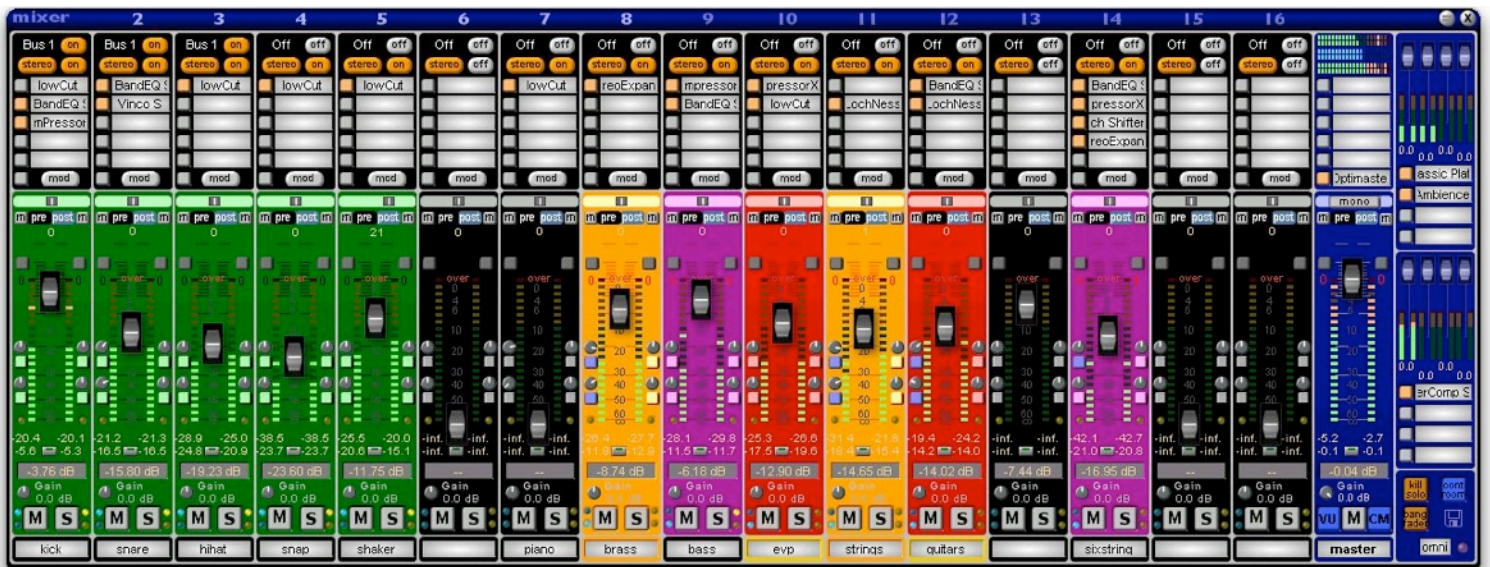


WOLF AUDIO DESIGN



16CHA MIXER



All important stuff on one surface, easily accessible,
true stereo through the whole mixer path, integrated modular, freely selectable plugin order,
MackieContol support and much more.

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1.0 INSTALLATION

- Windows : Just drag the content of the unzipped archive onto the scope / sfp folder. The device for scope itself you'll find in the mixer directory (or the pendant of the LiveBar).
- Mac OS9 : Unzip the archive and navigate into the folder Devices > Mixer. Copy the device found there into your scope / sfp installation to Devices > Mixer. In the unzipped archive navigate again to the presets folder and copy the preset list files found there into the same folder of your scope / sfp installation.

2.0 GENERAL

2.1 Features

- 16 mono or stereo channels (switchable)
- integrated modular with separate midi channel for each channel strip
- true stereo pan
- pan with 0 dB (standard), -2.5 dB or -6 dB center damping (retains level, when panned left/right)
- 6 inserts (5 plus modular) with freely selectable order, parallel or serial
- stereo aux sends
- multi midi channel support (includes pitch bend, relative & absolute controller and note messages)
- midi automation resolution up to 0.03 dB (!) for volume & aux send level
- Mackie Control Support (including feedback for the controller surface)
- mute & solo groups
- colorable channel strips (bottom and channel area separated -> two different colors for one channel)
- integrated control room (4 outs) with limiter for each output
- rms and peak reading level meter(s) on main surface but also as separate surface
- correlation meter
- whole device savable and renamable
- less cable clutter in routing window (at least for me :)
- dynamic dsp allocation (i.e. if a channel isn't connected), but also manual
- 32bit integer calculation through the whole signal path
- phase compensated
- preset list sharing between channel strips (separate for midi & audio settings)
- both channels of a stereo fx are feeded, when behind a mono fx

2.2 Phase Compensation

Every channel and its insert parallel/serial matrix is phase compensated as well as the aux and bus mixers.

