

MIDI COMMANDER

MANUAL V1.0



What is MIDI Control?

The full name of MIDI is Musical Instrument Digital Interface. Compared to MIDI Control, the concept of MIDI computer music may be more familiar to most musicians and producers. Essentially, both MIDI Control and MIDI tones transfer a small data to computer or mobile devices, then translate the received data into musical notes, or control message to make a preset change. If it is a MIDI note, it will be synthesized by computer to play music. If it is control message, the HOST received it will take the action which is pre-defined, such as patch switching. The advantage of MIDI format is its small data size. A songs is produced by MIDI, and the data size is usually in the range of several kilobytes which is almost 1/100 size of a normal MP3 file. So it is convenient to realize the real-time communication.

The following is a brief introduction of several basic concepts about MIDI Control, so that it will be faster and clear for you to learn this MIDI controller device and quickly use it.

MIDI Channel: MIDI communication occurs in sending (with MIDI OUT interface) and receiving (with MIDI IN interface) devices. All the devices should be set in the same MIDI channel from CH1 to CH16 before communication, or they won't respond to MIDI signal. And they can also receive and take actions to MIDI signal if set to receive all channel (1-16) signals. Tips: The default channel of most MIDI devices is Channel 1.

MIDI Connection: As mentioned above, the devices support MIDI always equipped with MIDI Connector. Generally, the MIDI cable is a 5-pin male-to-male cable, connected to the device by socket. MINI IN and OUT use the same socket so they can just be distinguished by the identifying in socket. The principle of connection is to connect MIDI OUT of sending device to the MIDI IN of receiving device. Sometimes there is a MIDI THROUGH socket for transmitting received data to other devices.

MIDI Commands: It is the most important section. MIDI instruction/commands is a set of data with parameters in fixed-format. And we should know its classification and logic structure. As introduced above, most of MIDI data are MIDI notes for playing MIDI music, including note tone, strength and volume. We care more about the transmission and function of MIDI control commands.

The commands sent from MIDI controller are numbers in particular pattern, which mainly includes PC commands (PC stands for Program Change) and CC commands (CC stands for Continuous Controller). In simple terms, PC command includes an index number from 0 to 127. The host will switch the preset number corresponding to the PC number received. MIDI PC instruction is supported in most effects, soft synthesizer and MIDI keyboards.

A CC command is normally used for controlling other parameters, such as ON/OFF of an effect module, the position of an expression pedal. CC command mainly includes two numbers. The first one is the CC index number (0-127) and the second is the sub-parameter (0-127). The index number is a label to determine different instruction, while the sub-parameter is the actual content. Generally, the controlled objects have regular occurrence, such as volume, Wah, ON/OFF state and modules switch. The value of sub-parameter represents the states. For example, in volume control, the data 0-127 corresponds to the loudness. For some ON/OFF state, 0-63 represents the OFF state, while 64-127 represents the ON state.

MIDI Learn: There is no strict standard in CC commands function and it varies depending upon devices and manufactures. We need do some simple setup in receiving devices or controller to achieve the controlling function. There is a way called MIDI learning. Open MIDI learning mode in receiving device when set the instruction, and it will enter a wait state. Then controller sends a CC command to the receiving device, the device will record this CC command and assign to current action. MIDI learn function is supported by the host gear or Apps, and it provide a way to mapping the CC# to actions without knowing the detailed command content.

MIDI COMMANDER OVERVIEW

MIDI COMMANDER is a unique control device in the market, and it is a very special control pedal in the Tone Shifter series. It is convenient for the guitarists to control and switch the tone by using foot switch when they use the high-end devices (such as Software effects, advanced multi-effects, rack equipment and tube Amps with MIDI control). Besides most recording/effects software Apps, most hardware gears with MIDI IN jack can also be controlled. MIDI COMMANDER arranges normal control functions based on different HOSTs (software or gear who receive the commands) and pre-defined as HOST modes. In addition, it also has two customizable HOST that it is used to arrange self-defined MIDI control functions mapping with the foot switches. Also it has two expression pedal inputs,

which control the Wah and the Volume to assist the flexibility and creativity of playing. It can be powered by 2x AAA batteries or USB, and it is also has the automatic charging function for chargeable batteries. (Require special activation to avoid accidental charging or high current). This pedal design achieves minimum size and weight while keeping its usability. It can be used along with other audio interface or hardware devices for live show and recording.

