User Manual

Specification of PC425A
MECHANICAL KEYBOARD

Name: MECHANICAL KEYBOARD

Model: PC425A

Version: 1.0

Write	Check	Approve	Sign
Qingfang Lu			

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Remarks: This specification is for reference only.

User Manual

Content

Attachment (FYI)

Figure1: diagram (6-view)

Figure2: Keyboard's layout

Figure3: Keyboard's photo

Figure4: Nano receiver's appearance and size

Figure5: Cable

User Manual

一、   **Product features**

1. Double shot keycaps, stylish appearance, easy to clean;

2. Professional tri-mould mechanical keyboard, can switch between different devices freely to finally solve the multi-device problem, either soldering switches or hot swap switch is optional;

3. Rainbow backlight effect, support 18 kinds of backlight modes with convenient operation, can adjust LED brightness and speed freely;

4. With volume knob design, sound/voice adjustment becomes easily and conveniently;

5. Support100% anti-ghosting.

二、   **Mechanical and electric characteristics**

Basic parameter	IC solution	Mechanical keyboard		
	Working voltage	Li-battery 3.7V，2500mA/H		
	Working current	200mA MAX		
	Duration of battery	Keyboard can continuously work 12 hours when LED is under the brightest mode;		
		Under streamer backlight mode, keyboard work 4 hours per days, battery can last for one week;		
		When backlight is off, keyboard can work around 15-20 days;		
	Wireless transmission distance	≧8 meters		
	Interface type	USB+2.4Ghz +Bluetooth tri-mould		
	USB+TYPE-C cable	USB cable, OD:3.8*1800mm, black braided, nickel plated USB, single magnetic ring;		
	Total number of keys	66 keys		
	Multimedia keys	Nill		
	Size	321.9*112.9*42.52mm	Net weight	552±30g (without cable)
	Color	black		
	Working mode	Matrix scan		

User Manual

	Keycaps technique	Double shot + laser letters		
	LOGO	Customize	LOGO technique	Silk printing

Parameter characteristics	Key pulling force	≧1.5KG
	Key resilience	50±10g
	Keycap spacing	19.00mm±0.05mm
	Tripping force	50±10g
	Touch point force	60±10g
	Operating stroke	4.0±0.5mm
	Preloading height	2.0±0.6mm
	Max force travel (120g)	3.8±0.2mm
	Operating life	More than 50 million tests at the speed of 4 times per second under DC 5V 0.1mA operating conditions
	Tactile	At the speed of 4 times per second, any position on the key feels no bad hand feeling;
Environmental parameter	Working temperature	0 to + 55 ℃
	Working humidity	40%~80%
	Storage temperature	-20°C to + 60°C
	Storage temperature	≤93%　(40°C)

User Manual

Material of main components

Top case	Black	ABS
Middle board	Milky white	PC
Bottom case	Black	ABS
Keycaps	Black	Double shot
Sandwich cotton	White	EVA
Bottom cotton	White	Sponge
Feet	Black	ABS
Pad	Black	Silicone
Switch	Green	/

三、 Connection

1、TYPE-C cable full length: 1800mm±30mm

The keyboard is connected to the host through a cable signal line, and the PIN arrangement of the interface is as follows:

2、2.4Ghz dongle connection

3、Bluetooth connection

USB "A" TYPE
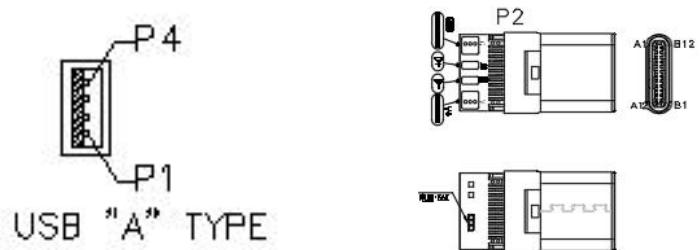
四、 Letter wear-resistance test

