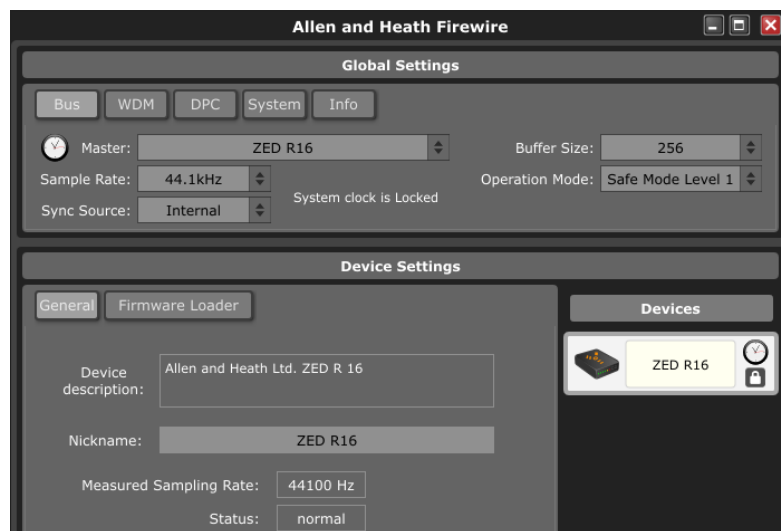# Configuring Steinberg Cubase with ZED-R16

This document describes how to configure Steinberg Cubase to work with the ZED-R16.

The following step by step procedures refer to Cubase 6 on Windows 7 operating system. A similar procedure should apply for earlier Windows Operating Systems, MAC OS X and other versions of Cubase.

NOTE: As of version 3.5.5 the FireWire driver has been renamed from 'ZEDDICE' to 'Allen and Heath Firewire'.
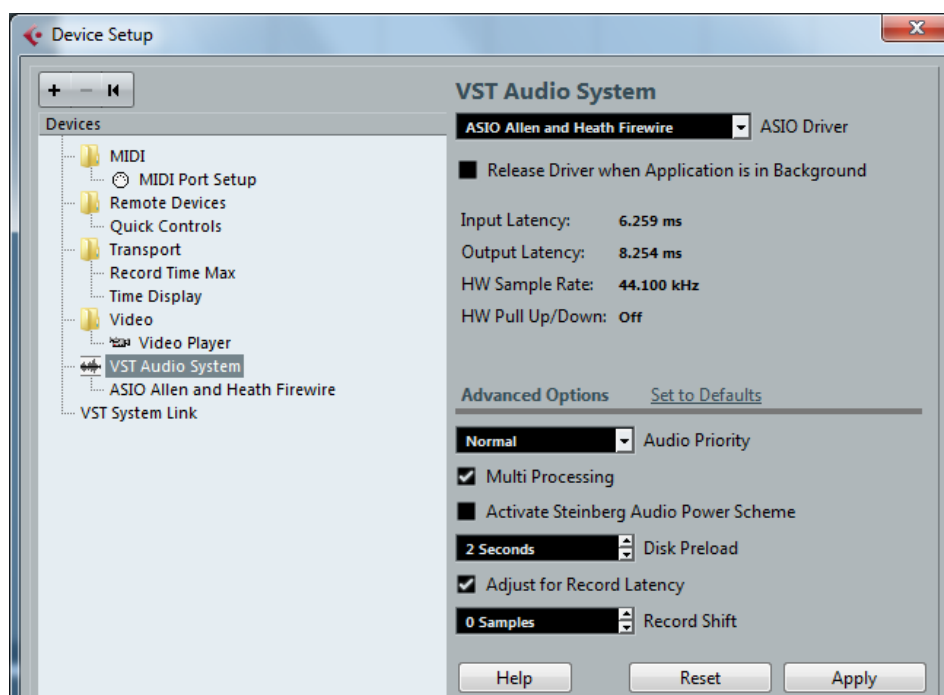
Before starting

⇒ Ensure the Allen & Heath Firewire driver is installed in your system and up to date. Please read the Firewire Driver Installation / Firewire Control Pannel V3.5.x guides for details regarding installation and understanding of the Control Panel.

