KEY MAPPING	🖮 键值映射	BASIC	|基础键
	⊙ 宏编辑器	MULTIMEDIA	多媒体键
MACRO EDITOR		MACRO	宏键
	♡ 灯效管理	LAYER MANAGEMENT	层管理键
LED LIGHT MANAGEMENT		SPECIAL KEYS	特殊键
	💾 存档管理	LED LIGHT CONTROL	灯控键
		SURFACE DIAL EMULATION	SURFACE DIAL
ARCHIVE (CONFIGURATION) MANAGEMENT		MOUSE BUTTONS	鼠标键
		KEY COMBINATIONS	组合键
		PHOTOSHOP SHORTCUTS	PS快捷键
		MIDI	MIDI2LR
		SAI	SAI

CLOSE (CTRL+W)	CONFIGURATION	KEYBOARD TEST	SETUP
关闭	配置页	键盘测试	设置

BASIC

MULTIMEDIA

MACRO

LAYER MANAGEMENT

SPECIAL KEYS

LED LIGHT CONTROL

SURFACE DIAL EMULATION

MOUSE BUTTONS

KEY COMBINATIONS

PHOTOSHOP SHORTCUTS

MIDI

SAI

CONFIGURATION | KEYB TEST | SETUP

KEY MAPPING

MACRO EDITOR

LED LIGHT MGMT

CONFIGS MGMT

CUST OMIZE

BASIC

MULTIMEDIA

MACRO

LAYER MANAGEMENT

SPECIAL KEYS

LED LIGHT CONTROL

SURFACE DIAL EMULATION

MOUSE BUTTONS

KEY COMBINATIONS

PHOTOSHOP SHORTCUTS

MIDI

SAI

CONFIGURATION | KEYB TEST | SETUP

CONFIGURATION | **KEYB TEST** | SETUP

CONFIGURATION | KEYB TEST | **SETUP**

NUMBER KEYS

关闭

CONFIGURATION | KEYB TEST | SETUP

KEY MAPPING

MACRO EDITOR

LED LIGHT MGMT

CONFIGS MGMT

LAYER 0 1 2 3 4 5 6 7

CXT 12E4 D&M

KEYBOARD DIRECT INPUT

BASIC

MULTIMEDIA

MACRO

LAYER MANAGEMENT

SPECIAL KEYS

LED LIGHT CONTROL

SURFACE DIAL EMULATION

MOUSE BUTTONS

KEY COMBINATIONS

PHOTOSHOP SHORTCUTS

MIDI

SAI

| ▽ | Esc | CUST OMIZE | D6/U7 | TH45 | TH67 | BURST 1 | BURST 2 | BURST 3 |

ALPHABETIC KEYS

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q |

| R | S | T | U | V | W | X | Y | Z |

NUMBER KEYS

CONFIGURATION | KEYB TEST | SETUP
配置页　　键盘测试　　设置

| Esc | | F1 | F2 | F3 | F4 | | F5 | F6 | F7 | F8 | | F9 | F10 | F11 | F12 | | Print | Scroll | Pause | | 睡眠 | 静音 | 音量 - | 音量 + |

| ~ ` | ! 1 | @ 2 | # 3 | $ 4 | % 5 | ^ 6 | & 7 | * 8 | (9 |) 0 | _ - | + = | Backspace | | Ins | Home | PgUp | | N.Lck | / | * | - |

| Tab | Q | W | E | R | T | Y | U | I | O | P | { [| }] | | \ | | Del | End | PgDn | | 7 | 8 | 9 | + |

| Caps Lock | A | S | D | F | G | H | J | K | L | : ; | " ' | Enter | | | | | | 4 | 5 | 6 | |

| Left Shift | Z | X | C | V | B | N | M | < , | > . | ? / | Right Shift | | ↑ | | | | 1 | 2 | 3 | N.Ent |

| Left Ctrl | LWin | LAlt | Space | RAlt | RWin | 菜单 | RCtl | | ← | ↓ | → | | 0 | . | |

RESET TEST RESULTS
重置测试结果

TEST TRIGGER
测试触发

TOUCH TONE
按键音

RESET
重置

VIA - C| VERSION   0.3.5

QUICKLY SET THE KEY VALUE (AFTER SETTING THE CURRENT KEY, THE CURSOR WILL MOVE TO NEXT KEY)

Hardware Acceleration

RESET THE KEYBOARD (TAKE EFFECT AFTER RECONNECTING IT TO THE COMPUTER)

Reset

ENTER BOOTLOADER MODE

Jump

CLEAR ALL MACROS (TAKE EFFECT AFTER RECONNECTING IT TO THE COMPUTER)

Clear

SEND FEEDBACK AND SUGGESTIONS TO :   : cxt_labs@163.com
(BY THE WAY, WE WON'T GIVEA SHIT ABOUT YOU,
ESPECIALLY IF YOU ASK US
THE ENGLISH VERSION OF THIS CRAP...
... SAME AS IF YOU ASK US THE KEYBOARD LAYOUT
.JSON ...
... SO THIS MAKE THE CXT 12E4 D&M, JUST
ANOTHER CHINESEWARE COLLECTING DUST ON
YOUR SHELF

Left Sidebar 1

- **KEY MAPPING**
- **MACRO EDITOR**
- **LED LIGHT MGMT**
- **CONFIGS MGMT**

Left Sidebar 2

- **BASIC**
- MULTIMEDIA
- MACRO
- LAYER MANAGEMENT
- SPECIAL KEYS
- LED LIGHT CONTROL
- SURFACE DIAL EMULATION
- MOUSE BUTTONS
- KEY COMBINATIONS
- PHOTOSHOP SHORTCUTS
- MIDI
- SAI

Main Panel

Top row: ▽ | Esc | CUSTOMIZE | D6/U7 | TH45 | TH67 | BURST 1 | BURST 2 | BURST 3

ALPHABETIC KEYS

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q
R | S | T | U | V | W | X | Y | Z

CONFIGURATION | KEYB TEST | SETUP

NUMBER KEYS

! 1 | @ 2 | # 3 | $ 4 | % 5 | ^ 6 | & 7 | * 8 | (9 |) 0

SYMBOLS KEYS

_ - | + = | ~ ` | { [| }] | \| \ | : ; | " ' | < , | > . | ? / | = | ,

CONTROLS KEYS

Tab | Backspace | Caps Lock | Enter | Left Shift | Right Shift | Left Ctrl | Right Ctrl | Left Win | Right Win | Left Alt | Right Alt

Space | Menu

FUNCTION KEYS

F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12

ARROWS & SPECIAL KEYS

Print Screen | Scroll Lock | Pause | Insert | Del | Home | End | Page Up | Page Down | ← | ↓ | ↑ | →

NUMKEY PAD KEYS

Num Lock | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | / | * | - | + | . | Num Enter

BASIC **MULTIMEDIA** MACRO LAYER MANAGEMENT SPECIAL KEYS LED LIGHT CONTROL SURFACE DIAL EMULATIO MOUSE BUTTONS KEY COMBINATIONS PHOTOSHOP SHORTCUTS MIDI SAI	VOLUME - · VOLUME + · MUTE · PAUSE · PLAY STOP · PREV. TRACK · NEXT TRACK · ◀◀ · ▶▶ · select · ↩
BASIC MULTIMEDIA **MACRO** LAYER MANAGEMENT SPECIAL KEYS LED LIGHT CONTROL SURFACE DIAL EMULATION MOUSE BUTTONS KEY COMBINATIONS PHOTOSHOP SHORTCUTS MIDI SAI	MACRO 0 · 宏1 · 宏2 · 宏3 · 宏4 · 宏5 · 宏6 · 宏7 · 宏8 · 宏9 · 宏10 · 宏11 · 宏12 · 宏13 · 宏14 · 宏15 · 宏16 宏17 · 宏18 · 宏19 · 宏20 · 宏21 · 宏22 · 宏23 · 宏24 · 宏25 · 宏26 · 宏27 · 宏28 · MACRO 29

