

## ***Miditech MTB Command USB***

### ***"Class Compliant" USB MIDI Controller***



***Works with WinXP and Vista without drivers***

***Uses "Mackie Control" standard***

***(faders, solo-buttons and transport controls are already dedicated in DAW mode)***

***DAW-transport control with jog shuttle function***

***Compatible to popular software-sequencers like Sonar, Cubase etc.***

***PC function-buttons Ctrl,Alt,Arrow-keys,A-Z,0-9 and F1-F12 programmable***

***Windows XP editor software coming soon***

***USB MIDI interface, USB powered***

***8 free programmable knobs, 9 free programmable 60 mm faders***

***8 free programmable function-buttons, double functions via A/B switch***

***Breath-controller input***

***MIDI In/Out for standalone function***

***Totally standalone programmable via LCD Display***

***Internal memory for storing user setups, firmware updates via USB possible***

***MIDI activity LEDs, optional power supply necessary for stand alone function***



***Magix Samplitude SE recording software included***

***Typical Applications: DAW command and transport control***

***BreathController for Live Play***

***Programmable controller for VST Instruments***

# ***Operating Instructions MTB V.1.0.0***

Many thanks for choosing the Miditech MTB Command USB controller. You can now digitally control audio workstation software in a simple and intuitive way, the MTB Command is compatible with popular software that supports "Mackie Control" standard with MTB Command. It is also possible to edit fader knobs and messages, and to store user settings on one of the 8 internal memory locations. These can then be adapted for use with most MIDI software, keyboard, or synthesized signal generators all controlled through this one unit. Some customizations are already included within the device, more can be downloaded from our homepage at [www.miditech.de](http://www.miditech.de). In the course of these operation instructions we will give some guidance for the installation, functions of the MTB Command and use of the program.

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## ***1. Introduction, safety notes, contents and preparation for use.***

### ***Safety notes***

#### ***Warning:***

To prevent risk of personal injury by fire or electric shock, the case must not be opened. Repair work may only be carried out by a qualified technician.

To avoid damage to the device, it must not be exposed to any kind of liquids including rain or high humidity.

Ensure the USB cable is not kinked or exposed to sharp edges. Please report any defects or malfunctions to the supplying dealer.

## **Contents:**

MTB Command - USB cable - operation instructions - CD Magix Samplitude SE

## **Preparation for use:**

Place the MTB Command on a firm level surface such as a table or shelf.

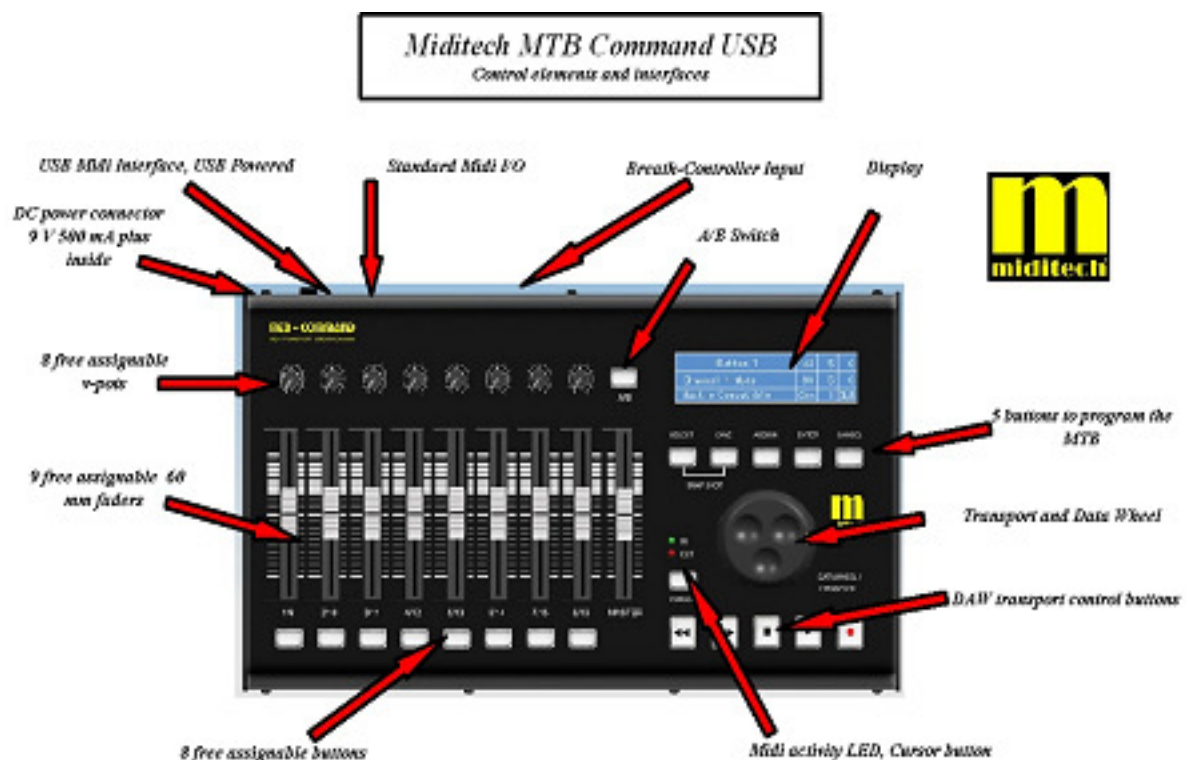
The USB cable provides the power supply and feeds both MIDI and PC Key data for the computer. A DC power supply of 9V, 500 mA with a polarity of plus to tip and minus to sleeve can optionally be used to supply power (not included in contents). This is required only in a "Stand Alone" situation where a computer is not used. Ensure the power supply has the correct specifications and the correct polarity. If in doubt, check with your supplier.

