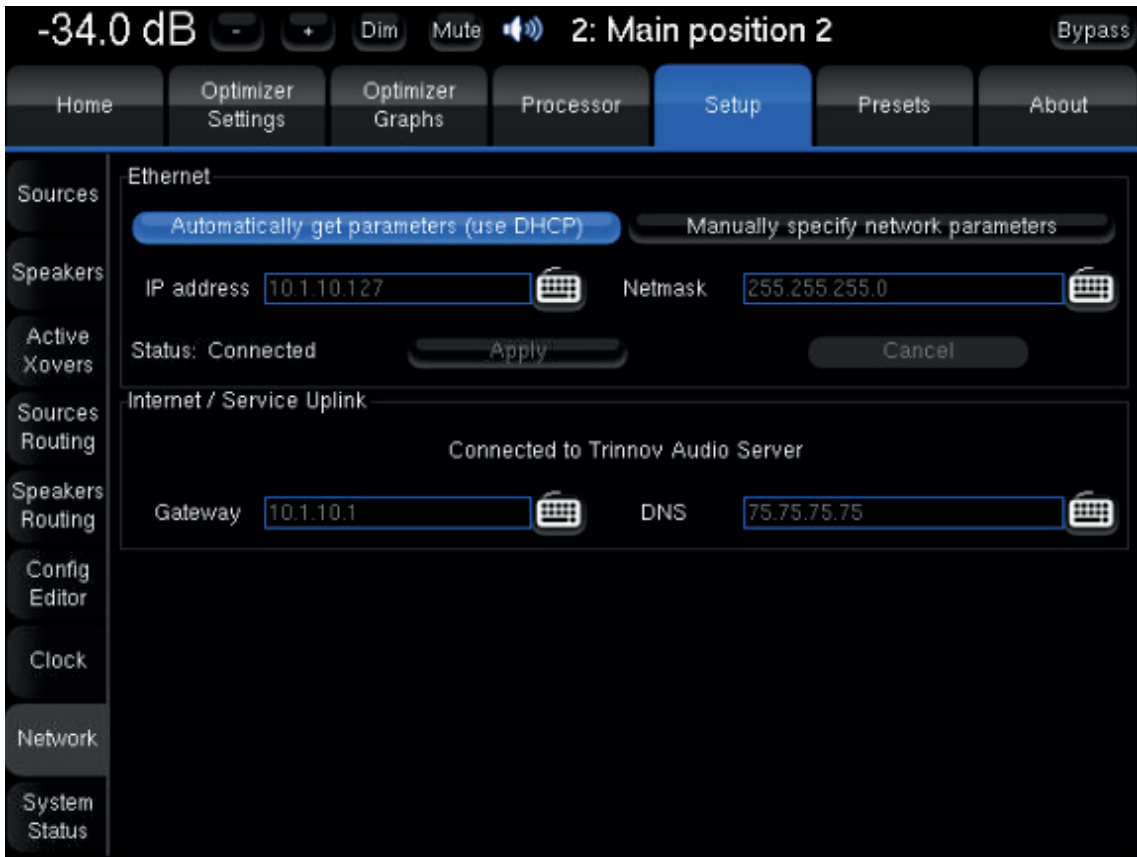available on the rear side sticker

Figure 7: The network page of the interface

# 3 | PRE-CALIBRATION

Here, we will focus on the process needed to get your first measurements.

The first thing is to go to the Preset tab of the interface.



Figure 8: The Preset page of the interface

**The most important thing here is to make sure that the Built-in Preset is loaded.**

This preset has every parameter of the unit set to default.

It is preconfigured for a stereo analog in and out set-up, making it a good starting point for your first calibration. It will also save time for the remaining part of the configuration.

Next, go to the Optimizer settings and hit the Calibration tab at the bottom left of the screen.



Figure 9: The calibration page of the interface

This is the page where you will take your first measurements.

As you can see in the Calibrated column, **No!** Is marked in red. It simply means that no measurement has been taken yet.

In order to do so, we need to configure it first.

Hit the **Configure** button.



Figure 10: Changing the microphone file

**The important information displayed here is the Mic name option.**

Each 3D measurement microphone has its own calibration file. If not present by default, that file must be installed first on your device for the measurements to be accurate.