However the signal paths to the aux and bus sections are not phase compensated, because in this case it wouldn't be possible to insert more than 4-6 plugins in total.

The same is true for inserts, the inserted plugin has to offer this function.



2.3 Multi Midichannel Support

As scope doesn't offer native multi-midi support for a device a custom solution was in need. The advantage of this solution is MackieControl compatibility, disadvantage is additional dsp consumption. You can save dsp by switching unused controls off in the channel strip midi settings.

It is still possible to assign controllers via the built-in learn function. Both the native and custom midi implementation work flawlessly side by side, so for example you could assign two different hardware controls to one onscreen control.

2.4 Presets

These parameters are saved with the project only, but not with presets :

- surface positions
- main midi channel
- pre-post switches
- meter settings
- channel strip colors & naming
- mixer name

If you save the mixer as separate device, these parameters are saved like with a project.

Note: While you can exchange settings between channel strips via the ChannelStrip preset list, the inserted plugins are only loaded with their default settings. Unfortunately the only known workaround disables the possibility to exchange channel strip settings.

The main preset list retains all insert plugin settings.

2.5 Modular

Whenever you add/remove a module from a modular shell, (re)save the mixer via the save button. You don't need to reload the mixer afterwards, the new path to the (new) mixer will be automatically remembered and the (afterwards saved) project will load this mixer from now on.

The modular shell can - unlike other inserts - receive midi note messages. In combination with the insert matrix this leads to lots of possibilities (feeding a midi note driven filter via other fx, etc.).

2.6 Dynamic DSP Allocation

A channel strip is loaded onto dsp as soon as a cable is connected to the left input. You can switch it manually on or off as well. Note that on project load the cable connections determine the activity status.

The insert matrix of each channel is only loaded onto dsp, if a plugin insert or the modular is activated.

Note that deactivated channel strips may react on midi messages but do not send them.

2.7 Project Consistency

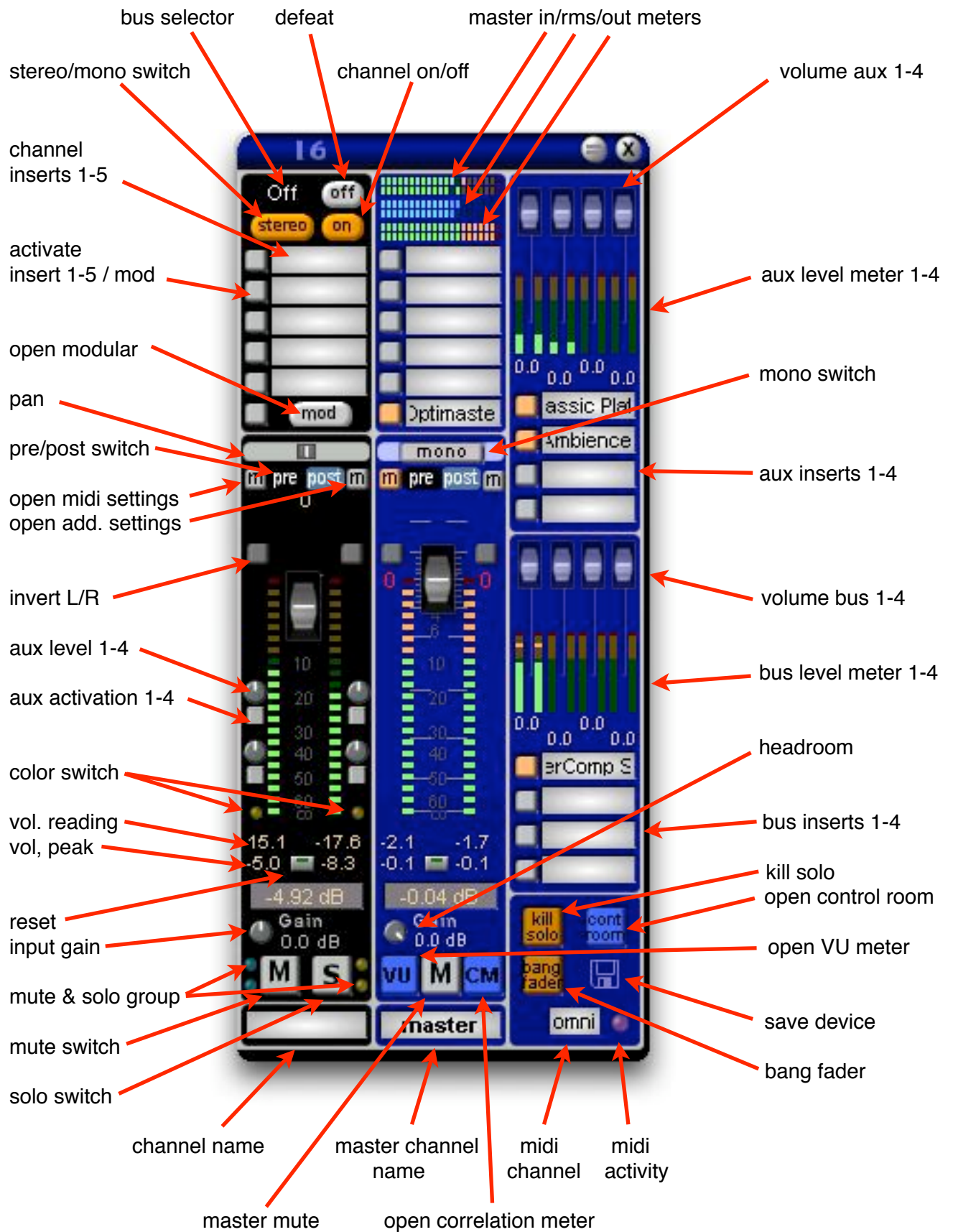
The possibility to save the whole mixer leads to several advantages.