⇒ Ensure the ZED-R16 is powered on and the Firewire cable is connected from the computer to either port on the ZED-R16 Firewire interface.

⇒ Check that your computer has recognized the connection of the ZED-R16 Firewire device by opening the Allen & Heath Firewire Control Panel.
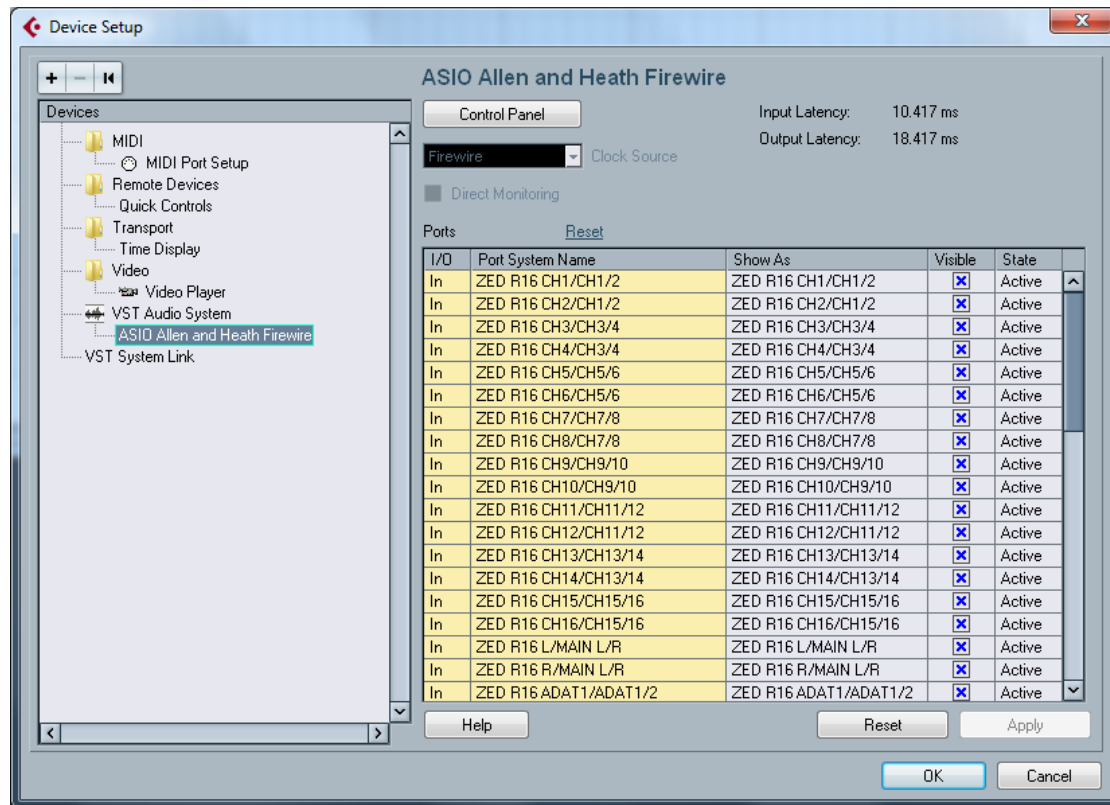

Audio routing

⇒ Launch Cubase. Close the Project Assistant window, click 'Devices/Device Setup' and select 'VST Audio System'. Set 'ASIO Allen and Heath Firewire' as the ASIO Driver and click 'Apply'.

