

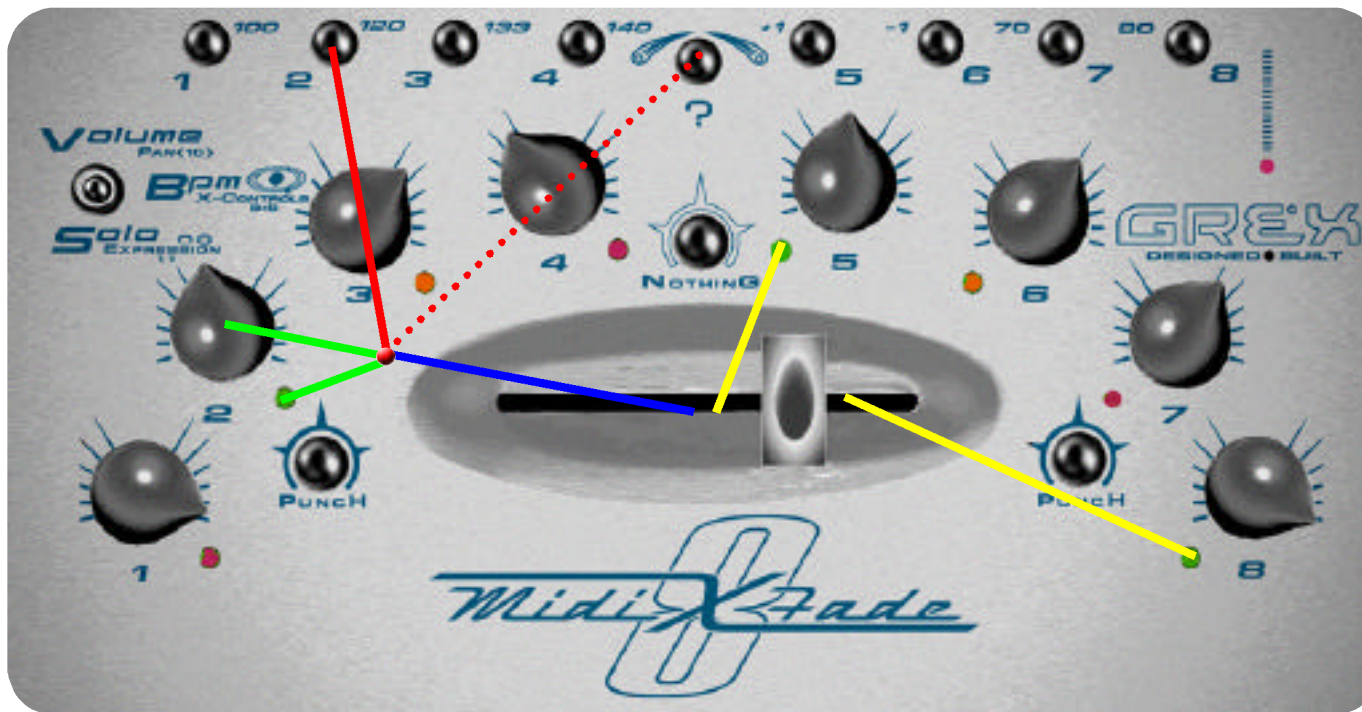


MXF8

Destroy•Remix•Improve

Later version of this manual will be automated to jump to pages in the PDF document





The buttons numbered 1 to 8 in Volume Mode switch in and out midi channels 1 to 8 and send controller number 7 (Volume).

Ensure that your external midi gear is responding correctly to each of the channel buttons.

Selecting "midi learn" in programs such as Live or Reason and then briefly toggling the button on your MXF8 once you have selected a suitable icon on the computer programs interface assigns the controller sent at that moment by your MXF8.

Rotary controls are primarily volume level controls in MXF8 Volume Mode.

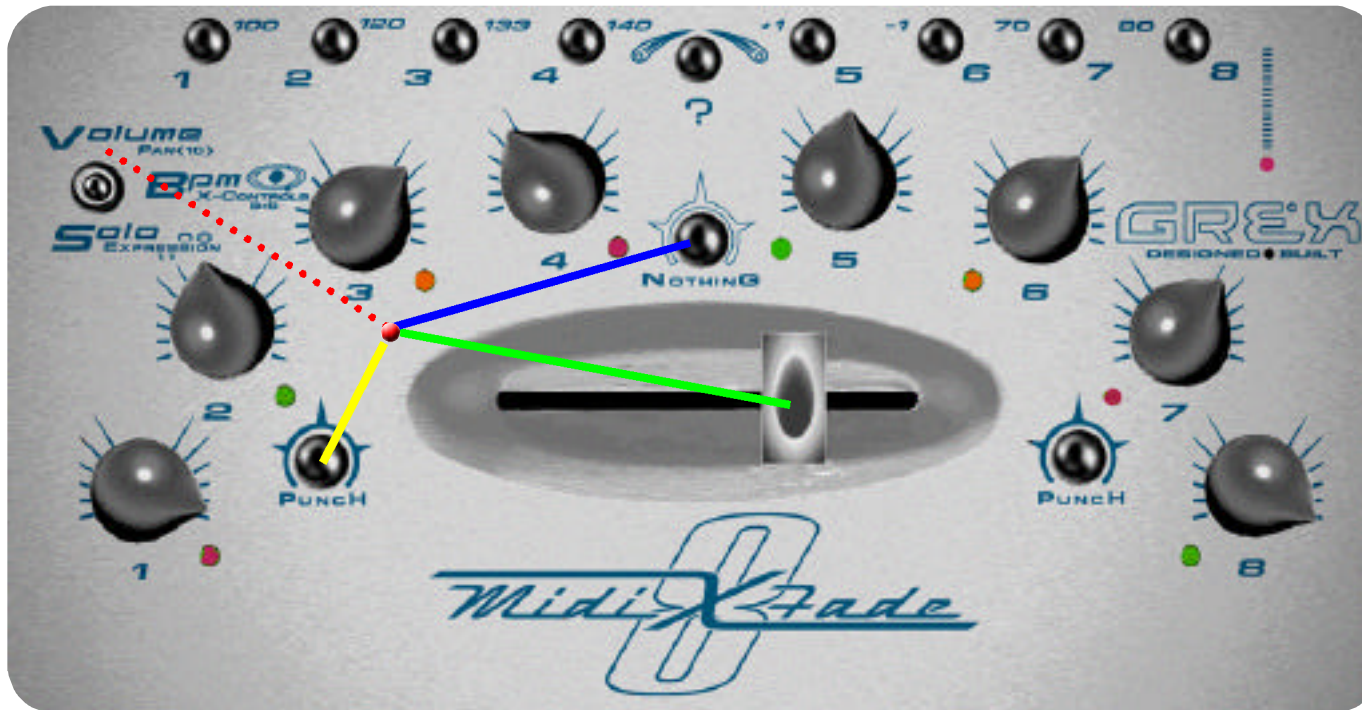
MXF8 is "polyphonic" meaning you can mute and unmute several channels at once if you press the buttons simultaneously.

The red LED above the Grex logo shows when midi data is being sent... or received during a download procedure.

- Press buttons numbered 1 to 8 and associated LEDs next to rotary controls light Red or Off...Holding down "?" whilst doing this will toggle LED Green or Orange
- Red LEDs indicate that channels are controlling volume directly and only from the rotary control position...Green LEDs indicate channels selected through fader
- OFF LEDs indicate that channels are muted (zero volume is sent)...Orange also indicates mute and fact that next keypress will unmute and route channel through fader
- Channels routed through fader have their volumes affected according to the fader position...eg channel 2 (Green) with fader at extreme right will be at zero volume

Comments and tips:

Your MXF8 sends midi controller number 7 from the channel buttons in Volume Mode which is usually used for volume control as a default in many software and hardware midi devices. You might wish to experiment with setting synths and so on with midi learn to respond to these messages so that you can x-fade up to 8 parameters.



X-Fader has only one function in Volume Mode; the controlling of any routed channels in precisely the way you would expect a DJ mixer to behave.

Orange lit channels are unmuted but ready to immediately be routed through the X-Fader simply by pressing the channel button(s).

The curve on the X-Fader features a fairly long "flat" part, roughly between the 4 and 5 LEDs, where channels on either side of the machine, if routed through the X-Fader, will be turned up as high as the value of the rotary controls will permit.

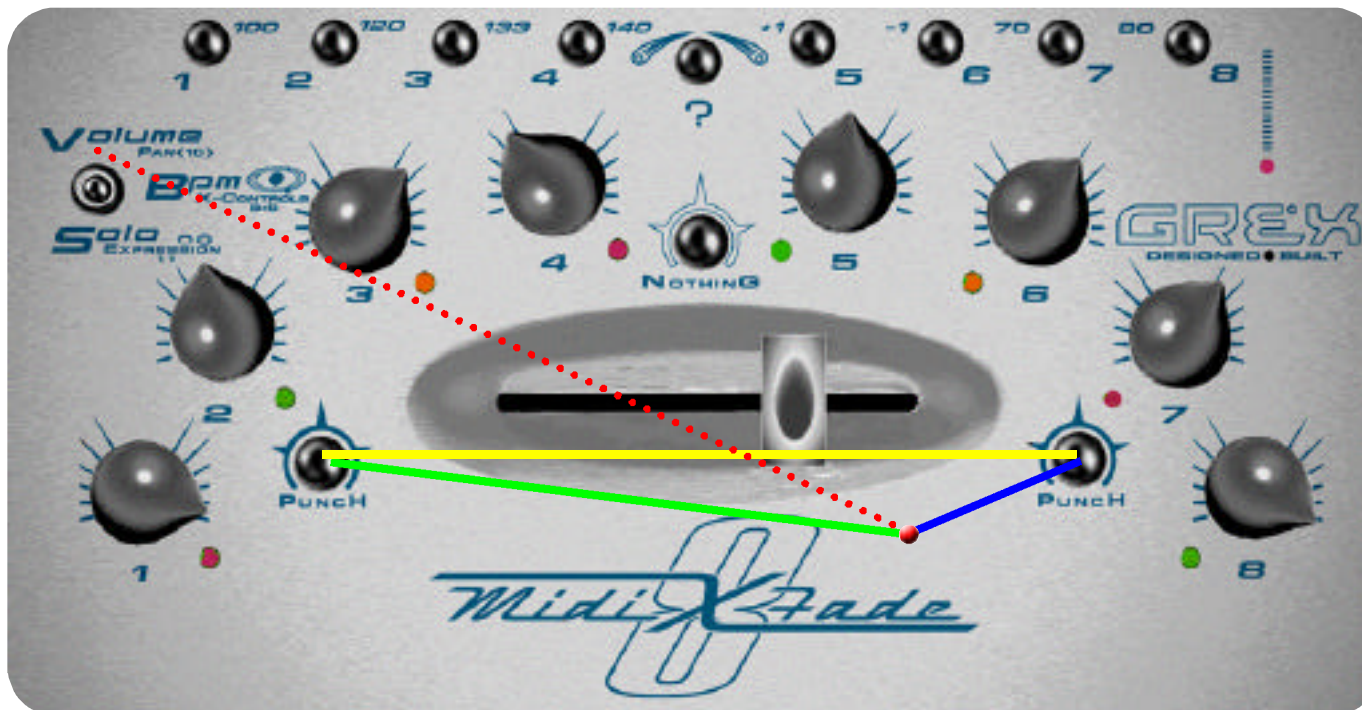
The Rotary Controls for each channel and the X-Fader itself perform the same basic function nearly all the time in all modes in the MXF8 to give you X-Fading power instantly and direct control over the channel volumes.

- Move the X-Fader and any Green lit channels will be appropriately altered
- With X-Fader set to extreme left or right channels on the opposite side will be turned fully off (0 Volume value is sent)
- Note the use of X-Fader when pressing and holding down Nothing button...Green lit channels will be brought in and X-Faded...acts as a sort of group solo
- Note: Pressing Punch buttons cancels X-Fader assignments during the keypress...moving the X-Fader whilst holding a Punch Button down has no effect until release

Comments and Tips:

The X-Fader works as such in all modes providing no other buttons are held down.

Notice that you can hold down the "?" button to disengage the X-Fader in all modes, so you can move it to another position without upsetting the mix. Of course, you will get a new mix if you are "out of position" with the last place the fader was at say, prior to using the X-Control function.



Punch Buttons in Volume mode allow channels 1 to 4 or 5 to 8 to be switched in at the current volume position indicated by rotary controls...whether the channel is routed through the fader or not...just as long as it isn't muted.

Releasing the punch button restores volumes with respect to the X-Fader position again.

Pressing Punch on left of the MXF8 brings in channels 1 to 4 at rotary control position whilst sending zero volumes for channels 5 to 8.

Rotary controls can be turned whilst holding down Punch...this will change the volume sent from within the "Punched" channels if they are "live".

