

MIDIMAN

Fineline Manual

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Introduction

The FineLine audio mixer is an expansion of MIDIMAN's Minimixer concept of "mixing at the source." This concept is that the mixer's primary function is to combine many audio signals in the most quiet, transparent manner possible. Control of signal levels, relative mix of instruments, panning, frequency equalization, and effects is then accomplished primarily within the instruments themselves, as is now the case with most modern synthesizers. For older keyboards and microphones, outboard processing gear can be used to add these features. This new concept offers many advantages over the traditional mixing console such as smaller size, lower cost, and less noise.

If you have any questions, comments, or suggestions about Portman PC/S or any MIDIMAN product, we invite you to contact us directly at:

MIDIMAN
45 E. Saint Joseph Street
Arcadia, CA 91006

Technical Assistance: (626) 445-8495
FAX: (626) 445-7564
Website: www.midiman.net

Front & Rear Panels - Fig. 1

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Overview

While reading the following description of how FineLine works it may be helpful to refer to the preceding Front and Rear Panels - Figure 1, or the Block Diagram - Figure 3 located in the back of this manual.

Left and Right Inputs, Level Pots, LED Indicators and the Mono/Stereo Switch

Basically, FineLine functions as either a 10 channel, stereo or 20 channel mono line mixer. With the front panel Mono/Stereo Switch set to Stereo, signals plugged into the 10 Left Inputs will be mixed to the Left Output jack, and signals plugged into the 10 Right Inputs will be mixed to the Right Output Jack.

The level of the Left and Right mixed Output signal is set by the Left and Right Level pots which provide 12 dB of gain when turned all the way up.

When the Mono/Stereo Switch is set to Mono, all 20 inputs are combined and fed to both the Left and Right Outputs while the Left and Right Level pots independently control their respective output levels.

The Left and Right input signals are each monitored by LEDs which show signal present and clipping levels.

Headphone Output and Phones Level

The left and right output signals are also routed to a stereo headphone amplifier which has its own volume pot for convenient monitoring.

Send Inputs (9, 10, 19 & 20), Send Level Pots & Send Output

In addition to being sent out the normal Left and Right Outputs, channels 9 and 10 of the left inputs and 19 and 20 of the right inputs, are sent to another mixing buss - the Send Out. These signals are mixed according to the four front panel Send pots and are mixed at the mono Send Output.

Turning a send pot all the way down will prevent any of that signal from appearing at the Send mix Output, while turning it all the way up will send it out the Send mix Output with 6 dB of gain.

Mono Mic Switch & MIC 1,2/3,4 Outputs

With the Mono Mic switch located on the back of FineLine in the Off position, the four XLR microphone inputs and the two Mic outputs are independent of the rest of the FineLine mixer.

When the MIC 3,4 Output is used and nothing plugged into the MIC 1,2 Output, all four microphones are mixed monaurally according to the levels set by the corresponding four front panel MIC pots. This mixed mono signal appears at the MIC 3,4 Output.

When a cable is plugged into the MIC 1,2 Output, microphones 1 and 2 will only appear at the MIC 1,2 Output, while microphones 3 and 4 will only appear at the MIC 3,4 Output.

When the Mono Mic switch is turned On, the signal at the MIC 3,4 Output is additionally routed to both the Left and Right main Outputs.

Signal levels of all four microphones are summed together and monitored by the two Mic indicator LEDs which show signal presence and clipping level.

Power Indicator

FineLine runs on 9 to 12 volts AC. Whenever FineLine is plugged in the Power LED should remain lit. If the Power LED goes off check to make sure your wall supply is properly plugged in and powered.

Applications and Hints

Gain Settings

The gain provided when the Left and Right Level pots are turned all the way up can help drive a power amplifier or boost a signal from -10 to +4 dB signal levels. For unity gain and the lowest mixer noise these pots should be set to about 9 o'clock.

For lowest noise, most synthesizers volumes should be turned up to almost full. When mixing a number of keyboards or modules the level of the instrument with the lowest output should be set first, turning its volume up to full. The volume controls of the other units can then be adjusted down from full to achieve the desired mix.

Using the Signal and Clipping Indicators

The Left and Right green Signal LEDs should light brightly for any line level signal in the unit; a slight flicker would indicate the signal should be turned up for optimum signal-to-noise ratio.