Configuring Steinberg Cubase with ZED-R16

⇒ Select 'ASIO Allen and Heath Firewire', scroll the window and check that all driver inputs and outputs are enabled (Visible). Their State will become Active once they are assigned to a VST bus in Cubase. Then click 'OK'.
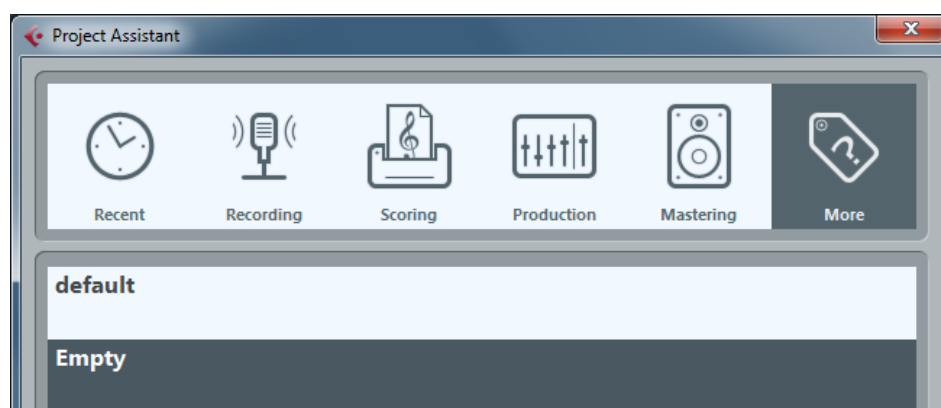

⇒ If you are not familiar with Cubase, you may use the '**ZED-R16 Cubase template**' as a starting point and skip to the 'MIDI control' section (page 5). Open the template project. *Please note MIDI settings are stored in the host application, not in the project. Follow the instructions in the next sections to setup MIDI control.*
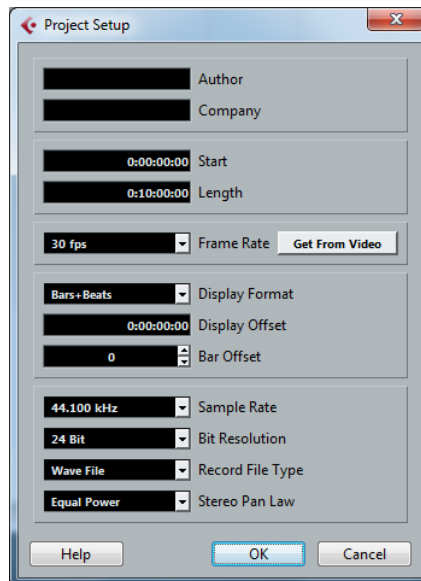

ZED-R16 Cubase template

• The project has 24 mono tracks sourced from the ZED-R Mono Input Channels and ADAT Port 1, and a stereo track sourced from the ZED-R Main LR.

• All tracks are routed to a Group bus in Cubase - this is patched to Output 17 & 18. Use ZED-R16 'Digital Master to LR' button and 'Digital Master Input' rotary control to monitor the DAW bus when mixing 'in the box'.

• All tracks are also routed to the corresponding ZED-R channel via a pre-fader Send at unity gain. Enable the Digital Return on the ZED-R Input Channels and arm the Main LR track to record the analogue mixdown out of the desk.

• VST connections are renamed according to the corresponding ZED-R channels.