The best way is to save the mixer in the same folder where your project is. This way you keep project compatibility in case a newer, but not backwards compatible mixer is available.

Of course you can also create a preconfigured mixer of your desire for use in future projects so you can start right away even with an empty project.



3.0 MIXER OVERVIEW



The pre/post switch switches the vu meter only.

3.1 Channel / Master Settings

By clicking on the right m-button of a channel strip the window below is opened. It contains additional settings like the insert matrix, mono/stereo insert button, pan mode and the channel colors (as available on main surface).



The inserts can be freely set parallel or serial. If they are set parallel, the volume is doubled.

The "St" row sets the inserts to mono or stereo. In case a stereo signal feeds a mono insert, both channels are routed to the mono input. In case a mono signal feeds a stereo insert, the mono is fed to both stereo inputs.

Pan Mode can dampen center by either zero, 2,5 dB or 6 dB.

The preset buttons beside the pan mode setting opens the channel preset list.

Finally six different colors can be set for either the channel strip itself or the area, where its name is.

By clicking on the right m-button of the master channel strip the window on the right is opened.

Again there is an insert matrix for the master channel preset list, which behaves the same way as the channel strip insert matrix.

The preset list button opens the global mixer preset list. Midi assignments are not saved with this list (please see chapter 4.0).

Below the insert matrix are the VU meter behaviour settings

Finally there's the possibility to rename the mixer. This name is reflected in the project window.

Also the owner of the device is shown on this surface.



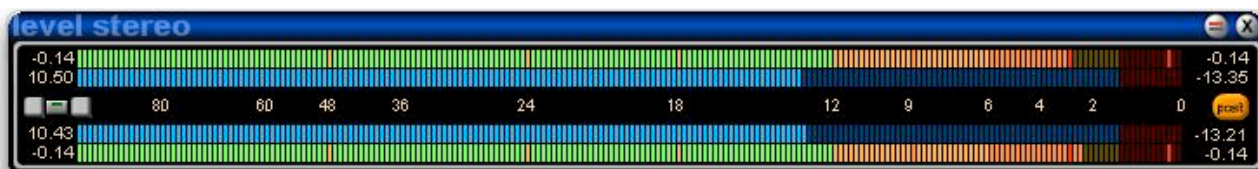
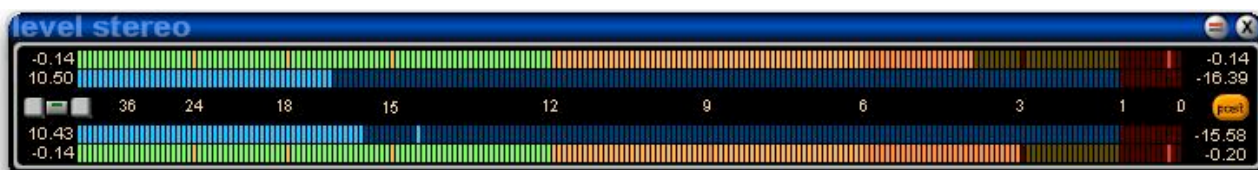
3.2 Meters

3.2.1 Peak & RMS Meter

The master vu meter has two different display views and resolutions. These are shown below. The upper one has high resolution in the upper area. The turquoise LED stripe shows RMS level, the other one the peak level.

