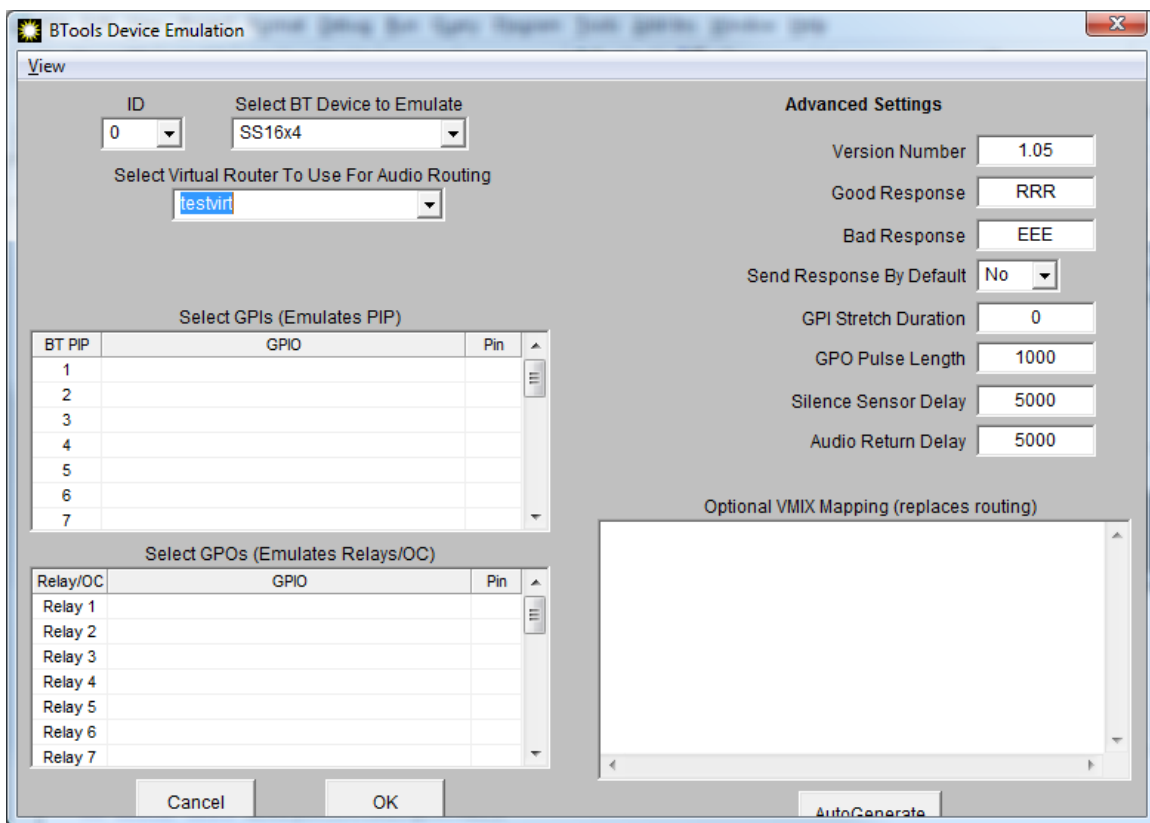


BTools Emulation with mixing in PathfinderPC Server

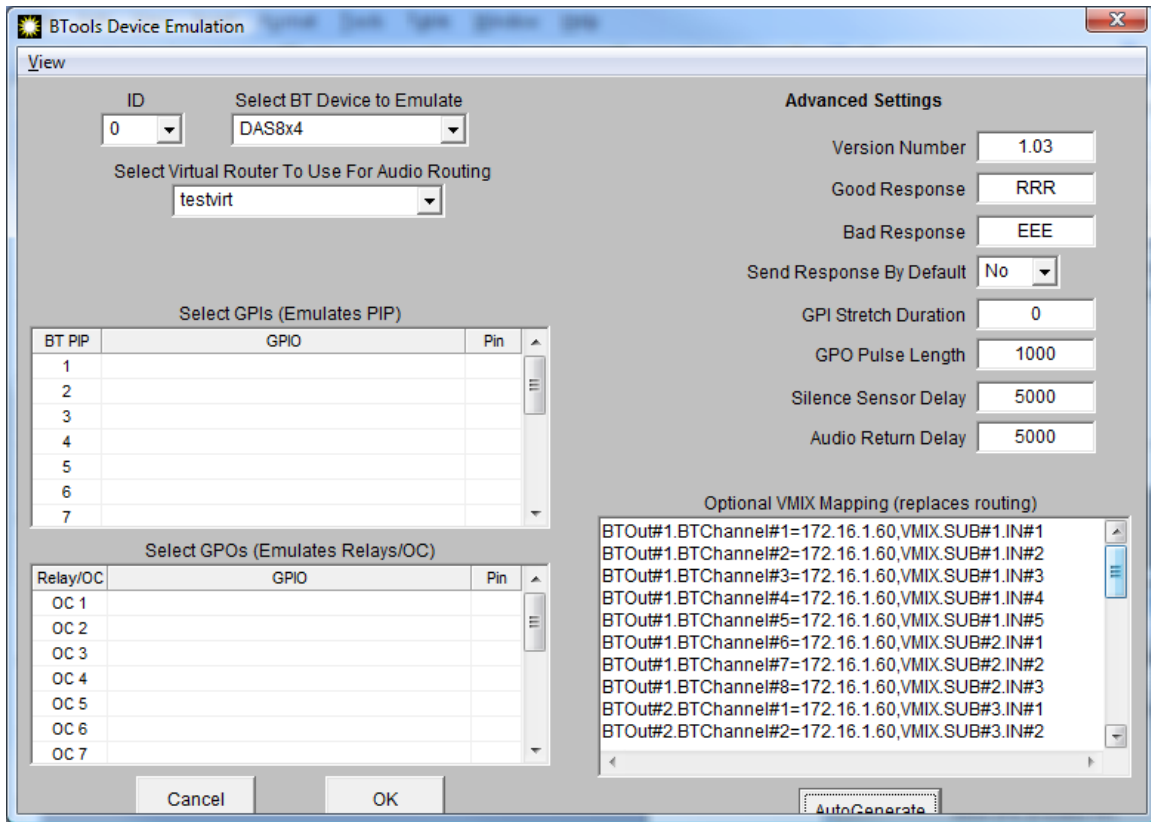
Due to popular demand we have added the ability for Pathfinder BTools Protocol Translators to mix instead of just switch audio channels. Please see the Pathfinder documentation for the basic BTools protocol translator configuration. This document outlines the modifications that can be made to enable the translator to mix audio instead of just making route changes.

The mixing feature requires the use of VMIX in an Element Mix Engine. Set up the BTools Protocol Translator as you normally would, selecting the device you wish to emulate in the BTDevice configuration screen. Next under the View menu, select Advanced. This will expand the configuration screen displaying more options.