The Mic name option needs to match the serial number written on the body of the microphone.

That name needs to be selected in the Mic name option.

If not present, the microphone file can be found on the USB stick provided with the microphone.

This USB stick can be inserted in any USB ports available on the ST2 Pro (Front/Back).

After inserting the USB stick into any of the USB ports, a new page will appear.
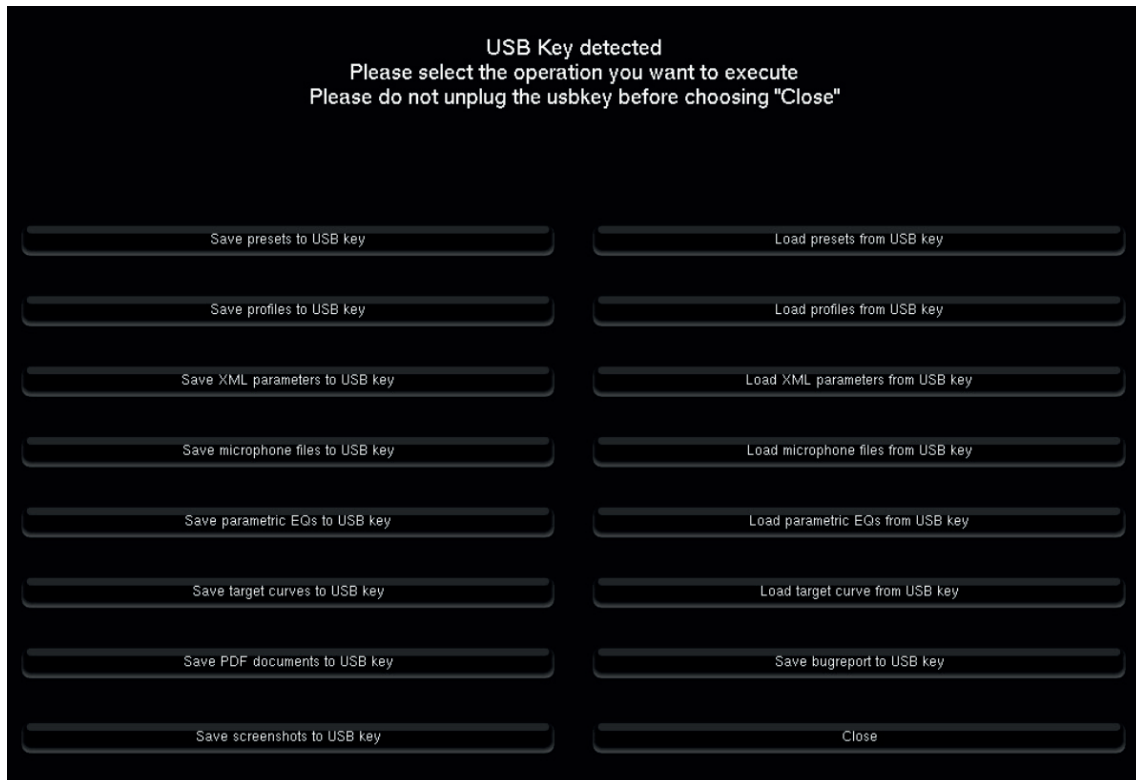


Figure 11: The USB pop-up message

**The important option here is to select "Load microphone files from USB key".**

Then, choose the "Microphone_Files" directory and hit "OK".

Now, any microphone profile that was on the USB stick has been loaded into the ST2 Pro. In order for the machine to take it into account, you will need to reboot the unit first.

After reboot, go back to the previous screen. In the Mic name, you will see the microphone file loaded from the USB stick. After doing so, press "OK".

This will get you back to the main calibration screen.

You can also set your microphone as the default microphone for future calibrations.

