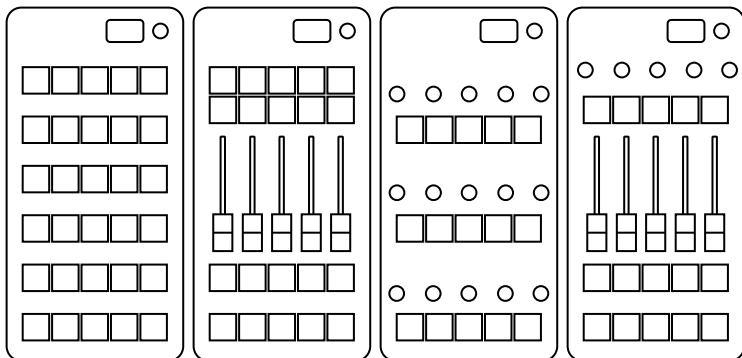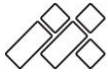# User manual

for MIDICRAFT.PUSH / FADE / TURN / MIX

version 1.2, as of January 2020

1.1. Warranty and product liability

1.2. Warranty

MIDICRAFT gives a warranty for verifiable material and manufacturing defects. This warranty is valid from the date of sale and is for 2 years for end users. For commercial customers the warranty is limited to 1 year. (see AGB)

Not covered by the warranty are defects in wearing parts that are due to normal wear and tear. Parts subject to wear and tear are in particular sliders, potentiometers, encoders, buttons and sockets.

Furthermore, the warranty does not cover any damage caused by incorrect or improper operation, excessive stress, mechanical or chemical influences, incorrect connections to other devices or use of the devices other than for their intended purpose. In addition, any warranty claim is void in the event of third-party intervention or unauthorized modifications.
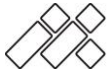
You should contact MIDICRAFT before returning the device. (info@midicraft.de)

In the event of a warranty claim, the customer takes the costs and risk of transport.

Since the operating instructions (in particular the safety instructions) enclosed with each device also affect the warranty, it is absolutely necessary to read carefully and observe the instructions given there.

1.3. Liability

For consequential damages, which are not based on intention or gross negligence by MIDICRAFT, any liability is excluded.

2. Operating, safety and care instructions

2.1. Operating environment

The device is only intended for the use described in this manual. Before use, carefully read all instructions and notes supplied with the unit.

The device is to be used exclusively in dry rooms within a temperature range of 0°C to 50°C. Operation in humid (washroom, swimming pool, etc.), or dusty environments, or in direct proximity to heat sources (radiators, oven, spotlights) is not permitted.

Furthermore, the device should not be exposed to direct sunlight.

2.2. Power supply

The devices may only be operated on a regular USB interface. For operation with a USB power supply, the correct voltage must be ensured (max. 5V). For damages caused by an external device, power supply or cable, any warranty is excluded.
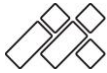
2.3. Mechanical influences

Avoid dropping the device or exposing it to other mechanical influences that are not considered "normal" operation. The housing as well as the operating elements can be damaged.

2.4. Foreign bodies and liquids

Do not allow objects or liquids to get inside the housing. Any warranty is excluded for damage caused by foreign objects or liquids.

If a device suffers liquid damage, disconnect the power supply immediately and dry the device thoroughly and with suitable means. In case of doubt, the device must be sent in for service before it is put into operation again.
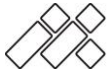
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2.5. Repair

A repair with the warranty remaining valid is only possible by MIDICRAFT. In case of a repair by a third party or own repair not authorized by MIDICRAFT the warranty claim expires. Spare parts (sliders, potentiometers, buttons, encoders and sockets) are available from MIDICRAFT. Simply get in touch. (info@midicraft.de)

2.6. Maintenance and cleaning

Only a dry, soft cloth or brush should be used for cleaning. Cleaning agents or water are not permitted for cleaning. Use of these will invalidate the warranty claim.

3. Scope of delivery

- Device
- USB-cabel
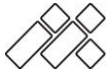- Termination Resistor
- A card with a link to the user manual

4. Introduction

Thank you for purchasing a device from MIDICRAFT.

With PUSH, FADE, TURN and MIX MIDICRAFT introduces a new series of high quality and modular midi controllers which have been developed especially for lighting applications. These devices, which are comparable to a professional lighting console in terms of haptics, are not only intended as an introduction for beginners, but also offer functions that make them interesting for professional use.