Times of test: > 5000 times;

Test speed: 72 times per minute

Test weights: 500g

Test eraser type: (1107#)

Distance: 12 mm

Test Environment temperature: 25℃

Test humidity: 65%

五、 Function explanation

1、 LED matrix (primary key region is rainbow backlight)

2、 LED indicators：
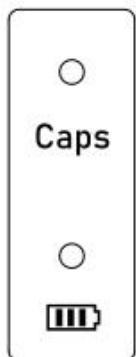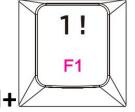
= Caps Lock

= charging and low voltage indication
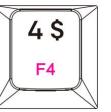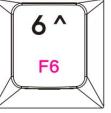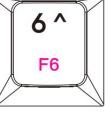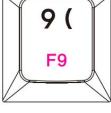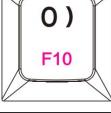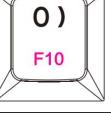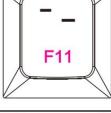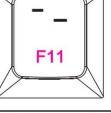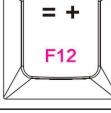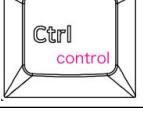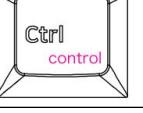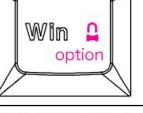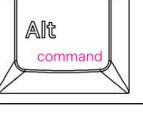
3、 Volume knob: Rotate clockwise is for volume up, rotate counterclockwise for is volume down, and press the knob to mute.

4、 **FN combination function**

Electrical function definition of rainbow backlight scheme			
Press FN + to exchange among 18 kinds of backlight modes.			

MAC system function		WIN system function	
Shortcut keys	Function	Shortcut keys	Function
FN+ 1 ! F1	Screen brightness -	FN+ 1 ! F1	F1
FN+ 2 @ F2	Screen brightness +	FN+ 2 @ F2	F2

User Manual

FN+ **3 #** F3	Open task control		FN+ **3 #** F3	F3
FN+ **4 $** F4	Open the boot pad		FN+ **4 $** F4	F4
FN+ **5 %** F5	F5		FN+ **5 %** F5	F5
FN+ **6 ^** F6	F6		FN+ **6 ^** F6	F6
FN+ **7 &** F7	Previous track		FN+ **6 ^** F6	F7
FN+ **8 *** F8	Open/stop		FN+ **8 *** F8	F8
FN+ **9 (** F9	Next track		FN+ **9 (** F9	F9
FN+ **0)** F10	Mute		FN+ **0)** F10	F10
FN+ **- _** F11	Volume down		FN+ **- _** F11	F11
FN+ **= +** F12	Volume up		FN+ **= +** F12	F12
Ctrl control	control		**Ctrl** control	Ctrl
Win 🔒 option	option		**Win** 🔒 option	Win
Alt command	command		**Alt** command	Alt

User Manual

MAC/WIN system functions			
FN+ Exchange among 18 kinds of backlight modes.			
Shortcut keys	Function	Shortcut keys	Function
FN+ Esc ~	~ `	**FN+** Q (2.4G)	2.4 mode (Toggle switch set to 2.4G position)
FN+ ↑ ☼	Increase backlight brightness	**FN+** W (BT1)	BT mode 1 (Toggle switch set to BT position)
FN+ ↓ ☼	Decrease backlight brightness	**FN+** E (BT2)	BT mode 2 (Toggle switch set to BT position)
FN+ ← ☼	Backlight speed down	**FN+** R (BT3)	BT mode 3 (Toggle switch set to BT position)
FN+ → ☼	Backlight speed up	**FN+** Win option	Open/close windows
FN+ P PrtSc	Print scree	**FN+** [{ ScrLk	Scroll lock
FN+] } Pause	Pause	**FN+** L Ins	Ins
FN+ " ' End	End	**FN+** : ; Home	Home
FN+ ↺	Reset		

User Manual

5、 **Keyboard toggle switch specification**

1. When toggle switch set to 2.4G position, keyboard will go into 2.4G mode;
2. When toggle switch set to BT position, keyboard will go into BT mode;
3. When toggle switch set to USB position, keyboard's battery power is off. Then connect the cable with keyboard, the keyboard will go into USB mode and charging mode;

4. When system toggle switch set to MAC, keyboard will go into MAC OS;
When set to Win, keyboard will go into Windows system.