⇒ To start from a blank project, click 'File/New'. Select 'Empty' in the Project Assistant 'More' tab, choose your project location and click 'Create'.
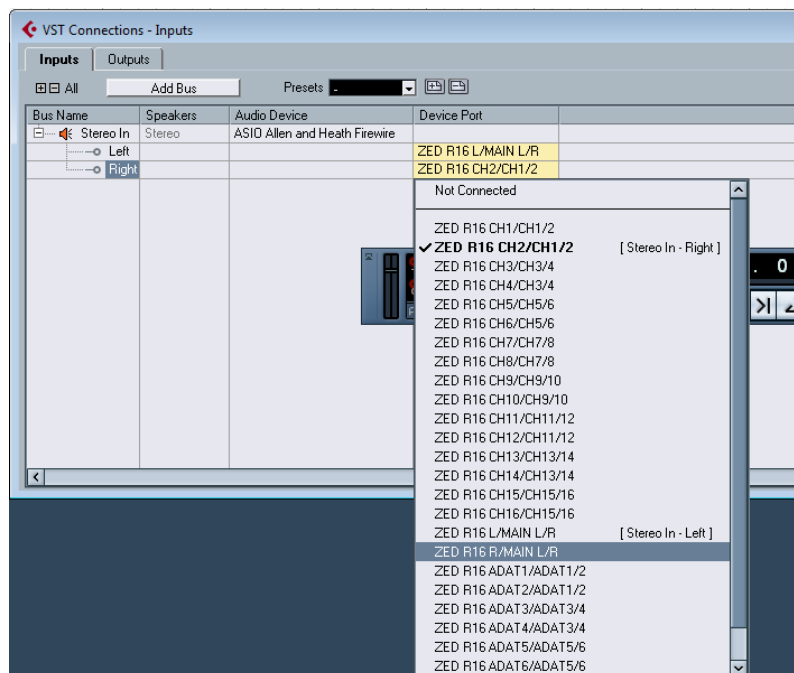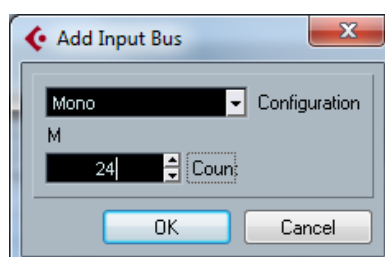
Configuring Steinberg Cubase with ZED-R16

⇒ Click 'Project/Project Setup' and set your desired Sample Rate, Record Format and Record File Type, then click 'OK'. These settings will be retained in the project and overwrite any changes made in the Allen & Heath Firewire Control Panel. However, Cubase has no control over the ASIO buffer size - you must use the Allen and Heath Firewire Control Panel to change the buffer size.

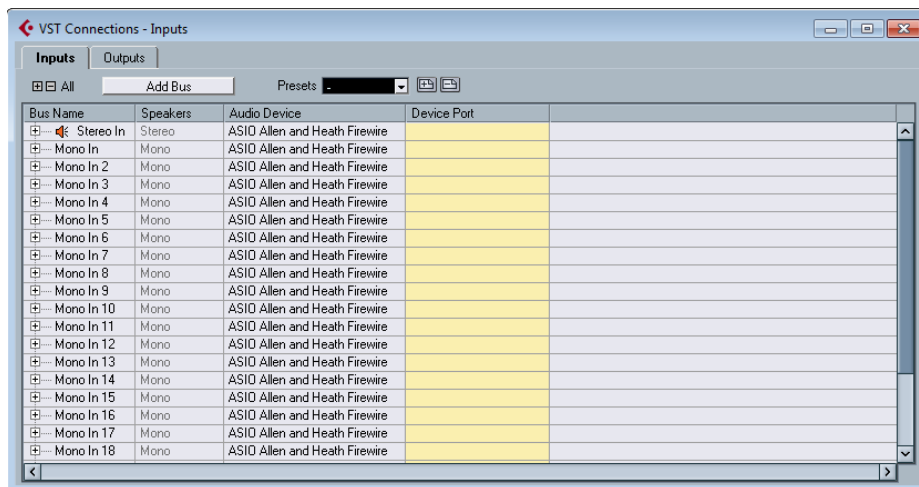⇒ Click 'Devices/VST Connections' and open the 'Inputs' tab. Assign stereo left/right to 'ZED-R16 MAIN L/R'.

⇒ Click 'Add Bus' and create 24 mono busses for the ZED-R Mono Input channels and ADAT 1 inputs.

⇒ Click on the 'Outputs' tab and repeat the process described above to create your VST Output connections.

⇒ Your VST connections are now ready to use in your project. You can rename the Bus names in a way that reminds you which channel of the desk they are assigned to.

⇒ Close the 'VST Connections' window and click 'Project/Add Track/Audio'. Enter '24' as the Count and 'Mono' as the Configuration, then click 'Add Track'.