Features:

- Smooth faders
- RGB colored and tactile mechanical buttons
- Rubberized potentiometers
- Connect up to 16 devices with CAN Bus
- Extensive menu, no PC required for configuration
- Encoder with OLED display for configuration of the device
- 8 Presets incl. save/load function
- real midi interface (with adapter cable)
- Note/CC option for analog controls
- LUA-Script for GrandMA2
- RD/Showcockpit-Mode
- USB MIDI device
- USB bus-powered or USB PSU (min. 1A)
- Housing from wood an metal
- Dimensions (W x H x D): 130 x 40 x 260 mm

5. Connections

5.1. Connectors

The device has 3 connections:

1x USB

2x RJ45 jack

The USB socket is used for power supply and to send and receive Midi data from a PC/Mac.

Several MIDICRAFT devices can be connected to each other via CAN-bus using the RJ45 sockets. This is done with a RJ45 patch cable. In addition, a real Midi interface with DIN IN/OUT can be led outside via one of the two sockets and an adapter cable available as an accessory. (see section 5.3)

5.2. Connection via the optional adapter cable

For the connection to the Midi interface of a lighting console (e.g. GrandMA2) you need an optional available adapter cable (order number: 1001). Connect the RJ45 plug to the socket marked as Midi Out on the device. Then connect the Midi In plug to the Midi Out socket and the Midi Out plug to the Midi In socket of your light console. Now your light console receives Midi signals from the MIDICRAFT controller.

5.3. Connection of several devices via CAN-bus

To connect several devices to a larger user interface, you need an optionally available link cable per device connection (order number:1002). You can also use regular CAT patch cables. Always connect the input of one device with the output of the next. At the end of this chain you should connect one of the included 120 Ohm terminating resistors. Connect the first or last device to your

PC/Mac with a USB cable. All other devices should be powered by an optional USB power supply.
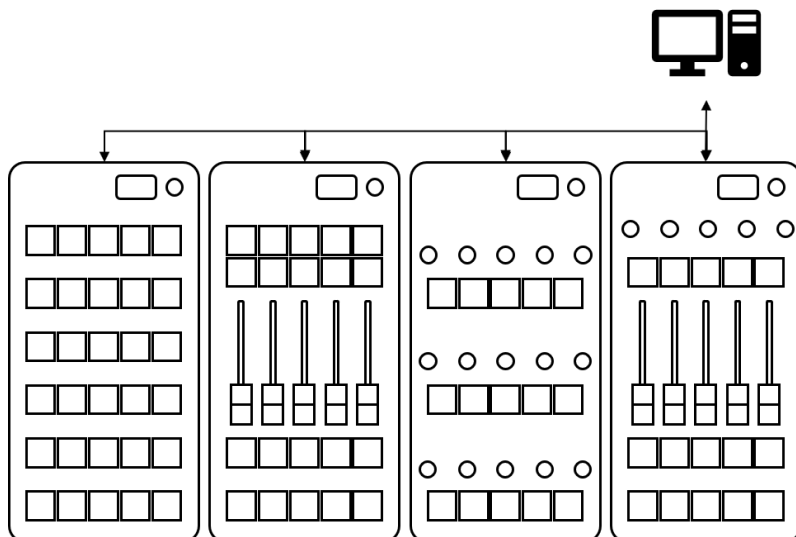
Afterwards you only have to activate the CAN bus link in the menu for one device (menü→settings→can-link→on). As soon as this device sends data to the bus, the link is automatically activated for all other devices. (See also section 10.2)

To use the Midi adapter cable, simply plug this into the link out of the last device instead of a terminating resistor.

Attention: When connecting via USB, only one device should be connected directly to the computer at a time. All other devices should be powered by USB power supplies. Otherwise Microsoft Windows may cause conflicts in the administration of the Midi port, because all devices have the same name.
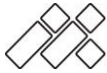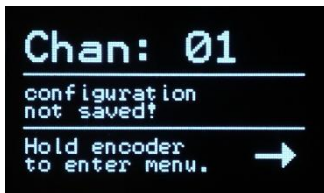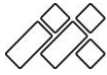
6. Menu

6.1. Home screen

The home screen shows you the most important information like the Midi channel of the device and the currently loaded preset.