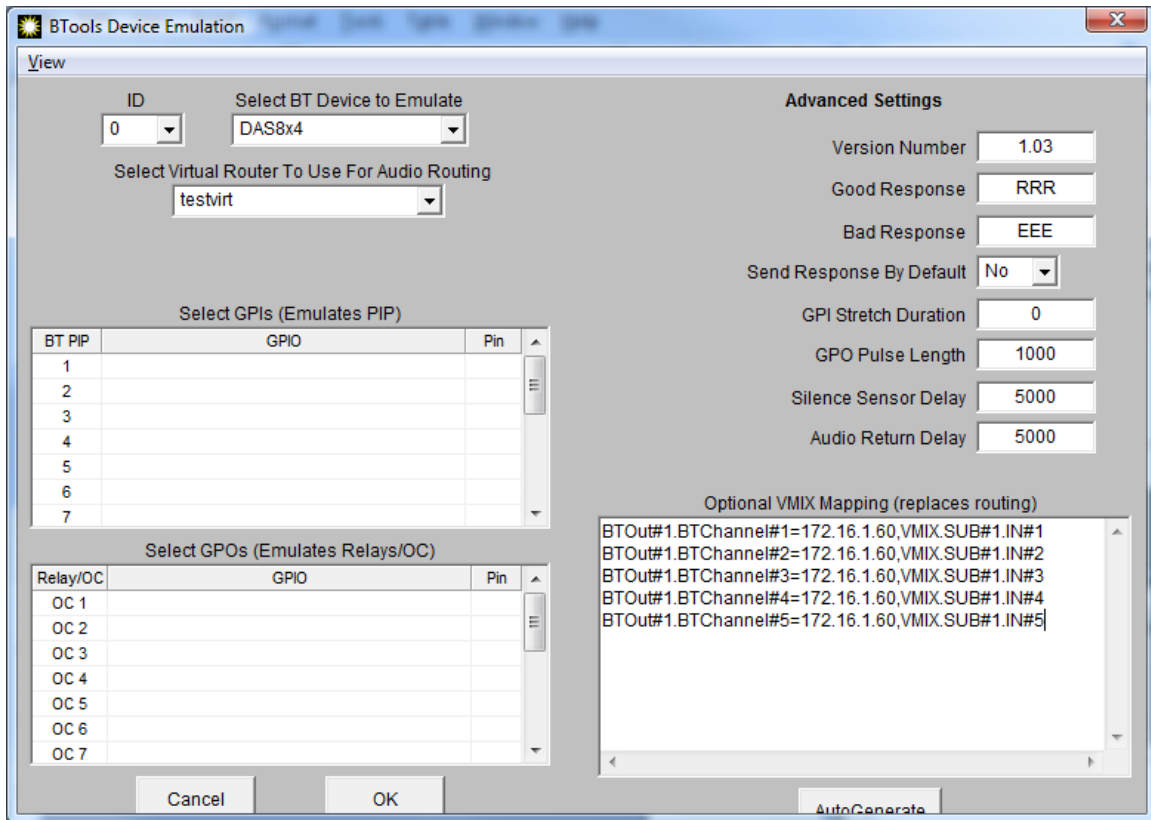
The text box in the bottom right corner is where you configure the device for mixing instead of routing. If this box is empty, then the device will operate in routing mode making route changes on the selected virtual router.

Click AutoGenerate and the box will ask you for the IP address of an Engine with VMIX capability and will then fill the text box with BTools channel to VMIX channel mappings that are appropriate to the selected device.



Once this text box has any valid mappings and you complete the translator edit/creation, the BTools translator will no longer make route changes for any commands received that are directed at this BTDevice. Instead it will turn the VMIX channels on and off which correspond to the BT Channel and Output that have been received from the controlling automation system.

If you do not need a fully populated set of channels you can remove lines you do not need. For example:



In this case, after automatically generating the mappings for an 8x4, we removed all but the first five lines. Therefore any command directed at BT Out 1, Channels 1 through 5 will cause the corresponding VMIX channels to be turned on and off. Any other Channel change commands will be ignored. You can also manually edit the lines to map to different vmix submixers and channels if you desire.

Next you need to use PathfinderPC Client or the Engine configuration screen to route the sources which you want applied to the VMIX busses. The outputs of these submixers would correspond to each output of the BTools device.

It is important to understand the routing of the VMIX submixers and how many channels are used for this mixing as it can be quite resource intensive. VMIXers do not have multiple output busses. So in order to mimic this functionality the sources have to be duplicated across multiple VMIX submixers with the output of the submixer acting as the output of each bus of the Btools. In addition because VMIXers are only 5 channels, we have to gang multiple VMIXers together to actually mimic all of the channels of the BTools box. Let's look at an 8x2 mapping example first.

VMIX Submixer 1

Source1 → VMIX.SUB#1.IN#1	BTools Channel 1 to Out 1
Source2 → VMIX.SUB#1.IN#2	BTools Channel 2 to Out 1
Source3 → VMIX.SUB#1.IN#3	BTools Channel 3 to Out 1
Source4 → VMIX.SUB#1.IN#4	BTools Channel 4 to Out 1
Source5 → VMIX.SUB#1.IN#5	BTools Channel 5 to Out 1

VMIX Submixer 2

Source6 → VMIX.SUB#2.IN#1	BTools Channel 6 to Out 1
Source7 → VMIX.SUB#2.IN#2	BTools Channel 7 to Out 1
Source8 → VMIX.SUB#2.IN#3	BTools Channel 8 to Out 1
SUB#1.SUBMixOut → VMIX.SUB#2.IN#4	
NotUsed → VMIX.SUB#2.IN#5	