⇒ To set the **source** for a given track, select the track, click the Input Routing box in the Inspector, and select the required input (for example 'Mono 1' for Track 1). If any audio is present on the corresponding ZED-R16 channel, arm the track to monitor the input signal on the meter.

⇒ To create a **master bus** in Cubase, click 'Project/Add Track/Group Channel'. Set '1' as the Count and 'Stereo' as the Configuration, then click 'Add'. Select the new Group, click the Output Routing box in the Inspector, and select the stereo VST bus assigned to 'ZED-R16 MAIN L/R' (for example 'Stereo Out').

⇒ To set the **routing** for a given track, select the track, click the Output Routing box in the Inspector, and select the required output; this is likely to be a master bus in Cubase (for example 'Group 1').

⇒ To route the same track also to the corresponding ZED-R channel, select the track, click the Sends box in the Inspector, then click on the arrow in the first available send box, and select the required output (for example 'Mono 1' for Track 1). Switch the Send on, set the Send level to unity gain (ctrl-click on level bar), and click the pre-fader button.

⇒ If an audio clip is present on the track, start Playback in Cubase and enable the Digital Return on the corresponding ZED-R channel to monitor the signal. Please read the ZED-R16 User Guide for detailed information regarding the routing options.

Configuring Steinberg Cubase with ZED-R16

MIDI control

MIDI data coming from the ZED-R16 is tunnelled over the Firewire cable and 'Allen & Heath Firewire' will appear as a MIDI device.

If you are not using Firewire, you can still use the MIDI features of the ZED-R16 by connecting standard MIDI DIN cables to a third party MIDI interface. Many soundcards come equipped with MIDI ports as standard.
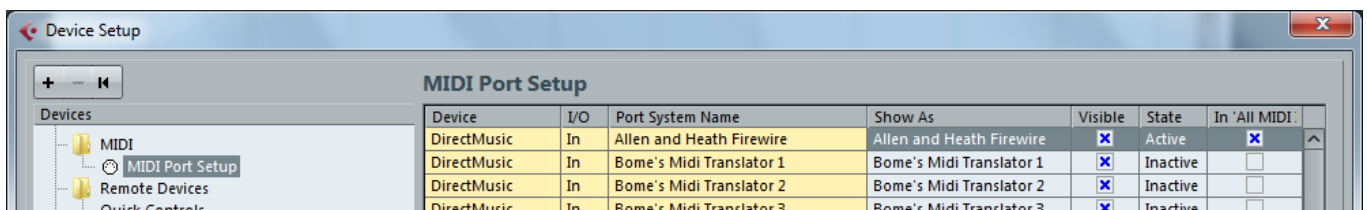
Assigning MIDI

The ZED-R16 MIDI code can be mapped directly into Cubase.

Configure the mixer Transport functions to synchronize to your version of Cubase.

⇒ If you are using the full version of Cubase, set the mixer Transport to MMC: hold down the 'Rec' button at power up, let go and then hold down button '1' then let go. Next simultaneously hold down button '1' and 'Rec' for two seconds, release both buttons and power the mixer off and on again.

⇒ If you are using a feature restricted version of Cubase (such as Cubase Studio), set the mixer Transport to send MIDI note on/off messages: hold down the 'Rec' button at power up, release and then hold down the 'Rec' button for a second time then release the 'Rec' button and power cycle the mixer.

Note: The Transport MMC/NOTE ON/OFF functionality is only available for desks with serial number ZR16X-215306 or higher. For desks with lower serial numbers, Transport will output MMC only.

⇒ Launch Cubase and create a new project or open an existing one.

⇒ Click 'Devices/Device Setup' then select 'MIDI Port Setup'. Check that the 'Allen and Heath Firewire' In port is enabled (Visible). Its State will become Active once it is assigned to an external device.

⇒ Click the '+' button (upper left corner of the window) to add a device, and select 'Generic Remote'.

⇒ Set 'Allen and Heath Firewire' as the MIDI Input.