The message "configuration not saved" means that your current configuration is not saved in a preset. It will still be saved when the device is turned on and off.
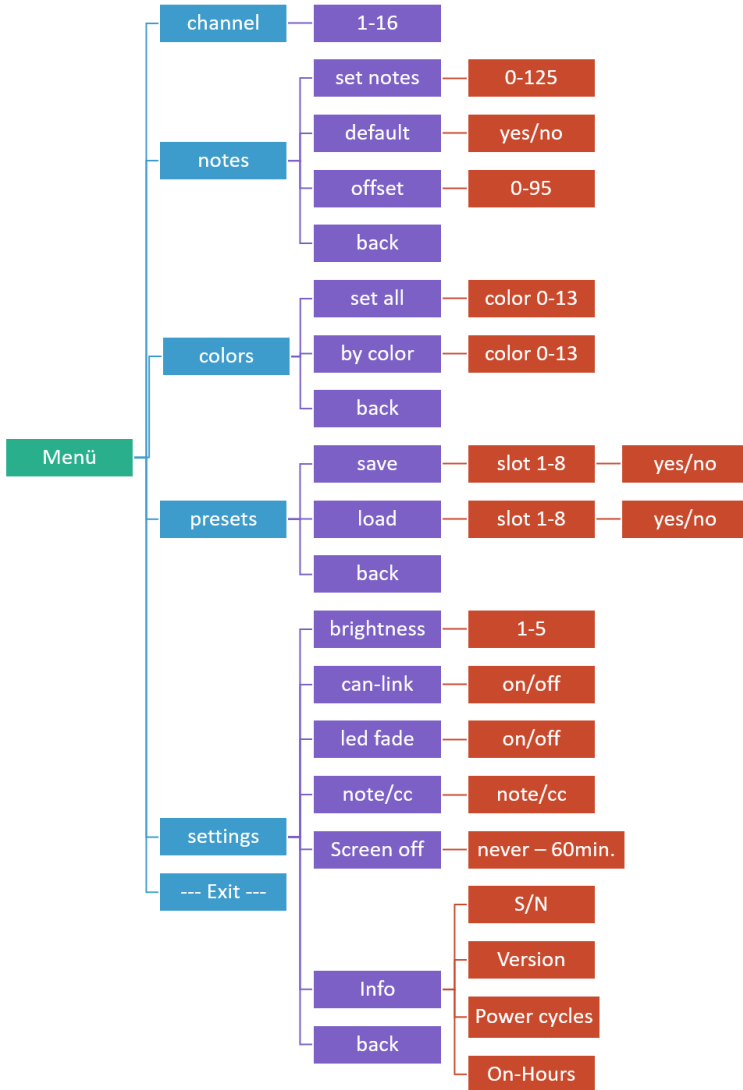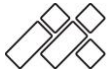

You can open the menu simply by pressing and holding the encoder for 2 seconds. You can navigate through the menu by turning or pressing the encoder.

6.2. Menu structure

```
Menü
├── channel ──────── 1-16
│
├── notes
│     ├── set notes ──── 0-125
│     ├── default ────── yes/no
│     ├── offset ─────── 0-95
│     └── back
│
├── colors
│     ├── set all ────── color 0-13
│     ├── by color ───── color 0-13
│     └── back
│
├── presets
│     ├── save ──────── slot 1-8 ──── yes/no
│     ├── load ──────── slot 1-8 ──── yes/no
│     └── back
│
├── settings
│     ├── brightness ─── 1-5
│     ├── can-link ───── on/off
│     ├── led fade ───── on/off
│     ├── note/cc ────── note/cc
│     ├── Screen off ─── never – 60min.
│     ├── Info
│     │     ├── S/N
│     │     ├── Version
│     │     ├── Power cycles
│     │     └── On-Hours
│     └── back
│
└── --- Exit ---
```

7. Midi settings

7.1. Set midi-channel

Go to the menu and select the item "Channel".

```
Chan: 01
Turn encoder to
change midi-channel.
Press encoder
to save & exit.  →
```

Then you can change the Midi channel by turning the encoder. By pressing the encoder you save your setting and leave the submenu..

