





USER MANUAL

v1.9.2

Please read this manual carefully before using the software.

Using headphones requires responsible listening!

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Quick Start Guide

Install and authorize your new plugin:

Double-click the .mpkg (Mac) or .exe (Win) file

Follow the installation instructions.

Open the plugin in your DAW of choice, enter your license code and click on
ACTIVATE.

For more information, please visit: www.dearreality.com

System requirements and supported platforms

Supported sample rates: 44.1, 48, 88.2, 96, 176.4 and 192 kHz.

Supported buffer sizes: 128, 256, 512 and 1024

For latest System requirements & Supported Platforms, please check the product page on
our website.



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1 Introduction

Thank you for purchasing our dearVR MIX plugin, and welcome to your personal reference-grade mix room.

Relying on Dear Reality's outstanding binaural headphone technology, dearVR MIX combines the analytic advantages of headphone listening, such as high detail resolution, and good spatial representation, with the perception of mixing in a perfectly matched control room.

Place yourself in the sweet spot of your ultimate mixing environment. dearVR MIX turns your professional studio headphones into a world class stereo mix room with carefully designed acoustics, all through advanced spatial audio technology. Gain confidence and create better mixes by easily monitoring your session across multiple adjustable reference rooms and other common environments, such as a car. The new Spatial Headphone Compensation technology allows you to mix with unmatched accuracy by adapting the virtual mixing environment to your beloved headphones.

Have fun!



2 Virtual Mix Room

It is no secret, creating a great mix is so much easier within a perfect control room. We have probably all experienced the feeling when a final mix does not translate as expected to other systems. With dearVR MIX you now access your own virtual mix room over headphones.

While developing dearVR MIX, the aim was to create a reference-grade "virtual mix room" for all sorts of audio productions and genres. For a long time, the audio industry has been defining the characteristics of control rooms, even though „the perfect“ mix room de-facto does not exist. Everyone has a slightly differently view, and that's fine.

However, there are certain characteristics that define a reference mix room:

- a certain reverb time
- a defined spatial geometry
- no reflections that color the sound
- a very diffuse reverb tail

When modeling a virtual mix room, you could measure the parameters of "legendary" mix rooms and transfer them to a software plugin afterwards. But what real benefit would you have working in this captured studio control room? You probably never worked in one and probably never will... and even if you did... maybe you don't like the mix room's acoustic characteristics?

That's why we took a different approach for dearVR MIX. If THE perfect mix room doesn't exist, but we know the characteristics of a good reference room, why don't we leave it up to you to customize YOUR perfect mix room?

We believe that a good sounding control room is a very subjective thing and should therefore be flexible within certain limits. It becomes a perfect control room for you when



you feel comfortable with the room's characteristics and perception and feel "at home" in it or in other words, when the room seems plausible to you.

The adjustable parameters include the main properties that influence the sound image in a real room, and which are neglected in conventional stereo headphone playback:

- the size of the room
- the distance between the loudspeaker and the listener
- the characteristics of the control room

We deliberately programmed all parameters into just two sliders - Ambience and Focus, which are easy to understand and can be adjusted within a range of 0 to 100 for AMBIENCE and a range of -100 to 100 for FOCUS.

With dearVR MIX you benefit from steady listening conditions, even outside your studio, for recording and monitoring sessions. This allows you to take advantage of all benefits of a real reference listening room, where a sound engineer can easily assess the quality of an existing recording. The more often you work in this particular room, the easier it is for you to judge how the recording would sound in a different environment.

DearVR MIX also puts you just a few clicks away from listening to your recording in a different environment, so you can be sure that your "living room" mix will still sound great in a small car!

Our aim is to ensure that you do what you do best when setting up your personal control room: Trust your ears!

Simply experiment with the room parameters of your virtual control room. As soon as you feel that your setup sounds realistic and pleasant, you've done it! You have created your own personal reference control room that you can now take with you wherever you go.



