



index

1. Common info	2
2. SysEx/LCD message functions	3
3. Main keyboard & selection functions	5
4. Edit mode functions for controls (F1 / F2)	7
5. Edit mode functions for panel (F3).....	12
6. Software Resources	14



1. Common info

Command line display ID

When starting DoMidi you can add a number as command line parameter. This number will be the display ID to identify multiple DoMidi windows. When omitted it defaults to "1".

How does DoMidi align the controls?

When DoMidi is started it aligns the different controls on the window panel in a grid. The grid (which you can't see) exists of 2 or more columns and 2 or more rows. DoMidi fills this with controls from left to right and from high to low.

Control types

The controls that can be used within DoMidi are:

	Function	Sends MIDI OUT	Reads MIDI IN
Switch Button	toggle MIDI Note On/Off	Yes	Yes
Touch Button	sends MIDI Note On	Yes	Yes
Display	show contents of SysEx/LCD messages		Yes
Empty	<i>fill up empty space in grid</i>		
Label			
Slider	MIDI control change	Yes	Yes
Rotary	MIDI control change	Yes	Yes

MIDI connection between DoMidi and other applications

For DoMidi to communicate with another MIDI software application (say Hauptwerk) DoMidi's OUT port needs to be attached to the other application's IN port. And the other way around. This can be done *physically* by interconnecting 2 audio devices.

It also can be done *virtually*, which is much easier and won't need any audio devices. There are several (free) applications on the internet which can do this. The best we could find is loopMIDI from Tobias Erichsen:

> <http://www.tobias-erichsen.de/software/loopMIDI.html>

With loopMIDI you can create 2 ports, name them "DoMidi IN" and "DoMidi OUT" and select them as IN and OUT ports in DoMidi (see how below). In the other application (say Hauptwerk) set "DoMidi OUT" as IN port and "DoMidi IN" as OUT port. Then you have a cross-link between DoMidi and the other application.

2. SysEx/LCD message functions

Sending MIDI SysEx/LCD messages to DoMidi display

A display control in DoMidi can show MIDI SysEx/LCD messages. Therefore a SysEx/LCD message needs to be sent to the MIDI IN port of DoMidi. This message needs to be in the following byte format:

1st	2nd	3rd	4th	5th	6th	7th and further	last
F0	<xx>	<xx>	<id>	<xx>	<xx>	<message>	F7

The 4th byte contains the display id/number. If a display control in DoMidi matches this id/number it will show <message>. If the message is exactly 32 characters, it will be automatically splitted in 2 lines of 16 characters.

Bytes with <xx> are ignored.

To set this up for **Hauptwerk**'s default status display:

- Start Hauptwerk
- Go to [General settings] > [Advanced MIDI applications] > [MIDI LCD panel control for loading ...]
- Press [Insert]
- Set "LCD panel hardware ID" to match display id/number in DoMidi

Trigger switching DoMidi layout with SysEx/LCD message

The preceding paragraph tells you how to send SysEx/LCD messages to DoMidi. The last possible display id/number (id 128, dec 127, hex 7F) is reserved in DoMidi for sending a layout/instrument name to DoMidi. By default DoMidi starts with loading the "Default" layout-file. If DoMidi receives a SysEx/LCD message with id/number 128, it will switch to the given layout/instrument name. If a matching layout-file exists it is automatically loaded. If the given layout-name is invalid or empty, DoMidi will load the "Default" layout.

When using **Hauptwerk** you can use this function to auto-load different DoMidi layouts when loading a different sampleset in Hauptwerk:

- Start Hauptwerk and load the sampleset you want to use in DoMidi
- Go to [Organ settings] > [Advanced MIDI applications] > [MIDI LCD panel control (for this organ) ...]
- Press [Insert]
- Set "MIDI OUT port" to "DoMidi IN"
- Set "LCD panel hardware ID" to "LCD 128 (ID dec 127, hex 7F)"
- Set "Display info/format for LCD line 1" to "... (fixed, user-defined label text)"
- Set "Display info/format for LCD line 2" to "... (leave line blank)"
- Set "Fixed label/prefix text for LCD line 1" to whatever layout name you want to use in DoMidi
Layout name may only consist of the characters "a..z", "A..Z", "0..9", "_", "-" and "."