7.2. Set midi notes

Go to the menu "midi notes". There you have three options to adjust the notes.

```
set notes
default
offset
back
```
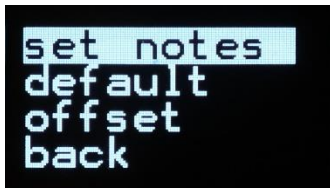
With "set notes" you can set the Midi note from a single control element. Simply press a button, move a fader or turn a potentiometer to edit the stored note.

```
button 00
note   012
Press encoder
to save & exit.  →
```
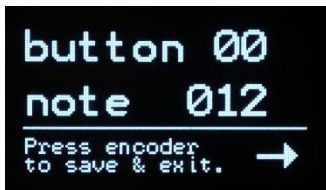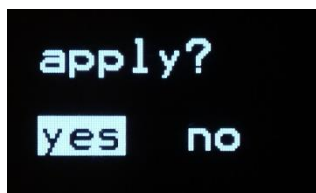
With "default" the notes are reset to the factory settings. If you open the menu by mistake, you can click "no" and leave it without any changes. The default note values are listed in the appendix.
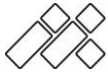
```
reset?
yes   no
```
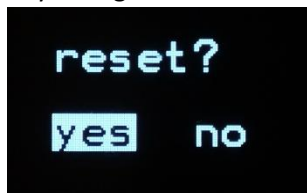
With "Offset", the notes are always increased by one note from top left to bottom right from the set value. Similar to a DMX start address.

```
Offset: 00
Turn encoder to set
the start midi-note.
Press encoder
to save & exit.  →
```

Again, you must confirm the change before it takes effect.

```
apply?
yes   no
```

8. Colour Settings

8.1. Colour selection

There are 13 colors + Off available, which you can set either directly in the menu or via Midi commands.
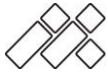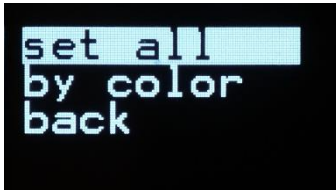
8.2. Setting colours in the menu

You can set the colors of the buttons directly in the device. This is helpful if your software does not offer the possibility to generate a midi feedback or you do not have time to set it up.

Just go to the menu "set color". There you have two options for setting the colors.

```
set all
by color
back
```

With the option "set all" you can set the color for all buttons at once. Rotate the encoder and select from the 13 colors + Off.

```
off
Turn encoder to
change the color.
Press encoder
to save & exit.    ➡
```

With the option "by color" you can select the desired color on the display and then press the buttons that should take this color.

```
off
Push button to assign
selected color.
Press encoder
to save & exit.    ➡
```
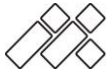
8.3. Setting colours over midi

You have the possibility to control the button color via Midi commands, e.g. directly from a software.

Which button you influence depends on the sent note. This is identical to the one you set for the button. The color, intensity or blinking behavior depends on the sent velocity.

For example (with factory settings) sending Midi note 0 with velocity 1 sets the button in the upper left corner to static dark in the color red.

8.4. Velocity Farben Zuordnung

velocity [dec] (hexadecimal)	Colour, intensity, flashing
0	Off
1-13 (1-D)	static dark: white, red, orange, yellow, yellow-green, green, sea green, cyan, lavender, blue, purple, magenta, pink
14 (E)	Off
15-27 (F-1B)	static bright: white, red, orange, yellow, yellow-green, green, sea green, cyan, lavender, blue, purple, magenta, pink
28 (1C)	Off
29-41 (1D-29)	flashing between bright and dark: white, red, orange, yellow, yellow-green, green, sea green, cyan, lavender, blue, purple, magenta, pink
42 (2A)	Off
43-55 (2B-37)	flashing between dark and off: white, red, orange, yellow, yellow-green, green, sea green, cyan, lavender, blue, purple, magenta, pink
56-123	Not used
124 (7C)	flashing between bright and dark: Colour set in the menu
125 (7D)	flashing between dark and off: Colour set in the menu
126 (7E)	static dark: Colour set in the menu
127 (7F)	static bright: Colour set in the menu

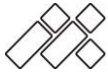## 8.5. Combination of manual colors and midi feedback

In the velocity range 124-127 you have the possibility to manipulate the manually set color on the device via Midi. This helps you if your software can only generate on/off feedback, for example.

Simply set the color of the key manually in the menu item "set color" and let the activity of the stored function be displayed via the Midi feedback (e.g. bright/dark corresponds to velocity 127/126) of your software.

8.6. GrandMA 2 LUA-Script

According to the midi feedback described above, the LUA script available for the GrandMA2 OnPC and lighting consoles works. You have to set the color manually and the activity feedback for assigned executors is implemented via the plugin and midi signals.