## **2. Installation and system requirements**

Connect the MTB Command to an available USB port on your computer with the USB cable provided. If the PC is running, switch the MTB Command on with the power switch.

As the MTB Command is a "Class Compliant" device, you do not need to install special software drivers. Windows XP and Vista will automatically recognize the new device and establish it as "USB audio equipment" within the system. Once established it is ready to start use. Should you have previously used other USB audio equipment on this same USB port, it is advisable to choose another USB port that has never previously had audio equipment installed. This ensures that an MTB Command "exclusive" is established at this port. For all future use of the MTB, always connect to this same USB port. The MTB device uses hardly any PC resources as it will only transfer MIDI and PC key data.

## **3. Elements of the MTB Command**



## **4. MTB for the beginner**

What does the MTB do? The MTB is a universal MIDI remote control device to cover all aspects of MIDI, in two different ways by remote control:

**1/** a stand alone controller for controlling hardware MIDI devices, synthesizers and expanders. With the integrated panel and display these types of devices can be programmed without the use of a computer. The built-in breath controller connection is an airtight seal for the tube of a Yamaha BC 3 mouthpiece. So one can for example blow the saxophone sounds of an expander with the MTB adding realistic, breath controlled dynamics!

**2/** for the remote control of modern DAWs (digital audio workstations) protocol. In the DAW mode "Mackie Control" the operating devices are covered with a firmly predefined functionality, this features wide compatibility currently & will enable even greater possibilities in the future. Using the MTB with modern sequencer programs permits very easy operation as all common sequencers support "Mackie Control" as hardware controllers. Prepared presets can be used or modified as required. Further prepared controller set-ups for common and popular sequencers are available from our home web page. All examples and explanations given in this manual covering software DAW programs relate to the included Magix "Samplitude SE" program, but assuming you have a good knowledge of your own program, you can substitute the notes to work on your own program.

As the MTB can be freely configured as a controller, you can choose which MIDI controller operates on which individual device. So, for instance, one note on and one note off is the command a keyboard sends at a keystroke. For example if you assign channel controller CC07 to a fader or v-pot, this operating device now controls the volume. To make this command more useful it's necessary to add which MIDI channel this works on, this can be channel 1 to 16.

By adding say channel 1 to the previous example, you now regulate the volume of devices on channel 1 with values between 0-127. You will learn how to program this in detail further on. You can find a list in the appendix with all the available controller numbers and the corresponding functions.

The v-pots and faders can adjust all continuous controllers that assign numeric values, e.g. volume and modulation. The buttons have only 2 states, these allow function assignment functions with On/Off controllers, e.g. CC64 Sustain, on and off. You must allocate a MIDI channel for every button. For each button "Push" or "Toggle" a function can be assigned. The controller only then activates at "Push" for as long as the button is pressed. In the case of the Sustain this means the button switches on the Sustain for as long you hold the button. For "Toggle" the sustain switches on with the first pressure and will hold this function until you press the button a second time! Then it switches off!

