Technical Document

Configuring Remote Control Functions between VoxPro7 and WheatNet-IP

This document discusses configuration of bi-directional remote control functions using as examples both an E-6 and an L-8 console, with a 16-channel WheatNet-IP driver. However, the same principles will apply to any WheatNet-IP console, and a driver of any channel configuration. The reader should be familiar with WheatNet-IP Navigator.

Let's begin there, with Navigator. In our example, VoxPro has already been configured to use the first WheatNet-IP device, so we'll rename this signal source "VoxPro" in System Crosspoint, and connect it to Channel 2 on the console (Fig. 1).

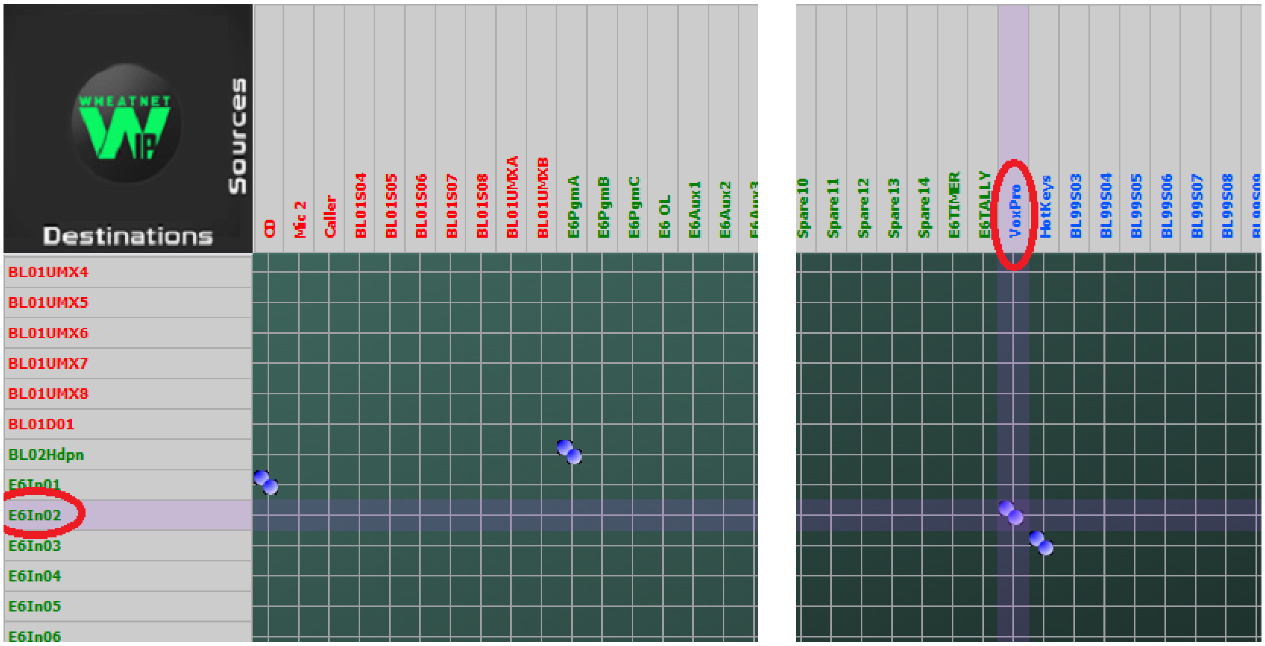
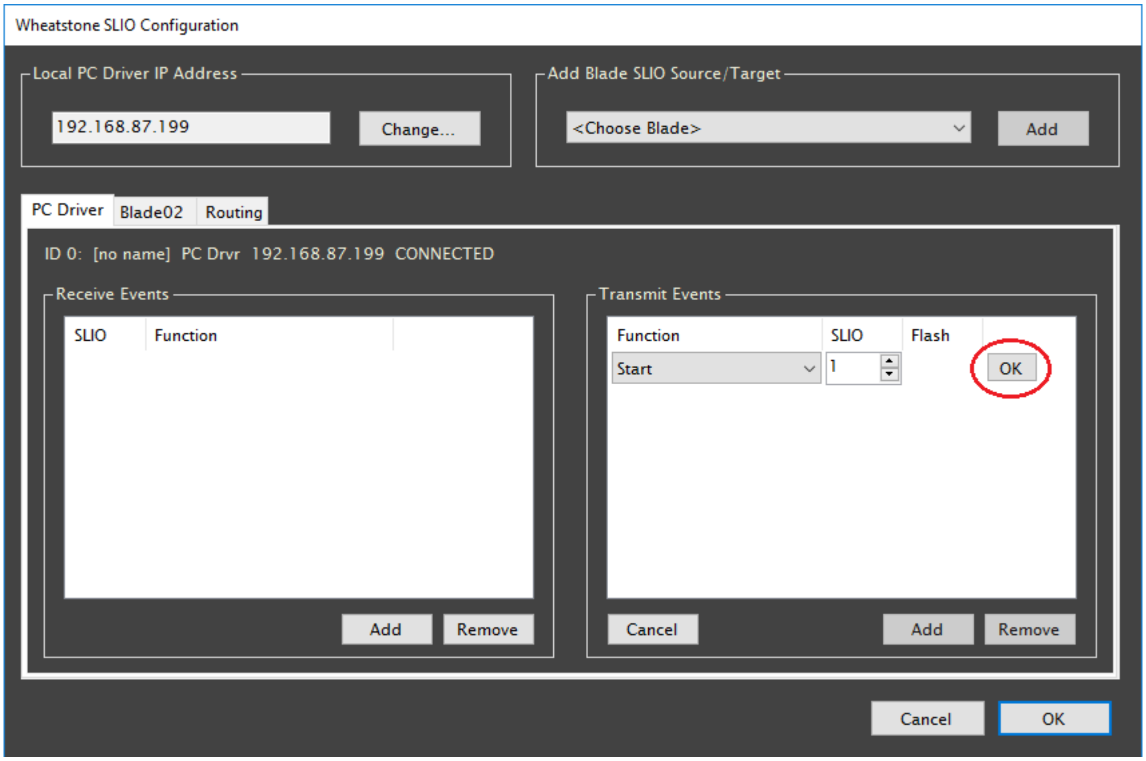