VMIX Submixer 3

Source1 → VMIX.SUB#3.IN#1	BTools Channel 1 to Out 2
Source2 → VMIX.SUB#3.IN#2	BTools Channel 2 to Out 2
Source3 → VMIX.SUB#3.IN#3	BTools Channel 3 to Out 2
Source4 → VMIX.SUB#3.IN#4	BTools Channel 4 to Out 2
Source5 → VMIX.SUB#3.IN#5	BTools Channel 5 to Out 2

VMIX Submixer 4

Source6 → VMIX.SUB#4.IN#1	BTools Channel 6 to Out 2
Source7 → VMIX.SUB#4.IN#2	BTools Channel 7 to Out 2
Source8 → VMIX.SUB#4.IN#3	BTools Channel 8 to Out 2
SUB#3.SUBMixOut → VMIX.SUB#4.IN#4	
NotUsed → VMIX.SUB#2.IN#5	

In this case, the BTools Output 1 would be the output of VMIX submix 2 and the Btools output 2 would be the output of VMIX submix 4. Notice that the first submixer output is a source on the second submixer. This allows the first 5 sources to be mixed with the last 3 sources and the result appears out of submixer 2. The 8 sources are duplicated from submixer 1&2 on submixer 3&4. Therefore, when the automation system asks to have channel 3 turned on to output 1, VMIX.SUB#1.IN#3 gets turned on. When the automation system asks to have channel 3 turned on to output 2, VMIX.SUB#3.IN#3 gets turned on. The mapping above is the default mapping that gets created, but you can change any BTools Channel/Output to map to any VMIX channel if you desire.

You must make the source assignments and submix looping assignments using either PathfinderPC client or the engine configuration screen. Pathfinder will not do this automatically for you currently. But once the audio is routed, the translator will faithfully turn the VMIX channels on and off and emulate the mixing functionality of the BTools boxes. In a future version we may try to allow you to select the sources in the configuration screen and auto-configure the routing in VMIX as well, but this currently is not an option.

One important point is to understand how many VMIX channels are required if you want to fully configure all channels and all outputs for a BTools device. As the example above shows, an 8x2 actually requires 4 Submixers or 20 VMIX channels to fully implement it. A fully complemented 8x4 requires 8 submixers or 40 channels which completely uses up all channels on an engine. A fully implemented 12x4 requires 60 channels and needs 2 engines. And a fully implemented 16x4 requires 2 full engines and 80 channels. Remember, if you are only using one output you can remove the additional channels. So even if you select a 16x4 in the device, if you do not need all the channels or all 4 busses for all the channels you, can remove the additional lines in the configuration text box and greatly reduce the needed VMIX channels.

That has been an overview of how to set up mixing with the BTools protocol translator. Below find the default mappings for all of the emulated devices. The VMIXers in bold italics are where to pull the submix for each BTools emulated output.

ACS8x2

VMIX Submixer 1

Source1 → VMIX.SUB#1.IN#1	BTools Channel 1 to Out 1
Source2 → VMIX.SUB#1.IN#2	BTools Channel 2 to Out 1
Source3 → VMIX.SUB#1.IN#3	BTools Channel 3 to Out 1
Source4 → VMIX.SUB#1.IN#4	BTools Channel 4 to Out 1
Source5 → VMIX.SUB#1.IN#5	BTools Channel 5 to Out 1

VMIX Submixer 2

Source6 → VMIX.SUB#2.IN#1	BTools Channel 6 to Out 1
Source7 → VMIX.SUB#2.IN#2	BTools Channel 7 to Out 1
Source8 → VMIX.SUB#2.IN#3	BTools Channel 8 to Out 1
SUB#1.SUBMixOut → VMIX.SUB#2.IN#4	
NotUsed → VMIX.SUB#1.IN#5	

VMIX Submixer 3

Source1 → VMIX.SUB#3.IN#1	BTools Channel 1 to Out 2
Source2 → VMIX.SUB#3.IN#2	BTools Channel 2 to Out 2
Source3 → VMIX.SUB#3.IN#3	BTools Channel 3 to Out 2
Source4 → VMIX.SUB#3.IN#4	BTools Channel 4 to Out 2
Source5 → VMIX.SUB#3.IN#5	BTools Channel 5 to Out 2