The buttons have another function in combination with the data-wheel. The value of a function, e.g. volume, or other assigned variable controller, can be changed in real time by pushing the button while moving the wheel at the same time. This is immediately sent via MIDI and USB. Press another button to fix the new value.

You can also assign the transportation elements and data wheel to new functions, they don't have to be rigidly used as a transportation function.

## **5. The DAW mode**

At switch on, MTB is set to the standard mode of "DAW" - that means the MTB starts in the "Mackie Control" mode and is immediately ready for use in a DAW as a controller for the audio tracks. The v-pots 1-8 are assigned as "PAN", the faders 1-8 control the loudness of the channels 1-8. Fader number 9 controls the master Volume Level of the DAW. The 8 buttons are assigned to "Solo" On/Off functions. The transportation buttons and the wheel are set as transportation control and scrubwheel.

*The installation example for the included DAW-sequencer Magix "Samplitude SE" is simple. Start the program, change over "options" into the menu "systems" and select the button "MIDI". Find and click the "hardware controller set-up" button. From this window select the tab "Main" then tick "Activate controller". From the Controller list choose "Mackie Control" and press OK to close this window. In the MIDI window set MIDI In and Out to "USB AUDIO device" (that's the name of the MTB in the system). Accept this setting with "Apply" and "OK " & that's it, your MTB is running under Samplitude as an audio hardware controller. If you want to expand the channels to 16 tracks, please download the file "MTB Command.cps" from our homepage and install the file as Main Controller! You will be able to control all 16 tracks, we call it "extended Mackie Control!"*

## **6. How to select DAW mode and MIDI mode:**

Push the button <SELECT> to switch between MIDI mode and the transportation/Mackie Control mode. The mode, DAW or MIDI, appears in the display on the left below. In the MIDI mode the <SELECT> LED comes on. To shift down to the DAW mode you have to press the button <SELECT> a 2nd time. The names of these two main modes DAW and MIDI are dedicated and can't be changed.

### **What is displayed on the LCD in DAW Mode:**

V-Pot 1	V-Pot 1	62
<b>DAW</b>	<b>MTBCommand</b>	<b>P-1</b>

The top left cell displays the name of the current control element, e.g. V-Pot 2, Fader 1, Button 8,etc.

Anytime you trigger a control element, this becomes the current control element, LCD displays the status of it.

The top middle cell displays an explanation of the element, for example, press button <BUTTON 5>, it display "SOLO 5".

However, the explanation could be modified with the ASSIGN function, for example, let it be "MUTE 5", then, if you press the <BUTTON 5>, the LCD displays the cell with "MUTE 5".

The max length of the text characters is 8.

The top right cell displays the value of the control element, from 0 to 127.

Note: If the current element is a button, it will display without a value, so the cell is blank.

For Transport mode, the lower left cell has the fixed display "DAW".

The lower middle cell displays the preset name, e.g. "For Cakewalk", this can also be modified in ASSIGN edit.

Max length of the preset name is 11.

The lower right cell displays the preset index, e.g. "Preset-7". The index is from 1 to 8.

### *The Control elements in DAW mode in detail:*

- V-Pots 1-8 are assigned with "Pan",
- Fader 1-8 are assigned with channel-volume
- Fader 9 is assigned with the master volume
- Buttons 1-8 are assigned with the Solo On/Off function.
- The transport control buttons are dedicated to Fast Rewind, Fast Forward, Stop, Play and Record functions. The transport wheel is dedicated to the scrubwheel function!

This is equivalent to the "Mackie Control" standard, in virtually every DAW sequencer the

“Mackie Control” has a compatible hardware-controller standard. Only one thing is different, the A/B switch is dedicated to switch between channels 1-8 and 9-16, when you use our “MTB Command .cps” file!

### ***What is displayed on the LCD in MIDI Mode :***

<b>Fader 8</b>	<b>183</b>	<b>7</b>	<b>33</b>
<b>Volume</b>	<b>B7</b>	<b>7</b>	<b>21</b>
<b>MIDI</b>	<b>MTB Command</b>	<b>P-1</b>	

The top left cell displays the name of the current control element, e.g. V-Pot 2, Fader 1, Button 8, etc.

