

# **User Manual**

Version 1.1.5

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# **CRYSTALSOUND INTRODUCTION**

# CrystalSound

CrystalSound uses AI technology to suppress unwanted noise and distractions during calls, recordings, and online meetings. With its state-of-the-art algorithms and advanced features, CrystalSound can reduce background noise, echo, howling effects, chopiness, and other voices to ensure that you can communicate clearly and effectively.

# My Voice Only

"My Voice Only" is a premium option that provides a unique benefit - the ability to isolate the user's voice and eliminate unwanted noise, including howling effects. Currently, no other application offers this capability. This feature is especially valuable in noisy environments or when you want to ensure that only your voice is heard, making it easier to transcribe, edit, or listen to the audio without any interference or distracting noise.

To activate this feature, simply click on "Register Voice ID" and enjoy the benefits of this feature. Users can easily turn this feature on or off in the main screen of CrystalSound and manage their voice profiles in the profiles settings.

# **Privacy and Security**

During operations, CrystalSound processes your audio and your VoiceID locally. Your audio is private to you and we do not have access to your VoiceID nor we send your audio and voiceID out of your device.

To track usage time, CrystalSound collects:

- app version,
- current settings,
- email address,
- operating system,
- start-using time,
- end-using time,
- name of apps using CrystalSound's virtual speaker or microphone.

Paid users can turn off usage tracking in the app's settings.

When users report issues via the app's settings, two log files of the app will be sent to our backend for troubleshooting. These files include, along with the app's operational logs, the names of audio devices you have used, your email address, and app's settings.

CrystalSound Website and Backend are deployed on Vercel and we use the following Google's Firebase services for database, storage, cloud functions, and authentication:

- Cloud Firestore,
- Cloud Functions for Firebase,
- Cloud Storage for Firebase,
- Firebase Authentication.

These Firebase services and Vercel are certified under major privacy and security standards such as ISO 27001, ISO 27017, ISO 27018, SOC 1, SOC 2, SOC 3. In particular, for authentication purposes, Google's Firebase may store and use some or all of the following information:

- email addresses,
- passwords,
- phone numbers,
- user agents,
- IP addresses,

User agents and IP addresses are employed by Google to provide added security and prevent abuse during sign-up and authentication. IP addresses will be logged temporarily by Google's Firebase Authentication for a few weeks and will be removed automatically. Other information is retained in CrystalSound's database.

To delete your user information, please send your request to <u>crystalsoundsupport@namitech.io</u>. Once we delete your information, Google will ensure your information is removed from their live and backup systems of Firebase within 180 days.

See also:

- <u>https://firebase.google.com/support/privacy</u>
- <u>https://vercel.com/security</u>
- <u>https://vercel.com/legal/privacy-policy</u>

# Apps work with CrystalSound

In order for an app or web app to function with CrystalSound, it must meet the following requirements:

- Capable of using virtual audio devices.
- Include specific audio settings where CrystalSound Microphone and Speaker can be selected.

For examples, the following apps will be able to use with CrystalSound:

- Desktop call apps: Microsoft Teams, Zoom, LINE Desktop, Viber Desktop, Genesys Cloud Desktop app, Avaya one-X® Communicator, most other softphone apps on Windows/MacOS, etc.
- Web call apps: Microsoft Teams, Google Meet, Amazon Connect CCP, Genesys Cloud WebRTC phone, most other web-based softphone apps that can work on Chrome/Edge browsers, etc.
- Audio recording apps: Audacity, Loom, Quicktime, etc.
- Streaming Clients: OBS, Streamlabs, etc.

• Desktop games with voice chat: League of Legends, Dota2, CSGO, Diablo 4

## Using CrystalSound account on multiple devices

- The free package allows usage on up to two devices per account, with a usage time limit of 90 minutes per day. Users can increase the time limit per day by inviting friends to use CrystalSound. For each active friend, the time limit will be increased by 60 minutes without cap.
- Premium package used on up to two devices per account.

# **Requirements for CrystalSound**

### **Connection requirements:**

For authentication, CrystalSound must be able to connect to the following domains:

crystalsound.ai auth.crystalsound.ai crystalsound-mvo.firebaseapp.com us-central1-crystalsound-mvo.cloudfunctions.net securetoken.googleapis.com identitytoolkit.googleapis.com firestore.googleapis.com Please whitelist the above domains if CrystalSound is running under proxied internet access.

# Hardware requirements:

| Operating<br>System | Official minimum supported version     | CPU  | Disk              | RAM                        |
|---------------------|--|--|-------------------|----------------------------|
| Mac OS              | 10.15 Catalina                         | Intel Broadwell 5th<br>generation Core i3<br>@2GHz (2014 and<br>later)<br>Apple M1, M2               | 800 MB free space | 4GB<br>Recommended:<br>8GB |
| Window              | Windows 10,<br>version 1809            | Intel Broadwell 5th<br>generation Core i3<br>@2GHz (2014 and<br>later)<br>AMD Steamroller<br>@2.0GHz | 500 MB free space | 4GB<br>Recommended:<br>8GB |
| Linux               | Ubuntu 20.04<br>Debian 10<br>Fedora 37 | Intel Broadwell 5th<br>generation Core i3<br>@2GHz (2014 and<br>later)<br>AMD Steamroller<br>@2.0GHz | 500 MB free space | 4GB<br>Recommended:<br>8GB |

# USING CRYSTALSOUND

# Getting started

### Download and creating a CrystalSound account

If you haven't downloaded the application yet, please download the installation file at <u>https://crystalsound.ai/dashboard/download</u>. Make sure to select the correct package for your operating system.

To use the CrystalSound desktop app, you first need to create a CrystalSound account. This guide will provide you with instructions on how to create a CrystalSound account.

1. Open the CrystalSound then click on "Sign in".

| G      In Simple Telex     Simpl |
|--|
| CrystalSound   |
| Sign-in for CrystalSound and get ready to<br>experience the latest in AI-powered audio signal<br>processing technology!<br>Our state-of-the-art technology is designed to<br>make your audio work more productive and less<br>stressful.   |
| Sign-in with browser   |
| Terms and Conditions Privacy Statement   |

- 2. The application will open your browser and prompt you to sign in:
  - If you are using a Gmail or G Suite email account, click "Sign in with Google."
  - If you are using an Outlook or Microsoft 365 email account, click "Sign in with Microsoft."

3. A successful sign-in will prompt a box to open the CrystalSound application.

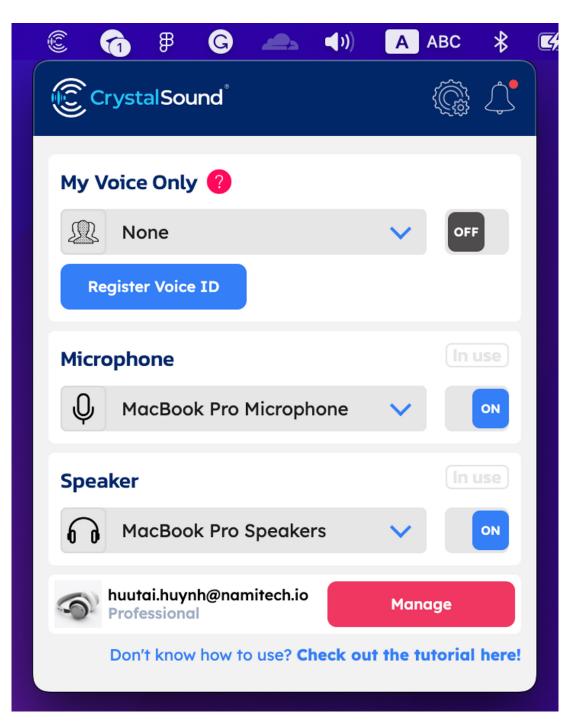
| Open CrystalSound?<br>https://mvo.crystalsound.ai wants to open this application.  | Home |
|--|------|
| <ul> <li>Always allow mvo.crystalsound.ai to open links of this type in the associated app</li> <li>Cancel</li> <li>Open CrystalSound</li> </ul> |      |

We are redirecting you to the desktop app. If you do not see a dialog, please click the button below.



Have you already installed the CrystalSound app? Download Now

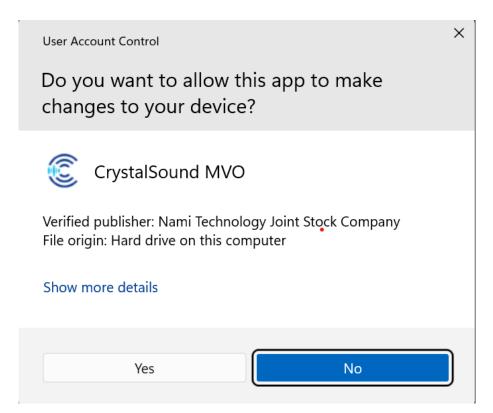
4. This is the homepage of the CrystalSound application. You can start using the application now.



### Install CrystalSound

#### Install CrystalSound for Window

1. Open the installation package.

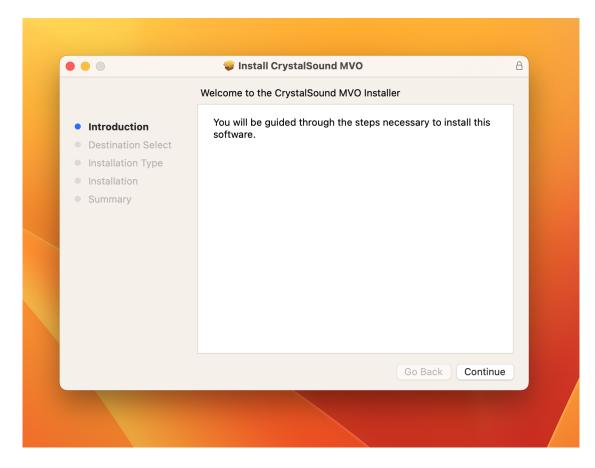


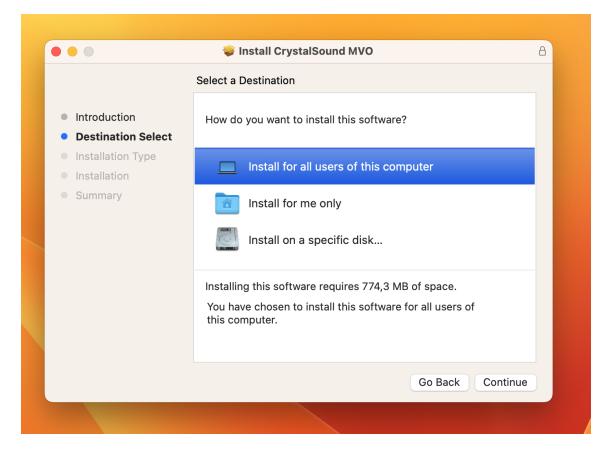
- 2. Click Yes and follow the instructions provided in the package.
- 3. The process will run very quickly, and you will see the Completed screen. Check "Run CrystalSound MVO" and click "Finish."

### Install CrystalSound for MacOS

To install CrystalSound - My Voice Only on your computer, follow these steps:

- 1. Open the installation package.
- 2. Follow the instructions provided in the package.



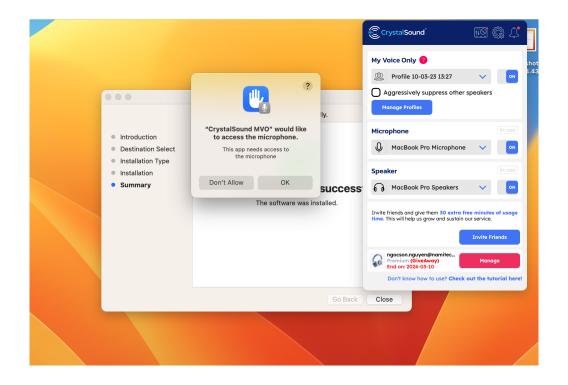


|  | Standard Install on "Macintosh HD"  |  |
|--|---|--|
| <ul> <li>Introduction</li> <li>Destination Select</li> <li>Installation Type</li> <li>Installation</li> <li>Summary</li> </ul> | This will take 774,3 MB of space on your computer.<br>Click Install to perform a standard installation of this software<br>for all users of this computer. All users of this computer will be<br>able to use this software. |  |
|  | Change Install Location   |  |
|  | Go Back Install   |  |

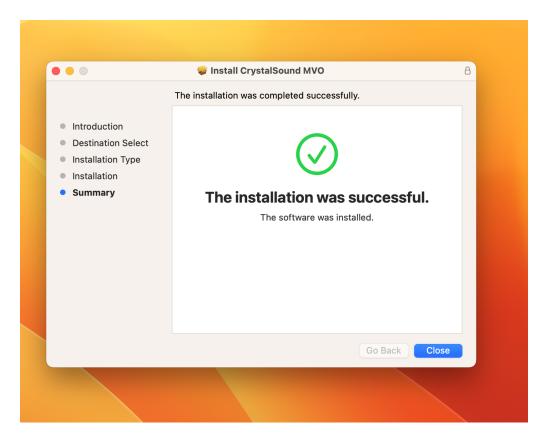
3. You will need admin permission to install the application.

| <ul> <li>Introduction</li> <li>Destination Select</li> <li>Installation Type</li> <li>Installation</li> <li>Summary</li> </ul> | Installer<br>Installer<br>Installer is trying to install new software.<br>Touch ID or enter your password to<br>allow this.<br>Use Password<br>Cancel | 8                |
|--|---|------------------|
|  | Cancer  | Go Back Continue |

4. Then, you will need to give permission to the application to access the microphone.

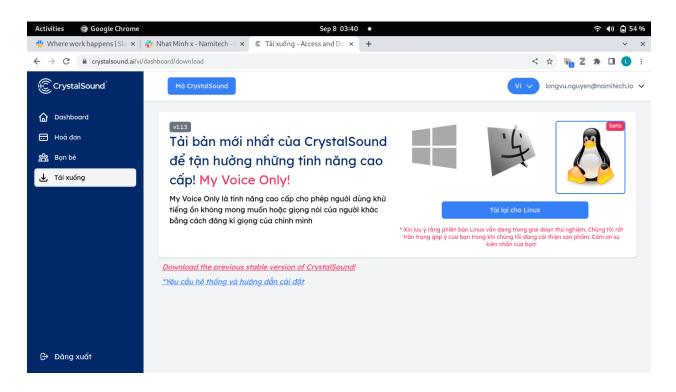


5. After that, the installation is complete.



### Install CrystalSound for Linux

1. Download link for the CrystalSound on Linux (it typically has a ".AppImage" file extension).



2. Set permissions in Linux:

#### Method 1:

Right-click the downloaded file.