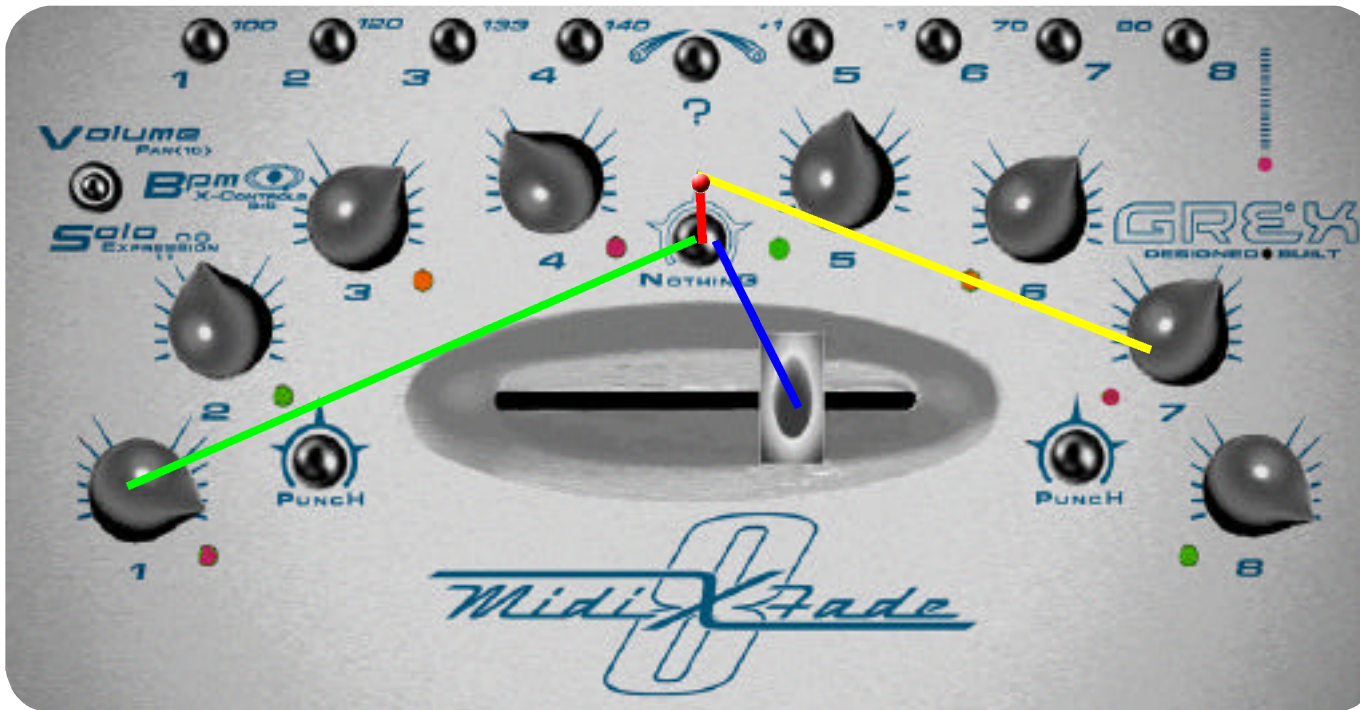
Punch Buttons performing the same basic functionality across all modes providing the keypress is simply pressing the Punch Buttons with no other keypresses in force.

- In Volume Mode...
- Press Punch 1 (left hand side) and channels 1 to 4 are punched in...
- Press Punch 2 (right hand side) and channels 5 to 8 are punched in...Note: Fader position has no effect on volume levels of punched in channels
- Releasing a Punch button restores volumes on channels to include the fader position where applicable

Comments and Tips:

As the volume of "un punched" channels are instantly cut to zero any of these channels which were going though reverb or delay sends will pleasantly die away.

Dont forget- you may swap the Punch buttons round so that the opposite to above happens when pressing them. See [Re-configuring Punch Buttons](#).



Pressing "Nothing" will give you Nothing! Silence from Volume mode.

All channels are turned to zero Volume for the duration of the keypress.

You can stab at the button to produce chopping effects on the audio as it rapidly turns up and down all 8 channels.

Nothing can also be used as a way of cancelling any "locked" states...see [Solo section](#).

The Nothing button can also be used as an access to Green only channels in conjunction with the X-Fader see page 2.

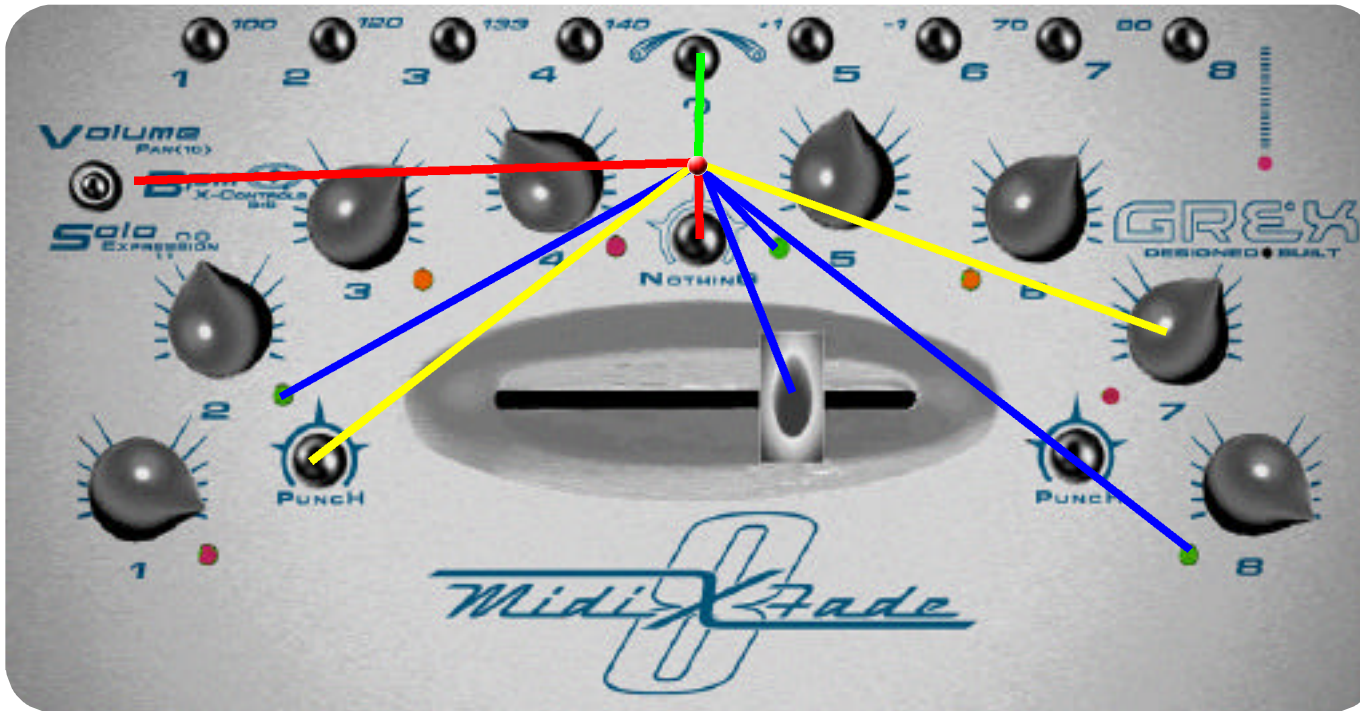
Also, with the "Nothing" button held down, a slight turn of the rotary control on Red lit channels unmutes them.

The Nothing Button performs the same basic function across all modes providing the keypress is simply pressing the Nothing Button with no other keypresses in force.

- Press Nothing Button...All channels are turned down to Zero volume...any "Locked Solo" channels are cancelled
- Releasing Nothing Button returns volumes to current rotary / combined rotary and fader levels
- Moving X-Fader whilst Nothing is held down will bring in any channels routed through the fader (lit Green)
- Moving rotary controls whilst Nothing is held down will unmute any channels lit Red.

Comments and Tips:

"Nothing" button is named in honour of the mighty Meshuggah...Swedish "maths metal" masters



A few more points about the Nothing Button follow...

With the Mode Switch in BPM position **ONLY** the Nothing Button can be virtually locked down by pressing and holding down both the Nothing button and "?" button, then releasing the Nothing button first.

From this "locked state" the Green lit channels can be isolated for X-Fader action.

By simply moving the Fader the Green channels are brought in at their respective volumes just like you would expect. You can also bring in Red channels by a slight movement of their Rotary Controls- these will not be routed through the fader, of course.

There is no visual feedback for this feature so be aware of what you are doing...

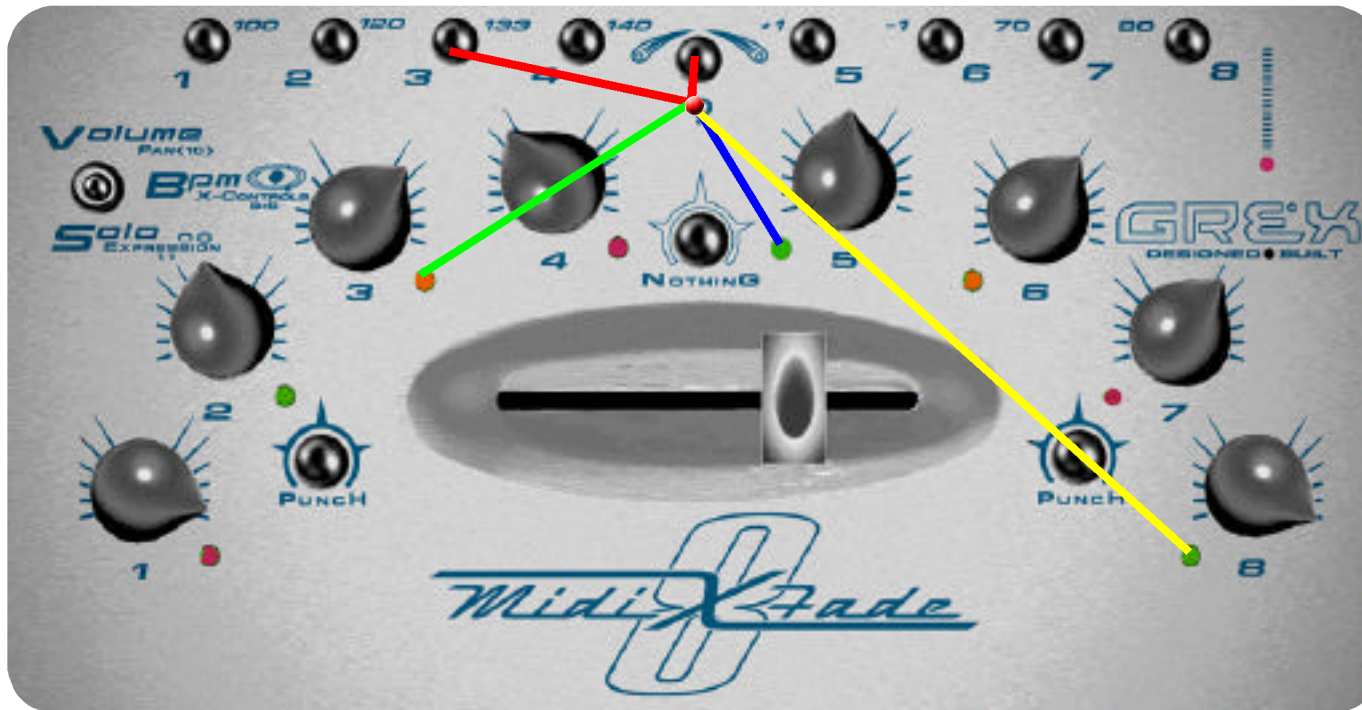
Cancelling this state is easy; just briefly press one of the Punches or Nothing again.

- In BPM mode only...Press Nothing and hold it down...
- Now press and Hold Down the "?" button ...then, release the Nothing button before releasing the "?" button...the Nothing button is now virtually held down...
- Moving the fader now will bring in **ONLY** Green lit channels at appropriate volumes...
- Rotate slightly any Red lit channel Rotary Controls to bring in these channels also...Pressing any Punch or Nothing briefly will "unlock" this state.

Comments and Tips:

It is easy to learn how to do this set of instructions in a seamless way...just experiment.

Notice that moving the Mode Switch does not cancel the locked state...only pressing the Punches or Nothing briefly can do this once you've set a locked Nothing or Solo state.



The "?" button in Volume Mode is a sort of shift key. It allows access to further functions from the buttons and rotary controls.

Primary use is to access routing the channels 1-8 to X-Fader on and off.

Other use of ? button in Volume Mode is to access Rotary Controls for alternate Midi Controller function; the Pan or controller number 10 as shown on the casing.

