

digiMIX24 USB-32 Application Note

Using digiMIX24 Console with USB-32 Module for Virtual Soundcheck

Overview:

Virtual soundcheck for live performance mixing has become a powerful tool for sound engineers in recent years. Virtual soundcheck allows the engineer to mix a multichannel performance in the venue without the musicians present, by mixing a multichannel digital recording of all the musicians from a previous performance recording. The digiMIX24 mixing console can perform virtual soundcheck when equipped with USB-32 digital audio option and a laptop computer with multichannel recording software such as Reaper[™]. The computer must have multichannel recording software installed to record the live tracks from the digiMIX24, and then playback the tracks for a virtual soundcheck. There are several multichannel recording or Digital Audio Workstation software programs commercially available which can be used.

1) One-Time Software Setup Procedure:

1.1 - For Apple[®] **Macintosh**[®] **computers,** no USB driver installation is required. When the digiMIX24 with USB-32 digital audio interface option is powered on and connected to the computer with a USB cable, the digiMIX24 will show-up as an audio device selection in the multichannel recording software. Shown below is a typical control window for the audio device settings in a recording program. The digiMIX24 will appear as the USB_32 device. Use the default settings and make sure the sample rate is 48000 Hz. Make sure there are no audio MIDI enabled for the USB_32 since it does not have any MIDI capability.

8 😑 🔘		REAPER Preferences	푸
▼ General		Audio device settings	
Paths		Audio Device: USB_32	
Keyboard/Multitouch		Bequest comple rate: 48000	
▼ Project		Audio MIDI Setup	
Track/Send Defaults		Request block size: 512	
Media Item Defaults		Ignore running change notifications (may be required for some devices)	
 Audio 		If you need to use multiple devices, open Audio MIDI Setup and create an addregate device	
MIDI Devices	11	in you need to use multiple devices, open Addio with betap and create an aggregate device.	
Buffering			
Playback			
Seeking			
Recording			
Loop Recording			
Rendering			
Appearance			
Media			
Peaks/Waveforms		Allow use of different input and output devices (legacy option, not recommended)	
Fades/Crossfades		,,,,,,	
Track Control Panels			
Editing Behavior			
Find		OK Cancel	Apply

1.2 - For Windows[®] PCs's, USB driver software specifically for the digiMIX24 must first be installed. Obtain the Ashly digiMIX USB-32 USB driver software from Ashly web site and extract the files from the download. With the computer not yet connected to the digiMIX24, install the driver software as described below. The installation windows are slightly different for the different versions of the Windows operating system, but the basic procedure is the same.

 \Rightarrow Double-click on the file USB32_Driver_Vx_xx_x.exe.

🔲 Setup	- 🗆 ×
	Welcome to the Windows USB-32 Driver v6.18.0.0 Setup Wizard
	This wizard will guide you through the installation of Windows USB-32 Driver v6. 18.0.0.
5 h	It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
	Click Next to continue.
	Next > Cancel
⇔Click Next.	
Setup	– 🗆 X
Choose Install Location Choose the folder in which to	install Windows USB-32 Driver v6. 18.0.0.
Setup will install Windows USB different folder, click Browse a	-32 Driver v6. 18.0.0 in the following folder. To install in a and select another folder. Click Install to start the installation.
Destination Folder	
C:\Program Files\USB-32	Browse
Space required: 1.8MB Space available: 631.7GB	
Copyright (c) 2003-2014	



Install

Cancel

< <u>B</u>ack

Click Install

Setup		_			
Installing Please wait while Windows USB-32 Driver v6. 18.0.0 is being installed.					
Execute: regsvr32 /s "C:\Program Files\USB-32\usb3	2_asio_x64.dll*				
Copy to C:\Program Files\USB-32\usb32_usb.cat Copy to C:\Program Files\USB-32\usb32_usb_avs. Copy to C:\Program Files\USB-32\usb32_usb_avs. Copy to C:\Program Files\USB-32\usb32_usb_avs. Copy to C:\Program Files\USB-32\custom.cfg Copy to C:\Program Files\USB-32\arch_usb_cpl.ex Copy to C:\Program Files\USB-32\usb32_asio.dll Copy to C:\Program Files\USB-32\usb32_asio_x64 Execute: regsvr32 /s "C:\Program Files\USB-32\usb	at nf dll 32_asio.dll" 32_asio_x64.dll"		~		
Copyright (c) 2003-2014	<u>B</u> ack <u>N</u> e	xt >	Cancel		
Setup			×		
Please disconnect and reconnect the device you v	ish to install an	d turn it or	1.		