Select "Profile" from the context menu.

In the "Permissions" tab, click the "Allow Executing File As Program" checkbox.

#### Method 2:

You need to run the following command: permission command for Ubuntu/Fedora chmod + x <filename>

3. Run CrystalSound by simply doubleclick on the AppImage file.

| Activities 🛛 🕄 Files | Sep 8 03:37 •   |  |
|----------------------|---|--|
| < >                  | nloads : Q IE  ▼ E (x)  |  |
| ⊘ Recent             |   |  |
| \star Starred        |   |  |
| 🔂 Home               |   | 🕃 CrystalSound 🛛 💀 🖉   |
| Documents            | CrystalSound CrystalSound audacity-<br>MVO_11.3.AppImag MVO_1.1.0_MVO_bu linux-3.3.3- | My Voice Only 🕐  |
| <u>↓</u> Downloads   | e ild_45.AppImage x64.AppImage  | 🖳 None 🗸 off   |
| a Music              |   | Aggressively suppress other speakers   |
| Pictures             |   | Register Voice ID  |
| D Videos             |   | Microphone In use  |
| 🕀 Trash              |   | 🔑 Built-in Audio Analog Stereo 🗸 💿   |
| + Other Locations    | a little  | Speaker In use   |
|                      |   | 🞧 Built-in Audio Analog Stereo 🗸 💿   |
|                      |   | Remaining minutes today: 89:40<br>Invite friends and add more time to your daily limit For each<br>active friend you bring on board, you'll receive an extra 60<br>minutes every day<br>Invite Friends |
|                      |   | Free Plan (MVO Trial)<br>End on: 2023-09-08  |
|                      |   | Don't know how to use? Check out the tutorial here!  |
| Carl March           |   |  |

Note: When using AppImage, please ensure that you install the necessary dependencies. To install fuse and libfuse2, you can use the following command:

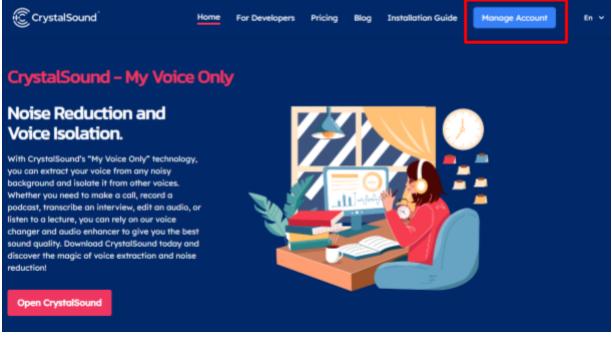
sudo apt install fuse libfuse2

These dependencies are essential to ensure that the AppImage functions correctly. Make sure you have them installed before using our AppImage.

### **Delete Account**

You have the option to delete your account if you're using a free or trial plan. To do so, please follow these steps:

- 1. Go to CrystalSound website: https://crystalsound.ai/
- 2. Click on "Manage Account" located in the upper right corner.



3. You will be redirected to the CrystalSound analytics dashboard. On the left side, locate and click on "Delete Account."

| Fordal       Enterprise       Pars       Pars <th>Dashkoord</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>   | Dashkoord |      |                                  |                 |               |         |                        |            |  |
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| Pore meter     Pere     Pere <th></th> <th>Ente</th> <th>rprise</th> <th></th> <th>Plan Features</th> <th></th> <th></th> <th></th> <th></th>   |           | Ente | rprise                           |                 | Plan Features |         |                        |            |  |
| Very using of the company that is contracted by the particular state st |           | Plon |                                  |                 |               |         |                        |            |  |
| Septext       Non other sensed <ul> <li>Accentic sense reduction invol</li> <li>Speciel statement</li> <li>Specie</li></ul>  | Download  |      |                                  | d Contract      |               |         |                        |            |  |
| Party visite affective  |           |      |                                  |                 |               |         |                        |            |  |
| Image: Construction       Image: Construction<  |           |      |                                  |                 |               |         |                        |            |  |
| This week<br>0 min       Lost week<br>0 min       This month<br>0 min       Lost month<br>0 min         Activity       # 0 min       # 0 min       # 0 min         Jar       Nd       4 sg       Sg       0 de       How         West       Image: Sg       0 min       Image: Sg       0 min       0 min   |           |      |                                  |                 |               |         |                        |            |  |
| O min        • 0 min         Verter basit week       O min         Zero       Pelo         Man       Aug         Seg Cut       Nor         Verter basit week       Umin         Verter basit week       Umin         Verter basit       Umin         Verter       Umin         Umin       Umin         Verter       Umin         Verter       Umin         Verter       Umin         Verter       Umin         Verter       Umin         Ver  |           |      |                                  |                 |               | -       |                        |            |  |
| O min     © min     © min     © min     © min     © min       Activity     Zen     Peb     Hor     Apr     Hoy     Jan     JA     Aug     Sep     Cet     Hoy     Des       Han     Hoy     Image: Sep   |           |      |                                  |                 |               |         |                        |            |  |
| D man         D man <th< th=""><th></th><th></th><th>This week</th><th></th><th>Last week</th><th>This</th><th>month</th><th>Lost month</th><th></th></th<>   |           |      | This week                        |                 | Last week     | This    | month                  | Lost month |  |
| Activity         Jen         Peth         Mor         Apr         Mor         Jun         Jul         Aug         Sep         Oct         Mor         Dec           Man         Mad   |           | 0 m  |                                  |                 | 0 min         | 0 min   |                        | 0 min      |  |
| Sign Cur     Peth     Hor     Apr     Hory     Jan     Jul     Aug     Sep     Ce1     Nov     Dec  |           |      | THE OF SHEE                      |                 |               |         | There again the second |            |  |
| Sign Cut     Park     Park     Hor     Apr     Hory     Jan     JA     Aug     Sep     Oct     Nov     Dec  |           |      |                                  |                 |               |         |                        |            |  |
| Sign Cur  |           | Acti | ity                              |                 |               |         |                        |            |  |
| Sign Cut     Nor Hotel assign Here for Hills year in 0.2 hour     Less     More   |           |      | Jan Peb Ho                       | Apr             | Hoy Jun       | 3.1 Aug | Stp Oct                | Nov Dec    |  |
| Sign Cur     Non- total assign time for Mis year is 0.2 hear     Less     More  |           | Man  |                                  |                 |               |         |                        |            |  |
| Bigs Cur         Non- hotel assign time for His year is 0.2 hear         Less         More  |           |      |                                  |                 |               |         |                        |            |  |
| Sign Cur View Hotel aways firms for this year is 0.2 hour Less Hore   |           | Wed  |                                  |                 |               |         |                        |            |  |
|   |           | Rei  |                                  |                 |               |         |                        |            |  |
|   | Smoot     |      |                                  |                 |               |         |                        |            |  |
|   |           |      | Your total usage time for this p | ver is 0.2 hour |               |         |                        | Lano More  |  |

4. A confirmation screen will appear, asking if you want to permanently delete your account. Click "Yes."

|           |           |                                  | 🖌 Funny          | voice effect | s              |          | ~        |
|-----------|-----------|----------------------------------|------------------|--------------|----------------|----------|----------|
|           |           |                                  | Low st           | eech distor  | tion           | _        | ~        |
|           | A You     | u are about                      | to delete        | your acco    | ount!          | $\times$ |          |
| week      |           | on cannot be u<br>ently deleted. | ndone. Your      | account and  | l its data wil |          | nonth    |
| than last |           | Yes, Dele                        | te!              | Cance        | el             |          | than las |
| Feb       | Mar       | Apr                              | May              | Jun          | Jul            | Aug      | Sep      |
|           |           |                                  | LOW SD           | eecnaisi     | ornon          |          |          |
| Are you   | sure to c | delete the a                     | ccount <b>k5</b> | 8.1911110    | 0266@ftu       | .edu.vn? | $\times$ |
|           |           | No                               |                  | Y            | es             |          |          |
|           |           |                                  |                  |              |                |          |          |

5. Your account and data will be deleted permanently. You can still sign-in again with the account that you have deleted.

# Settings

 To access the settings screen, you follow as below: Step 1: Open CrystalSound on your devices. Step 2: Click the Setting button on the right corner.

| CrystalSound   |                  |
|--|------------------|
| My Voice Only 🕜  | Setting button   |
| Done None  | V OFF            |
| Aggressively suppress  | other speakers   |
| Register Voice ID  |                  |
| Microphone   |                  |
| Microphone Array (   | (Intel® Sm 🗸 🛛 🔊 |
| Speaker  |                  |
| Speakers (Realtek(   | R) Audio) 🗸 💿    |
| Never set as default   |                  |
| Invite friends and give them <b>30</b><br>time. This will help us grow and |                  |
|  | Invite Friends   |

| © CrystalSound - MyVoiceOn | у   |         | _ |   | $\times$ |
|----------------------------|---|---------|---|---|----------|
|                            | General   |         |   |   |          |
| Settings                   | Language  | English |   |   | ~        |
| Profiles                   | Launch at system startup  |         |   |   |          |
| Tutorials                  | Disable the update reminder   |         |   |   |          |
| Test Audio                 | Acoustic echo and howling suppression<br>Volume equalization                  |         |   |   |          |
| Recording Magic            | Microphone's noise reduction level  |         |   |   | С        |
| Invite Friends             | Speaker's noise reduction level   |         |   | • | С        |
| Notifications              | Voice Effects   |         |   |   |          |
| Report Issue               | Premium settings  |         |   |   |          |
| Sign Out                   | Privacy settings  |         |   |   |          |
| Quit                       | Stop CrystalSound from monitoring the<br>usage of its virtual devices by apps | Ο       |   |   |          |
| CrystalSound<br>1.1.3      | Stop CrystalSound from measuring how long you use its virtual devices         | Ο       |   |   |          |

At the settings screen, you can configure CrystalSound:

1. Language: Use this option to switch between English and Japanese.

| CrystalSound - MyVoiceC | Inly  |          | - 🗆 X   |
|-------------------------|---|----------|---------|
| Settings                | General   |          |         |
| Profiles                | Language  | English  | ~       |
| Tutorials               | Launch at system startup                                  | $\leq$   |         |
| Test Audio              | Disable the update reminder                               | $\leq$   |         |
| Recording Magic         | Acoustic echo and howling suppression                     |          |         |
| Invite Friends          | Volume equalization<br>Microphone's noise reduction level | $\sim$   | •       |
| Notifications           | Speaker's noise reduction level                           |          | • • • • |
|                         | Voice Effects   | <b>A</b> |         |
| Sign Out                | Premium settings  | <b></b>  |         |
| Quit                    | Privacy settings  |          |         |
| CrystalSound<br>11.3    |   |          |         |

2. Launch as system startup: This option will enable CrystalSound to run automatically when you start your computer.

| CrystalSound - MyVoiceOr | nly   |          | - | ×      |
|--------------------------|---|----------|---|--------|
|                          |   |          |   |        |
| Settings                 | General   |          |   |        |
| Profiles                 | Language  | English  |   | $\sim$ |
| Tutorials                | Launch at system startup                                  |          |   |        |
| Test Audio               | Disable the update reminder                               |          |   |        |
| Recording Magic          | Acoustic echo and howling suppression                     |          |   |        |
| Invite Friends           | Volume equalization<br>Microphone's noise reduction level |          |   | C      |
| Notifications            | Speaker's noise reduction level                           |          | - | • C    |
| Report Issue             | Voice Effects   | <b>A</b> |   |        |
| Sign Out                 | Premium settings  | <b>A</b> |   |        |
| Quit                     | Privacy settings  | <b>A</b> |   |        |
| CrystalSound<br>1.1.3    |   |          |   |        |