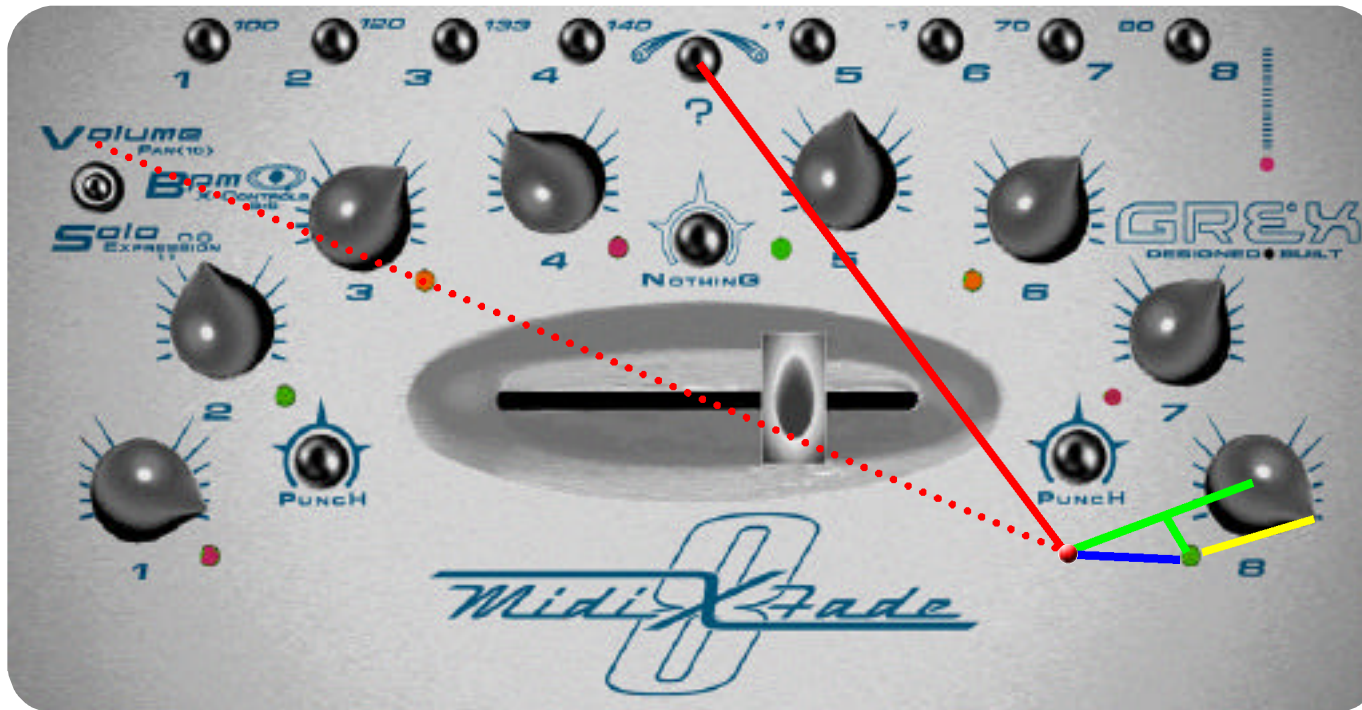
Whilst ? button is held down in Volume Mode the X-Fader is not looked at by the processor and can be moved without updating its position until release of the "?" button and a slight nudge of the X-Fader.

Whilst ? button is held down in Volume Mode the Punch buttons and Nothing are not read by the processor and have no function at that time.

- Press and hold down ?.... then press channels 1-8....or several of the 1-8 buttons at once for "polyphonic" switching.
- The LEDs for each channel pressed will change from OFF to Green or, if already Red to Green....or if already Orange to OFF
- LEDs lit Green indicate channels are unmuted and Routed through X-Fader...Orange channels are muted but routed through X-Fader
- Repeating held down ? button plus any channel buttons toggles LEDs on appropriate channels to next state in the order described earlier

Comments and Tips:

Didn't like the look of, or the word "shift" . So called it the "?" button...



In Volume Mode access Pan or controller number 10 using the rotary controls by holding down ? and rotating chosen control for the midi channel 1 to 8.

The LED next to the rotary flashes to indicate when the knob is out of position relative to its previous Volume setting...

Restore the knob to its previous Volume setting by releasing the ? button then slowly rotating the knob(s) on affected channels until the flashing stops.

The Volume level set before entering this controller mode is now restored.

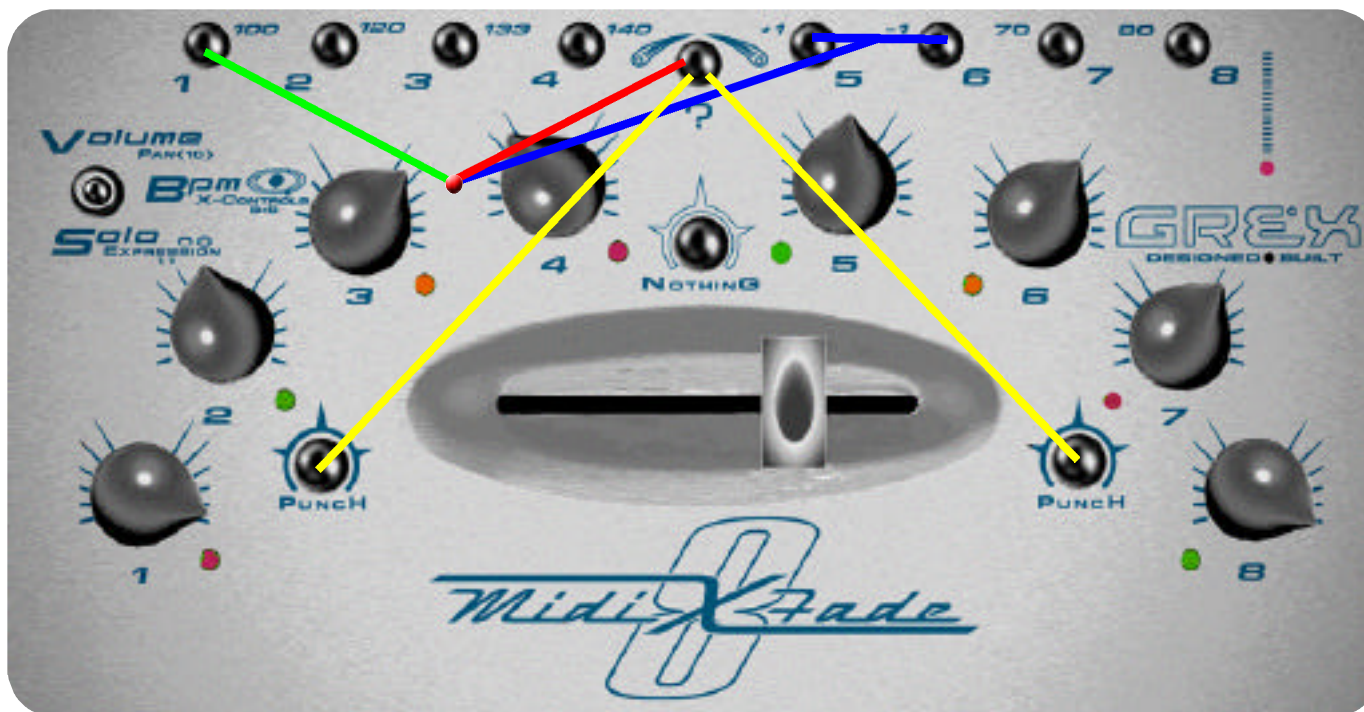
No data is sent during rotation of the channel control if ? is released until Volume setting is restored.

MXF8 is now ready to continue sending Volume messages from that channel.

- In Volume Mode only...Press ? button and hold it down
- Rotate chosen channel control(s)...Channel LED(s) start flashing
- When finished sending controller 10 (Pan) data release the ? button....LED continues flashing until...
- Rotating channel rotary control until it is back at the previous level for Volume it was at before entering the controller 10 mode

Comments and Tips:

Just because a controller has a number or name, like "Pan" or "Volume" doesn't mean you are obliged to use it as such. You can map virtually any controller to any mappable parameter using midi. You can, with some imagination, map the use of the X-Fading Controllers to control softsynths and so-on in bizzare ways.



MXF8 must be powered up whilst holding down channel button 1 to enable sending of Midi Clocks. This powerup keypress can be done whatever position the Mode switch is in.

The speed of the MXF8's internally generated effects such as Beatgate and Ratio Sequencer are governed by the MXF8's current BPM setting.

Control of BPM can only be achieved with Mode Switch in BPM position.

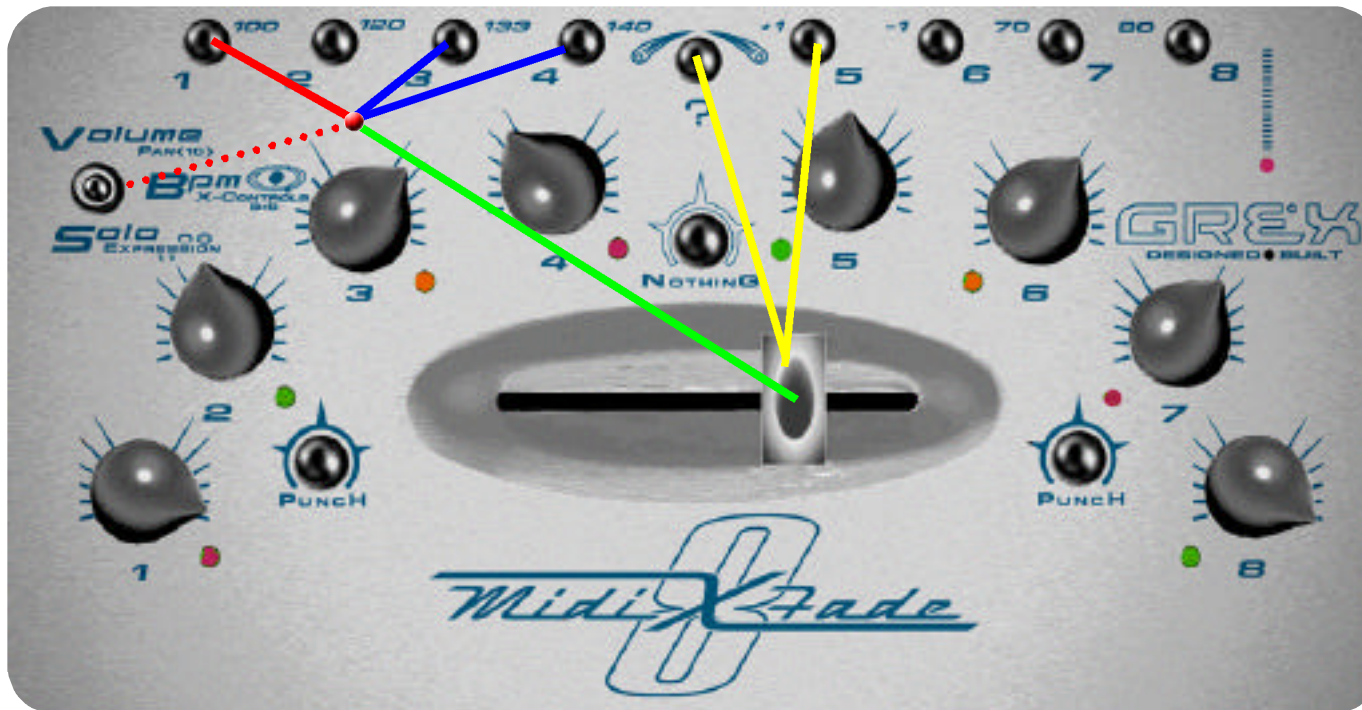
With MXF8 in BPM mode press and hold down ? button and then momentarily press Punch 1 (left hand punch button) to send Midi Start and clocks at current BPM. Your external gear should respond if set to do so correctly.

To stop your external gear or the flow of BPM data from MXF8 press and hold down ? then momentarily press Punch 2 (right hand Punch button).

- Follow detailed instructions to get going...to change BPM press and hold down ? then press any of the 1-8 buttons
- To select 100 BPM do the above keypress combination followed by channel button 1...for 80BPM do the same but press button 8
- For small increments/decrements press ? then stab at the +1 / -1 buttons on channels 5 and 6 to get to the BPM you want
- From BPM Mode only...and with Midi Clocks enabled...Midi Start Message is sent via "?" + Punch 1...Midi Stop Message is "?" + Punch 2

Comments and Tips:

The way midi works maintains that a stream of Midi Clocks should be sent at all times to connected gear prior to a Start Message being sent. This helps with real time pickup responses. You may find that some external programs respond fairly slowly to BPM changes and "ramp" to new BPMs.



Sending Controller 8 is very easy...Hold down a channel button and move the X-Fader.

Controller 9 (NOT available if MXF8 is sending Midi Clocks!) involves Holding Down "?" the Channel Button AND moving the Fader.

From this Mode the X-Fader sends a value of Zero from the far left and 127 from the far right with values in between.

This function is good for sending controller messages individually or polyphonically (Holding down several channel buttons at once) by whipping the X-Fader back and forth to send the controller values.

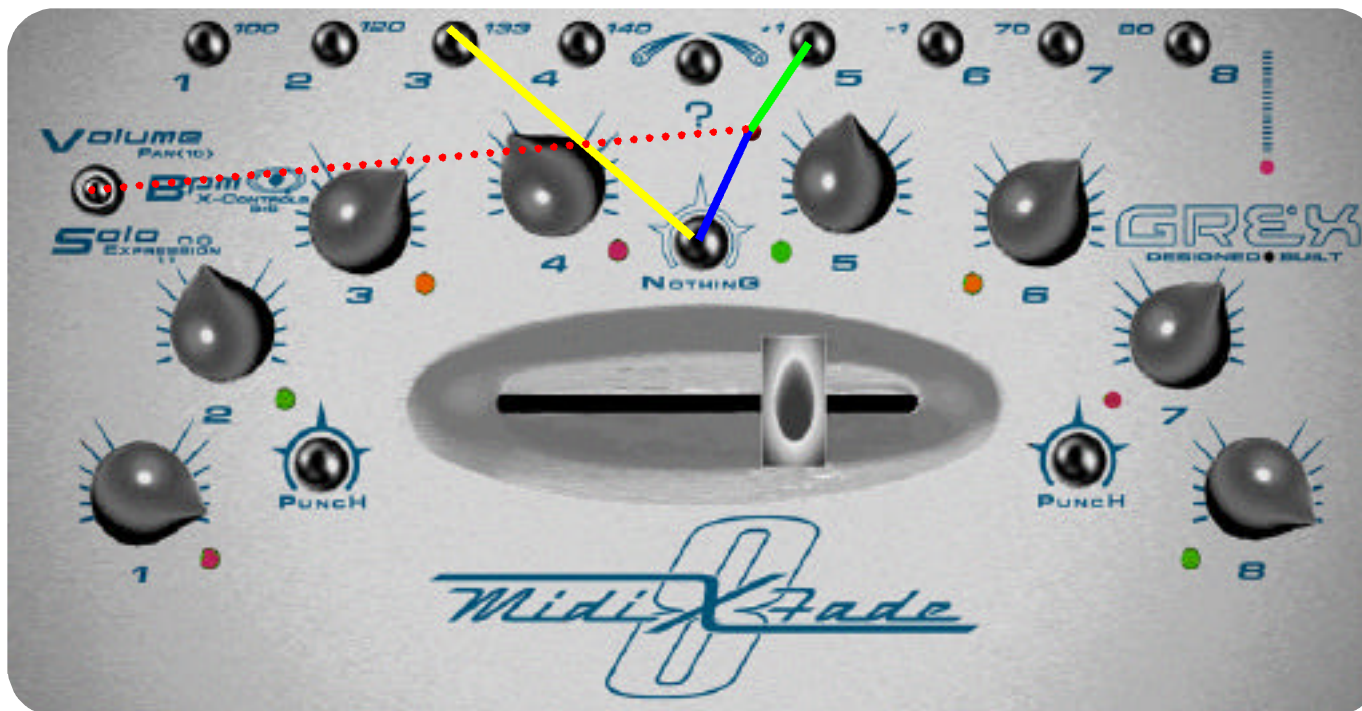
- From BPM Mode only...To send Controller 8 on midi channel 1 from X-Fader...Press and Hold Down Channel Button 1....
- Move the X-Fader to send the amount...Zero at left...max to full right...
- Holding Down several Channel Buttons whilst moving X-Fader sends multiple Midi Channels of Controller 8...
- Controller 9 is sent in the same way...ONLY when Midi Clocks are NOT enabled...Send Controller 9 by adding "?" + Channel Button + X-Fader movement

Comments and Tips:

Remember, if you are sending Midi Clocks you will lose the ability to send Midi Controller number 9.

