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digiMIX24 USB-32 Application Note
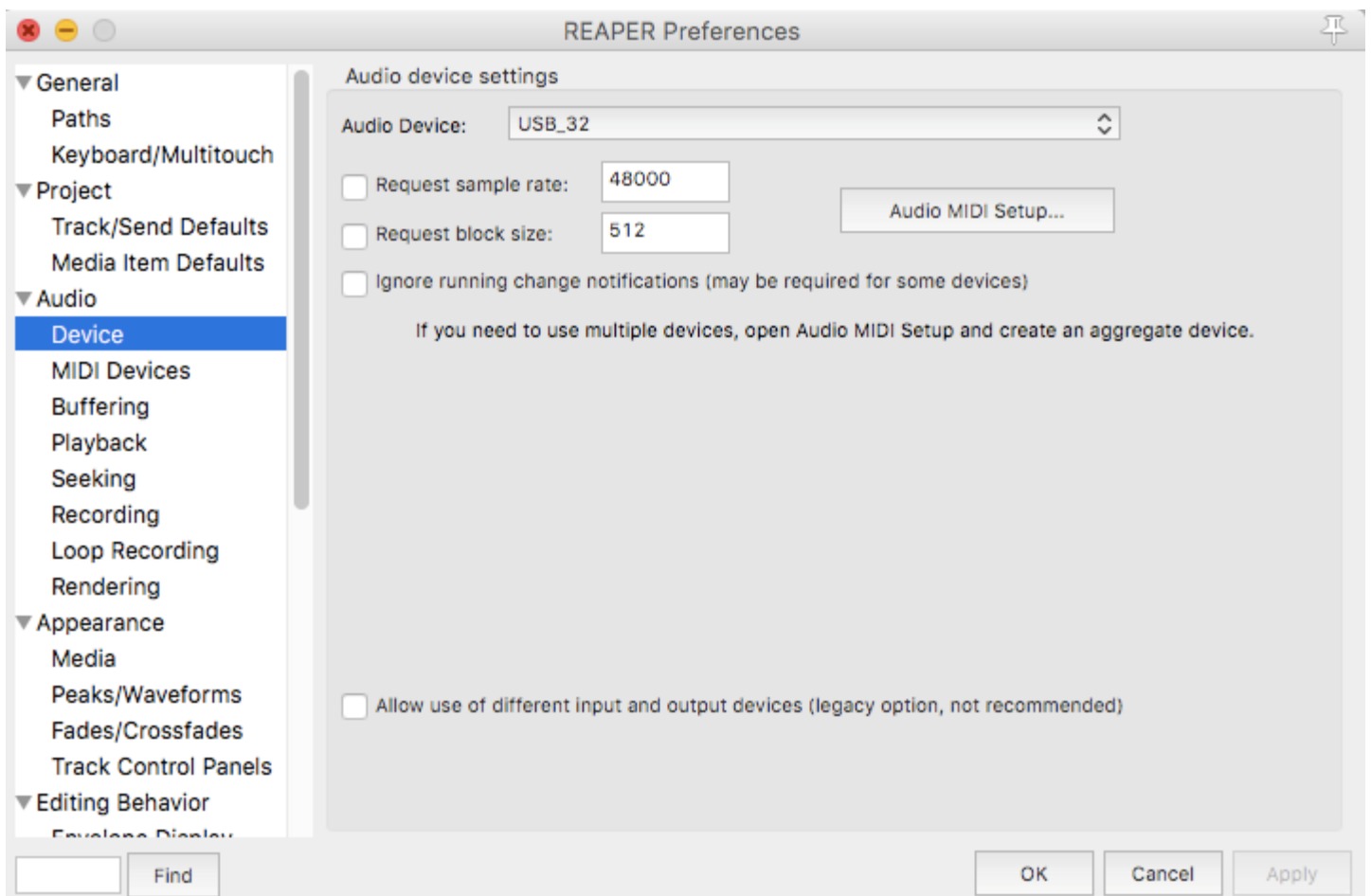
Using digiMIX24 Console with USB-32 Module for Virtual Soundcheck

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.