3. Volume equalization: CrystalSound optimizes your microphone's volume automatically for maximum clarity, allowing the listeners to hear you more clearly and loudly. You should always keep this option enabled.

| CrystalSound - MyVoiceC         | Dnly   |         | - |        |
|---------------------------------|--|---------|---|--------|
| Settings                        | General  |         |   |        |
| Profiles                        | Language   | English |   | ~      |
| Tutorials                       | Launch at system startup   |         |   |        |
| Test Audio                      | Disable the update reminder  |         |   |        |
| Recording Magic                 | Acoustic echo and howling suppression  |         |   |        |
| Invite Friends<br>Notifications | Volume equalization<br>Microphone's noise reduction level<br>Speaker's noise reduction level |         | • | e<br>C |
| Report Issue                    | Voice Effects<br>Premium settings  |         |   |        |
| Sign Out<br>Quit                | Privacy settings   |         |   |        |
| CrystalSound                    |  |         |   |        |

4. "Disable Update Reminder: This setting allows you to opt out of receiving update reminders. We understand the importance of providing timely updates to our users. If you prefer not to receive these reminders, you can easily disable them here. Your feedback helps us improve, and we want to respect your preferences."

| CrystalSound - MyVoiceO | nly   |          | - |     |
|-------------------------|---|----------|---|-----|
|                         |   |          |   |     |
| Settings                | General   |          |   |     |
| Profiles                | Language  | English  |   | ~   |
| Tutorials               | Launch at system startup                                  |          |   |     |
| Test Audio              | Disable the update reminder                               |          |   |     |
| Recording Magic         | Acoustic echo and howling suppression                     | $\sim$   |   |     |
| Invite Friends          | Volume equalization<br>Microphone's noise reduction level |          |   | ~   |
| Notifications           | Speaker's noise reduction level                           |          | • | • c |
| Report Issue            | Voice Effects   | <b></b>  |   |     |
| Sign Out                | Premium settings  | <b>A</b> |   |     |
| Quit                    | Privacy settings  | <b>A</b> |   |     |
| CrystalSound<br>1.1.3   |   |          |   |     |

5. Speaker denoise level: Adjust the slider to control the amount of noise reduction applied to the speaker's audio. A lower denoise level will reduce distortion in speech. When "Do not set CrystalSound speakers as default" is disabled, this option can also be used to reduce background sounds such as music or ambient sounds when you are watching movies or listening to music.

| CrystalSound - MyVoiceO | nly   |            | - | Х      |
|-------------------------|---|------------|---|--------|
| Settings                | General   |            |   |        |
| Profiles                | Language  | English    |   | $\sim$ |
| Tutorials               | Launch at system startup  |            |   |        |
| Test Audio              | Volume equalization<br>Do not set CrystalSound speaker as default |            |   |        |
| Invite Friends          | Disable tracking of usage time                                    | Ō          |   |        |
| Notifications           | Speaker denoise level   |            |   | С      |
|                         | Voice Effects   |            |   |        |
|                         | Pitch shift   |            |   | С      |
| Report Issue            | Reverb  | $\Box$     |   |        |
| Sign Out                | Robotic   | $\bigcirc$ |   |        |
| Quit                    | Premium settings  |            |   |        |
| CrystalSound<br>1.0.1   |   |            |   |        |

6. Pitch shift: Adjust the slider to increase or decrease the value. A negative value will make the voice deeper, while a positive one will make it brighter. This option helps you make your voice sounds manlier or more womanly depending on your reference.

| CrystalSound - MyVoiceOn | ly  |            | _ |        |
|--------------------------|---|------------|---|--------|
|                          |   |            |   |        |
| Settings                 | General   |            |   |        |
| Profiles                 | Language  | English    |   | $\sim$ |
| Tutorials                | Launch at system startup  |            |   |        |
| Test Audio               | Volume equalization<br>Do not set CrystalSound speaker as default |            |   |        |
| Invite Friends           | Disable tracking of usage time                                    |            |   |        |
| Notifications            | Speaker denoise level   |            |   | • C    |
|                          | Voice Effects   |            |   |        |
|                          | Pitch shift   |            |   | C      |
| Report Issue             | Reverb  | 0          |   |        |
| Sign Out                 | Robotic   | $\bigcirc$ |   |        |
| Quit                     | Premium settings  |            |   |        |
| CrystalSound<br>1.0.1    |   |            |   |        |

7. Reverb: Simulate reverberation effect.

| CrystalSound - MyVoiceOn | ly  |         | - 🗆 X  |
|--------------------------|---|---------|--------|
|                          |   |         |        |
| Settings                 | General   |         |        |
| Profiles                 | Language  | English | $\sim$ |
| Tutorials                | Launch at system startup  |         |        |
| Test Audio               | Volume equalization<br>Do not set CrystalSound speaker as default |         |        |
| Invite Friends           | Disable tracking of usage time                                    | Ō       |        |
| Notifications            | Speaker denoise level   |         | • C    |
|                          | Voice Effects   |         |        |
|                          | Pitch shift   | •       | C      |
| Report Issue             | Reverb  | $\Box$  |        |
| Sign Out                 | Robotic   |         |        |
| Quit                     | Premium settings  |         |        |
| CrystalSound<br>1.0.1    |   |         |        |

8. Robotics: Simulate robotic voice effect. This option will make you sound like a robot but it may affect your speech's clarity.

| CrystalSound - MyVoiceOn | ly  |         | _ | $\times$ |
|--------------------------|---|---------|---|----------|
|                          |   |         |   |          |
| Settings                 | General   |         |   |          |
| Profiles                 | Language  | English |   | ~        |
| Tutorials                | Launch at system startup  |         |   |          |
| Test Audio               | Volume equalization<br>Do not set CrystalSound speaker as default |         |   |          |
| Invite Friends           | Disable tracking of usage time                                    | Ō       |   |          |
| Notifications            | Speaker denoise level   |         |   | C        |
|                          | Voice Effects   |         |   | 2        |
|                          | Pitch shift   | •       |   | C        |
| Report Issue             | Reverb  | $\Box$  |   |          |
| Sign Out                 | Robotic   | $\Box$  |   |          |
| Quit                     | Premium settings  |         |   |          |
| CrystalSound<br>1.0.1    |   |         |   |          |

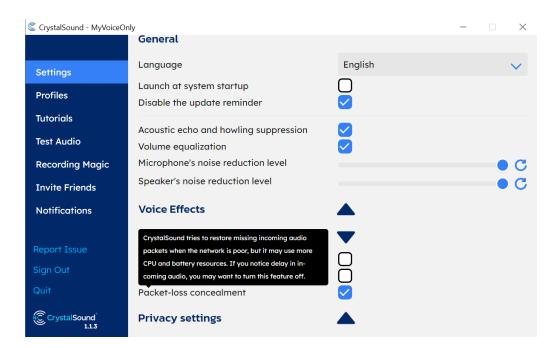
9. Enhance noise reduction: CrystalSound offers more powerful noise removal than normal, but it comes at the cost of increased CPU and battery usage. This option is useful when you can hear some residual noises or when you are in a really noisy environment.

| CrystalSound - MyVoiceOn | ly  |         | _ |   | ×            |
|--------------------------|---|---------|---|---|--------------|
|                          | General   |         |   |   |              |
| Settings                 | Language  | English |   |   | $\checkmark$ |
| Profiles                 | Launch at system startup  |         |   |   |              |
| Tutorials                | Volume equalization<br>Do not set CrystalSound speaker as default |         |   |   |              |
| Test Audio               | Disable tracking of usage time                                    | Ο       |   |   |              |
| Invite Friends           | Speaker denoise level   |         |   | • | C            |
| Notifications            | Voice Effects   |         |   |   |              |
|                          | Pitch shift   | •       |   |   | C            |
|                          | Reverb  | Ο       |   |   |              |
| Report Issue             | Robotic   | $\Box$  |   |   |              |
| Sign Out                 | Premium settings  | •       |   |   |              |
| Quit                     | Enhance noise reduction   |         |   |   |              |
| CrystalSound<br>1.0.1    | Enhance room echo removal<br>Packet-loss concealment              |         |   |   |              |

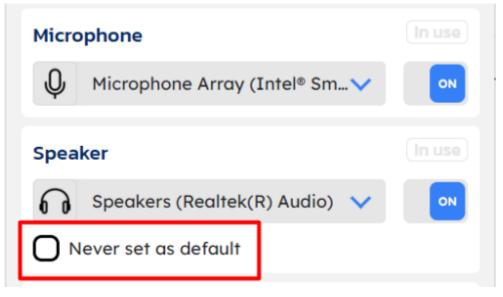
10. Room echo removal: CrystalSound reduces room acoustic effects, but it comes at a higher cost in terms of CPU and battery power. This technique is also often known as dereverberation; it helps improve your voice clarity without having an expensive recording room.

| CrystalSound - MyVoiceO | nly   |         | - 🗆 🗙 |
|-------------------------|---|---------|-------|
|                         | General   |         |       |
| Settings                | Language  | English | ~     |
| Profiles                | Launch at system startup<br>Disable the update reminder   |         |       |
| Tutorials               | Acoustic echo and howling suppression   |         |       |
| Test Audio              | Volume equalization   |         |       |
| Recording Magic         | Microphone's noise reduction level  |         | • C   |
| Invite Friends          | Speaker's noise reduction level   |         | • C   |
| Notifications           | Voice Effects<br>CrystalSound tries to reduce your room acoustic effects<br>even further, but it may consume more CPU and battery |         |       |
| Report Issue            | power. If you notice delay in out-going audio, you may<br>want to turn this feature off.  | •<br>•  |       |
| Sign Out                | Enhanced room echo removal  |         |       |
| Quit                    | Packet-loss concealment   | Ō       |       |
| CrystalSound<br>1.1.3   | Privacy settings  |         |       |

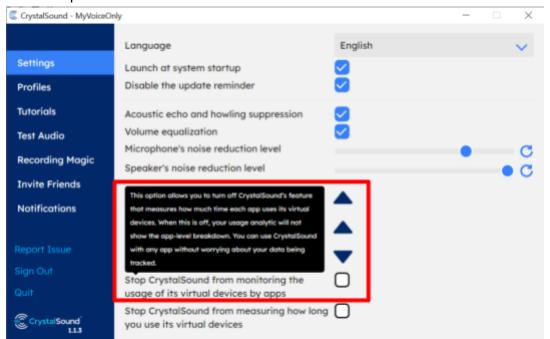
11. Packet-loss concealment: CrystalSound can recreate lost audio packets when the network is weak, but it comes at the cost of increased CPU and battery usage. This feature is particularly useful when the incoming voice is choppy.



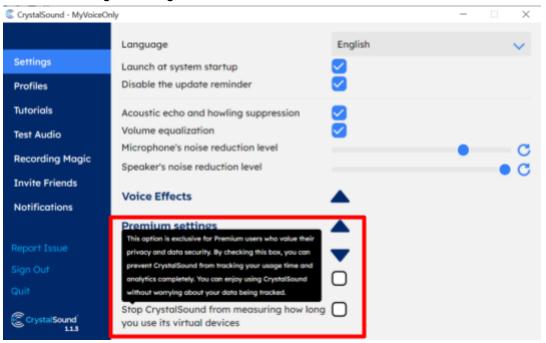
12. Do not set CrystalSound speakers as default: This option is available on Windows only. Enabling this setting will prevent CrystalSound speakers from being used as the default device, as it may inadvertently filter out sound while watching movies or listening to music. If you want to use CrystalSound Speaker to filter out non-speech sounds when listening to YouTube or PodCast, you may want to uncheck this option.



13. Stop CrystalSound from monitoring the usage of its virtual devices by app: This option allows you to prevent CrystalSound from monitoring the usage of its virtual devices on an app-specific basis. While usage tracking is necessary for free users, we respect your privacy as a paid subscriber. Feel free to disable this tracking if you value your privacy and are a paid user."



14. Stop CrystalSound from measuring how long you use its virtual devices: This option can be enabled to stop the tracking of user usage time. We need to count your usage time if you are a free user. However, if you are a paid user and you care about your privacy, you can disable usage tracking here.



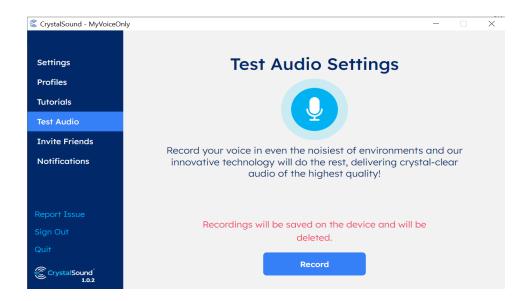
### Test audio setting

To test how CrystalSound removes background noise, use our Test Audio feature. Record a short audio clip with typical background noises in your environment, listen to the noise-canceled result, and see how CrystalSound performs.