**Good news!** You are now ready to take your first measurement.
But, wait! We need to prepare the microphone first.

# 4 | MICROPHONE

The 3D Trinnov microphone is quite unique. It has 4 capsules on it. On the bottom, you can see a white push-button switch to turn the microphone On and Off. When On, a red LED will light up, meaning that the microphone is On.
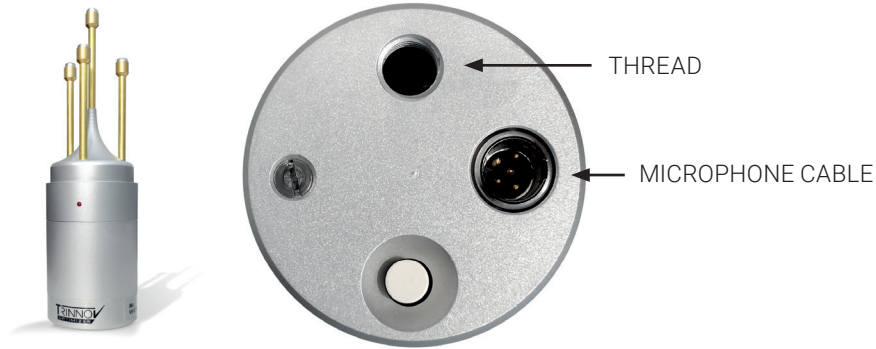


THREAD

MICROPHONE CABLE

Figure 11:  The Trinnov 3D microphone

⚠ It is important that you only turn the microphone On when the interface tells you to do so. Turn it Off right after your measurement. This will prevent any chance of damaging your speaker by getting feedback through your system.

On the backside of the microphone, you can see the name and the serial number. It needs to match the number that you've entered on the software with the USB stick.

Let's start by plugging the multi-pin cable to the microphone. Take the 4 XLR and plug them into the analog inputs of the ST2 Pro.
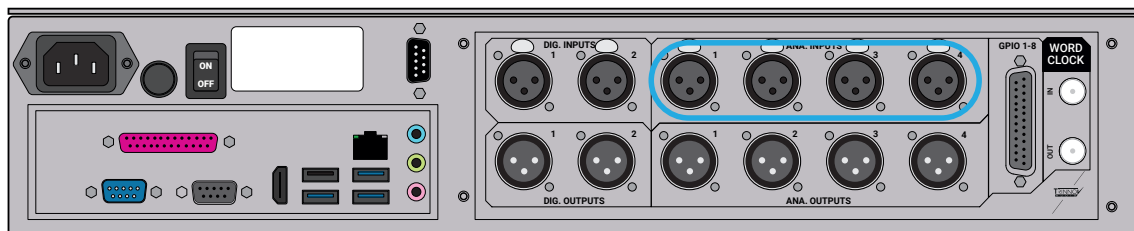


Figure 12:  Plugging the 3D microphone to the ST2 Pro

Make sure to unplug your controller (if any) on the analog inputs of the ST2 Pro.

The microphone is on a microphone stand and ready for usage.

A few things to verify before calibrating regarding the measurement microphone position:

- The microphone needs to be positioned facing the center between the left and right speakers.
- The center of the microphone is the red LED, it needs to be set forward.
- The capsules need to be placed at about ear level, located where you would be mixing (height/ distance from your ear to the wall).
- The L and R speakers should be physically set 30° each from the center of the measurement (you will be able to see the results after the calibration. Please refer to the post-calibration chapter).

After setting it up as accurately as possible, it is time to calibrate.

# 5 | CALIBRATION

The First thing to consider here is that the test signal could be very loud.

Before going any further, now is a good time to make sure the red LED of the microphone is turned OFF.

To prevent this process from hurting your ears or speakers, take a look at the top of the interface and reduce the volume of the ST2 Pro by pressing the "−" (minus) button. This is the volume control in dB. Start by turning it down to -30dB. This is a good number to start with for most systems.

If you ignore this step, a message on-screen will appear right before calibration warning you that the overall volume is louder than average.

**When ready, press on "Calibrate".**

You will then hear 3 consecutive bursts of sound going through the speaker one by one until all the speakers in the system have been measured by our 3D microphone.

If the signal is too quiet, it will stay on the 1st loudspeaker. If so, you can gradually increase the volume while hearing the test signal coming through the loudspeaker until it moves to the next one. Then, cancel it and press calibrate again to get a correct measurement.

**The most common warning messages are explained below:**

*"Crest factor too low for capsules (?)"*

- Check the input meters in the Processor/Meters page.
  If the Input level is null on at least one of the 4 channels, go back to the Optimizer Settings/ Calibration page and stop the calibration.
- Make sure that the microphone input routing is correct.
- The microphone battery may be low.
- If so the red led at the front of the microphone indicates its level.
- The microphone and or cable could have been damaged.