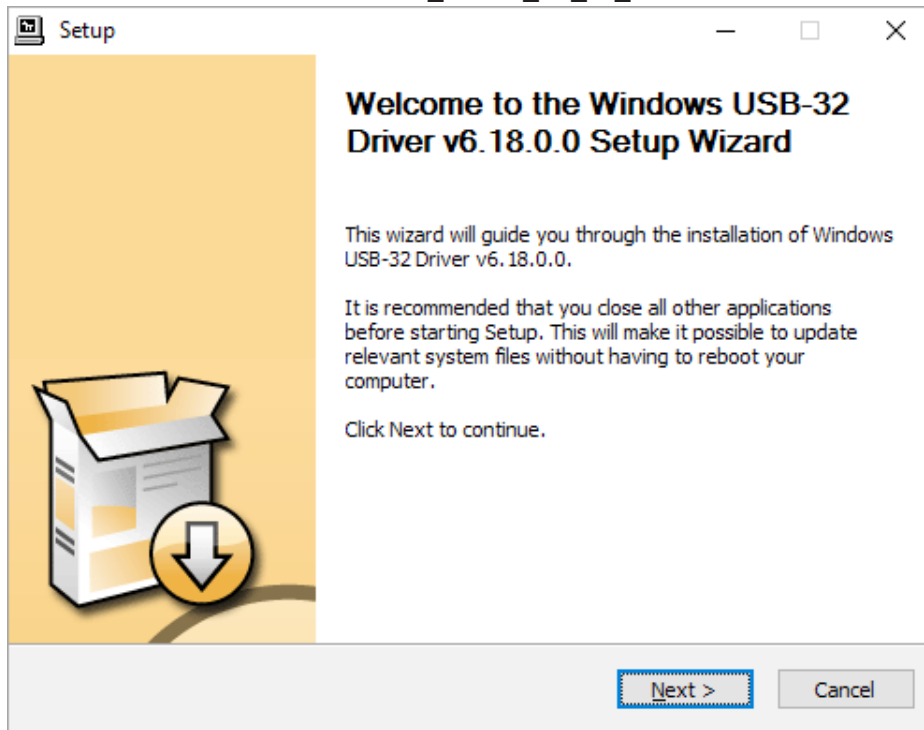
1) One-Time Software Setup Procedure:

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.
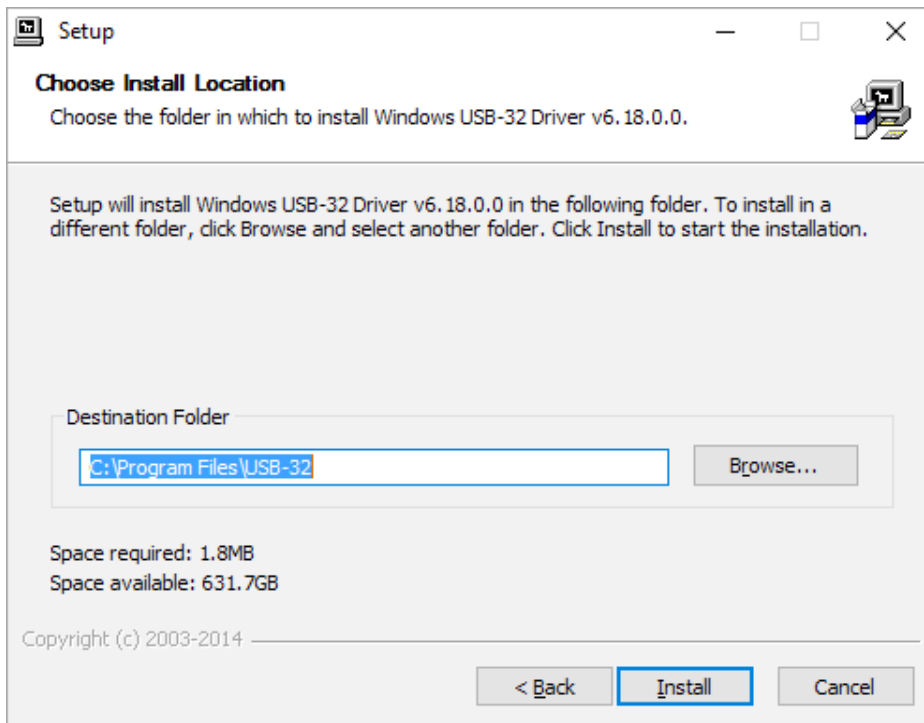
1.2 - For Windows® PCs's, USB driver software specifically for the digiMIX24 must first be installed. Obtain the Ashly digiMIX USB-32 USB driver software from Ashly web site and extract the files from the download. With the computer not yet connected to the digiMIX24, install the driver software as described below. The installation windows are slightly different for the different versions of the Windows operating system, but the basic procedure is the same.
