MIDI Light BOX (MLT-10)

RGB LIGHT　　**USB HOST**　　**MIDI IN**

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MIDI Light Box *MLT-10*

DC 5V~12V　　**USB DEVICE**　　**ON/OFF**

Instruction

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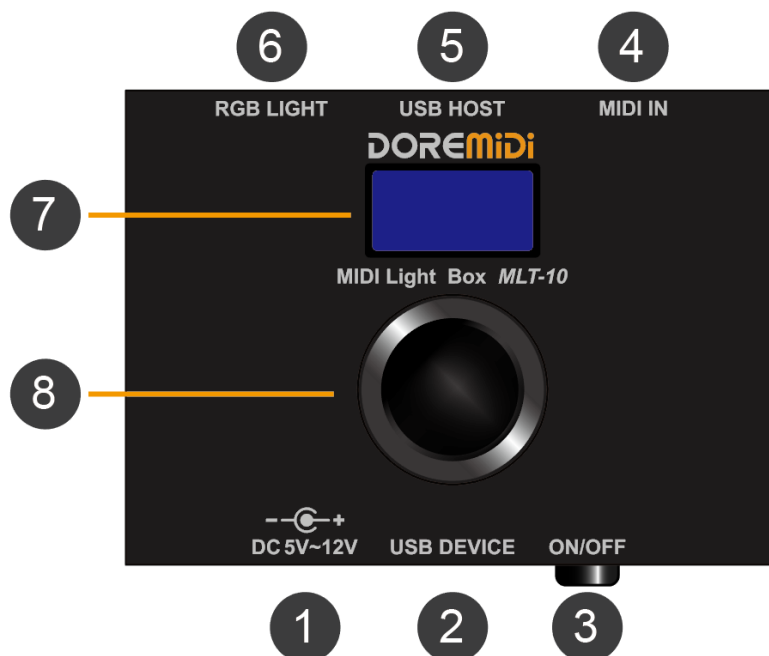### 1. Introduction

MIDI light box (MLT-10) is a controller that controls RGB light strips through MIDI messages. MLT-10 can be connected to USB or MIDI DIN five-pin instruments, and the light strip can be controlled by electronic instruments. And MLT-10 can be connected to a mobile phone/computer through Bluetooth MIDI or USB, and cooperate with application software and musical instruments to complete functions such as piano learning and MIDI performance.

2. Appearance

❶ DC 5V~12V: Power supply port, use DC plug to supply power, power supply voltage 5~12V, 2A.

❷ USB DEVICE: USB device port, you can use a USB cable to connect to computers/mobile phones, and you can also supply power to the product through this port.

(Note: When the product is powered through USB DEVICE, the ON/OFF will not work, and the brightness of the light strip will be limited.)

❸ ON/OFF: Product power on/off button, click the button to turn on/off.

❹ MIDI IN: MIDI DIN input port, use a five-pin MIDI cable to connect a device with MIDI OUT.

❺ USB HOST: USB host port, use a USB cable to connect a device with a USB MIDI port (or USB To HOST port).

❻ RGB LIGHT: RGB light strip port, connect to RGB light strip.

❼ Display Screen: OLED display screen, showing the working status of MLT-10.
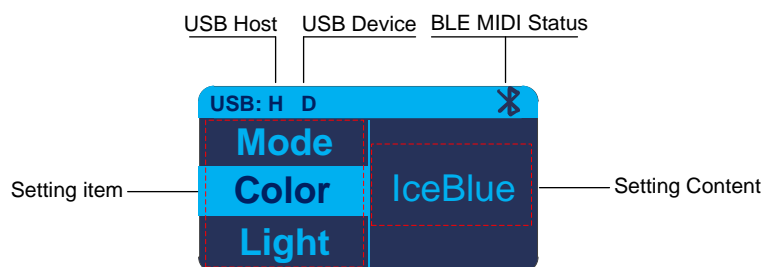
❽ Knob: Knob with key function, configure the MLT-10 by rotating and clicking.

3. Product Parameters

Name	Description
Model	MLT-10
Size (L x W x H)	90*65*49mm
Weight	150g (including light strip)
Supply Voltage	5V~9V DC
Supply Current	2A

Standby Consumption	90mA@5V / 70mA@9V / 50mA@12V
Working Consumption **(Max)**	1.5A@5V / 1.8A@9V / 1.3A@12V
USB MIDI Compatibility	Standard USB MIDI device, compliant with USB class, plug and play.
USB HOST Compatibility	Compatible with USB Class-compliant USB MIDI devices.
MIDI IN Compatibility	Built-in high-speed optical isolator, compatible with all MIDI five-pin output interfaces.
RGB Light Strip	87 RGB lamp beads. The display area is about 1.2 meters.