Fig. 1 – VoxPro output source from WheatNet-IP PC driver.

Now we can play a file in VoxPro and we'll hear it through the console, but only if we manually turn the channel on first.

So, let's configure VoxPro so that it turns the console channel on automatically when the user starts playing a file. We'll need to log into the VoxPro **Admin** account, since all WheatNet-IP setup functions in VoxPro are accessed from the Administrator's **WheatNet Configuration** dialog, which is accessed in the **Settings** menu.

VoxPro distinguishes events which are **received** from events which are **transmitted**. We want to transmit a software logic (SLIO) event whenever we start playback. In the **Transmit Events** list, add a function called **Start**. The function will automatically be assigned to the lowest available SLIO. In our example, we go with SLIO 1, but any SLIO can be used. Click the **OK** button after setting the function and SLIO (Fig. 2).



Wheatstone SLIO Configuration

Local PC Driver IP Address: 192.168.87.199 [Change...]

Add Blade SLIO Source/Target: <Choose Blade> [Add]

Tabs: PC Driver | Blade02 | Routing

ID 0: [no name] PC Drvr 192.168.87.199 CONNECTED

Receive Events

SLIO	Function

[Add] [Remove]

Transmit Events

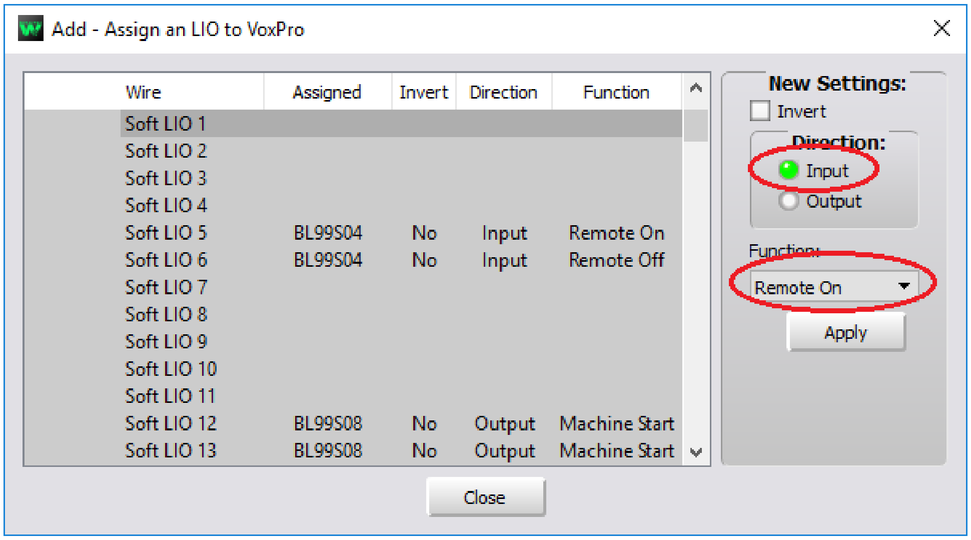
Function	SLIO	Flash
Start	1	[OK]

[Cancel] [Add] [Remove]

[Cancel] [OK]

Fig 2 – Adding an SLIO event in VoxPro which is transmitted whenever playback starts.