Functions of the buttons are from the left to the right:

- open meter settings
- reset display
- change display view
- pre/post master insert switch

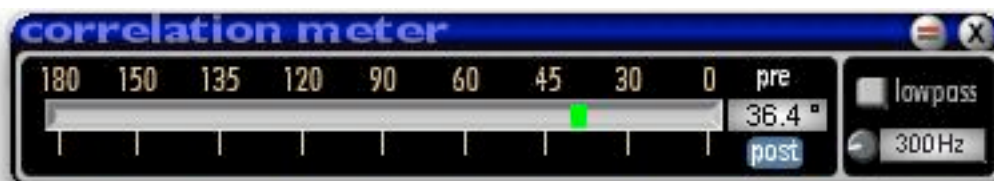


The numbers on the left of the vu display(s) show the max. peak, the numbers on the right side show the actual peak value of the vu display(s).

3.2.1 Correlation Meter

The correlation meter measures the drift between left and right channel. You can set its measure point before and after the master inserts.

Additionally it features a lowpass to help judging about the correlation of low frequencies. This comes in handy especially when doing mixes for vinyl as these should be nearly mono below 300 Hz to avoid needle jumps.



3.2 Control Room

The Control Room routes the selected input signal to the outputs.



The limiter - one for each control room output is available - limits at -0,2 dB to avoid damages of your speaker system, if switched on.

Mute & Solo work like usual, but they are just for the control room outs and don't affect the Record Output (like all other functions on this surface).

If you want to compare a mix before and after the inserts, adjust the volumes of both inputs so they have the same loudness. This way you can easily hear, if the few dB more rms power achieved by e.g. OptiMaster do well to the overall mix balance and how heavy its influence is regarding the frequencies.

If you e.g. want to compare an in WaveLab optimized version with an original mix, it works likely. Just connect WaveLab to the ext1, adjust the volumes to each other and switch between them.

4.0 MIDI ASSIGNMENT IMPLEMENTATION

4.1 General

Each midi assignment setting can be opened by clicking on the left m-button of the respective channel strip. The master channel midi assignment setting panel additionally contains the global settings.

The custom midi implementation supports following midi messages :

- absolute controllers
- relative controllers (2's complement)
- pitch bend (for gain related parameters only)
- note on/off (for buttons)

Every parameter can have its own midi channel and its midi assignment can be switched off (= loaded off from dsp).

All in all this results in very flexible system as for example you can either assign two hardware controls to one onscreen control or one hardware control to as much onscreen controls as available.

4.2 Channel Strip Midi Assignments

Due to the dsp amount used by midi operations on scope the custom solution was only implemented for the most used parameters of a channel strip. These are :

- volume & pan
- mute & solo
- aux on/off 1-4
- aux level 1-4
- VU output

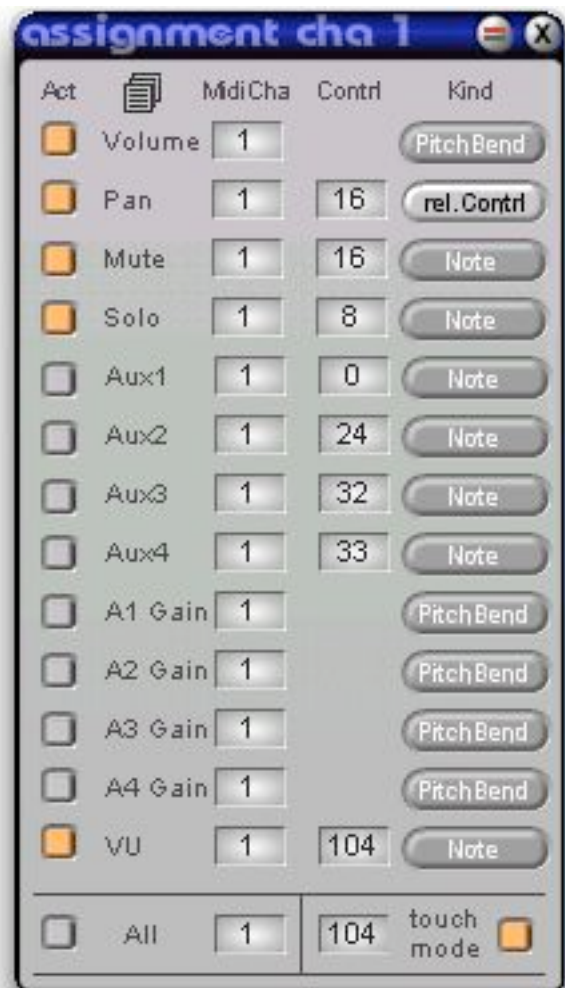
The preset list can be shared between all channels.