*"Unstable position for speaker"*

- Someone may have moved during measurement.
- An obstacle between the microphone and any speakers can disturb the measurement.
- The bandwidth of one of the speakers may be too narrow.
- Too many strong reflections around the microphone environment disturb the impulse response measurement.

*"Unable to localize speaker"*

- Dipole/bipole speakers provide more than one wave at the same time, which can cause issues.
- Several speakers chained, providing more than one wave at the same time.

When the "calibration finished" message appears on screen, turn Off the microphone to avoid feedback through your system. Then, press "OK".
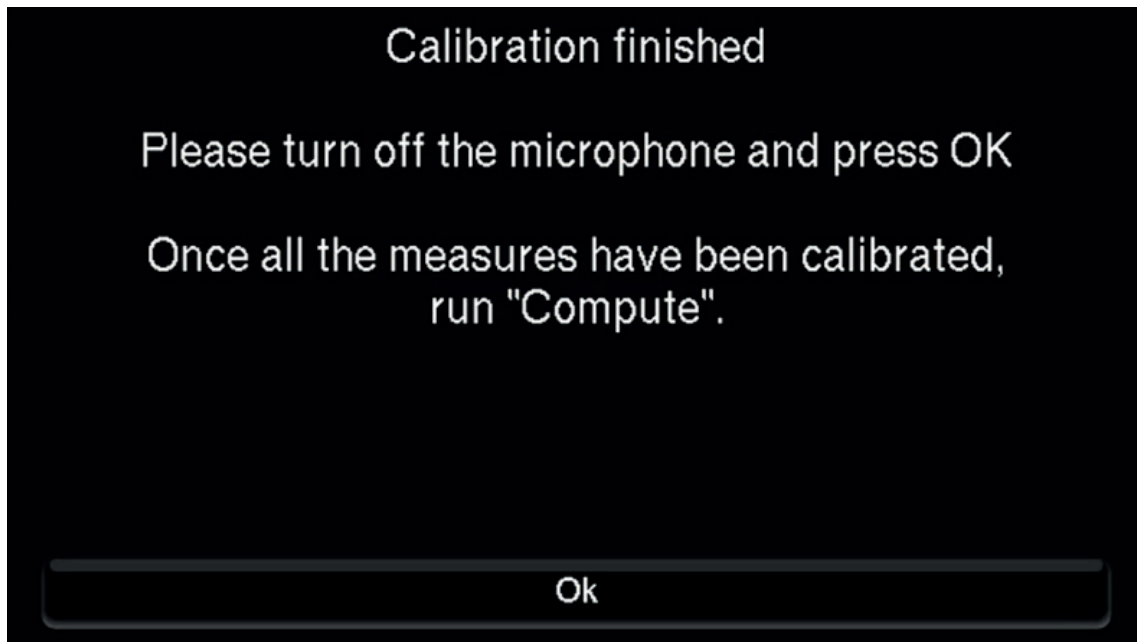


Figure 13: Calibration done.