KEY FEATURES

- Compatible with USB-MIDI control and standard MIDI control
- With 10 foot switches, increase freedom of control
- 2 individual analog expression pedal input connectors, with screen display showing the pedal positions
- 6 Pre-defined HOST modes, including JamUp, Bias FX, KPA, etc
- 2 custom HOST modes
- Support USB power, 2 AAA batteries (Over 20 hours), also have function of built-in battery charger
- Weight: 0.95kg
- Size: 286x110x65mm

CONNECTORS/BUTTONS

The following picture shows that, the hardware interface of MIDI COMMANDER consists of 10 metal footswitches; on the side of top, there are power switch, USB, MIDI output, expression pedal input interface; on the back there is a battery case for 2 AAA batteries. On the middle of the screen, you can see all relative control parameter and main information. It made easy to turn off the screen of computer or mobile device when using software effects.

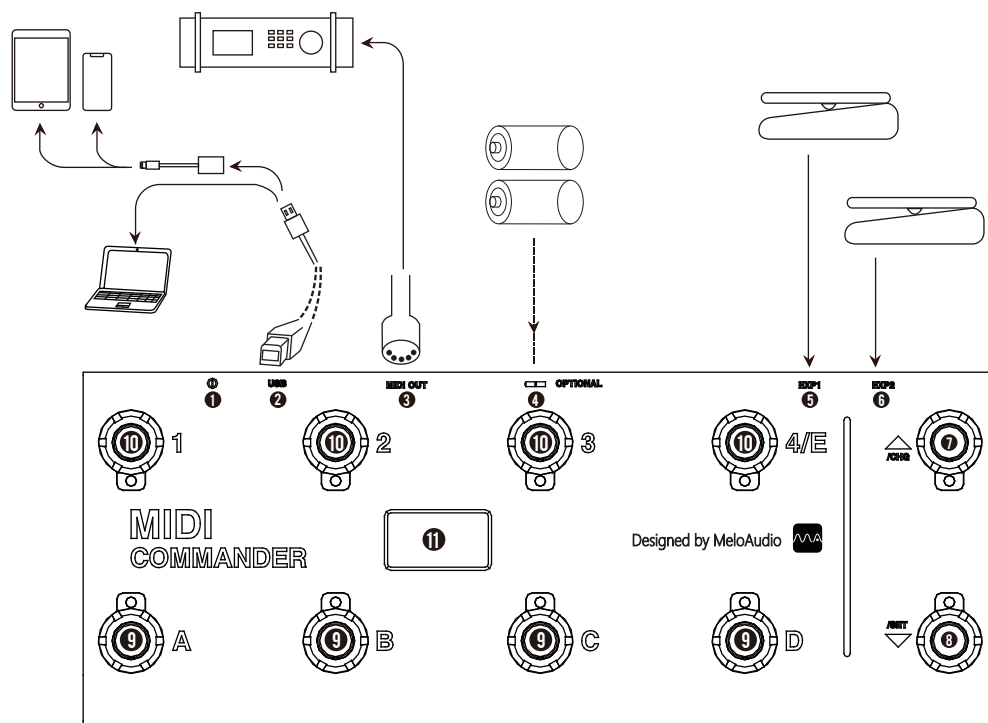


Figure-1 Footswitches and Connectors

- ❶ Power ON/OFF ❷ Previous Bank ❸ Next Bank ❹ A-D mainly set for CC# or PC control ❺ 1-4 mainly set for CC# or PC control
- ❶❶ 128x64 OLED displaying USB-MIDI state, Battery state, PC number, CC#, EXP1 EXP2 position

CONNECTION

The following section shows the possible connections of using MIDI COMMANDER with other devices.