Since FineLine has lots of headroom, the Left and Right red Clipping LEDs should light only when several very hot signals are mixed. If this happens, reduce several of your instrument volume levels slightly, until the Clipping indicator ceases to light.

Similarly, when setting microphone levels, use the Mic Clipping LED to set the Mic Level pots for strong signals that don't clip. Remember, all of the Mic input signals are summed together and then sent to the Mic LED indicators. So if any one microphone is too hot, the Clipping LED will light.

Using the Send Inputs and Output for the Addition of Effects

Any of FineLine's 20 Line Inputs may be used as effects returns as well as for instrument inputs. The Send Output might typically be routed to one of the inputs of a stereo reverb unit. The left and right stereo outputs of the reverb could then be plugged into unused Left and Right FineLine inputs. In this case, the mix control on the reverb unit should be set for effect only. The output level control of the reverb unit will then control the amount of effect in the mix and the four FineLine front panel Send pots will control the relative balance of reverb on the four Send channels (9, 10, 19 & 20).

To make the most efficient use of FineLine's four Send channels when performing a stereo mix, connect only one of an instrument's stereo outputs to a Send channel. Then route the remaining output to a normal Input channel on the opposite input buss. This will work well when both stereo outputs of an instrument have similar signals, such as the stereo chorus output of many keyboards.

A good example of such an instrument would be the Korg Poly 800. It has stereo outputs but no reverb. The left output of the Poly 800 could be plugged into FineLine Left Send channel 9. The right Poly 800 output could then be plugged into any non-send Right channel Input, such as 11. In this way the Poly 800 stereo signal will appear at FineLine's stereo Outputs, and when the Send Level 9 pot is turned up, the Poly 800 signal will also appear at the Send Output for the addition of reverb or other effects. In this example only one send channel is used saving the other three Send channels for three other instruments which may not have internal reverb.

Processing Microphone Signals

Processing microphone signals can be handled in a similar fashion utilizing unused, non-send Inputs as returns. With the Mono Mic Switch off, the MIC 3,4 Output would typically be sent to the effects unit input. The effects unit's stereo outputs could then be plugged into non-send Inputs, such as say, 2 and 12. The effect unit's mix control would then control the wet/dry balance, while the effect's output level control would function as a master fader of the microphone signals in the FineLine mix.

Alternately, the Mono Mic Switch could be turned on, and the effect unit's mix control turned to wet only. Now the effect unit's output level control would function as the wet/dry balance. Both the FineLine Send Output and the microphones could share the same reverb unit in this configuration. Most stereo reverb units simply sum the left and right inputs for the sake of processing so these inputs could be used to combine the microphone and Send signals. The Send Output of FineLine would plug into one of the effect unit's inputs, while the MIC 3,4 Output would plug into the other effect unit input.

Stereo Microphone Operation

If you want a stereo microphone mix you must plug into both the MIC 1,2 Output and the MIC 3,4 Output, and turn the Mono Mic Switch off. The two signals can then be plugged into the stereo inputs of an effects unit and returned to FineLine for a stereo, processed mix. Alternately, the stereo microphone signals may be routed elsewhere, such as to the inputs of a stereo sampler.

In this way FineLine's XLR inputs can function as microphone preamps, independent of or along with FineLine's other functions.

Typical Set-Up - Fig. 2

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Setting-up

FineLine has 16 non-send, line level inputs, 4 send, line level inputs, and 4 XLR microphone inputs. FineLine can also be configured for either stereo or monaural operation. In reading the following section you may wish to refer to the Typical System Set-Up - Figure 2 which precedes this section.

Plugging in Line Level Instruments

To start setting-up your system first decide whether you wish to use FineLine as a monaural or stereo mixer and set the front Mono/Stereo switch accordingly. If you are using FineLine for live performance you will probably want to use it in mono mode. If you are using FineLine in a studio you will probably want stereo operation.

Next, after having read the previous section's discussion on "Using the Send Inputs and Outputs," select which of your sound module need effects. Plug these module outputs into Inputs 9, 10, 19 and 20. Now, connect the Send Output to the input of your effects unit, and plug the output(s) of your effects unit back into one (for mono) or two (for stereo) FineLine line level Input(s). Your effects unit mix control should be turned all the way up. You can now control the amount of effect to add to these dry sound modules by using the Send Level controls on the front of the FineLine.

Plug your remaining, effects capable, instruments into any of the remaining line level Inputs.

