



## Sound Devices lance la v3.00 pour la série MixPre

REEDSBURG, LE 10 DÉCEMBRE 2018 - Sound Devices présente la mise à jour très attendue du micrologiciel v3.00 pour la série d'enregistreurs audio, mélangeurs et interfaces audio USB MixPre. MixPre v3.00 ajoute les fonctionnalités et améliorations suivantes:



- Prise en charge des surfaces de contrôle USB tierces
- Enregistrement, monitoring et lecture ambisoniques et binauraux pour les MixPre-6 et MixPre-10T
- Tampon de pré-roll pour MixPre-3, MixPre-6 et MixPre-10T
- Contrôle et mesure sans fil pour les modèles MixPre-M à partir d'appareils iOS et Android
- Pilotes ASIO pour les modèles MixPre-M

Contrôler un MixPre à partir d'une surface de contrôle USB offre un nouveau niveau de flexibilité et de contrôle. Quatre surfaces de contrôle USB tierces abordables peuvent désormais se connecter au MixPre et contrôler instantanément les faders, le trim (gain), le panoramique, les basses fréquences, la réverbération, l'enregistrement, l'arrêt, etc. MixPre v3.00 prend en charge Korg nanoKONTROL Studio et nanoKONTROL2, Akai MIDImix et Novation Launch Control XL.

«Les enregistreurs MixPre sont conçus pour une portabilité universelle. Toutefois, lorsque l'environnement le permet, il est agréable de s'étendre et de piloter des faders linéaires », a déclaré Nicholas Vandrush, directeur du marketing chez Sound Devices. «La série MixPre s'adresse à une variété d'applications et de flux de travaux. Avec quatre contrôleurs à choisir, les clients peuvent utiliser le contrôleur qui leur convient le mieux.»

Le nouveau plug-in Ambisonics pour MixPre-6 et -10T est un ajout clé à la v3.00. Les enregistreurs de terrain, les développeurs de jeux et les créateurs de contenu VR ont demandé un moyen d'améliorer les capacités d'enregistrement de l'audio spatial à 360 ° sur la série MixPre. Le microphone AMBEO VR de Sennheiser s'associe parfaitement au plug-in Ambisonics. D'autres microphones et réseaux de microphones sont également pris en charge. Les fonctionnalités de MixPre Ambisonics incluent:

- Conversion au format A, au format B et au format A à B
- Surveillance binaurale et stéréo en temps réel
- Enregistrement simultané d'AmbiX, FuMa, LR Stereo et LR Binaural

«Les enregistreurs Sound Devices sont utilisés depuis de nombreuses années pour créer des enregistrements ambisonic sur le terrain. Il était donc naturel que nous introduisions nos enregistreurs MixPre dans ce nouveau monde de l'enregistrement à 360 °», a déclaré Matt Anderson, PDG de Sound Devices. «Nous sommes heureux de nous associer à Sennheiser pour fournir une option d'enregistrement et de surveillance ambisonic de grande qualité à nos clients MixPre-6 et MixPre-10T.» Le plug-in Ambisonics est désormais disponible gratuitement sur Plugin Store.

Tout enregistreur de terrain comprend la déception qui découle d'attendre le son parfait et de le rater car il n'a pas appuyé sur le disque. Le pré-roll constitue un filet de sécurité lorsque les doigts ne sont pas assez rapides et garantit que tous les fichiers audio essentiels sont capturés dans les secondes qui suivent l'activation du bouton d'enregistrement. Les MixPre-3 et MixPre-6 offrent cinq secondes de pré-roll. Le MixPre-10T offre dix secondes.

Les musiciens qui enregistrent avec un MixPre peuvent désormais visualiser les compteurs haute résolution et contrôler l'enregistrement, l'arrêt et la lecture à distance à partir de leur appareil iOS ou Android. Sound Devices Wingman, une application compagnon MixPre, communique maintenant via Bluetooth Smart avec les modèles MixPre-M et les MixPre-3, -6 et -10T exécutant le plugin Musician.

Les modèles MixPre-M utilisés comme interface audio avec des ordinateurs Windows ne sont plus limités aux taux d'échantillonnage à 2 entrées, à 2 sorties et à 44,1 et 48 kHz. La version 3.00 utilise le dernier pilote MixPre ASIO pour offrir des entrées / sorties multicanaux (MixPre-3M = 5 entrées, 2 sorties; MixPre-6M = 8 entrées, 4 sorties; MixPre-10M = 12 entrées, 4 sorties) à l'échantillon débits jusqu'à 96 kHz.

La mise à jour du micrologiciel v3.00 pour les modèles MixPre-3, -3M, -6, -6M, -10M et -10T est disponible le 10 décembre 2018. Découvrez ces fonctionnalités et la série d'enregistreurs audio, mélangeurs et mixeurs MixPre. Interfaces audio USB sur [www.sounddevices.com](http://www.sounddevices.com).