Anytime you trigger a control element, it takes over as the current control element, LCD displays its status.

Three top right cells display the MIDI message in DEC (Decimal) format, e.g. 176, 1, 127.

The middle left cell displays the type of the MIDI event, e.g. “NOTE OFF”, “NOTE ON”, “Modulation”, etc. It is a standard MIDI explanation message and can not be modified.

Three right-middle cells display the MIDI message in HEX format, e.g. B0, 1, 7F.

For MIDI mode, the lower left cell is a fixed display - “MIDI”.

The lower middle cell displays the preset name, e.g. “For Cubase”, it also could be modified in <ASSIGN> edit.

Max length of the preset name is 11.

The lower right cell displays the preset index, e.g. “Preset-1”. The index is from 1 to 8.

*Note: The <A/B> switch maps the v-pots, faders and buttons between 1-8 to 9-16. Normally the LED is out, one is in the area of 1-8. Press the <A/B> switch and the LED goes on, one is in the area 9-16!*

## ***7. How to Edit the Assign of a Control Element***

Press button <ASSIGN> to start edit status. The button indicator LED turns on.

The LCD display as follow:

<b>V-Pot 1</b>	<b>176</b>	<b>1</b>	<b>64</b>
<b>Modulation</b>	<b>1</b>		
<b>MIDI</b>	<b>MTB Command</b>	<b>P-1</b>	

Modify the assignment with the wheel.

Press the button <ENTER> to confirm, or press the button <CANCEL> to quit.

Once back to the control mode, the LED of the button turns off.

In ASSIGN status, <ASSIGN> has the same function with <CANCEL>.

### ***What is displayed on the LCD in ASSIGN State***

The top left cell displays the name of the current control element, e.g. V-Pot 2, Fader 1, Button 8, etc. You can select a control element for editing by triggering the element, e.g. move a fader, push a button.

The next cell displays the status byte of the attribute assigned to the control element.

There are three types of status byte:

## 7.1 The 3 status types

### Standard MIDI Event SysEx Event PC Key Event

*Note: For different status bytes the LCD has a different display.*

#### **Standard MIDI Event:**

<b>Button 1</b>	<b>176</b>	<b>1</b>	<b>127</b>
<b>Modulation</b>	<b>1</b>	<b>Toggle</b>	
<b>MIDI</b>	<b>MTB Command</b>	<b>P-1</b>	

For example: 176, 1, 127

The middle left cell displays the message name for the standard MIDI event, e.g. MIDI event 176 is "Modulation".

*Note:* The name message for standard MIDI events can't be modified.

The centre cell displays the MIDI channel for the MIDI event, from 1 to 16. With the value displayed, you can easily identify the MIDI channel assigned to the element and also easily modify the MIDI channel with the specified MIDI event.

The centre right cell displays the LED attribute if the current element is a button.

The attribute is Push, or Toggle.

For v-pots or faders, the cell is empty.

The bottom line displays the message as described previously.

If the status is SysEx, the LCD displays as follows:

<b>Button 1</b>	<b>SysEx</b>
	<b>1 7F 0 0 F7</b>
<b>MIDI</b>	<b>MTB Command P-1</b>

The middle line displays the SysEx message

*Note: Should a variable controller be assigned to a button, by holding this button pressed in combination with the data-wheel, this will adjust the values of its function. These will immediately be sent out via MIDI and USB. E.g. if you store the MIDI Event number 192 (Soundbank Function) and Sound No. 0 on Button 1 (the Sound 0 appears with the GM instrument compatible name "grand piano"), by pushing the button 1 simultaneously and shifting the data-wheel the current sound program will change between 0-127.*

If the status is PC key, the LCD displays as follows:

<b>Button 1</b>	<b>PC Key</b>
	<b>&lt;Shift&gt; T : Transport</b>
<b>MIDI</b>	<b>MTB Command P-1</b>

The middle line displays name of the PC key.

In the left area there is a blank field, Ctrl, Shift and ALT as well as combinations of these PC buttons can be entered. In the right area, all letter, numbers and the function keys F1 to F 12 can be entered, so you can add for example the function "call mixer" and assign to any single



button by leaving the first field empty, programming the letter "M" on the second. Or transportation control opens with the combination < Ctrl+Shift > and "T" in Samplitude. You can achieve the two PC buttons areas in the middle line by pressing button <ENTER>, pressing <ENTER> again lets the cursor jump between fields in the left and right area of this line.