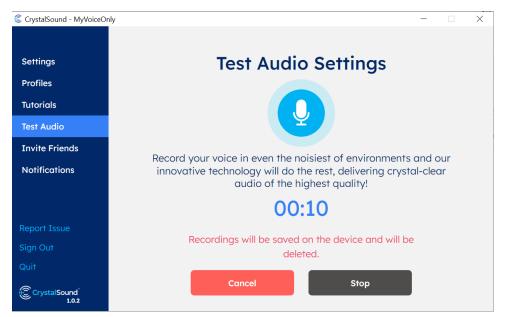
1. Launching CrystalSound.

| CrystalSound 🔅 💭  |
|---|
| My Voice Only 💡   |
| 🔊 None 🗸 OFF  |
| Aggressively suppress other speakers Register Voice ID  |
| Microphone In use   |
| Microphone Array (Intel® Sm 🗸 🛛 🔊   |
| Speaker In use  |
| Speakers (Realtek(R) Audio) 🗸 💿   |
| Never set as default  |
| Invite friends and give them <b>30 extra free minutes of usage time</b> . This will help us grow and sustain our service. |
| Invite Friends  |
| Crystalsoundsales@namite<br>Premium (GiveAway)<br>End on: 2024-08-01  |
| Don't know how to use? Check out the tutorial here!   |

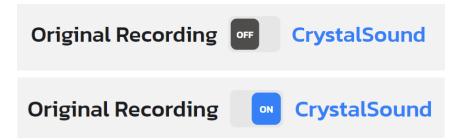
- 2. Click on the Setting button on the right corner.
- 3. Choose Test Audio.



4. Start your recording. For better comparison, record 10-15s of talking in a noisy environment.



5. First, listen to your original recording. Then, turn on CrystalSound to listen to the noise-canceled version.



### Invite friend to use CrystalSound

You can share and invite friends to use CrystalSound by following these steps.:

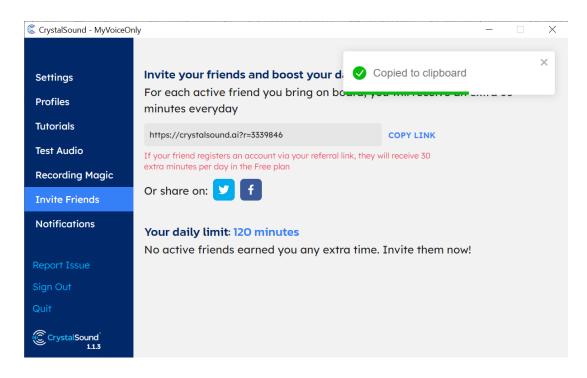
- 1. Launch CrystalSound.
- 2. Open Invite Friend form:
  - a. For Premium accounts: Click Setting button then choose Invite Friend.

| CrystalSound - MyVoiceOn | ıly   |         | — | ×            |
|--------------------------|---|---------|---|--------------|
|                          |   |         |   |              |
| Settings                 | General   |         |   |              |
| Profiles                 | Language  | English |   | $\checkmark$ |
| Tutorials                | Launch at system startup                                  |         |   |              |
| Test Audio               | Disable the update reminder                               |         |   |              |
| Recording Magic          | Acoustic echo and howling suppression                     |         |   |              |
| Invite Friends           | Volume equalization<br>Microphone's noise reduction level |         |   | С            |
| Notifications            | Speaker's noise reduction level                           |         |   | c            |
| Report Issue<br>Sign Out | Voice Effects<br>Premium settings                         | ▲<br>▲  |   |              |
| Quit                     | Privacy settings  |         |   |              |
| CrystalSound<br>1.1.3    |   |         |   |              |

b. For Free accounts: Click Invite Friend in CrystalSound Main Screen.

| CrystalSound   |
|--|
| My Voice Only 🟮  |
| 🔊 None 🗸 OFF   |
| Register Voice ID  |
| Microphone In use  |
| Ų Microphone Array (Intel® Sm ✔ OFF  |
| Speaker In use   |
| Speakers (Realtek(R) Audio) 🗸 📭  |
| Never set as default   |
| Remaining minutes today: 120:00<br>Invite friends and add more time to your daily limit! For each<br>active friend you bring on board, you'll receive an extra 60<br>minutes every day<br>Invite Friends |
| k58.1911110266@ftu.edu.vn         Upgrade           Don't know how to use? Check out the tutorial here!  |

3. Copy the link and share it wherever you like, or simply click on the Twitter or Facebook icons to share the invite link with your friends and community.



4. If you have a free account and your friends use your shared link to sign up for a new account, **you will receive an extra 60 minutes** to use the app's limited features. You can view your friend list and their information in the app or on the web.

| CrystalSound - MyVoiceC         | only – – ×  |  |
|---------------------------------|---|--|
| Settings<br>Profiles            | <b>Invite your friends and boost your daily limit!</b><br>For each active friend you bring on board, you will receive an extra 60<br>minutes everyday |  |
| Tutorials                       | https://staging.crystalsound.ai?r=5604801 COPY LINK   |  |
| Test Audio                      | If your friend registers an account via your referral link, they will receive 30  |  |
| Invite Friends                  | extra minutes per day in the Free plan  |  |
| Notifications                   | Or share on: 💆 f  |  |
|                                 | Your daily limit: 180 minutes   |  |
| Report Issue                    | 1 active friend(s) have earned you an extra 60 minutes.   |  |
|                                 | Active list (1)   |  |
| Sign Out                        | crystalsound_friend@yopmail.com   |  |
| Quit                            | * Only show members who have used the application in the last 7 days.   |  |
| CrystalSound<br>build: 18 1.0.3 |   |  |

### Update CrystalSound app

CrystalSound will automatically notify you when a new update is available. At the system startup, the screen below will appear.

| CrystalSound - MyVoiceOnly   | – 🗆 X                       |
|--|-----------------------------|
| CrystalSound   | A new version is available! |
| CrystalSound MVO 1.1.5<br>• Improved performance of "Enhanced noise<br>• [Windows only] Updated to new virtual driv<br>Microsoft: <u>https://partner.microsoft.com/en-us/dashboard/hardware/Driver/DownloadCe</u>                    |                             |
| <ul> <li>CrystalSound MVO 1.1.4</li> <li>Added Enterprise Plan</li> <li>Reduced audio delay and glitches on certa</li> <li>Fixed login and authentication issues unde</li> <li>Allowed weers to make and resize CrystalSe</li> </ul> | r VPNs and proxied networks |
| 🗸 Never show again   | Skip This Time Update Now   |

To update the new version, press **Update Now** once and the new version will be downloaded.

| CrystalSound <sup>®</sup>                            | A new version is available |
|--|----------------------------|
| CrystalSound MVO 1.1 CrystalSound                    | ×                          |
| • Improved perforr Download is completed!            |                            |
| <ul> <li>[Windows only] U</li> </ul>                 | ,                          |
| Microsoft: <u>https://pc</u>                         | ОК                         |
| us/dashboard/hard                                    | 0750/137036269297047       |
| CrystalSound MVO 1.1.4                               |                            |
| <ul> <li>Added Enterprise Plan</li> </ul>            |                            |
| • Reduced audio delay and glitches on certain CPUs   | 5                          |
| • Fixed login and authentication issues under VPNs a | and proxied networks       |
| Allowed users to move and resize Crystal Sound's for | orma                       |
|  | 🗸 Never show again         |

After the update is downloaded successfully, you don't need to press Update Now again. Wait a moment and a window will appear to ask for permission to install the new version.

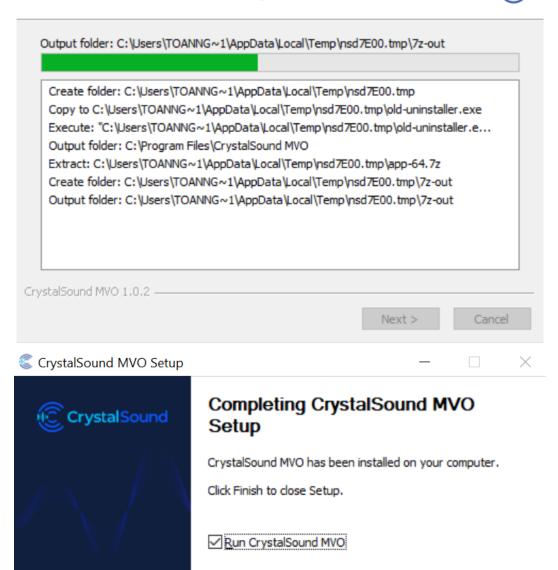
| User Account Control  |    |  |
|---|----|--|
| Do you want to allow this app to make changes to your device?                                       |    |  |
| CrystalSound MVO  |    |  |
| Verified publisher: Nami Technology Joint Stock Company<br>File origin: Hard drive on this computer |    |  |
| Show more details   |    |  |
| Yes   | No |  |

Click the Yes button and the install process will start automatically.



#### Installing

Please wait while CrystalSound MVO is being installed.



| < <u>B</u> ack | Einish | Cancel |
|----------------|--------|--------|

 $\times$ 

#### **Noise reduction level**

The Noise Reduction Level feature allows users to adjust the amount of noise reduction applied to a speaker's audio, providing convenience in specific situations for users.

You can use this setting by following these steps.:

1. Launch CrystalSound.

| CrystalSound 🔯 🕼 🗘   |
|--|
| My Voice Only 🥐  |
| None V OFF   |
| Aggressively suppress other speakers   |
| Register Voice ID  |
| Microphone In use  |
| Microphone Array (Intel® Sm 🗸 🛛 🔊  |
| Speaker In use   |
| Speakers (Realtek(R) Audio) 🗸 💿  |
| Never set as default   |
| Invite friends and give them <b>30 extra free minutes of usage time.</b> This will help us grow and sustain our service. |
| Invite Friends   |
| crystalsoundsales@namite   |
| Premium (GiveAway) Manage<br>End on: 2024-08-01  |

2. Click on the Setting button on the right corner.



3. In the general settings, you can see the Noise Reduction Level slider.

| CrystalSound - MyVoiceC | Dnly  |         | - | • × |
|-------------------------|---|---------|---|-----|
| Settings                | General   |         |   |     |
| Profiles                | Language  | English |   | ~   |
| Tutorials               | Launch at system startup                                  |         |   |     |
| Test Audio              | Disable the update reminder                               |         |   |     |
| Recording Magic         | Acoustic echo and howling suppression                     |         |   |     |
| Invite Friends          | Volume equalization<br>Microphone's noise reduction level |         |   | C   |
| Notifications           | Speaker's noise reduction level                           |         |   | • č |
| Report Issue            | Voice Effects   |         |   |     |
| Sign Out                | Premium settings  |         |   |     |
| Quit                    | Privacy settings  |         |   |     |
| CrystalSound<br>11.3    |   |         |   |     |

4. You can slide the bar to adjust the reduction level of the Microphone and Speaker.

| Microphone's noise reduction level | - C |
|------------------------------------|-----|
| Speaker's noise reduction level    | 00  |

# Features

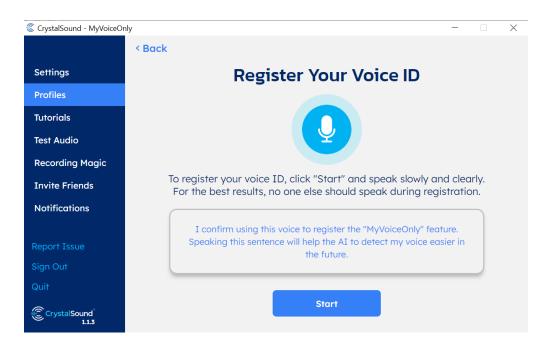
### My Voice Only function to suppress other people's voices

"My Voice Only" - the revolutionary feature of CrystalSound that lets you cut through the noise and be heard loud and clear in any call or online meeting. Whether you're in a noisy environment, working from home, or simply want to keep your conversations private, "My Voice Only" gives you the power to control what others hear.

To be more specific, once you have registered your voice ID on CrystalSound, enabling the My Voice Only feature will cause CrystalSound to filter out all other voices except for yours, even if multiple people are speaking simultaneously in call, recording, online meeting, etc.