The "VU" (the lowest one) drives volume LEDs of the connected control surface (if there are any) In case of the Mackie / Logic Control they are driven by note signals.

The "All" section changes all parameters above at once.

Touch Mode :

If the connected control surface supports touch mode, the midi note sent out while touching the control can be set in the lower right corner.



4.3 Master Channel Strip Midi Assignments

Due to its nature the master channel strip offers some different „midified“ parameters to the usual channel strip :

- volume
- mute
- mono
- open correlation & VU meter
- kill solo
- bang faders

4.4 Global Settings

4.4.1 LED output

If your control surface has 7-segment LEDs and is MackieControl compatible, it should give you feedback about which bank and volume/aux is active.

Just activate that function in the global midi assignment settings.

4.4.2 Touch Mode

Some motorized control surfaces check via impedances, if the faders (usually the volume faders) are really touched by fingers or moved by accident.

If your control surface supports this method, switch the feature on in the global midi settings.

You can also choose for each channel strip, if and for which note on/off message the function should be triggered.

4.4.3 Bank Support Switch

Most control surfaces have only 8 channels available but offer a bank switch to be able to address more than 8 channel strips.

You can assign two buttons (or potis) of your control surface to switch between both banks right from your control surface.

Feedback, which bank is currently used, is either given on the top of the mixer (cha 1-8 or cha 9-16 are lighten) or on your control surface, if it is MackieControl compatible and offers 7-segment LEDs.

If bank support is deactivated, all channel strips are addressed.

4.4.4 Aux Switch

You can change the destination of the assigned hardware faders between volume, the aux levels or all five as target via your control surface.

Via the aux switches you can choose the midi messages, which control the destination (all, volume, aux 1-4) of the volume fader. "All" makes all destinations available at once.



4.5 Mackie Control Support

If you have a Logic or Mackie Control connected, just load the corresponding preset of the global midi assignment preset list and you can use your unit right away with the mixer. The same should be true for any MackieControl compatible unit.

