**Freehand Draw** When activated, you can use your mouse to alter a sound's data. Selecting freehand will automatically zoom all the way in. To edit normally, deactivate the option or zoom out.

**OK Requesters** When activated, OK Requesters will appear for all destructive edits and effects. It is recommended that users new to Studio 16 leave "OK Requesters" activated until they become more familiar with Studio 16's operation. Advanced Users will probably want to turn off this option. A few crucial requesters are not optional and will remain even when OK Requesters is deactivated.

**NOTE** OK requesters can generally be accepted or rejected with the standard keyboard shortcuts Left *A*-V and Left *A*-B for OK and cancel.

**Units in Samples** The graph and status display are generally displayed in SMPTE time code. If you prefer to work in numbers of samples, activate this option.

**Show Regions** Regions are marked ranges that have been given a name. Regions are like samples in that they can be dragged into the Cue List. Show Regions will bring up an "Editor Regions List" that lists all the regions in a samples. You can drag from this region List. The "Editor Regions List" has Menu Options of it own.

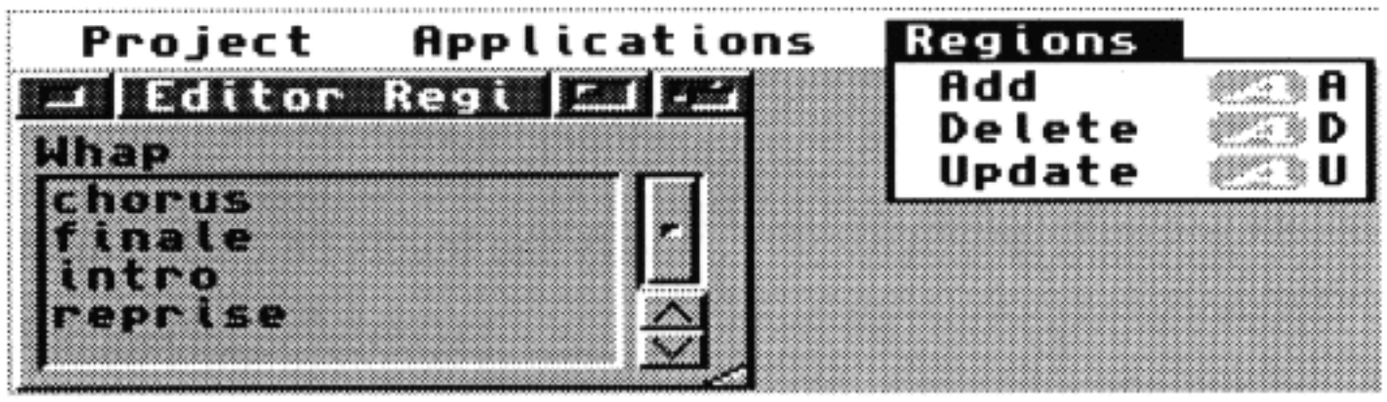


Figure 8-80. Editor Regions List and Regions Menu

### Add Region

Brings up a name requester for the marked range. This range will then be converted to a region that can be dragged into the Cue List. Its name will appear in the Editor Regions List along with any other regions existing for that sample.

### Delete Region

Highlight a region's name in the region list and select this option to forget the region. Note that no data will be lost, this is not a cut, nor a destructive delete.

### Update Region

Allows you to adjust the region's length. Click on a region's name in the Editor Regions List, then click on the graph and move the start or end markers of the region. Next, make the Editor Regions List active by clicking on the title bar, then select Update Region to update the region with the new length.

**Grid**

Displays a vertical grid that indicates boundaries within a sample. The type of grid is set with the submenu. For example, you can request that a vertical line be drawn on one frame or one second boundaries.

Note that you may have to zoom in to see the grid lines. This is because the Editor will not draw grid lines when there would be "too many" drawn. In other words, if the editor thinks that you're going to have trouble seeing the waveform through all the grid lines, they will not be drawn.