#### Register your voice to use the My Voice Only feature

- 1. Register your voice by clicking on Register Profile.
- 2. To ensure the best results, please follow these instructions carefully: click on the start button and speak clearly and loudly. We recommend finding a quiet place and ensuring that no one else speaks during registration.



| © CrystalSound - MyVoiceOr | nly – 🗆 🗙   |  |  |  |  |
|----------------------------|---|--|--|--|--|
|                            | < Back  |  |  |  |  |
| Settings                   | Register Your Voice ID  |  |  |  |  |
| Profiles                   |   |  |  |  |  |
| Tutorials                  |   |  |  |  |  |
| Test Audio                 |   |  |  |  |  |
| Recording Magic            |   |  |  |  |  |
| Invite Friends             | To register your voice ID, click "Start" and speak slowly and clearly.<br>For the best results, no one else should speak during registration. |  |  |  |  |
| Notifications              |   |  |  |  |  |
|                            | I confirm using this voice to register the "MyVoiceOnly" feature.   |  |  |  |  |
| Report Issue               | Speaking this sentence will help the AI to detect my voice easier in the future.  |  |  |  |  |
| Sign Out                   |   |  |  |  |  |
| Quit                       |   |  |  |  |  |
| CrystalSound<br>1.1.3      | Cancel  |  |  |  |  |

3. If the registration fails, please check the error message and try again.

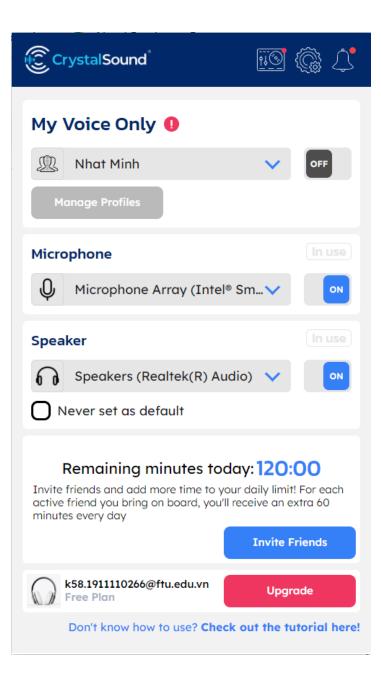
| CrystalSound - MyVoiceOr | ly – 🗆 🗙   |
|--------------------------|--|
|                          | < Back   |
| Settings                 | Register Your Voice ID   |
| Profiles                 |  |
| Tutorials                |  |
| Test Audio               |  |
| Recording Magic          |  |
| Invite Friends           | Your speech is too short to register. Please speak for a longer duration.        |
| Notifications            |  |
|                          | I confirm using this voice to register the "MyVoiceOnly" feature.                |
| Report Issue             | Speaking this sentence will help the AI to detect my voice easier in the future. |
| Sign Out                 |  |
| Quit                     |  |
| CrystalSound<br>1.1.3    | Retry  |

4. Once the registration is complete, you will be prompted to provide a name for it.

| CrystalSound - MyVoiceOr | nly – 🗆 X   |
|--------------------------|---|
|                          | < Back  |
| Settings                 | Register Your Voice ID  |
| Profiles                 |   |
| Tutorials                |   |
| Test Audio               |   |
| Recording Magic          |   |
| Invite Friends           | <b>Congratulations!</b> You did it! You have now registered your profile.<br>Give it a name and try out this great feature. |
| Notifications            |   |
|                          | Profile 18-09-23 17:05  |
| Report Issue             | PIONE 10-04-23 17.03  |
| Sign Out                 |   |
| Quit                     |   |
| CrystalSound<br>1.1.3    | Done  |

#### 5. You can now select the profile you want to use to access this great feature.

| CrystalSound - MyVoiceOn | ıly                |                    | - 🗆 X                |
|--------------------------|--------------------|--------------------|----------------------|
|                          |                    |                    |                      |
| Settings                 | Profile List (2/5) |                    |                      |
| Profiles                 | Name               | Status             | Action               |
| Tutoviala                | Your Voice         | Active             | C 🛛 🗊                |
| Tutorials                | Another Voice      | Not selected       | C 🗹 🛍                |
| Test Audio               |                    |                    |                      |
| Recording Magic          |                    | Test My Voice Only | Register new profile |
| Invite Friends           |                    |                    |                      |
|                          |                    |                    |                      |
| Notifications            |                    |                    |                      |
|                          |                    |                    |                      |
| Report Issue             |                    |                    |                      |
| Sign Out                 |                    |                    |                      |
| Quit                     |                    |                    |                      |
| CrystalSound<br>1.1.3    |                    |                    |                      |



6. You have the ability to register up to five profiles, update your current profile, and rename or delete any of them. To perform any of these actions, simply click on the "Manage Profile" button.

| CrystalSound - MyVoiceOn | nly                |                    | - 🗆 X                |
|--------------------------|--------------------|--------------------|----------------------|
|                          |                    |                    |                      |
| Settings                 | Profile List (2/5) |                    |                      |
| Profiles                 | Name               | Status             | Action               |
| Tata dala                | Your Voice         | Active             | С 🗹 🛍                |
| Tutorials                | Another Voice      | Not selected       | C 🗹 🛍                |
| Test Audio               |                    |                    |                      |
| Recording Magic          |                    | Test My Voice Only | Register new profile |
| Invite Friends           |                    |                    |                      |
| Notifications            |                    |                    |                      |
|                          |                    |                    |                      |
| Report Issue             |                    |                    |                      |
| Sign Out                 |                    |                    |                      |
| Quit                     |                    |                    |                      |
| CrystalSound<br>1.1.3    |                    |                    |                      |

### **Bi-directional Noise reduction with CrystalSound**

CrystalSound MVO is an advanced speech enhancement technology that provides a clear and seamless audio experience in both directions of communication. This user manual provides step-by-step instructions on how to use noise reduction features.

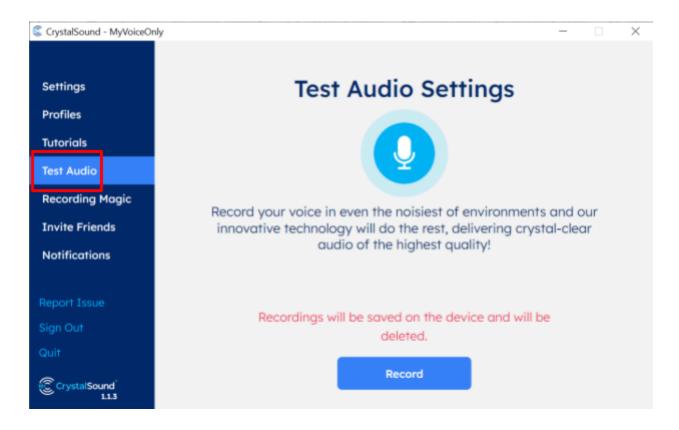
#### To activate noise reduction:

- 1. Launching CrystalSound on your devices.
- 2. Select your microphone and speaker and click the Toggle button on to activate the feature.

| ି cr  | ystalSound                           | <u>110</u> | ¢ ي      |
|-------|--------------------------------------|------------|----------|
| My \  | /oice Only 🏮                         |            |          |
|       | Nhat Minh                            | ~          | OFF      |
| -     | inage Profiles                       |            |          |
| Q     | phone<br>Microphone Array (Intel® Sm | 🗸          |          |
| Speal | ker                                  |            | (In use) |
| 6     | Speakers (Realtek(R) Audio)          | ~          | ON       |
| ON    | ever set as default                  |            |          |

3. To ensure that the feature is activated and functioning correctly, make a test by recording an audio clip while in a noisy environment. Click on the Setting button then click to Test audio. Follow the instructions on the screen.

| CrystalSound    | <u>.</u> 9 🛞 (1 |
|-----------------|-----------------|
| My Voice Only 🏮 | Setting button  |
| Nhat Minh       | OFF             |
| Manage Profiles |                 |



4. If you want to adjust the noise reduction settings for several reasons, e.g., to know the conversation's still going on, slide the bar left or right to increase or decrease the speaker denoise level in settings. From there, you can modify the strength of the noise reduction feature to fit your preferences.

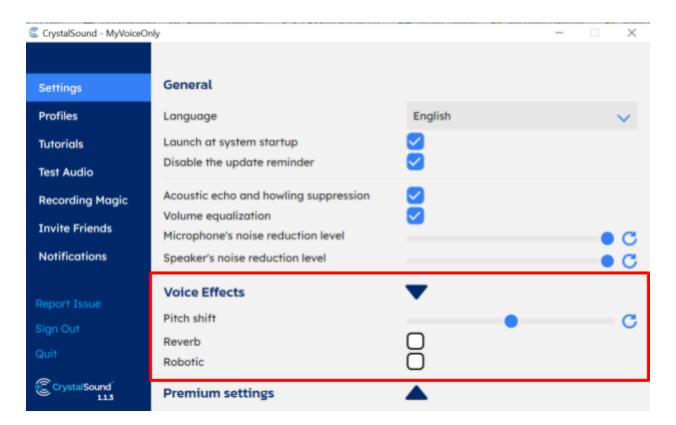
| CrystalSound - MyVoiceOn | ly   |              | - | ×            |
|--------------------------|--|--------------|---|--------------|
|                          |  |              |   |              |
| Settings                 | General  |              |   |              |
| Profiles                 | Language   | English      |   | $\checkmark$ |
| Tutorials                | Launch at system startup   | <b>S</b>     |   |              |
| Test Audio               | Volume equalization  |              |   |              |
| Invite Friends           | Do not set CrystalSound speaker as default<br>Disable tracking of usage time |              |   |              |
| Notifications            | Speaker denoise level  | •            |   | С            |
|                          | Voice Effects  |              |   |              |
|                          | Pitch shift  |              |   | С            |
| Report Issue             | Reverb   |              |   | Ĩ            |
| Sign Out                 | Robotic  | $\checkmark$ |   |              |
| Quit                     | Premium settings   | <b>A</b>     |   |              |
| Crystal Sound<br>1.0.2   |  |              |   |              |

### Voice effects with CrystalSound

One of the notable features of CrystalSound is the ability to customize your voice effect during calls, online meetings, and recordings. With this feature, you have the option to sound like a chipmunk or robot or reverse, adding an element of excitement to your conversations with friends. To utilize this feature, follow the instructions below.

- 1. Launching CrystalSound on your device.
- 2. Click the Setting button on the right corner.

| CrystalSound        |                   | ~ | <u>م</u> |
|---------------------|-------------------|---|----------|
| My Voice Only 🥐     | Setting<br>button |   |          |
| Derofile 13-03-23 1 | 18:50             | ~ | OFF      |
| Manage Profiles     |                   |   |          |
|                     |                   |   |          |



3. In the audio setting, look at the Voice Effects, you can choose Reverb or Robotic effect for your call. You also can slide the bar to adjust the pitch shift of your voice.

| Voice Effects |                         |
|---------------|-------------------------|
| Pitch shift   | • C                     |
| Reverb        |                         |
| Robotic       | Slide the bar to adjust |

## **Recording magic**

Recording Magic feature is a powerful tool designed to effortlessly remove background noise, enhance the quality of your recordings, ensuring that your audio sounds crystal-clear and professional. In this guide, we'll walk you through the simple steps to utilize this feature effectively.

1. Launching CrystalSound on your device.

| CrystalSound 🔃 🔞 🗘   |
|--|
| My Voice Only ?  |
| 🔊 None 🗸 OFF   |
| Aggressively suppress other speakers Register Voice ID   |
| Microphone In use  |
| Microphone Array (Intel® Sm 🗸 💿  |
| Speaker In use   |
| Speakers (Realtek(R) Audio) 🗸 💿  |
| Never set as default   |
| Invite friends and give them <b>30 extra free minutes of usage</b><br><b>time.</b> This will help us grow and sustain our service. |
| Invite Friends   |

2. Click the Recording Magic button on the right corner.



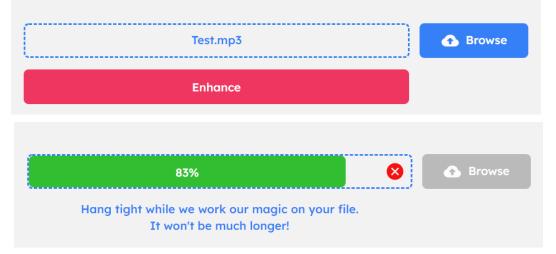
3. It will lead you to the main dashboard of Recording Magic. You can use the provided sliders to fine-tune the level of noise reduction and pitch shift. This is particularly useful if you want to retain some ambient sound or change the shift of your voices.

| CrystalSound - MyVoiceOr                        | nly  |                | - 🗆 X   |
|---|--|----------------|---|
| Settings<br>Profiles<br>Tutorials<br>Test Audio | Settings<br>Volume equalization<br>AI noise reduction level<br>Pitch shift | 2              | Slide this buttons to<br>adjust noise reduction<br>level and pitch shift for<br>your audio file |
| Recording Magic                                 |  |                |   |
| Invite Friends                                  |  |                |   |
| Notifications                                   | Select your recording  | (*.wav, *.mp3, | filac) 🙆 Browse   |
| Report Issue                                    |  |                |   |
| Sign Out  |  |                |   |
| Quit  |  |                |   |
| CrystalSound<br>1.1.3                           |  |                |   |

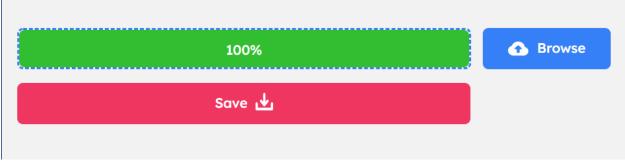
4. Click on the 'Browse' or 'Select your recording' button to upload the audio file you want to enhance. The file should be on your computer with format: \*.wav, \*.mp3, \*.flac.

