

Symphony I/O Mk2

Monitor Workflows Update

Version 1.0



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Overview

Introduction

Mixing for Dolby Atmos and other immersive 3D formats is rapidly becoming an essential skill for the modern creator and engineer. As streaming services highlight immersive content and record companies require immersive audio deliverables, you may be asking yourself “how do I get started”?

With Symphony I/O Mk II Thunderbolt’s Monitor Workflows, you’ll effortlessly configure and operate your monitoring system for Dolby Atmos, Sony 360 Reality Audio and other immersive audio systems with control of up to 32 Speaker outputs.

Features

- Control up to 32 Speaker outputs
- Create up to 16 Monitor Workflows
- Set Source Routing, Speaker Set, Level Trim, Mute/Solo for each Speaker output
- Toggle Monitor Workflows and Speaker Sets from the touchscreen, Symphony Control software and the Apogee Hardware Remote.

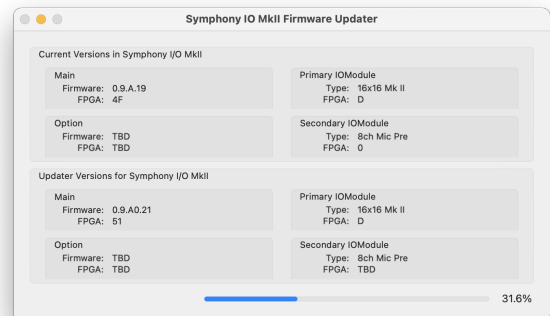
System Requirements

- Symphony I/O Mk2 Thunderbolt interface (Monitor Workflows functionality is not available in the Pro Tools, Dante, SoundGrid or Standalone audio interface modes).
 - Note that Monitor Workflow functionality is only available on the first Symphony I/O Thunderbolt unit in a multi-unit setup.
- Symphony Control 0.5 or greater
- macOS Big Sur or greater

Updating Firmware

Symphony I/O's Monitor Workflows functionality requires updated Symphony I/O firmware. To update firmware, follow these instructions carefully.

1. The connection from Symphony I/O Mk2 to your Mac depends on the Option cards installed in your interface:
 - a. **Thunderbolt only** - connect to your Mac via Thunderbolt - as if you had another option!
 - b. **Thunderbolt + Pro Tools/Dante Option card** - connect to your Mac via Thunderbolt, set Audio Interface Mode to Thunderbolt.
 - c. **Thunderbolt + Pro Tools HD Option card** - To update Symphony I/O firmware, it's necessary to remove the Pro Tools HD Option card, perform the firmware update via Thunderbolt, and then re-install the Option card.
2. Open the Symphony I/O Firmware Update utility, installed with Symphony Control software in the Applications/Utilities folder.
3. Update one Symphony I/O unit at a time, following on-screen instructions carefully.
4. The update takes several minutes and may restart from 0%.



5. At the end of the update, you will be prompted to disconnect and reconnect the connection cable.
6. Find below issues that may be encountered and their resolutions:
 - a. If the Update progress bar stops before reaching 100% complete and doesn't resume after a few minutes, hotplug the Thunderbolt/USB cable.
 - b. Towards the end of the process the Updater will prompt you to disconnect and reconnect the Thunderbolt/USB cable. If, after reconnecting the cable, the unit doesn't turn on automatically, press the unit power button to power it on manually.
 - c. If there are any other unexpected problems, reset Symphony I/O by powering the unit off, holding down the front panel encoder while powering the unit back unit. Hold down the encoder until the Meter view is displayed. The update will resume automatically.

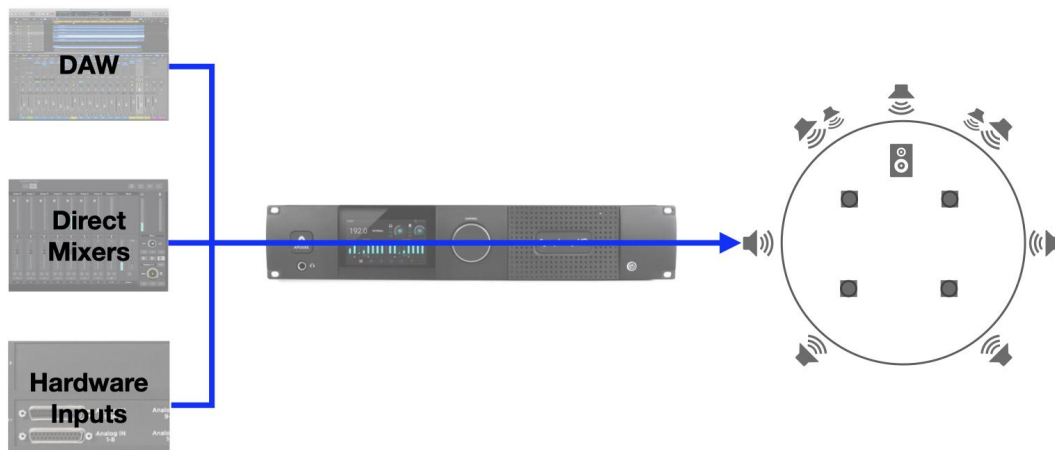
Caution!