- Using USB cable directly connect PC like WINDOWS/Mac OS, and it can be identified by the system without driver.
- There is battery case on the back side, you can put in 2x AAA batteries. It is OK with normal batteries or rechargeable batteries. Please notice if put in with normal batteries, do not use charging function to charge batteries.
- Expression pedal interface is used for connecting standard analog expression control pedal (Attached available pedals examples).
- Adopting Male to Male standard MIDI cable to connect MIDI OUT port to other devices MIDI IN port. It only needs USB to connect when controlling software effects or other recording software.
- Need the lightning OTG cable to connect iOS mobile device, like iPhone/iPad, official name is Lightning to USB camera adapter. OTG cable with charging back to iDevices is a good way to make long time playing possible.

FUNCTIONS

1.Switch Different HOST Modes

Press different buttons, hold on and turn on the power supply, you can switch to different HOST modes. Refer to following table of explanations for different host modes:

Entry Mode	Mode Name	Explanation of Mode
Press Button 1 to turn on	JAMP	Suitable for use with iOS software JamUp. The 1 to 4 buttons are used for cc command that can be with the control of JamUp default module switch. Expression 1 controls Wah (Need to enable wah in patch chain), Expression 2 controls the volume. A to D controls the position of patch switching in the group. Up and down buttons control the patch conversion, the total of 8 groups and 32 patches. Please note that all CC control contents can be re-edited or learned into new functions in the JamUp software, including Tap function, play/pause function and so on
Press Button 2 to turn on	BIFX	Used for Bias FX software effects, and it is similar to the JAMP host mode, the way to display the PC number is purely digital
Press Button 3 to turn on	KMPA	Used for Kemper Profiling hardware effects. The PC number is organized in a group of 5 voices. The Button 4 is used to send a PC command to switch the 5th program of each group in this mode
Press Button 4 to turn on	AXEF	Used for AXE FX series hardware effects, 4 patches is a group. The 1 to 4 buttons are used to send CC commands and the A to D buttons are used to send PC program switching instructions
Press Button A to turn on	ATOM	Used for ATOMIC series hardware effects
Press Button B to turn on	PC-8x	1 to 4 and A to D are used for sending PC instructions in this mode, 8 patches is a group, You can switch 8 different patches
Press Button C to turn on	CUS-1	Custom Mode 1. The specific content of CC control and PC control can be modified personally and saved in the custom setting mode
Press Button D to turn on	CUS-2	Custom Mode 2. The specific content of CC control and PC control can be modified personally and saved in the custom setting mode

Attention: Matching HOST mode with the real HOST is not mandatory. It can be more flexible in choosing HOST modes to meet final demand, and the control is totally decided by actual PC and CC commands. There is no strict standard among manufactures. We can't guarantee all the instruction are matched for all the preset control functions even when the HOST mode matched.

2.Enter Battery Charging Mode

After putting in 2 AAA NiMH battery and connecting with USB power, press the button "UP" and hold to power on, the device enter charging mode. Charging process is automatic, and it will stop when be fully charged. As a reference, for charging battery with 800mAh, the time is about 3 hours. The charging process is controlled by built-in intelligent controller. Please notice that, do not charging the non-chargeable batteries. Batteries and USB cable can be presented together. When powered by USB, the pedal will stop getting current from batteries. NI-MH battery is not suitable for been kept as fully charged or long-time low current trickle charge. So when it doesn't go into charging mode, USB power will not do any charging to the batteries.

3.Enter Custom HOST Setup Mode

Press button "Down" to power on, and enter the menu of custom host setup mode. There are 3 sub-menus, "MIDI.CH", "CUS1", "CUS2". You can switch the menus by pressing button 2 and button 3.

