Spanner 4.x

User Guide & Workshop Manual

Spanner 4.0.13
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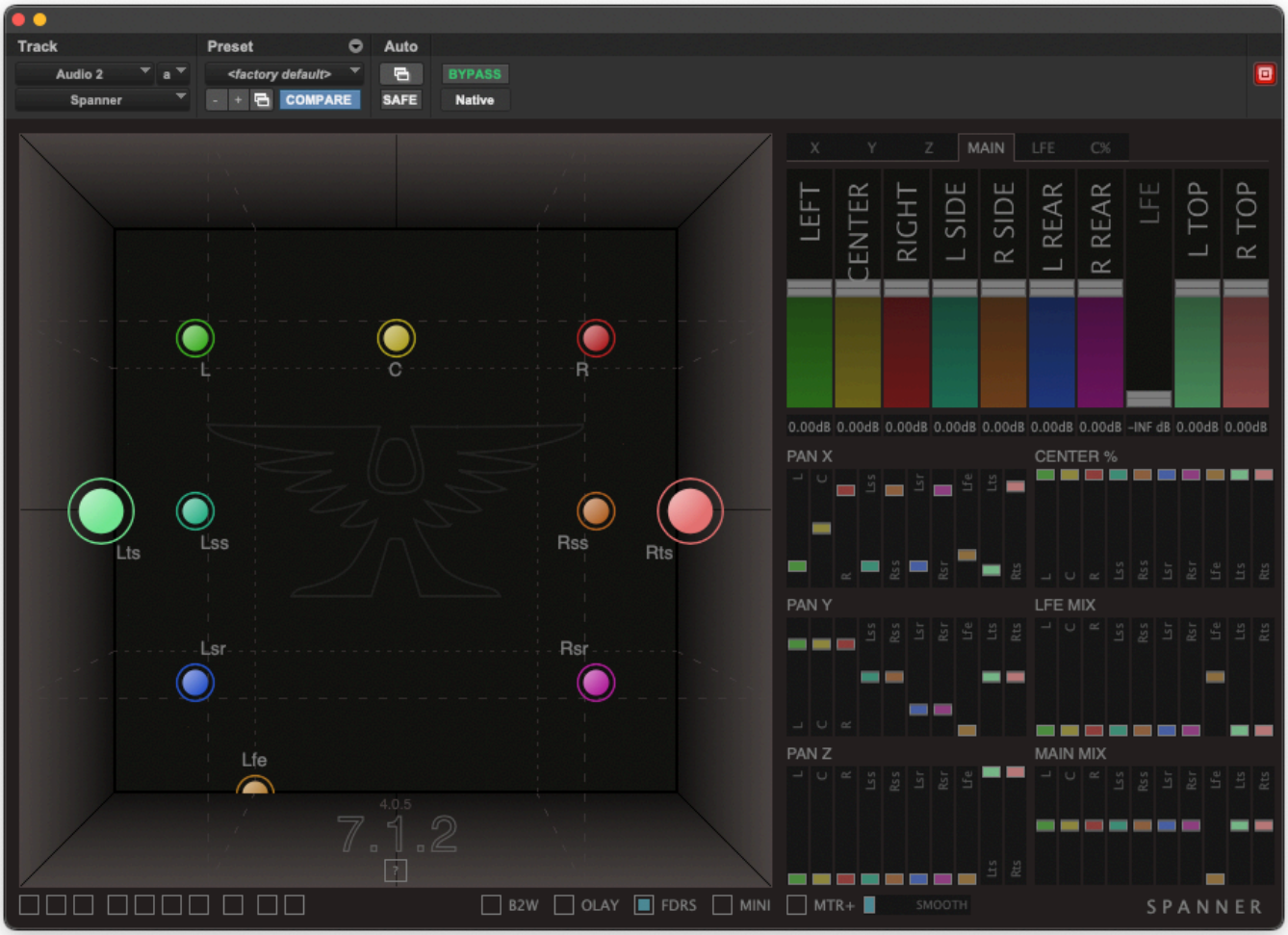
1. An Introduction to Spanner

Spanner is a surround panner, down mixer, and surround channel manager for mixing in immersive formats. It allows you to convert any stem format to any other, and gives you complete independent control over how each input channel is panned into the output format.



The pucks in the "Panfield" represent input channels and for each there are a set of faders which control the specific parameters which determine how that input channel is treated.

Pan X is the left right dimension.
Pan Y is front to back.
Pan Z is height.
Main Mix is the gain of the channel within the main surround field.
LFE Mix is the gain of the channel into the LFE output channel.
Center % is the degree to which the centre and side channels are used. At 0% they are ignored.