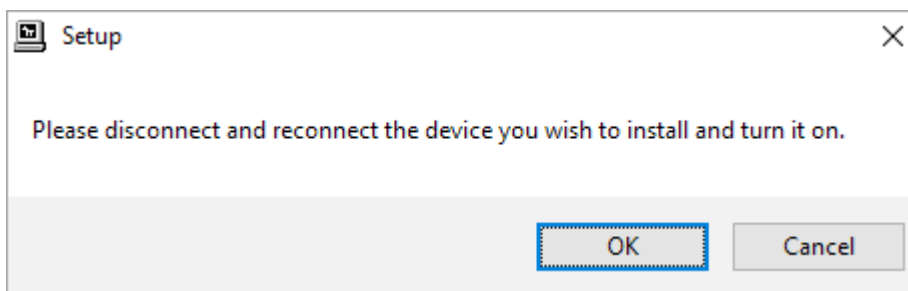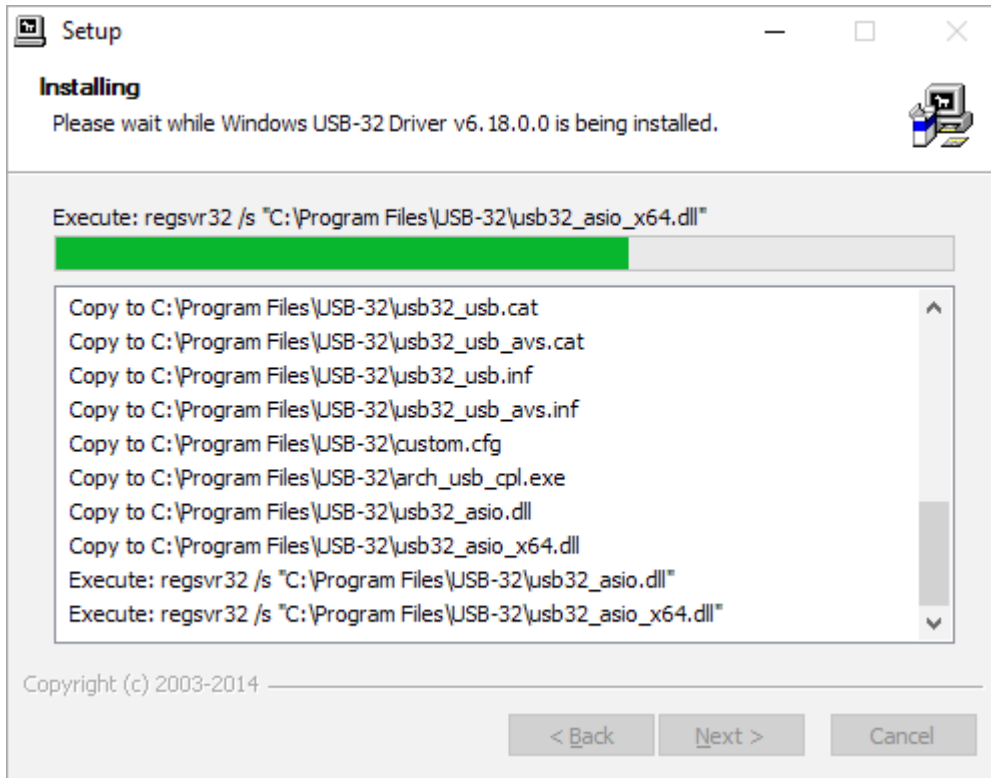
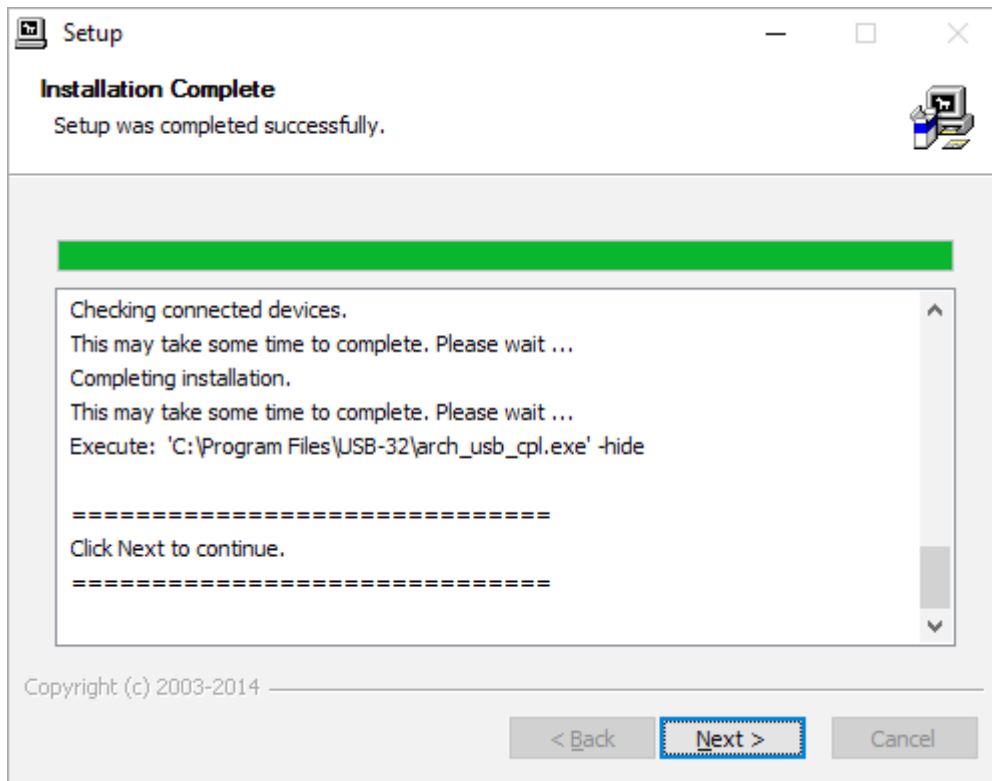