Symphony I/O's Monitor Workflows are powerful and flexible, but without a proper understanding of the functionality, audio signals may be inadvertently sent to speakers at Line level (i.e. maximum volume), resulting in speaker damage and, potentially, hearing loss. To avoid this situation, ensure that ALL Symphony I/O Analog outputs connected to a speaker or amp are set to Speaker in the Analog Output Setup window, as described below. Be sure to set Symphony I/O's encoder to a very low volume during initial system verification.

Getting Started Quickly

What is a Monitor Workflow?

A Symphony I/O Monitor Workflow is a snapshot of the Source routing, level trim and Speaker Set settings for all Symphony I/O analog outputs set to Speaker. With these settings, you configure how signal flows from sources like your DAW, Symphony's internal mixers, or hardware inputs through to Symphony I/O analog outputs and on to your array of up to 32 speakers.



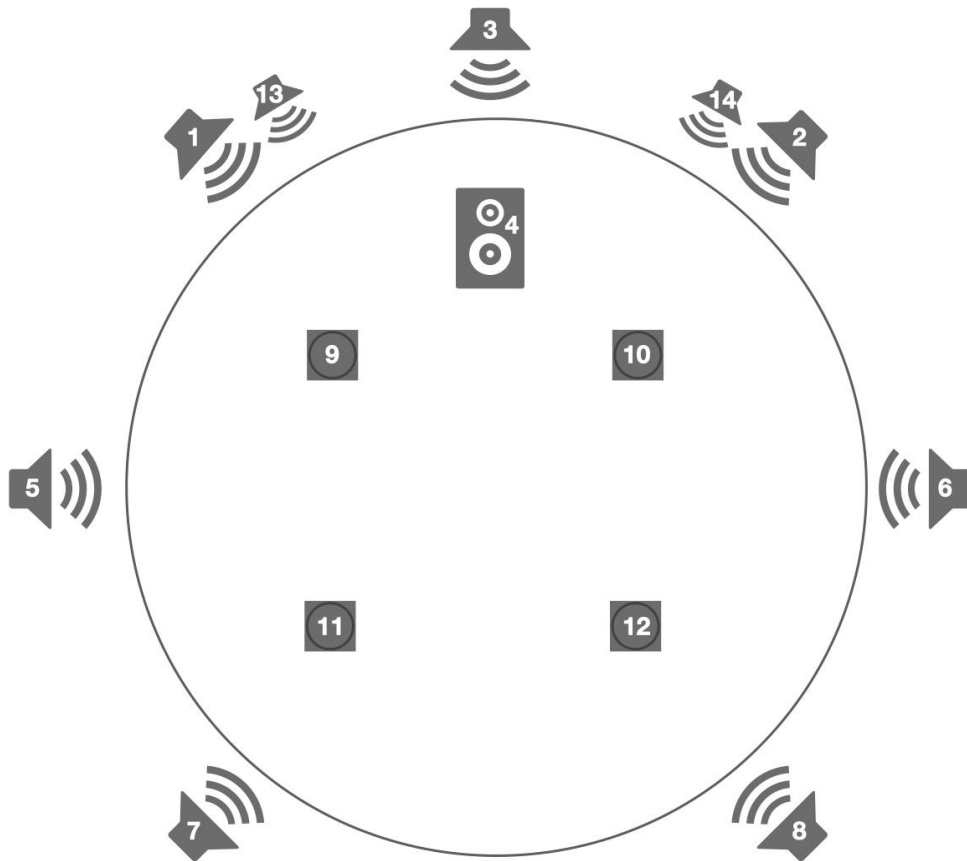
You can create up to 16 Monitor Workflows to fulfill all your monitoring use cases, then toggle between them using the front panel touchscreen, Symphony Control software, or the Apogee Hardware Remote.

In the following example, you'll create 2 Monitor Workflows to manage 14 speakers - a 7.1.4 Speaker array plus 2 sets of Stereo speakers.