Every input channel is treated equally, so that the LFE can be fed into the main mix, or the Center channel redirected to the LFE output. You can even use spanner to achieve a pre-fade LFE send by inserting one on a mono or stereo track.

Think of the Main mix and the LFE as 2 parallel mixes running through the plugin.

2. Overlay Window

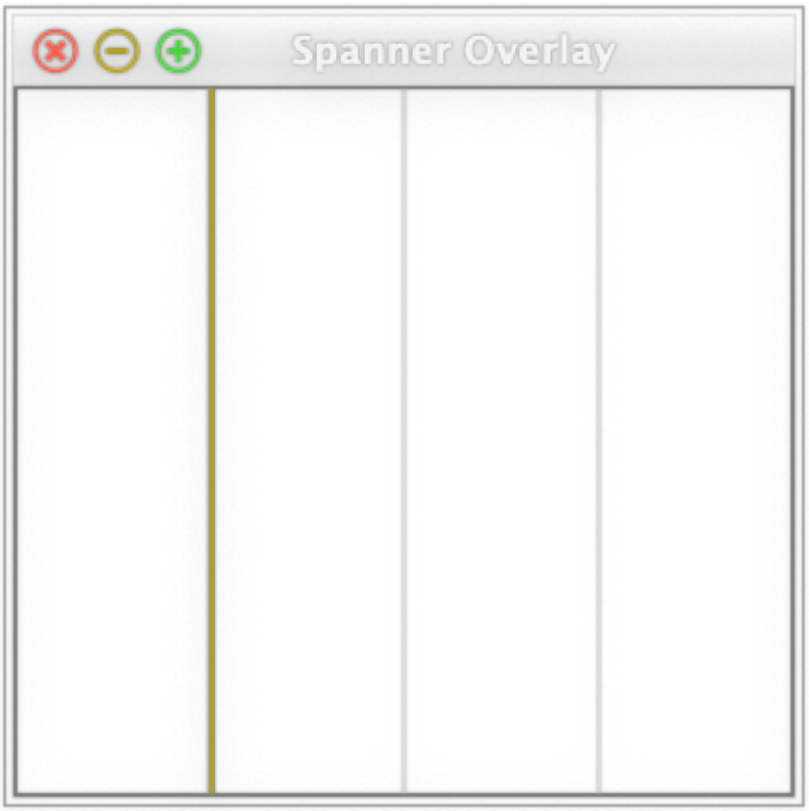
The overlay window is designed to be set over top of the Pro Tools movie window and provide a means of seeing pan position in realtime against the actual image.

The visibility, the size and the position of the overlay is remembered in a preferences file so you should only ever need to arrange the window once (unless you move your QT window around).

Any time a channel has its pan controls in "touch" and is changing position, you will see a coloured vertical line showing the Left/Right position of that channel. The colours of these lines correspond to the colours of the input channel pucks in the panfield. After a period of inactivity, the lines will fade away.

The window is fully resizable so you can set the width to account for speaker placement or match to the size of frame for the most theoretically accurate pan.

Overlays are also now possible on Video Sync (Non-Lethal Applications). You should first launch VS and then open the session. Any spanner UI which is opened will immediately connect to VS and start sending it pan information. If an instance has failed to connect to VS, simply de/re-activate it and open the UI.



3. Console Meta Controls

On most hardware controllers you will find a set of controls which are not present on the GUI. These are non-automatable "meta-parameters" which actually control the real parameters for Pan X and Y. They are intended to give more practical control of multichannel stems from a console and have been included as the first page of controls on most surfaces.

The shortcut controls are pretty self explanatory but the distinction between spin and rotate is worth noting.

Spin and rotate
The spin and rotate controls are non-automatable meta-parameters - that is, they control the X and Y dimensions rather than affecting the audio themselves.

Rotate (rot8) spins all channels around +/- 180 degrees from the centred fader.

Spin will set the channels rotating continuously at a speed relative to the position of the fader - so pushing the fader slightly up from center rotates slowly clockwise, pull the fader all the way down and the spinning is fast and anti-clockwise.

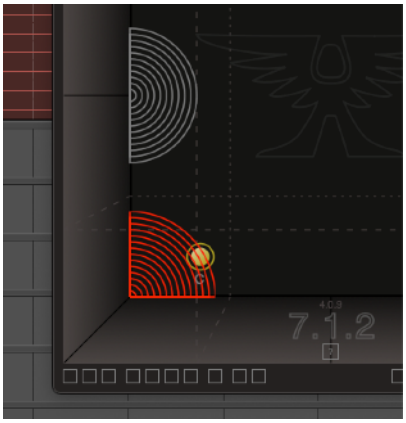
Note that on most Avid surfaces the Spin control is hidden under the Rot8 control. Hit the little button next to the knob to access the alternate control.