SLIOs are logic messages which travel on the same "wire" as audio signals. In our case, the audio signal is being transported from our source (VoxPro) to our destination (E6In02). We need to modify the source signal so that it knows to transport our SLIO as well. This step is performed in Navigator, but before we are allowed to modify the signal it must be disconnected from its destination. (Connected signal paths may not be modified.) Once the source and destination are disconnected (in System Crosspoint), we can right-click the VoxPro source, select **Modify Signal** from the popup menu, go to the **LIO Info** tab, and click the **Add** button. The function we want is called **Remote On**, which is an **Input** into WheatNet-IP, and we assign it to SLIO 1 (Fig. 3).



Add - Assign an LIO to VoxPro

Wire	Assigned	Invert	Direction	Function
Soft LIO 1				
Soft LIO 2				
Soft LIO 3				
Soft LIO 4				
Soft LIO 5	BL99S04	No	Input	Remote On
Soft LIO 6	BL99S04	No	Input	Remote Off
Soft LIO 7				
Soft LIO 8				
Soft LIO 9				
Soft LIO 10				
Soft LIO 11				
Soft LIO 12	BL99S08	No	Output	Machine Start
Soft LIO 13	BL99S08	No	Output	Machine Start

New Settings:

☐ Invert

Direction:
● Input
○ Output

Function: Remote On

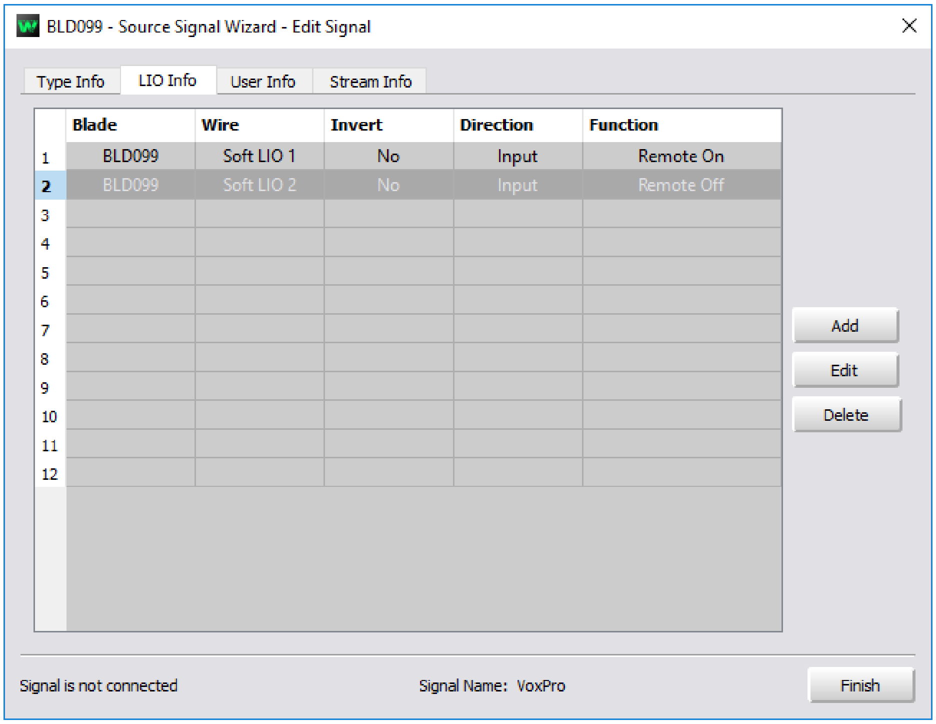
[Apply]

[Close]

Fig. 3 – Configuring SLIO 1 in Navigator.

Click the **Apply** button, then reconnect the VoxPro source to its destination.

Now when we start VoxPro playing, channel 2 on the E-6 is turned on automatically. Notice, however, that it remains on when the file stops playing in VoxPro. To remedy this, let's add the **Remote Off** message as well. In Navigator, disconnect the VoxPro source from the E-6 destination once again, then assign the **Remote Off** function to SLIO 2. Like **Remote On**, this is an Input function from WheatNet-IP's point of view (Fig. 4).