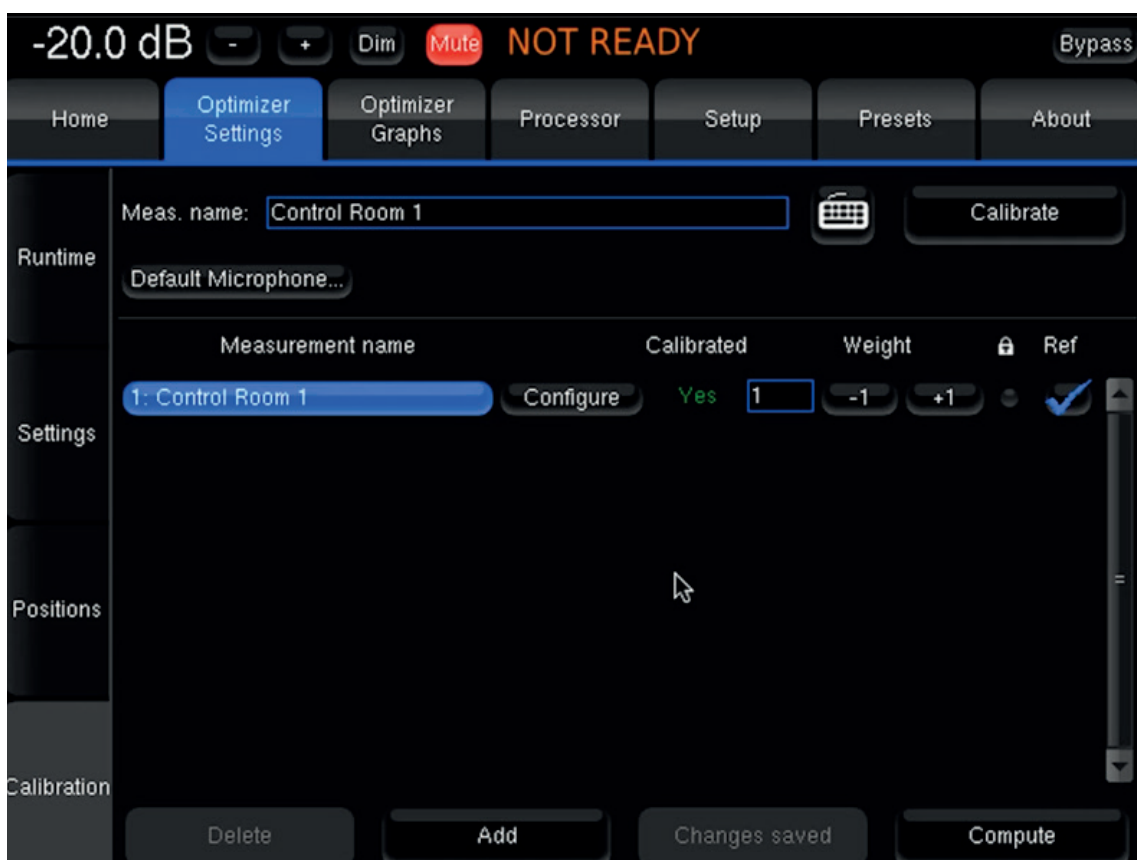Now, you are back at the calibration screen.



Figure 14: Calibration done. Awaiting for compute.

As you can see, the calibrated column now says **Yes** in green. But, on top of the page, the mention **NOT READY** is displayed in orange.

To finish the optimization process, you have to "Compute" the Optimization function. Simply hit the "Compute" button at the bottom of the screen in order to process.



At the top of the screen, you will see this gear icon flashing.

This indicates that the computer is going through the process of creating Optimization filters based on this measurement.

Once done, it is finally time to listen to the results with the Optimization filters in place.

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**2 things to remember:**
• After you compute a new Optimization, all speakers are muted. Before unmuting,
  make sure your microphone is turned OFF (red LED OFF)
• If you are using an external monitor controller, you can go back to unity gain on the ST2 Pro.

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# 6 | POST-CALIBRATION

Make sure to disconnect all four analog inputs from the 3D microphone and reconnect the left and right outputs of your external monitor controller (if any), so you can start listening to some reference material.

Now, it is time to save all your settings and measurements.

First go to the Presets page and hit the save button on one of the available slots. This way, if the ST2 Pro is powered down, the preset you just created will be stored in its memory.

You can add a name to your preset before saving it. If you don't have a keyboard, you can select the virtual keyboard on the screen's right and enter the name this way.

We advise you to start listening to recordings that you are very familiar with, like any reference album or record that is part of your reference process.

Avoid listening to any of your own mixes at first in order to ensure objective, critical listening.

While listening, go to the "Runtime" tab on the interface of the ST2 Pro and turn the Optimization filters Off. This way, you can return to an entirely bypassed situation and listen without any Trinnov processing.

Turn the Optimization filters back On to hear what the ST2 Pro is doing.

**You are now all set!**

You can also watch our Pro-Audio tutorials on our YouTube Channel.

In this series of videos, we guide you on screen through all the essential steps to first set up an ST2 Pro.

Use the link provided herewith a QR Code to go directly to it.

As an option, register your product online at register.trinnov.com to benefit from multiple features like:

- Updating your ST2 Pro software;

- Downloading the latest user manual;

- Downloading the compensation file for your 3D microphone.

**NOTE:** The registration must be done from a device located on the same network as the ST2 Pro (same public IP address).

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Thank you for being part
of the Trinnov Family.

Enjoy!