VMIX Submixer 4

Source6 → VMIX.SUB#4.IN#1	BTools Channel 6 to Out 2
Source7 → VMIX.SUB#4.IN#2	BTools Channel 7 to Out 2
Source8 → VMIX.SUB#4.IN#3	BTools Channel 8 to Out 2
SUB#3.SUBMixOut → VMIX.SUB#4.IN#4	
NotUsed → VMIX.SUB#4.IN#5	

DAS8x4

VMIX Submixer 1

Source1 → VMIX.SUB#1.IN#1	BTools Channel 1 to Out 1
Source2 → VMIX.SUB#1.IN#2	BTools Channel 2 to Out 1
Source3 → VMIX.SUB#1.IN#3	BTools Channel 3 to Out 1
Source4 → VMIX.SUB#1.IN#4	BTools Channel 4 to Out 1
Source5 → VMIX.SUB#1.IN#5	BTools Channel 5 to Out 1

VMIX Submixer 2

Source6 → VMIX.SUB#2.IN#1	BTools Channel 6 to Out 1
Source7 → VMIX.SUB#2.IN#2	BTools Channel 7 to Out 1
Source8 → VMIX.SUB#2.IN#3	BTools Channel 8 to Out 1
SUB#1.SUBMixOut → VMIX.SUB#2.IN#4	
NotUsed → VMIX.SUB#2.IN#5	

VMIX Submixer 3

Source1 → VMIX.SUB#3.IN#1	BTools Channel 1 to Out 2
Source2 → VMIX.SUB#3.IN#2	BTools Channel 2 to Out 2
Source3 → VMIX.SUB#3.IN#3	BTools Channel 3 to Out 2
Source4 → VMIX.SUB#3.IN#4	BTools Channel 4 to Out 2
Source5 → VMIX.SUB#3.IN#5	BTools Channel 5 to Out 2

VMIX Submixer 4

Source6 → VMIX.SUB#4.IN#1	BTools Channel 6 to Out 2
Source7 → VMIX.SUB#4.IN#2	BTools Channel 7 to Out 2
Source8 → VMIX.SUB#4.IN#3	BTools Channel 8 to Out 2
SUB#3.SUBMixOut → VMIX.SUB#4.IN#4	
NotUsed → VMIX.SUB#4.IN#5	

VMIX Submixer 5

Source1 → VMIX.SUB#5.IN#1	BTools Channel 1 to Out 3
Source2 → VMIX.SUB#5.IN#2	BTools Channel 2 to Out 3
Source3 → VMIX.SUB#5.IN#3	BTools Channel 3 to Out 3
Source4 → VMIX.SUB#5.IN#4	BTools Channel 4 to Out 3
Source5 → VMIX.SUB#5.IN#5	BTools Channel 5 to Out 3

VMIX Submixer 6

Source6 → VMIX.SUB#6.IN#1	BTools Channel 6 to Out 3
Source7 → VMIX.SUB#6.IN#2	BTools Channel 7 to Out 3
Source8 → VMIX.SUB#6.IN#3	BTools Channel 8 to Out 3
SUB#5.SUBMixOut → VMIX.SUB#6.IN#4	
NotUsed → VMIX.SUB#6.IN#5	

VMIX Submixer 7

Source1 → VMIX.SUB#7.IN#1	BTools Channel 1 to Out 4
Source2 → VMIX.SUB#7.IN#2	BTools Channel 2 to Out 4
Source3 → VMIX.SUB#7.IN#3	BTools Channel 3 to Out 4
Source4 → VMIX.SUB#7.IN#4	BTools Channel 4 to Out 4
Source5 → VMIX.SUB#7.IN#5	BTools Channel 5 to Out 4

VMIX Submixer 8

Source6 → VMIX.SUB#8.IN#1	BTools Channel 6 to Out 4
Source7 → VMIX.SUB#8.IN#2	BTools Channel 7 to Out 4
Source8 → VMIX.SUB#8.IN#3	BTools Channel 8 to Out 4
SUB#7.SUBMixOut → VMIX.SUB#8.IN#4	
NotUsed → VMIX.SUB#8.IN#5	

SS12x4

VMIX Submixer 1

Source1 → VMIX.SUB#1.IN#1	BTools Channel 1 to Out 1
Source2 → VMIX.SUB#1.IN#2	BTools Channel 2 to Out 1
Source3 → VMIX.SUB#1.IN#3	BTools Channel 3 to Out 1
Source4 → VMIX.SUB#1.IN#4	BTools Channel 4 to Out 1
Source5 → VMIX.SUB#1.IN#5	BTools Channel 5 to Out 1