In the Ableton Live template we have added a Simple Delay Wet/Dry Controller from Channel 1 button plus X-Fader movement and a low cut off from Channel 2 Button plus X-Fader to highlight how this function might be used. The effect is placed in the Master set of effects in Live and therefore is over the entire mix when applied.

Be careful not to leave this wet/dry setting set in the middle of its travel otherwise you will have a constant echo across your mix!



Beatgate is an interruption of Volume messages at various spacings based on midi clock intervals.

Channel button 1 will activate a volume cut and restore every alternate midi clock; button 2 every 2 clocks and so on.

This function has, in our experience highlighted the sluggishness and downright incorrect timing response of certain software sequencers to incoming Volume Control data!

Using this function on good old hardware samplers demonstrates that this is nothing to do with the MXF8 sending variable timing.

Needless to say, good useable effects can be created by interacting with the 4,5 and 6 spacings of the Beatgate.

Later on we will be adding interesting pattern based spacings for this function in the future.

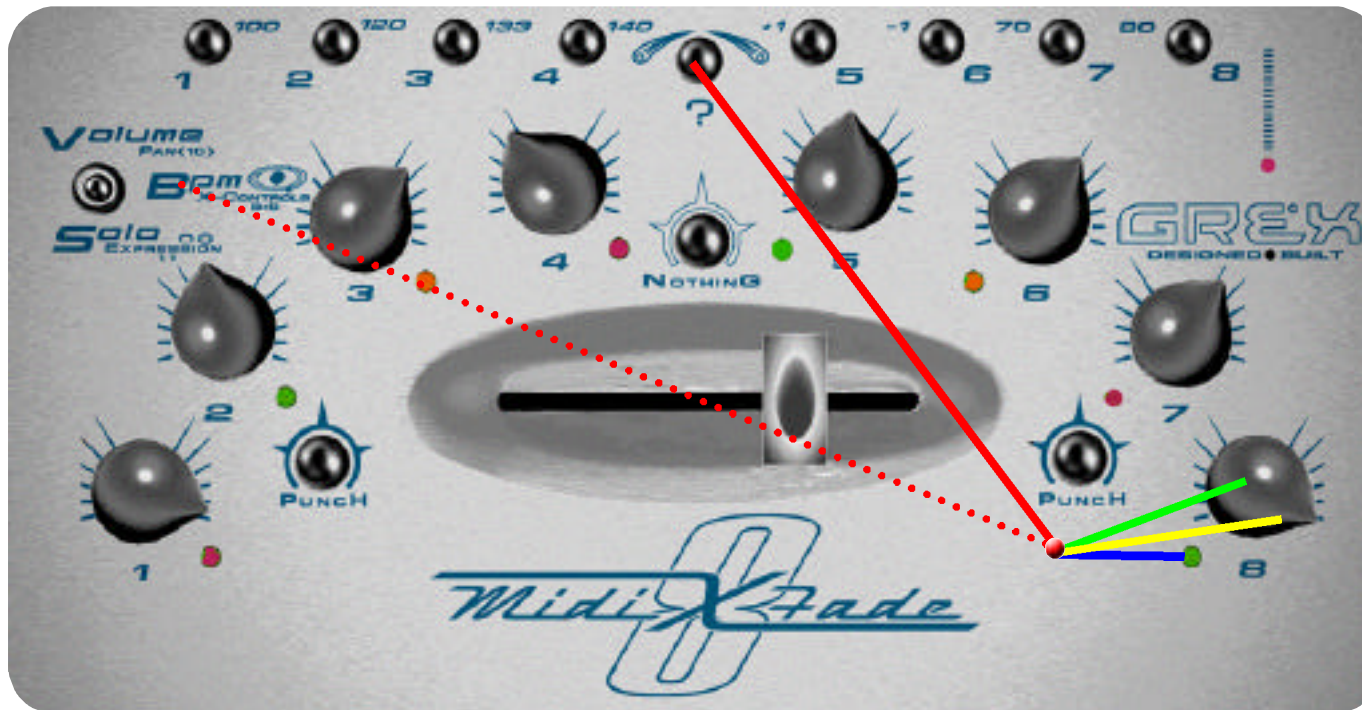
- In BPM Mode only...
- Press and Hold Down any of the 1-8 channel buttons, then...
- Press and Hold Down "Nothing"...The different Beatgate spacings (currently straight, even gaps) will flicker the Volume Levels between zero and their current settings
- Add further 1-8 button combinations in your combined keypress for different values...Button 1 is 1 midi clock spacing, 2=2 etc...

Comments and Tips:.

The internal tempo that your MXF8 is running at determines the speed of the BeatGate. So, you can powerup without Midi Clock enabled, change the BPM that your MXF8 is running at internally- sorry no visual confirmation for this- and then use the Beatgate at a totally unrelated speed to the tempo of the work in progress.

Try mapping the Volume controls (Midi Controller 7) to something other than Volume in your external gear to modulate other parameters.

Try keypress combinations and release your hold on the "Nothing" button periodically to create more complex stuttering effects.



We realised that we could squeeze in another rotary activated midi controller from the BPM mode- here it is!

Activates and responds in a similar way to controllers 10 and 11 with the accompanying "flashing" mechanism.

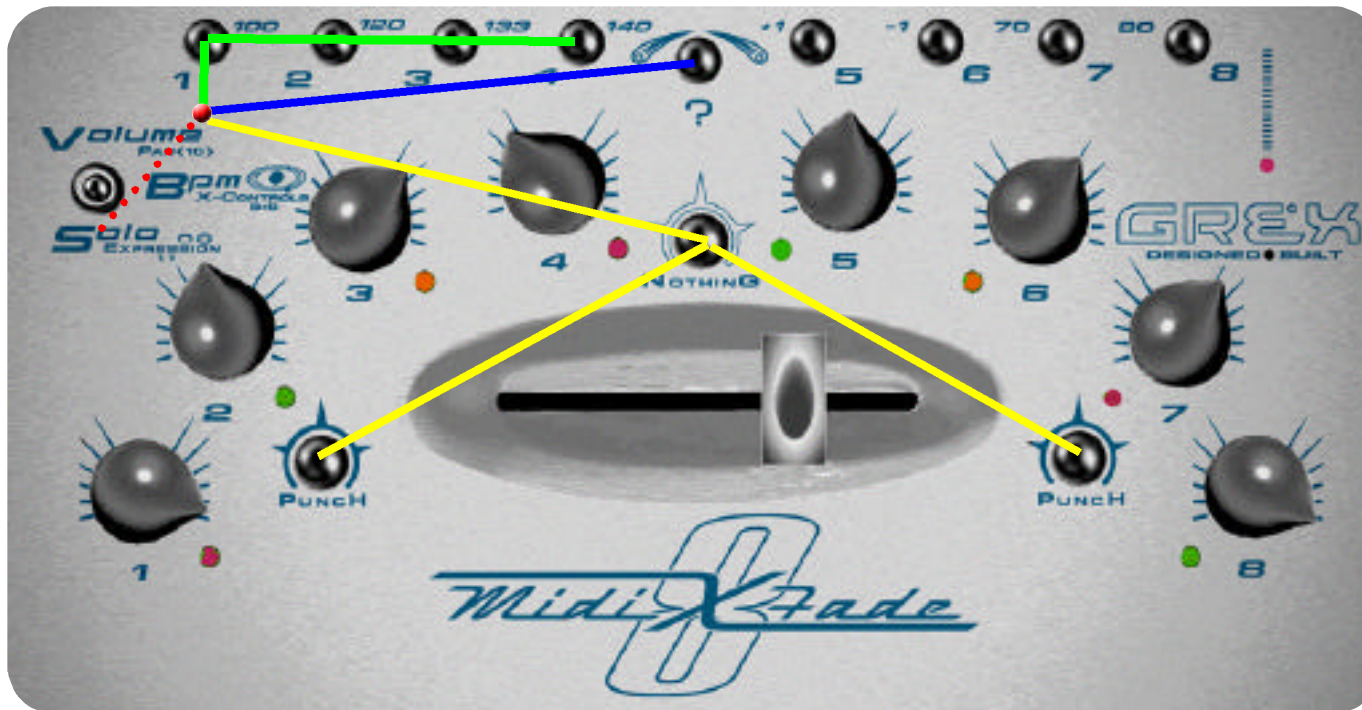
It's another controller which may find uses as a per channel send in your setup.

As ever, functions are piled up on the controls but values don't get sent until some movement of the controls has occurred.

If you want to blend in a send amount and you were previously using the Volume set high, you will need to "whip" the rotary down to zero before commencing a tasteful blend. This works fine if you practise this movement and become aware of the strengths and limitations at hand.

- From BPM Mode only...Press ? button and hold it down
- Rotate chosen channel control(s)...Channel LED(s) start flashing
- When finished sending controller 12 data release the ? button. LED continues flashing until...
- Rotating channel rotary control until it is back at the previous level for Volume it was at before entering the controller 12 mode

Comments and Tips:



Main use for Channel buttons is as a Solo for the appropriate channel(s).

Polyphonic and additive in behaviour...try pressing and holding down 1 then adding 2 etc...Notice that as soon as you release a button in a Polyphonic keypress the entire Solo state is cancelled.

Principal interesting behaviour of Solo on MXF8 is the emulation of analogue push button selectors on old Hi-Fi's...

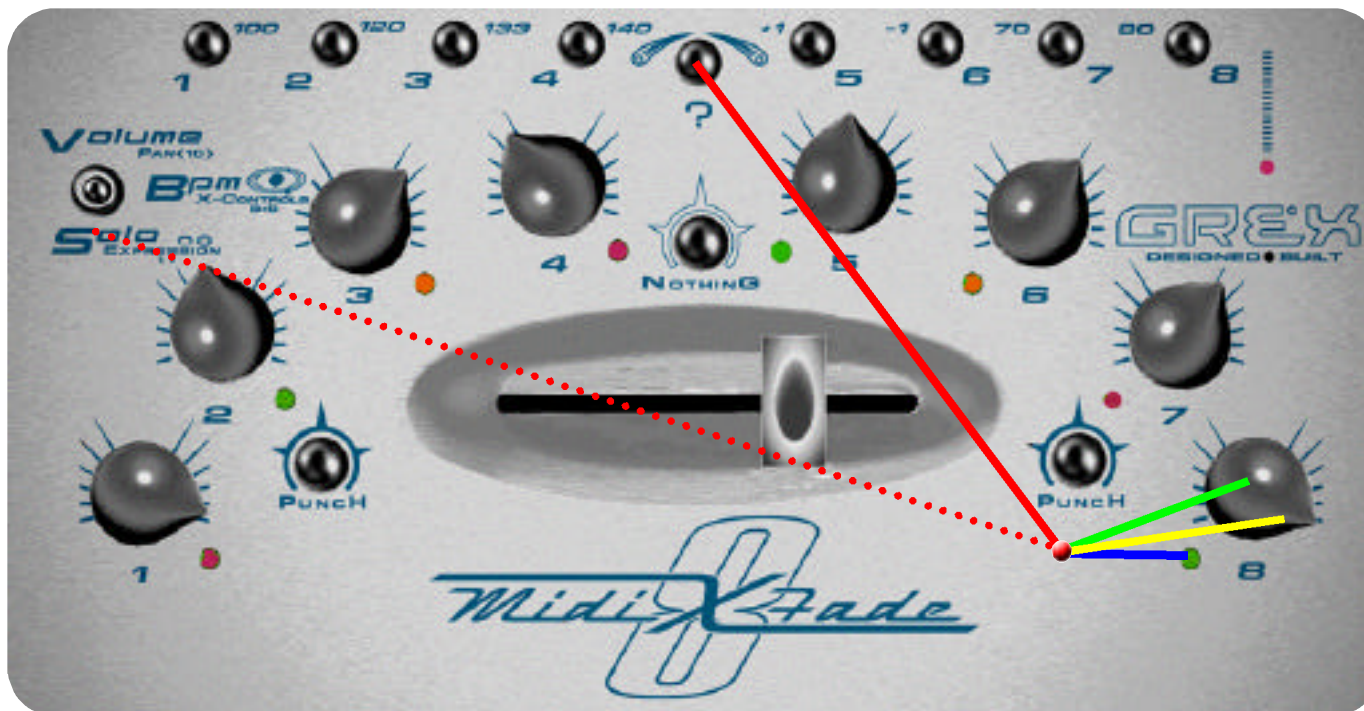
Soloing a channel by holding down the button 1-8 Solos that channel at the current Rotary Control position with no reference to the X-Fader...