You can find the script on www.midicraft.de/support under the category Downloads.

8.7. RD/Showcockpit

If you do not want to take care of the assignment of functions and colors yourself, use the program RD/Showcockpit. Here you can link the MIDICRAFT controllers intuitively with many other applications.

If you start the MIDICRAFT driver in RD/Showcockpit, your controller will automatically be put into "SC-Mode".
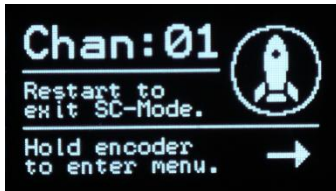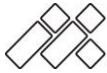

Here you have only the settings in the menu that you need for use with RD/Showcockpit.

You can connect the devices as usual via CAN-bus. The addressing works via the Midi channels.

To leave the "SC-Mode" you have to switch your device off and on once.

9. Presets (slots)

There are 8 preset slots available for saving settings. There is also a hidden slot that always contains the current configuration. So your settings are always safe, even if you disconnect the device from the power supply without saving.

A preset always contains the current midi notes and color settings of the keys. The Midi channel is not part of the preset.
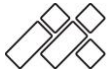
9.1. Save and load a preset

Go to the menu item "preset" and select "save" there. Now you have to select one of the 8 slots in which you want to save the current configuration.
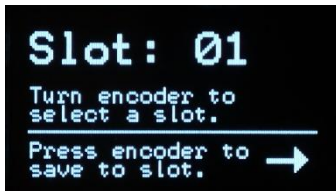
Confirm the input with "yes", if you accidentally hit save, just select "no" and the menu will be left without changes.
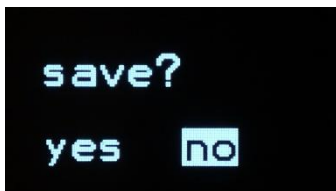
A preset is loaded via the menu item "load".

9.2. Change presets (slots) via Midi commands

You can change the active slot via Midi commands. This can be done via Midi note 127 (hexadecimal:7F). With the velocity you either select the slot directly or send a "slot up" or "slot down" command.
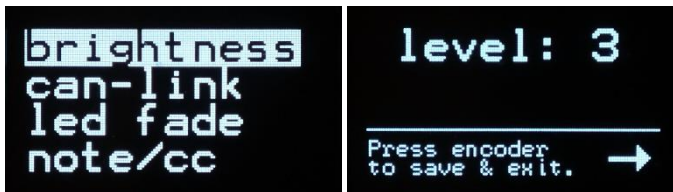
velocity [dec] (hexadecimal)	Slot command
1	Slot 1
2	Slot 2
3	Slot 3
4	Slot 4
5	Slot 5
6	Slot 6
7	Slot 7
8	Slot 8
126 (7E)	Slot up
127 (7F)	Slot down

10.   Settings Menu

Global settings can be made under the "settings" item in the menu.

10.1.   Button brightness levels

Under the item "brightness" you can adjust the brightness of the buttons in 5 levels. The factory setting is brightness level 3.
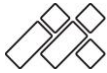
10.2.   CAN-link options

Under the item "can-link" you can choose whether the controller should also send messages to other controllers via CAN bus. For this to work, the device must be connected to another device as described in section 5.4.
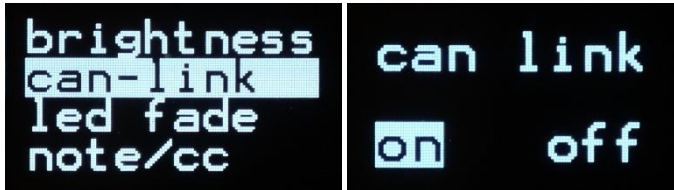
The link only needs to be activated for one device. All other devices activate it automatically as soon as they receive data on the CAN bus.

If the CAN link is activated and no other device is connected, a "link error" occurs. The device then deactivates the CAN link automatically. You must confirm the error by pressing the encoder. Establish the connection to another device and repeat the activation.
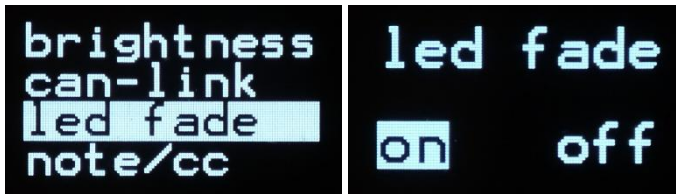
10.3.   Button fade time

You can set a fade time for intensity and color changes of the buttons.

