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Desktop Music Production for PC

Lesson 7: An Overview of Mixing

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The Reason Mixer: 14 Channels, a Master section, and four separate sends and returns.

Mixer Components in Reason

The Reason Mixer



Channel Strip Routes signals to and from external devices.

The Channel Strip.



Master Section Controls the output of the entire mixer.

The Master Section.

Let's take a deeper look at how signals move through a mixer.





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Signal path in a mixer.

Using the Reason channel strip as an example, let's look at the available controls.



Next Activity: Exercise: Available Mixer Controls



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The mixer in SONAR.

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Master Sbgrp1 EffcS1

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Notice the similarities of this layout with that of the Reason mixer. Some of the similarities you might notice are:

• multiple channel strips with dedicated controls for each channel

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Ch2 Ch3 Ch4 Ch5 Ch6

- auxiliary busses (sends and returns) •
- master level faders •

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There are differences as to exactly where the various controls are, and how the controls look graphically, but the interfaces are very similar in layout and function. Take this short quiz to compare the SONAR mixer with the principles we have learned with Reason.

The SONAR mixer quiz.



Next Topic: The Hardware Mixer



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The Mackie quiz.



Next Topic: Technical Issues in Mixing



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Topic 3	The importance of good signal levels in recording and mixing cannot be overstated when it comes			
Topic 4	to maximizing signal quality and minimizing distortion.			
Topic 5	Watch this movie illustrating how to set levels. Click the image to start the video.			
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Topic 8	Setting levels.			
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Syllabus	When setting up a physical studio, you will need to set levels for all devices using the method			
Grades	alone and make all relative level changes with your channel faders. Use your mixer output level			
Bookmark	controls to make adjustments to your overall listening volume.			
communication	Be careful when mixing because as your ears tire there is a tendency to raise levels to better hear			
Announcements	sonic detail. Protessional studios have level meters installed to protect engineers from creeping			
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End Discussion	Loud volumes can damage your ears, and you should protect them as best you can: They are			
📃 <u>Chat</u>	your best tools for mixing!			
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Aesthetic Issues in Mixing

In this section, we will examine general issues of mixing from an aesthetic standpoint. Besides the technical issues we have explored, we now look at the musical and artistic considerations in making a good mix.

Levels of Instrument Parts

The most commonly adjusted parameter of a mix will be the individual levels of instruments. The elative balance between instrument parts is key to the successful expression of a piece of music. For example, the balance between the bass and drum parts is essential to a groove mix. Vocals need to be heard over instrumental backing, and the louder each individual part, the louder the vhole.

When setting the relative balance of instruments in a multitrack piece, channel faders adjust the evels of individual parts until you find a mix that suits your personal tastes. Level changes alter the mix and gives you one dimension of control over the clarity of the overall sound.

Automation of Instrument Parts

In actual performance, levels will vary throughout a piece. Therefore, engineers will often continuously adjust the levels of the track to compensate for uneven playing, environmental changes, or unintended dynamic changes. This is often called "riding the level." Often, in the process of mixing, the producer acts much like an orchestra conductor by bringing out key elements in a production.

Fortunately, many professional and semi-pro-level mixers have the ability to store movements of faders through a process called **mixer automation**. Most software-based mixers such as those in Cakewalk's SONAR and Propellerheads' Reason also feature this capability.

Automating a mix involves recording the fader movements as control data to a special memory location, and then playing back the movement control data. This data can often be edited as well, either by recording over the track, punching in and out as needed to replace only the changed information, or by using a graphic or list editor window.





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Topic 3	Stereo sound represents space in two dimensions along a horizontal plane. A sound can be placed
Topic 4	between two speakers with its relative location controlled by the pan control.
Topic 5	The third dimension, depth , is often simulated in stereo by balance between instruments and by
Topic 6	adding reverb.
Page 1	
🔶 Page 2	Surround sound adds the third dimension by adding speakers behind the listener and controlling
Page 3	the relative loudness of each sound in each speaker.
Activity 3	Since we cannot assume you have access to an accurately configured surround sound mixing
Topic 7	system, we will work with the stereo field and add depth with reverb.
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sthetic Issues in Mixing

e Sound Spectrum

ne last section we explored how the spatial location of instruments can add clarity to a mix by ise placement in the stereo field. Now let's look at how equalization can also help add clarity voiding an effect called masking. Let's think of the sound space created by a mix as a room. horizontal plane is governed by pan, the depth is controlled by reverb, and overall vertical e is controlled by volume settings. Now think of the whole sound spectrum from lowest to est frequencies as filling the whole room from floor to ceiling, with the highest frequencies at ceiling.

y instrumental sounds fill up a large portion of the volume of the room. Think of the piano. It very low frequencies as well as high frequencies. Now think of the sound of a guitar. It sn't go as low or high as the piano, but it does cover a large portion of the middle range. If have a piece with both guitar and piano playing chords in the mid-register, some of the rumental sound of one will mask parts of the other sound unless we are careful to separate two instruments. We can do this somewhat with pan and reverb, but equalization can further to clarify our mix.

s now do an assignment that examines levels, spatial location, and the sound spectrum in ng.



Next Activity: Assignment: Mixing in SONAR

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