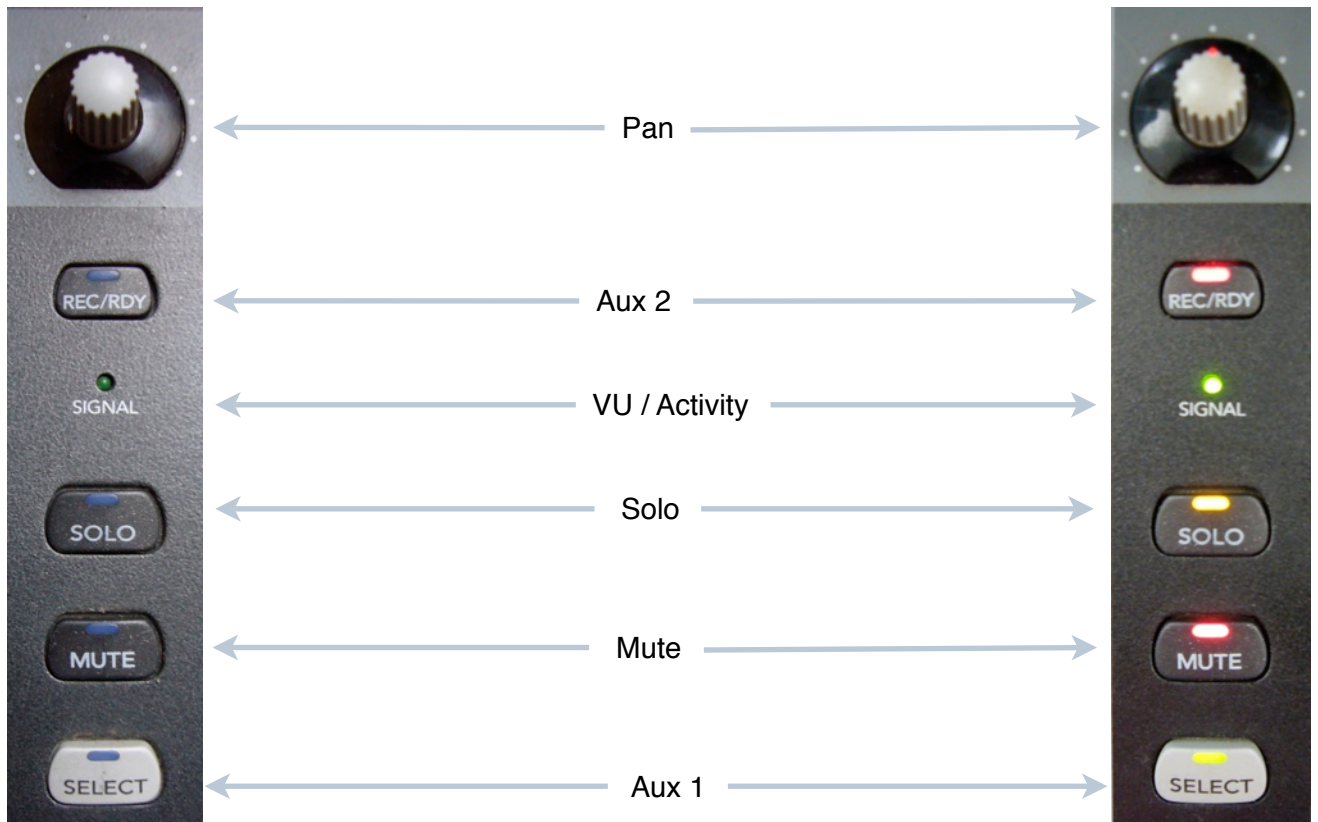
Of course some buttons may have different descriptions on the control surface than what they actually do with the default preset list and some hardware buttons aren't assigned at all.



The LEDs on the left give you feedback, which bank is selected. On the right you see, which parameters (level, aux 1-4) are controlled by the metallic touch faders.

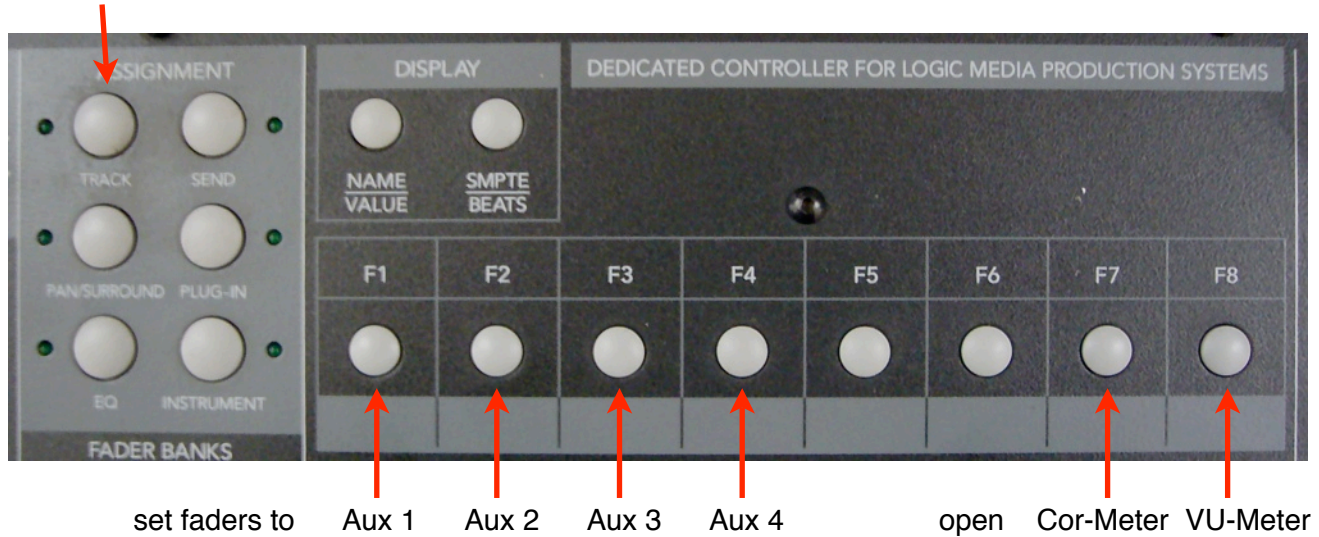


The listing below shows the configuration of the default Mackie Control preset.