MIDI.CH is used for setting the MIDI channel of each HOST mode. Under the mode, pressing UP/DOWN can choose different host modes. Pressing B and C button can setup the MIDI channel for this host. Settings are keeping even after the power down.

Menu CUS1 is for setting all custom parameters under CUS1 HOST mode. Please refer to the parameters and functions as the table shown below.

S/N	Parameter	Option	Instruction
1	ABC/123	ABC, 123	Select to display the patch number by 1A, 1B, 1C... or 1, 2, 3
2	Bank Move	4x, 5x, 8x, 10x	Select how many patches in a group. Note that 8x and 10x setups are the same in MIDI COMMANDER
3	Bank Mode	WAI, IMM	WAI represents that it does not jump immediately after the patches change, waiting for patch jumping in new group after pressed footswitch, and the screen is flickering. IMM represents jumping to the 1st patch of next group immediately
4	SCR Start	0, 1	0 represents the patch table displayed on the screen starts from 0 1 represents the patch table displayed on the screen starting from 1
5	PC Start	0, 1	0 represents that the actual PC value of 1st patch table is 0 1 represents that the actual PC value of 1st patch table is 1 Match the fourth and fifth settings, we can align the screen display with the host display number. There is no case that the SCR is 0 but the PC is 1, this setting will be ignored automatically
6	EXP1 CC#	0~127	Set the CC instruction number of expression pedal 1
7	EXP2 CC#	0~127	Set the CC instruction number of expression pedal 2
8	KEY 1 MOD	PC#, CC#	Set button to send PC or CC command
9	KEY 1 CC#	0~127	If it is a CC instruction, the instruction number, if it is a PC instruction, this will be invalid, the PC value will be determined by the position of the key
10	KEY 1 Tog	OFF, ON	If set to ON, the sub-parameters will toggle between 0 and 64 each time
11	KEY 2 MOD	PC#, CC#	Set button to send PC or CC command
12	KEY 2 CC#	0~127	If it is a CC instruction, the instruction number, if it is a PC instruction, this will be invalid, the PC value will be determined by the position of the key
13	KEY 2 Tog	OFF, ON	If set to ON, the sub-parameters will toggle between 0 and 64 each time
14	KEY 3 MOD	PC#, CC#	Set button to send PC or CC command
15	KEY 3 CC#	0~127	If it is a CC instruction, the instruction number, if it is a PC instruction, this will be invalid, the PC value will be determined by the position of the key
16	KEY 3 Tog	OFF, ON	If set to ON, the sub-parameters will toggle between 0 and 64 each time
17	KEY 4 MOD	PC#, CC#	Set button to send PC or CC command
18	KEY 4 CC#	0~127	If it is a CC instruction, the instruction number, if it is a PC instruction, this will be invalid, the PC value will be determined by the position of the key
19	KEY 4 Tog	OFF, ON	If set to ON, the sub-parameters will toggle between 0 and 64 each time
20	KEY A MOD	PC#, CC#	Set button to send PC or CC command
21	KEY A CC#	0~127	If it is a CC instruction, the instruction number, if it is a PC instruction, this will be invalid, the PC value will be determined by the position of the key
22	KEY A Tog	OFF, ON	If set to ON, the sub-parameters will toggle between 0 and 64 each time
23	KEY B MOD	PC#, CC#	Set button to send PC or CC command
24	KEY B CC#	0~127	If it is a CC instruction, the instruction number, if it is a PC instruction, this will be invalid, the PC value will be determined by the position of the key
25	KEY B Tog	OFF, ON	If set to ON, the sub-parameters will toggle between 0 and 64 each time
26	KEY C MOD	PC#, CC#	Set button to send PC or CC command
27	KEY C CC#	0~127	If it is a CC instruction, the instruction number, if it is a PC instruction, this will be invalid, the PC value will be determined by the position of the key
28	KEY C Tog	OFF, ON	If set to ON, the sub-parameters will toggle between 0 and 64 each time
29	KEY D MOD	PC#, CC#	Set button to send PC or CC command
30	KEY D CC#	0~127	If it is a CC instruction, the instruction number, if it is a PC instruction, this will be invalid, the PC value will be determined by the position of the key
31	KEY D Tog	OFF, ON	If set to ON, the sub-parameters will toggle between 0 and 64 each time