BLD099 - Source Signal Wizard - Edit Signal

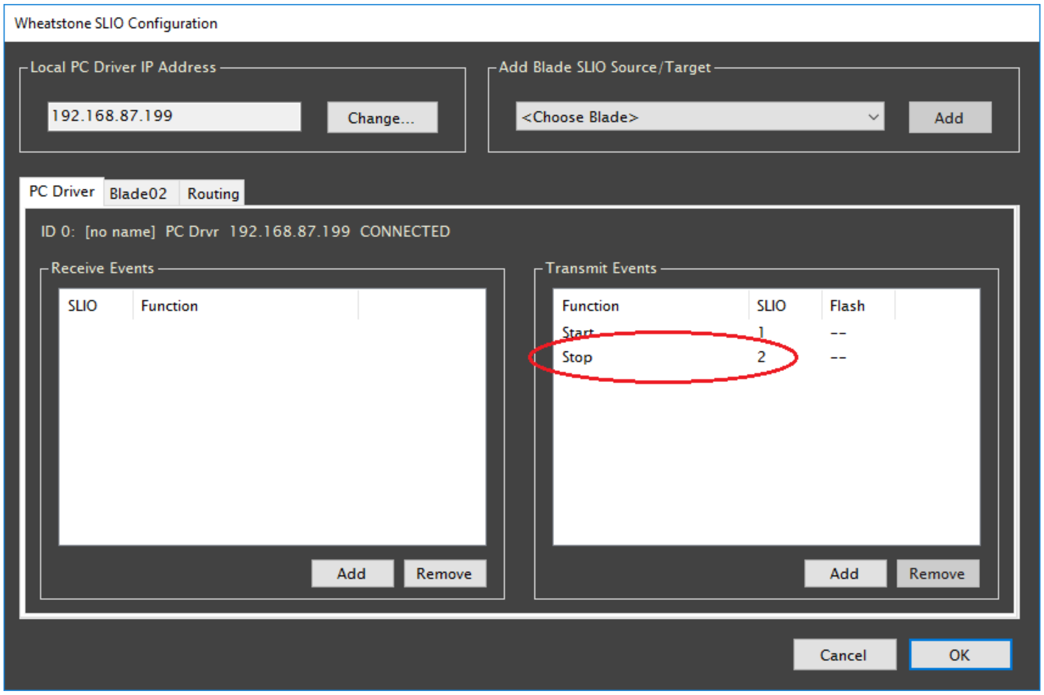
	Blade	Wire	Invert	Direction	Function
1	BLD099	Soft LIO 1	No	Input	Remote On
2	BLD099	Soft LIO 2	No	Input	Remote Off
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Signal is not connected

Signal Name: VoxPro

Fig. 4 – View in Navigator after adding Remote Off command on SLIO 2.

Back in VoxPro, we also need to add the **Stop** function to SLIO 2 (Fig. 5).



Wheatstone SLIO Configuration

Local PC Driver IP Address

192.168.87.199

Add Blade SLIO Source/Target

<Choose Blade>

ID 0: [no name] PC Drvr 192.168.87.199 CONNECTED

Receive Events

SLIO	Function

Transmit Events

Function	SLIO	Flash
Start	1	--
Stop	2	--

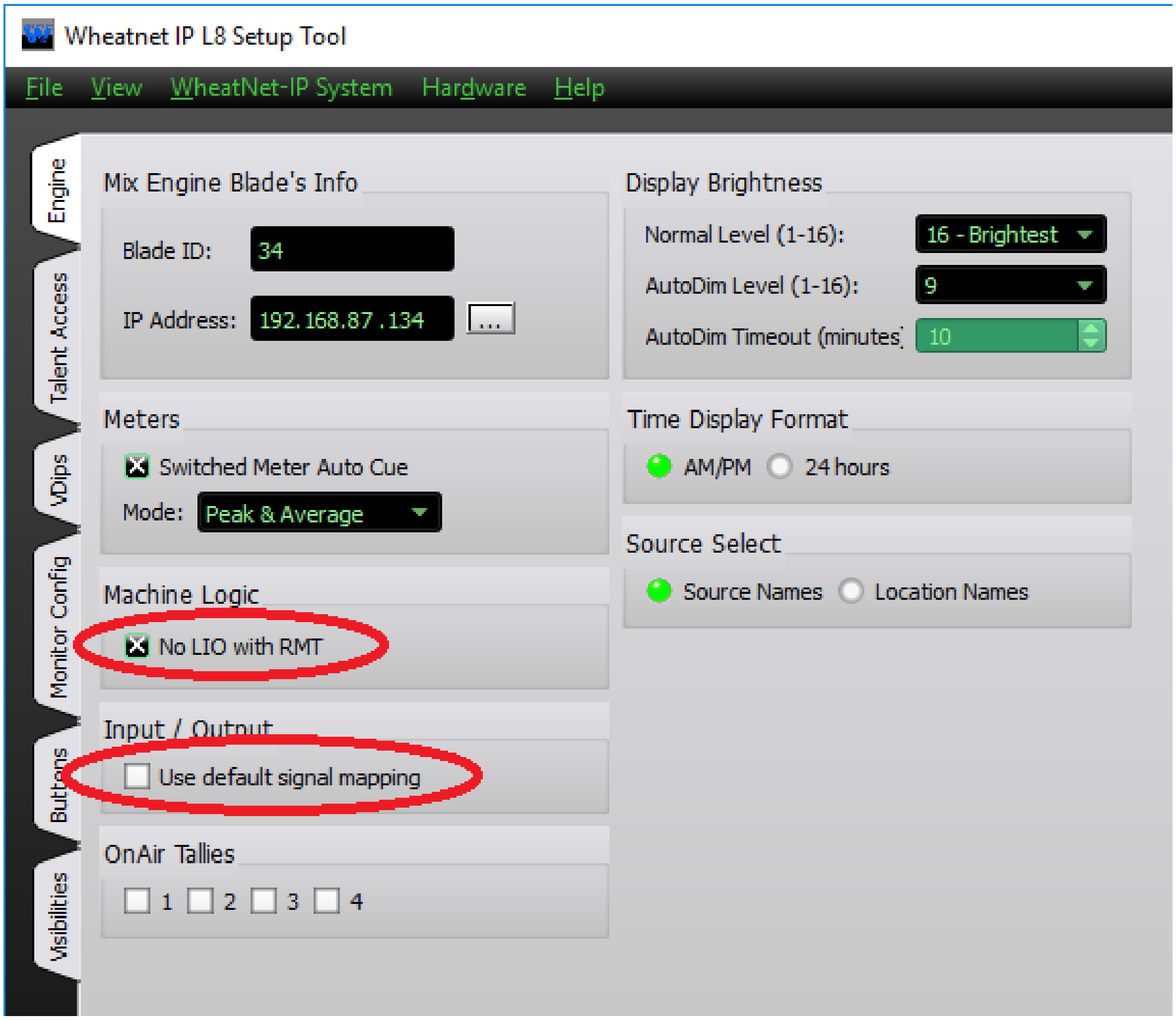
Fig. 5 – SLIO 2 will be transmitted whenever playback stops.