⇨Double-click on the file USB32_Driver_Vx_xx_x.exe.

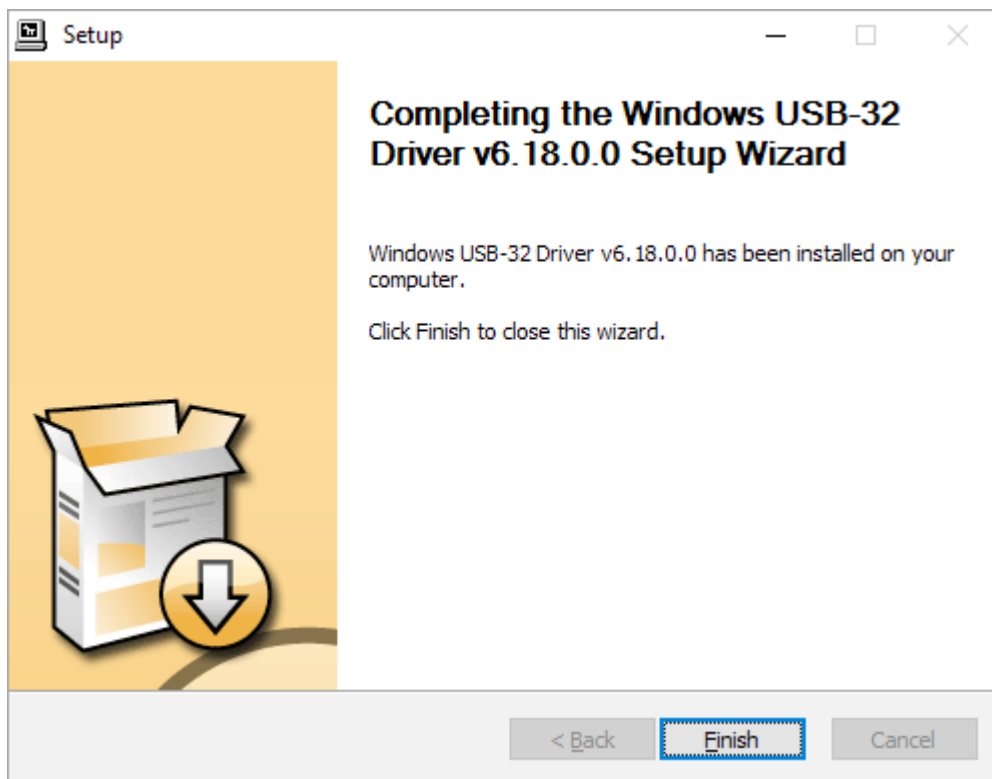⇨Click Next.