BASIC	
MULTIMEDIA	
MACRO	
LAYER MANAGEMENT	
SPECIAL KEYS	
LED LIGHT CONTROL	
SURFACE DIAL EMULATION	
MOUSE BUTTONS	
KEY COMBINATIONS	
PHOTOSHOP SHORTCUTS	
MIDI	
SAI	

Fn1 (Fn3) | Fn2 (Fn3) | SPACE - FN 1 | SPACE - FN 1 | SPACE - FN 1 | KNOB LAYER + | KNOB LAYER -

MO(0) | MO(1) | MO(2) | MO(3) | MO(4) | MO(5) | MO(6) | MO(7) | TO(0) | TO(1) | TO(2) | TO(3) | TO(4) | TO(5) | TO(6) | TO(7)

Sidebar Navigation

- BASIC
- MULTIMEDIA
- MACRO
- LAYER MANAGEMENT
- **SPECIAL KEYS**
- LED LIGHT CONTROL
- SURFACE DIAL EMULATION
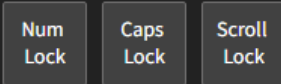- MOUSE BUTTONS
- KEY COMBINATIONS
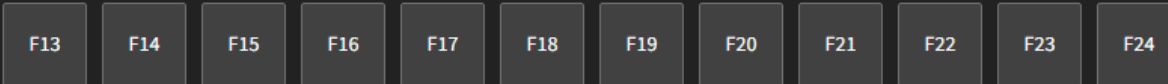- PHOTOSHOP SHORTCUTS
- MIDI
- SAI

SYMBOLS KEYS

~	!	@	#	$	%	^	&	*	(	)	_	+	{	}	<	>

:	|	?	"

LONG PRESS / SHORT PRESS

Esc/`	LS (	RS)	LC (	RC)	LA (	RA)	SftEnt

CONTROL KEYS

Num Lock	Caps Lock	Scroll Lock

SYSTEM APPLICATION KEYS

POWER BUTTON	Power OSX	SLEEP	WAKE	CALC	EMAIL	HELP	UNDO / STOP	REDO	MENU	UNDO / REVOKE	SELECT	DE SELECT	CUT	COPY	PASTE	LOOKUP

MY COMPUTER	HOME PAGE	BROWSER BACK	BROWSER FORWARD	BROWSER STOP	BROWSER REFRESH	BROWSER FAVS	BROWSER SEARCH	BRIGHT NESS +	BRIGHT NESS -

EXTENDED FUNCTION KEYS

F13	F14	F15	F16	F17	F18	F19	F20	F21	F22	F23	F24

---------------------------- RGB灯控 ----------------------------

| RGB开关 | RGB灯效- | RGB灯效+ | 色相- | 色相+ | 饱和度- | 饱和度+ | 亮度- | 亮度+ | 速度- | 速度+ |

| S左旋 | S按钮 | S右旋 |

---------------------------- S左旋：左旋快捷方式。S右旋：右旋快捷方式。S按钮：短按="单击快捷方式"，长按=呼出SurfaceDial轮盘菜单 ----------------------------

| S左旋2 | S右旋2 | S左旋3 | S右旋3 |

---------------------------- S左旋2：默认左旋的旋转角度的一半。S左旋3：默认左旋的一倍 ----------------------------

| 鼠标↑ | 鼠标↓ | 鼠标← | 鼠标→ | 鼠标左键 | 鼠标右键 | 鼠标中键 | Mouse Btn4 | Mouse Btn5 | 鼠标滚轮↑ | 鼠标滚轮↓ | 鼠标滚轮← | 鼠标滚轮→ | 鼠标灵敏度0 | 鼠标灵敏度1 | 鼠标灵敏度2 |

---------------------------- 鼠标滚轮组合 C=Ctrl A=Alt S=Shift ----------------------------

| C+滚轮↑ | C+滚轮↓ | A+滚轮↑ | A+滚轮↓ | S+滚轮↑ | S+滚轮↓ |

Windows与Mac OS 键位对照： Ctrl = Control | Win = Command | Alt = Option

| CTRL+ | Alt+ | SHIFT+ | WIN+ | Ctrl+Alt+ | Ctrl+Shift+ | Ctrl+WIN+ | Alt+Shift+ | Alt+WIN+ | Ctrl+Shift+Alt+ | Ctrl+Alt+WIN+ | Shift+WIN+ |

| Ctrl+Shift+WIN+ | Alt+Shift+WIN+ | CTRL+ALT+SHIFT+WIN+ |

选中以上组合选项，再按下键盘上想与之组成组合的键值，然后选中键位，点击确认即可设置完成。

KC_LALT

确认

---------- 仅支持设置至旋钮，不透明度自动判断顺逆时针，设置在顺时针为+，逆时针为- ----------

| 逆转画布 | 顺转画布 | 不透明度1 | 不透明度10 | 画笔流量1 | 画笔流量10 | 画笔平滑1 | 画笔平滑10 |

CC重置	CC_000	CC_001	CC_002	CC_003	CC_004	CC_005	CC_006	CC_007	CC_008	CC_009	CC_010	CC_011	CC_012	CC_013	CC_014	CC_015
CC_016	CC_017	CC_018	CC_019	CC_020	CC_021	CC_022	CC_023	CC_024	CC_025	CC_026	CC_027	CC_028	CC_029	CC_030	CC_031	CC_032
CC_033	CC_034	CC_035	CC_036	CC_037	CC_038	CC_039	CC_040	CC_041	CC_042	CC_043	CC_044	CC_045	CC_046	CC_047	CC_048	CC_049
CC_050	CC_051	CC_052	CC_053	CC_054	CC_055	CC_056	CC_057	CC_058	CC_059	CC_060	CC_061	CC_062	CC_063	CC_064	CC_065	CC_066
CC_067	CC_068	CC_069	CC_070	CC_071	CC_072	CC_073	CC_074	CC_075	CC_076	CC_077	CC_078	CC_079	CC_080	CC_081	CC_082	CC_083
CC_084	CC_085	CC_086	CC_087	CC_088	CC_089	CC_090	CC_091	CC_092	CC_093	CC_094	CC_095	CC_096	CC_097	CC_098	CC_099	CC_100
CC_101	CC_102	CC_103	CC_104	CC_105	CC_106	CC_107	CC_108	CC_109	CC_110	CC_111	CC_112	CC_113	CC_114	CC_115	CC_116	CC_117
CC_118	CC_119	CC_120	CC_121	CC_122	CC_123	CC_124	CC_125	CC_126	CC_127							