Decide for yourself if you want to activate the LED fade or not. This setting is activated by default.

10.4.   Global Note/CC option

Since some programs (like GrandMA2 OnPC) only accept Midi notes and no CC values, you can make a global selection here for all analog (fader, potentiometer) controls.
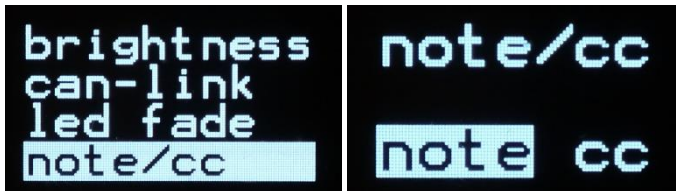
10.5.　　Screensaver

You can set the display to turn black after a certain time. This can help to prevent the start screen from burning in. The time can be selected in the range from Never to 60 minutes.

10.6.　　Informations about the device

In the menu item "info" you will find general information about the device. In addition to the serial number and software version you will also find information about the power cycles and an hour counter (On-Hours). These are important information to ensure a competent service.
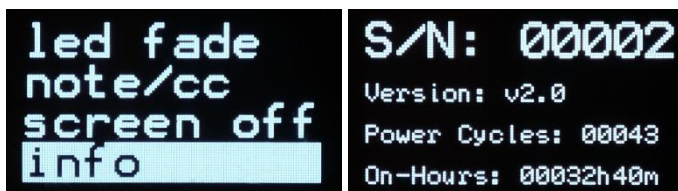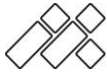
11.   Quickstart GrandMA2 OnPC

In this chapter all necessary steps for setting up the MIDICRAFT controllers with GrandMA2 OnPC are briefly explained.

Step 1:

Connect your controller to the PC via USB. If you use multiple devices with the CAN link, make sure that only one device is connected to the computer and the other devices have their own USB power supply. Otherwise there may be conflicts within the Midi port management of Microsoft Windows.

Step 2:

Start GrandMA2 OnPC and select the MIDICRAFT controller from the Midi In/Out Device options.

Step 3:

Under Setup→Remote Input Setup→Midi Remotes assign the appropriate executor to the notes of your MIDICRAFT controller.
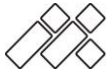
Step 4:

Set the colors in the menu to match the colors of your assignment in GrandMA2 OnPC

Schritt 5:

Launch the LUA plugin. (Available on www.midicraft.de/support)

If you need to adjust the colors of your controller, repeat steps 4 and 5.

Tip: If the faders/pots do not work, you will most likely have to select Note under Settings→Note/CC , because GrandMA2 OnPC can only process velocity notes. **For automatic integration including page change MIDICRAFT recommends the use of RD/Showcockpit!**

12.   Quickstart GrandMA2 Lichtpulte

In this chapter all necessary steps for setting up MIDICRAFT controllers with GrandMA2 lighting consoles are briefly explained.

Step 1:
Use the optional Midi adapter cable and connect the Midi Out of your device to the Midi interface of your light console. If you have connected several devices to the CAN link, use the Midi Out of the last device.

Step 2:
Under Setup→Remote Input Setup→Midi Remotes assign the appropriate executor to the notes of your MIDICRAFT controller.
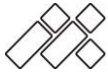
Step 3:
Set the colours in the menu to match the colours of your assignment on your GrandMA2 light console.

Step 4:
Launch the LUA plugin. (Available on www.midicraft.de/support)

If you need to adjust the colors of your controller, repeat steps 4 and 5.

Tip: If the faders/pots do not work, you will most likely have to select Note under Settings→Note/CC , because GrandMA2 OnPC can only process velocity notes.
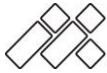
13.   Quickstart GrandMA3 OnPC

Currently the function to select a Midi input in GrandMA3 OnPC is still disabled. But there is already an extensive OSC interface available.

For using GrandMA3 OnPC MIDICRAFT recommends the use of RD/Showcockpit!

14. Quickstart Dot2 OnPC

In this chapter all necessary steps for setting up the MIDICRAFT controllers with Dot2 OnPC are briefly explained.