3 dearVR MIX

Being inserted in the master bus of your DAW, dearVR MIX enables you to monitor your mix in a reference grade mixing room on any regular headphones. The plugin is divided into two main areas. On top, you find a comprehensive visualization of your virtual mix room. The control panel below contains three sections providing you with direct access to all important parameters:

1. Input
2. Control room
3. Output



Illustration 3.1 - Plugin Overview



3.1 Activation

Before you can use the plugin, you need to activate it with our license server. Upon opening the plugin, you will see the plugin asking for a license key. There are three license types we offer:

- Trial license
- NFR license
- Full license

The trial license and NFR license are only valid for a certain duration. For the trial the duration is 14 days, for the NFR up to 12 months. The full license is perpetual. If you want to activate the trial license, you can simply click Trial in the activation dialogue. For an NFR or full license activation, please enter your license code and click on ACTIVATE.

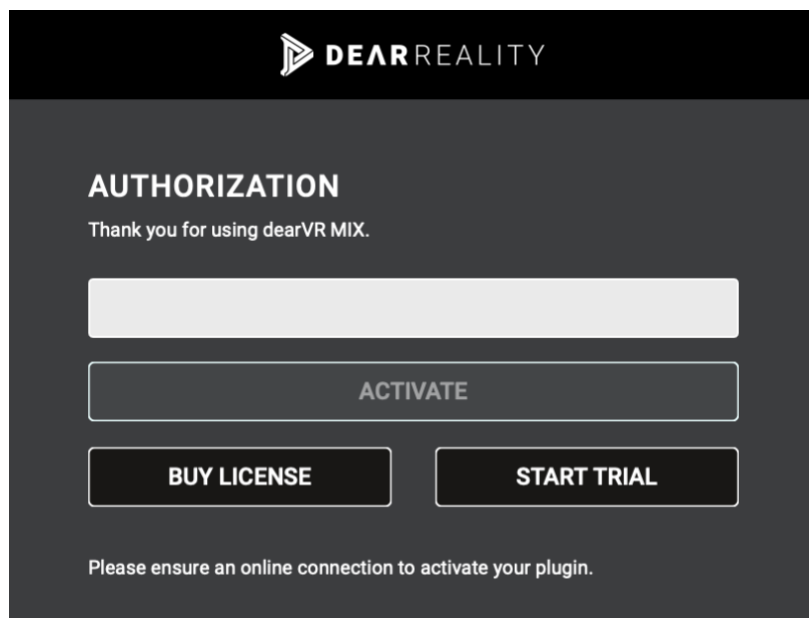


Illustration 3.2 - Activation menu



3.2 Input

DearVR MIX lets you choose between 4 speaker setups – two mono setups and two stereo setups. Simply select in the input module the speaker setup that fits your recording. The Stereo option corresponds to the standard speaker setup, in which the listener and the speakers form an equilateral triangle. You can also choose a wider angle of 45° azimuth for a larger stereo width. The Mono Input takes the first channel as the input, while Mono Summed is taking both input channels and adds them together.



Illustration 3.3 - Input Section

3.3 Control Room

Using Dear Reality's outstanding virtual acoustics headphone technology, dearVR MIX combines the analytic advantages of headphone listening with the perception of mixing in a perfectly matched mix room. DearVR MIX comes with three mix room characteristics which can be selected in the SCENE menu.

Type	Description
Mix Room A	Our perfectly tuned Mix Room A: No flutter echoes or discrete reflections, well-absorbed short room response.
Mix Room B	Our perfectly tuned Mix Room B: No flutter echoes or discrete reflections, well-absorbed short room response, slightly broader than Mix Room A.
Analytic Position	Direct sound of headphones with the realistic crosstalk of speakers and early reflections.



DearVR MIX lets you easily adapt the virtual mix rooms to your taste using the AMBIENCE and the FOCUS sliders. Use the AMBIENCE slider to set the amount of diffusion, and therefore the vividness of the virtual mix room. With FOCUS you select the right balance between overall coloration and localization, based on the patented Clarity algorithm by Sennheiser AMBEO.



Illustration 3.4 - AMBIENCE and FOCUS Parameter

Recommendation – Focus setting with SHC

Focus and HPC both support the binaural impression. When SHC is turned on, we recommend a Focus setting between +30 and +100.

Negative Focus values reduce the binaural filters. Therefore, in combination with SHC, negative Focus values (i.e., between 0 and -100) lead to overcompensation issues and are not recommended.