画笔浓度

SAI_BD: 画笔浓度

配置页　　键盘测试　　设置

键值映射

| ⊙ 宏编辑器

灯效管理

存档管理

LAYER **0** 1 2 3 4 5 6 7

CXT 12E4 D&M ⌄

使用键盘录入

| MACRO 0
MACRO 1
MACRO 2
MACRO 3
MACRO 4
MACRO 5
MACRO 6
MACRO 7

请输入键值 "宏0" 所要执行的宏
若是第一次使用，请点击下方"宏编辑教程"以查看教程

延时　　　　　　　KC_LALT　　　　　添加　　　清除宏　　　保存

宏编辑教程

配置页　键盘测试　设置

键值映射

宏编辑器

| 灯效管理

存档管理

LAYER 0 1 2 3 4 5 6 7
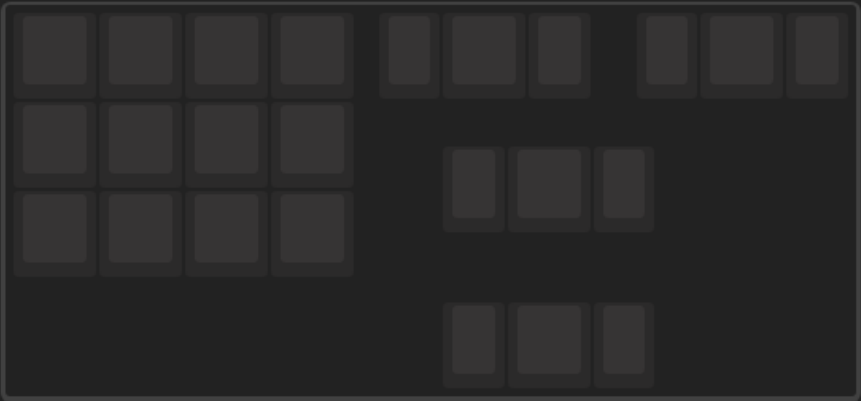
CXT 12E4 D&M

使用键盘录入

| GENERAL

灯光亮度
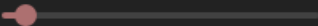
灯效　静态常亮

灯效速度 - Matrix专用

灯光颜色

配置页　键盘测试　设置
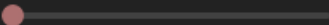
键值映射

宏编辑器

灯效管理

| 存档管理

LAYER 0 1 2 3 4 5 6 7

CXT 12E4 D&M

使用键盘录入

存储当前的键位设置数据

保存

载入存储的键位设置数据

打开

VIA-C — □ ×

关闭 Close

配置页 Configuration
键盘测试 Key test (eg.check triggering or not)
设置 Setting(eg.reset keyboard/all macro, flash firmware...)

| 键值映射 Key value mapping
⊙ 宏编辑器 Macro editor
♀ 灯效管理 RGB light setting
🖫 存档管理 Save configuration

LAYER 0 1 2 3 4 5 6 7

CXT 12E4

C(K... C(K... Bksp
← → Space

C+滚轮↑ 我的电脑 C+滚轮↓ ENC L- 计算器 ENC L+
Key value when rotate clockwise

音量- 播放/暂停 音量+
Key value when pressing the knob

C(... C(...
Key value when rotate anti-clockwise

使用键盘录入
Choose key value by pressing on your real keyboard to record so

| 基础键 Basic
多媒体键 Media (eg.volume up/down)
宏键 Macro
层管理键 Layer (eg. switch to next layer)
特殊键 Special (eg. Power on/Sleep/Wake up)
灯控键 RGB lighting related
SURFACE DIAL
鼠标键 Mouse related
组合键 Key combination (eg.CTRL + C)

▽ Esc

主键区-字母键

A B C D E F G H I J K L M N O P
Q R S T U V W X Y Z

主键区-数字键

! 1 @ 2 # 3 $ 4 % 5 ^ 6 & 7 * 8 (9) 0

Key setting tutorial (https://cxtkb.com/zh/keymap)

Interface description

- **layer label**
  - › The keyboard has multiple layers. By clicking different layer labels, different layers in the keyboard can be set [just setting, the layer where the keyboard is located will not change unless it is manually switched]

- **key position**
  - › The grid corresponding to the physical keys on the keyboard, each key position can be set to an independent key value in each layer

- **key-value classification**
  - › Classify many key values according to certain rules, organize them into labels, and select different key values after switching

- **key-value list**
  - › The specific key value belonging to a certain category, when the mouse moves over a certain key value, the description of the key value will appear at the bottom of the interface

- **Is it allowed to use the keyboard to enter key values**
  - › Usually, you need to click the key with the mouse to enter the key value, and then select the key value setting from the key value list. If this option is enabled, after selecting the key position, press the key value on the keyboard to set the key Enter value to key

General key-value setting tutorial

1. Click the layer label first, select the layer to be set, the keyboard defaults to *LAYER 0*
2. click the specific key you want to set in the key
3. select the key value you want to set from the key list below

<mark>The settings take effect immediately and do not need to be saved or written</mark>
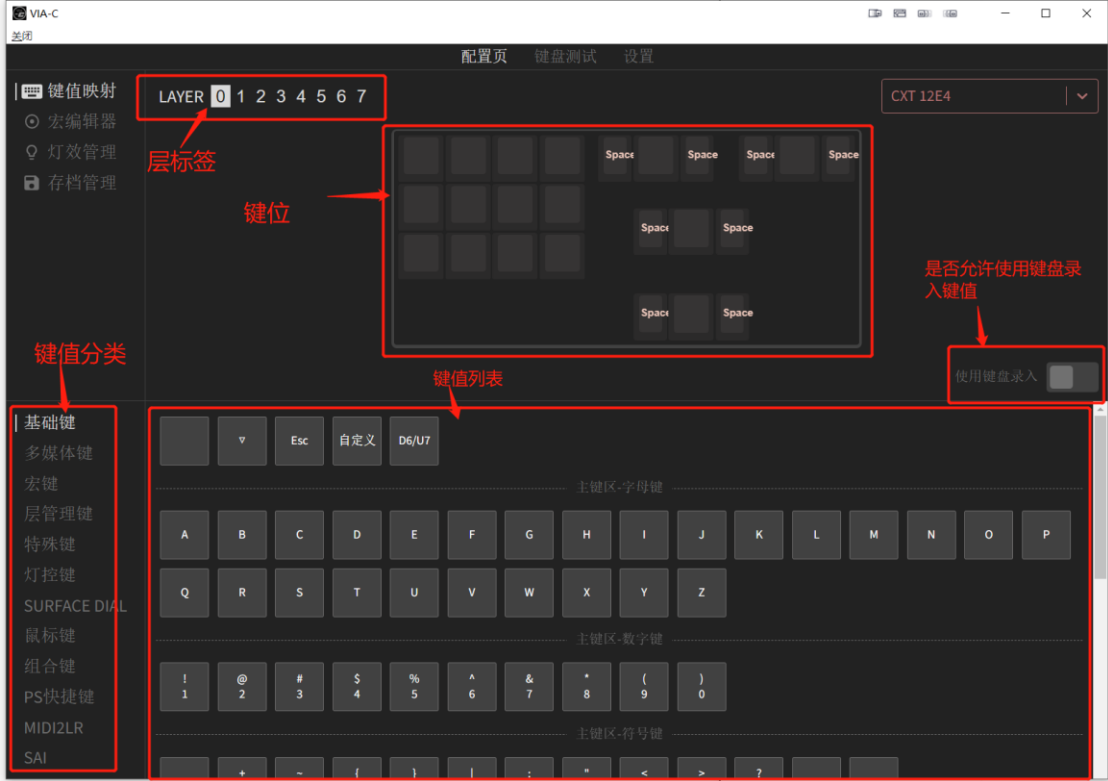
Key combination setting tutorial

1. click on the layer label and select the layer to be set
2. click the specific key you want to set in the key
3. Switch the key-value classification list to composite keys

Select the key combination you want to set modifier key (example *CTRL+S*)

1. Select *CTRL+*
2. press on the keyboard *S*
3. At this time, the text input box below captures *KC_S*
4. click OK to complete the setting

<mark>The settings take effect immediately and do not need to be saved or written</mark>