Next to the colon, on the right side, there is a freely definable space to make a function description.

### ***What is the Button's LED attribution***

There is a LED under each of the 8 Buttons.

If the attribute of a button is "Push", when you press the button, the LED turns ON, and if you release the button, the LED is OFF.

If the attribute of a button is "Toggle", when you press the button, the LED turns ON, but if you release the button, the LED stays ON. Only when you press the button again, does the LED turn OFF.

This attribute is useful, for example, the button is assigned as SOLO, it should keep the button light with LED when in SOLO status, if the button is assigned as "All Notes OFF", it does not keep the button light on when the button is released.

*Note: In MIDI mode, for a "Toggle" button, if the status type is CC and the value (3<sup>rd</sup> byte) is 0 or 127, the value should swap between 0 and 127.*

Example:

Button 1 is assigned as : B0h, 40h, 7Fh, that's a damper pedal

When pressed the first time, it sends : B0h, 40h, 7Fh, pedal on and LED on

Press the button again, it sends: B0h, 40h, 00h, pedal off and LED off

### ***What is the PC Key Assigning***

MTB maybe the first controller in the world which can send both MIDI data and PC Key data via a single USB.

Send PC Key is very useful to make the MTB universal.

For example, most PC programs use Ctrl+Z as UNDO, Shift+Ctrl+Z as REDO, if you assign a button on the MTB, when you press the button, it is same with you press the PC keyboard Ctrl+Z.

Another example, some DAW software use Alt+1, Alt+2, etc., to open sub-window (panel), it also could be assign to a button on MTB.

With the PC Key assign, MTB could control any PC program without following any protocol.

*Note:*

*Some control buttons have fixed PC Key assign on play mode.*

*Button <ENTER> as pc key <ENTER>*

*Button <CANCEL> as pc key <Esc>*

*Button <CURSOR> as pc key <Tab>*



Example 1:

In MIDI mode or DAW mode, (MTB connected PC via USB), press button <ENTER>, it is the same as pressing a pc key <ENTER>

However, if it's a fixed function button, there will be no display on the LCD when you press it.

Example 2:

In MIDI mode or DAW mode, press button <CURSOR>, it has the same function as the pc key <Tab>.

Make the pc software active in the next field.

## ***7.2 How to Edit PC Key Assign***

Example 1:

Assign the <Button 2> as PC key : <Alt> + 1

Step 1: Press button <SELECT>, switch to MIDI mode ( for DAW mode doesn't allow a PC Key assignment, all assignable buttons just send a standard MIDI message)

Step 2: Press button <ASSIGN>, enter assign mode

Step 3: Press <Button 2>, to set current element as button 2

Step 4: Press <CURSOR>, turn the cursor to the status byte field

Step 5: Rotate the wheel, change value, the range is : 128 ~ 239, SysEx, PC Key, set the field as "PC Key"

Tip: if the current value is near 128, e.g. 140, rotate the wheel anti clockwise

Step 6: Press <CURSOR>, turn the cursor to the PC Key assign field

Note: the field divides into two sub-fields

The left Sub-field is for a special pc key: Ctrl, Shift, ... etc.

The right sub-field is for normal pc key, 0 to 9, A to Z, F1 to F12, Space, etc.

Step 7: Press <ENTER> to active the left sub-field, the cursor just right of the left field, if there is no special pc key, the field is blank.

Rotate the wheel, get <Alt>

Step 8: Press <ENTER> to active the right sub-field. Rotate the wheel, get <1>

Step 9: Press <CURSOR> to jump out to next field

Step 10: Press <ENTER> to confirm the assignment, MTB exit assign mode and back to the play mode

Step 11: Now, press <Button 2>, it should send PC a key combination <Alt> + 1

Example 2:

Assign the <Button 5> as PC key : M

Step 1: Press button <SELECT>, switch to MIDI mode ( for DAW mode we didn't include a

PC Key assign, all assignable buttons just send standard MIDI message)

Step 2: Press button <ASSIGN>, enter assign mode

Step 3: Press <Button 5>, to set current element as button 5

Step 4: Press <CURSOR>, turn the cursor to the status byte field

Step 5: Rotate the wheel, change value, the range is : 128 ~ 239, SysEx, PC Key, set the field as "PC Key"

Tip: if the current value is near 128, e.g. 140, rotate the wheel anti clockwise

Step 6: Press <CURSOR>, turn the cursor to the PC Key assignment field

Note: the field divides into two sub-fields

The left Sub-field is for a special pc key: Ctrl, Shift, ... etc.