| <br>   |          |
|--|----------|
| Select your recording (*.wav, *.mp3, *.flac) | 쥼 Browse |
|  |          |

5. After uploading, click 'Enhance' to start the process.Larger files might take a bit longer.



6. After the process is completed, click on the 'Save' button to download the edited audio.



7. Rename and save to your computer.

| File name:     | Test-cs     |      | ~      |
|----------------|-------------|------|--------|
| Save as type:  | Audio Files |      | ~      |
|                |             |      |        |
| ∧ Hide Folders |             | Save | Cancel |

# Using CrystalSound

### Setting up CrystalSound with Zoom

Follow these simple steps to configure CrystalSound for use with Zoom:

 Open CrystalSound and select the physical microphone and speaker you want to use. We recommend using both the microphone and speaker simultaneously to maximize the user experience. Note that the "Not used" indicator will change to "In Use" whenever an application is using them.

| CrystalSound                           | <u>م</u>      |
|--|---------------|
| My Voice Only 🥐                        |               |
| 🔊 Tinh 🗸                               | ON            |
| Manage Profiles                        |               |
| Microphone                             | (In use       |
| Microphone Array (Intel® Sm🚫           | ON            |
| Speaker                                | (In use       |
| Headphones (Realtek(R) Au 🚫            | ON            |
| thitinh.nguyen@namitech.io Man         | age           |
| Don't know how to use? Check out the t | utorial here! |

2. Go to the **Zoom** page and click on **Settings**. From there, select **Audio** and choose your **CrystalSound** devices as your speaker and/or microphone.

| Zoom             | Settings                |  | ×□×              |
|------------------|-------------------------|--|------------------|
| < > (C) Q Search | Upgrade to Zoom One Pro | to get unlimited meetings, productivity apps and more! Upgrade now   |                  |
| UPGRADE OFFER    | 0                       | 3. Choose CrystalSound Mircophone and/or Speakers  | y. ×             |
|                  | General General         | Speaker  |                  |
|                  | Video 2. Select Audio   | Test Speaker Speakers (CrystalSound HD)  | 0                |
|                  | ∩ Audio                 | Output Level:<br>Volume: 4 • 4)  | 1. Open Settings |
|                  | Share Screen            | Use separate audio device to play ringtone simultaneously  |                  |
|                  | 🔁 Team Chat             | Microphone   |                  |
|                  | 🔀 Zoom Apps             | Test Mic CrystalSound HD Microphone (CrystalSound HD)  |                  |
|                  | Background & Effects    | Input Level:<br>Volume:  |                  |
|                  | O Recording             | Automatically adjust microphone volume   |                  |
|                  | Profile                 | Audio Profile  |                  |
|                  | f Statistics            | <ul> <li>Zoom optimized audio (recommended for most users) Background noise suppression Learn more</li> </ul>                |                  |
|                  | Keyboard Shortcuts      | <ul> <li>Auto (automatically adjusts noise suppression)</li> </ul>   |                  |
|                  | Accessibility           | <ul> <li>Low (faint background noises)</li> <li>Medium (computer fan, pen taps)</li> <li>High (background speech)</li> </ul> |                  |
|                  |                         | Original cound for municipars (recommanded for studio equiremente)     Advanced  |                  |

That's it! You're all set to start using your **CrystalSound** devices with **Zoom**.

## Setting up CrystalSound with Line

Follow these simple steps to configure **CrystalSound** for use with **LINE**:

1. Open **CrystalSound** and select the physical microphone and speaker you want to use. We recommend using both the microphone and speaker simultaneously to maximize the user experience. Note that the "Not used" indicator will change to "In Use" whenever an application is using them.

| CrystalSound <sup>®</sup>              | <u>م</u>      |
|--|---------------|
| My Voice Only 🥐                        |               |
| 🔊 Tinh 🗸                               | ON            |
| Manage Profiles                        |               |
| Microphone                             | In use        |
| Microphone Array (Intel® Sm🚫           | ON            |
| Speaker                                | (In use)      |
| Headphones (Realtek(R) Au 🚫            | ON            |
| thitinh.nguyen@namitech.io Man         | age           |
| Don't know how to use? Check out the t | utorial here! |

2. In the **LINE** application, find and select the **Settings** icon and select **Settings**. From there, select **Calls** and choose your **CrystalSound** devices as your speaker and/or microphone.

|            |                                    | Settings           |  | ×     |
|------------|------------------------------------|--------------------|--|-------|
| 2          | Le Search for friends              | Basic              | Call   |       |
| ø          | Create a group                     | Notifications      | Allow incoming calls<br>The same setting will be enabled for your mobile LINE app. |       |
|            |                                    | Chats              | Show notifications for incoming calls  |       |
| <b>2</b> + | Official account reconselect calls | Calls              |  |       |
|            |                                    | Friends            | Speaker Speakers (CrystalSound HD)  4. Choose Crystal                              | Sound |
|            |                                    |                    | Microphone and/  |       |
|            | Mute all notifications             | Кеер               | Speakers   |       |
|            |                                    | Advanced settings  | Microphone CrystalSound HD Microphone (Cry 🔻                                       |       |
|            | Settings 2. Select Settings        |                    |  |       |
| (+)        | Help                               | Keyboard shortcuts | Auto-adjust volume   |       |
| þ          | About LINE                         | About LINE         |  |       |
|            | Log out                            |                    | Camera HD Webcam   |       |
|            | Quit                               |                    |  |       |
| •••        | 1. Open Settings                   |                    |  |       |
|            |                                    |                    | Noise cancellation   |       |

That's it! You're all set to start using your **CrystalSound** devices with **LINE**.

## Setting up CrystalSound with Google Meet

Here are a few simple steps to configure **CrystalSound** for use with **Google Meet**:

1. Open **CrystalSound** and select the physical microphone and speaker you want to use. We recommend using both the microphone and speaker simultaneously to maximize the user experience. Note that the "Not used" indicator will change to "In Use" whenever an application is using them.

| CrystalSound <sup>®</sup>              | <u></u>       |
|--|---------------|
| My Voice Only                          |               |
| 🔊 Tinh 🗸                               | ON            |
| Manage Profiles                        |               |
| Microphone                             | In use        |
| U Microphone Array (Intel® Sm          | ON            |
| Speaker                                | (In use       |
| Headphones (Realtek(R) Au 🚫            | ON            |
| thitinh.nguyen@namitech.io Man         | age           |
| Don't know how to use? Check out the t | utorial here! |

2. Go to the **Google Meet** page and click on **Settings**. From there, select **Audio** and choose your **CrystalSound devices** as your speaker and/or microphone.

| ← → C ( â meet.google.com   |                                 |                            |                     | ■ ╚ 🖻 🖈          |
|---|---------------------------------|----------------------------|---------------------|------------------|
| Google Meet   |                                 |                            | 18:45 • Wed, 19 Apr | 0 🗉 🔅            |
|   | Settings                        |                            | ×                   | 1. Open Settings |
| 2. Select Audio   | Audio 3. Choose<br>CrystalSo    | ind                        | Ŷ 🕕                 |                  |
| Secure video c  | General General General General |                            |                     |                  |
| for everyone<br>Connect, collaborate and celebrate<br>Google Meet<br>P New meeting<br>4. Enjoy your meeting<br>Learn more about Google Meet |                                 | Speakers (CrystalSound HD) | c) Test             |                  |

Note that some browsers, such as Safari, may not allow you to switch your speaker. However, others, such as Google Chrome, will allow you to make the change.

That's it! You're all set to start using your **CrystalSound** devices with **Google Meet**.

## Setting up CrystalSound with Teams

Follow these simple steps to configure **CrystalSound** for use with **Teams**:

1. Open **CrystalSound** and select the physical microphone and speaker you want to use. We recommend using both the microphone and speaker simultaneously to enhance the user experience. Note that the "Not used" indicator will change to "In Use" whenever an application is using them.

| CrystalSound <sup>®</sup>              | <u>م</u>      |
|--|---------------|
| My Voice Only 🥐                        |               |
| 🔊 Tinh 🗸                               | ON            |
| Manage Profiles                        |               |
| Microphone                             | In use        |
| Microphone Array (Intel® Sm🚫           | ON            |
| Speaker                                | (In use)      |
| Headphones (Realtek(R) Au 🚫            | ON            |
| thitinh.nguyen@namitech.io Man         | age           |
| Don't know how to use? Check out the t | utorial here! |

2. In **Teams**, go to the meeting window and click on the **Settings** icon. From there, select **Audio** and choose your **CrystalSound device(s)** as your speaker and/or microphone.

|   |  |   | Device settings   | ×          |
|---|--|---|---|------------|
| Choose your audio and video<br>Meeting with | o settings for                                   |   | Audio Settings<br>Audio devices<br>PC Mic and Speakers<br>Speaker<br>Speakers (CrystalSound HD) |            |
|   | Gomputer audio                                   | CrystalSound<br>Microphone<br>⊘ and/or Speakers | Microphone<br>CrystalSound HD Microphone (Cr  |            |
| <b>X</b><br>Your camera is turned off       | PC Mic and Speakers                              | •   | Noise suppression ①<br>Choose Low if you want others to hear music<br>more                      |            |
|   | <ul><li>Phone audio</li><li>Room audio</li></ul> |   | Auto (default)<br>Video Settings  |            |
| 🖎 🔘 🖄 Video effects                         | 💭 🛛 Don't use audio                              |   | Camera  |            |
|   |  | 3. Enjoy your meeting                           | HD Webcam   |            |
|   | Cancel   | Join now  | Mirror my video 🕕   |            |
|   |  |   | Adjust brightness ①   | $\bigcirc$ |
|   |  |   | Soft focus ①  | $\bigcirc$ |

That's it! You're all set to start using your CrystalSound devices with Microsoft Teams.

## Setting up CrystalSound with Discord

To configure **CrystalSound** for use with **Discord**, follow these simple steps:

1. Open **CrystalSound** and select the physical microphone and speaker you want to use. We recommend using both the microphone and speaker at the same time to enhance the user experience. Note that the "Not used" indicator will change to "In Use" whenever an application is using them.

| CrystalSound <sup>®</sup>              | <u>م</u>      |
|--|---------------|
| My Voice Only 🥐                        |               |
| 🔊 Tinh 🗸                               | ON            |
| Manage Profiles                        |               |
| Microphone                             | In use        |
| Microphone Array (Intel® Sm🚫           | ON            |
| Speaker                                | (In use)      |
| Headphones (Realtek(R) Au 🚫            | ON            |
| thitinh.nguyen@namitech.io Man         | age           |
| Don't know how to use? Check out the t | utorial here! |

2. In the **Discord** application, find and select **Settings** icon. In the **setting window**, scroll down and select **Voice & Video**. From there, choose your **CrystalSound** devices as your speaker and/or microphone.

| Discord |                              |                     |   |                                      | _          |
|---------|------------------------------|---------------------|---|--------------------------------------|------------|
|         |                              | Friena Requests     |   |                                      |            |
|         | Find or start a conversation | PAYMENT SETTINGS    |   |                                      |            |
|         | Find of start a conversation | Nitro 💿 NEW         | Voice Settings Microphone and/or Sp                               |                                      | $(\times)$ |
| Н       | 🕒 Friends                    | Server Boost        | INPUT DEVICE  | OUTPUT DEVICE                        | ESC        |
| As      | - Nitro                      | Subscriptions       | CrystalSound HD Microphone (CrystalS 🗸 🗸                          | Speakers (CrystalSound HD) 🛛 🗸 🗸     |            |
| +       | DIRECT MESSAGES +            | Gift Inventory BETA |   | OUTPUT VOLUME                        |            |
|         |                              | Billing             |   |                                      |            |
|         |                              | APP SETTINGS        | MIC TEST  |                                      |            |
|         |                              |                     | Having mic issues? Start a test and say something fun -           | - we'll play your voice back to you. |            |
|         |                              | Appearance          |   |                                      |            |
|         |                              | Accessibility       | Let's Check   |                                      |            |
|         |                              | Voice & Video       |   |                                      |            |
|         |                              | Text & Images       |   |                                      |            |
|         |                              | Notifications       | SOUNDBOARD<br>Control how loud sounds are for you personally. For | SOUNDBOARD VOLUME                    |            |
|         |                              | Keybinds            |   |                                      |            |
|         |                              | Language            |   |                                      |            |
|         |                              | Windows Settings    | INPUT MODE  |                                      |            |
|         |                              | Streamer Mode       | O Voice Activity  |                                      |            |
|         |                              | Advanced            |   |                                      |            |
|         |                              | ACTIVITY SETTINGS   | O Push-to-talk  |                                      |            |
|         | 🗛 Tinh 🕴 🎧 🇭                 | Activity Privacy    |   |                                      |            |

That's it! You're all set to start using your **CrystalSound** devices with **Discord**.