Knob key value setting tutorial

1. The knob key is different from the conventional key. As shown in the figure above, the three connected together are the knob key, which also corresponds to the physical position of the knob on the keyboard.
2. The knob provides *CLOCKWISE*, *PRESS/CLICK*, *COUNTERCLOCKWISE* keys, corresponding to the three physical trigger modes of the knob
3. Set the key value to clockwise, and when the knob is turned clockwise, the key value will be triggered
4. The pressing of the knob can be combined with clockwise and counterclockwise to form a combination key.
   If the pressing is set to *Alt*, and the clockwise and counterclockwise is set to mouse wheel, then when pressing and turning, the trigger *ALT + MOUSE WHEEL*
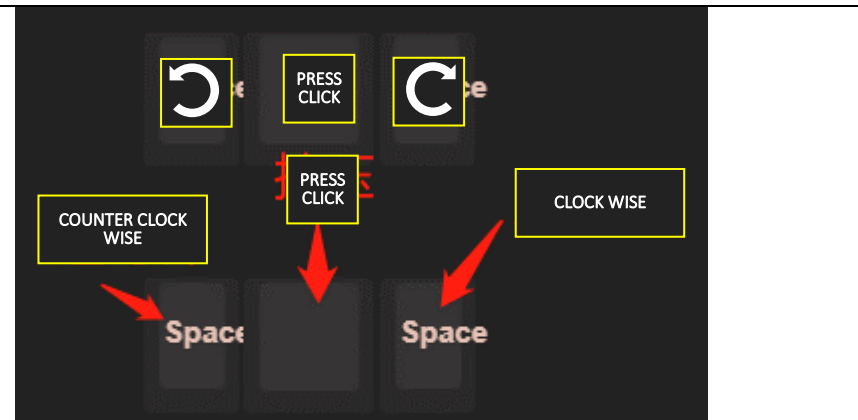
Included in the special keys of the key-value category 系统应用键 (SYSTEM APPLICATION KEY), which are not valid for all systems, move the mouse to the corresponding key value, and a prompt will appear at the bottom of the interface
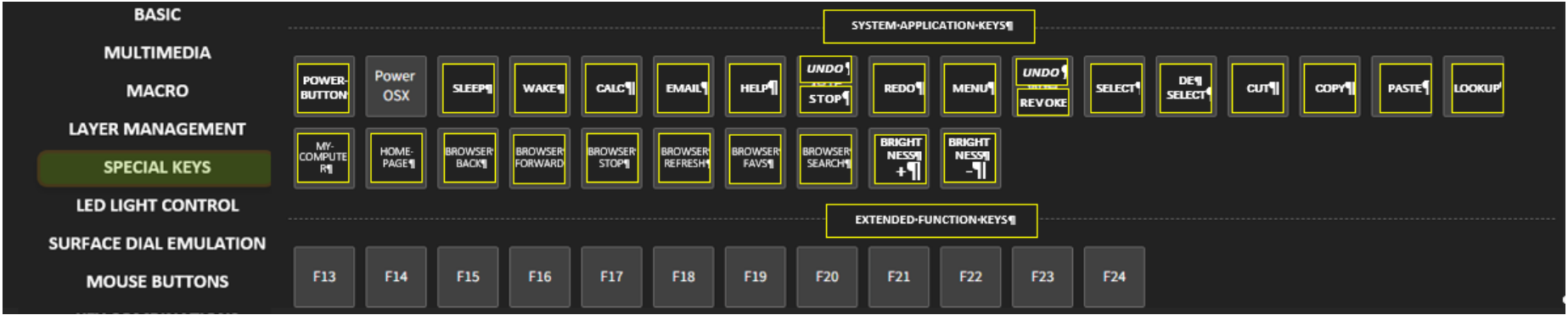
- *F13-F24* is not supported by default in Windows, and Windows does not assign functions to it. If you want to use *F13-F24* as a shortcut key for a certain software, you must support it by the software itself.

  › For example: *F13-F22* can be captured when the shortcut keys of WeChat are set, but *F13-F24* cannot be captured when the shortcut keys of Netease Cloud Music are set

customize	• The key is provided in the basic key (*CUSTOMIZE*). The key value is a temporary key value. It is mainly used to cooperate with CXT_KBT before the official version is released. Set the same layer and the same key as other functions, you can use
D6U7	• Since the CXT keyboard itself does not support setting the key value separately for the key press and release, but because some users have this demand, the additional key value is added • When the key value is set to a layer other than 6 or 7, press the key to trigger the key value of the key in layer6, and release it to trigger the key value of the key in *LAYER7*
▽ key	• Penetration key: In the default configuration of the keyboard, except for layer0, the default key values of the keys of all other layers are penetrating keys • The keyboard itself has multiple layers. See [layer management]. This key value indicates that the current key position is in the current layer, and the key value is the same as the previous layer. If the previous layer is also the key value, it will continue to penetrate until layer 0. • For example: when the first row of *LAYER 0* is set to 1, 2, 3, 4, and the first row of *LAYER1-7* is all penetrating keys, then no matter which layer is switched to, it will trigger 1, 2, 3 defined in *LAYER0 , 4*.
TH45	• Long and short press the combination key, short press will trigger the value set in layer 4 of the current key position, and long press will trigger the value set in layer 5 of the current key position
TH67	• Long and short press the combination key, short press will trigger the value of the current key set in *LAYER 6*, and long press will trigger the value of the current key set in layer 7
Burst key 1	• Burst key, mode 1: When pressed, the value of the current key set in *LAYER 7* is continuously sent, and when released, it stops sending.
Burst key 2	• Burst key, mode 2: Continuously send the value of the current key set in *LAYER 7* when pressed, it will not stop when it is released, and stop until the next time it is pressed.
Burst key 3	• Burst key, mode 3: short press and release triggers the value set in *LAYER 7* of the current key position, and continuously sends the value set in *LAYER 7* of the current key position when long press is released, until the next time the key is pressed to stop sending
Long press and short press time threshold is 200 milliseconds, press and release within 200 milliseconds, it is judged as short press, press and release after 200 milliseconds, judge as long press	

The concept of layer [Layer] (https://cxtkb.com/layersetting)

CXT series keyboards support the setting of multi-layer key values, depending on the model, 4-8 layers are available.

- Layer [Layer] starts counting from 0 (layer 0)

- A layer can be understood as a [sheet] in an Excel file.
- Each page contains a specific number of [keys].
- Each table on each page can be Store different [key value], and the layers do not interfere with each other:

A	B	C	F	
Q	W	E	R	
Q	SA	S		
K	L	L	LIU	
I	A	I		

Sheet1 | Sheet2 | Sheet3 | Sheet4 | Sheet5 | ⊕

layer management key:

For layer management, providesMO(x), TO(x), the knob changes layers, you can choose flexibly according to your needs:

MO(x): When this key is pressed, temporarily switch to layer x, and when released, return to the current layer

Examples

1. Some notebooks have an *FN KEY*, and the combination of key values in the F area of the *FN KEY* can become a special function, such as Fn F5=volume down, Fn F6=volume up,

    a. the Fn key is not an actual key value, it is the same as *MO*

    b. The principle of the (x) key is similar, but *MO(X)* does not limit the key position or key value.

    c. set *MO(1)* at the first key position of the *0TH FLOOR* in the upper left corner of the keyboard, and the first key of the 1st floor at the lower right corner of the keyboard If the bit is set to multimedia key - volume –

    d. then when the keyboard is on *LAYER 0*, press the first key in the upper left corner and the first key in the lower right corner at the same time, the volume will be triggered

2. The key above the *CHARACTER AREA* in the keyboard A numeric key, usually consisting of two characters, such as *1! , 2@,*

    a. when we press normally, it will trigger the number, and when we press Shift together, it will trigger the symbol.

    b. The effect is similar to that of *MO(X),* except that MO(x) can make a key contain more key value

TO(x): After triggering this key, the keyboard switches and stays at layer x, unless it is replugged or manually changed, it will always stay at layer x

Example:
- When both Windows and Mac OS are available, you can set the key value used in Windows to *LAYER 0*, and the key value used in Mac OS to *LAYER 1*.
- When using it on a Windows computer, there is no need to switch
- when on a Mac OS computer, use *TO(1)* to switch the keyboard to layer 1 and switch to a Mac OS shortcut key, realizing one-key switching of multiple sets of key value configurations

