LCR Mixing

The Minimum Surround Format for Festivals Using DCP

What is LCR?

- LCR is short for Left, Center, Right and represents the three discreet channels that comprise the most important parts of a surround mix.

- Playback requires a minimum of three speakers, and a Dolby decoder.

Why Do I Need it?

- If your film is selected to screen at a festival, it must be in DCP format.

- Future proof - this format allows for remastering, dubbing to other languages and is easy to transport/deliver.

- Allows for greater dynamic range - dialog gets its own speaker, allowing other elements more room in the mix.

- Better, more balanced dialog - everyone in the theatre hears the dialog equally, as it's coming from the very centre of the sound stage.

How Do I Make it?

Once your film is mixed and you are ready to deliver the final files, you'll need to set up some simple routing in Pro Tools. Basically, you want the output of all your individual elements to be re-recorded onto three separate mono tracks. These tracks will be used for the DCP creation and will contain all your great mixing and sound design. Even though the tracks will all be mono tracks, when wrapped into the DCP container, they will play back with all of the pan moves and depth you put into your mix; the stereo elements will remain stereo, and the dialog will be anchored to the screen, in the very centre of the theatre. If you mixed in 5.1 surround (yay), all six mono files will play back as a surround mix. The concept is outlined below:

- Ensure your session is in 24 bit, 48 KHz sample rate.
- Export the Dialog track (or sum of all dialog tracks) and output it as a mono WAV file. Label this file "Center."
- Bounce or re-record all other sonic elements (Music, Sound Effects, Backgrounds) into a Stereo WAV file.
- Split that new stereo track into two mono tracks and label them "Left" and "Right."
- Submit all three tracks (Left, Center, Right) to the DCP author.

This is a simplified mixer view in Pro Tools. The tracks on the left of the red track are our sound elements: Dialog, Backgrounds, Sound Effects, and Music.

Typically there are many more individual tracks comprising a film mix session, but the same principal of routing is applied here.

Notice how the tracks on the left of the Master track have been routed so that their outputs are set to busses. These busses are then set as inputs of the tracks on the right of the Master track.

We would then re-record the entire film onto those tracks (stems), and split the stereo track (containing all elements EXCEPT dialog) into two monos. So the "L+R" track gets split into separate mono tracks "L" and "R."
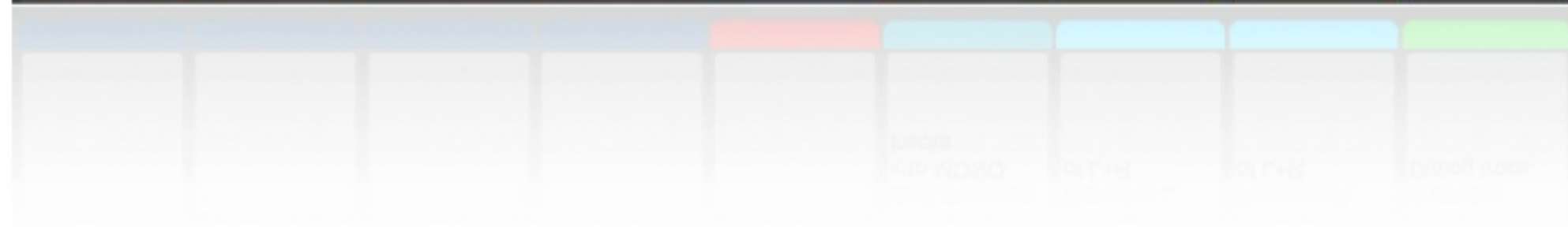
To split the L+R track into two monos, highlight the stereo clip in the timeline and select menu item: **Edit > Split tracks into mono.**

You will then need to label these new mono tracks as "Left" and "Right."

Finally, export the Left, Center, Right tracks as WAV files and submit to the DCP author.

Summary

Required Audio Format:
- 24-bit, 48 kHz uncompressed PCM WAV files
- Minimum 3 channels (Left,Right,Center) or 5.1 (L,R,C,LFE,LS,RS)
- Submitted as separate mono files and labeled correctly
  (myFilm_Left.wav, myFilm_Right.wav, myFilm_Center.wav, etc.)