Set the grid to one of the following settings, or turn it off. Note that the grid is a display only, it does not "snap".

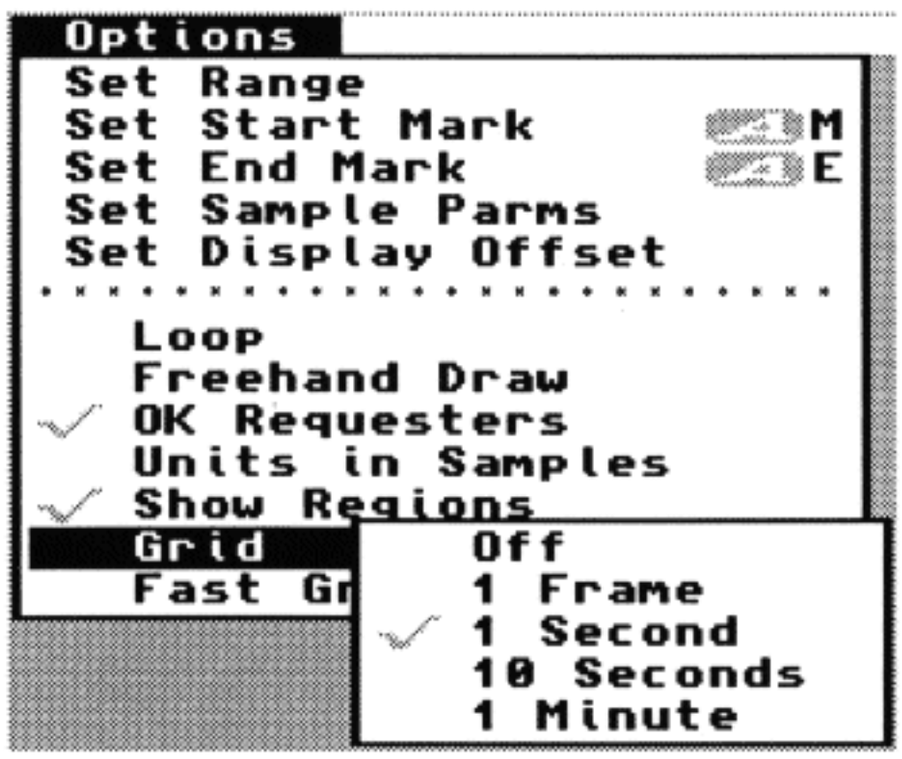


Figure 8-81. Grid Settings

**Fast Graph**

When activated, the graph display update is quicker, but less representative of the actual sample.

# Instance

**Keyboard Shortcut:** ^ I

**Class:** Application Module (Dormant)

**Description:** The Instance List can be used to launch Studio 16 modules just like the Applications Menu and Keyboard Equivalents. Instance is loaded from the Applications Menu. And once loaded, all other application or utility modules can always be on display rather than in the menu. Usually, due to limited screen space, it is preferable to use the Applications Menu and keyboard shortcuts.

This module does not generally require user access.

## Instance Menu

**Edit** Brings up a requester giving you the option of renaming a module or making a module resident or non-resident. All Studio 16 modules reside on your disk in the Studio 16_3: Application, Drivers, and Utilities drawers. For each module, there is one program file in this directory. As with all programs, a Studio 16 module must be in RAM to run. However, when you are not using a module, the module's code can be removed from RAM. The resident/non-resident option lets you decide if you want to keep a particular module's code in RAM even when the module is not being used (Resident) or whether you want to free RAM for use by other programs and remove a module when it is not is use (Non-Resident).

The advantage of keeping a module resident is speed. A resident module's window will open immediately when you double click its name in the Instance List since it doesn't have to be loaded from disk. A non-resident module will take a second or so to load when you double click its entry in the Instance List. For this delay you save a small amount of memory. The amount of memory (RAM) saved is relatively small so it's advisable to keep commonly used modules resident.