Knob change layer:

It can only be set to the knob key, it needs to be set to layer 0, and each layer behind the knob needs to be set to the basic key ▽. After the setting is completed, turn the knob, and the keyboard will cycle through layers 0-7

- Since this key value will occupy all the layers of a knob position, it is recommended to select only one knob position and set it to Knob Change Layer+ or Knob Change Layer

layer light

- Some models of keyboards provide the function of layer indicators.
- When the keyboard is at layer 0, the layer indicators do not light up.
- When the keyboard is at 1-4, the keyboard will turn on the blue lights in the first row from left to right
- When the keyboard is at 5-7, the keyboard will turn on blue lights in the second row from left to right

Macro Editing Tutorial (https://cxtkb.com/zh/macro)

- Macro, which combines a series of actions and executes them when needed, to realize functions such as: button connecter, one-key password, etc.

macro action

<mark>Reserved characters: " {", " }", " CR (carriage return)" are reserved characters, these characters will be recognized as specific meanings, and will not be output as regular characters</mark>

character	Entering characters other than non-reserved characters in the edit box will be output as key values, such as: 123ab After saving and executing, the keys 123ab will be triggered in turn, and this function can be used to realize one-key passwords, etc. Additionally, spaces are also logged and output	
time delay	Stay in the two key values for the specified time, in milliseconds ms. cannot appear inside *{}*	
keyboard key value	Regular keyboard key-value, the key-value is included in *{}* and starts with *KC_*. When Chinese or key-value is entered in *{}*, it will match the included key-value and display it in a list. You can also use the mouse to click to capture the key-value Then press the key on the keyboard, and then add to the edit box	
Keyboard key value combination key	The key values inside *{}* will be triggered together, and the key values are separated by commas, such as {*KC_LCTL*,*KC_A*}, which means pressing *CTRL* and *A* at the same time	
mouse button	Mouse key, enter the mouse in *{}*, and the relevant key value will appear	
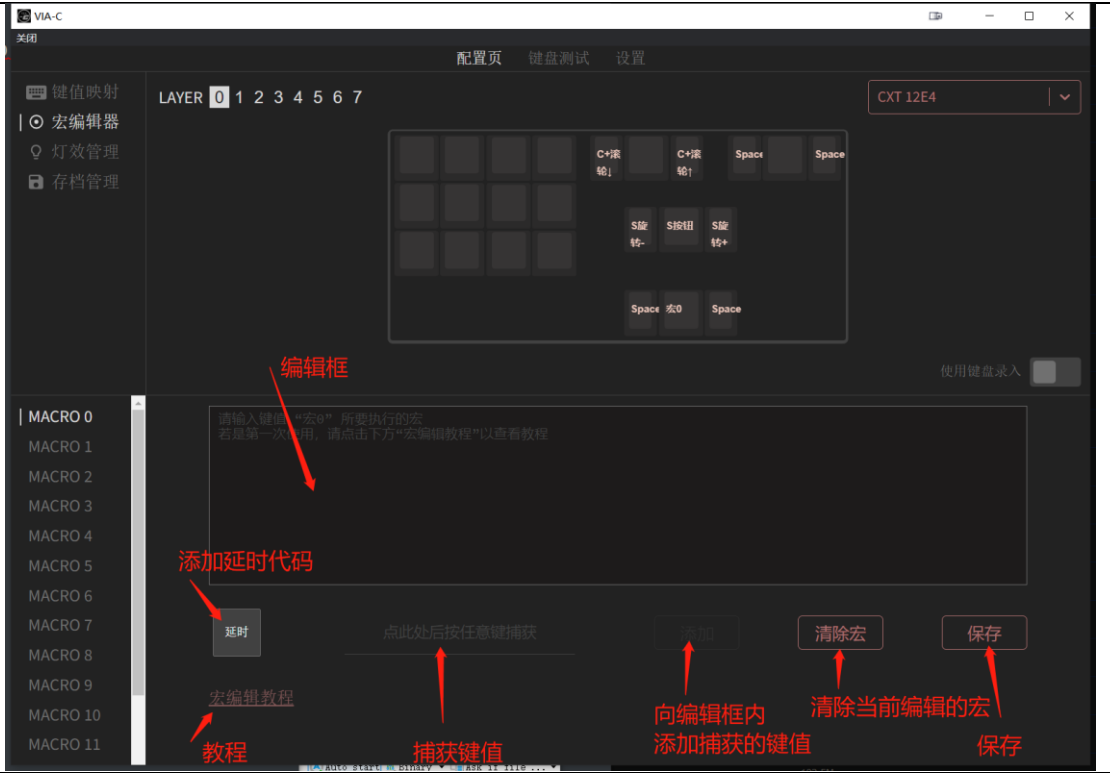
Examples of macro actions

output characters directly *(for example: AB CD)*	1. After saving, you can output A space B space CD in sequence 2. The edit box will record and output spaces, so don't enter irrelevant spaces. 3. When playing the macro, it will be output according to the uppercase and lowercase when editing, so you need to pay attention to uppercase and lowercase. Because this function will be automatically implemented with Shift, sometimes you only want to output the specified key value, you need the following method.
Output the specified key value *(for example: backspace)*	To output the key code, the key code needs to be written in *{}*, such as the backspace key 1. Insert the cursor into *{}* and enter "backspace", and the corresponding key value can be automatically matched (so you don't need to remember the key value) 2. Enter *A* in English in *{}* to match the key value of *A KC_A* , if it cannot be matched once, such as *K*, just enter *KK* twice in a row to match. 3. The mouse button corresponds to *MS* or mouse, input Chinese "*MOUSE*" or English "*MS*" in curly brackets, it can match the mouse button value 4. If you don't know the key-value code, and you can't think of the key-value name for a while, you can use any key capture function 5. Click "click here and press any key to capture" below, then press the key you want to be recorded on the keyboard, it will be captured 6. the add button will light up 7. click the edit box with the mouse 8. select the position you want to add 9. Click Add to join.
Simultaneous output of multiple key values	sometimes you need to output a combination of keys, you need to output multiple keys at the same time, such as: *CTRL+C* 1. Enter two key values in *{}* and separate them with English commas, such as: 2. A *COMMA* is not required after the last key-value. 3. All key values written in the same *{}* will be output at the same time, which is equivalent to pressing *CTRL* and *V* at the same time. 4. Because of this feature, delay is not supported.
time delay	Sometimes you want to have a time interval when outputting key values to prevent the operation from being too fast, so you need to use a delay 1. Click the delay button on the interface, and a delay code, "DELAY(100)", will be added in the edit box. 2. The (100) in brackets is 100 milliseconds, which can be manually changed to the desired value, such as "DELAY(1000)" for 1 second, or "DELAY(60)" for 60 milliseconds. 3. The delay threshold is 1-30000 milliseconds, [the key interval is generally between 50-80 during normal typing]

script example

Since the carriage return will not be recorded, I use the carriage return to segment, which is clearer.

```C{DELAY(1000)}```
```X{DELAY(1000)}```
```T{DELAY(1000)}```
	will output an uppercase C, an uppercase X after a delay of 1 second, and an uppercase T after a second delay

```{KC_C}{DELAY(1000)}```
```{KC_X}{DELAY(1000)}```
```{KC_T}{DELAY(1000)}```
	will output the C key, output the X key after a second delay, and output the T key after a second delay.
	At this time, Shift will not be automatically added, just press the key value

```help.cxt-studio.com```
```{DELAY(100)}```
```{KC_ENT}```
	will output lowercase first help.cxt-studio.com, and enter Enter after a delay of 100 milliseconds