Releasing a Soloed Channel has the effect of bringing back in all the other Channels

- In Solo Mode Only...
- Press and Hold Down any Channel Button or combination of Channel Buttons...Add one after another...Note: Releasing any one of those held down ends Solo state
- To Lock the Solo(ed) channel(s)... Hold Down the button(s) then... also Hold Down "?" ...Now release the Solo'd buttons first, then release "?" ...Channels are "Locked"
- Unlock, from any Switch Mode position, by pressing Nothing or the Punches briefly...Lock state remains in force until this is done.

Comments and Tips:

Go through these instructions slowly- they read worse than they are to carry out



In Solo Mode access Expression (controller number 11) using the rotary controls by holding down ? and rotating chosen control for the midi channel 1 to 8.

The LED next to the rotary flashes to indicate when the knob is out of position relative to its previous Volume setting...

Restore the knob to its previous Volume setting by releasing the ? button then slowly rotating the knob(s) on affected channels until the flashing stops. The Volume level set before entering this controller mode is now restored.

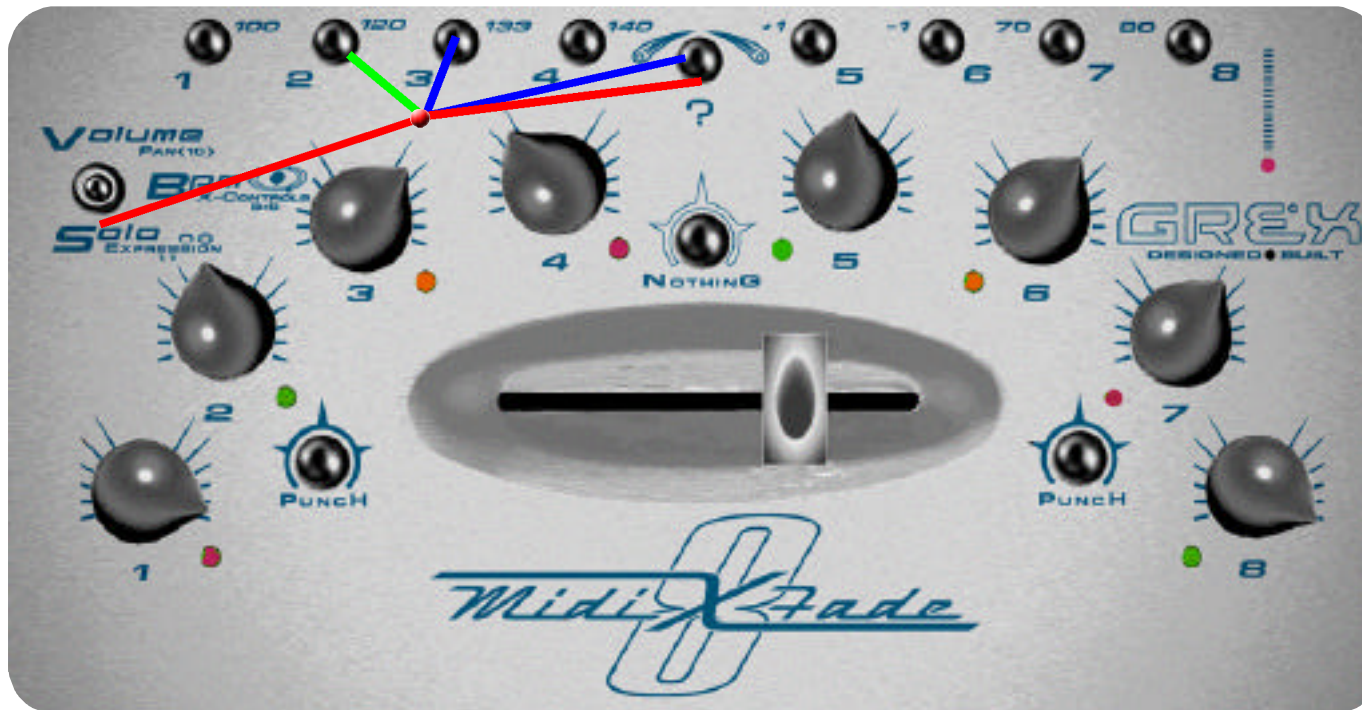
No data is sent during rotation of the channel control if ? is released until Volume setting is restored. MXF8 is now ready to continue sending Volume messages from that channel.

- From Solo Mode only...Press ? button and hold it down
- Rotate chosen channel control(s)...Channel LED(s) start flashing
- When finished sending controller 11 (Expression) data release the ? button. LED continues flashing until...
- Rotating channel rotary control until it is back at the previous level for Volume it was at before entering the controller 11 mode

Comments and Tips:

Flashing LEDs?...Remember, this just indicates that a Rotary controller is "out of position" with its previous volume setting. Slowly rotate a rotary control to find its previous setting then you won't get huge volume jumps once the MXF8 has internally switched back to using the rotary for volume control.

If you are going into a controller sending mode for effects you are in danger of sending a sudden huge amount when you might really wish to slowly blend...Practice rapidly turning the pot down to zero as you enter the mode and you can get around this problem.



This feature sends controller values of 127 then 0 with alternate keypresses and is useful for switching midi controllable effects and such fully on or off.

Controller number 13 is sent in this "toggling" state for each midi channel. Use Midi Learn in your external gear to set up the responses you want.

For example, you might set up a chorus effect which you wish to switch in and out rhythmically.

You have up to 8 switchable states from this arrangement.

As there is no visual feedback from the MXF8 for these states be aware that leaving something set On or Off might be causing mayhem with your sound when you don't want it!

- With Mode Switch in Solo position...Hold Down the "?" button...then press buttons 1-8 to briefly send Midi Controller 13 on Channels 1 to 8
- Full On value (127) for Controller 13 is only for duration of key press. Releasing this keypress sends a value of "0"
- Lock" the Full On value by Holding Down the Channel Button 1-8 with the "?" held then releasing the "?" button BEFORE releasing the Channel Button
- Unlock a locked state here by repeating the above instruction...sorry no visual feedback for this state

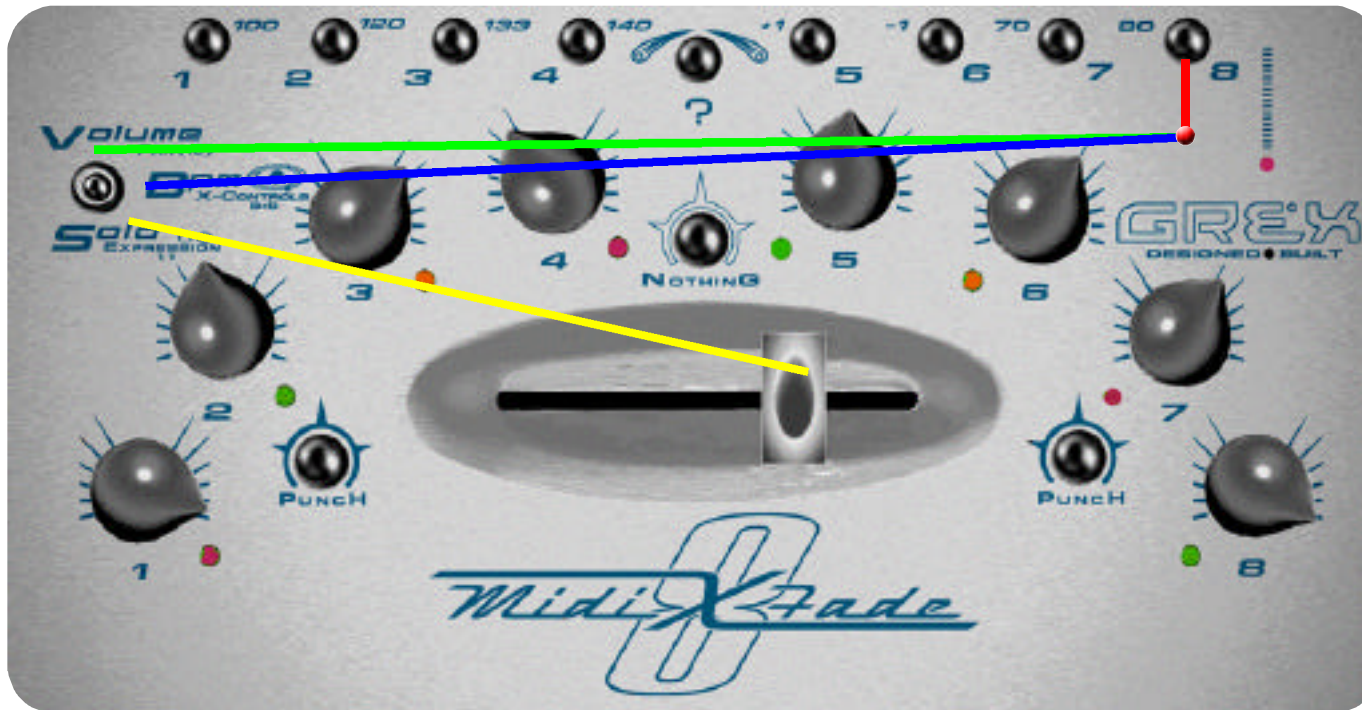
Comments and Tips:

The Ableton Live template sets up a couple of effects to toggle in and out for this function to give you an idea of one way it can be used



MIXFB

Powerup Keypresses 1-8



This isn't a function. But it's useful for us when the machine is assembled...but in case you stumble into it on power up you can see the lights flash to prove everything is working.

To cancel out of this test...

Power off then powerup again but only either with no other keypresses or whilst Holding Down buttons 1 to 3 depending on your wishes for functionality present at startup.

Enjoy.

- Hold down Channel Button 8 as power is turned on.
- In Volume Mode pressing any buttons produces LED feedback.
- In BPM Mode Holding down buttons 1-8 then rotating the appropriate Channel Rotary controls causes LED feedback.
- In Solo Mode moving the X-Fader causes LED feedback. Active Sensing Message is sent at all times during test to light Midi Confidence light.

Comments and Tips:



Do not do this until we send new features!

If you get stuck DON'T PANIC!

In any case...you will NOT be able to use this feature until we release the Grex Utility Downloader to enable downloads via email.

If you do happen to powerup your machine whilst holding down button five all LEDs will light Orange and nothing further will happen...for the time being.

Power off and powerup again to the desired mode and continue using MXF8 as ever.

New features and tables which fundamentally enhance the machine will be ready soon.

- Enter Download mode by powering up whilst Holding Down Channel Button 5...
- All LEDs will light Orange unless Midi lead is connected with incorrect data flowing which will cause an immediate ALL Red LED state...
- Full instructions to follow on release of Grex Utility Downloader for computer / midi interface to allow sys ex into MXF8...
-

Comments and Tips:



Ordinarily your MXF8 will startup with the Mute states as they were the last time you changed the BPM.

The last BPM you used is also recalled at powerup.

The speed the MXF8 is running the Ratio Sequencer and BeatGate internally is the BPM used and is not reset.

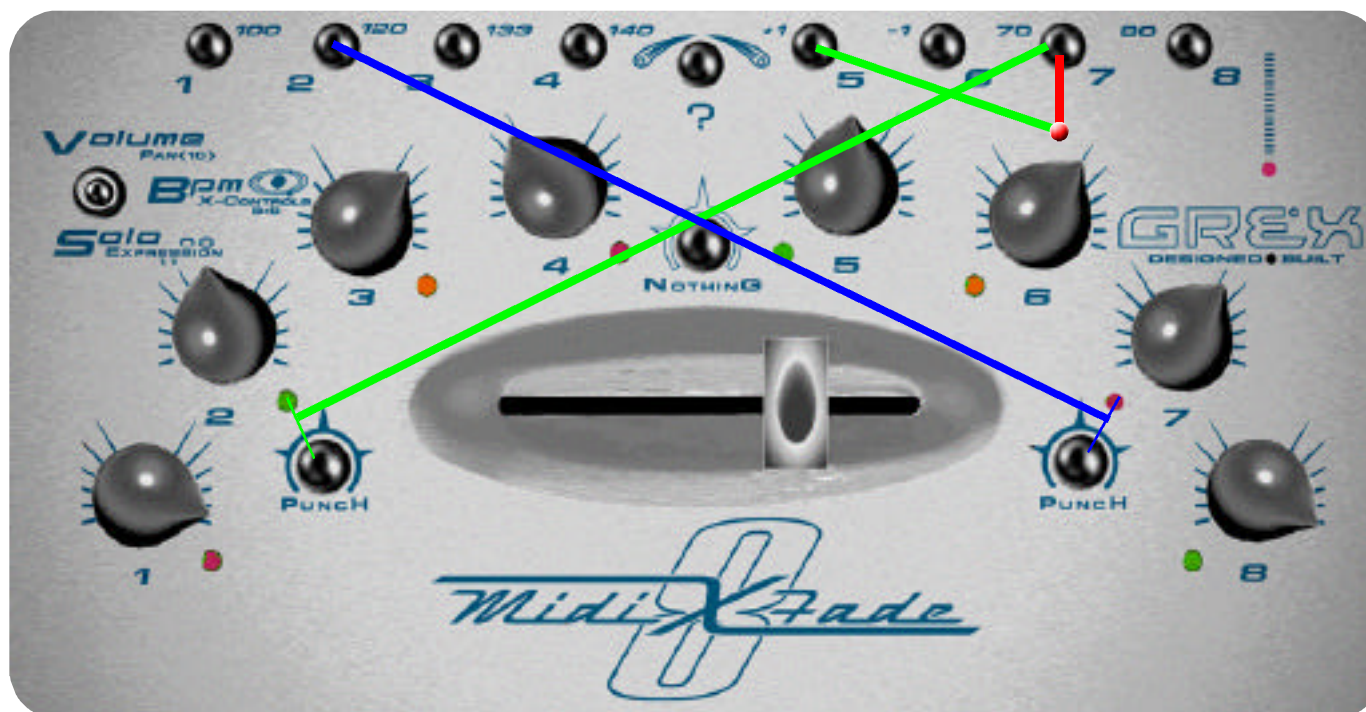
If you want to startup quickly with a "clean slate" of Mute States this procedure will do it.