Photo Credit: Ginny Galloway  
Courtesy: Sennheiser (AMBEO VR Mic)

# **AMBISONICS PLUGIN**

For MixPre-6 and MixPre-10T Recorders

## User Guide

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## Revision History

This table provides the revision history for this guide.

Rev#	Date	Firmware Version	Description
3-A	Dec 2018	3.00	Initial release

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# MixPre Ambisonics Plugin

Capture 360° spatial audio anywhere with the Ambisonics Plugin and your MixPre-6 or MixPre-10T. The Ambisonics Plugin, available for free from the Sound Devices Store, brings ambisonic and binaural recording, monitoring, and playback to your MixPre running v3.00 or higher.



## Ambisonics Plugin Key Features:

- Supports the Sennheiser AMBEO VR Mic (Ambisonics A-Format)
- Record, playback, and monitor Ambisonics A-Format and B-Format (FuMa and AmbiX)
- Record, playback, and monitor ambisonics decoded to binaural and stereo
- Converts from A-Format to B-Format
- Up to 192 kHz sample rate
- Supports different mic orientations (Up, Down, Endfire)
- Simultaneously record ambisonics, stereo, and binaural WAV files
- Automatic 4-channel gain linking for single knob gain control

① *Binaural is not supported at 96 kHz sample rate or higher.*

An ambisonics microphone most commonly consists of four cardioid or supercardioid microphone capsules positioned in a tetrahedral arrangement. This makes it possible for a full sphere of sound to be captured from a single point in space. This four capsule approach is known as first order ambisonics. There are also second order ambisonic microphones which are less common

and use a greater number of capsules to achieve more accurate spatial resolution.

① *The MixPre-6 and -10T support first order ambisonic microphones only.*

There are two ambisonics formats, A-Format and B-Format.

A-Format refers to the raw, unprocessed signals coming directly from the four mic capsules.

B-Format has become the most widely-used method for representing the spherical sound space. This is primarily because B-Format allows a 3D sound space to be decoded into any current or future surround format.

The Sennheiser AMBEO mic and most other ambisonic mics output A-Format, so it is necessary to convert to B-Format before surround post production can begin. Because the MixPre-6 and -10T incorporate built-in A- to B-Format conversion, you don't need to use a DAW. Some microphones, such as the Soundfield ST450 MKII, output B-Format directly and eliminate the need to convert at all.

B-Format is represented by 4-channels, W, X, Y, Z where:

- W = Sum of all signals from all directions (like an omnidirectional mic)
- X = Front minus rear signal (like a horizontal front/rear facing figure of 8 mic)
- Y = Left minus right (like a horizontal left/right facing figure of 8 mic)
- Z = Up minus down (like a vertical up/down facing figure of 8 mic)

Additionally, B-Format comes in two versions, FuMa and AmbiX.

In essence, the distinction is a different ordering of the W,X,Y, and Z channels:

- FuMa = W,X,Y,Z
- AmbiX = W,Y,Z,X

MixPre supports both versions, and you can record both at the same time.

When Ambisonics Mode is enabled, the MixPre automatically links channels 1-4 so that all channel 1-4 gains are matched and channel knob 1 adjusts their gain equally. This ensures the captured sound space will be centered.

## Installing and Activating the Plugin

The Ambisonics Plugin, which may be downloaded for free from the Sound Devices online store (<http://store.sounddevices.com>), is required for recording ambisonics.


### To install and activate the plugin:

1. Download the license—a .LIC file—and move to an SD card.

① *The Ambisonics Plugin is licensed to a MixPre-6 or -10T recorder and its serial*



*number, so it cannot be transferred to another device or to multiple MixPre devices.*

2. Insert the SD card into the MixPre and turn on the recorder.
3. Tap .
4. Tap System > Plugins.
5. Tap Apply Plugins. This installs the license, activates the plugin, and reboots the device.

## Monitoring Ambisonics with Headphones

To monitor ambisonics using headphones, the four channels of the B-Format (W,X,Y,Z) must be decoded to two channels. With the MixPre, you can decode to stereo or binaural. Stereo provides a standard 2D, left/center/right representation of the 3D sound space. Binaural, on the other hand, allows you to hear the full 3D sound space (left/right, forward/back, up/down) using any pair of headphones.

The ability to monitor 3D space binaurally can help you determine optimal mic placement at the time of capture on location, thus reducing the likelihood of placement and orientation mistakes.

The MixPre also provides the ability to record and playback stereo/binaural.

### To set up ambisonics:

1. Ensure the Ambisonics Plugin is installed and activated on your MixPre. See [Installing and Activating the Plugin](#) for more details.
2. Connect the Sennheiser AMBEO Microphone to the MixPre-6 or -10T. Ensure that the AMBEO XLR cables are connected in the correct order, such as:
  - Yellow XLR 1 to MixPre XLR input 1
  - Red XLR 2 to MixPre XLR input 2
  - Blue XLR 3 to MixPre XLR input 3
  - Green XLR 4 to MixPre XLR input 4
3. Ensure the MixPre is in Advanced Mode or Custom Mode with Channel and Headphone set to Advanced.
4. Enable Ambisonics Mode: Go to Menu > Inputs > Ambisonics > Mode and set to the required Ambisonics Mode.



