New MINICOMMAND Firmware.

Posted by Justin Valer - 2013/04/04 12:36

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Greetings,

I'm working on a new Minicommand firmware for the Machinedrum that allows you to store Tracks in memory and write them to patterns in real time. Much like loading up clips in Ableton Live.

This means that during a live performance you can load up tracks on the fly from other patterns without having to switch into a new pattern or load up a new kit.

Just imagine playing in front of a crowd only to realise that your pattern needs more
Cowbell. You simply find your best cowbell track stored on the Mincommand and load it up to a free track on the MD.

Progress:

- The basic functionality is complete and working well.
- You can select a track on the MD and hit a button on the Minicommand to capture it into memory. (This includes the Track Machine Settings, Triggers, LFO, Parameter Locks, Swing, Accent). This process can be repeated for multiple tracks.

- You can then select a destination track on the MD and a captured track on the Minicommand and press a button to have the captured track written to the MD destination track.
-This all happens in realtime whilst the sequencer is running.

Essential Todo List:

-GUI
--Menu Gui
--Interface for selecting, grouping and loading up tracks.

-Store captured tracks on to the SD card for recall when powered off.

Expected Features:

- TurboMidi support.
- Project creation and storage.
- Track reversal
- Individual track length setting (Tracks are looped provided they are multiples of 2).
- Audio Cue (Divert new tracks to one of the spare audio outs, to have a cue listen available).

I thought it was time to use my degrees in engineering to work on a new Minicommand firmware. Wesen did a lot of work for us and I hope to make the best use of his code.
I have a good handle on the framework now (a combination of MIDICTRL 0017 with imported 0018 libraries) and expect development to be rather swift.

- Justin

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Re:New MINICOMMAND Firmware.

Posted by kln - 2013/04/04 16:25

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This sounds amazing!
Let me know if you need help testing or such.
And please keep us updated with the progress.

/k

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Re:New MINICOMMAND Firmware.

Posted by Rusty - 2013/04/04 16:33

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So you can program the MiniCommand? Awesome.

AFAIK that makes three of us with various skill sets at programming the thing... You, Tyrone and me (miserably btw)

I'm currently working on my own firmware as well... that does a few nifty things...

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Re:New MINICOMMAND Firmware.
Posted by pritee_piksuhl - 2013/04/04 19:10

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Cool, I can't wait for more firmwares to start getting created ^^ A big thanks to anyone who is putting in the time to program the MC.

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Re:New MINICOMMAND Firmware.
Posted by dubathonic - 2013/04/05 00:21

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Super idea, Justin -- glad to see you here again. I'm happy to help you beta-test whenever you're ready.

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Re:New MINICOMMAND Firmware.
Posted by vern - 2013/04/05 05:18

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Have you tried to use the sd card for storing firmwares or anything??

I was told by wessen that the sd card does not work the way it was planned because of some design flaw/compatibility issues.

I need to know if this is true. I have heard other people talk about using the sd card, but i have not heard anyone confirm that they get it to actually work ! :unsure:

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Re:New MINICOMMAND Firmware.
Posted by Justin Valer - 2013/04/06 12:34

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Update:

GUI is quite impressive. I have a very good understanding of Encoders, Pages and EncoderPages. I have written my own EncoderPage and Encoder classes which extend and override Wesen's existing GUI for flexibility.

The minicommand has access to a 16 x 8 grid of slots. Each slot can store a captured track from the MD.

The grid is displayed on screen with 4 slots at a time. When a slot is occupied by a track it displays the name of the Machine associated with that track, ie TR-BD. (Machine names are shortened to 4 characters.)

You can navigate through the grid. Turning encoder 1 scrolls in the X direction. Turning encoder 2 scrolls through the Y direction.
I've also included some basic animation, which makes scrolling look functional.

The grid/slot system means you can now load up the tracks from an entire pattern on a single row of the grid. You can scroll through the various tracks, choosing the ones you want to load on the MD.

To do:

Display Selected Track data on screen. (Show the step sequencer locks on the minicommand, and extended information)

SD CARD - Have not confirmed this is working. The library files look complete. I believe Wesen was having an issue with program size once the libraries were imported and compiled with his firmwares.
I would ideally like to have the SD Card running a file system as this would help prevent flash data loss, but this may take up too many Kb of Program Memory.
I'm planning to spend time next week looking at the feasibility of this.