6、 **Charging and low voltage indication specification**

When keyboard under charging status, this LED will show red;

When keyboard is fully charged, LED will be off.
Unplug USB charging cable, LED indicator will of off.
When voltage is lower than 3.3V, red LED will flashing.

7、 **Mode indication specification**

1、 Wired mode: No LED indicator, when toggle switch set to USB position, connect USB cable with keyboard, keyboard will go into wired mode;
2、 2.4G model: LED under Q key will flash, when pairing process is successfully done, LED under Q key will stop flashing and get back to the previous backlight mode.
3、 BT device 1: Press FN+W (BT1) respectively goes into pairing process , then the white LED under Q key will flash quickly indicating the pairing process is on-going, when pairing is successfully done, the white LED will stop flashing and get back to the previous backlight mode.
4、 BT device 2：will be the same operation as FN+E (BT1);
5、 BT device 3：will be the same operation as FN+R (BT1);

User Manual

8、   Device name

When under wired version: Gaming Keyboard

When under 2.4G version: 2.4G Wireless Receiver

When under BT version: Bluetooth keyboard

9、   Driver

   Support musical rhythm

六、   OS compatibility

1、   Port: Conforms to USB specification V1.1, support USB 1.0/1.1 while compatible

with USB 2.0/3.0;

2、   OS: WINDOWS XP/7/8/10/11, MAC

3、   This scheme is FCC, CE, ROHS certificated.