The Utility and Driver modules should always be resident. Application modules may be made resident at your discretion.

**Duplicate**

This option creates another Instance of a particular type of module. For example, select the **Meters** entry and click the **Duplicate** button. You now have two entries in the Instance List, Meters and Meters#2. This enables you to load two Meters modules simultaneously, allowing you to show eight meters at once. However, some Amigas will not have enough CPU time for this.

**Remove**

This option removes an Instance from the list. For example, if you don't require that second meter module (added in above example), you can select Meters#2 and then click the **Remove** button. Once a module is completely removed from Instance, you will have to load Module List to add it back.

**Show**

Sets Instance to display Applications, Utilities, or both. Utility Modules are used in the operation of Studio 16. They are not usually accessed by the user. However, you may be interested in selecting the AD516 or AD1012Handler. It displays statistics about your hardware.

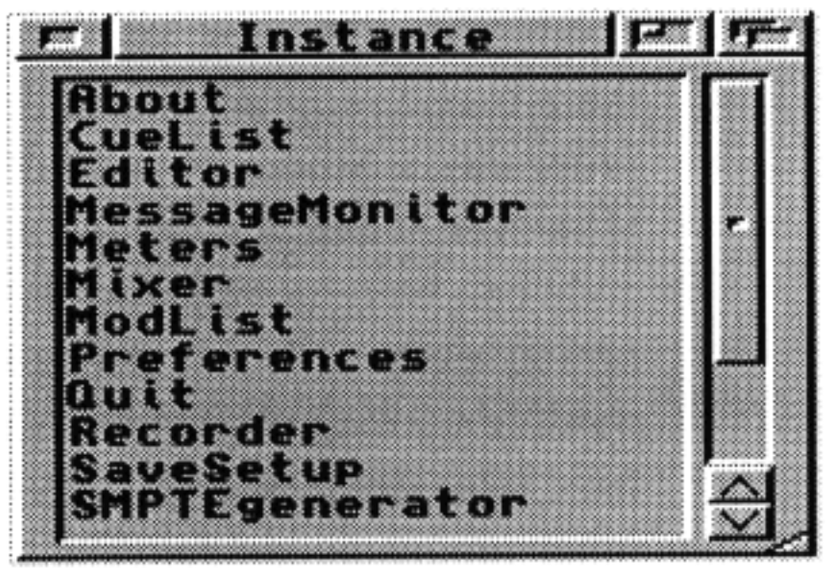


Figure 8-82. Instance List showing Application Modules

## Procedure

To move Instance from the Dormant directory:

1. Quit Studio 16.
2. From WorkBench open the Dormant directory, by clicking its icon.
3. Drag the Instance icon on to the Application directory icon.
4. Delete the S:Studio16Instance.config file.
5. Load Studio 16, Instance will appear in the Applications Menu.

# Message Monitor

**Class:** Application Module (Dormant)

**Description:** The Message Monitor is a handy debugging tool for Studio 16. This module is for programmers - most users will not require opening it. It displays all the messages passed between the different Studio 16 modules. It should be noted that message monitor can run at low task priorities, while most other Studio 16 modules run at higher priorities. This will cause a backlog of messages to be queued if the computer is fully loaded. These messages get processed by the higher priority Studio 16 modules before they are displayed by the message monitor.

Message Monitor is located in the dormant directory. This means that it is not available from the Applications Menu.

## Procedure

To move Message Monitor from the Dormant directory:

1. Quit Studio 16.
2. From WorkBench open the Dormant directory, by clicking its icon.
3. Drag the Message Monitor icon on to the Application directory icon.
4. Delete the S:Studio16Instance.config file.
5. Load Studio 16, Message Monitor will appear in the Applications Menu.

