SPLIT HALLS

DESCRIPTION:

SPLIT HALLS is a reverberation program that contains two completely independent 'split' hall simulations. Parameters are included to independently control the decay time, pre-reverb delay, front-to-back source position, high-frequency damping, and simulated hall size for each of the two reverbs. Each hall takes a mono input signal and provides either split mono or mixed stereo outputs. The split mono output mode yields two independent mono-in, mono-out reverbs; mixed stereo mode creates two mono-in, stereo-out reverbs whose outputs are mixed before being sent to the output connectors of the SP2016. When in mixed stereo output mode, an input panning control allows each of the two source signals to be independently positioned in the stereo space. Parameters for each hall are organized into separate 'pages' of options; a softkey is used to toggle between parameter options for Hall 1 or Hall 2.

PARAMETERS:

DECAY   Separate reverb decay time (RT60) parameters for each hall can be varied from .5 second to 30 seconds in 30 steps.

POSITION   Adjusts the relative position of the sound source from front to rear in the simulated halls. Two digits "1" and "2" mark the position in Hall 1 or Hall 2 from "F" (front) to "R" (rear). At the front, early reflections dominate the sound, and as distance increases, the late reflections and reverberance take over.

HALL SIZE   Controls the apparent size of each hall, from 400 (small studio) to 5000 (large auditorium). As size increases, the time necessary for reflections to 'bloom' or diffuse through the hall increases, and late reflections from distant walls become more prominent.

PREDELAY   Delay time before the onset of reverberation, adjustable independently for each hall from 1 to 100 milliseconds.

HF DAMPING   Controls the brightness of each hall, simulating the natural effect of air absorption on the reverb decay. More negative damping values cause high frequencies to decay more quickly, while more positive values add 'sizzle' and a hard edge to the reverb. HF damping can help smooth the decay, particularly at long decay times.

L/R PAN POSITION   When in mixed stereo output mode, the pan parameter provides independent panning control for each hall's source signal. This allows you to 'un-center' the sound source and position it anywhere in the hall's stereo space. Two digits "1" and "2" move left and right in the display to indicate the position of each hall's input signal in the stereo image.

OUTPUT MODE   This parameter controls the output mode, as mentioned above. When the program is in SPLIT MONO OUT mode, it performs as two independent mono reverberators. In MIXED STEREO OUT mode, it implements two mono-in, stereo-out reverbs whose respective output channels have been combined before being sent to the two output circuits of the SP2016.

SOFTKEYS:

HALL1(L) OPTIONS   When this softkey label is displayed, only the parameters for Hall 1, in the left channel, appear in the parameter list. Pressing the softkey switches to displaying the parameters for Hall 2. (This organization of parameters into option 'pages' is similar to that used for the SP2016 CHANNEL VOCODER program.)

HALL2(R) OPTIONS   When this softkey label is displayed, only the parameters for Hall 2, in the right channel, appear in the parameter list. Pressing the softkey will toggle between the option pages for Hall 2 and Hall 1.

APPLICATIONS:

Typical uses for split reverb programs are musical situations that call for different reverberation characteristics to be applied to two separate signals. Your backing vocal tracks may need a large hall with a long decay time, while the snare drum track requires a small room with a short decay time, etc., etc. By running each track through one half of the split reverb, entirely different sonic environments may be set up independently. When running in SPLIT MONO mode, the independent outputs are also available for individual post-processing, like panning, equalization, or extra delay.

We realize, however, that many engineers distain the use of mono-in, mono-out reverb on their tracks because of its one dimensional character. For this reason, a MIXED STEREO output mode was included in the program configuration. MIXED STEREO makes the best of the fact that the SP2016 has only 2 channels of output circuitry, and can't provide individual stereo outputs for each of the two reverbs. Instead, it combines the two left channels of each split reverb and sends them to the SP2016's left output, performing the corresponding operation on the two right reverb channels.