The right sub-field is for a normal pc key, 0 to 9, A to Z, F1 to F12, Space, etc.

Step 7: Press <ENTER> to active the left sub-field, the cursor just right on the left field, if there is no special pc key, the field is blank.

For no special key needed in this example, leave it blank

Step 8: Press <ENTER> to active the right sub-field. Rotate the wheel to get <M>

Step 9: Press <CURSOR> to jump out into the next field

Step 10: Press <ENTER> to confirm the assignment, MTB exit assign mode and back to the play mode

Step 11: Now, press <Button 5>, it should send PC a key combination <M>, for PC program MAGIX, it is useful to open/close the mixer window.

Next to the colon on the right side there is a free definable space to make a function description of your PC Key assignment.

### ***7.3 How to Edit Element Assign***

Press <ASSIGN>, the LED on the button turns on.

LCD displays assignment edit screen.

One of the cells has a reverse highlight.

Rotate the wheel to change the value/display in the cell.

Press <CURSOR> to select next highlighted cell.

Or press <A/B> + <CURSOR> to select previous cell.

Use the wheel to change the contents of the cell.

Press <ENTER> to confirm the modification and exit edit state.

Press <CANCEL>, or <ASSIGN> to quit edit state, cancels previous modification.

NOTE:

If any setting is modified, the preset index displayed on the LCD with prefix '\*',

<b>V-Pot 1</b>	<b>176</b>	<b>1</b>	<b>64</b>
<b>Modulation</b>	<b>1</b>		
<b>MIDI</b>	<b>MTB Command</b>	<b>*P-1</b>	

### **7.4 How to Set to SysEx or PC Key Status**

In assignment state, press <CURSOR> to switch the cursor to the status cell (next the element name cell).

Rotate the wheel clockwise, the value changes from 128 to 239, then SysEx, then PC Key.  
Or, rotate the wheel anti-clockwise, after the value 128, then PC Key, then SysEx.

### **7.5 How to Edit SysEx Message**

The SysEx message starts from F0h, ends with F7h. e.g. F0 7D 00 01 F7

The LCD display omits the first byte F0, starts from the 2<sup>nd</sup> byte, e.g. 7D 00 01 F7.

The max length of the SysEx is 9.

Example:

The current setting of <BUTTON 1> is SysEx (F0 7D 00 01 F7), modify it as F0 7D 00 01 02 F7.

Press <ASSIGN>

Press <BUTTON 1>

Press <CURSOR> twice, move the cursor to the middle line

Press <ENTER> to activate SysEx byte input, the first byte highlighted

Press <ENTER> to move the cursor forward, until it reaches "F7"

Rotate <Wheel> to change the value to 02

Press <ENTER> to move the cursor to the next byte

Rotate <Wheel> to change the value to F7

Press <CURSOR> to exit the byte input, or Press <ENTER> multiple times makes the cursor reach the end position

Press <ENTER> to confirm the edit, return back to control mode

### **7.6 How to Edit Preset Name**

Press <ASSIGN>

Press <CURSOR>, turn the cursor to the preset name cell

Press <ENTER> to active byte input

Rotate the wheel to change the current byte

Press <ENTER> to move the cursor to the next position

Rotate the wheel to change the byte

After all bytes are input, press <CURSOR> to move the cursor to next cell, and exit the byte input

Press <ENTER> to confirm the current edit and back to control mode.

### **7.7 How to Edit Elements Explain**

Press <ASSIGN>

Press <CURSOR>, turn the cursor to the element description cell

Press <ENTER> to active byte input

Rotate the wheel to change the current byte  
Press <ENTER> to move the cursor to next position  
Rotate the wheel to change the byte  
After all bytes are input, press <CURSOR> to move the cursor to next cell, and exit the byte input  
Press <ENTER> to confirm the current edit and return back to control mode.