I'll need BETA testers in the coming weeks. So please contact me if you're interested.

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Re:New MINICOMMAND Firmware.
Posted by anselmi - 2013/04/06 15:32
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itÂ´s enough for me...I was thinking about getting one just for the euclidean sequencer and the other stuff but this is too much!

if there is some available to buy count me in!

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Re:New MINICOMMAND Firmware.
Posted by sicijk - 2013/04/06 15:40
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Hey there Justin, i have a Minicommand and would be glad to remove a bit of dust from it trying your new firmware!

Let me know
(=d^_^b=)

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Re:New MINICOMMAND Firmware.
Posted by vern - 2013/04/07 15:24
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ok

i am willing to test your firmware

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Re:New MINICOMMAND Firmware.
Posted by Grinch - 2013/04/10 12:03
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I also have a MD + MNM and would totally be down to test this new firmware.

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Re:New MINICOMMAND Firmware.
Posted by Grinch - 2013/04/10 12:03
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oops double post

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Re:New MINICOMMAND Firmware.
Posted by JJJ - 2013/04/10 12:07
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This is great news!
I would love to test this as well.

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Re:New MINICOMMAND Firmware.

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awesome - if you get the SD card working, I'd love to get an overview.

- custom encoder/encoder page classes would be interesting too, I found the switch page thing a bit annoying although it makes sense in Wesen's live & 'monster' firmwares.

The only thing I've ever completed is a track mixer & FX controller for my MPC. I use it all the time!

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Re:New MINICOMMAND Firmware.

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Update:

Working hard. Looking to push out a beta release by the end of the weekend***

The grid system has been expanded. You now have access to 16 track x 100 row grid of slots. With a limit of 128 tracks that can be stored (subject to change and memory limitations**). The expanded grid system means that you can plan out a set over 100 rows and lay it out with tracks the way you want. It also means that if the SDCard feature becomes implemented then the MC will be able to load up track slots dynamically (from the SDCard) eliminating the memory limitations.

The Info Page is complete*. It displays the step sequencer data on the MC screen allowing you to scroll through 16 steps at a time using the first encoder. The track name is also displayed (defaults to the kit name).

Reverse, Loop 4 steps, Loop 8 steps are done**

Capture all of the tracks of a pattern in to row = done.
Write out multiple tracks and place them in sequential order (done)
Write out tracks in their original track position = done.

GUI is coming along. Working out and implementing the best button combinations

SDCard update - Seems feasible. Some of Wesen's firmware's are already writing to the card to store settings when powered off. Check the MidiMerge methods for more info.

*I've tested the memory limitations of the Minicommand. It can hold about 12 patterns worth of data, with memory to spare for the rest of the code.
**I've ran into some bugs with how the MIDI-Ctrl framework handles Parameter Locks. Slowly working through this. Most challenging issue so far.
***Subject to having a life.

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Re:New MINICOMMAND Firmware.

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Sorted out all the parameter lock bugs!!! Parameter locks are now stored dynamically using a linked list, which resolved quite a few of the issues I had with the framework!!

This means you can save as many tracks as you want until the memory runs out.

Also. Just had my first jam today. This firmware changes everything!!!!

Still looking to release a beta by the end of the weekend!

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Re:New MINICOMMAND Firmware.
Posted by Rusty - 2013/04/11 18:11
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I'll sign up as a beta tester.

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Re:New MINICOMMAND Firmware.
Posted by dubathonic - 2013/04/11 22:02
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:watch:

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Re:New MINICOMMAND Firmware.
Posted by Veets - 2013/04/11 22:24
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dubathonic wrote:
:watch:

+1, glad also to see you're back JB)

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Re:New MINICOMMAND Firmware.
Posted by Opuswerk - 2013/04/12 02:45
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Would love to be trying this one out.
Especially as i'm planning on taking a little one on one time with the MD and MC :)

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Re:New MINICOMMAND Firmware.
Posted by rhizome - 2013/04/12 04:47
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wow... is this functionality theoretically possible for the OT also?

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Re:New MINICOMMAND Firmware.
Posted by Tyrone - 2013/04/12 18:37
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Justin Valer wrote:
Update:

SDCard update - Seems feasible. Some of Wesen's firmware's are already writing to the card to store settings when powered off. Check the MidiMerge methods for more info.