By bringing the MIXED STEREO output back through a single stereo effects return on the console, it seems that the opportunity for individual post-processing on each reverb has been lost. However, remember that linear signal processing like EQ or delay can be added equivalently *before* each individual reverb send. And as for panning, we've included a L/R PAN POSITION parameter that gives the ability to pan each input signal anywhere throughout the stereo output field. Curiously, this is a unique feature that we've seen on no other mono-in, stereo-out reverb; most mono-input units leave you with your

image stuck at dead center, or worse, smeared indiscriminantly across the entire stereo field. If you've carefully positioned your dry signal in the stereo mix, the L/R PAN parameter ensures that you can pan its reverberant image to reinforce that localization, not cancel it out. (To be fair, we should also point out that you can use it to *subvert* the conventional localization cues in order to achieve special effects.)

While SPLIT REVERBS are mainly intended to provide independent reverberation for separate signals, there are a few less obvious but quite useful applications. You can certainly create very bizarre-sounding spaces by running a mono (or nearly so) signal through each reverb half in SPLIT MONO mode and using wildly different parameter settings on each reverb. A more interesting technique is to set both reverbs identically except for a moderate differences in just one parameter.

For instance, using SPLIT MONO mode and setting all parameters the same except for a longer DECAY time in one channel can create the impression of a strange ⌐-shaped room whose reverberant energy is concentrated off to one side. Similarly, identical settings except for a close FRONT/REAR position on one channel and the furthest position on the other yields the illusion of another irregularly shaped room, with the listener's location near to one wall and distant from the other. Extra PREDELAY on the distant channel, say 70ms, greatly reinforces this illusion, as will setting the distant channel's ROOM SIZE somewhat larger. An amazing variety of very individual sounding spaces can be created just with this class of techniques.

Using a different approach, we can create a *dual-slope* reverb, whose reverberation decays non-linearly. The idea is that the first portion of the reverberation decays very steeply, while the later portion has a shallower decay slope which takes much longer to die away. Here we operate in MIXED STEREO MODE, setting channel 1's DECAY relatively short (say, 2 seconds) and channel 2's very long, with perhaps a larger ROOM SIZE (say 10-30 seconds and a size of 3000). Now feed both SP2016 channels with the same signal, but with the send to channel 2 at a level about 15 to 20dB lower. The effect is that impulsive sounds initially decay very quickly (chan 1's decay time), but then leave a gentle wash of reverberation (chan 2's decay) that seems to linger on underneath indefinitely. Not a technique that will necessarily stand up to full mix, but a creative and subtle special effect nonetheless.

SPLIT PLATES

DESCRIPTION:

SPLIT PLATES is a reverberation program that contains two independent plate reverb simulations. Parameters are included to independently control the decay time, pre-reverb delay, and high-frequency damping for each of the two plates. Each plate takes a mono input signal and provides either split mono or mixed stereo outputs. The split mono output mode yields two independent mono-in, mono-out reverbs; mixed stereo mode creates two mono-in, stereo-out reverbs whose outputs are mixed before being sent to the SP2016's outputs. When in mixed stereo output mode, an input panning control allows the position of each of the two source signals to be centered or shifted to either side of the stereo space. Parameters for each plate are organized into separate 'pages' of options and a softkey is used to toggle between parameter option pages for Plate 1 or Plate 2.

PARAMETERS:

DECAY TIME   Separate reverb decay time (RT60) parameters for each plate can be varied from .1 second to 30 seconds in 30 steps.

PREDELAY   Delay time before the onset of reverberation, adjustable independently for each plate from 1 to 100 milliseconds.

HF DAMPING   Controls the brightness of each plate, simulating the effect of tightening down the dampers found on some plate reverb units. More negative damping values cause high frequencies to decay more quickly, and can help smooth the decay, particularly at long decay times.

L/R PAN POSITION   When in mixed stereo output mode, the pan parameter allows each plate's input signal to be independently positioned in the stereo space, aiding in the localization of sources in a stereo mix. Each signal may be positioned left, center or right in the reverberant field. Two digits "1" and "2" on the display reflect the position of the sources for Plate 1 and Plate 2.

OUTPUT MODE   This parameter controls the output mode, as mentioned above. When the program is in SPLIT MONO OUT mode, it performs as two independent mono reverberators. In MIXED STEREO OUT mode, it implements two mono-in, stereo-out reverbs whose respective output channels have been combined before being sent to the two outputs of the SP2016.