Configure Analog Output Setup

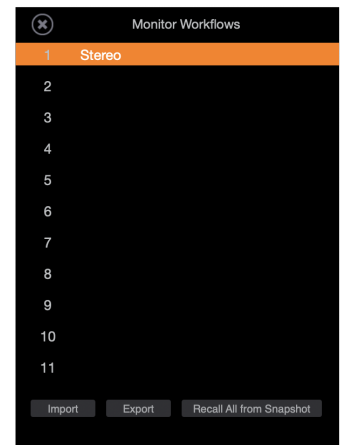
1. In the Device Settings column, click Analog Output Setup, then set Analog 1-2 to Analog 13-14 to Speaker.
2. Connect the 7.1.4 array to Symphony I/O's Analog outputs 1-12 in the order shown in the diagram below.
 - a. Left-Right : Analog output 1-2
 - b. Center-Sub : Analog output 3-4
 - c. Left-Right Surround : Analog output 5-6
 - d. Left-Right Rear Surround : Analog output 7-9
 - e. Left-Right Top Front : Analog output 9-10
 - f. Left-Right Top Surround : Analog output 11-12
3. For this example, it's assumed that the 7.1.4 Left-Right speakers are also the Main stereo speakers.
 - a. Connect Alt stereo speakers to Analog outputs 13-14.
4. Analog outputs 15-16 may be used as line outputs for extra sends or hardware inserts in your DAW.

Output	Speaker	Line
Analog 1-2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analog 3-4	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analog 5-6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analog 7-8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analog 9-10	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analog 11-12	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analog 13-14	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analog 15-16	<input type="checkbox"/>	<input checked="" type="checkbox"/>



Create the Stereo Workflow

1. In the Device Settings column, click the Monitor Workflows button to display the Monitor Workflows window.
2. Click Stereo to engage the Workflow. If your Monitor Workflows window doesn't resemble the window shown here, reset Symphony I/O by powering down the unit, holding down the front panel encoder while powering the unit back up, and continue to hold the encoder until the Meters view is displayed.



3. In Symphony Control I/O view, set Analog output 1-2 Source to Playback 1-2, then set Speaker Set to 1.
4. Set Analog output 13-14 to Playback 1-2, then set Speaker Set to 2.
5. Toggle between the Main and Alt stereo speakers with buttons in the Symphony Control Monitor column, from the front panel touchscreen Set Selector button, or the Apogee Hardware Remote (see [here](#) to configure the hardware remote).



Create the 7.1.4 Workflow

1. In the Monitor Workflows window, select Workflow 2, double-click to customize the name to **7.1.4**, then hit Return.



2. In the I/O view, set Analog output 1-2 through 11-12 Source to Playback 1-2 through 11-12.
3. Set Speaker Set to 1 for all Analog outputs 1-2 through 11-12. Set Speaker Set to Off for Analog output 13-14.
4. Configure your DAW or software to output on Playback 1-2 through 11-12.
5. Toggle between the Stereo and Atmos workflows with buttons in the Symphony Control Monitor column, from the front panel touchscreen Set Selector button, or the Apogee Hardware Remote.



Working with Monitor Workflows

The Getting Started Quickly section above provides only one example of how to configure Monitor Workflows. With flexible routing, Speaker trim and Speaker Sets, you can create highly specialized Monitor Workflows to meet any of your monitoring requirements.

Configure Analog Output Setup

To set up monitor workflows, first designate which Symphony I/O analog outputs are connected to speakers and/or speaker amplifiers. This setting remains constant across all your Monitor Workflows.

1. Open Symphony Control software.
2. Choose View > Device Settings to display the Device Settings column, or click the Device button in the Symphony Control Toolbar.
3. Open the Analog Output Setup window.
4. For ALL outputs that are connected to speakers and/or speaker amplifiers, click the Speaker radio button next to the Analog output pair.
5. All Speaker output levels are now under control of Symphony I/O hardware and software encoders.
 - a. The output's Digital Reference is fixed at -16 dBfs = +4 dBu/ -10 dBV.
 - b. The output may be trimmed +- 4dB, for a maximum output level of +24 dBu.
 - c. With the Connect 8 I/O Module, the Digital Reference is fixed at -14 dBfs = +4 dBu. There are no Speaker Trim controls.
6. Analog outputs set to Line operate as unattenuated line outputs.