Step 1:
Connect your controller to the PC via USB. If you use multiple devices with the CAN link, make sure that only one device is connected to the computer and the other devices have their own USB power supply. Otherwise there may be conflicts within the Midi port management of Microsoft Windows.

Step 2:
Start Dot2 OnPC. **Attention: Dot2 OnPC supports only one Midi channel. Please use the offset function to arrange several MIDICRAFT controllers in the note range 0-127.**
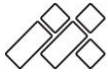
Step 3:
Under Setup→Remote Input Setup→Midi Remotes assign the appropriate executor to the notes of your MIDICRAFT controller.

Step 4:
Set the colors in the menu to match the colors of your assignment in Dot2 OnPC. Feedback is currently only possible via RD/Showcockpit.

Tip: If the faders/pots do not work, you will most likely have to select Note under Settings→Note/CC , because GrandMA2 OnPC can only process velocity notes. **For automatic integration including page change MIDICRAFT recommends the use of RD/Showcockpit!**

15. Quickstart Hog4

Note: To use Hog4PC with USB/MIDI, an ETCnomad USB stick or official Hog4 hardware is required. Please refer to your Hog4 user manual in advance.

The MIDICRAFT controllers are already successfully used by testers with Hog4. As soon as more information about the interaction is available, this page will be updated.

16.   Quickstart Chamsys Magic Q

No information is yet available for this application.

For Chamsys Magic Q MIDICRAFT recommends the use of RD/Showcockpit.

17.   Quickstart Lightjockey 2

No information is yet available for this application.

For Chamsys Magic Q MIDICRAFT recommends the use of RD/Showcockpit.

18.   Quickstart Chroma Q Vista
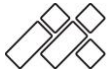
No information is yet available for this application.

For Chamsys Magic Q MIDICRAFT recommends the use of RD/Showcockpit.

19.   Quickstart Elation Onyx

No information is yet available for this application.

For Elation Onyx MIDICRAFT recommends the use of RD/Showcockpit. Note: The driver is only available up to Onyx version Onyx v4.2.1057.0. All newer versions of Onyx have no support for external communication.
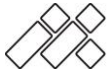
If you have questions why, please contact Elation directly and not MIDICRAFT or RD/Showcockpit.

20.   Quickstart Resolume Arena

No information is yet available for this application.

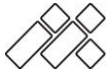**For Resolume Arena MIDICRAFT recommends the use of RD/Showcockpit.**

21. Appendix

Here you can find different midi charts for your MIDICRAFT device.
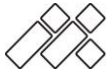The midi notes are shown in decimal and hexadecimal.

21.1.   Default Note Assignment .PUSH

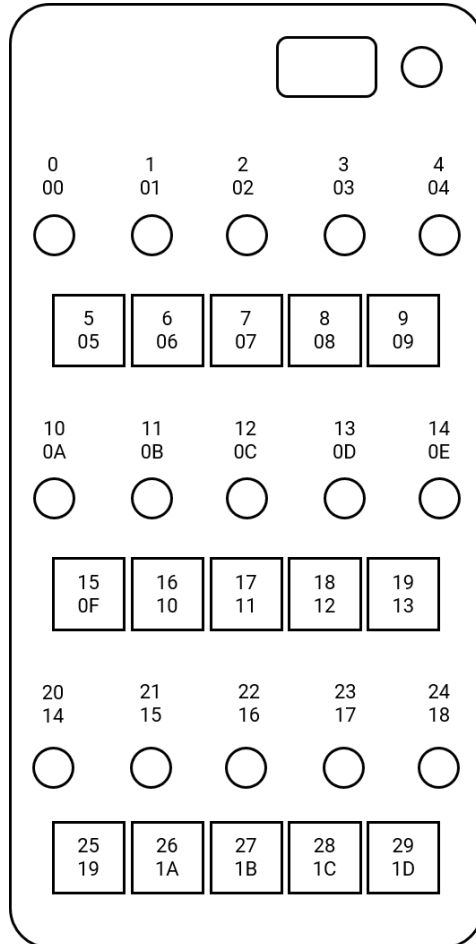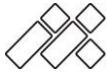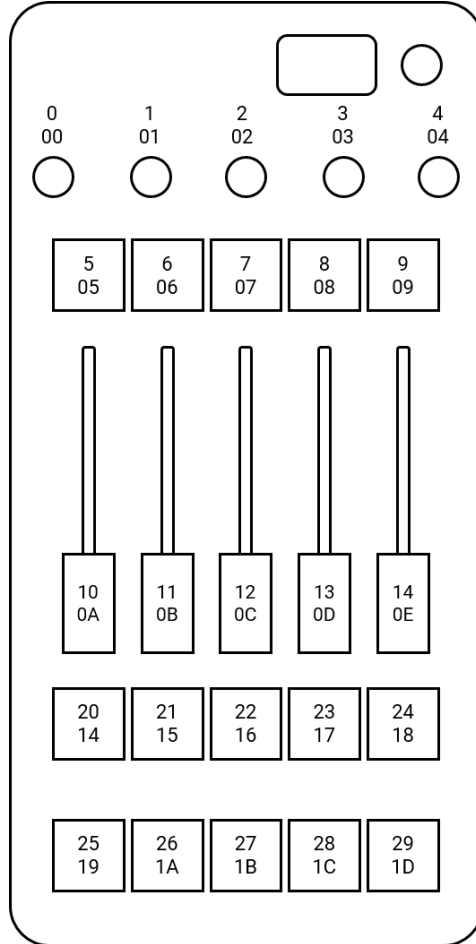|				
0 00	1 01	2 02	3 03	4 04
5 05	6 06	7 07	8 08	9 09
10 0A	11 0B	12 0C	13 0D	14 0E
15 0F	16 10	17 11	18 12	19 13
20 14	21 15	22 16	23 17	24 18
25 19	26 1A	27 1B	28 1C	29 1D