```{KC_LCTL,DELAY(1000),KC_A}```	code will first press Ctrl, delay for 1 second (1000 milliseconds), and then press A

key-value list

key value	abbreviation	describe	Windows	macOS	Linux [1]
KC_NO	XXXXXXX	empty key value	*N/A*	*N/A*	*N/A*
KC_TRANSPARENT	KC_TRNS, _____	penetrating key	*N/A*	*N/A*	*N/A*
KC_A		a with A	✓	✓	✓
KC_B		b with B	✓	✓	✓
KC_C		c with C	✓	✓	✓
KC_D		d with D	✓	✓	✓
KC_E		e with E	✓	✓	✓
KC_F		f with F	✓	✓	✓
KC_G		g with G	✓	✓	✓
KC_H		h with H	✓	✓	✓
KC_I		i with I	✓	✓	✓
KC_J		j with J	✓	✓	✓
KC_K		k with K	✓	✓	✓
KC_L		l with L	✓	✓	✓
KC_M		m with M	✓	✓	✓
KC_N		n with N	✓	✓	✓
KC_O		o with O	✓	✓	✓
KC_P		p with P	✓	✓	✓
KC_Q		q with Q	✓	✓	✓
KC_R		r with R	✓	✓	✓
KC_S		s with S	✓	✓	✓
KC_T		t with T	✓	✓	✓
KC_U		u with U	✓	✓	✓
KC_V		v with V	✓	✓	✓
KC_W		w with W	✓	✓	✓
KC_X		x with X	✓	✓	✓
KC_Y		y with Y	✓	✓	✓
KC_Z		z with Z	✓	✓	✓
KC_1		1 with !	✓	✓	✓
KC_2		2 with @	✓	✓	✓
KC_3		3 with #	✓	✓	✓
KC_4		4 with $	✓	✓	✓
KC_5		5 with %	✓	✓	✓
KC_6		6 with ^	✓	✓	✓
KC_7		7 with &	✓	✓	✓
KC_8		8 with *	✓	✓	✓
KC_9		9 with (	✓	✓	✓
KC_0		0 with)	✓	✓	✓
KC_ENTER	KC_ENT	Enter	✓	✓	✓

key value	abbreviation	describe	Windows	macOS	Linux [1]
KC_ESCAPE	KC_ESC	ESC.Escape	✓	✓	✓
KC_BSPACE	KC_BSPC	Delete (Backspace)	✓	✓	✓
KC_TAB		Tab	✓	✓	✓
KC_SPACE	KC_SPC	space bar	✓	✓	✓
KC_MINUS	KC_MINS	- with _	✓	✓	✓
KC_EQUAL	KC_EQL	= with +	✓	✓	✓
KC_LBRACKET	KC_LBRC	[with {	✓	✓	✓
KC_RBRACKET	KC_RBRC	] with }	✓	✓	✓
KC_BSLASH	KC_BSLS	\ with |	✓	✓	✓
KC_NONUS_HASH	KC_NUHS	Non-US # and ~	✓	✓	✓
KC_SCOLON	KC_SCLN	; with :	✓	✓	✓
KC_QUOTE	KC_QUOT	' with "	✓	✓	✓
KC_GRAVE	KC_GRV,KC_ZKHK	`Japanese ~, JIS Zenkaku/Hankaku	✓	✓	✓
KC_COMMA	KC_COMM	, with <	✓	✓	✓
KC_DOT		. with >	✓	✓	✓
KC_SLASH	KC_SLSH	/ with ?	✓	✓	✓
KC_CAPSLOCK	KC_CLCK,KC_CAPS	Caps Lock	✓	✓	✓
KC_F1		F1	✓	✓	✓
KC_F2		F2	✓	✓	✓
KC_F3		F3	✓	✓	✓
KC_F4		F4	✓	✓	✓
KC_F5		F5	✓	✓	✓
KC_F6		F6	✓	✓	✓
KC_F7		F7	✓	✓	✓
KC_F8		F8	✓	✓	✓
KC_F9		F9	✓	✓	✓
KC_F10		F10	✓	✓	✓
KC_F11		F11	✓	✓	✓
KC_F12		F12	✓	✓	✓
KC_PSCREEN	KC_PSCR	Print Screen	✓	✓[2]	✓
KC_SCROLLLOCK	KC_SLCK,KC_BRMD	Scroll Lock, Brightness Reduction (macOS)	✓	✓[2]	✓
KC_PAUSE	KC_PAUS, KC_BRK, KC_BRMU	Pause, brightness boost (macOS)	✓	✓[2]	✓
KC_INSERT	KC_INS	Insert	✓		✓
KC_HOME		Home	✓	✓	✓
KC_PGUP		Page Up	✓	✓	✓
KC_DELETE	KC_DEL	Forward Delete	✓	✓	✓
KC_END		End	✓	✓	✓
KC_PGDOWN	KC_PGDN	Page Down	✓	✓	✓
KC_RIGHT	KC_RGHT	direction right	✓	✓	✓

key value	abbreviation	describe	Windows	macOS	Linux [1]
KC_LEFT		direction left	✓	✓	✓
KC_DOWN		direction down	✓	✓	✓
KC_UP		direction	✓	✓	✓
KC_NUMLOCK	KC_NLCK	Number Lock	✓	✓	✓
KC_KP_SLASH	KC_PSLS	keypad/	✓	✓	✓
KC_KP_ASTERISK	KC_PAST	keypad*	✓	✓	✓
KC_KP_MINUS	KC_PMNS	keypad-	✓	✓	✓
KC_KP_PLUS	KC_PPLS	keypad+	✓	✓	✓
KC_KP_ENTER	KC_PENT	KeypadEnter	✓	✓	✓
KC_KP_1	KC_P1	Keypad 1and End	✓	✓	✓
KC_KP_2	KC_P2	Keypad 2and Down Arrow	✓	✓	✓
KC_KP_3	KC_P3	Numpad 3and Page Down	✓	✓	✓
KC_KP_4	KC_P4	Keypad 4and Left Arrow	✓	✓	✓
KC_KP_5	KC_P5	keypad5	✓	✓	✓
KC_KP_6	KC_P6	Keypad 6and Right Arrow	✓	✓	✓
KC_KP_7	KC_P7	Numpad 7and Home	✓	✓	✓
KC_KP_8	KC_P8	Keypad 8and Up Arrow	✓	✓	✓
KC_KP_9	KC_P9	Keypad 9and Page Up	✓	✓	✓
KC_KP_0	KC_P0	Keypad 0and Insert	✓	✓	✓
KC_KP_DOT	KC_PDOT	Keypad .and Delete	✓	✓	✓
KC_NONUS_BSLASH	KC_NUBS	Non-US \and|	✓	✓	✓
KC_APPLICATION	KC_APP	See application (menu key under Windows)	✓		✓
KC_POWER		System Power		✓[3]	✓
KC_KP_EQUAL	KC_PEQL	keypad=	✓	✓	✓
KC_F13		F13	✓	✓	✓
KC_F14		F14	✓	✓	✓
KC_F15		F15	✓	✓	✓
KC_F16		F16	✓	✓	✓
KC_F17		F17	✓	✓	✓
KC_F18		F18	✓	✓	✓
KC_F19		F19	✓	✓	✓
KC_F20		F20	✓		✓
KC_F21		F21	✓		✓
KC_F22		F22	✓		✓
KC_F23		F23	✓		✓
KC_F24		F24	✓		✓
KC_EXECUTE	KC_EXEC	implement			✓
KC_HELP		help			✓
KC_MENU		menu			✓