In System Crosspoint, reconnect the VoxPro source to its destination on the console. Now when we start and stop playback in VoxPro, our destination channel on the console is turned on and off automatically.

So far, so good. But what if we have a user who would rather run remote control in reverse? That is, the user wants to cue up a file in VoxPro and then use the console channel on/off buttons to start and stop playback.

Enabling bi-directional remote control opens the door for creating a logic loopback situation. So before we set that up, we need to make sure that the console is configured to handle two-way remote control messages correctly. There are three crucial parameters that need to be set. The first is to disable internal machine logic when Remote or ACI messages are received. The second is to disable default internal signal mapping. The third is to enable the Machine Start Pulsed option.

On the L-8 console, these first two settings are made in the Engine tab. Check the **No LIO with RMT** option under Machine Logic, and uncheck the **Use Default Signal Mapping** option under Input/Output (Fig. 8).



Mix Engine Blade's Info

Blade ID: 34

IP Address: 192.168.87.134 ...

Meters

☒ Switched Meter Auto Cue

Mode: Peak & Average

Machine Logic

☒ No LIO with RMT

Input / Output

☐ Use default signal mapping

OnAir Tallies

☐ 1 ☐ 2 ☐ 3 ☐ 4

Display Brightness

Normal Level (1-16): 16 - Brightest

AutoDim Level (1-16): 9

AutoDim Timeout (minutes 10

Time Display Format

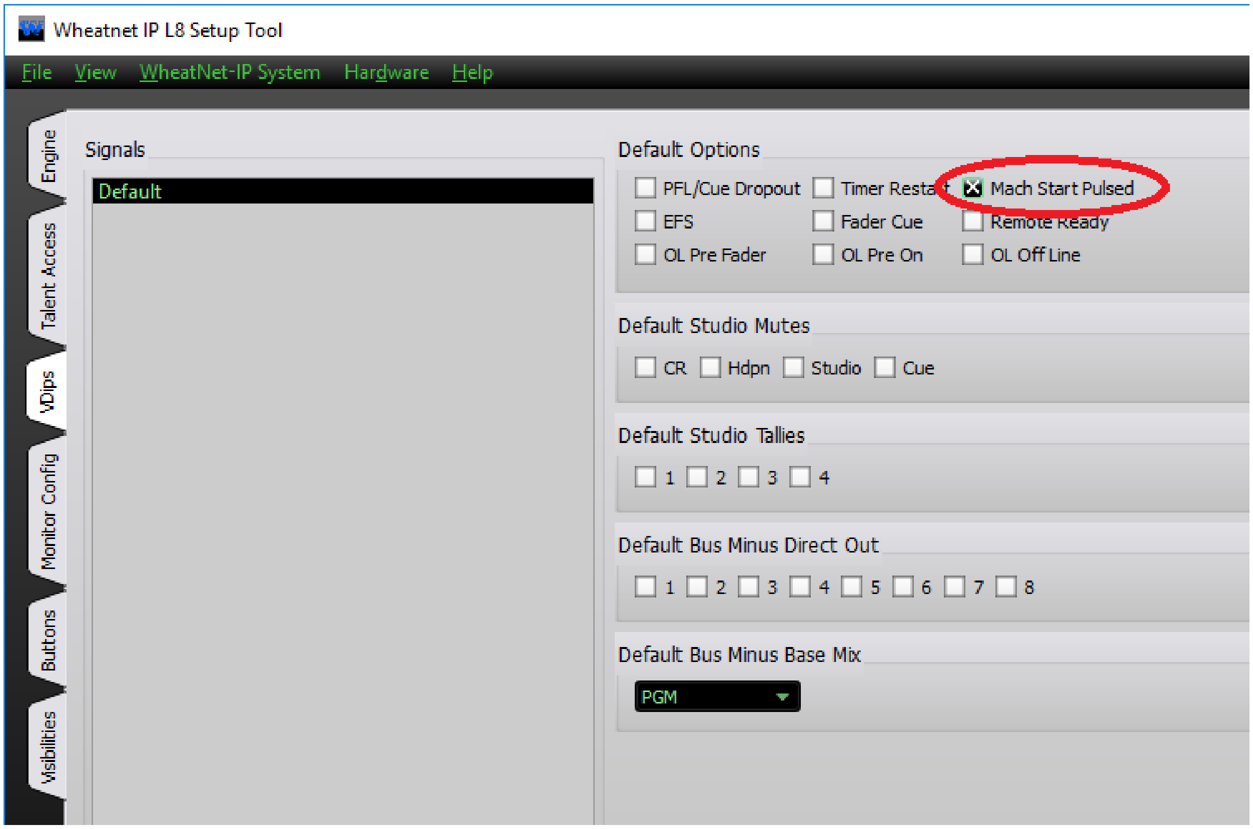
● AM/PM ○ 24 hours

Source Select

● Source Names ○ Location Names

Fig. 8 – Engine machine logic settings on L-8 console to enable bi-directional remote control.

The third setting on the L-8 is made in the VDips tab. Make sure the **Machine Start Pulsed** option is checked (Fig. 9).



Signals

Default

Default Options

☐ PFL/Cue Dropout ☐ Timer Restart ☒ Mach Start Pulsed

☐ EFS ☐ Fader Cue ☐ Remote Ready

☐ OL Pre Fader ☐ OL Pre On ☐ OL Off Line

Default Studio Mutes

☐ CR ☐ Hdpn ☐ Studio ☐ Cue

Default Studio Tallies

☐ 1 ☐ 2 ☐ 3 ☐ 4

Default Bus Minus Direct Out

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8

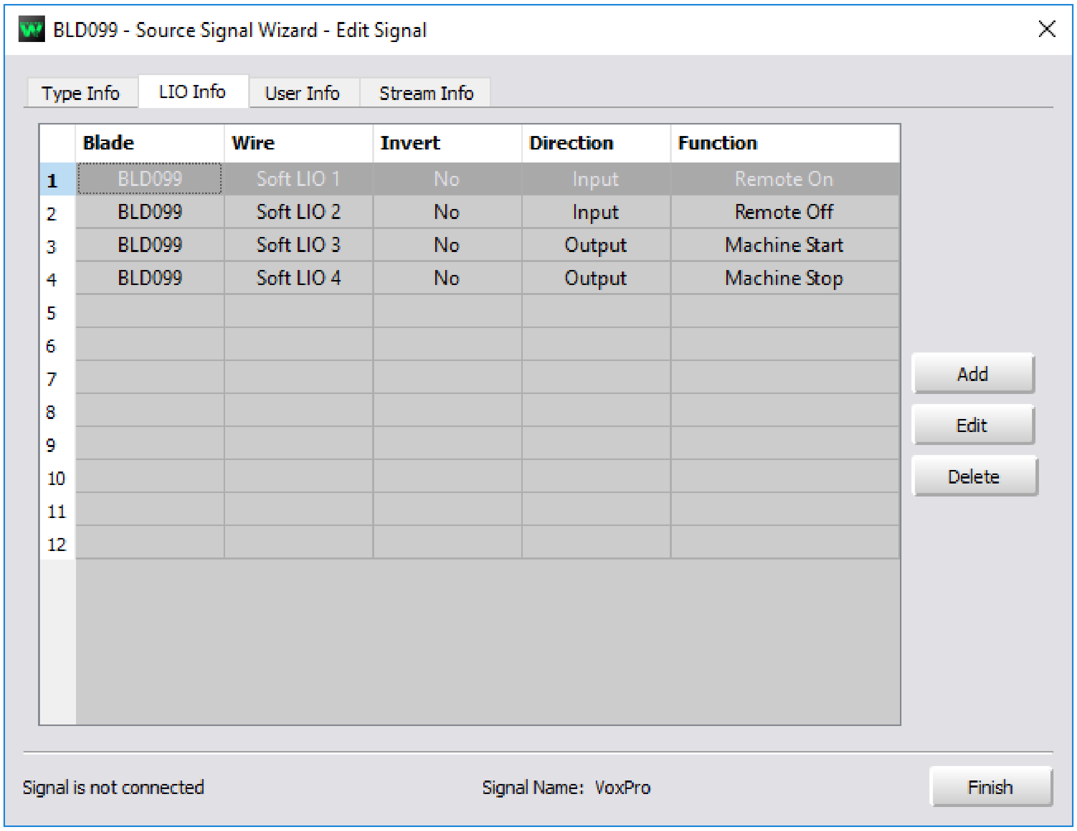
Default Bus Minus Base Mix

PGM

Fig. 9 – VDips settings on L-8 console to enable bi-directional remote control.