VMIX Submixer 2

Source6 → VMIX.SUB#2.IN#1	BTools Channel 6 to Out 1
Source7 → VMIX.SUB#2.IN#2	BTools Channel 7 to Out 1
Source8 → VMIX.SUB#2.IN#3	BTools Channel 8 to Out 1
Source9 → VMIX.SUB#2.IN#4	BTools Channel 9 to Out 1
Source10 → VMIX.SUB#2.IN#5	BTools Channel 10 to Out 1

VMIX Submixer 3

Source11 → VMIX.SUB#3.IN#1	BTools Channel 11 to Out 1
Source12 → VMIX.SUB#3.IN#2	BTools Channel 12 to Out 1
SUB#1.SUBMixOut → VMIX.SUB#3.IN#3	
SUB#2.SUBMixOut → VMIX.SUB#3.IN#4	
NotUsed → VMIX.SUB#3.IN#5	

VMIX Submixer 4

Source1 → VMIX.SUB#4.IN#1	BTools Channel 1 to Out 2
Source2 → VMIX.SUB#4.IN#2	BTools Channel 2 to Out 2
Source3 → VMIX.SUB#4.IN#3	BTools Channel 3 to Out 2
Source4 → VMIX.SUB#4.IN#4	BTools Channel 4 to Out 2
Source5 → VMIX.SUB#4.IN#5	BTools Channel 5 to Out 2

VMIX Submixer 5

Source6 → VMIX.SUB#5.IN#1	BTools Channel 6 to Out 2
Source7 → VMIX.SUB#5.IN#2	BTools Channel 7 to Out 2
Source8 → VMIX.SUB#5.IN#3	BTools Channel 8 to Out 2
Source9 → VMIX.SUB#5.IN#4	BTools Channel 9 to Out 2
Source10 → VMIX.SUB#5.IN#5	BTools Channel 10 to Out 2

VMIX Submixer 6

Source11 → VMIX.SUB#6.IN#1	BTools Channel 11 to Out 2
Source12 → VMIX.SUB#6.IN#2	BTools Channel 12 to Out 2
SUB#4.SUBMixOut → VMIX.SUB#6.IN#3	
SUB#5.SUBMixOut → VMIX.SUB#6.IN#4	
NotUsed → VMIX.SUB#6.IN#5	

VMIX Submixer 7

Source1 → VMIX.SUB#7.IN#1	BTools Channel 1 to Out 3
Source2 → VMIX.SUB#7.IN#2	BTools Channel 2 to Out 3

Source3 → VMIX.SUB#7.IN#3	BTools Channel 3 to Out 3
Source4 → VMIX.SUB#7.IN#4	BTools Channel 4 to Out 3
Source5 → VMIX.SUB#7.IN#5	BTools Channel 5 to Out 3

VMIX Submixer 8

Source6 → VMIX.SUB#8.IN#1	BTools Channel 6 to Out 3
Source7 → VMIX.SUB#8.IN#2	BTools Channel 7 to Out 3
Source8 → VMIX.SUB#8.IN#3	BTools Channel 8 to Out 3
Source9 → VMIX.SUB#8.IN#4	BTools Channel 9 to Out 3
Source10 → VMIX.SUB#8.IN#5	BTools Channel 10 to Out 3

SECOND MIX ENGINE

VMIX Submixer 1

Source11 → VMIX.SUB#1.IN#1	BTools Channel 11 to Out 3
Source12 → VMIX.SUB#1.IN#2	BTools Channel 12 to Out 3
Engine 1 SUB#7.SUBMixOut → VMIX.SUB#1.IN#3	
Engine 1 SUB#8.SUBMixOut → VMIX.SUB#1.IN#4	
NotUsed → VMIX.SUB#1.IN#5	

VMIX Submixer 2

Source1 → VMIX.SUB#2.IN#1	BTools Channel 1 to Out 4
Source2 → VMIX.SUB#2.IN#2	BTools Channel 2 to Out 4
Source3 → VMIX.SUB#2.IN#3	BTools Channel 3 to Out 4
Source4 → VMIX.SUB#2.IN#4	BTools Channel 4 to Out 4
Source5 → VMIX.SUB#2.IN#5	BTools Channel 5 to Out 4