### ***7.8 How to Save Preset and send a snap shot***

Example:

Press <SAVE> + <BUTTON 8>  
The LCD displays a pop-up message box: "Save Preset 8"  
The current panel setting is kept in the FLASH memory of the MTB system.

The pop-up message box will disappear in 2 seconds.

If in the preset index cell there is a '\*', it will also disappear. This means the preset has been saved.

Press <SAVE> + <SELECT>, MTB will send out all the current setting via USB.  
The LCD displays a popup message box: "Snap Shot", the box will disappear after 2 seconds.

### ***7.9 How to Load a Preset***

Example:

Press <SELECT> + <BUTTON 2>  
The LCD displays a popup message box: "Load Preset 2"  
The content of memorised preset 2 is loaded.

The popup message box disappears in 2 seconds.

By pressing <SELECT> + <ENTER> + <BUTTON 1> the factory preset "Cubase" is loaded.  
When starting the MTB for the first time user Preset P-1 is loaded automatically.

## ***8. How to Update Firmware***

Press <SELECT> + <ASSIGN> when power on, the system engages firmware update.  
In this mode buttons 2,4,6,8 and A/B flash until a firmware update is completed via USB with software that can send SysEx data. You'll find further notes on our home page.  
There you will also find firmware updates for the MTB should these become necessary.

## ***9. How to Self Check the Hardware***

Press <SAVE> + <SELECT> when power on, the system engages self-check and the prompt "Self Check Mode" will be displayed on LCD Screen.

Press <BUTTON 1> to show the version of MTB on the LCD.

Press <BUTTON 2> to activate LED Check:

Check items: 15LEDs

All of LEDs will blink (toggle ON/OFF) five times and turn them on when finished.

Press <BUTTON 3> to activate LCD Check:

Check items: 160x32 dot matrix LCD Screen  
This will be switched between a clear screen and full screen display.

Press <BUTTON 4> to activate A/D Check:

Check items: 8 V-Pots and 9 Faders.

The LCD will prompt you for the current item of A/D check with inverted display, you must rotate the V-Pots or Slide the Faders to get the min value(0) and max value(127) , then it will go to next check item and to the end of the A/D check when you have finished all items.

Press <BUTTON 8> to activate Button Check:

Check items: 20 Rubber buttons.

Every time you press one button, the LCD will display the name, e.g. “Button[SHIFT ]” and

the status of button down or up. If the LCD displays a “???” , it means multiple buttons are pressed at the same time, or a problem on the PCB with button lines. <BUTTON REC> should be the last button checked, the LCD will prompt you should some other buttons not have been checked.

## 10. Factory Presets

### *Preset 1: Cubase MIDI*

Control Elements: **V-Pots 1-16** MIDI Channel Pan, **Faders 1-16** MIDI Channel Volume, **Fader M** Master Volume

#### **Buttons:**

1	F2	Transport	13	<Ctrl> + D	Double
2	F3	Mixer	14	<Ctrl> + G	Groups
3	F4	VST Connections	15	<Shift> + M	Mute
4	F11	VST Instruments	16	<Shift> + F	Total Screen
5	<Ctrl> + P	Pool			
6	<Ctrl> + M	Marker		<b>Button REW</b>	Cursor left
7	<Ctrl> + T	Tempotrack		<b>Button FF</b>	Cursor right
8	<Ctrl> + B	Browser		<b>Button Stop</b>	Cursor Up
9	<Ctrl> + R	Notation Editor		<b>Button Play</b>	Cursor down
10	<Ctrl> + Z	Undo		<b>Butto Rec</b>	Save As
11	H	Zoom +		<b>Wheel</b>	undefined
12	G	Zoom -			

The factory presets are always loadable by pressing the keys: <SELECT> + <ENTER> + button 1.