⇨Click Install

⇨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.
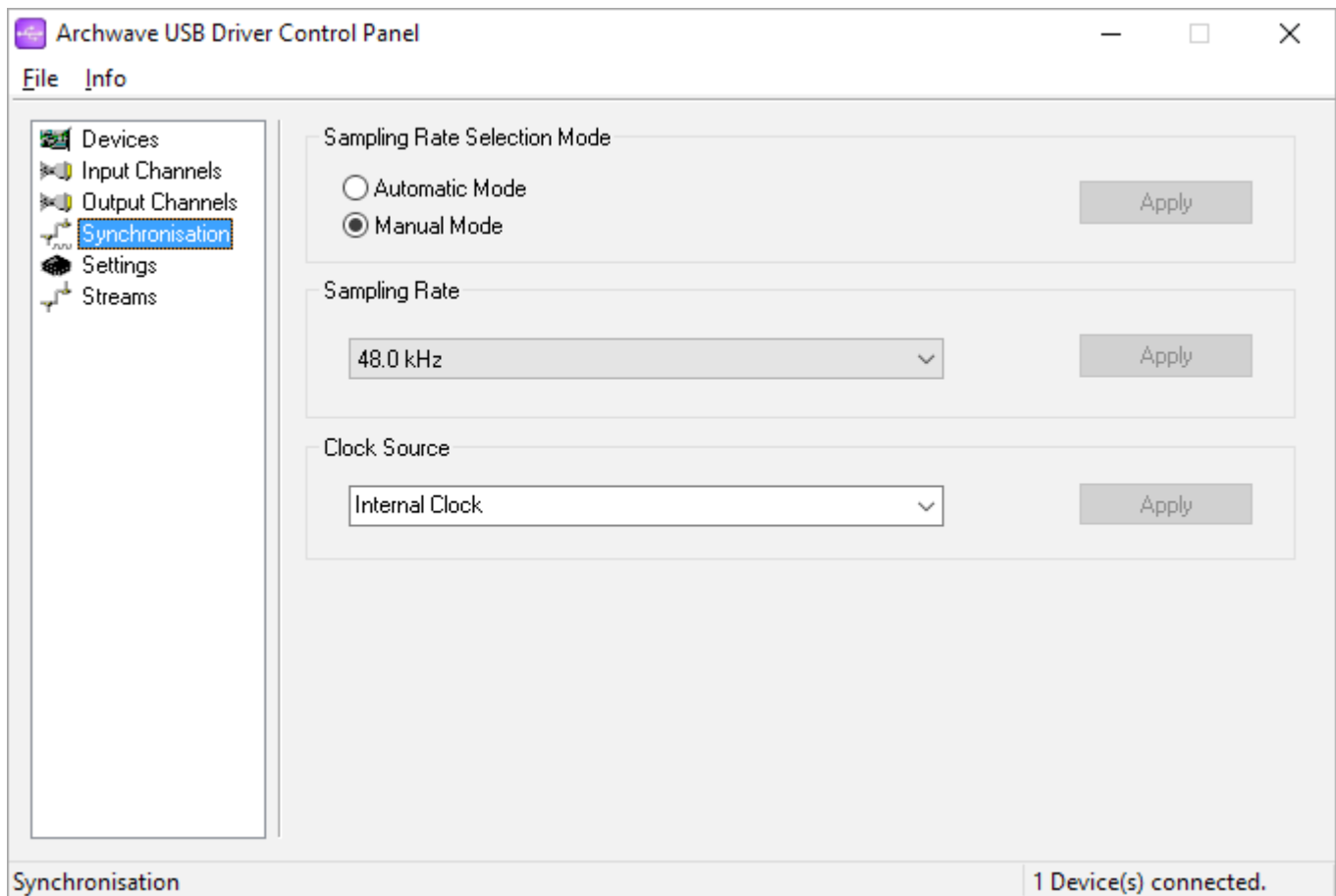
⇨Click OK.