Power up whilst Holding Down Channel Button 4.

That's it.

- Powerup whilst Holding Down Channel Button 4...Hold Down Channel Button 1 at the same time to enable Midi Clocks and blank LED state
- All Off LED state for all channels will now be in force...all channels are muted and next press of channel button will turn its LED Red unless you Hold Down "?" for Green
- MXF8 stores the current Mute States for all Channels, but not the Rotary Control positions, whenever you change BPM
- All channels are muted and next press of channel button will turn its LED Red... unless you Hold Down "?" to assign it Green (routed through X-Fader)

Comments and Tips:



If you want to reverse the way the Punch Buttons work, you can.

The procedure will enable Punch 1 (on the left) and Punch 2 to do all the functions they perform across the modes but back to front.

If you don't like the result you can change back by reconfiguring the buttons normally.

Normal configuration is as the instructions below but pressing PUNCH 1 then Channel 2 Button followed by PUNCH 2 then Channel 7 Button.

- Powerup whilst holding down Channel Button 7...after a brief flurry all LEDs will be Off
- Press Channel Button 5...LED for Channel 2 lights Green...Press AND HOLD DOWN PUNCH 2 (right Punch) then press Channel 2 Button...LED for Channel 7 Lights Green
- Release keypress above...Now Press AND HOLD DOWN PUNCH 1 then press Channel 7 Button...All LEDs now light Green to show success...
- Powerup again for normal use and the Punch Buttons will be back to front...

Comments and Tips:

We think this may be what is known as a sort of "Hamster switch" in this reversed configuration.

The knock on effect of doing this means sending Midi Clock Start and Stop messages is also back to front and anything to do with the use of the Punch Buttons for that matter.



MXF8

Ratio Sequencer-Bank 2

The Ratio Sequencer has roots that are drawn from a pre-digital world of pattern based analog step sequencing. It is designed to be used in conjunction with software/hardware that is capable of MIDI triggered sample playback of looped and one-shot rhythmic material.

Ideal suitable partners for the task include Ableton Live, which has time-stretching functionality, and Propellerheads Reason whose Dr:REX loop player module also fits the bill. Tempo control via MIDI Sync along with Start/Stop messages provided by the MXF8 make it easy to fully and remotely control MIDI applications.

Ratio Sequencer-Introduction...

The Ratio Sequencer is a compositional aid which, once you have got your head around its possibilities, will help you in the total destruction of old riffs and the remixing of them into timings beyond the usual confines of 4/4. The polyrhythms of Meshuggah immediately spring to mind when using the Ratio Sequencer in its 3 part form.

You may be a customer who has an MXF8 with Ratio Sequencer with Parts 2 and 3 present for the fullest explorations of these possibilities. For those who haven't please watch our website for the online downloadable parts 2 and 3. Parameters available to the Ratio Sequencer are Loop length, Velocity, Offset and Sub Loop width. They are mostly accessed by pressing "?" in combination with the rotary knobs.

Ratio Sequencer Part 1...

The basic operation of the RS triggers Note On messages on all 8 channels every x number of Midi Clocks. The "width" of this retrigger period is determined from the position of the X-fader which provides 8 different settings spread across its travel.

Its purpose is to allow you to "slide", in midi clock sized increments, up to 8 sample loops or single shot sample trigger times against each other to help discover new, often unusual and unexpected timing offsets between sounds very quickly by moving the rotary controls.

Clever maths are applied to the offset values combined with the "global loop" length determined by the position of the X-fader. This offers a rapid real time exploration of possibilities almost impossible to achieve with accountant style mouse work.

"Quantised" reading of movements of the X-fader help keep the triggering in a musical sense of timing. We will explain this more fully further on.

The Note On messages have a velocity which has a default value of 110.

This can be changed from 1 to 127 via what was a controller in Volume Mode and also given a pseudo random value which is generated every time a new Note On trigger is sent.

Getting Ready for Ratio Sequencer Part 1...

You should be using the RS with something like Ableton Live 3 (which responds to Velocity) or Reason to trigger clips and samples at the specific Note Number values the MXF8 sends out. Please use one of the templates provided on the CD to get used to the concepts used here.

The clips and samples should be set to "one shot" and have any forced quantising of incoming Note On messages in the software turned OFF.

It is useful to set the external gear to respond to Midi Clocks and set your MXF8 to send Clocks as this keeps everything in time properly.

To begin with, get two identical loops about 2 bars long to use as examples and place them in the software sampler to be triggered on two different tracks in Ableton Live. The point being you need to have individually triggerable samples on up to 8 midi channels to explore this fantastically powerful feature.

This example will only refer to two channels. Channel 1 and channel 2 which will have identical 2 bar loops playing side by side.

The Volume, Solo and BPM modes function pretty much as they do in the normal "DJ" MXF8 mode (ordinary powerup procedure). The exception being that all extra midi controller numbers other than control of Volume are no longer present. The keypress to set Midi Clock to run or stop is no longer "protected" when using the Ratio Sequencer.

The Note On triggers are always sent and will be seen to be recognised in a program like Ableton Live particularly but will NOT be heard to trigger the samples unless Volume on that channel is turned up.

Be aware that your MXF8 is only sending ONE NOTE ON per midi channel and triggering it at different times and velocities to create what you will hear. However, you have 8 sets of 8 midi Notes which can be sent to trigger up to 64 different clips. More about this later.

Ratio Sequencer-Basics continued...

Ratio Sequencer Part 1...fully worked two sample example...

Assuming you have two identical 2 bar sample loops lined up in your external gear, ready to trigger, each set to respond to Volume, Velocity and Note Number 26 on Midi Channels 1 and 2 respectively, plus the external program selected to respond to Midi Clocks....AND assuming they are correct so far as looping seamlessly at the 1 bar point goes...note that any sample should be set to “gate” mode in a program like Ableton and have the Loop setting also turned OFF...the MXF8 takes care of retriggering the samples correctly.....

Please follow these instructions exactly! And, assuming you have the full Ratio Sequencer with Parts 2 and 3 also present, don't try hitting the Nothing button in BPM mode whilst learning what this function does because you may switch the Ratio Sequencer into its other behaviours without realising it until you are familiar with the function.

1. Turn on MXF8 whilst holding down Channel buttons 1 and 2...this starts up with Ratio Sequencer ON and Midi Clocks ON.
2. Make sure the channels are lit Red and volumes are down on channel 1 and 2- In Volume Mode adjust accordingly- mute any other channels turned on...(automatic LED state saving may leave channels lighting ON in your MXF8 from the last time you used it)
3. Switch to BPM Mode, put the X-Fader in the middle of its travel and press Punch 1 briefly...

Any gear capable of illustrating that Note ON messages are being received should flicker now- you should also notice the Midi confidence light on your MXF8 flickering occasionally.

4. If you adjust the Volume of these two channels from the Rotary Controls in BPM Mode you should hear the two samples being triggered simultaneously and correctly looping at a 1 bar point.

5. Try moving the fader slowly towards the left...The loop will be triggered shorter and the further you move the fader the shorter these “loop size zones” become.

There are eight of them spread over the width of the fader travel. The 1 bar setting uses up a physically slightly wider part of the fader's travel so that getting to the one bar setting is easy.

6. Move fader back to centre...and press and hold “?” whilst rotating the Channel 1 Rotary Control to approximately the 10 o'clock position...you should notice a slight glitch in the triggers followed by regular retriggering of both samples but with the one on channel 1 playing slightly later than the one on channel 2.

7. Experiment with the above procedure and restore the Rotary Control when finished as per the “flashing mechanism” so you can again adjust the Volume if necessary.

8. Try the entire set of instructions with more and varied loops or short “one shot” sounds so that you are using the MXF8 as a drum machine-like trigger.

9. Also, experiment with moving the fader to different “zones” and notice that any offsets are mathematically treated to fall in new, interesting positions to help you find unexpected conjunctions. This is really only noticeable on settings greater than half a bar from the X-fader position, however.

As soon as you return the fader to the place it was at when you started messing with the offsets the trigger position will be the same as it was again .

Ratio Sequencer-Parts 2 and 3...

Ratio Sequencer Parts 2 and 3 intro...

If you haven't got Ratio Sequencer part 2 or 3 read this and weep..then check out our website for the download!

This feature is an expansion on Part 1 of the RS and is accessed from Solo Mode plus a combination of the offsets in the BPM mode and a keypress of the Nothing button.

The X-fader still comes into the equation to give a total set of extra manipulation which will expand your perception of what is rhythmically possible and highlight how exhausted ordinary rhythmic conjunctions have become.

Ratio Sequencer Part 2 (what it does)

The 2nd variant on the Ratio Sequencer's behaviour simply adds one repeat of the Note On trigger on a channel a certain number of midi clocks after the first. Variance in the trigger time for the second Note On message is dialled in using the Offsets available from BPM and Solo modes with the “?” button. These, in conjunction with the position of the X-Fader, in BPM mode, allows an enormous amount of variance in trigger timings so that, by careful selection of up to 8 different sounds, astonishingly detailed and flowing rhythms and rhythmic conjunctions can be created.

The subtleties of these variants need close up experimentation to achieve results that can be very interesting.

When you switch into Part 2, by pressing the Nothing button in BPM Mode, you are activating a different treatment of the Loop Zone currently selected by the position of the X-Fader.

It may not sound any different to what you were triggering in part 1...to be certain an example will help illustrate what's going on...

What should happen when settings are appropriate, is a retriggering of the Note On messages for x number of times across the “width” of the current x-fader loop zone. The maths takes care of this in such a way as to always sound somewhat musical.

The most extreme setting possible is a continuous retriggering of the Note On on selected channels every midi clock (very rapidly- at >70BPM).

Other settings will allow a gap followed by a series of short fast retriggers or any variant in between. These are retriggers of the same note number on the selected midi channel(s).

Doesn't sound very impressive? Wrong! Fiddle about, and find out. This function works particularly well when using short one shot sounds or odd timed audio loops.

The real-time nature of the retrigger control means “granular” sequencing effects can be achieved with the self quantising of the Ratio Sequencer make the Note On messages fire out alongside Midi Clocks keeping your gear responding in time with other material being played.



Ratio Sequencer can only be accessed from power up.

As you turn on the power at the mains, or plug in the power supply adapter with the mains power on, hold down channel button 2.

To turn on the Ratio Sequencer with Midi Clocks (BPM control) also enabled do the above but holding down button 1 and 2 at the same time. This is advised for correct bpm based loop triggering and synchronisation with many external sequencer programs such as Ableton Live.

Note: Midi Controller messages other than Volume are NOT sent when using the Ratio Sequencer...extra sequencer control features in each Switch Mode selection for Volume, BPM and Solo are present instead.