4. Output Solos

These solo the output signal from each channel rather than the input channels represented by all the other controls in the GUI.

The output solo buttons are non-automatable, but do affect the audio output of the plugin. You must take care to unset these solos before closing the plugin, lest you forget they are enabled.

5. Meters



Spanner meters output signals in the destination format, rather than the input channels.

At absolute clipping, the entire meter will turn red.

The meter uses a “digital peak” approach with extremely fast ballistics.

The response of the meter can be skewed towards lower signals occupying more of the visible range. This can be useful when working at film reference level on ambience or foley. The MTR+ checkbox toggles this mode.

6. Smoothing

The Smoothing slider causes Spanner to be deliberately less responsive when dragging pucks with the mouse pointer.

The effect is a kind of "rubbery" response, as if the puck were attached to the mouse by a piece of elastic. This can be used as a creative effect, or in smaller doses as a smoothing filter to reduce jerkiness in the performances of human operators.

Smoothing is non-automatable and only affects the plugin while manually dragging a puck in the GUI.

7. Pan-law & downmixing logic

Spanner uses a standard sine-cosine +3dB pan-law.
We often receive questions from puzzled users around this topic, so we'll try where to demystify the situation:

Signals panned to the centre position between 2 output channels (e.g. L & R), ought normally to be split evenly, half the signal level being sent to each of the destination channels (-6dB).

In the real world, these 2 output channels are usually monitored on commercial speakers, in an asymmetric room, with all manner of confounding variables like table, chairs, humans etc. As such, the two -6dB signals do not perfectly sum together in the room, resulting in the perceived loss of about 3dB (depending on the fidelity of the reproduction system and environment).

The traditional fix is to apply a bump of +3dB at the centre position, gradually reducing to 0dB at the L & R positions. This is what is known as the "pan law".

Downmixing
Because Spanner is already applying a pan-law, there is usually no need for the user to pull or push the centre channel's gain fader when downmixing. In dedicated downmixing plugins such as that supplied by Avid, the user does need to make these adjustments, because there is no pan-law being applied.

If you are in any doubt about what exactly is happening, simply send some pink noise through the plugins and compare the output levels on your meters and though your monitors.

Several downmixing presets are provided, but it must be noted that these are simply a starting point for users. In our opinion, there is no such thing as a "correct" downmix arrangement and the context of the content must be considered. Spanner allows for continuous realtime variation of the downmix parameters so users can adjust from scene to scene while monitoring the results by ear.

8. Spancontrol

The Spancontrol iPad app is a multi-touch, realtime remote controller for the Spanner Pro Tools plugin. Spancontrol 2.5 requires Spanner v2.5 or greater. A separate iPad app is available for older builds of Spanner. At time of writing, Spancontrol cannot control Spanner instances form Windows OS or those whose stem format is 5.x.2, 5.x.4, 7.x.4, 7.x.6, 9.x.4, or 9.x.6.

Connection
Spancontrol connects to the plugin over wifi or bluetooth.
an existing wifi LAN could be used but this would potentially allow every machine in the building to act as a source of Spanners for every remote app and potentially create a lot of congestion or suffer because of existing network load. therefore it is often wise to set up a more limited network arrangement. there are 3 good options:

Separate wifi network for any machines you wish to be controlled by the remote. Ad-hoc wifi network created on a single machine for control by a single remote. Bluetooth pairing between a single machine and a single remote (recommended). Once a connection is active Spancontrol will find and display any Spanner users found on the network.

It is recommended that you establish the network connection before opening either the remote app or any spanner plugins. Failure to do so can result in a delay in connecting to the plugin. in this case, closing the plugin and reopening should clear the issue. If the network connection has been changed it may be necessary to relaunch the connection on the remote by hitting the CONNECT button.

Usage
Once the iPad app is open it'll automatically present a list of Spanner users found on the network. Simply select one or more users form this list and Spancontrol will display all available Spanner instances in the upper list. Colour coding and network addresses are used to distinguish between host Pro Tools systems.

If the MNT button is lit, Spancontrol will automatically mount any newly opened Spanner plugin instance (with the exception of freshly inserted ones). So whenever PT opens a new Spanner, the iPad will immediately switch to controlling the new one. it is designed to follow the most recently opened instance so that in most cases the Spanner you need is already on the iPad by the time you've reached for it, and without having to touch it at all. Un-checking the MNT button will stop Spancontrol from mounting new instances and leave it locked to the current one.