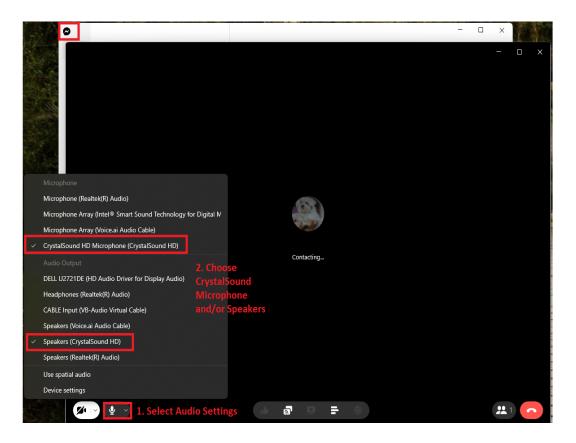
## Setting up CrystalSound with Facebook Messenger

To configure **CrystalSound** for use with **Facebook Messenger**, follow these simple steps:

1. Open **CrystalSound** and select the physical microphone and speaker you want to use. We recommend using both the microphone and speaker at the same time to enhance the user experience. Note that the "Not used" indicator will change to "In Use" whenever an application is using them.

| CrystalSound                         | Q 4            |
|--------------------------------------|----------------|
| My Voice Only 🥜                      |                |
| 🔊 Tinh 🗸                             | ON             |
| Manage Profiles                      |                |
| Microphone                           | (In use        |
| Microphone Array (Intel® Sm🚫         | ON             |
| Speaker                              | (In use)       |
| Headphones (Realtek(R) Au 🚫          | ON             |
| thitinh.nguyen@namitech.io Man       | age            |
| Don't know how to use? Check out the | tutorial here! |

 In the Messenger application, select the friend you want to call and click on the call button. In the calling window, find and select Device Settings. From there, choose your CrystalSound devices as your speaker and/or microphone.



That's it! You're all set to start using your CrystalSound devices with Facebook Messenger.

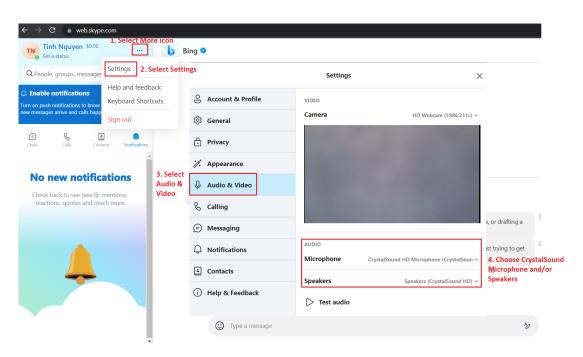
## Setting up CrystalSound with Skype

To configure **CrystalSound** for use with **Skype**, follow these simple steps:

1. Open **CrystalSound** and select the physical microphone and speaker you want to use. We recommend using both the microphone and speaker at the same time to enhance the user experience. Note that the "Not used" indicator will change to "In Use" whenever an application is using them.

| CrystalSound                           | <u>م</u>      |
|--|---------------|
| My Voice Only ?                        |               |
| 🔊 Tinh 🗸                               | ON            |
| Manage Profiles                        |               |
| Microphone                             | In use        |
| Microphone Array (Intel® Sm🚫           | ON            |
| Speaker                                | (In use)      |
| Headphones (Realtek(R) Au 🚫            | ON            |
| thitinh.nguyen@namitech.io Man         | age           |
| Don't know how to use? Check out the t | utorial here! |

2. In the **Skype** application, find and select **More** icon and select **Settings**. From there, select **Audio & Video** and choose your **CrystalSound** devices as your speaker and/or microphone.



That's it! You're all set to start using your CrystalSound devices with Skype.

## Setting up CrystalSound with Amazon Connect

#### Change your audio settings to use CrystalSound devices

1. In **CCP**, choose **Settings**. The **Settings** dialog box appears, similar to the following image.

| 🖗 Offline 🗸 🗸                           | + 🗘 |
|---|-----|
| Settings                                | x   |
| Audio Devices                           |     |
| Speaker                                 |     |
| Default - Speakers (Realtek(R) Audio) 🥆 | /   |
| Microphone                              |     |
| Default - Microphone (Realtek(R) Audio) | ~   |
| Ringer                                  |     |
| Default - Speakers (Realtek(R) Audio) 🥆 | /   |
|   |     |
| Phone type                              |     |
| Softphone                               |     |
| O Desk phone                            |     |
|   | -   |

2. Open **CrystalSound**, make sure you are logged in, select the physical audio devices in **CrystalSound Main Screen** which **CrystalSound** will apply to. The microphone and speaker name in **CrystalSound Main Screen** should match with microphone and speaker settings in Step 1.

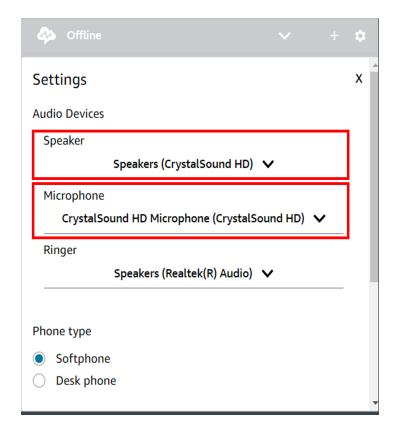
| CrystalSound                         | <u></u>        |
|--------------------------------------|----------------|
| My Voice Only                        |                |
| 🔊 vu 🗸                               | ON             |
| Manage Profiles                      |                |
| Microphone                           | (In use        |
| Microphone (Realtek(R) Audi 🗸        | ON             |
| Speaker                              | In use         |
| Speakers (Realtek(R) Audio) 🗸        | ON             |
| longvu.nguyen@namitech.io Mar        | nage           |
| Don't know how to use? Check out the | tutorial here! |

3. Now, in your CCP Settings, under Audio Devices, use the dropdown to select CrystalSound Microphone and CrystalSound Speaker as your Microphone and Speaker, respectively.

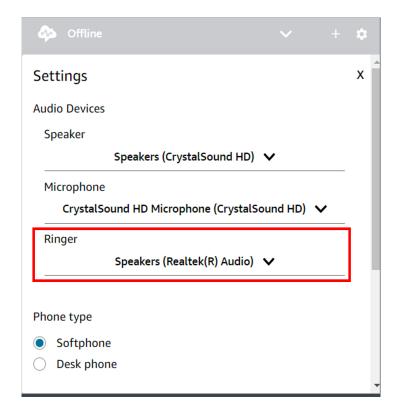
| 4            | Dffline   | ~        | ۵   |
|--------------|---|----------|-----|
| Se           | ttings  |          | X   |
| Aud          | dio Devices   |          |     |
| S            | peaker  |          | - 1 |
|              | Default - Speakers (Realtek(R) Audio  | ) 🗸      | - 1 |
| M            | 1icrophone  |          |     |
|              | Default - Microphone (Realtek(R) Aud  | io) 🔨    | - 1 |
|              | •   |          |     |
| Ī            | Default - Microphone (Realtek(R) Audio)   |          |     |
| I            | Default - Microphone (Realtek(R) Audio)<br>Communications - Microphone (Realtek(R |          |     |
| Pľ           |   |          |     |
| Pr<br>©<br>C | Communications - Microphone (Realtek(R  | ) Audio) |     |

| 4          | Offline                                 | ~     | ٠ |
|------------|---|-------|---|
| Set        | ttings                                  |       | X |
| Aud        | lio Devices                             |       |   |
| S          | peaker                                  |       |   |
|            | Default - Speakers (Realtek(R) Audio    | ) ^   |   |
|            | Default - Speakers (Realtek(R) Audio)   |       |   |
|            | Communications - Speakers (CrystalSound | d HD) |   |
|            | Speakers (CrystalSound HD)              |       |   |
| Pł         | Speakers (Realtek(R) Audio)             |       |   |
| $\bigcirc$ | Softphone                               |       |   |
| $\bigcirc$ | Desk phone                              |       |   |
|            |   |       |   |
| Lan        | guage                                   |       |   |

The **Settings** should appear as the following.



NOTE: please do not select **CrystalSound Speaker** in the Ringer setting because your ringtone and notifications will be suppressed.



### **Recording with CrystalSound**

In addition to eliminating environmental noise during calls and online meetings, the CrystalSound Noise Reduction feature is also useful for reducing noise in recordings. To use this feature:

- 1. Activate the CrystalSound Noise Reduction feature.
- 2. Open any recording app on your desktop.
- 3. In the audio settings of the recording app, select CrystalSound as your preferred microphone.

# Troubleshooting and FAQ

### **Troubleshooting**

#### 1. Can't login

- a. Check spam folder of your email
- b. Login via Google if your email is hosted by Google Workspace
- c. Login via Microsoft if your email is hosted by Microsoft Outlook

#### 2. Other people can't hear you

- a. Verify that you are not muted
- b. Check if you are currently selected CrystalSound Microphone in your call application
- c. Check if the correct physical microphone is selected in CrystalSound Main Screen.
- d. Verify that the physical microphone selected in CrystalSound Main Screen is not muted
- e. Verify that CrystalSound is allowed to access microphone

#### 3. No incoming sound to CrystalSound Speaker

- a. Check if you are currently selected CrystalSound Speaker in your call application
- b. Check if the correct physical speaker is selected in CrystalSound Main Screen.
- c. Verify that the physical speaker selected in CrystalSound Main App Screen is not muted

#### 4. CrystalSound Speaker is not loud enough even though its volume is 100%

a. Increase volume of the physical speaker that CrystalSound is using. This is a known issue, we will tie CrystalSound volume to the volume of the physical speaker in a future version.

#### 5. CrystalSound Microphone and/or Speaker are not available

a. In certain cases that are uncontrollable by us, the OS will unload the driver of our virtual microphone and speaker. Simply restart CrystalSound will fix the problem in most cases. If restarting CrystalSound wouldn't fix this problem, please reinstall the application or contact us at <u>crystalsoundsupport@namitech.io</u>

#### 6. Choppy or delayed audio

a. Real-time AI-based audio processing can be computationally intensive. If your laptop has low battery or your PC does not meet our minimum requirements, CrystalSound may not be able to process your audio fast enough, and thus, result in choppy audio. Try to plug-in your laptop and close other computationally intensive applications. Turning off premium settings of CrystalSound will also help.

#### 7. Distorted audio

- a. When there is too much noise, it may be impossible to restore your speech clearly. In that case, consider finding a quieter environment or turn off CrystalSound.
- b. If incoming audio is a bit distorted, you can reduce the denoise level in CrystalSound's settings to reduce distortion.

- 8. Echo
  - a. To remove echo, both CrystalSound Microphone and Speaker must be used together in your voice application.
  - b. Try to reduce volume of the physical speaker selected in CrystalSound Main App Screen
  - c. Move external physical speaker further away from your microphone to reduce the feedback loop

#### 9. Can't remove certain noises

- a. When noise is extremely loud, it is also not possible to remove the noise completely.
- b. Loud and impulse noises are challenging to remove because the noise impulses are too short for CrystalSound to completely suppress.
- c. CrystalSound employed deep learning to suppress unlimited types of noise but it is not perfect. We keep improving every day based on your feedback. We appreciate it if you use the "report issues" form in CrystalSound settings to send us feedback.

#### 10. Can't remove certain voices

a. Voice isolation is not easy even for us humans. There are more people with similar voices than people with similar faces. Our voices also change gradually over time. Therefore, doing MyVoiceOnly in real-time with low CPU usage is a technical challenge that still has a ton of room for improvement. Our team is working everyday to improve this technology.

#### 11. Update notification didn't show up

a. In most cases, when a new version becomes available, you will either receive a pop-up notification prompting you to update or notice a yellow bar at the bottom of the application, reminding you to update. If you do not see either of these prompts, please try quitting the application and reopening it.



# **Errors and Warnings**

1. Error: Email is not valid:

| Sign in<br>Welcome back!                   |
|--|
| Email address                              |
| teststg.abc                                |
| Login                                      |
| Email is not valid!                        |
| Or continue with                           |
| <b>G</b> Sign in with Google               |
| Sign in with Microsoft                     |
| Don't have a CrystalSound account? Sign up |

*Cause*: The email address you use to register CrystalSound is a spam address or not existing.

Solution:

- Verify your email address is correct
- Use a different email address

2. Error: The action code is invalid:

|          | Sign in       |
|----------|---------------|
|          | Welcome back! |
|          |               |
| mail add | Iress         |
|          |               |
|          |               |
|          | Login         |

*Cause*: The login link you got from your email has been used for login or it has been expired.