Do the following to register the sampleset/layout-name in DoMidi as a specific layout:

- Start DoMidi
- Reload the sampleset in Hauptwerk
DoMidi now should show in its title bar that it switched to the different layout name
- Change the layout as you like
- Use **Ctrl + F6** to save the layout file



3. Main keyboard & selection functions

When DoMidi is running and it's window has focus (click it ones) you can use the keyboard to control/program DoMidi with the following commands:

- | | |
|-------------------|--|
| Alt + F4 | exit DoMidi |
| Ctrl + F5 | reload current control layout file |
| Ctrl + F6 | save current control layout file |
| Ctrl + F9 | exit DoMidi and start next time in different screen mode (full screen or windowed) |
| Ctrl + F11 | save application settings
<i>window size/position, always on top, mouse cursor, full screen, license info and MIDI-ports</i> |
-

- | | |
|---------------------|---|
| Ctrl + F + L | open a control layout file with file explorer
<i>if a layout file with wrong display number, DoMidi corrects it automatically</i> |
| Ctrl + H | open the Default layout, while a specific layout is shown |
| Ctrl + P | send a MIDI "ping signal" (NoteOn) on highest channel (16) and number (128) |
| Ctrl + T | minimize DoMidi to taskbar |
-

- | | |
|-----------|--|
| F1 | enter Mixed program mode
In this program mode you can select controls in mixed order with right mouse click.
To exit Mixed program mode press F1 again. |
| F2 | enter Type program mode
In this program mode you can select all controls of the same type at ones with right mouse click.
To exit Type program mode press F2 again. |
| F3 | enter Panel program mode
This mode is for changing common panel and layout settings.
To exit Panel program mode press F3 again. |

You can switch from one program mode to the other, without exiting the current program mode. So when in Type program mode (F2) press F1 to switch to Mixed program mode.



Selecting controls for editing

When entering Mixed (F1) or Type (F2) program mode you can select one or more controls that you would like to change. Selecting a control (in program mode) is done by clicking it with the **right mouse button**. When selecting a control the border will turn pink. When dragging while right mouse button is clicked, all controls you point at will be (de)selected.

You can also use following keyboard command for selecting controls:

Ctrl + A **select all controls**

Ctrl + I **inverse selection**

4. Edit mode functions for controls (F1 / F2)

When you are in program mode for controls (**F1** or **F2**) and you have selected one or more controls you can use the following edit mode functions for changing control properties.

Tip!

When your keyboard has a numeric part and Num lock is on, you can use the arrow keys on your numeric part instead of the normal keyboard arrows. DoMidi translates the numbers 2, 4, 6 and 8 to be read as arrows (if possible). The benefit of this is that you can use character repetition (when keeping key pressed), which is not possible with regular arrow keys.

Also for some settings the use of numbers 1, 3, 7 and 9 is available to point corners and directions, like with Ctrl + B and Ctrl + F (option P).

Ctrl + 1 **change background color**

Ctrl + 2 **change front color**

Ctrl + 3 **change slot color** *(used for slider and rotary)*

When one of above color Edit modes is entered you can change a color by the pressing one of the following keyboard combinations:

<i>key #1</i>	<i>property</i>		<i>key #2</i>	<i>value change</i>
A	alpha (transparency)	+	↓ / ↑	-1 / +1
R	red		← / →	-5 / +5
G	green		- / +	-40 / +40
B	blue			

Example: **R + ↑** will increase red intensity with 1.

Ctrl + 4 **change background image filename (max 250 kB)**

<i>key</i>	<i>value change</i>
backspace	remove characters at the end
all chars	add characters at the end (max 128)
Alt + 1	opens file explorer to select image file

The image needs to be located in the /data folder where DoMidi is installed. If DoMidi can find the image file it is loaded automatically. DoMidi also looks for a second file with the "On" at the end of the filename (e.g. "Button**On**.png"). If such an On-image exists it also will be loaded and used when the control is active (only for Buttons and Sliders).