VMIX Submixer 3

Source6 → VMIX.SUB#3.IN#1	BTools Channel 6 to Out 4
Source7 → VMIX.SUB#3.IN#2	BTools Channel 7 to Out 4
Source8 → VMIX.SUB#3.IN#3	BTools Channel 8 to Out 4
Source9 → VMIX.SUB#3.IN#4	BTools Channel 9 to Out 4
Source10 → VMIX.SUB#3.IN#5	BTools Channel 10 to Out 4

VMIX Submixer 4

Source11 → VMIX.SUB#4.IN#1	BTools Channel 11 to Out 4
Source12 → VMIX.SUB#4.IN#2	BTools Channel 12 to Out 4
Engine 2 SUB#2.SUBMixOut → VMIX.SUB#4.IN#3	
Engine 2 SUB#3.SUBMixOut → VMIX.SUB#4.IN#4	
NotUsed → VMIX.SUB#4.IN#5	

SS16x4

VMIX Submixer 1

Source1 → VMIX.SUB#1.IN#1	BTools Channel 1 to Out 1
Source2 → VMIX.SUB#1.IN#2	BTools Channel 2 to Out 1
Source3 → VMIX.SUB#1.IN#3	BTools Channel 3 to Out 1
Source4 → VMIX.SUB#1.IN#4	BTools Channel 4 to Out 1
Source5 → VMIX.SUB#1.IN#5	BTools Channel 5 to Out 1

VMIX Submixer 2

Source6 → VMIX.SUB#2.IN#1	BTools Channel 6 to Out 1
Source7 → VMIX.SUB#2.IN#2	BTools Channel 7 to Out 1
Source8 → VMIX.SUB#2.IN#3	BTools Channel 8 to Out 1
Source9 → VMIX.SUB#2.IN#4	BTools Channel 9 to Out 1
Source10 → VMIX.SUB#2.IN#5	BTools Channel 10 to Out 1

VMIX Submixer 3

Source11 → VMIX.SUB#3.IN#1	BTools Channel 11 to Out 1
Source12 → VMIX.SUB#3.IN#2	BTools Channel 12 to Out 1
Source13 → VMIX.SUB#3.IN#3	BTools Channel 13 to Out 1
Source14 → VMIX.SUB#3.IN#4	BTools Channel 14 to Out 1
Source15 → VMIX.SUB#3.IN#5	BTools Channel 15 to Out 1

VMIX Submixer 4

Source16 → VMIX.SUB#4.IN#1	BTools Channel 16 to Out 1
SUB#1.SUBMixOut → VMIX.SUB#4.IN#2	
SUB#2.SUBMixOut → VMIX.SUB#4.IN#3	
SUB#3.SUBMixOut → VMIX.SUB#4.IN#4	
NotUsed → VMIX.SUB#4.IN#5	

VMIX Submixer 5

Source1 → VMIX.SUB#5.IN#1	BTools Channel 1 to Out 2
Source2 → VMIX.SUB#5.IN#2	BTools Channel 2 to Out 2
Source3 → VMIX.SUB#5.IN#3	BTools Channel 3 to Out 2
Source4 → VMIX.SUB#5.IN#4	BTools Channel 4 to Out 2
Source5 → VMIX.SUB#5.IN#5	BTools Channel 5 to Out 2

VMIX Submixer 6

Source6 → VMIX.SUB#6.IN#1	BTools Channel 6 to Out 2
Source7 → VMIX.SUB#6.IN#2	BTools Channel 7 to Out 2
Source8 → VMIX.SUB#6.IN#3	BTools Channel 8 to Out 2
Source9 → VMIX.SUB#6.IN#4	BTools Channel 9 to Out 2
Source10 → VMIX.SUB#6.IN#5	BTools Channel 10 to Out 2

VMIX Submixer 7

Source11 → VMIX.SUB#7.IN#1	BTools Channel 11 to Out 2
Source12 → VMIX.SUB#7.IN#2	BTools Channel 12 to Out 2
Source13 → VMIX.SUB#7.IN#3	BTools Channel 13 to Out 2
Source14 → VMIX.SUB#7.IN#4	BTools Channel 14 to Out 2
Source15 → VMIX.SUB#7.IN#5	BTools Channel 15 to Out 2