Solution:

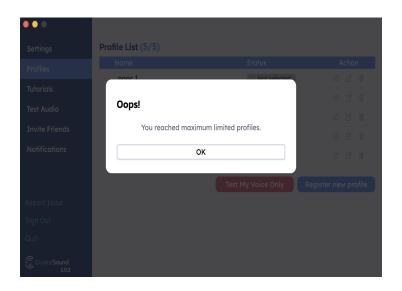
• Try again to get a new login link

3. Error: Microphone or speaker not found:

| CrystalSound                           | <u>۾</u>       |
|--|----------------|
| My Voice Only 🍘                        |                |
| 🔊 None 🗸                               | OFF            |
| Register Voice ID                      |                |
| Microphone                             |                |
| No device found                        | ON             |
| Please connect a device.               |                |
| Speaker                                |                |
| 1 - DELL S2319H (AMD High 🗸            | ON             |
| thingoc.le@namitech.io Mar             | nage           |
| Don't know how to use? Check out the t | tutorial here! |

*Cause*: CrystalSound can't find any microphone or speaker available on your PC *Solution*:

- Check if audio device is disabled in OS's audio settings and re-enable it
- Check whether you allow CrystaSound to use Microphone in OS's privacy settings
- Check whether your headset is connected to the PC
- 4. Error: You reached the number of maximum profiles during voice registration



Cause: CrystalSound allows up to 5 voice profiles.

#### Solution:

• Delete an existing profile and register again

| CrystalSound - MyVoiceC |   |
|-------------------------|---|
|                         | < Back  |
| Settings                | Register Your Voice ID  |
| Profiles                |   |
| Tutorials               |   |
| Test Audio              | ₹ <u>₹</u>  |
| Invite Friends          |   |
| Notifications           | Your speech is too short to register. Please speak for a longer duration.           |
|                         | I confirm using this voice to register the "MyVoiceOnly" feature.                   |
|                         | Speaking this sentence will help the AI to detect my voice easier in<br>the future. |
| Sign Out                |   |
|                         |   |
| CrystalSound<br>1.0.2   | Retry   |

#### 5. Error: Your speech is too short during voice registration

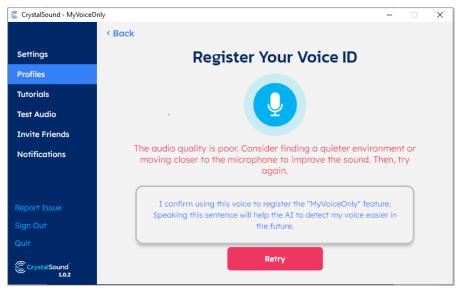
*Cause*: During voice registration, we were unable to hear your voice for a sufficient amount of time because:

- you spoke too little or
- you repeated the same word over and over again or
- there was too much noise in your background which prevented us from hearing you clearly.

#### Solution:

- Find a quieter environment, it does not need to be completely quiet but the lesser noise the better.
- Speak a long sentence for at least 5 seconds and do not say one word over and over. You may follow the prompt text for ease of voice registration but any sentence in any language is acceptable.

### 6. Error: Audio quality is poor



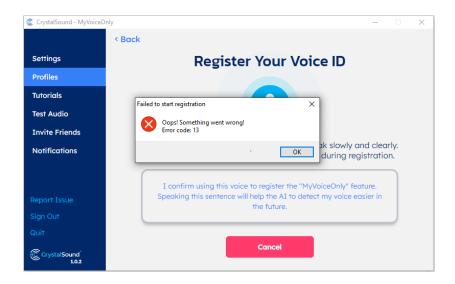
*Cause*: CrystalSound can learn your voice signature even if there is background noise. However, we will not be able to reliably identify your voice when:

- you unplugged your microphone or headset during voice registration
- background noise is too loud or
- you are too far from the microphone or
- your microphone has poor quality or
- there are other voices during registration.

Solution:

- Do not plug or unplug your microphone during voice registration
- If your environment is too noisy, find a quiet place for voice registration
- Make sure there is no other voice during registration
- Move closer to your microphone
- Try to record your physical microphone with an application such as Audacity to verify whether your microphone has a sound problem. If your microphone indeed has a sound problem, we may not be able to help.

7. Error: Failed to start registration process



*Cause*: CrystalSound background service is busy because you pressed the Start registration button multiple times.

Solution:

• Cancel registration and try again

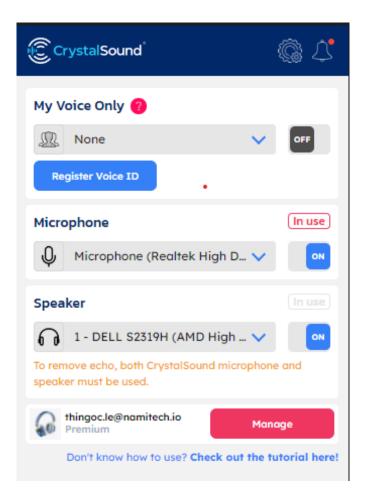
8. Error: CrystalSound is not installed correctly

| CrystalSound 🔞 🗘   |
|--|
| My Voice Only ?  |
| 🔊 profile ngoc 🗸 OFF   |
| Manage Profiles  |
| Microphone In use  |
| Microphone (Realtek(R) Audi 🗸 🛛 🔊                                  |
| CrystalSound is not installed correctly, please reinstall the app. |
| Speaker In use   |
| Headphones (Realtek(R) Au 🗸 💿                                      |
| CrystalSound is not installed correctly, please reinstall the app. |
| thingoc.le@namitech.io Manage                                      |
| There's a new update available. Click here to update.              |

*Cause*: CrystalSound cannot find its virtual audio drivers. It may happen when your administrator blocked certain OS's functions that CrystalSound relied on *Solution*:

• Try to reinstall CrystalSound

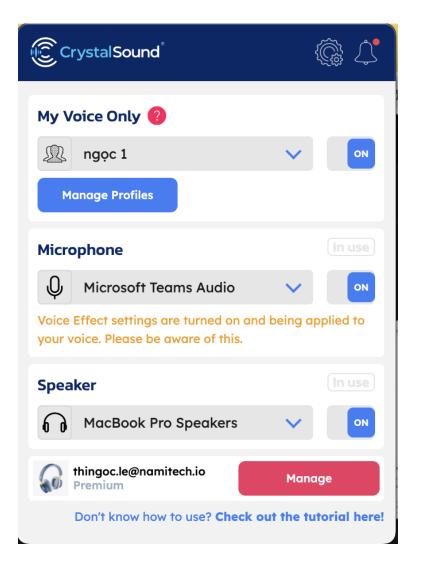
### 9. Warning: Echo



*Cause*: To remove echo, CrystalSound needs to know what audio is playing back. However, CrystalSound speaker is not in use by your VoIP application *Solution*:

• Go to settings of your call application and make sure both CrystalSound and Speaker are selected

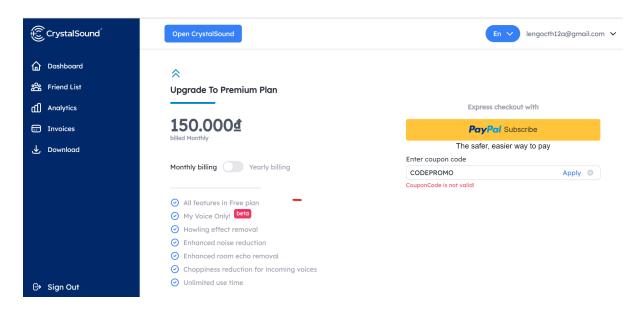
### 10. Warning: Voice Effects



*Cause*: CrystalSound currently includes three voice effects: Pitchshift, Reverb, and Robotic. While Pitchshift can make your voice manlier or more womanly, excessive value may make you sound unprofessional. Similarly, reverb and robotic effects can make your voice interesting and funny but they are not suitable for strictly professional settings. *Solution*:

- Go to settings of CrystalSound and make sure pitch shift value is 0
- Go to settings of CrystalSound and uncheck reverb and robotic effect.

### 11. Error: Promo code is invalid



*Cause*: Your promo code or coupon is incorrect *Solution*:

- Verify the promo code
- Make sure your promo code is not expired yet

| CrystalSound  | Open Crystal:  | crystalsound.ai says<br>cancelled this subscription! |               |          | En V teststg@yopmail.com V  |
|---|--|--|---------------|----------|---|
| Dashboard         ☆       Friend List         ①       Analytics         □       Invoices         ↓       Download | Premium<br>PRICE<br>Billing period<br>Subscribe annually | PRICE 100,000 / month<br>Billing period Monthly      |               | emoval   | <ul> <li>My Voice Only! beto</li> <li>Enhanced noise reduction</li> <li>Choppiness reduction for<br/>incoming voices</li> </ul> |
|   | This week<br>0 min                                       | Last wee<br>0 min                                    | k Th<br>O min | is month | Last month<br>0 min   |
|   | Usage detail by de                                       | Usage detail by days                                 |               |          | DATE  |
| ⊖ Sign Out  |  |  |               |          |   |

#### 12. Error: You have canceled

*Cause*: You have canceled your subscription but you have already been billed for several days or months

Solution:

• Wait until your billing cycle ends to subscribe again.

# 13. Error: Can't identify your voice.

| CrystalSound - MyVoiceO | nly – 🗆 X  |
|-------------------------|--|
|                         | < Back   |
| Settings                | Register Your Voice ID   |
| Profiles                |  |
| Tutorials               |  |
| Test Audio              |  |
| Recording Magic         |  |
| Invite Friends          | CrystalSound cannot identify your voice. It looks like there are other<br>speakers in the background or your environment is too noisy. |
| Notifications           |  |
|                         | I confirm using this voice to register the "MyVoiceOnly" feature.  |
| Report Issue            | Speaking this sentence will help the AI to detect my voice easier in the future.   |
| Sign Out                |  |
| Quit                    |  |
| CrystalSound<br>1.1.3   | Retry  |

*Cause*: Many people have said simultaneously or you're in too noisy environment when registering for VoiceID.

*Solution*: Try to register your voiceID in a less noisy environment or when there's no other speakers in the background.

# 14. Recording error

| CrystalSound - MyVoiceOr | nly – 🗆 🗙  |
|--------------------------|--|
|                          |  |
| Settings                 | Settings   |
| Profiles                 | Volume equalization  |
| Tutorials                | AI noise reduction level   |
| Test Audio               | Pitch shift C  |
| Recording Magic          |  |
| Invite Friends           |  |
| Notifications            | Select your recording (*.wav, *.mp3, *.flac)   |
| Report Issue             | • File duration must be shorter than 30 minutes in the Free plan. Upgrading to premium will remove this limit. |
| Sign Out                 |  |
| Quit                     |  |
| CrystalSound<br>1.1.3    |  |

*Cause*: It happens when you upload a recording longer than 30 minutes in a free/trial role. With the Free/Trial plan, the maximum recording length is 30 minutes. With a premium plan, there's no limit.

Solution: Upgrade to premium plan or cut the recording short by up to 30 minutes.

# 15. Error: File not supported

| CrystalSound - MyVoiceOr | nly — — X                                       |
|--------------------------|---|
|                          |   |
| Settings                 | Settings  |
| Profiles                 | Volume equalization                             |
| Tutorials                | AI noise reduction level                        |
| Test Audio               | Pitch shift C                                   |
| Recording Magic          |   |
| Invite Friends           |   |
| Notifications            | Select your recording (*.wav, *.mp3, *.flac)    |
| Report Issue             | This file extension has not been supported yet! |
| Sign Out                 |   |
| Quit                     |   |
| CrystalSound<br>1.1.3    |   |

*Cause*: Uploading files in the wrong supported format. You can only upload files with extensions: \*.wav, \*.mp3, \*.flac

Solution: Uploading file with the supported extensions.

### 16. Audio issue with My Voice Only

When using the CrystalSound MVO app and experiencing audio issues, such as distortion, crackling, or no sound, even when the microphone is turned on or off,

*Solution*: Go to Sound Settings, then navigate to the Recording tab. Select "Built-in Microphone" and uncheck the "Enable Audio Enhancements" option.

|              | Recording  |                        |              | tions<br>/ its settings:      |                   |  |
|--------------|--|------------------------|--------------|-------------------------------|-------------------|--|
| J            | CrystalSo<br>CrystalSo<br>Ready                        |                        | /licrophone  |                               |                   |  |
| 9            |  | one Array<br>nart Soun | d Technolog  | ıy for Digital Mi             | crop              |  |
| K            | Krisp Mie<br>Krisp Aue<br>Not plug                     |                        |              |                               |                   |  |
|              | Micropho<br>Realtek(F<br>Not plug                      |                        |              |                               |                   |  |
| 🍤 Micr       | ophone Ai  | rray Prop              | erties       |                               |                   |  |
| General      | Listen Le  | vels Adv               | anced        |                               |                   |  |
| Sele<br>shar | ult Format<br>ct the samp<br>red mode.<br>hannel, 16 b |                        | -            | to be used whe                | n running in<br>~ |  |
| <b>~</b> /   | sive Mode<br>Allow applica<br>Sive exclusiv            |                        |              | e control of this<br>priority | device            |  |
|              | ll Enhancem<br>ws extra sig                            |                        | ssing by the | audio device                  |                   |  |
| <b></b>      | nable audio  | enhancer               | ments        |                               |                   |  |
|              |  |                        |              |                               |                   |  |