set faders to Volume



-> bang fader (sends all actual values from mixer to control surface)

mute master channel ->



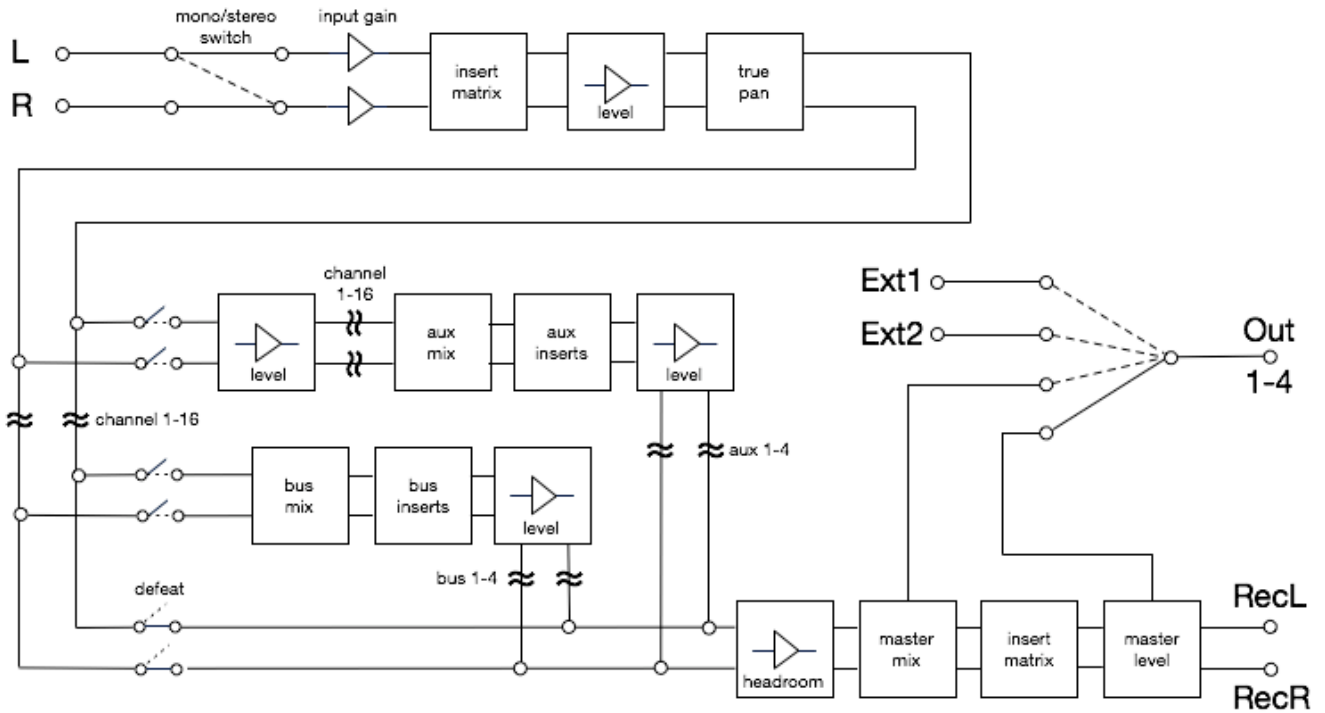
<- switch master channel to mono



-> switch off all solo'ed channels



5.0 MIXER SCHEMATICS



6.0 CONTROLLER / NOTE NUMBERS OVERVIEW



All volume faders send pitch bend (cha. 1-9).



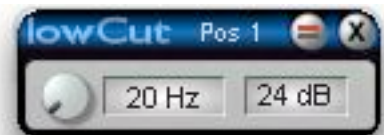
All buttons send midi notes.

7.0 ADDITIONAL PLUGINS

7.1 LowCut

A low cut is probably the most often used application of an equalizer.

This low cut is very dsp light and offers damping with 12dB, 24dB, 36dB and 48dB and is available in mono & stereo.