Moreover, dearVR MIX provides you with 6 common listening environments. Does your mix pass the car test? Stop spending hours double-checking how your mix translates into common listening scenarios. Simply select the desired scenario in the SCENES menu.



Illustration 3.5 - Overview Check Scenes

DearVR MIX puts you just a few clicks away from monitoring your production in the following acoustic environments:

Type	Description
Car	How is your mix in a middle-class car with a regular sound system?
Club	Compact, acoustically well-treated, reflective club.
Home Theater	Experience your mix in a small acoustically treated home theater with lots of low-end.
Kitchen	The final check in a kitchen with a tonal low midrange reverberation.
Living Room	Stop sacrificing your living room and listen to your mix in a living room with a tonal low-midrange reverberation.
Stadium	Ready for Superbowl? Stadium with discrete early reflections and longer low-end reverberation



3.4 Output module

Head rotation is a crucial factor when it comes to localizing sounds in the three-dimensional space. Therefore, dearVR MIX provides you with the possibility to simulate rotating your head in the virtual mix room to judge your mix precisely and accurately. Also, you can use the headtracking information sent out from dearVR SPATIAL CONNECT, if you have it connected to your session.

Control the overall output volume of the dearVR MIX using the master gain. Because of the plugin structure, the different speaker setups use different gain compensation values to ensure distortion free summation. Note, that you should pay attention to your levels, so no clipping is introduced in your plugin chain!



Illustration 3.6 - Output Module



3.5 Spatial Headphone Compensation

Binaural audio works best with a linear frequency response. Since there is no ideal headphone with a perfectly linear frequency response, we have built a tool to compensate the deviations of common headphone models. The Spatial Headphone Compensation (SHC) module equalizes the signal in correspondence to your headphone model to cancel out any non-linearities and thereby enhances the binaural experience.

You can activate the headphone compensation by clicking the on/off button on top of the output module. Click on the icon to open the context menu. From the drop-down menu you can choose between 44 different headphone models.

You can adjust the Low- and the High-end to your personal taste with the Shelving-Filters. Use the Gain-Trim to adjust the input level. Since some of the applied SHC curves strongly boost certain frequencies, the default value is -6dB. Be careful to avoid clipping when changing it.

You can choose between two filter type modes for our SHC model data, by clicking on “Lin” for linear-phase (more delay, no phase shift) or “min” for minimum-phase (low latency but phase shifting introduced).

You can find a list of all supported headphone models in Section 4 of this manual.



Illustration 3.7 - HPC module



3.6 Bypass

Comparison is key for a good mix. Of course, you want to check your mix also without our idealized mix rooms, just like the end user will listen to it. But a simple bypass of the plugin will also introduce level differences. This is, why we implemented a bypass feature into dearVR MONITOR. It bypasses all plugin processing so you can listen to the original mono or stereo file again. For any level differences you might experience, you can click on the Bypass field to open a small window, where you can adjust a gain to match the level. This feature works only in mono and stereo since any multichannel format needs binauralization to be played over headphones.

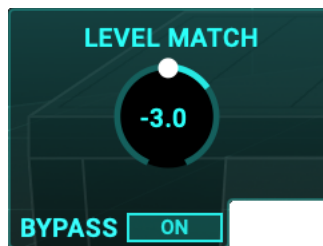


Illustration 3.8 – Bypass module

3.7 Performance

DearVR MIX drains a lot of performance, especially when using scenes with a long reverb. Therefore, if you encounter any performance issues, we recommend trying a lower sample rate setting. If you are still experiencing performance issues, try to use a smaller space with less reverb.



3.8 Settings

The settings menu is located on the bottom right of the plugin. You can change your Analytics status in there and, if you are using a TRIAL or NFR, you can enter the Authorization dialogue again to enter a new Activation code. If you want to help us to improve our products you can activate Analytics to send us anonymous data about how you are using your plugin. You can find our Privacy policy [here](#).