⇒ If you are not familiar with Cubase, you may skip the rest of this section and use the '**ZED-R16 Cubase MIDI.xml**' file as a starting point. Select the new Generic Remote device, click Import, and open the template XML file, then click OK.
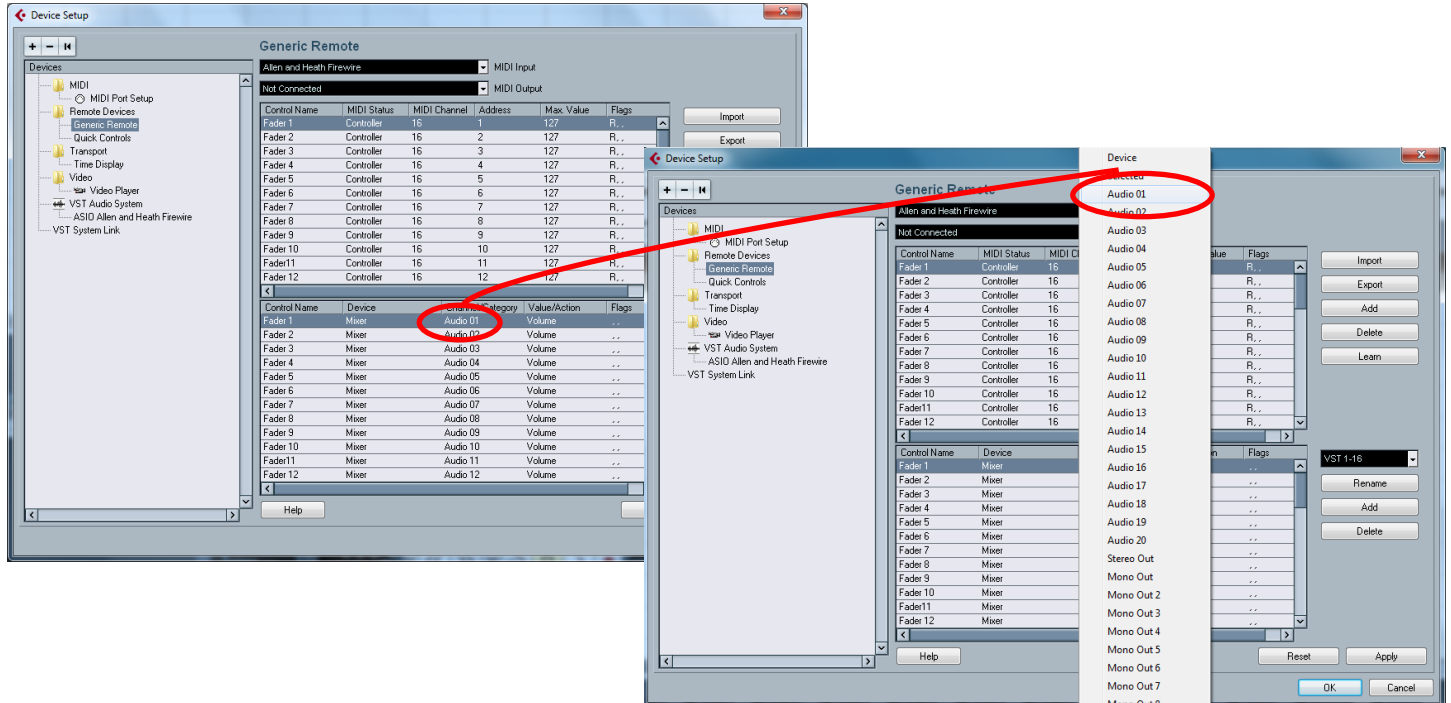

ZED-R16 Cubase MIDI (XML template for Cubase 6 or higher)

• When imported in a Generic Remote device, this template maps the ZED-R16 faders to track faders in Cubase.