VMIX Submixer 8

Source16 → VMIX.SUB#8.IN#1	BTools Channel 16 to Out 2
SUB#5.SUBMixOut → VMIX.SUB#8.IN#2	
SUB#6.SUBMixOut → VMIX.SUB#8.IN#3	
SUB#7.SUBMixOut → VMIX.SUB#8.IN#4	
NotUsed → VMIX.SUB#8.IN#5	

SECOND MIX ENGINE

VMIX Submixer 1

Source1 → VMIX.SUB#1.IN#1	BTools Channel 1 to Out 3
Source2 → VMIX.SUB#1.IN#2	BTools Channel 2 to Out 3
Source3 → VMIX.SUB#1.IN#3	BTools Channel 3 to Out 3
Source4 → VMIX.SUB#1.IN#4	BTools Channel 4 to Out 3
Source5 → VMIX.SUB#1.IN#5	BTools Channel 5 to Out 3

VMIX Submixer 2

Source6 → VMIX.SUB#2.IN#1	BTools Channel 6 to Out 3
Source7 → VMIX.SUB#2.IN#2	BTools Channel 7 to Out 3
Source8 → VMIX.SUB#2.IN#3	BTools Channel 8 to Out 3
Source9 → VMIX.SUB#2.IN#4	BTools Channel 9 to Out 3
Source10 → VMIX.SUB#2.IN#5	BTools Channel 10 to Out 3

VMIX Submixer 3

Source11 → VMIX.SUB#3.IN#1	BTools Channel 11 to Out 3
Source12 → VMIX.SUB#3.IN#2	BTools Channel 12 to Out 3
Source13 → VMIX.SUB#3.IN#3	BTools Channel 13 to Out 3
Source14 → VMIX.SUB#3.IN#4	BTools Channel 14 to Out 3
Source15 → VMIX.SUB#3.IN#5	BTools Channel 15 to Out 3

VMIX Submixer 4

Source16 → VMIX.SUB#4.IN#1	BTools Channel 16 to Out 3
SUB#1.SUBMixOut → VMIX.SUB#4.IN#2	
SUB#2.SUBMixOut → VMIX.SUB#4.IN#3	
SUB#3.SUBMixOut → VMIX.SUB#4.IN#4	
NotUsed → VMIX.SUB#4.IN#5	

VMIX Submixer 5

Source1 → VMIX.SUB#5.IN#1	BTools Channel 1 to Out 4
Source2 → VMIX.SUB#5.IN#2	BTools Channel 2 to Out 4
Source3 → VMIX.SUB#5.IN#3	BTools Channel 3 to Out 4
Source4 → VMIX.SUB#5.IN#4	BTools Channel 4 to Out 4
Source5 → VMIX.SUB#5.IN#5	BTools Channel 5 to Out 4

VMIX Submixer 6

Source6 → VMIX.SUB#6.IN#1	BTools Channel 6 to Out 4
Source7 → VMIX.SUB#6.IN#2	BTools Channel 7 to Out 4
Source8 → VMIX.SUB#6.IN#3	BTools Channel 8 to Out 4
Source9 → VMIX.SUB#6.IN#4	BTools Channel 9 to Out 4
Source10 → VMIX.SUB#6.IN#5	BTools Channel 10 to Out 4

VMIX Submixer 7

Source11 → VMIX.SUB#7.IN#1	BTools Channel 11 to Out 4
Source12 → VMIX.SUB#7.IN#2	BTools Channel 12 to Out 4
Source13 → VMIX.SUB#7.IN#3	BTools Channel 13 to Out 4
Source14 → VMIX.SUB#7.IN#4	BTools Channel 14 to Out 4
Source15 → VMIX.SUB#7.IN#5	BTools Channel 15 to Out 4

VMIX Submixer 8

Source16 → VMIX.SUB#8.IN#1	BTools Channel 16 to Out 4
SUB#5.SUBMixOut → VMIX.SUB#8.IN#2	
SUB#6.SUBMixOut → VMIX.SUB#8.IN#3	
SUB#7.SUBMixOut → VMIX.SUB#8.IN#4	
NotUsed → VMIX.SUB#8.IN#5	