

VISTA 5.1 Channels

A novel approach to surround

The advent of HD video in OB trucks and TV production studios has defined surround sound as the standard to accompany the brilliant high-definition picture. However, handling the 6 audio channels per source on 6 separate faders uses valuable console real-estate.

The STUDER way of doing it

Studer pioneered multichannel audio systems on digital consoles with its surround management, and the Vista series is now offered with a new way of handling 5.1 inputs sources on a single fader. Studer has taken a unique approach to managing surround input channels, and by listening to experienced broadcasters has developed a new type of input channel which does not simply consist of mono and/or stereo channels, but which is a new type of channel on its own.

With the Studer 5.1 input channel, the engineer is able to have Input, EQ, Dynamics and Panning sections totally designed for premixed 5.1 input sources. The main goal is that he can adjust the most important parameters directly via touch on the Vistonics™ screen without the need to “spill” single mono or stereo channels to additional faders, where other important sources would be hidden and become unavailable. This is realised by introducing complete new parameters to “balance” the 5.1 signal using the Vistonics encoders.

This way, engineers can maintain the perfect arrangement of ‘one fader for one source’ on their mixing console, and maintain a good overview while fast access to every single source parameter is provided.

New Controls

Routing sources to input channels
A surround source can be patched to a 5.1 input channel very easily by using the “auto” route facilities where all 6 discrete mono sources are patched at once with a single mouseclick. This makes patching as simple as patching mono inputs.

Bus assign



With the now industry-accepted surround channel order of “ L R C Lfe Ls Rs “ Studer has changed the bus order in Vista consoles to reflect this ITU standard. The newly introduced labeling of the busses in the Vistonics touch area allows a better overview and secure and quick assigning.

Adjustable input order

In daily broadcast work it is found that still not all 5.1 sources are delivered in the standard format. An input order selector has been designed comparable to the “2CH mode” (L to both, R to both, swapped, mono) in stereo channels. Input order is a very fast way to detangle different standard surround material, so that once it is on the 5.1 fader, everything is in “ L R C Lfe Ls Rs “.

Balance the 5.1 signal

Here we come to the most important section where Studer has designed an innovative method to adjust a 5.1 signal to the requirements of the actual surround mix. New parameters have been created in order to give the engineer the most effective tools to balance the surround signal.



Balance – Basically as an evolution from stereo inputs, here the balances between front channels L-R, rear channels Ls-Rs, and also the balance between front and back can be adjusted.

Centre level – Centre level adjustment most important to correct dialog level.

Centre usage – when desired, takes dialog out of the centre, for example, and adds it to L and R, converting the incoming centre channel gradually into more phantom centre.

Lfe level – To enhance or reduce the Lfe level.

Adjust the surround image

After the balance has been set, a further set of parameters comes into action where the “image” of the surround signal can be altered - such features are hardly ever found on other consoles as yet !

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Front Width – Also as an evolution from stereo inputs, the front channel width can be adjusted from 0..200%.
F-B Depth – A unique new control – the perceived distance between front and rear signals can be extended or reduced.

Back Width – The same width control as on the front channels – but here separately for the rears also from 0..200%.

Operate fader / master EQ / master Dyn

Once the balance is set, the 5.1 input channel can be handled in the same way as a mono or stereo input channel. Most importantly the signal is brought into the mix with one single fader and all the necessary adjustments can be made on one single channel strip. When EQ is needed it can be applied via EQ master parameters which are accessible again in the same way as on mono or stereo inputs. EQ is then applied to all of the surround signal legs except for the Lfe. Dynamics processing is handled in the same way. Working with these most important controls is what we expect to be about 95% of the surround engineers work.

Panaround if needed



With the newly introduced possibility to turn around a ready mixed surround image the engineer gets the tool to correct “the direction” of a premixed source. This can be done as far as turning a surround sound in a 360° circle. A missadjusted surround microphone can be aligned without leaving the mixing console!

Channel View for sub EQ / sub Dyn

Only when certain legs of the signal have to be adjusted differently from others – e.g. adding high frequency in the rears – does the channel view have to be selected. Channel view shows all the separate EQ and Dynamics settings of “Front”, “Center”, “Lfe” and “Rears”. Here one can really tweak the surround legs differently – with the touch of a button.



In addition to the 5.1 input channels, Studer has also introduced 5.1 Group and Master

channels. Now even more faders can be saved, since a complete surround group or a surround master only uses up one single fader. This gives more space for more input sources in channel hungry productions, for example.

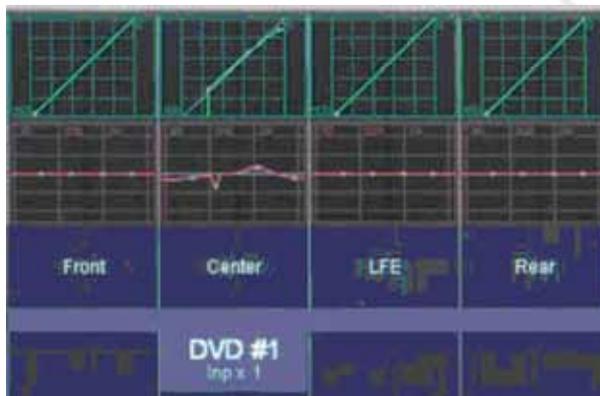
New Algorithm - 5.1 Width



A new surround panning module is also available for stereo channels. Since there are still a significant number of stereo sources

used in a typical surround production, engineers also need to bring these into the 5.1 format. Studer has now implemented a way to pan such stereo signals also to the surround mix, providing the possibility to ‘wrap’ a simple stereo signal to a surround sound field.

Every stereo channel can now be equipped with the new “upmix” panner. This works in three modes : normal LR, 5.1, and 5.1 width mode, where a revolutionary Harman algorithm also extends the stereo width control to the surround speakers.



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