• All other controls are left unassigned, although they are listed in the upper window. Simply assign these controls in the lower window to the desired functions or parameters in Cubase.
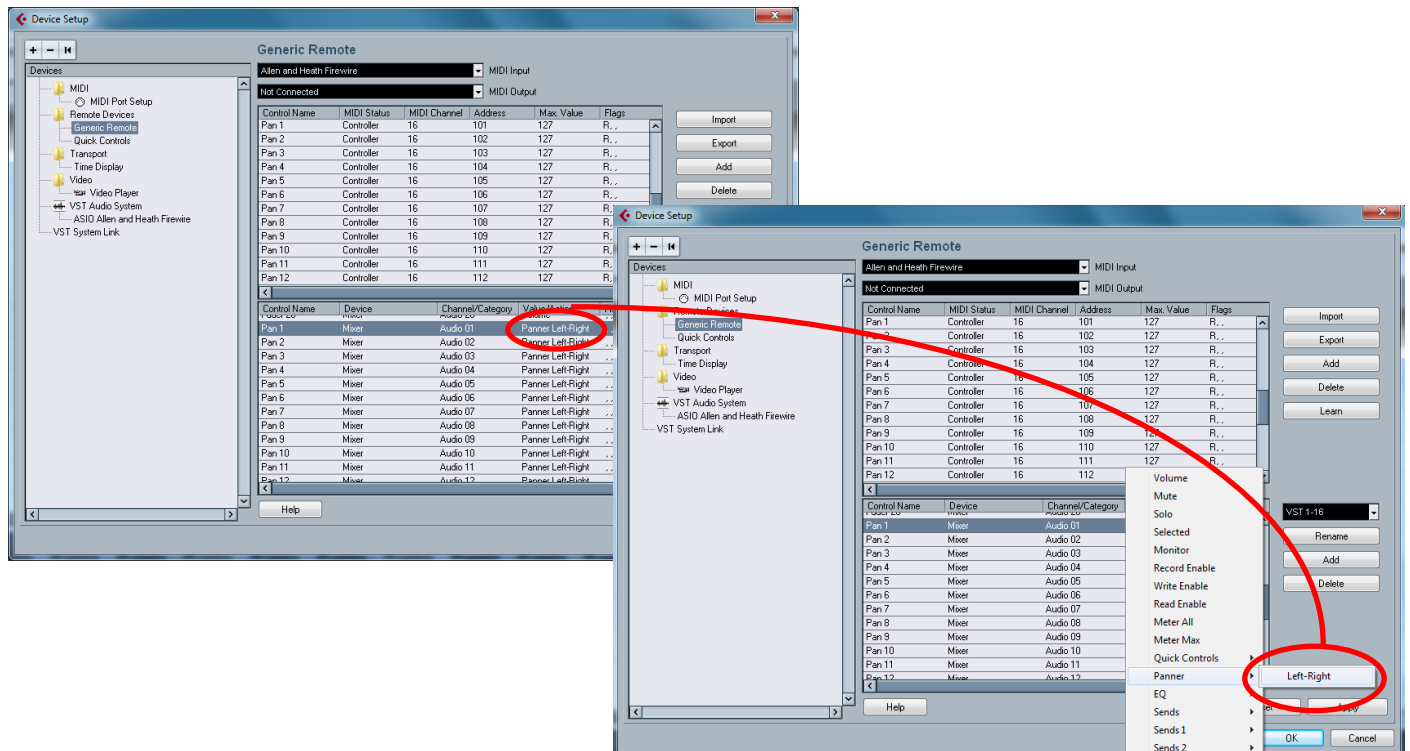

⇒ The 'Generic Remote' device should be populated with a list of controllers. If there are no controllers listed click on 'Add' and rename the new controller by double-clicking on its name (for example 'Fader 1'). Make sure all the required controllers are there (for example 16 for the channel faders, 4 for the faders in the MIDI section, 12 for MIDI rotaries, and 8 for MIDI switches).

Configuring Steinberg Cubase with ZED-R16

⇒ Select the control you wish to assign in the upper window, for example 'Fader 1'. Click 'Learn' and move the corresponding physical control on the mixer, for example the Input Channel 1 fader. Make sure 'FADER = MIDI' is enabled on the channel. Click the Flags value and make sure 'Receive' and 'Transmit' are ticked.