⇔ Connect a USB cable from the PC to the digiMIX24 USB-32 option, power on the digiMIX24 and wait for the mixer to initialize and be ready to operate.

⇔Click OK.



Setup	- 🗆 ×		
Installation Complete			
Setup was completed successfully.			
Charling connected device			
This may take some time to	complete. Please wait		
Completing installation.			
This may take some time to	complete. Please wait		
Execute: 'C: Program Files	;\USB-32\arch_usb_cpl.exe' -hide		
Click Next to continue.			
	×		
Convright (c) 2003-2014			
Copyright (c) 2000 2011			
	< <u>B</u> ack <u>N</u> ext > Cancel		
与 Click Next.			
🖬 Setup	- 🗆 X		
	Completing the Windows USB-32 Driver v6.18.0.0 Setup Wizard		
	Windows USB-32 Driver v6. 18.0.0 has been installed on your computer.		
	Click Finish to close this wizard.		
M			
	< <u>B</u> ack <u>Finish</u> Cancel		

⇒Click Finish. then proceed to set up the USB-32 Windows driver as follows on the next page.

Note: The driver shows-up in Windows with the application name Windows USB-32 Driver vX.XX.X.X.



⇒Click the Windows Start button, then All apps, then scroll down to USB-32 Driver Vx.xx.x and click on the purple Control Panel USB icon. In the left pane, click the Devices item, and you should see the Device name DU3232.

Carl Archwave USB Driver Control Panel			
File Info			
	Device name	Serial number	
input Lhannels ⊯u Output Channels vt Synchronisation œ Settings vt Streams	USB-32	0x7f500500000	Down
Ready	Edit Device Name	1 D	Apply Device(s) connected.

⇒Click on the Input Channels or Output Channels in the left pane and you should see 32 input or 32 output channels which are supported by the USB driver (see below). Channel mapping is fixed within the mixer, you can view input or output channel name-to-number mapping using the mixer touchscreen <Digital In/Out> functions.

	Device name	Channel name	ASIO display name	*
Output Channels	USB-32	Input 1	Input 1	
Sunchronisation	USB-32	Input 2	Input 2	
Settinas	USB-32	Input 3	Input 3	=
Streams	USB-32	Input 4	Input 4	
· · · · · · · · · · · · · · · · · · ·	USB-32	Input 5	Input 5	
	USB-32	Input 6	Input 6	
	USB-32	Input 7	Input 7	
	USB-32	Input 8	Input 8	
	USB-32	Input 9	Input 9	
	USB-32	Input 10	Input 10	
	USB-32	Input 11	Input 11	
	USB-32	Input 12	Input 12	
	USB-32	Input 13	Input 13	
	USB-32	Input 14	Input 14	
	USB-32	Input 15	Input 15	-
	•	III		•
		Edit Channel Nam	ne Include device nam ASIO display name	e in



🚭 Archwave USB Driver	Control Panel	- 🗆 X
<u>F</u> ile <u>I</u> nfo		
Eile Info	Sampling Rate Selection Mode Automatic Mode Manual Mode Sampling Rate 48.0 kHz Clock Source Internal Clock	Apply Apply Apply
Synchronisation		1 Device(s) connected.

The digiMIX24 only operates at a 48 kHz sample rate, and the USB-32 driver software must be selected for 48.0 kHz for the USB-32 option to work.

⇔Click Synchronization in the left pane, then select 48.0 kHz in the Sampling Rate drop-down menu and click Apply. Be sure the Sampling Rate Selection Mode is selected for Manual Mode and the Clock Source is selected for Internal Clock.

⇒Close the USB Driver Control Panel.

This concludes the one-time software setup procedure.



[⇒]Launch your multitrack recording software. In the software's audio device selection menu, select ASIO, then the <Ashly digiMIX USB-32 ASIO x64> audio device. If the input and output channel selections are shown, select to use all 32 input channels and output channels. Also in the multitrack recording software, select a sample rate of 48000 Hz and sample format of 32-bit float if there is a selection available.