4. Display & Operation

- USB connection status: When connecting the USB DEVICE to the mobile phone/computer, "D" is displayed after the connection is successful. When the USB HOST port is connected to the USB device (USB To Host port) of the instrument, "H" will display after the connection is successful.

- BLE MIDI status: "✕" icon will be displayed after successful Bluetooth MIDI connection.

- Setting Items: Click the knob to switch between different setting item.

- Setting Content: Rotate the knob to set the parameter.

5. Steps for usage

5.1. Power supply

- Supply power to the product through the DC port, MLT-10 support 5V~12V power supply input.

- Please ensure that the power supply can meet the maximum power consumption of the product. For details, see **3. Product Parameters**.

- When using 5V power supply, the brightness of the product will be limited and cannot be set to the maximum value.

5.2. Connection
- **Connecting instruments**

MLT-10 provides two ways to connect instruments, including MIDI five-pin port and USB port. Please select the connection method according to the interface of the musical instrument.

Name	Description
MIDI five-pin instrument	Connect the MIDI IN of the MLT-10 to the MIDI OUT of the instrument through a MIDI five-pin cable.
USB port instrument	Connect the USB HOST port of the product to the USB To HOST port/USB-A port of the instrument via a USB cable. After the connection is successful, the display shows "USB: H".

- **Connect RGB light strip**

MLT-10 is equipped with a light strip with 87 RGB lamp beads, connect the light strip to the "RGB

LIGHT" port of the product, and ensure that the connection is firm.

- **Connect application software**

After connecting to the software, the light strip can light up according to the note message sent by the software. When the instrument produces a note, it is also sent to the software. MLT-10 provides two ways to connect the software, please select the connection method according the software.

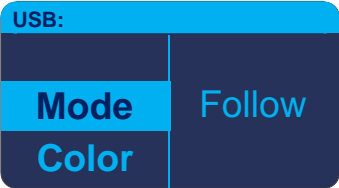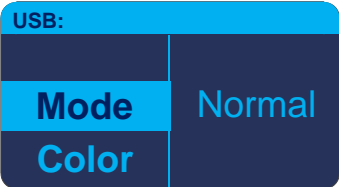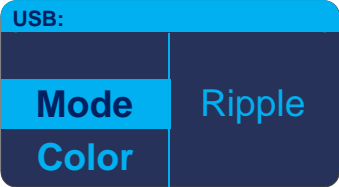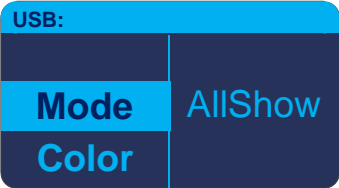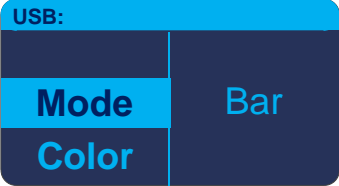| Name	Operation
Bluetooth MIDI	• Turn on the Bluetooth of the mobile phone/computer. • Connect "MLT-10-****" in the application software, after the connection is successful, the display will display "✺". • Check whether the MIDI output/input of the software is selected as "MLT-10-****" (some software needs to configure MIDI input/output).
USB MIDI	• Connect the USB DEVICE port of the MTL-10 to the USB port of the computer/mobile phone/tablet via a USB cable. • After the connection is successful, the display shows "USB: D".

(Notice:

1) **The Bluetooth MIDI of the mobile phone/iPad should be connected in the software, but not in the system settings. The connection methods of Bluetooth MIDI in different operating systems are different, please refer to " Bluetooth MIDI Connection Tutorial .pdf".**

2) **The USB port of the mobile phone/tablet computer needs to have the OTG function.**

3) **Some APPs can only receive note signals and cannot send note signals, so the light strip will not light up.**

4) **Some APPs will restrict the access of other products, and such APPs cannot be used.)**

- **Connection diagram**

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5.3. Setting Mode

Click the knob to the "Mode", and rotate the knob to select the "**Follow/Normal/Ripple/All Show/Bar**" mode. "Follow" mode requires the MLT-10 to connect to the application software. Other modes are used for MIDI performance. The following is a description of each mode.