Ctrl + 8 change trigger show state (only in Default layout)

key	value change
O	trigger state (on / off)
T	trigger id (1 .. 4)
S	hide state (blur / hide)

When a layout is loaded (from file) it can show/hide/blur controls within the Default layout. This can be set within any layout (also the Default layout itself) with 4 separate triggers (see Edit Panel mode function Ctrl + 8, next chapter).

With above settings a control within the Default layout can be set to react on one of these Panel triggers (trigger state on + set trigger id) and how it should react (show when trigger is on, and hide or blur when trigger is off).

Ctrl + B change border & corners

key	value change
↓ / ↑	corner bend -5% / +5%
← / →	border weight -1 / +1
C	toggle border color to be equal to front or background color
1, 3, 7, 9 ↙, ↘, ↖, ↗	switch rounded or straight corners (convenient via numeric part of keyboard, see tip at beginning of this chapter)

Ctrl + D change dimension

key	value change
↓ / ↑	height -5% / +5%
← / →	width -5% / +5%

Ctrl + E erase controls

key #1	control type		key #2	function
B	switch button	+	-	erase
D	display			
E	empty			
L	label			
R	rotary			
S	slider			
T	touch button			

Example: L + "-" will erase all selected Label controls.

Ctrl + F change font

key	value change
↓ / ↑ / 5	font size -2% / +2% / 50%
⇐ / ⇒	toggle font family *
- / +	line height -10% / +10%

* You can add your own TrueType font files (.ttf) to the /fonts folder (or subfolders) of DoMidi. At startup DoMidi will automatically read these files and you can select it with this option.

key #1	property		key #2	value change
P	position / alignment	+	1 .. 9	all directions
			5	center
S	shifting	+	1 .. 9	all directions
			5	base

Directions with option P and S are easy to set when using the numeric part of the keyboard, if available. See tip at beginning of this chapter.

Ctrl + K change button options

key	value change
T	toggle type: switch / touch
F	toggle special function:
	- none
	- show Default layout
	- show Background layout
	- execute (external) command/script (see Ctrl + X)
	- after 0.1 sec. extra MIDI On pint on channel 16, nr. 121 .. 127
	- minimize DoMidi to taskbar

Ctrl + L change slider options

key	value change
↓ / ↑	button height -2% / +2%
⇐ / ⇒	slot width -1% / +1%
V	show value (hide / 1..128 / % / 0..10 / 0..100)
O	orientation (vertical / horizontal)

Ctrl + M change MIDI parameters

key	value change
↓ / ↑	MIDI pitch (number) -1 / +1
⇐ / ⇒	MIDI pitch (number) -10 / +10
- / +	MIDI channel -1 / +1

Ctrl + P **change position** *(will only work if one control is selected)*

key	value change
↓ / ↑	move up / down
⇐ / ⇒	move left / right

Ctrl + R **change rotary options**

key	value change
↓ / ↑	button radius -2% / +2%
⇐ / ⇒	button width -10% / +10%
- / +	slot width -1% / +1%
S	button style: arc / chord / pie
V	show value (hide / 1..128 / % / 0..10 / 0..100)

Ctrl + S **change span**

key	value change
↓ / ↑	increase / decrease cellspanning downwards
⇐ / ⇒	decrease / increase cellspanning rightwards

Ctrl + T **change text**

key	value change
backspace	remove characters at the end
all chars	add characters at the end (max 256)

With keyboard codes you can also type special characters, like “ + e makes ë, and Alt + 225 makes ß. Besides there are some text codes you can use, which will automatically be converted to certain symbols:

arrows

[l] ◀	[r] ▶	[u] ▲	[d] ▼	[lc] «
[la] ⇐	[ra] ⇒	[ua] ↑	[da] ↓	[rc] »
[lb] ←	[rb] →	[ub] ↗	[db] ↘	

audio

[stop] ■	[record] •	[rec] ?	(=bigger rec. dot)
[play] ▶ (when off)	■ ■ (when on)		

menu

[menu] ≡	[gear] ⚙	[h] ☐
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notes

[n1] ♪	[n2] ♪♪
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fractions

[1/2] ½	[1/3] ⅓	[2/3] ⅔	[1/4] ¼	[3/4] ¾
---------	---------	---------	---------	---------



Ctrl + U unify controls

When this key combination is pressed, all styling properties of the first selected control (most up / left) will be copied to all the other selected controls. Functional properties, like MIDI pitch won't be changed.