🕥 [unsaved project] - REAPER v5.22/x64 - EVALUATION LICENSE				
<u>File E</u> dit <u>V</u> iew <u>Insert Item T</u> rack <u>Options Action</u>	ons <u>H</u> elp [Toggle Track Record Arming] [48kHz 24bit WAV : 32/32ch 480spls ~11/17ms ASIO]			
B* Q ² ¹ 2 B ¹ → Q ² ² 2 B ¹ → Q ² 3				
	1.1.00 1.3.00 2.1.00 0:00.000 0:01.000 0:02.000			
O Image: Market and the second				
Image: Second state	2			
Image: Content of the second secon	3 • • •			
Track 3 [HW] 1				
1.1.00 / 0:00.000 [Stopp	ped] BPM 4/4 Rate: 1.0			

2) Virtual Soundcheck Live Recording Procedure:

⇒On the digiMIX24 mixer, press the <Digital - Out> button, then use the touchscreen to select which mixer input channels you want to send to the computer for recording. Selected channel buttons will display "On". Use the mixer's <Adjust Parameter" control to properly set gain settings for all selected digital output channels, typically all set the same at 0.0dB.

Digital output extraction happens pre-fader but post channel-DSP processing on the digiMIX24, so set all individual channel EQ and DSP processing flat so that on playback of the multitrack recording you will have raw unprocessed audio signals to work with, the same as if it were from live signals coming right off the analog mic preamps. A special scene preset can be created and stored on the mixer with all channels set flat and desired channels selected for digital output for the purposes of recording for virtual soundcheck, then quickly set back to regular live use with another preset. Remember, digital outputs are pre-fader, so any mixing activity will not affect the recording.

⇒Launch your multitrack recording software program. All recording software appears differently and operation is beyond the scope of this app note, but the general procedure is the same. Assign USB input channels to recording tracks within in your recording software. The example illustrated above shows the first three inputs assigned to tracks 1, 2, and 3.

⇒Arm the recording software's record-arm button (usually a red circle next to each input channel that you want to record). You should now see audio signal level meter activity in the software when an audio signal is applied to the mixer. Press the master record button when everyone is ready, then stop and save the file to complete your recording.





3) Virtual Sound Check Playback Procedure:

⇒On the digiMIX24 mixer, press the <Digital Out> button and then select all output channels to Off. Do this so that the digiMIX24 digital outputs won't feedback via recording software input monitoring into the digiMIX24 digital inputs, which can cause a full-scale noise signal depending on if your recording software forwards it's digital inputs to the outputs which causes this loop.

⇒On the digiMIX24 mixer, press the <Digital In> button, then select input channels on the mixer touchscreen that you want to feed input signals from the computer by pressing to the "On" setting. Use the mixer's <Adjust Parameter" control to properly set gain settings for all selected digital input channels, typically all set the same at 0.0dB. The digital audio signals from the computer are fed into the mixer post Gain control, but pre channel EQ and processing.

Assign your digital input channels to Aux busses, Subgroups, FX, and Main as you normally would when mixing a live performance.





In your multichannel recording software, you may need to assign the recorded tracks to output channels. Shown above is an example of routing, or assigning, tracks to outputs. Within the digiMIX24, channel mapping is fixed, but you can view it by pressing the mixer touchscreen <Digital In> button, then <Channel Mapping>.

⇒ Press playback on your multitrack recording software to start mixing your pre-recorded performance as though your musicians were performing live. All the controls on the mixer function exactly the same as when you are mixing a live performance, except the microphone Gain controls have been bypassed on all channels selected for digital inputs. You can even mix the pre-recorded instrument channels and feed the mix back to the recording software to record your virtual soundcheck mix.

After finishing your virtual sound check mix, remember to return all input channels to their analog inputs by pressing the Digital In button, then select all input channels on the LCD touch screen back to the "Off" setting. You can quickly switch between live mixing and pre-recorded virtual soundcheck mixing by simply pressing the Digital In button and then selecting the input channels to "On" when doing a virtual soundcheck, and "Off" when doing a live mix. Scene Presets can also be created, saved, and loaded to quickly configure all digital inputs or outputs for switching between live or virtual soundcheck use.

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