To set-up your sound module levels, use the individual volume controls on the instruments and adjust them to get the desired mix. If you see the Left or Right Clipping LEDs light, turn all of your instruments down slightly. If you have MIDI, volume controllable instruments, much of this level adjustment can be done with your sequencer or MIDI mixing controller.

Plugging in Microphones

Plug one, two, three or four microphones into the Mic Inputs.

If you want to use FineLine as a stereo microphone mixer you must have 1/4" phone jacks plugged into both the Mic1,2 and Mic3,4 Output Jacks. This is because the Mic1,2 Output Jack is "switched," and when a plug is inserted into it stereo operation is turned on (see Block Diagram in the back). If you also want a stereo microphone, mix the rear panel Mono Mic Switch must be Off. If you don't need to add effects to your microphones and you want a stereo microphone mix you need to run a cable from the Mic1,2 Output to any of the Left line Inputs, and from the Mic3,4 Output to any of the Right line Inputs.

If you want a mono mix of the microphones and you don't need to add effects to the mix, you can turn the rear panel Mono Mic Switch On. If this switch is On a mono mix of the microphones will be routed directly to the main Left and Right Outputs, as well as appearing at the Mic3,4 Output.

If you wish to add effects to your microphones, connect both Mic Outputs (for stereo) or the Mic 3,4 Output (for mono) to the input(s) of your effects unit. Plug the output(s) of your effects unit into one (for mono) or two (for stereo) free FineLine line level Inputs. You can now control the amount of effects you add to the microphones by using the mix control on the front of the effects unit.

Mic levels can be controlled by using the Mic Level pots on the front of FineLine. The Mic Clipping LED will light when any Mic is too hot. With this in mind, first turn all Mic Levels down. Next, test each microphone individually by turning the its corresponding Mic Level up until you see the Clipping LED light, and then back the Mic Level off slightly. Do this with all of your microphones. If the Clipping LED still lights back all of the Mic Levels off slightly.

Setting-up the Outputs

If you are using FineLine in live performance you will now connect one Output (for mono) or both Outputs (for stereo) to the input(s) of a power amplifier. If you are using FineLine in a studio application you will probably plug one Output (for mono) or both Outputs (for stereo) into one (for mono) or two (for stereo) inputs on your mixing board.

If you are using FineLine as a mono mixer (i.e. if the front panel Mono/Stereo Switch is set to Mono), the mono mix output signal will go

to BOTH the Left and Right Outputs. So either or both Outputs can be used as mixed signal sources. This is handy if you wish to use one Output for monitors and the other Output for a power amp.

The Output Levels of FineLine are controlled by the front panel Left and Right pots. When set to 9 o'clock FineLine has unity gain, which is the best setting if you are going into a mixing board. If you are going into a power amplifier these pots will act as convenient volume controls.

Headphones

A head-phone amplifier has been built-into FineLine to provide easy monitoring and to allow you to use it quietly at night (without waking your loved ones). The headphone will accurately reflect the FineLine Outputs and will provide a stereo or monaural mix depending on the setting of the front panel Mono/Stereo Switch.

The headphone volume can be adjusted from the front panel Phone pot.

Typical Applications

Live Band, Duos and Trios

FineLine takes up just one rack space, can mix all instruments along with four microphones, and can drive a power amplifier in mono or stereo.

Home Studios

FineLine can mix all the modules in a typical electronic instrument setup, and provide stereo microphone mixing of acoustic instruments and vocals.

FineLine is especially ideal if you are using MIDI to control synthesizer volumes and effects. MIDI is being used more and more to perform mixing "at the source," and FineLine - a noiseless, multiple input mixer - is perfect for this application.

Submixer for Consoles

When many keyboards and modules need to be mixed, and expensive studio console inputs are at a premium, FineLine is the answer for combining all the instruments into a single stereo mix which is then patched into the main mixing board.

Block Diagram - Fig. 3

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Limited Warranty

MIDIMAN warrants that this product is free of defects in materials and workmanship under normal use so long as the product is owned by the original purchaser and that purchaser has registered his/her ownership of the product by sending in the completed warranty card.

In the event that MIDIMAN receives written notice of defects in materials or workmanship from such an original purchaser, MIDIMAN will either replace the product, repair the product, or refund the purchase price at its option. Shipment to and/or from MIDIMAN shall be at the expense of the purchaser. Such equipment should be in a protective package with a description of the problem.

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