On the E-6, the required settings are similar. On the console GUI screen, click the **Options** tab, select **VDIP Settings** from the available options, and ensure that **Machine Start Pulsed** is checked. Click **Apply**. Then select **Misc Options** from the available options, and ensure that the **Machine Logic** machine start/stop setting is set to **No DIO w/ACI** or **No DIO w/ACI or RMT**. (At present we are only concerned with ACI signals, so either setting will work.) Click **Apply** again.

Back in Navigator, disconnect the VoxPro source from its destination, then add two more functions: **Machine Start** and **Machine Stop**. These are both Output functions and we'll assign them to SLIO 3 and 4 (Fig. 10).



BLD099 - Source Signal Wizard - Edit Signal

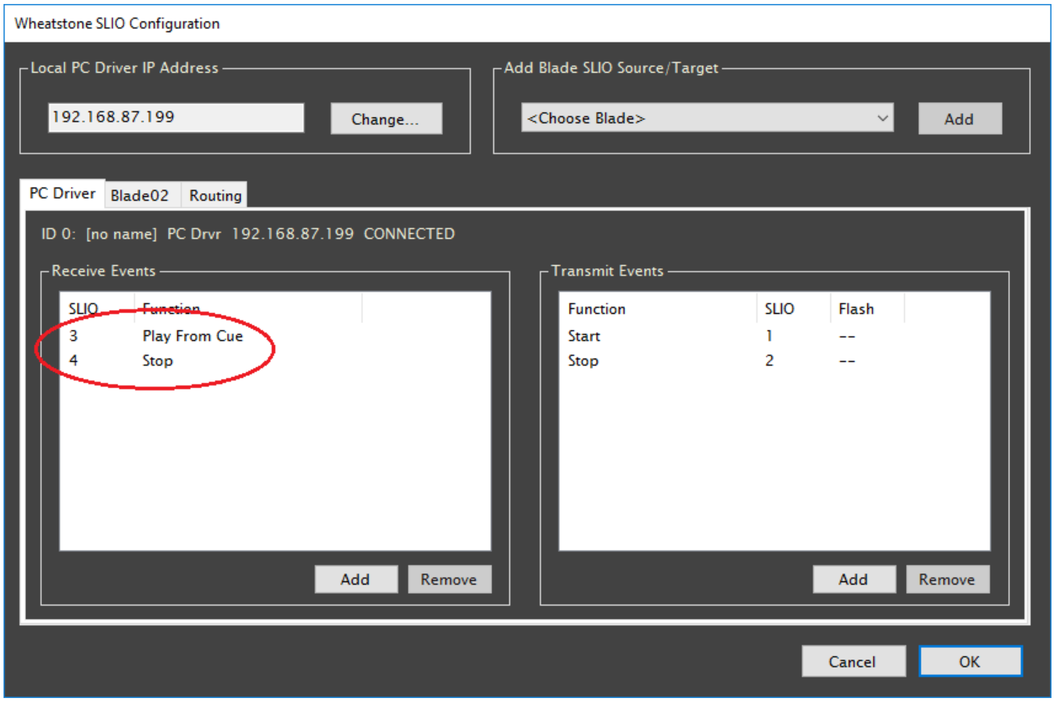
	Blade	Wire	Invert	Direction	Function
1	BLD099	Soft LIO 1	No	Input	Remote On
2	BLD099	Soft LIO 2	No	Input	Remote Off
3	BLD099	Soft LIO 3	No	Output	Machine Start
4	BLD099	Soft LIO 4	No	Output	Machine Stop
5					
6					
7					
8					
9					
10					
11					
12					

Signal is not connected

Signal Name: VoxPro

Fig. 10 -- View in Navigator after adding Machine Start/Stop commands.

In VoxPro, we'll now add two new **Receive** events. SLIO 3 will trigger **Play From Cue**, and SLIO 4 will trigger **Stop** (Fig. 11).