Yep, it's the midiclockpage that uses the sd card libraries to store the midi merger settings, but as I think you already mentioned it chews up a fair chunk of program memory (around 10k?). I often remove this page to free up space in my firmwares and manually create a midi merger object. Hopefully it shouldn't be too hard to implement the sd card once you get the rest up and running

Awesome idea for a firmware, looking forward to seeing a demo version!

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Re:New MINICOMMAND Firmware.
Posted by Justin Valer - 2013/04/13 13:56
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UPDATE:

Cue Page is done and working. You can now send tracks to the cue (output F) instantly by selecting a track on the MD and pressing a button combination on the minicommand. Active cues are displayed on screen when using this function. The button combination toggles the cue.

Pattern Capture - Can capture a pattern from a specific Bank/Pattern location.
Pattern Write - Can write out a pattern to a specific Bank/Pattern location

Fixed Pattern Decoding and Pattern Encoding bugs in MIDI-CTRL. Slide, Accent and Swing patterns for steps greater than 32 weren't getting stored in memory properly.

Parameter Locks are now stored in dynamic arrays for better memory conservation.

Grid Size has been reduced from 100 to 64 rows to free up more memory for Parameter Locks.

Todo before BETA release:

- Options Menu
- Turbo Midi, Midi merge
- Bug fixing, tweaking, function checking.
- User Manual

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Re:New MINICOMMAND Firmware.
Posted by Justin Valer - 2013/04/14 20:50
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UPDATE:

Starting to feel like an instrument now!

Added 2 effect Encoders which can be toggled individually between Delay and Reverb settings.
These are available at all times on encoders 3 and 4.

Added a bunch of Encoder Value button combos. You can switch encoder values to their extremes, much like on the octatrack. Makes navigating through the grid faster, and also allows you to set effects parameters quickly.

Turbo Midi is working at 4x. Capturing and writing patterns and tracks almost instantaneous. Though turbomidi is still buggy,

Investigating some more Memory optimization, to give more room for tracks and parameter locks. At least one of these changes will be implemented before the BETA release.

BETA release by the end of the week is looking good and we'll be worth the extra wait.

Cheers,

- Justin

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Re:New MINICOMMAND Firmware.
Posted by Justin Valer - 2013/04/16 21:12

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UPDATE:

User manual is complete.

Final beta testing to occur on Thursday and Friday.

Beta Release on Friday.

- Justin

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Re:New MINICOMMAND Firmware.
Posted by drewzle - 2013/04/16 21:33
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this sounds like an amazing feature for the MiniCommand, looking forward to trying it out

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Re:New MINICOMMAND Firmware.
Posted by Opuswerk - 2013/04/17 01:42
_____

sounds awesome.
Forecast says the weekend is gonna be rainy. So will be perfect to beta test this :)

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Re:New MINICOMMAND Firmware.
Posted by kln - 2013/04/17 07:47
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Think it will rain here too. So im up for beta testing
:laugh:

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Re:New MINICOMMAND Firmware.
Posted by Justin Valer - 2013/04/17 20:59
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Some bedtime reading for those with good eyesight:

http://is.gd/Zk7Fdx

Not long now :-).

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Re:New MINICOMMAND Firmware.
Posted by Justin Valer - 2013/04/19 13:54
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Hi Everyone,

The MiniCommand Live BETA has been released. I've contacted everyone directly via PM with further instructions.

For those that I may have missed, you can access the beta by signing up to
the MiniCommand Live web forum:

http://www.justinvaler.com/mcl

Cheers,

- Justin

(If you're experiencing issues connecting to the forum, please try again later. My web server has had some downtime today.)

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Re:New MINICOMMAND Firmware.
Posted by Justin Valer - 2013/04/29 21:09
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SD Card is working.
You now have access to unlimited non-volitile memory to store Tracks.

MiniCommand Live now uses the SD Card for all of its data storage.
When you turn off the Minicommand, all your data is retained on the SDCARD.

64+ Projects Per SD-Card.
Each project containing 128 rows with 16 tracks per row.
Each track can contain
 - Step Sequencer Data:
- Track Triggers
- Track Parameter Locks (256 locks per track, that's 4 locks for every step of a 64 step pattern)
- Swing Triggers
- Slide Triggers
- Accent Triggers
- The Machine Type
- Machine Parameters
- Machine LFO settings.