Output	Speaker	Line
Analog 1-2	<input checked="" type="radio"/>	<input type="radio"/>
Analog 3-4	<input checked="" type="radio"/>	<input type="radio"/>
Analog 5-6	<input checked="" type="radio"/>	<input type="radio"/>
Analog 7-8	<input checked="" type="radio"/>	<input type="radio"/>
Analog 9-10	<input checked="" type="radio"/>	<input type="radio"/>
Analog 11-12	<input checked="" type="radio"/>	<input type="radio"/>
Analog 13-14	<input checked="" type="radio"/>	<input type="radio"/>
Analog 15-16	<input type="radio"/>	<input checked="" type="radio"/>

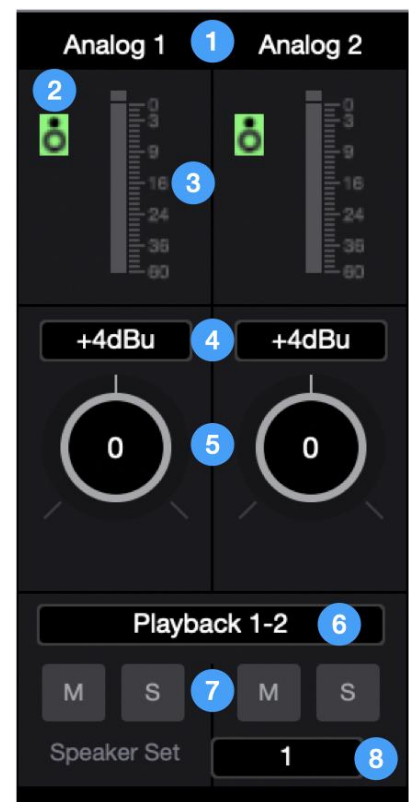
The Monitor Workflow

A Monitor Workflow is a configuration of your playback system for a specific task - here are a few examples:

- Route the stereo output of your DAW to one of three sets of stereo speakers;
- Route the output of an Atmos renderer to a 7.1.4 speaker array, including Re-rendered formats like 7.1,5.1 and 2.0.
- Toggle between software and direct monitoring at the touch of a button;
- Toggle between a streamed reference track and your DAW mix session.

For each Monitor Workflow, the following settings are available per Speaker output (or pair):

1. Speaker Output Label - Customize Speaker output labels for each pair. These labels remain consistent from Workflow to Workflow.
2. Speaker Status - This icon displays the status of each Speaker output pair in the currently loaded Monitor Workflow.
 - a. Green - the speaker pair is active;
 - b. Pale green - the speaker pair is part of an inactive Speaker Set. The speaker becomes active when the Speaker Set it belongs to is selected;
 - c. Red - Speaker Set for the pair is set to Off - the output is muted in the currently loaded Monitor Workflow.
3. Source Meter - This meter displays the audio level of output's selected Source.
4. Analog Output Reference Level - This dropdown sets the Analog output nominal reference level: +4 dBu or -10 dBfs. As a general rule, use +4 dBu when connecting outputs to professional audio and video gear, use -10 dBV when connecting to "home hi-fi" gear.
5. Output Level Trim - This dial trims the output audio level ± 4 dB. Use trims to balance levels between speakers or compensate for different Source levels across Monitor Workflows. Note that the Connect 8 I/O module doesn't offer Output Level Trim.
6. Source - This dropdown menu selects the Speaker output pair's signal source:
 - a. Playback - select a Playback pair to receive audio from your DAW and other audio software;
 - b. Mixer - select a Mixer to receive audio from 1 of Symphony Control's 5 direct mixers;
 - c. Hardware Inputs - select a hardware input to receive audio from I/O module analog and digital hardware inputs.
7. Mute/Solo - Mute or Solo each Speaker output to verify routing or troubleshoot issues.
8. Speaker Set - Assign each Speaker output to Speaker Set 1,2 or 3, or choose Off to completely mute the Speaker output in the currently loaded Monitor Workflow. As a general rule, use Speaker Sets to toggle between multiple sets of a similar format, e.g. 3 stereo sets or 2 5.1 sets, up to 32 speakers.



Symphony I/O Monitor Workflows Update

To modify or create a Monitor Workflow:

1. In Symphony Control, choose View > Device Settings to display the Device Settings column.
2. Click the Monitor Workflows button.
3. Choose a Monitor Workflow to modify, or click an empty slot to create a Monitor Workflow.
4. Double-click the Monitor Workflow name (or <blank>) to name it.
5. Click the Toolbar I/O button to access Speaker output settings, then configure settings as described above.

To import and export individual Workflows

- With the Monitor Workflow window Import and Export buttons, you can rearrange the order of Workflows and back them up.
- To back up a Monitor Workflow, click the Workflow to highlight the numbered slot, click the Export button, then click Save.



- The Workflow is saved as a **.siow** file.
- To place a Workflow in a specific numbered slot, click the slot to highlight it, then click the Import button. Choose the desired workflow and click Open.