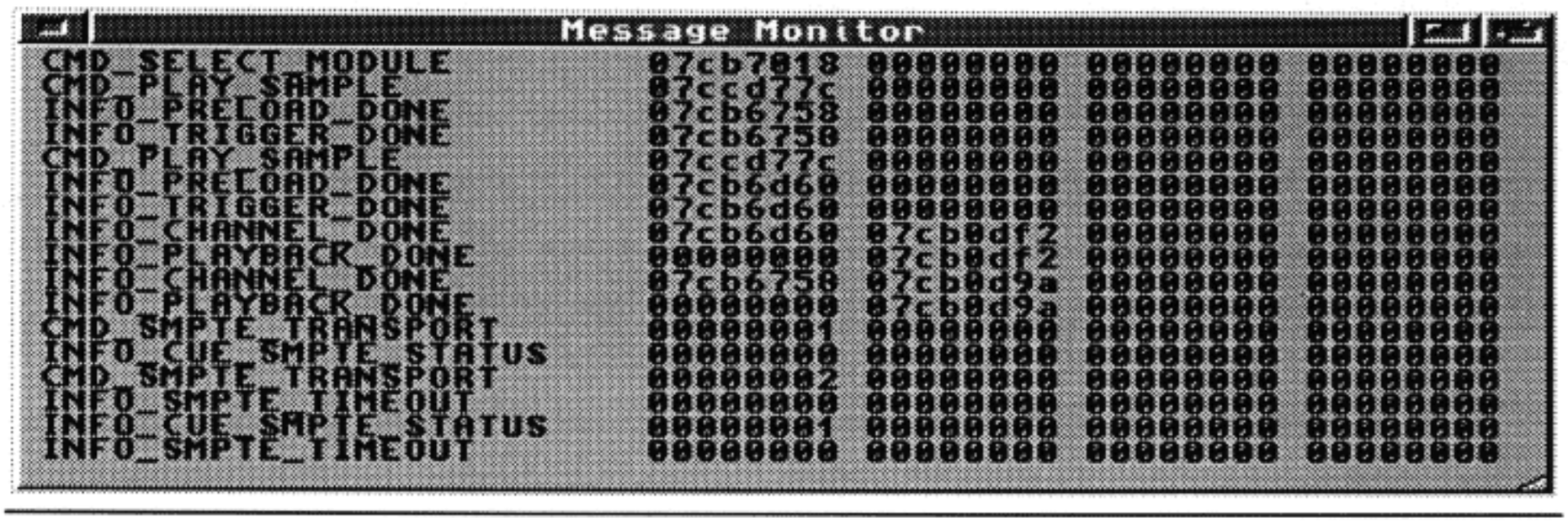


Figure 8-83. Message Monitor

# Meters

**Keyboard Shortcut:** ^V

**Class:** Application Module

**Description:** This module displays sound levels in much the same manner as the meters on a cassette deck. Like a cassette deck, these meters are used in adjusting the input gain of incoming sound. They enable you to get the maximum volume without clipping. Whenever you adjust the input gain of a card you should open a meter window. This allows you to make an informed decision about where the input gain slider should be set.

Another use of the meters is the visual monitoring of the sound going through each of the Studio 16 channels. You can easily tell if a sample was recorded improperly by looking at the level of a channel to see if it is too low or too high. You may decide that a sample needs to be re-recorded.