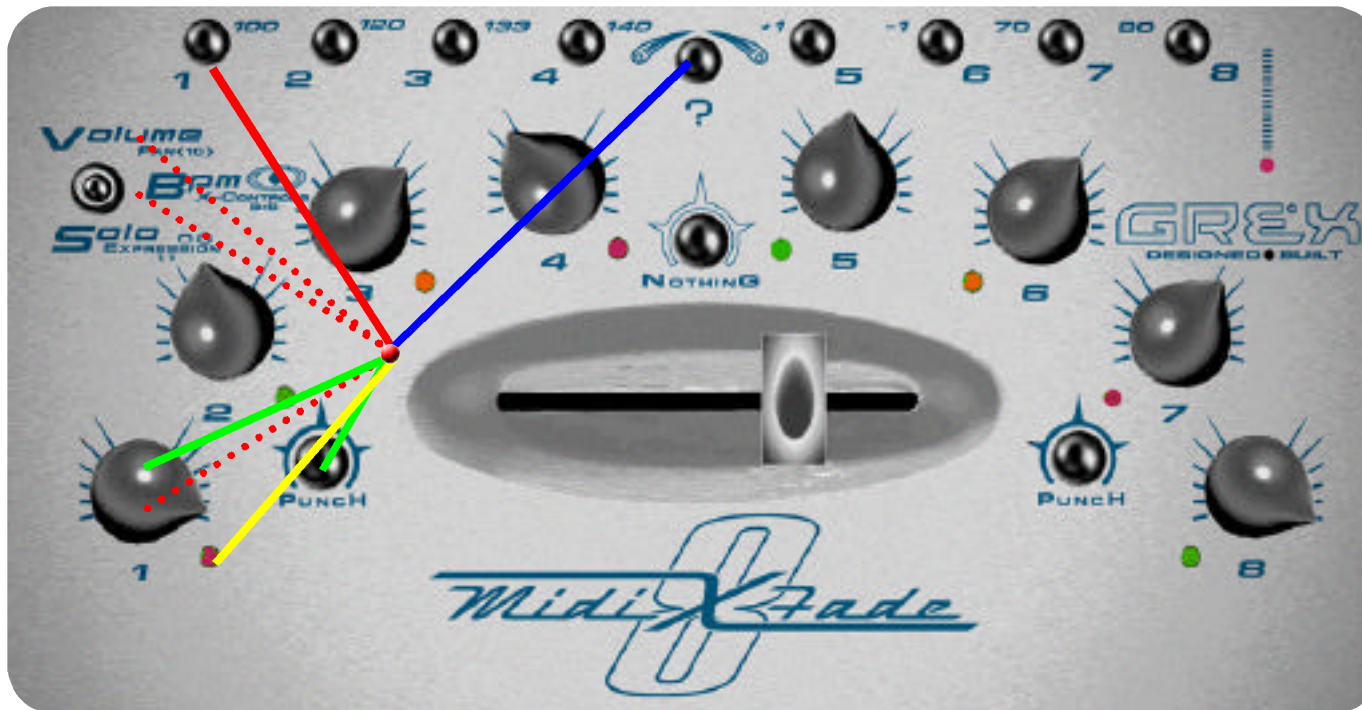
Starting the Ratio Sequencer playing is simple...just press Punch 1. To stop press Punch 2.

- Power up whilst Holding Down Channel Button 2 gets to Ratio Sequencer Mode...Holding down Channel Buttons 1 and 2 at powerup engages BPM/ Midi Clock also
- From BPM switch position only...Pressing Punch 1 (left Punch) starts the Ratio Sequencer and sends Midi Clock messages if they are also turned on
- From BPM switch position only...Pressing Punch 2 (right Punch) stops the Ratio Sequencer playing and sends Midi Clock message for Stop
- From BPM switch position only...X-Fader controls the Master Loop length Zones in the Ratio Sequencer...read further pages on this for full clarity

Comments and Tips:

The Ratio Sequencer uses various terminology to describe its operation and is several pages long so read all this section to get acquainted with its potential.

“Loop Length Zones” refers to the size of the loop “windows” selected by the 8 positions from the X-Fader which are spread across its travel in approx 5mm zones. The current state varies from very short (12 Midi Clocks) at the far left to 1 bar in the centre to very long (120 Midi Clocks) at the far right position for weird 5/4 time manipulation.



The Ratio Sequencer triggers variable length sample loops in external midi gear by sending Note On messages, followed some time later by Note Off messages.

The Ratio Sequencer, once started running (from BPM Mode by pressing Punch 1), continues generating these Note messages until they are stopped (By pressing Punch 2).

The position of the X-Fader in BPM mode sets the global size of the 8 Loops being triggered...from very short to much longer.

Individual channel loop re-triggers can also be set in Solo Mode. See specific page about this further on.

Movements of the X-Fader are "quantised" so that, as the loop size is changed, these Note triggers are retriggered in a slightly more musical way than if the movement were picked up instantly.

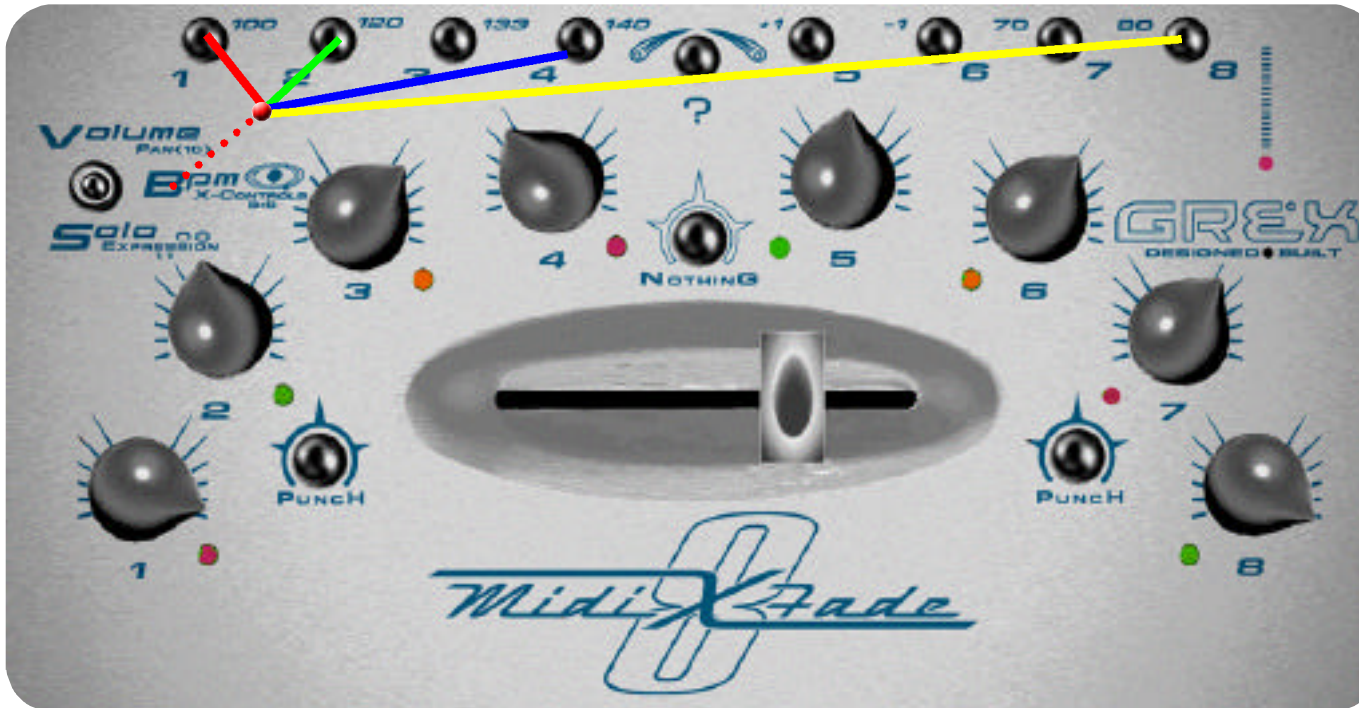
- In Volume Mode....Check that the Volume on a channel is turned up enough to hear the notes being triggered...(note on messages are constantly sent on all 8 channels)
- In BPM Mode start the Ratio Sequencer playing by briefly pressing Punch 1...Default Note Number across channels 1-8 is 26...Default Velocity is 110
- In BPM Mode...Press and Hold Down the "?" Button to access the trigger start offset for a channel...whilst Holding Down "?" rotate a channel control to move it forward
- The flashing convention / mechanism to indicate "out of position" with Volume settings also applies with this feature.

Comments and Tips:

These instructions will explain how to trigger a loop or sound from your MXF8...

Get your external gear responding on all 8 midi channels to the Note Numbers the MXF8 generates...set them up to be Velocity sensitive aswell...make them be "One Shot" or not looping automatically...if they are drum loops at certain BPMs make sure that the tempo you are triggering them at is consistent with them sounding properly...this is more for experienced loopists...

If you have 8 midi channels set up in this way you are ready to use your MXF8 as the controlling trigger to find new conjunctions of sounds and loop offsets



From BPM mode simply pressing the 1 to 8 buttons alters the note number triggers being sent from your MXF8.

This means you have up to 64 note numbers to setup in your external equipment to respond to these messages.

We have provided a template for Ableton Live which some will find useful. The same principal applies whatever external programs or gear you are using...

You **MUST** ensure that your soft sampler, hardware sampler or computer sequencer will recognise and respond correctly to the data being sent.

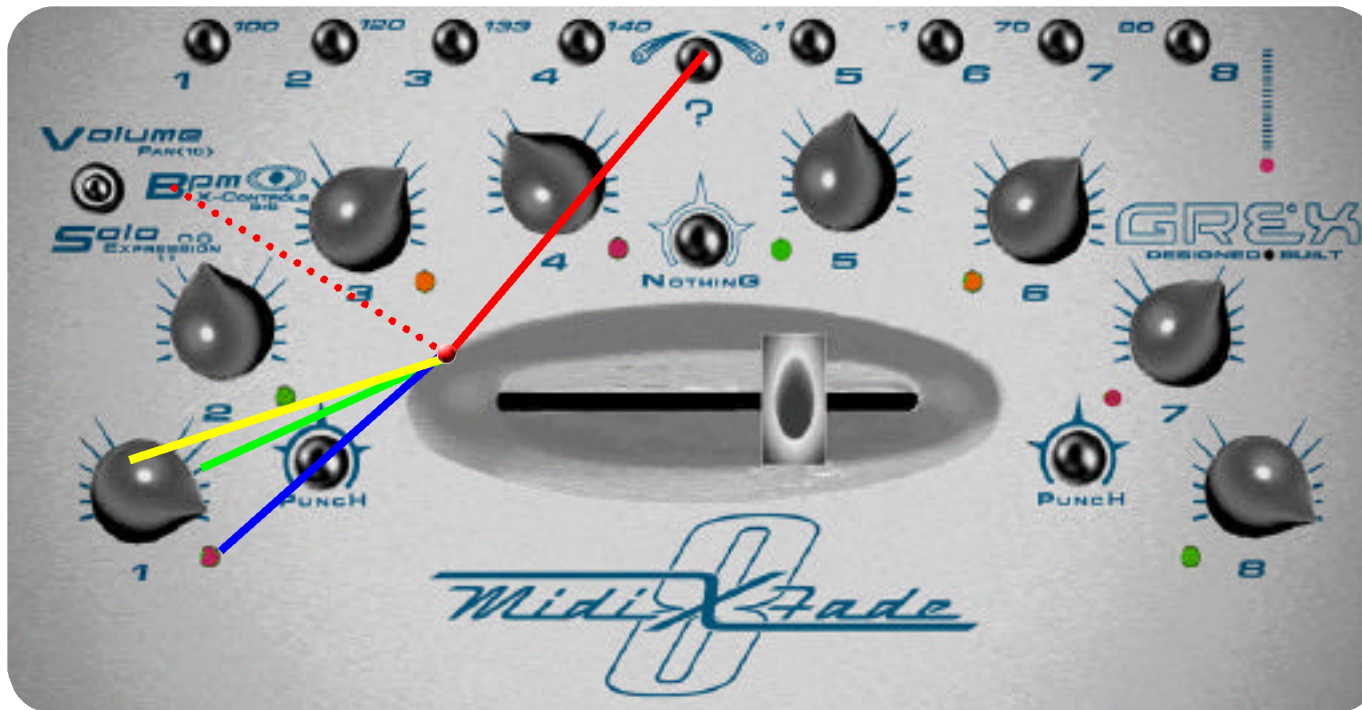
These are Note On and Note Off messages with Velocity- and that is all.

Create complex and exciting patterns with the twists the MXF8 invites!

- From BPM mode...The default set of 8 Note Numbers is 26. Can be re-selected by pressing button 1.
- Pressing button 2 selects note number 27 as the set of 8 note numbers (one per midi channel transmitted by the MXF8).
- Pressing button 3 selects note number 28 as the set of 8 note numbers...
- ...and so-on up to button number 8 which selects note number 33.

Comments and Tips:

This is a fairly complicated function...Read all about it...Get acquainted, slowly with its various twists



These Note On Offsets affect the timing of the start of the Note message which triggers your audio samples.

You can “slide” the timings of audio samples against each other independently on a per channel basis.

Experiment with two identical audio samples triggered on channels 1 and 2 to discover the effects of this feature.

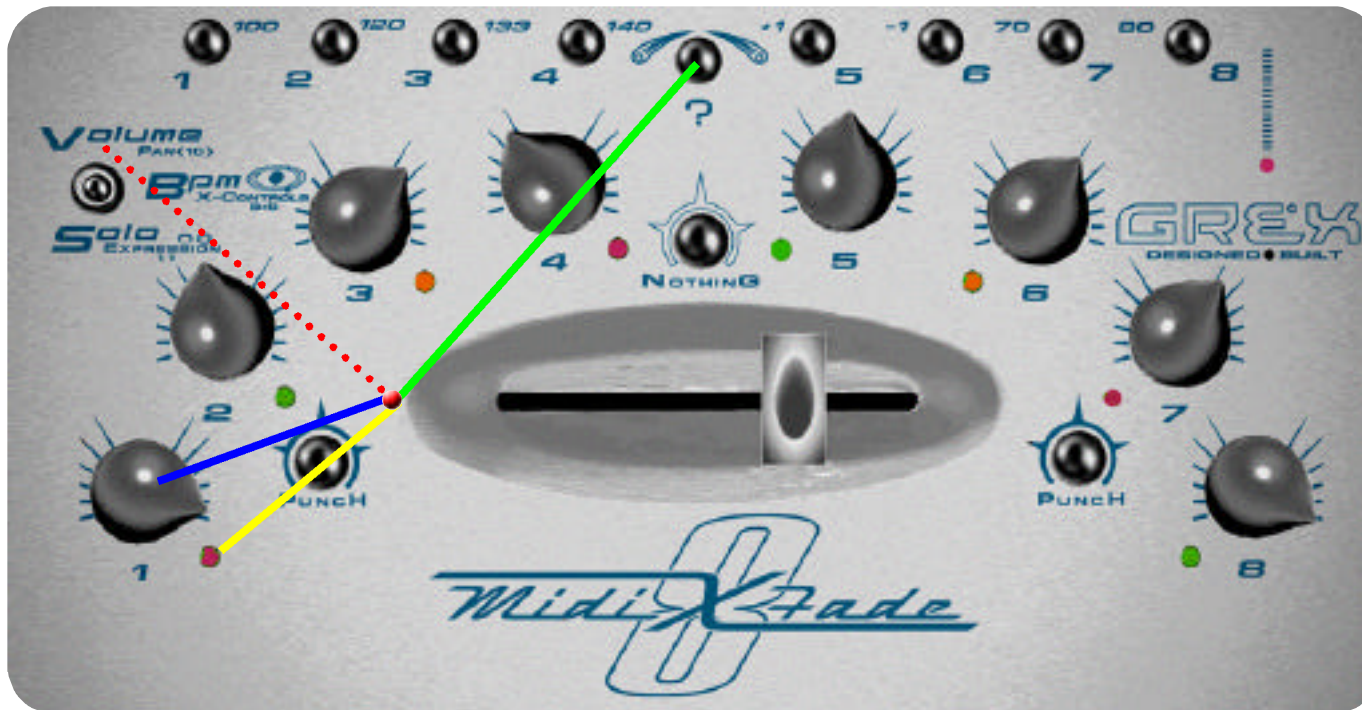
Combine movements of X-Fader to alter the global size of the “loop window”...notice the effect of jumping from one setting to another...