⇨ Click Next.

⇨ 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.

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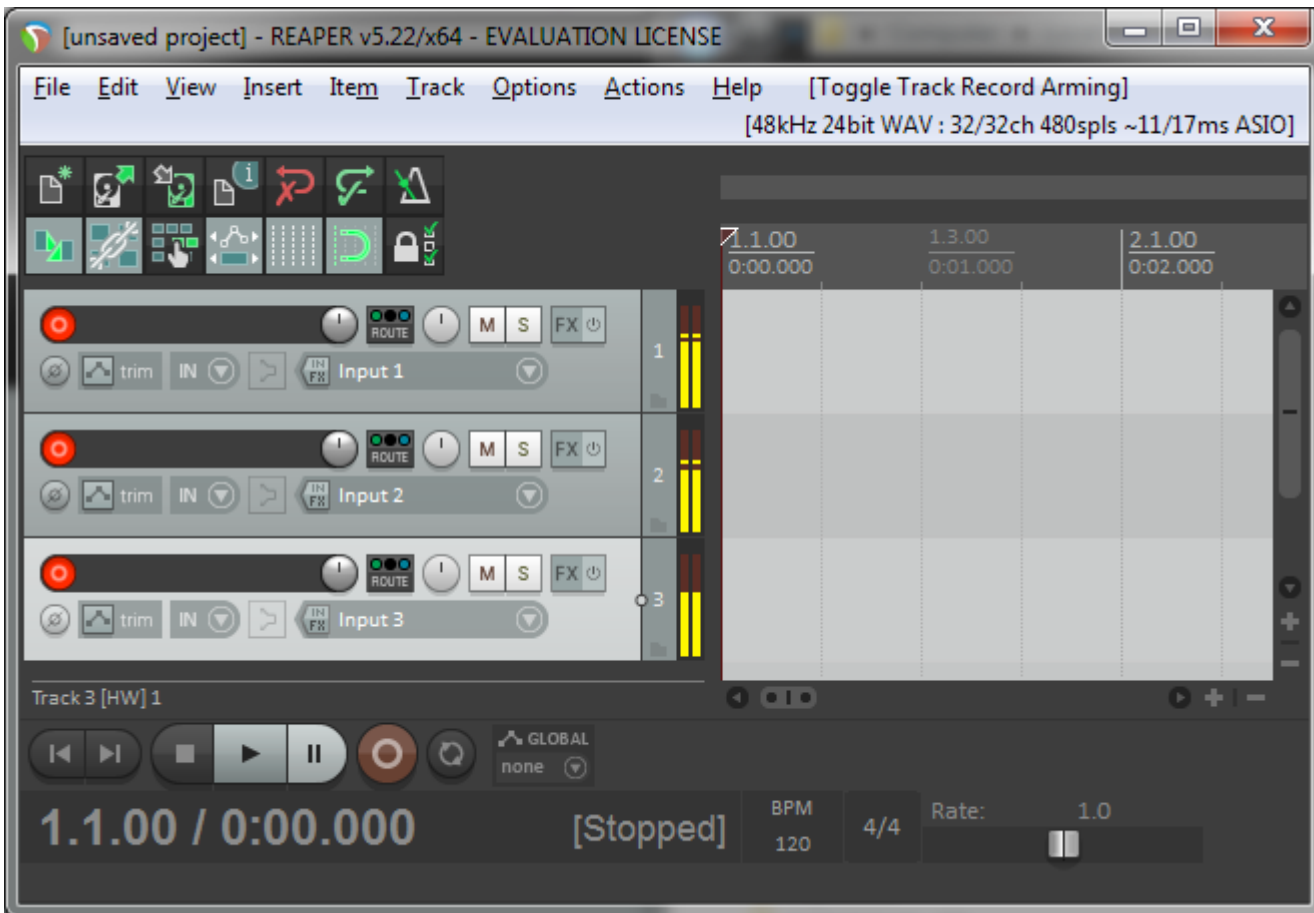
The digiMIX24 only operates at a 48 kHz sample rate, and the USB-32 driver software must be selected for 48.0 kHz for the USB-32 option to work.