On Artist Series or S1, S3, S6 surfaces you can sit in Spanner plugin mode and the iPad will constantly following track selection. on ICON or System5 controllers it's as simple as a single button press on the console to have the Spanner immediately appear both in Pro Tools and on the remote.

If you open several Spanners in PT (using target button) you'll see the current is connected but that the others are listed in the table on the right-hand side. Touching one of those in the list will (very quickly) switch to it.
Likewise, if multiple Pro Tools systems are visible on the network then all of their currently open Spanners will be instantly accessible from the remote.

Modes
The "mode" buttons on the left are self explanatory except to point out that they latch and also have a "temporary" behaviour if you press and hold - returning to previous setting on release.

The PAN and FAD buttons disable movement in the X and Y directions respectively. this can be useful for avoiding accidental moves or adjusting just one axis of an existing move.

It's multitouch so allows controlling as many channels as you have fingers available.
there is no requirement for grabbing exactly on a pan-puck as the nearest will always claim any touch falling between the cracks.

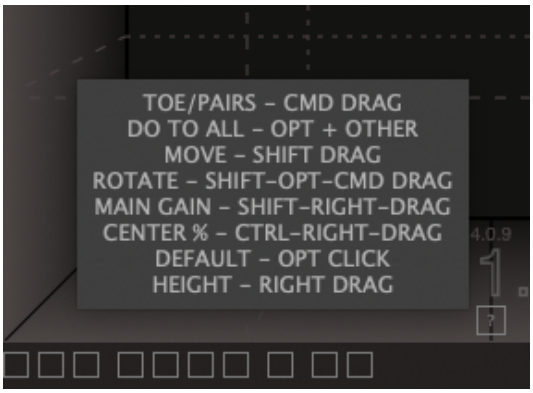
due to the multi-touch support the only gestures currently supported are:
dbl-tap near a pan-puck resets it.
3-finger tap resets all

The remote tries to remember the previously used modes for each instance in the session but will fall back to the defaults you had chosen on the settings page for any newly encountered instances.

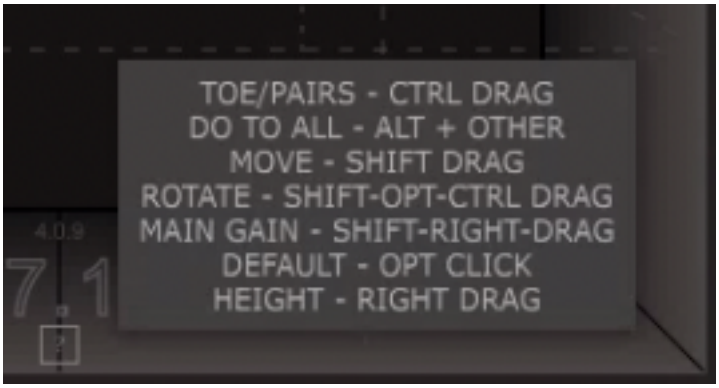
9. Shortcuts Reference

Shortcuts for controlling pucks can be found in the Panfield under the ? button.

Shortcuts on MacOS are as follows:



And on Windows:



10. Specifications, Supported Formats etc

HOST PLATFORMS
Mac OS 10.12 or greater. Universal Apple Silicon & Intel binaries.
Windows 10 or 11

PRO TOOLS
Minimum version = 12.0

PLUGIN FORMATS
AAX, Native, Audiosuite and DSP.

SAMPLERATES
44.1kHz thru 192kHz in Audiosuite and Native.
A maximum of 96kHz is supported for DSP variants, and larger stem widths may struggle on some DSP devices (e.g. Carbon)

CHANNEL FORMATS
The following formats are supported as input and output, with every combination offered except for mono-mono:
Mono, Stereo, LCR, Quad
5.0, 5.1, 5.0.2, 5.1.2, 5.0.4, 5.1.4
7.0, 7.1, 7.0.2, 7.1.2, 7.0.4, 7.1.4, 7.0.6, 7.1.6
9.0.4, 9.1.4, 9.0.6, 9.1.6

COPY PROTECTION & AUTHORISATION
Copy protection is provided by PACE Anti-Piracy in the form of the iLok system.
Any use of the Spanner software requires an account with iLok.com though a hardware dongle is not necessary.
Authorisation is enabled to the iLok dongle, the host computer, or the iLok Cloud.