FIG. 1：
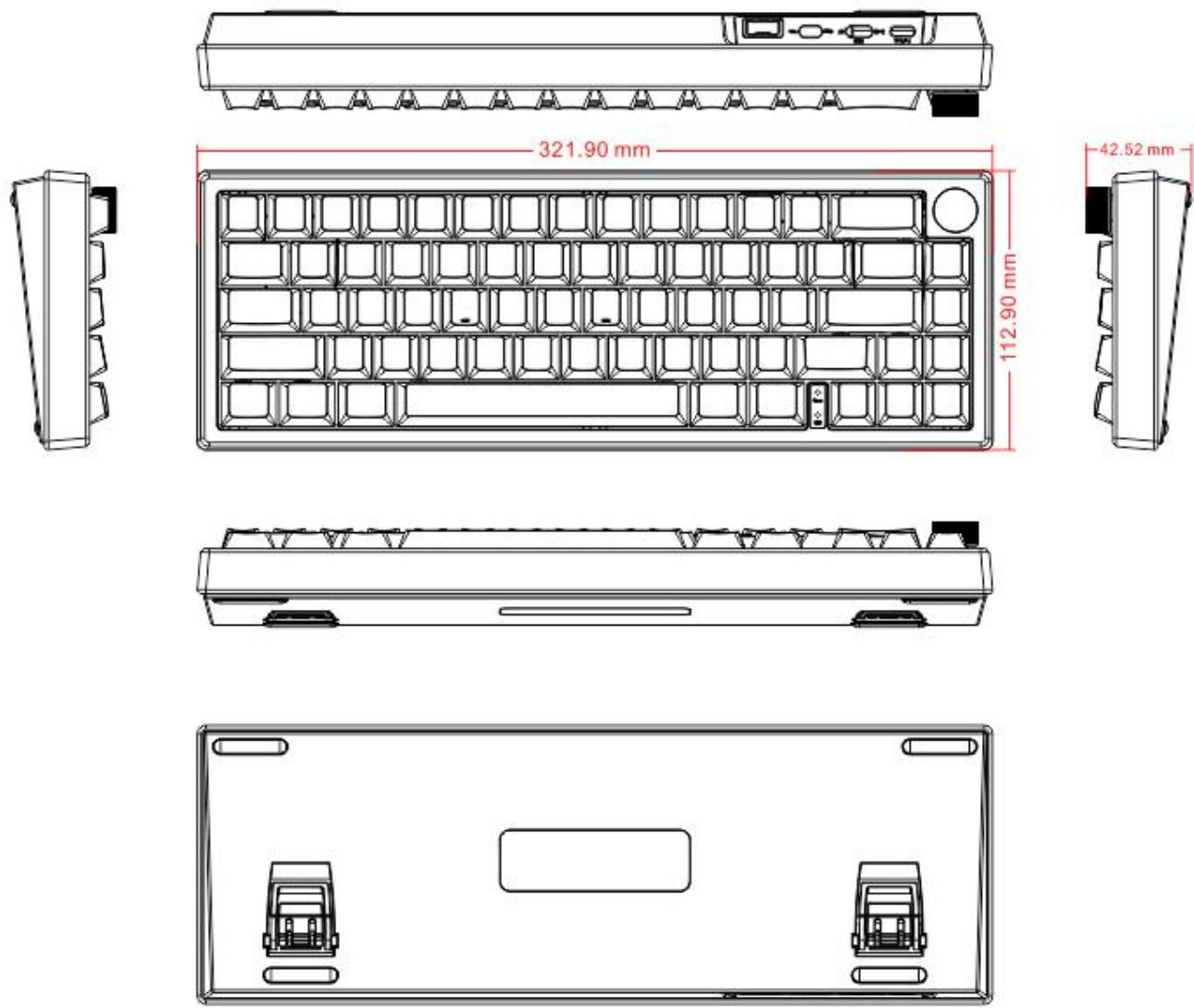
FIG. 2：
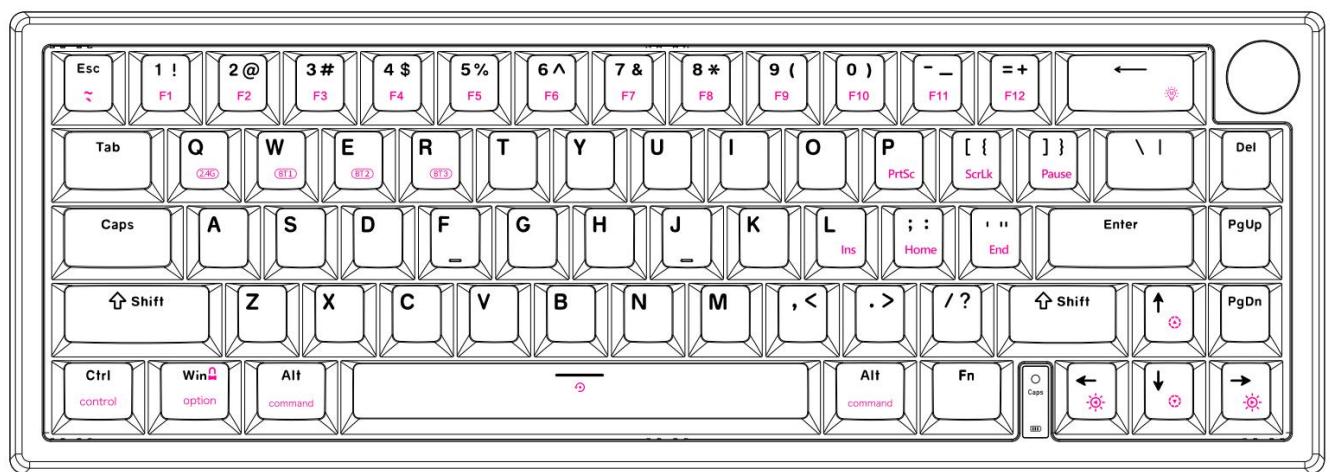
FIG. 3：Nano receiver