Mathematical divide/ remainder algorithm can sometimes create interesting and surprising offsets!

- In BPM mode...Hold Down “?” as you rotate a chosen channel Rotary Control...the start time of the Note On is moved forward in midi clock increments
- The start time of the Note On is moved forward in midi clock increments with “0” being fully anti-clockwise and up to 48 midi clocks fully clockwise.
- LED flashes to show “out of position” with Volume setting...
- Stop it flashing when you have finished adjusting this parameter by returning to the correct position for volume as previously described

Comments and Tips:

Don't press the Nothing button whilst in BPM mode and whilst you are getting used to the functionality of the Ratio Sequencer! Read the section on the Nothing button's function in this section to find out why!



Note On messages have an associated Velocity- this is how “loudly” the notional playing of the Note On is...

This function allows you to alter the Velocity value between 1 and 127, in real-time.

There is also a randomise value setting which sends out a random velocity of between 90 and 127.

Adjustment of the Velocity is not needed to make the Ratio Sequencer work because a default velocity value of 110 is sent if you decline to alter it.

Velocity of “0” is not sent because muting of a Note On is achieved by turning the volume of a channel down or to “Off”.

- Switch to Volume Mode to access the Velocity offsets for the Note Triggers on each channel if desired...default Note On Velocity is 110 for all the Note On triggers
- Press and Hold Down the “?” Button whilst...
- Rotating a channel rotary control to adjust the individual Note On Velocities on each channel from Random to 1 to 127...Random = fully anticlockwise Rotary Control
- Flashing mechanism comes into force again to show that Rotary Control is “out of position” with former Volume setting.

Comments and Tips:

Remember, you can alter the Velocity setting in real time...this allows you to trigger things like softsynths and samples with dynamic envelopes which are affected by velocity...dynamically!

The randomised velocity value lies in an area on the control rotation between zero (fully anticlockwise) and about the 9 o'clock position for each channel.



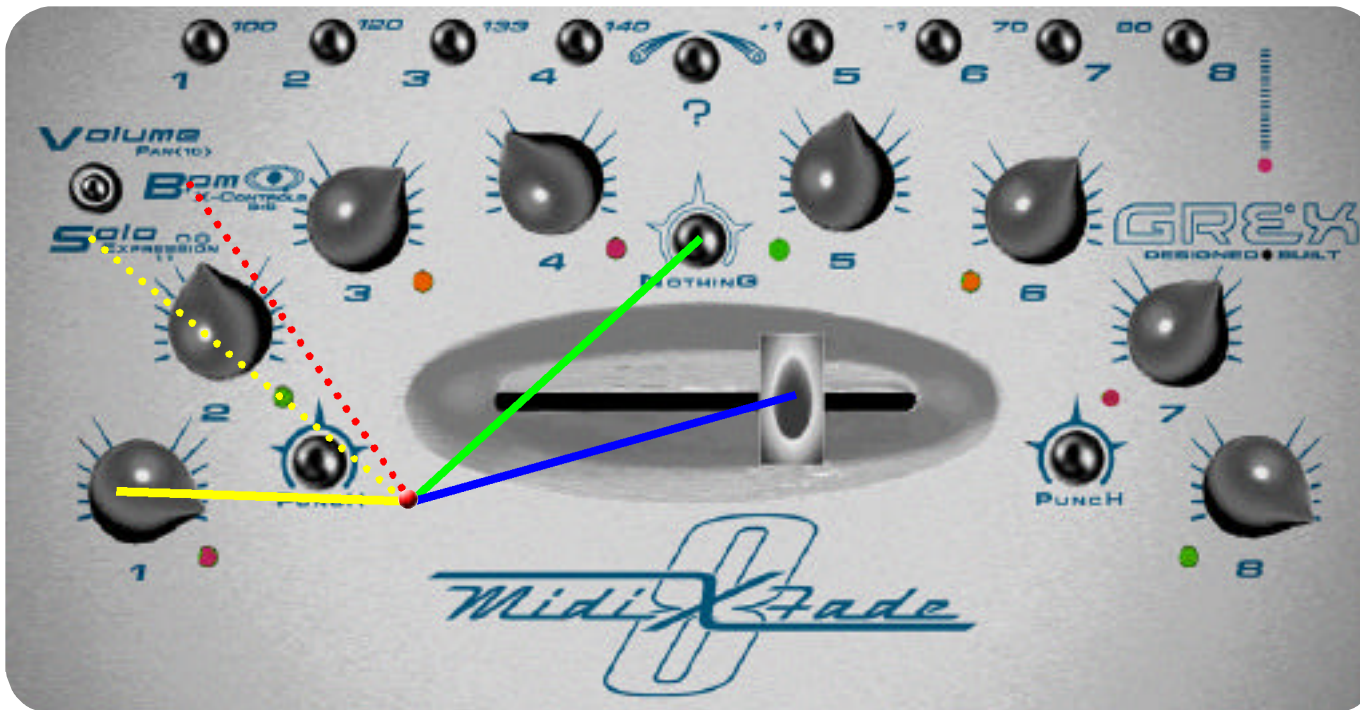
The X-Fader offers a departure from its normal behaviour when using the Ratio Sequencer...Only applies when in the BPM mode.

It is divided into 8 “zones” through which you can change overall global loop lengths for the Note On triggers being sent out on each channel. These loop lengths are the same for each channel.

Moving the X-Fader through the zones has a simple quantising effect in that each time a new “zone” is entered the Note On triggers are resent within a short number of midi clocks time to help keep timings tighter.

- Moving the X-Fader in BPM Mode- assuming you have powered up in Ratio Sequencer mode- moves through 8 trigger length zones...short to the left...longer to the right
- Quantising occurs for Note On triggers as you move the fader through the zones...sometimes nothing will appear to happening when longer settings are chosen
- The zones are roughly 5mm of travel apart with a slightly wider zone for 1 bar length with the fader in the centre of travel
- Longest setting is at far right.

Comments and Tips:



The Ratio Sequencer has 3 modes.

Unfortunately, displaying which of the 3 modes you are in isn't possible on this early version of the Ratio Sequencer software. But at least you can quickly "rotate" through the 3 choices by simply pressing the "Nothing" button in BPM mode.

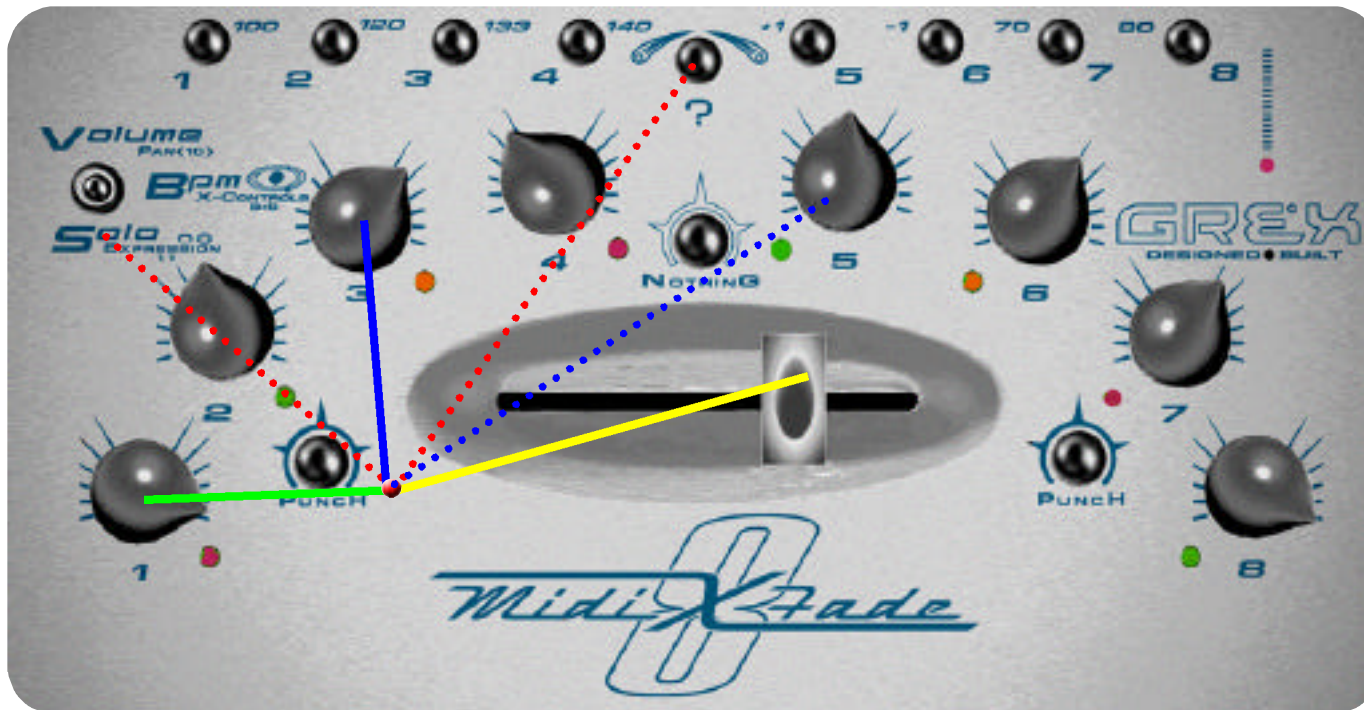
As mentioned earlier, these three modes may seem to be no different to what you are triggering- until you change some of the offsets in both BPM and Solo mode and experiment with the X-Fader position in BPM mode!

When altering the retrigger width in Solo mode (applies to RS parts 2 and 3 only) the random feature can be used which is similar to the way random Velocity can be achieved in Volume Mode.

Between fully anticlockwise and about the 9 o'clock position on the rotary control sets up random retrigger width.

- When you first enter Ratio Sequencer the default RS mode (part 1) can be altered by pressing...
- ...the Nothing button. First keypress enters RS part 2. Press Nothing again to get to part 3 and once more to get back to part 1
- Depending on combination of offsets dialled in, produce a repeat of the Note On trigger on the channel- or multiple repeats if part 3 is selected-move fader to experiment
- Switch to Solo mode and adjust the offset for repeats / width- in part 3 it is possible to get very short retriggers. Random retrigger widths are also available here

Comments and Tips:



The retriggered Note On messages generated by the Ratio Sequencer allow you to create interesting and complex rhythmic patterns.

At first you may be baffled by the process and combinations of keypresses...but perseverance will produce unusual and useable results!

Flick between the BPM and Solo modes to alter the Ratio Sequencer offsets and discover the relationships between the various settings.

- Providing you have switched to RS part 2 or 3....Move to Solo Mode...Hold down “?” as you adjust...
- ...any channel rotary control to alter the width of the Note On retrigger relative to the X-Fader's loop setting.
- Each channel can be set differently.
- The X-Fader's loop setting (set in BPM mode) governs the amount of space for the retrigger(s) to occur....some settings produce no results!

Comments and Tips:

Function...		Transmitted	Recognised	Remarks
Basic Channel	Default	O 1-8	X	
	Changed	X	X	
Mode	Default	X	X	
	Messages	X	X	
	Altered	X	X	
Note Number		O 26,27,28,29,30,31,32,33	X	Note On/Off messages can be sent on midi channels 1 to 8
Velocity	Note ON	O	X	Note On Velocity default 120
	Note OFF	O	X	
After Touch	Key's	X	X	
	Ch's	X	X	
Pitch Bend		X	X	
Control Change		O 7,8,9,10,11,12,13	X	
Program Change		X	X	
System Exclusive		X	O/X	*Upgrades see notes
System Common	Song Pos	X	X	
	Song Sel	X	X	
	Tune	X	X	
System Real Time	Clock	O/X	X	^Enable / Disable from Menu Choices-see manual.
	Commands	X	X	
Aux Messages	Local ON/Off	X	X	All Notes Off is sent when Stop Message is sent
	All Notes OFF	O/X	X	
	Active Sense	X	X	
	Reset	X	X	
Notes				