key value	abbreviation	describe	Windows	macOS	Linux [1]
KC_SELECT	KC_SLCT	choose			✓
KC_STOP		stop			✓
KC_AGAIN	KC_AGIN	redo			✓
KC_UNDO		with draw			✓
KC_CUT		to cut			✓
KC_COPY		copy			✓
KC_PASTE	KC_PSTE	paste			✓
KC_FIND		look up			✓
KC__MUTE		mute button		✓	✓
KC__VOLUP		volume up		✓	✓
KC__VOLDOWN		volume down		✓	✓
KC_LOCKING_CAPS	KC_LCAP	Caps Lock	✓	✓	
KC_LOCKING_NUM	KC_LNUM	Num Lock	✓	✓	
KC_LOCKING_SCROLL	KC_LSCR	Scroll Lock	✓	✓	
KC_KP_COMMA	KC_PCMM	keypad,			✓
KC_LCTRL	KC_LCTL	Left Ctrl Control	✓	✓	✓
KC_LSHIFT	KC_LSFT	Left Shift	✓	✓	✓
KC_LALT	KC_LOPT	Left Alt (Option)	✓	✓	✓
KC_LGUI	KC_LCMD, KC_LWIN	LEFT GUI (Windows/Command/Meta key)	✓	✓	✓
KC_RCTRL	KC_RCTL	Right Ctrl Control	✓	✓	✓
KC_RSHIFT	KC_RSFT	Right Shift	✓	✓	✓
KC_RALT	KC_ROPT,KC_ALGR	RIGHT ALT (Option/AltGr)	✓	✓	✓
KC_RGUI	KC_RCMD,KC_RWIN	RIGHT GUI (Windows/Command/Meta key)	✓	✓	✓
KC_SYSTEM_POWER	KC_PWR	system shutdown	✓	✓[3]	✓
KC_SYSTEM_SLEEP	KC_SLEP	system sleep	✓	✓[3]	✓
KC_SYSTEM_WAKE	KC_WAKE	system sleep		✓[3]	✓
KC_AUDIO_MUTE	KC_MUTE	Mute	✓	✓	✓
KC_AUDIO_VOL_UP	KC_VOLU	Volume+	✓	✓[4]	✓
KC_AUDIO_VOL_DOWN	KC_VOLD	Volume-	✓	✓[4]	✓
KC_MEDIA_NEXT_TRACK	KC_MNXT	next track	✓	✓[5]	✓
KC_MEDIA_PREV_TRACK	KC_MPRV	previous piece	✓	✓[5]	✓
KC_MEDIA_STOP	KC_MSTP	stop	✓		✓
KC_MEDIA_PLAY_PAUSE	KC_MPLY	play / Pause	✓	✓	✓
KC_MEDIA_SELECT	KC_MSEL	Open Media Player	✓		✓
KC_MEDIA_EJECT	KC_EJCT	pop up		✓	✓
KC_MAIL		open mail	✓		✓
KC_CALCULATOR	KC_CALC	open calculator	✓		✓
KC_MY_COMPUTER	KC_MYCM	turn on the computer	✓		✓
KC_WWW_SEARCH	KC_WSCH	browser - search	✓		✓

key value	abbreviation	describe	Windows	macOS	Linux [1]
KC_WWW_HOME	KC_WHOM	browser - homepage	✓		✓
KC_WWW_BACK	KC_WBAK	browser - return	✓		✓
KC_WWW_FORWARD	KC_WFWD	browser - forward	✓		✓
KC_WWW_STOP	KC_WSTP	browser-stop	✓		✓
KC_WWW_REFRESH	KC_WREF	browser - refresh	✓		✓
KC_WWW_FAVORITES	KC_WFAV	Browser-Favorites	✓		✓
KC_BRIGHTNESS_UP	KC_BRIU	Brightness+	✓	✓	✓
KC_BRIGHTNESS_DOWN	KC_BRID	brightness-	✓	✓	✓

1. Almost all key codes can be recognized in Linux, but the key-value binding relationship is determined by the system
2. Treat it as F13-F15
3. You need to press and hold for 3 seconds and then a prompt will appear, instead of pressing and triggering immediately
4. Press and hold Shift+Option can better control the volume
5. Skip the entire track in iTunes when you tap it, and search in the current track when you hold it down

key value	abbreviation	describe	Windows	macOS	Linux [1]

Microsoft Surface Dial Simulation Tutorial (https://cxtkb.com/zh/surfacedial **)**

key value settings

VIA-C version 0.2.2 or later supports Surface Dial simulation, which includes support for Surface Dial's four actions of " **left-handed**", " **Right-handed**", " **click**", and " ".**Press**

Among them, the key-value map contains the SURFACE DIAL key-value list.

It contains **S button**, **S Rotate + (clockwise)**, **S Rotate - (counterclockwise)** three key values, which can be set to the knob to realize Surface Dial simulation, as shown in the figure After being set on the knob, the S button includes: › two operations of single click and long press at the same time › a short press triggers a single click › a long press triggers a long press the Surface Dial roulette menu is called out.	

Surface Dial Settings To customize Surface Dial, click the Win icon in the lower left corner of the system tray, and then select " set up" > " device" > " rotary table".	
default functio	
Volume	Rotate to the left to zoom out, and to the right to zoom in. Click to mute and unmute.
scroll	Rotate left to scroll up and right to scroll down.
zoom	In Adobe Photoshop and Adobe Illustrator, rotate left to zoom out and right to zoom in. Click to fit to screen.
undo	Rotate left to step through the undo history, and right to step through the redo history. Click to perform a single undo.
brightness	Rotate to the left to darken the screen, and to the right to brighten the screen.

custom tool		

global shortcut【Global effect】
 	
   1. Select "*ADD BUTTON+*" and select "*CUSTOM TOOL*"
   2. choose which keyboard shortcuts you want to see when you
        a) rotate left
        b) rotate right
        c) click
        the Surface Dial.
		自定义工具
		选择要用作自定义工具的键盘快捷方式。
		
		右旋快捷方式
		
		[Alt ⌄] + [Tab ⌄]
		
		左旋快捷方式
		
		[Ctrl+Shift ⌄] + [Tab ⌄]
		
		单击快捷方式
		
		[Ctrl ⌄] + [T ⌄]

App-specific shortcut keys [When in the selected software, it will automatically switch to this configuration]
 	
   1. Select "*APPLICATIONS*"
   2. "*ADD APPLICATION*"
   3. "*ADD TOOL*"
   4. enter
        a) custom tool name
        b) right-handed shortcut
        c) left-handed shortcut
        d) single-click shortcut.
		⌂ **微信**
		
		添加或修改工具
		
		选择键盘快捷方式，以便为此应用创建你自己的滚轮工具，或者更改现有滚轮工具。
		
		[+] 添加工具
		
		1 新工具
		   Ctrl+Tab，Ctrl+Shift+Tab，Ctrl+T
		
		2 新工具
		   Ctrl+Tab，Ctrl+Shift+Tab，Ctrl+T

PS (PhotoShop) shortcut key (https://cxtkb.com/zh/PSshortcut)

canvas adjustment

<mark>Mac OS only supports rotating the canvas clockwise, and rotating the canvas counterclockwise conflicts with the system</mark>

brush adjustment

<mark>1 means that the value increases by 1 every time you rotate 1 grid, and 10 means that the value increases by 10 every time you rotate 1 grid</mark>

Opacity	Set this key value to the knob to adjust the opacity of the brush.	It needs to be set to the clockwise and counterclockwise keys of the knob at the same time.
brush flow	Set this key value on the knob to adjust the flow rate of the brush.	When turning, the opacity value of the brush will be increased or decreased according to the direction of the knob
brush smoothness	Set this key value to the knob to adjust the smoothness of the brush.	

<mark>When using PS shortcut keys to adjust the "opacity, flow, smoothness" of the brush, it is not limited by the system</mark>

MIDI Controller Instructions (https://cxtkb.com/zh/midi)

After turning on the VIA-C and connecting the keyboard, if the model number on the upper right corner is "***MODEL + MIDI***", it supports this function.