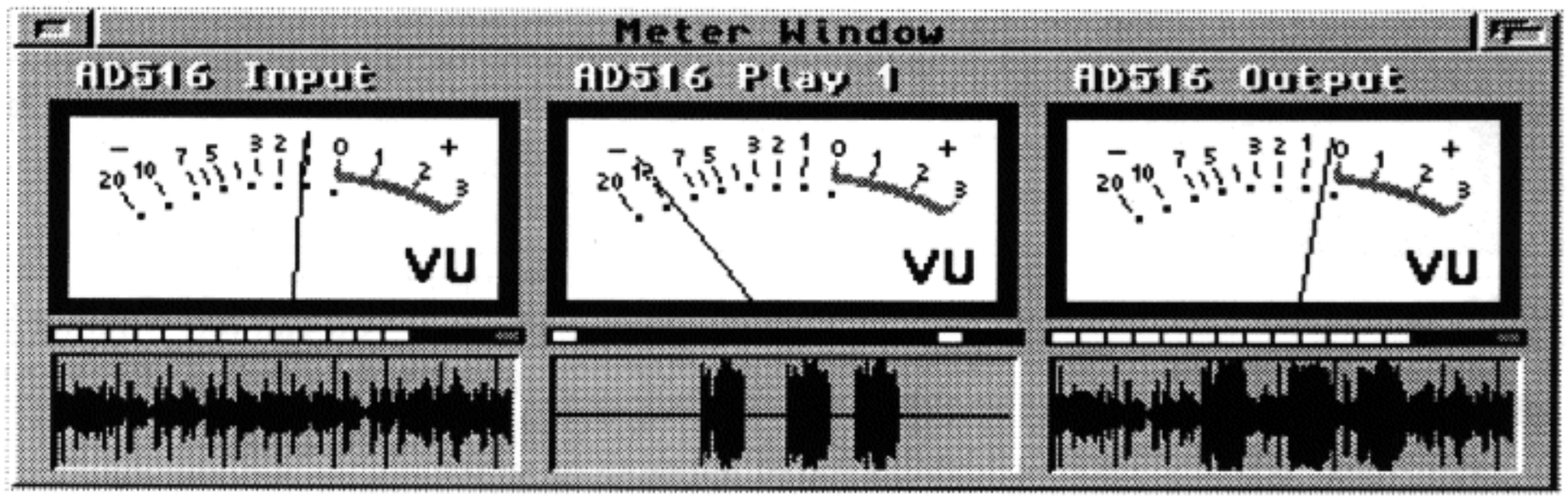


Figure 8-84. Meters

**Layout:** The meter window can consist of an Analog Meter, a Digital Meter and a scrolling graph. Each meter is assigned to a specific channel using the Channel Menu option. Each meter takes up more blitter time, so slower systems should keep the number of meters to a minimum.

For most applications, the gain information required can be derived from the digital meters and the scrolling graph on the input channel. Other than setting the input gain, meters are optional. While they look nice, they also take up memory and a surprising amount of CPU and blitter time. It is possible that if you close down the Meter module you will be able to playback more channels.

## Meters Menu

Allows you the flexibility to show only the types of meters you require. Each meter channel can display the volume information in up to three ways: an analog meter simulation, digital meter simulation with peak hold, and a scrolling graph.

**Analog** The analog meters use a waited averaging technique to show the average sample amplitude. Large instantaneous peaks in a sample's volume will have only a small effect on an analog meter's needle position unless they occur frequently. It is difficult to decide if a sample is clipping using this type of meter, so it is more useful to use one of the other types of meters for adjusting the input gain of the card.

**Digital** The digital meter shows the instantaneous peak of a sample's amplitude in a given period of time. If a sample has one large peak this type of meter will display the peak. If the right most LED is displayed, then clipping occurred. In most cases the input gain should be reduced to prevent this. The peak hold feature shows the largest amplitude of a sample for a longer period of time. This makes it easy to determine how loud the peaks of a sample are.

**Graph** The scrolling graph meter is a type of meter unlike any analog world counterpart. It shows the instantaneous peak of a sample on one axis while showing time on the other axis. This type of meter is useful for determining the type of sound being played through a channel as well as its amplitude. With practice you can tell whether a channel is playing back a voice track, a sound effect or music just by looking at the shape of the graph.

## Channels Menu

Allows you to assign meters to specific channels. Input should always be selected when monitoring the gain level before recording.

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**NOTE** To select multiple options in a sub-menu click the left mouse button while holding down the right.