21.2. Default Note Assignment .FADE
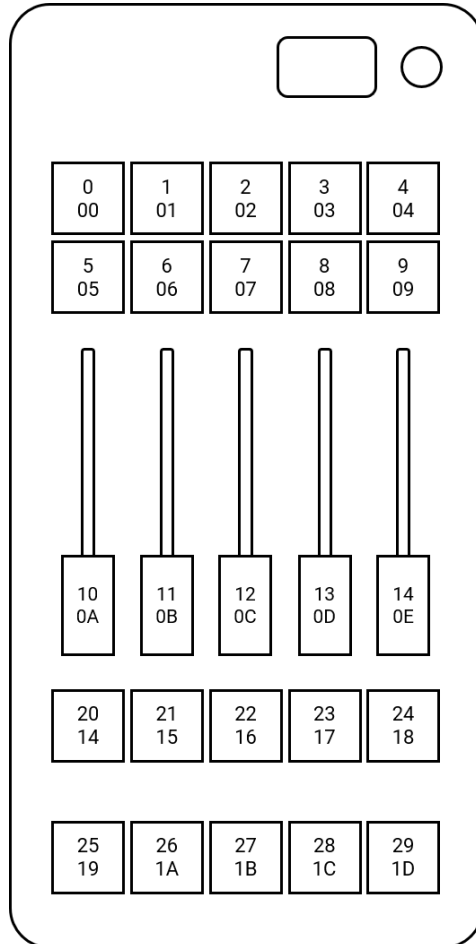
21.3. Default Note Assignment .TURN

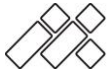## 21.4. Default Note Assignment .MIX

22. FAQ

Here you will find answers to frequently asked questions.

What software are the devices compatible with?

As long as the software has the possibility to receive Midi notes and assign functions, the devices will work with them.

The Midi feedback for LEDs only works as long as your software can output the corresponding Midi commands.

Do you already know RD/Showcockpit? With this it is very easy to connect the MIDICRAFT controllers to different programs like GrandMA2 and 3.

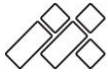**Are the devices compatible with my light console?**

As long as your light desk has the ability to receive Midi notes and assign corresponding functions, the devices will work with them. You can connect them either via USB (e.g. on the Hog 4) or via the Midi adapter cable available in the shop to a MIDI Din interface.

For the GrandMA2 you can find a LUA script in the Support>Downloads section, which returns LED feedback to the controllers.

What kind of midi notes do the devices output?

The buttons send a NoteOn with velocity 127 when pressed and a NoteOff with velocity 0 when released.

The faders and potentiometers send velocity notes or CC values with a value from 0 to 127. In the menu item "Settings" you can select for all analog controls which note type should be sent. (See section 10.4)

Can I control the colors of the LEDs via Midi?

Yes, it is possible to control color, intensity and automatic flashing of the LEDs via MIDI. Just refer to section 8 of this manual.