To toggle between Monitor Workflows & Speaker Sets

Monitor Workflows may be loaded and toggled between from 4 locations in the user interface:

1. Symphony Control Monitor Workflows window - load all 16 Monitor Workflows from the Monitor Workflow window.
2. Symphony Control Monitor Sidebar - load Workflows 1-3 from the Monitor sidebar.
3. Front Panel touchscreen - load Workflows 1-3 from the touchscreen Monitor view.
4. Apogee Hardware Remote - assign Workflows 1-8 to the Hardware Remote assignable buttons.

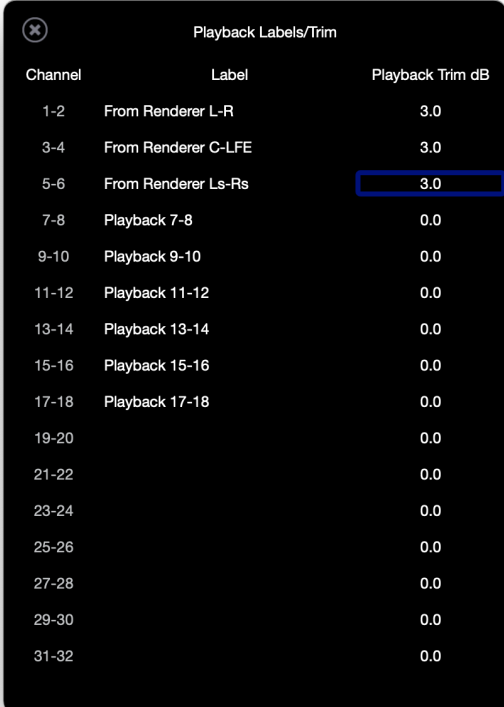
Speaker Sets may be switched from 3 locations in the user interface:

1. Symphony Control Monitor Sidebar
2. Front Panel touchscreen
3. Apogee Hardware Remote - assign Workflows 1-8 to the Hardware Remote assignable buttons.

Playback Labels/Trim Window

Aspects of Playback sources 1-32 may be modified from the Playback Labels/Trim Window.

1. In the Symphony Control menu bar, select Window > Playback Labels/Trim.
2. Customize Playback labels by double-clicking on a label, entering the desired text, then hitting <enter>.
3. Playback audio level can be adjusted ± 12 dB by double-clicking on the Playback Trim dB value and typing a level from -12.0 to + 12.0 dB, then hitting <enter>.



The screenshot shows a window titled "Playback Labels/Trim" with a close button in the top left. It contains a table with three columns: "Channel", "Label", and "Playback Trim dB". The table lists 32 channels, grouped into 16 pairs. The first three rows have labels "From Renderer L-R", "From Renderer C-LFE", and "From Renderer Ls-Rs". The remaining 29 rows are labeled "Playback 7-8" through "Playback 31-32". The "Playback Trim dB" column shows values of 3.0 for the first three rows and 0.0 for the rest. The value 3.0 in the row for channels 5-6 is highlighted with a red box.

Channel	Label	Playback Trim dB
1-2	From Renderer L-R	3.0
3-4	From Renderer C-LFE	3.0
5-6	From Renderer Ls-Rs	3.0
7-8	Playback 7-8	0.0
9-10	Playback 9-10	0.0
11-12	Playback 11-12	0.0
13-14	Playback 13-14	0.0
15-16	Playback 15-16	0.0
17-18	Playback 17-18	0.0
19-20		0.0
21-22		0.0
23-24		0.0
25-26		0.0
27-28		0.0
29-30		0.0
31-32		0.0

Saving Monitor Workflows

- In order to maintain a consistent monitoring environment, Monitor Workflow Routing, Speaker Trim and Speaker Sets are **NOT** stored and recalled with Symphony Control Snapshots. This is to avoid the case where opening a Snapshot routes audio to speakers in an unexpected manner.
- Monitor Workflows may be stored and recalled using the Export and Import functions found on the Monitor Workflows window.
- Note that Analog Output Setup settings **ARE** saved with Snapshots. Thus, it's possible to save and recall Snapshots for different speaker arrays. Proceed with caution to avoid sending an analog output configured to Line level but connected to a speaker.

Apogee Hardware Remote

1. Configure Hardware Remote assignable buttons to load a Monitor Workflow or activate a Speaker Set.
2. With the Hardware Remote connected, select Window > Remote in the Symphony Control menu bar.
3. To assign a button to load a Monitor Workflow, click a Remote Control Assignment button, then choose Output Workflow 1(2..8).
4. To assign a button to activate a Speaker Set, click a Remote Control Assignment button, then choose Select Speaker Set 1 (2,3) or Toggle Speaker Sets.