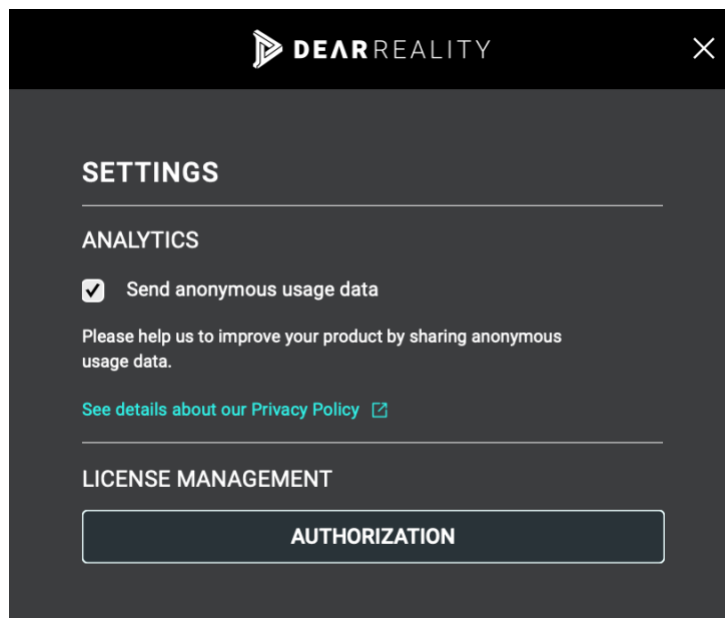


Illustration 3.9 - Settings menu



4 Headphone Models

Spatial headphone compensation is supported for the following headphone models.

Headphone Models	
Sennheiser HD 800S	Audio Technica ATH-M60x
Sennheiser HD 660S	Audio Technica ATH-M70x
Sennheiser HD 650	Audio Technica ATH-R70x
Sennheiser HD 600	Beyerdynamic DT 240 PRO
Sennheiser HD 560S	Beyerdynamic DT 770 250 Ohm
Sennheiser HD 400 PRO	Beyerdynamic DT 880 PRO 250 Ohm
Sennheiser HD 280 PRO	Beyerdynamic DT 990 250 Ohm
Sennheiser HD 25-1 II	Beyerdynamic DT 1770 PRO
Neumann NDH20	Beyerdynamic DT 1990 PRO
Austrian Audio Hi-X55	Dan Clark Ether C Flow
AKG K240 MKII	Focal Listen Professional
AKG K240 Studio	Fostex T20RP MK3
AKG K271 MKII	Fostex T50RP MK3
AKG K371	Fostex T60RP
AKG K612	HEDD Headphone
AKG K701	Hifiman HE400i 2020
AKG K702	KOSS Pro4S
AKG K712	KRK KNS 8400
Audeze LCD-2	Shure SRH 840
Audeze LCD-X	Shure SRH 940
Audio Technica ATH-AD700x	Shure SRH 1540
Audio Technica ATH-M40x	Sony MDR-7506
Audio Technica ATH-M50x	



5 Troubleshooting

DearVR MIX does not appear in my DAW on Windows:

DearVR MIX does not appear in DAWs, when a Visual C++ Redistributable is missing. Try to install the “Microsoft Visual C++ Redistributable for Visual Studio 2015, 2017 and 2019 Redistributable (x64)” on your machine. You can find the package here:

<https://support.microsoft.com/en-ca/help/2977003/the-latest-supported-visual-c-downloads>

6 Changelog

v1.9.2:

- Added Sennheiser HD400 PRO to the headphone models



7 Contact

Support

Please let us know if there are any questions concerning the dearVR Plugin.

If you need further assistance, please send an email to:

support@dear-reality.com

For the latest news concerning dearVR please visit our website at:

www.dear-reality.com



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Caution

Using headphones requires responsible listening. Damage to hearing occurs when listen to loud sounds with headphones over time.

- Set the volume control of your computer to a minimum when connecting your headphones.
- Set the volume in a quiet environment and select the lowest volume at which you can hear adequately.
- Do not turn the volume control too high, as this can cause permanent hearing damage.
- Be aware that you can adapt to higher volume settings over time, not realizing that the higher volume may be harmful to your hearing.

Dear Reality GmbH will in any event not be liable for any damage to hearing caused by loud sounds.

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