There are some conflicts occurring in certain circumstance. Such as set 4 tones for a group, button from 1 to 4 will be unavailable for PC instruction mode. Set 5 tones for a group, button 1 to 3 will be unavailable for PC instruction mode. Imposed setting will not work. (Please follow the setup order that begins from #2 Bank Move to the end)

The menu CUS2 is used for setting all the custom parameters under CUS2 host mode, whose parameter list and function are identical as the CUS1. Note that the default setup of CUS1 and CUS2 are different. The configurations under CUS1 and CUS2 are mutually independent and both of the setups can be saved automatically after changed.

4. Restore to Factory Default Setting

If you disorder the function and don't want to modify it one by one, just turn it off and press the bottom of "UP" and "DOWN" button at the same time, the device will restore to factory default setting. Please note that no hint will appear in this process. And the default mode is JAMP, 1A tone.

5. ADDITIONAL NOTES

At the upper left of the screen, it shows the connecting status and battery status of USB-MIDI. Notice, when only appearing the word "MIDI", USB-MIDI function will work normally. It also means the device is recognized by operating system. We can also connect the USB to the charger, or USB charging port of a power bank. The commander can work with any USB power supply even no USB connection, and screen shows PWR only, while there is no complete USB connecting logo. No matter in what kind of power supply situation, the commander can be used as a standalone MIDI controller.

FREQUENT QUESTIONS

Q1: For function of USB-MIDI, is there a driver needed of using in different operation systems?

A: No, plug and play on each operating system.

Q2: How can I connect the device to iPhone or iPad for the using of software effects, such as Bias FX, JamUp?

A2: For all the iDevices with lightning connector, we need a cable which called "Lightning to USB camera adapter" (May also be called as Apple OTG cable) to connect the standard USB plug with the lightning connector. After connecting, enable the MIDI control in the Apps. It can work together with any other audio interface to use software effects, you can connect by a USB Hub to join the audio interface and the MIDI Commander. Another way is connecting to audio interface through MIDI IN jack (Such as TS MINI in Tone Shifter Series). It should be noted that, for most Lightning OTG cables, it is required that the external device current should be limited.

Q3: What is the problem if the MIDI controller doesn't work?

A3: Let us check the problem in several aspects. Firstly, check the hardware connection valid, including whether the OTG cable or MIDI cable works. Then, if the MIDI channel for receiving equipment matches with the commander. When controlling software or hardware, please check whether the MIDI function of the HOST enabled or not. Last, check if the foot switches respond correctly, and the screen display shows normally.

Q4: Does the MIDI cable support the function of power supply?

A4: No, it doesn't. It can supply power for redundant cables in MIDI cable, but it is non-standard, and the devices which can support this method are few. The design of the pedal is convenient for many power supply ways. And it is easy to supply power with USB port or batteries.

Q5: I don't know MIDI controller, and if I really need this controller?

A5: Please refer to the first part of this manual. MIDI controller is the build-in function for many high-end gears and software. Only with MIDI commander, it can greatly play the function of gears and realize new usage scenarios. We can say MIDI commander is a creative tool for every electric guitar player, electric bass player, musician and producer.

Q6: Is there any recommendations on the expression pedal?

A6: Basically any standard EXP pedal will do a good job just make sure the connector for the EXP is a 1/4 inch 3 position plug. We have tested the followings may be a good reference.



Zoom FP02M



Roland EV-5



Yamaha FC7