If it is "***MODEL + DIAL***", it does not support this function. You need to flash in the firmware that supports MIDI.

Some models of keyboards have added a *MIDI* controller function, which can simulate the knob as a *MIDI CC* controller and output the value of *CC 0-127*

Application of MIDI in Lightroom

After setting the MIDI key value on the knob, with MIDI2LR, the knob can be used for Lightroom color correction

MIDI2LR version 5.xxx only supports Lightroom 11 Classic or later

MIDI2LR version 4.xxx only supports Lightroom 10 Classic

需刷入名称带midi的固件，CC值设置在顺时针为+，逆时针为-

CC重置	CC_000	CC_001	CC_002	CC_003	CC_004	CC_005	CC_006	CC_007	CC_008	CC_009	CC_010	CC_011	CC_012	CC_013	CC_014
CC_015	CC_016	CC_017	CC_018	CC_019	CC_020	CC_021	CC_022	CC_023	CC_024	CC_025	CC_026	CC_027	CC_028	CC_029	CC_030
CC_031	CC_032	CC_033	CC_034	CC_035	CC_036	CC_037	CC_038	CC_039	CC_040	CC_041	CC_042	CC_043	CC_044	CC_045	CC_046
CC_047	CC_048	CC_049	CC_050	CC_051	CC_052	CC_053	CC_054	CC_055	CC_056	CC_057	CC_058	CC_059	CC_060	CC_061	CC_062
CC_063	CC_064	CC_065	CC_066	CC_067	CC_068	CC_069	CC_070	CC_071	CC_072	CC_073	CC_074	CC_075	CC_076	CC_077	CC_078

› Set the desired CC value to the clockwise and counterclockwise keys of the knob at the same time, turn the knob, and the MIDI signal can be output.

› Set the CC value to the clockwise key position of the knob, the output value will increase automatically, set it to the counter clockwise key position, the output value will decrease automatically

Windows installation tutorial	Mac OS side installation tutorial

1. Select the corresponding version of MIDI2LR to download according to the currently used Lightroom
   a. Windows MIDI2LR 5.x Download link：https://cxt-studio.lanzouf.com/iwKf802c2z3a
   b. Windows MIDI2LR 4.x Download link：https://cxt-studio.lanzouf.com/izD8902c3udg
2. Download MIDI2LR-x.x.x.x-windows-installer.exe to any directory that can be foun
3. If you are using Lightroom at this time, please close it now, then open the exe file you just downloaded, double-click to open and install it
4. There is no need to make special settings on the Windows side, and it can be used after installation
	1. Select the corresponding version of MIDI2LR to download according to the currently used Lightroom
	   a. Mac OS MIDI2LR 5.x Download link：https://cxt-studio.lanzouf.com/iVFc602c2z0h
	   b. Mac OS MIDI2LR 4.x Download link：https://cxt-studio.lanzouf.com/iF7rS02c3ufi
	2. Will MIDI2LR-x.x.x.x-osx-installer.dmg Download to any directory you can find
	3. If you are using Lightroom at this time, please close it now, then open the dmg file you just downloaded, and double-click to open it
	4. After opening, a new interface pops up, double-click the MIDI2LR icon in the pop-up interface to start the installation
	5. Then confirm all the way, the default path is usually suitable for most users
	6. If you need to manually load, then manually select the path during installation, remember this path, add it in Lightroom-File-Plug-in, select MIDI2LR.lrplugin in this path
	7. After the installation is complete, you can open Lightroom for testing. At this time, MIDI2LR should start with Lightroom, and the installation is successful.
	8. If MIDI2LR does not start after starting Lightroom, and the plug-in is displayed as unavailable in the file-plug-in tool, then the version is usually wrong.
	9. On Mac OS Mojave or later, when using MIDI2LR for the first time, an accessibility authorization prompt may appear
	10. Enter System Preferences - Security and Privacy - Privacy - Accessibility, and check MIDI2LR on the right

Brief tutorial	
1. Go to VIA-C first, and set the knob to MIDI CC value. Note that the key values need to be set in pairs, clockwise and counterclockwise need to set the same CC value, clockwise means increase, counterclockwise means decrease, if If only one is set, it cannot be used normally 2. 2. Open Lightroom, wait for the MIDI2LR interface to pop up, turn the knob, and a new line will appear in the MIDI2LR interface The MIDI command on the left is the CC value just set for the knob, and the corresponding LR command is on the right. Click to select the desired value from the pop-up list. After setting, return to Lightroom and turn the knob to take effect If the keyboard is re-plugged or the CC value is modified during use, MIDI2LR may not respond. At this time, enter Lightroom-File-Plug-in Tool Additional Information-MIDI2LR-Close the application and then start the application according to this path, you can up	文本　属性　云数据　王 **MIDI2LR** **MIDI2LR** 已连接 Lightroom 版本 4.3.1.11 加载　　　保存　　　设置 MIDI命令　　　LR命令　　　▼ 1 | CC: 0　　　基础色调：白平衡 自动

common problems (https://cxtkb.com/zh/faq)

1. The keyboard light is always on after shutdown

- This problem is common in ASUS, Gigabyte, MSI and other motherboards. The reason is that the motherboard has enabled the USB continuous power supply after shutdown by default, and some models have enabled the keyboard wake-up function after shutdown (you can press the specified key on the keyboard to turn it on after shutdown)

- [**ASUS Motherboard**]: Asus notebook or mainframe encounters the problem that the keyboard light is still on after shutdown, follow this tutorial to set it up: https://rog.asus.com.cn/support/FAQ/1042220

- [**Gigabyte motherboard**]: Press the **DEL**button up, switch to the **Power**page, you can see the **ErP**options, the default is **Disabled**, change **Enabled**, then press the **F10**warranty to modify and restart.

- [**MSI motherboard**]: Press **F11**to enter the BIOS interface when starting up, the default is **EZ mode**, please press **F7**to enter the advanced mode, then select **SETTINGS**- **Advanced**- **Power Management Setup**- **ErP Ready**, change to **Enabled**, and then press **F10**save to modify.

- After Gigabyte or MSI operation, if it still does not take effect. It is also necessary to further turn off the fast startup function of the system.

- 【Windows 10】: http://www.ujiaoshou.com/xtjc/094135978.html

- 【Windows 11】: https://blog.csdn.net/wuquan_1230/article/details/124238149

2. After restarting, you need to re-plug the keyboard to use it normally

- The default firmware of the keyboard contains many functions. When some motherboards are turned on, they will self-check all peripherals. There are few drivers in the BIOS, so the initialization is easy to fail, so that the USB port is unavailable after entering the system. After re-plugging and re-initializing the USB port by the system, the function will be normal.

- Flashing in **No MIDI firmware** resolves the issue. [If the firmware is not available on the website, you can contact customer service to obtain it]

3. When installing VIA-C under Mac OS, it prompts that the developer cannot be verified

- Since I did not purchase a certificate from Apple and signed it on the App Store, the software will prompt "unable to verify the developer of xxx" when installing the software.

- After the prompt appears, press the " **Command+Space**" key on the Mac keyboard, and "Focused Search" will pop up on the interface, enter "terminal" in it, and open

- Enter " " in the terminal **sudo spctl --master-disable**, do not include double quotes, please pay attention to spaces, it is best to use copy, do not enter manually

- After the input is complete, press Enter, a prompt will appear **password**, and then enter your user password (the password entered when the user's avatar appears after turning on the machine). There is no prompt during the password input process. After the input is completed, press Enter directly without any errors, which means success. If the prompt is still displayed **password**, the password just now is wrong, and you need to re-enter the password.

- After the command input is complete, it can be installed normally **VIA-C**.