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## *Standard MIDI Controller (CC) numbers*

0 Bank Select	32 Bank Select LSB
1 Modulation	33 Modulation LSB
2 Breath Controller	34 Breath Controller LSB
3 Controller 3 (undefined)	35 Controller 35 (undefined)
4 Foot Controller	36 Foot Controller LSB
5 Portamento Time	37 Portamento Time LSB
6 Data Entry MSB	38 Data Entry LSB
7 Channel Volume (formerly Main Volume)	39 Channel Volume LSB
8 Balance	40 Balance LSB
9 Controller 9 (undefined)	41 Controller 41 (undefined)
10 Pan	42 Pan LSB
11 Expression	43 Expression LSB
12 Effect Control 1	44 Effect Control 1 LSB
13 Effect Control 2	45 Effect Control 2 LSB
14 Controller 14 (undefined)	46 Controller 46 (undefined)
15 Controller 15 (undefined)	47 Controller 47 (undefined)
16 General Purpose 1	48 General Purpose 1 LSB
17 General Purpose 2	49 General Purpose 2 LSB
18 General Purpose 3	50 General Purpose 3 LSB
19 General Purpose 4	51 General Purpose 4 LSB
20 Controller 20 (undefined)	52 Controller 52 (undefined)
21 Controller 21 (undefined)	53 Controller 53 (undefined)
22 Controller 22 (undefined)	54 Controller 54 (undefined)
23 Controller 23 (undefined)	55 Controller 55 (undefined)
24 Controller 24 (undefined)	56 Controller 56 (undefined)
25 Controller 25 (undefined)	57 Controller 57 (undefined)
26 Controller 26 (undefined)	58 Controller 58 (undefined)
27 Controller 27 (undefined)	59 Controller 59 (undefined)
28 Controller 28 (undefined)	60 Controller 60 (undefined)
29 Controller 29 (undefined)	61 Controller 61 (undefined)
30 Controller 30 (undefined)	62 Controller 62 (undefined)
31 Controller 31 (undefined)	63 Controller 63 (undefined)

64 Damper Pedal (Sustain)	96 Data Entry +1 (increment)
65 Portamento On/Off	97 Data Entry -1 (decrement)
66 Sostenuto On/Off	98 NRPN LSB
67 Soft Pedal On/Off	99 NRPN MSB
68 Legato Footswitch	100 RPN LSB
69 Hold 2	101 RPN MSB
70 Sound Controller 1 (Sound Variation)	102 Controller 102 (undefined)
71 Sound Controller 2 (Resonance/Timbre)	103 Controller 103 (undefined)
72 Sound Controller 3 (Release Time)	104 Controller 104 (undefined)
73 Sound Controller 4 (Attack Time)	105 Controller 105 (undefined)
74 Sound Controller 5 (Cutoff Frequency/Brightness)	106 Controller 106 (undefined)
75 Sound Controller 6 (Decay Time)	107 Controller 107 (undefined)
76 Sound Controller 7 (Vibrato Rate)	108 Controller 108 (undefined)
77 Sound Controller 8 (Vibrato Depth)	109 Controller 109 (undefined)
78 Sound Controller 9 (Vibrato Delay)	110 Controller 110 (undefined)
79 Sound Controller 10 (undefined)	111 Controller 111 (undefined)
80 General Purpose 5	112 Controller 112 (undefined)
81 General Purpose 6	113 Controller 113 (undefined)
82 General Purpose 7	114 Controller 114 (undefined)
83 General Purpose 8	115 Controller 115 (undefined)
84 Portamento Control	116 Controller 116 (undefined)
85 Controller 85 (undefined)	117 Controller 117 (undefined)
86 Controller 86 (undefined)	118 Controller 118 (undefined)
87 Controller 87 (undefined)	119 Controller 119 (undefined)
88 Controller 88 (undefined)	120 All Sound Off
89 Controller 89 (undefined)	121 Reset All Controllers
90 Controller 90 (undefined)	122 Local Control On/Off
91 Effects 1 Depth (Reverb)	123 All Notes Off
92 Effects 2 Depth (Tremolo)	124 Omni Mode Off
93 Effects 3 Depth (Chorus)	125 Omni Mode On
94 Effects 4 Depth (Celeste/Detune)	126 Poly Mode Off/Mono Mode On
95 Effects 5 Depth (Phaser)	127 Poly Mode On/Mono Mode Off

## MIDI Event Numbers used on the MTB

128-143 Note Off (0-127)  
 144-159 Note On (0-127)  
 160-175 Poly AfterTouch (0-127)  
 176-191 CC Controller (0-127 look CC list)  
 192-207 GM Instruments (0-127)  
 208-223 Channel AfterTouch (0-127)  
 224-239 Pitch Bend (0-127)



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