⇨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.

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⇨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.

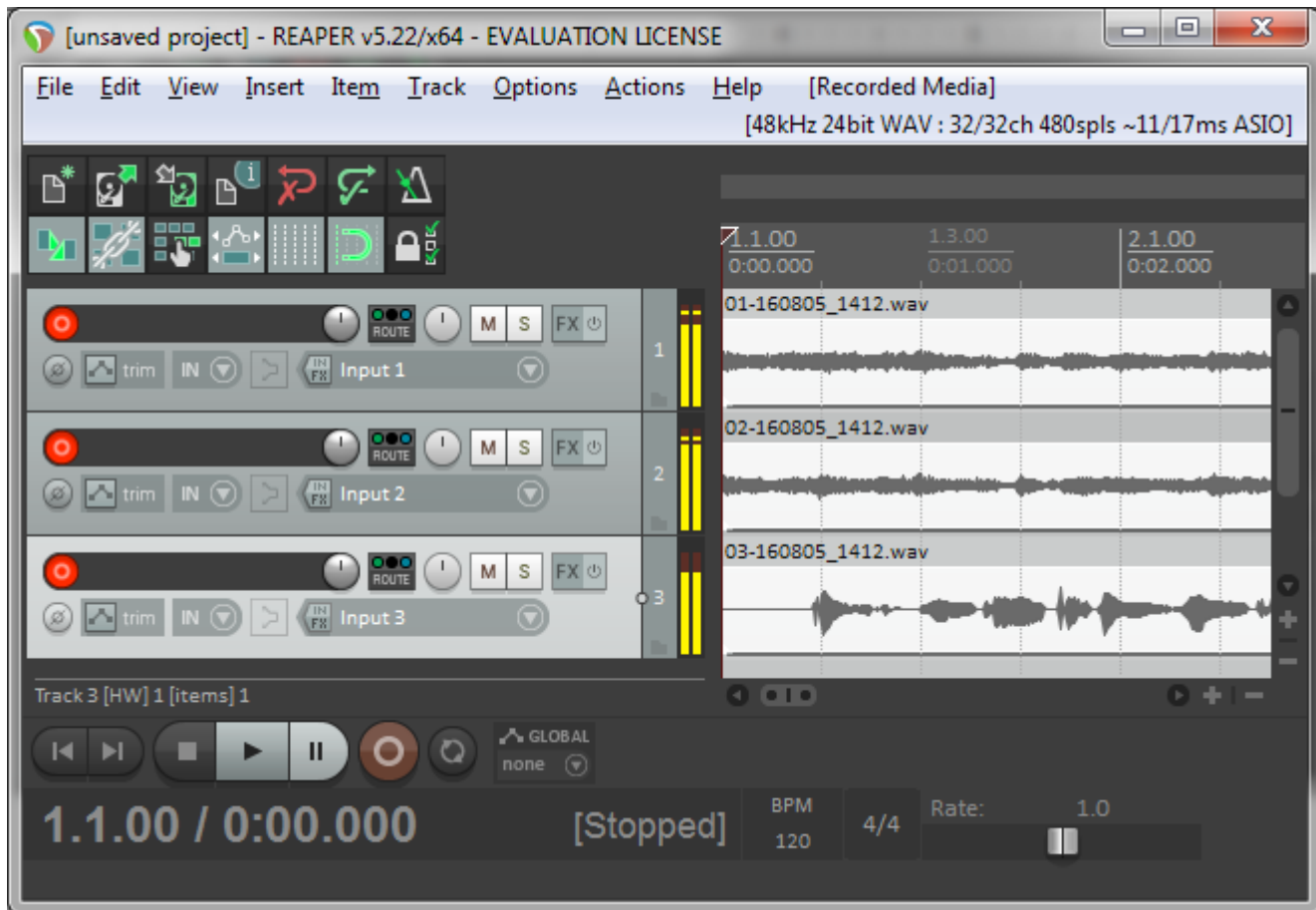This concludes the one-time software setup procedure.