When Ambisonics Mode is enabled, input channels 5-6 (MixPre-6) and 5-10 (MixPre-10T) are no longer available and input channels 1-4 are automatically linked so that channel knob 1 becomes the master gain control for those four channels.

The following table describes the various Ambisonics Modes available:

AMBISONICS MODE	DESCRIPTION
Off	<ul style="list-style-type: none"> <li>Ambisonics Mode is disabled.</li> </ul>
A->B (AmbiX)	<ul style="list-style-type: none"> <li>The incoming A-Format is converted to AmbiX B-Format (W,Y,Z,X) for recording on tracks 1-4.</li> <li>Recording results in a single 4ch poly wav.</li> </ul>
A->B (FuMa)	<ul style="list-style-type: none"> <li>The incoming A-Format is converted to FuMa B-Format (W,X,Y,Z) for recording on tracks 1-4.</li> <li>Recording results in a single 4ch poly wav.</li> </ul>
A->B (AmbiX+FuMa)*	<ul style="list-style-type: none"> <li>The incoming A-Format is converted to AmbiX B-Format (W,Y,Z,X) for recording on tracks 1-4 plus FuMa B-Format (W,X,Y,Z) on tracks 5-8. Channel knob 1 controls the level going to all 8 tracks.</li> <li>Recording results in two separate 4ch poly wavs.</li> </ul>
A (Direct)	<ul style="list-style-type: none"> <li>The incoming A-Format is routed directly to tracks 1-4 without any processing. Use this if you intend to do conversion to B-Format in post.</li> <li>Recording results in a single 4ch poly wav.</li> </ul>
A (Direct) + AmbiX*	<ul style="list-style-type: none"> <li>The incoming A-Format is routed directly to tracks 1-4 without any processing and also converted to AmbiX B-Format (W,Y,Z,X) for recording on tracks 5-8. Channel knob 1 controls the level going to all 8 tracks.</li> <li>Recording results in two separate 4ch poly wavs.</li> </ul>
A (Direct) + FuMa*	<ul style="list-style-type: none"> <li>The incoming A-Format is routed directly to tracks 1-4 without any processing and also converted to FuMa B-Format (W,X,Y,Z) for recording on tracks 5-8. Channel knob 1 controls the level going to all 8 tracks.</li> <li>Recording results in two separate 4ch poly wavs.</li> </ul>

AMBISONICS MODE	DESCRIPTION
B (AmbiX) or B (FuMa)	<ul style="list-style-type: none"> <li>The incoming B-Format is routed directly to tracks 1-4 without any processing. Use this if the microphone source is already in B-Format e.g. Soundfield ST450 MKII.</li> <li>Recording results in a single 4ch poly wav.</li> </ul>

\* Mode applies to MixPre-10T only

① *Ambisonics Mode is not available for Music Projects.*

- In the Ambisonics Menu > Inputs > Ambisonics > Mic Position, set the correct Mic Position to match the physical orientation of the mic.



Select from Up, Down, or Endfire. It is essential that this setting is correct to ensure the sound space is mapped correctly.

- In Channel Screen 1, set Phantom to 48V.
- Adjust channel fader 1 to set the desired signal level.
- Set the HP Preset (top left corner of Main Menu) to LR Stereo or Binaural to hear the decoded ambisonics signal as stereo or binaural respectively.
- To record, go to channel screen 1 and tap Arm, then press record.

## Recording

The MixPre is capable of simultaneously recording various combinations of Ambisonics A-Format, B-Format, Stereo and Binaural wav files. This powerful feature allows you to simultaneously deliver multiple formats depending on production needs.

① *Files that are recorded simultaneously have the same timecode stamp and metadata and are also associated as a family using the iXML File Set Index. Tip: Use Wave Agent to view this metadata.*

Which files are recorded depends on three things:

- The MixPre model.
  - The MixPre-6 can record a maximum of 8 tracks and so is restricted to recording a single 4ch ambisonic wav file plus a stereo wav file and a binaural wav file.
  - The MixPre-10T can record a maximum of 12 tracks and so can record two 4ch ambisonic wav files plus a stereo wav file and a binaural wav file.
- Ambisonics Mode. This mode determines which ambisonics formats are recorded and whether one or two 4ch wav files are recorded. See the Ambisonics Mode table above.
- Rec L,R and Rec Binaural On/Off settings in the Record menu. These settings determine whether stereo and/or binaural 2ch wav files are recorded. When set to On, they are recorded.

Each type of file is identified by a filename suffix. For example:

AMBEO-001\_A\_FMT.wav (A-Format)

AMBEO-001\_FUMA.wav (FuMa B-Format)

AMBEO-001\_AMBIX.wav (AmbiX B-Format)

AMBEO-001\_LR.wav (Decoded stereo)

AMBEO-001\_BIN.wav (Decoded binaural)





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