SOFTKEYS:

PLATE1(L) OPTIONS When this softkey label is displayed, only the parameters for Plate 1, in the left channel, appear in the parameter list. Pressing the softkey causes the parameters for Plate 2 to be displayed.

PLATE2(R) OPTIONS When this softkey label is displayed, only the parameters for Plate 2, in the right channel, appear in the parameter list. Pressing the softkey will toggle between the option pages for Plate 2 and Plate 1.

APPLICATIONS:

For application hints and ideas, see the program summary for **SPLIT HALLS.**

PROGRAM SUMMARY:

SPLIT HALL/PLATE

DESCRIPTION:

SPLIT HALL/PLATE is a split reverberation program that combines a hall reverb simulation on the SP2016's left channel with a plate reverb on the SP2016's right channel. Parameters are included to independently control the decay time, predelay time, and high-frequency damping for each reverb. The hall reverb also utilizes front-to-back source position and hall size parameters. Each reverb takes a mono input signal and provides either split mono or mixed stereo outputs. The split mono output mode yields two independent mono-in, mono-out reverbs; mixed stereo mode creates two mono-in, stereo-out reverbs whose outputs are mixed before being sent to the SP2016's two outputs. When in mixed stereo output mode, an input panning control allows each of the two source signals to be independently positioned in the stereo space. Parameters for each reverb are organized into separate 'pages' of options; a softkey is used to toggle between parameter options for Hall 1 or Plate 2.

PARAMETERS:

DECAY TIME Separate reverb decay time (RT60) parameters for the hall and plate reverbs. The Hall 1 decay time can be varied from .5 second to 30 seconds, while the decay time for the Plate 2 algorithm varies as low as .1 second.

POSITION The Hall 1 reverb allows the relative position of the sound source to be varied from front to rear in the simulated hall. A "1" digits marks the position in Hall 1 from "F" (front) to "R" (rear). At the front the early reflections dominate the sound, and as the distance increases the late reflections and reverberance take over.

HALL SIZE   Controls the apparent size of the Hall 1 reverb, from 400 (small room) to 5000 (large auditorium). As size increases, the time necessary for reflections to 'bloom' or diffuse through the hall increases, and late reflections from distant walls become more prominent.

PREDELAY   Both the hall and plate reverbs allow the addition of a delay before the onset of reverberation. Predelay time for both reverbs is independently adjustable from 1 to 100 milliseconds.

HF DAMPING   Controls the brightness of both the Hall 1 and Plate 2 reverbs. More negative damping values cause high frequencies to decay more quickly, while more positive values add 'sizzle' to the reverb. HF damping can help smooth the decay, particularly at long decay times.

L/R PAN POSITION   When in mixed stereo output mode, the pan parameter provides independent panning control for each reverb's source signal. This allows the sound to be 'uncentered' and positioned to enhance the localization of sound sources in a stereo mix. Input to the plate reverb can be switched between left, center and right positions, while the hall input signal can be continuously panned from left to right. Two display characters "1" and "2" mark the panned position of the Hall 1 and Plate 2 inputs, respectively.

OUTPUT MODE   This parameter controls the output mode, as mentioned above. When the program is in SPLIT MONO OUT mode, it performs as two independent mono reverberators, with the hall reverb in the left channel and the plate reverb in the right. In MIXED STEREO OUT mode, it implements two mono-in, stereo-out reverbs whose output channels have been combined before being sent to the two outputs of the SP2016.

SOFTKEYS:

HALL1( ) OPTIONS   When this softkey label is displayed, only the parameters for Hall 1, in the left channel, appear in the parameter list. Pressing the softkey switches to displaying the parameters for Plate 2. (This organization of parameters into option 'pages' is similar to that used for the SP2016 CHANNEL VOCODER program.)

PLATE (R) OPTIONS   When this softkey label is displayed, only the parameters for Plate 2, in the right channel, appear in the parameter list. Pressing the softkey will toggle between the option pages for Plate 2 and Hall 1.

APPLICATIONS:

For application hints and ideas, see the program summary for **SPLIT HALLS.**