This function is very handy when you add new buttons (or any other control) and want them to look exact the same as the buttons you already have. Just select one of the existing buttons and the new buttons, and after that type <Ctrl> + U.

Ctrl + X change execute command

key	value change
backspace	remove characters at the end
all chars	add characters at the end (max 256)

The external program or script needs to be located in the /data folder. This command will only work with a Button. And for this button the function has to be set to "execute command", see Ctrl + K.

5. Edit mode functions for panel (F3)

In Program mode for panel (F3) you can use the following edit mode functions for changing common properties. Some of these properties are common application properties (marked with *), all other are common layout properties.

Ctrl + 8 set layout triggers

key	value change
1 .. 4	trigger state (on / off)

When a layout is loaded (from file) it can show/hide/blur controls within the Default layout. This can be set within any layout (also the Default layout itself) with 4 separate triggers.

Here you can turn these 4 triggers on or off. The effect of it can be set for each control in within the Default layout, see previous chapter, option Ctrl + 8.

Ctrl + 9 change background color

key #1	property		key #2	value change
R	red	+	↓ / ↑	-1 / +1
R	green		⇐ / ⇒	-5 / +5
G	blue		- / +	-40 / +40

Works the same as changing control color properties. See previous chapter, option Ctrl + 1.

Ctrl + 0 change background image filename (max. 5 MB)

key	value change
backspace	remove characters at the end
all chars	add characters at the end (max 128)
Alt + 1	opens file explorer to select image file

Ctrl + G change grid

key #1	property		key #2	value change
C	cell quantity	+	↓ / ↑	vertical -1 / +1
			⇐ / ⇒	horizontal +1 / -1
M	cell margin	+	↓ / ↑	vertical +2 / -2
			⇐ / ⇒	horizontal -2 / +2

Ctrl + K **change license name (*)**

Ctrl + L **change license code (*)**

<i>key</i>	<i>value change</i>
backspace	remove characters at the end
all chars	add characters at the end

Ctrl + M **change MIDI parameters (*)**

<i>key #1</i>	<i>property</i>		<i>key #2</i>	<i>value change</i>
I	MIDI input device	+	← / →	toggle
O	MIDI output device			

Ctrl + N **add new controls**

<i>key #1</i>	<i>control type</i>		<i>key #2</i>	<i>function</i>
B	switch button	+	+	add
D	display			
E	empty			
L	label			
R	rotary			
S	slider			
T	touch button			

Example: **D + “+”** will add a display control.

Ctrl + O **change common options (*)**

<i>key</i>	<i>value change</i>
C	cursor (none, arrow, hand, cross)
F	fullscreen (yes, no) <i>only effective after restart</i>
T	window always on top (yes, no)

6. Software Resources

Processing

DoMidi is built with Processing, a neat and versatile development environment to built visual Java applications quite easily. For more information about Processing, visit their website:

<https://processing.org/>

The MidiBus

DoMidi makes use of a free available package for interacting with MIDI system resources. This packes is named The MidiBus and is created by Severin Smith. You can find more information about this package on the following internet address:

<http://www.smallbutdigital.com/projects/theMidiBus/>

Other components

For more information about all included components, licenses, terms, sources, credits see the license note "LICENSE.txt". This is located in the installation folder en also online available:

<https://www.DoMidi.nl/uploads/DoMidi/LICENSE.txt>

loopMIDI

For connecting DoMidi *virtually* (without hardware) with other applications (like Hauptwerk) we recommend using loopMIDI. For more information and download you can visit the following internet address:

<http://www.tobias-erichsen.de/software/loopMIDI.html>