Knowledge Base

Multichannel playback with U168 XT/U108 PRE under Windows

original release: *2020-03-23* | ID: *KB00291EN*

We get often asked about the independant output channels of U168 XT and U108 PRE, especially about the options of multichannel playback from various different applications. Our current drivers support a number of different options for multichannel playback, providing the highest level of compatibility with all different types of audio applications. This might be important for you to check compatibility with existing applications you already have or if you want to develop your own audio application.

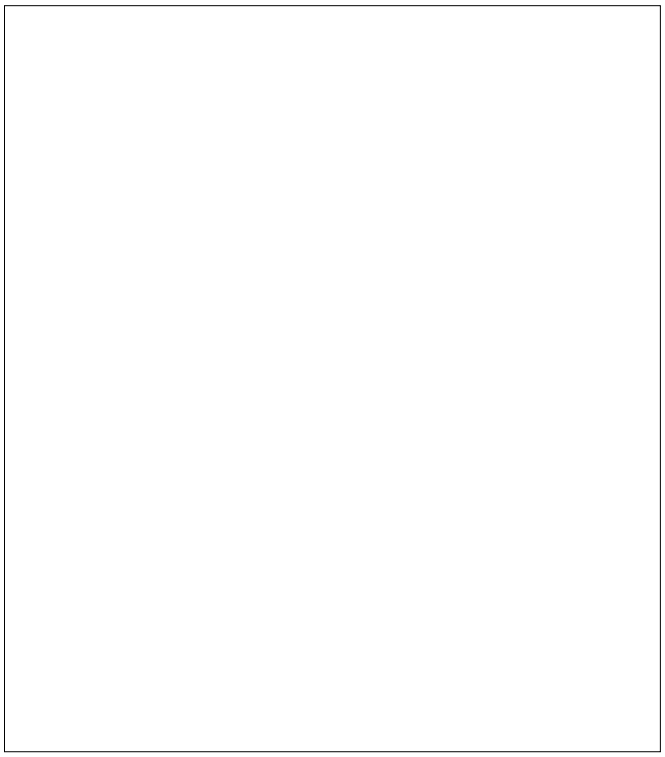
ASIO device

U168 XT and U108 PRE provide a professional ASIO drivers, following the common standard from Steinberg. The ASIO device is called *ESI U168 XT* or *ESI U108 PRE* and appears in all ASIO compatible applications for selection, both 32-bit and 64-bit. Nearly all common DAWs are ASIO compatible, incl. Bitwig Studio, Cubase and many others. Also many DJ applications that support multiple output channels work with ASIO. Please refer to the documentation of your audio software to check if it supports ASIO and how the device is selected and channels are assigned.

Note for software developers only: if you want to develop your own ASIO compatible application, check the ASIO SDK from Steinberg .

separate playback devices

In the Windows *Control Panel* under *Hardware and Sound* > *Sound*, you can select the default playback device that is used by all audio applications that do not have their own preferences. It looks like the following dialog (shown here for U168 XT, it looks basically the same for U108 PRE):



As you can see, there are several entries listed named *U*8 Ch 01&02* , *U*8 Ch 03&04* , *U*8 Ch 05&06* and *U*8 Ch 07&08* . Each of these MME and DirectSound compatible wave devices are assigned to one physical stereo output pair of U168 XT / U108 PRE. Signals played via *U*8 Ch 01&02* will be sent out through the line output 1 and 2, signals played via *U*8 Ch 03&04* will be sent out through the line output 3 and 4, and so on.

These devices can also be selected directly inside many audio applications. This makes it possible for example to have one application using *U*8 Ch 03&04* and send out a signal through outputs 3 and 4, while another application simultaneously could use *U*8 Ch 07&08* and send out a totally different signal through outputs 7 and 8.

Also, you can set here the default device for playback, which will be used for Windows system sounds and by any application that does not have its own individual selection by clicking on the device entry and then *Set Default*.

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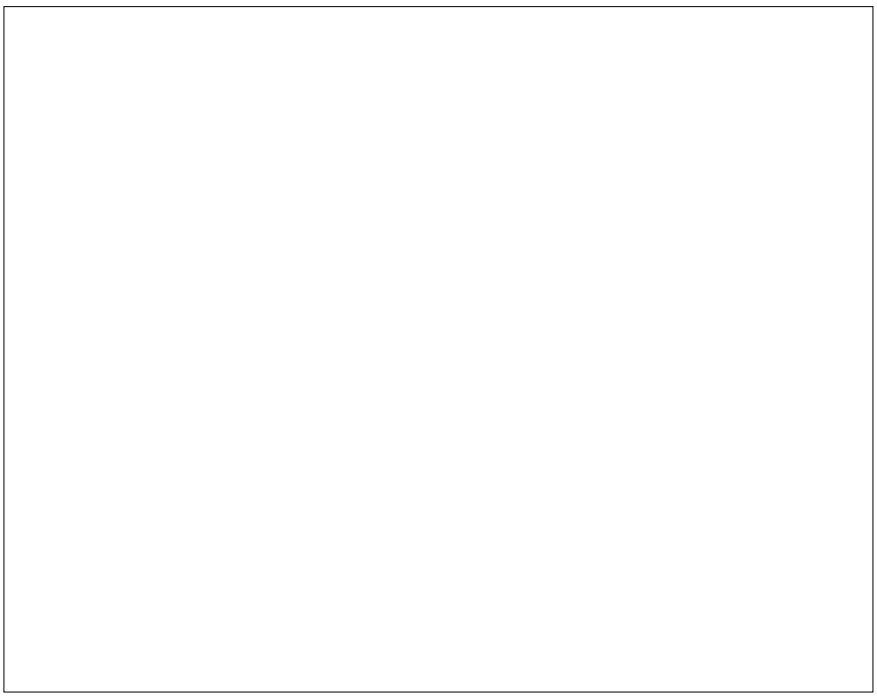
Note for software developers only: if you want to develop your own application using these playback devices, you can use the standard Windows Multimedia API (often called MME API) or the DirectSound API which is well documented by Microsoft on their site and with the documents provided by the different programming environments such as Visual Studio.

multichannel speaker device

U168 XT and U108 PRE also provide a multichannel speaker device that is generally used usually by more modern applications for multichannel playback. Also programs like DVD player software use this device for multiple output channels simultaneously. Selectable under *Sound* in the Windows *Control Panel* , the *Speakers* device of the *U*8 Audio driver* , can be additionally configured to define the number of output channels. Select it and click *Configure* at the bottom of the window to get the following *Speaker Setup* dialog:



In this dialog you can choose between *Stereo* (= 2 output channels), *Quadraphonic* (= 4 output channels), *5.1 Surround* (= 6 output channels), *6.1 Surround* (= 7 output channels) and *7.1 Surround* (= 8 output channels). Select one of them to define how many channels you want to be able to playback simultaneously (*7.1 Surround* is suggested).

Note for software developers only: if you want to develop your own application using the multichannel speaker device, the MME API and DirectSound API documentations from Microsoft also apply. Multichannel playback can be achieved by utilizing the *WaveFormatExtensible* structure as it supports more than 2 channels.

output routing and signal cloning

Obviously the multiple outputs of U168 XT and U108 PRE are intended mainly to send out **different** signals individually at the same time. However, there might be special applications where it is helpful to send out **the same** signal through all output channels. For this, we provide a function called *DirectWIRE Output Channels* which you can control via the DirectWIRE menu in the control panel of U168 XT / U108 PRE. With this, you can define the signal source channel from your software for each physical output channel of the hardware. In this article , the function is explained in detail.

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