Receiver rating voltage: 5V

Receiver port: USB

Receiver receiving distance: 8 meters

Net weight of receiver: 2g

Size of receiver: 18.6x13.5x6±0.01mm
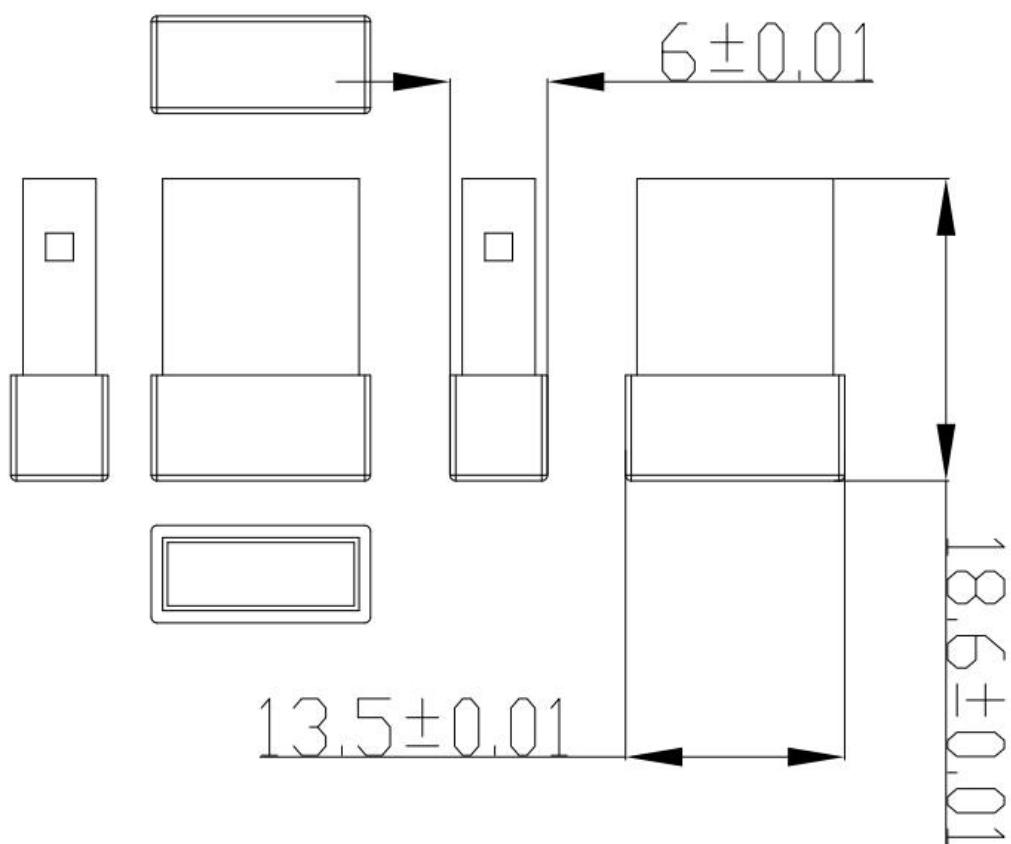
FIG. 4：
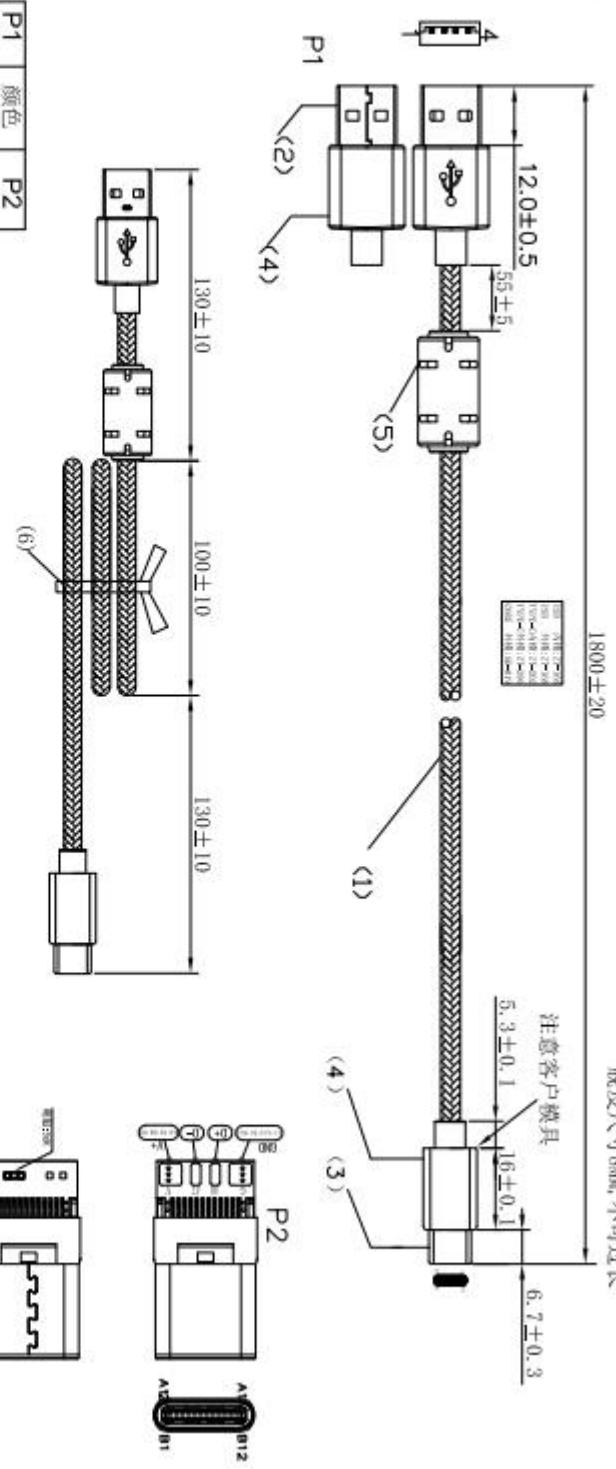
P1	颜色	P2
1	红	A4+B9+B4+B9
1	红	A5
2	白	A7
3	绿	A6
4*外壳	地	A1+B12+B1+B12

注意:
1. 电测PIN位.
2: 电测条件:绝缘阻抗:5MΩ, 导通阻抗:Ω.

			核准	确认	制作		客户	815	版本	B
							品名	USB TO TYPE-C USB电源编织线		
							料号	XKRB22011000		
							图号	ZT-815-0393	单位	MM

	材 料 明 细		数 量	单 位
(6)	椭圆形黑色扎线带 L=75MM	1	PCS
(5)	磁环:Φ5.6*20*Φ12 成型PVC 黑色 45P	2	PCS
(4)	内模成型PP+PE(3:1)料, 外模成型黑色PVC 35P	12	g
(3)	2.0 TYPE-C 端子镀金 3U4不锈钢无孔壳, 无铜基镀镍黑色胶芯 带5根KQ电阻 抽线与负极短路	1	PCS
(2)	USB AM公 白色胶芯 铁壳外无镀镍 外壳与负极短路 L=21长	1	PCS
(1)	3C 10MΩ, 105BRY1-15200+地(TPE, 中被白色±5.5 黑色PVC 8P 外被子黑色色丝成形16#4050 完成外径5.8	1.82	M
		数量	单位

FCC Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The device has evaluated to meet general RF exposure requirement. The device can be used be in portable exposure without restriction.