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.
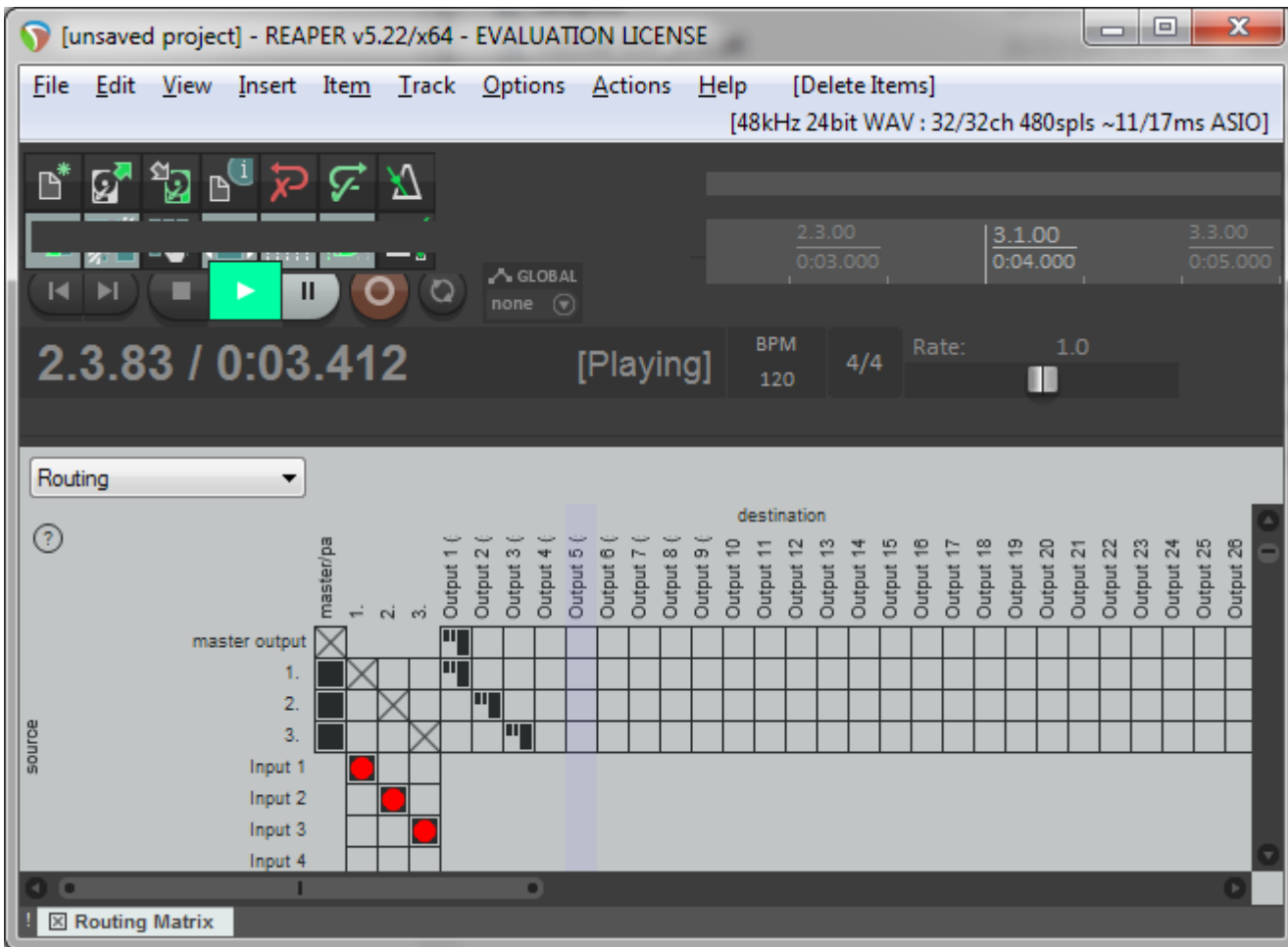
3) Virtual Sound Check Playback Procedure:

⇨ 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.

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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.*