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The maximum number of meters per meter module is four. To show more than four meters, you must first close the Meter Window and launch Instance. Because Instance is dormant, you will need to move Instance to the Applications drawer in order to access it. From Instance duplicate Meters. Then from the Applications Menu you can access Meters#2, this will provide four additional meters. For more meters, duplicate Meters in Instance a second time.

# Mixer

**Keyboard Shortcut:** ^ M

**Class:** Application Module

**Description:** The mixer allows you to adjust the relative volumes of the playback channels and the input and output volume. If the AD516 is installed, a pan adjustment is included for each playback channel. The mixer uses the DSP chip to digitally adjust the volume and pan of each channel. You can use the mixer to adjust a sample that is playing back too loud or too soft or to make a sample playback on the left or right channel (or both). The volume and pan may be changed before, after or during sample playback. The mixer also displays the sample name currently playing from the Sample List.

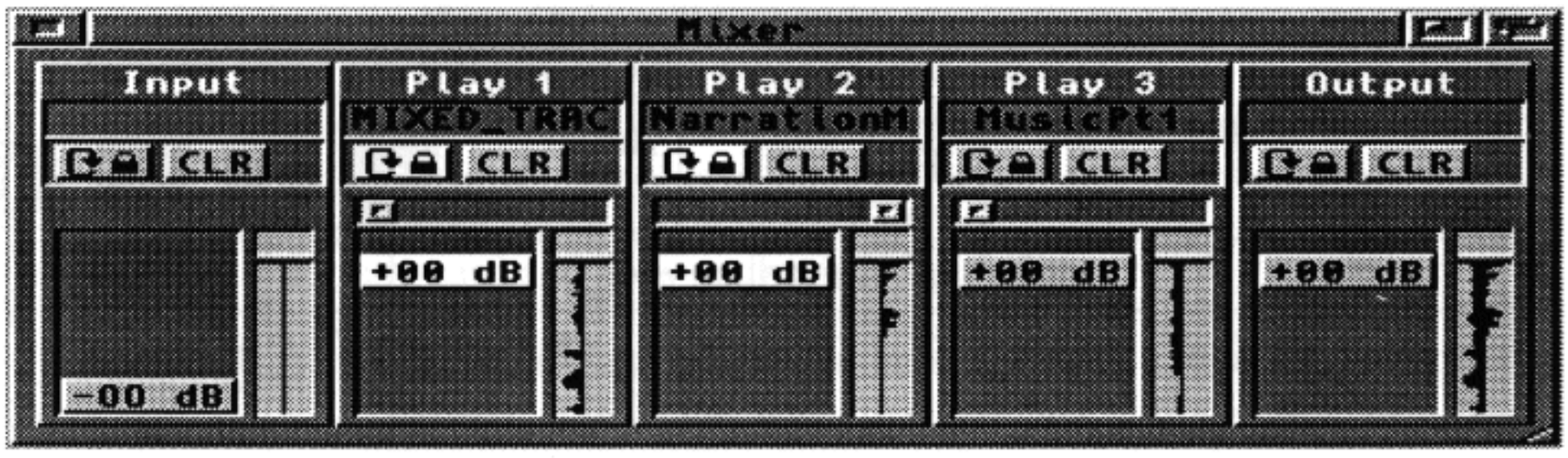


Figure 8-85. Mixer

**Slider Control**

You can move the mixer sliders either with your mouse, or by using an external MIDI controller box. A MIDI controller box provides physical sliders. When those sliders are moved, MIDI messages are sent to your Amiga. Studio16's Mixer then receives those MIDI messages, and moves its mixer sliders to match the external control box. See "Enable MIDI" and "MIDI Preferences..." for more information.

**Volume**

To adjust the volume of a channel simply move the appropriate slider. The mixer will display which sample is playing on which track. This makes it easy to identify which volume slider to adjust. In addition, the Mixer channel names match those used in the Cue List.

Use the output volume slider to adjust the volume of all the channels. This is useful for fading in or out entire soundtracks. The input volume is useful when you want to