⇒ In the lower window, set the function or parameter associated with the control. For example, set 'Fader 1' Device to 'Mixer', Channel/Category to track 'Audio 01' and the Value/Action to 'Volume'.
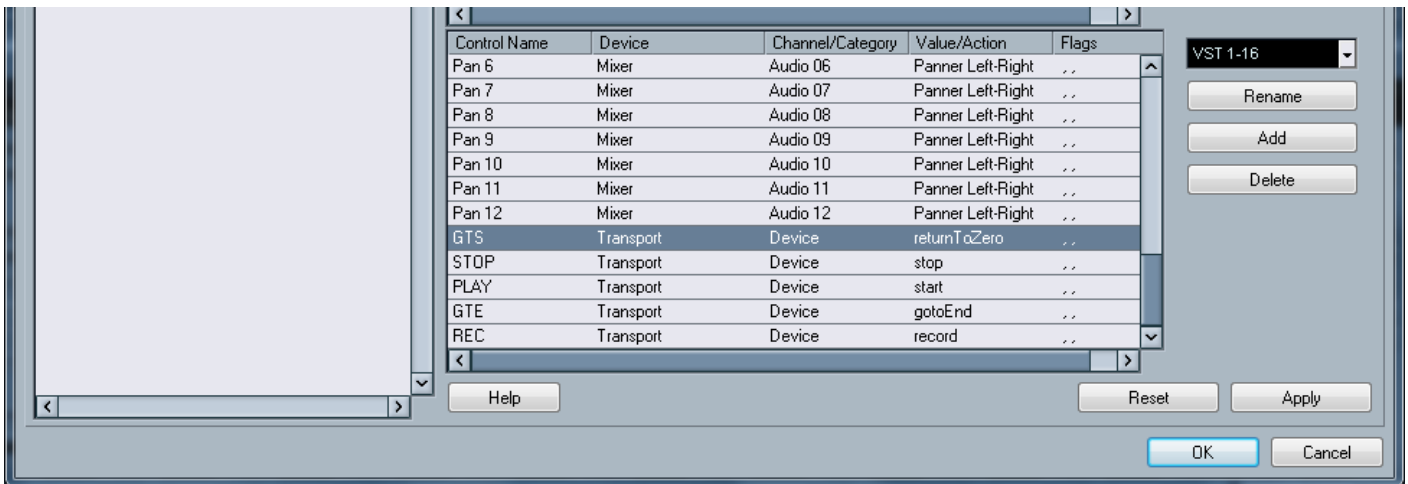

⇒ Repeat these steps for all the required controls. For example, set 'Pan 1' Device to 'Mixer', Channel/Category to track 'Audio 01' and the Value/Action to 'Panner/Left-Right'.

⇒ If you are using a feature restricted version of Cubase (such as Cubase Studio), add five new controllers to the Generic Remote device and rename them 'GTS', 'STOP', 'PLAY', 'GTE' and 'REC'. These are needed to synchronize the mixer Transport buttons.

Configuring Steinberg Cubase with ZED-R16

⇒   Select GTS in the upper window. Click 'Learn' and press the GTS button on the mixer. Set the MIDI Status value to 'Note On' and the Flags value to 'Receive'.

⇒   In the lower window, set the GTS Device to 'Transport', Channel/Category to 'Device', Value/Action to 'returnToZero' and the Flags value to 'Not Automated'.

⇒   Now repeat these steps for the other Transport buttons, assigning them accordingly. See the following screenshot as a reference.

⇒   Save the Generic Remote map by clicking the 'Export' button. Cubase will load the last imported or exported map each time it boots up.

⇒   If you are using the full version of Cubase, click 'Transport > Project Synchronization Setup' and enable the 'MMC Slave Active' option. Set the MMC Input and MMC Output as 'Allen and Heath Firewire', then click 'OK'.