1 Project holds the equivalent of 1 Machinedrum Snapshots (ie 8 banks of 16 patterns).

Switching projects is instant.

I'm expecting to release a new Beta with these features before Friday.

Beta forum and development news: http://www.justinvaler.com/mcl/forum

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Re:New MINICOMMAND Firmware.
Posted by dubathonic - 2013/04/29 23:06
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Now MC = MC++ Drive

:koolaid:

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Re:New MINICOMMAND Firmware.
Posted by vasculator - 2013/04/29 23:11
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wow. i'm impressed. never thought i would see this happen. nice work!

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Re:New MINICOMMAND Firmware.

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Nice :-)

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Re:New MINICOMMAND Firmware.
Posted by MK7 - 2013/04/30 05:14

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once the firmware makes sample handling easier (loading samples from sd card), I'm gonna join the party. that would be great! do you think it's possible?

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Re:New MINICOMMAND Firmware.
Posted by Justin Valer - 2013/04/30 11:08

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once the firmware makes sample handling easier (loading samples from sd card), I'm gonna join the party. that would be great! do you think it's possible?

It's definitely possible, but currently not a planned feature for MCL for a few reasons.

1) I have already exceeded the 61kb maximum program memory on the MiniCommand, meaning adding new features would require a considerable amount of recoding of the midi-ctrl framework (to reduce program size).

2) Sample loading via sysex is too slow (even with turbo midi) and therefore not suitable for live/realtime use. In addition, the MD tends to hang/freeze when the receiving a sample dumps whilst the sequencer is running.

3) I believe the +Drive is the best you're going to get for real time sample loading on the MD.

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Re:New MINICOMMAND Firmware.
Posted by MK7 - 2013/04/30 16:03

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Ok thx for the infos, looks like I need to dump more data into my +drive. Once the data are inside the box, the +drive is great , if it just wouldn't be so complicated to get it in there.

Nice work on the minicommand! I don't own one but enjoy observing what you're doing :)

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Re:New MINICOMMAND Firmware.
Posted by dubathonic - 2013/04/30 22:48

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@Moritz

One cool thing about the Plus Drive is that it's possible to switch samplebanks without stopping the sequencer. Not so with the snapshots' pattern data, but this new MC firmware essentially provides a workaround for that.

It might involve a bit of menu-diving during a liveset, but once the firmware is 100% it will conceivably be possible to load a bunch of new pattern data from the MC and then switch samplebanks as well, giving you access to virtually unlimited MD material with no flow interruption.

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Re:New MINICOMMAND Firmware.
Posted by MK7 - 2013/05/01 02:41

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Sounds promising. You're right, changing sample banks can be done during playback but not snapshots/pattern banks.

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Re:New MINICOMMAND Firmware.
Posted by Justin Valer - 2013/05/01 22:32
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MiniCommand Live BETA 2 is here!

Proud to present the latest version of MiniCommand Live with SDCard support.
The firmware is now shaping up to be what I had originally intended, some 4 weeks ago!

New Features:

- Unlimited Data Storage. (Data retained when powered off)
- Projects can be created and loaded from the SD-Card
- Grid expanded to 128 rows
(Each project has access to a 128x16 Grid. That's 2048 tracks per Project).
- Instant Project Loading (Maximum of 64 projects per SD-Card)
- Tracks can now have up to 256 parameter locks each.

Notable Bug Fixes:

- Display now correctly shows the character "||". (Using a custom glyph).
- Can now capture/write tracks located in slots above row 16.
- Parameter locks are stored correctly (including parameter locks of value 0)
- Parameter locks of existing track now erased correctly during write command.
- System Menu now working correctly.

Please visit the MCL webforum for the download link:

http://www.justinvaler.com/mcl/

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Re:New MINICOMMAND Firmware.
Posted by MK7 - 2013/05/02 03:29
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Great! maybe I should get a MC instead of MBrane..

Looks very professional with that forum dedicated to MCL.

EDIT: Does R&W still produce new MC units? if not, your developments will probably increase the price on the used market ;)

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Re:New MINICOMMAND Firmware.
Posted by Justin Valer - 2013/05/02 09:31
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R&W haven't produced the MC for some time and I am uncertain of how many were actually made.

If there is demand, I may investigate developing a DIY kit.

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