Mode	Display	Description
Follow	USB: **Mode** Follow **Color**	• When receiving a note sent by the software, the light strip will light up according to the note. • According to the note, if the wrong key is pressed, the light strip will light up in red. • In this mode, the color of the light cannot be set. **(Note: In this mode, you need to connect the software with the follow-up function, such as POP Piano. If the software does not have the follow-up function, the "Follow" mode may not work.)**
Normal	USB: **Mode** Normal **Color**	• When receiving a note signal, the light strip will light up according to the note. • The note velocity will control the brightness of the light strip.
Ripple	USB: **Mode** Ripple **Color**	• When a note signal is received, the light strip expands in two directions according to the position of the note.
AllShow	USB: **Mode** AllShow **Color**	• When receiving the note/CC controller signal, the light strip will be fully on. • Control the brightness of the light strip according to the strength of the note/the value of the CC controller.
Bar	USB: **Mode** Bar **Color**	• When receiving the note/CC controller signal,, the light strip will light up partially. • Control the number of lamp leads on according to the strength of the note or the value of the CC controller.

(Notice:

1) The CC controller is a continuous controller, which is often used to control the effect of music in MIDI performance.

2) The CC controller control is only valid in the "AllShow" and "Bar" modes. In these mode, if it is set to use the CC controller to control the light strip, the note will have no effect.)

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5.4. Other parameter settings

Click the knob to select "**Color/Light/Fade/Velocity/MIDI CH/CC#/Language**", and rotate the knob to set parameters.

Setting Item	Display	Parameter Description
Color	USB: Mode **Color** IceBlue Bright	● When the light strip is on, the color will be used. ● Color range: Blue/ IceBlue/ Yellow / Green / Pink/ red /White / Random. ● Random: All colors are displayed in a random cycle.
Bright	USB: Color **Bright** 5 Fade	● Set the maximum brightness of the light strip. ● Brightness range: 1~10, default 5.
Fade	USB: Bright **Fade** 5 Velocity	● Set the light strip to fade out, and configure the fade time. ● Parameter range: OFF, 1~10, default 5. ● OFF: Disable this function.
Velocity	USB: Fade **Velocity** 0 MIDI CH	● Adjust the velocity of the input note, the larger the value, the easier the light strip will reach the brightest. ● Value range: -5~5, default 0.
MIDI CH	USB: Velocity **MIDI CH** All CC#	● Set the channel of the MIDI message that the product responds to. ● Parameter range: All, 1~16, default All. ● All: Responds to all MIDI channels.
CC#	USB: MIDI CH **CC#** OFF Language	● Set the CC controller to light up the light strip, and select the CC controller number. ● Parameter range: OFF, 0~127, default None; ● OFF: Disabled CC controller. **(Note: The CC controller control is only valid in the "AllShow" and "Bar" modes. In these modes, if it is set to use the CC controller to control the light strip, the note will have no effect.)**
Language	USB: CC# **Language** En	● Switch languages, support Chinese/En (English).

6. Precautions

1) This product contains a circuit board.

2) Rain or immersion in water will cause the product to malfunction.

3) Do not heat, press, or damage internal components.

4) Non-professional maintenance personnel shall not disassemble the product.

5) If the product is disassembled or damaged by improper use, the warranty is not available.

7. Questions & Answers

1) Question: The USB Device port cannot connect to the phone.

   Answer: Please confirm whether the mobile phone has the OTG function first, and it has been turned on.

2) Question: The mobile phone cannot connect to the Bluetooth MIDI.

   Answer: Please make sure that the Bluetooth function of the mobile phone has been turned on, and connect the Bluetooth MIDI in the APP, not the mobile phone system. For details of the connection method, please refer to "Bluetooth MIDI Connection Tutorial".

3) Question: MIDI IN does not work properly.

   Answer: Make sure the "MIDI IN" port of the product is connected to the "MIDI OUT" port of the instrument.

4) Question: The USB HOST port does not work properly.

   Answer: Please follow the steps below:

- Confirm that the instrument can work normally and the USB interface of the instrument has MIDI function (for example, connecting to a computer can recognize MIDI devices).

- Try to power the product through "DC" first, then connect to the instrument through "USB HOST" and see if the display of "USB HOST" shows "USB: H".

5) Question: When the light strip is too bright, the product will restart or shut down.

   Answer: Please ensure that the power supply is sufficient for the product, or reduce the brightness of the light strip.

   If the problem is not resolved, please contact customer service.

Manufacturer: Shenzhen Huashi Technology Co., Ltd.

Address: Room 910, Jiayu Building, Hongxing Community, Songgang Street, Baoan District, Shenzhen, Guangdong, China

Post Code: 518105

Customer Service Email: info@doremidi.cn