Wheatstone SLIO Configuration

Local PC Driver IP Address: 192.168.87.199

Add Blade SLIO Source/Target: <Choose Blade>

ID 0: [no name] PC Drvr 192.168.87.199 CONNECTED

Receive Events

SLIO	Function
3	Play From Cue
4	Stop

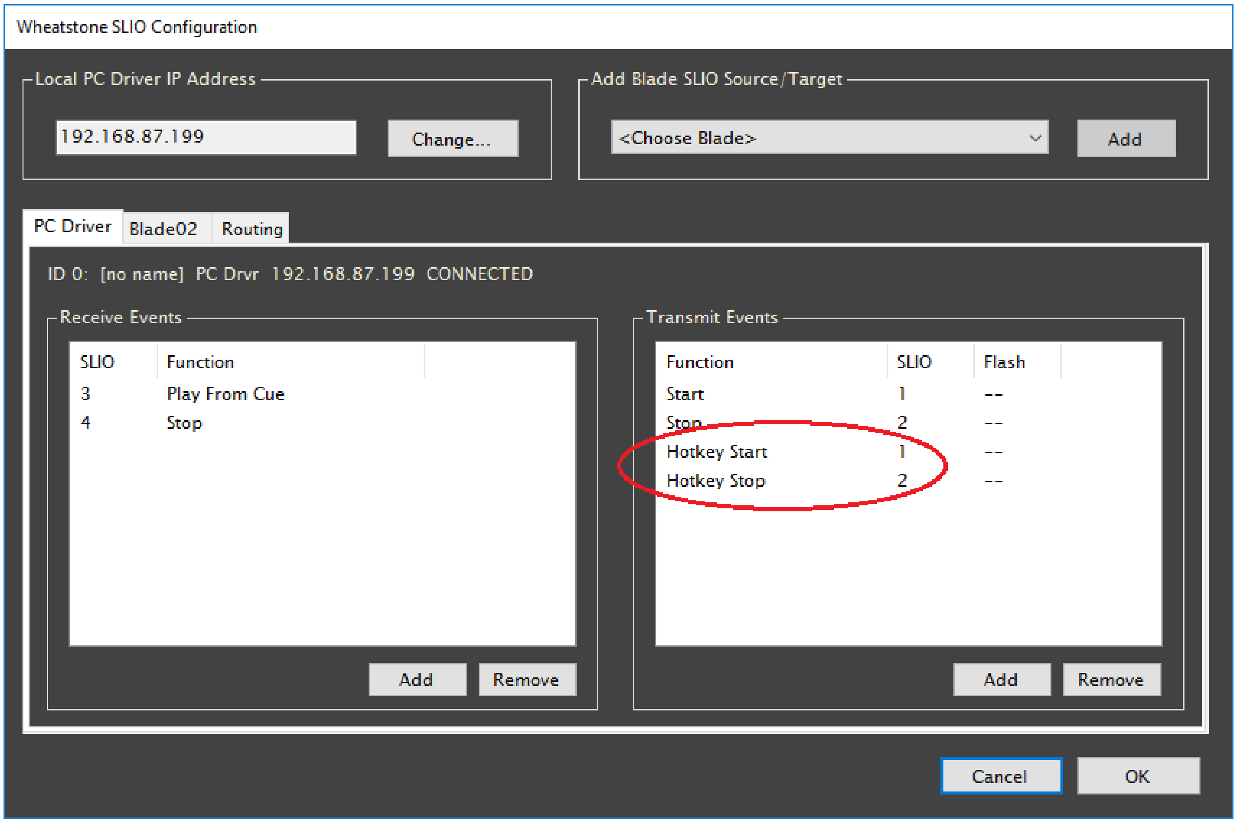
Transmit Events

Function	SLIO	Flash
Start	1	--
Stop	2	--

Fig. 11 – Configuring VoxPro to receive SLIO events to start and stop playback.

Save the configuration, then reconnect the VoxPro source to its destination in System Crosspoint. Now we can use the console channel 2 on/off buttons to start and stop VoxPro playback. Our original remote control functions running in the other direction still work as well. In fact, we can mix and match control logic at this point: we can use the console to start playback, then use VoxPro to stop playback and turn off the channel. Or start playback from VoxPro (which turns on the console channel), then use the channel off button to stop playback.

If users are taking advantage of VoxPro's **Hotkeys**, then we'll want to do one final thing which will allow us to handle Hotkeys playback in a consistent manner. This step is easier because we don't have to do make any more modifications in Navigator. In VoxPro, we simply add two more events that we will transmit, which are called **Hotkey Start** and **Hotkey Stop**. Note that we assign these events to the same SLIO numbers as our normal **Start** and **Stop** functions, because from the console's point of view the same thing has to happen: the channel needs to be on when the Hotkey is playing, and it needs to be turned off when the Hotkey finishes playing (Fig. 12).



Wheatstone SLIO Configuration

Local PC Driver IP Address: 192.168.87.199

Add Blade SLIO Source/Target: <Choose Blade>

ID 0: [no name] PC Drvr 192.168.87.199 CONNECTED

Receive Events

SLIO	Function
3	Play From Cue
4	Stop

Transmit Events

Function	SLIO	Flash
Start	1	--
Stop	2	--
Hotkey Start	1	--
Hotkey Stop	2	--

Fig. 12 – Hotkey start and stop events can also be used to remotely control the console.

VoxPro keeps track of the status of all playback sources: main playback as well as potentially multiple simultaneously playing and overlapping Hotkeys. The console channel will be kept on as long as any of these sources are playing, and turned off once all sources stop playing.