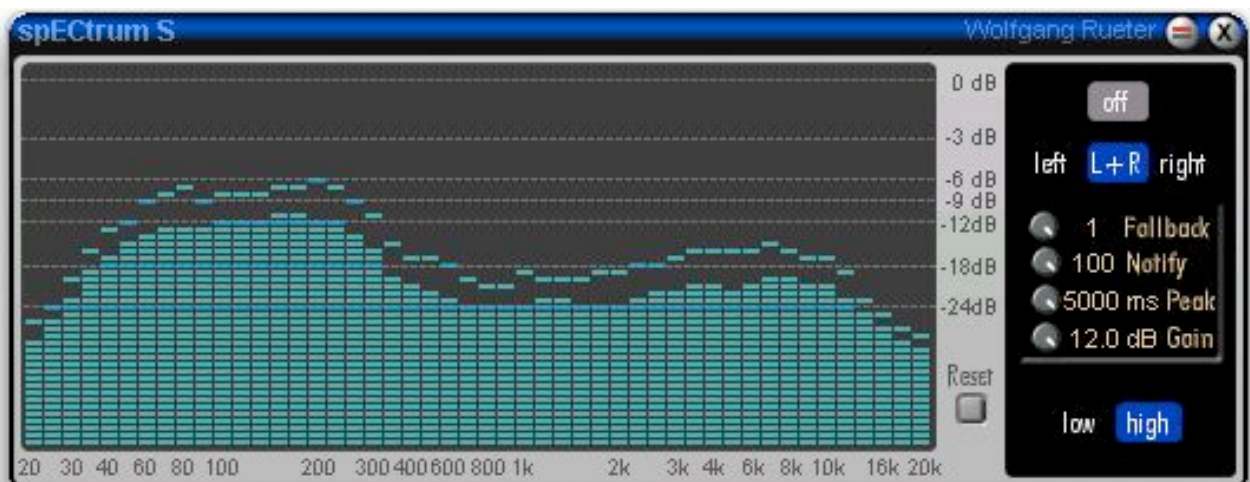
7.2 MatrixInsert

This is the channel insert matrix as separate device. For example usefull for the bus & aux inserts, as these don't support this feature.



7.3 SpECTrum

A 48 band spectrum analyzer available in mono & stereo.



The gain parameter for the spectrum analyzer of the settings takes into account, that the incoming signal might have not much level. As the resolution of the higher level area is better than the lower one, you can boost the input to make advantage of the higher resolution.

All other settings should be self-explanable.



8.0 KNOWN ISSUES & TROUBLESHOOTING

Silent sends with (learned) Midi Control Assignments

Loading a project containing a wad-mixer with (learned) assigned midi controllers or loading a with (learned) midi controllers assigned and saved wad-mixer into an project can result in silent routings. This does not happen for the input levels, but might happen with other controls, as the fix is only included for the level controls.

Workaround:

Touch the knob in question and hit left and then right arrow key of your keyboard. This way the parameters are resent.

Save the project afterwards and the problem should not happen again for this project.

This does not happen with the custom midi assignment system providing Muliti Midi Channel & Mackie Control support

No dB Values in Fader/Knob Tooltips

The channel/master volume faders, the aux/bus volume faders and the aux send knobs usually show their dB values in their tooltip popup.

As soon as a fader or knob is assigned to a midi controller via the scope learn function, the dB values aren't shown anymore.

There is no workaround possible, it happens with all Creamware devices.

“Big Modules do not fit” - Alert

When loading lots of modules (especially reverbs and delays), the alert “big modules do not fit. It is often possible to try an optimisation. Do want to try this now ?” or “Can't connect module xyz.mdl out6 to yxz.mdl in3.” (or similar) pops up.

Let the optimisation do its job, as this way the allocation of the separate modules is optimised and therefor less channels between the boards are used. Save the project afterwards.

The mixer is optimized for multi board setups.

You should be able to fill your boards with up to 99% or at least 95% dsp usage without any further problems !!

Requirements

A 15 dsp scope board setup is the minimum requirement for this mixer to work, a setup containing at least 30 dsps is highly recommended to get serious work done.

Screen resolution needs to be 1280x1024 minimum.

9.0 LEGAL STUFF

This is a personal license not bound to a computer or a scope card, but to your person.

This means you are not allowed to give the license file to anyone else but can use it for yourself in any occasion.

The manual and the device(s) are subject of change and I'm not responsible for any damage done to your equipment by using this device.

For general info about **wolf audio design** please visit

<http://www.worldless.com/sfp>

or write a mail to

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