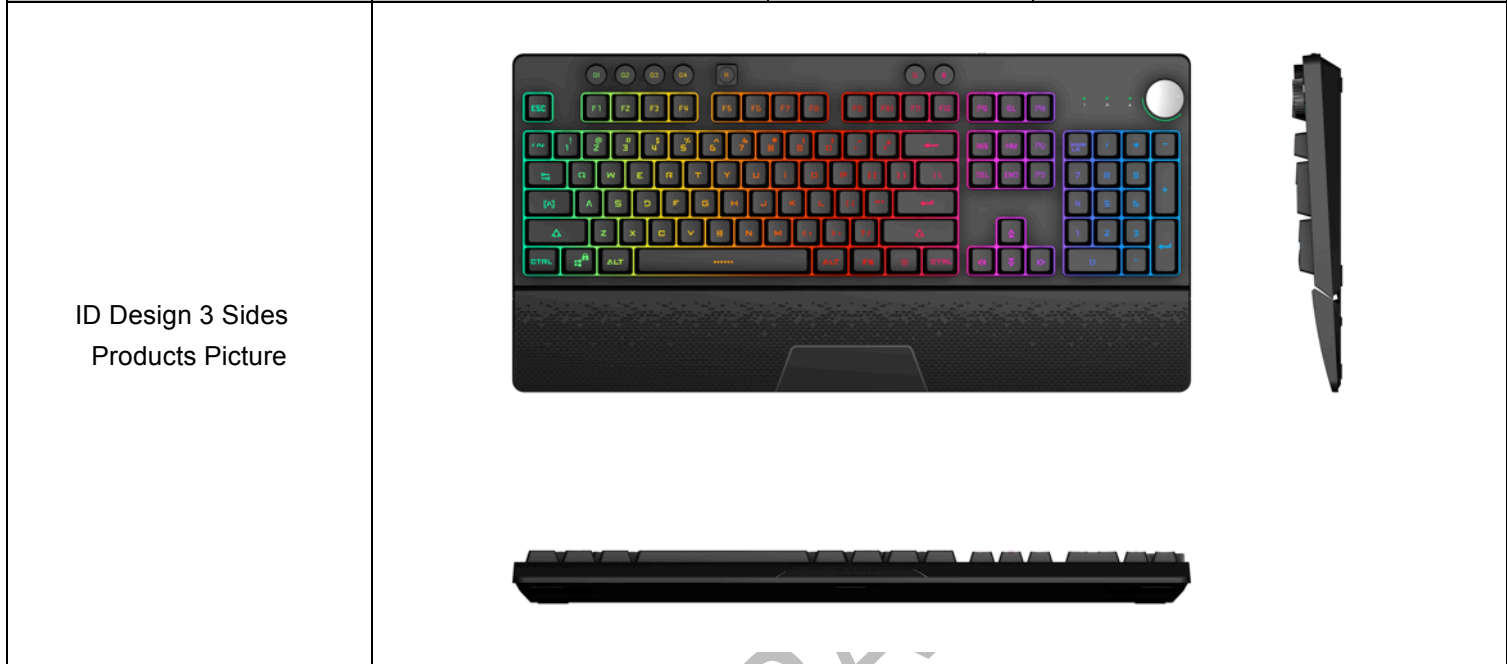


*Specification And User Manual* - VERSION: 2.1

Model NO.	GX650ML RGB	Product Type	Wired Gaming keyboard
Mass Production	2021-06-10	Patent No	ZL 2021 3 0268708.1



Class	Item	Specification	Item	Specification
Basic specifications	Keyboard type	Backlight Gaming keyboard	Layout Version	US / UK / Brazil
	Indicator Lights	Caps, Num, Scroll Lock	Product Size	L445*W223*H34mm
	Macro G-Keys	Support 4G-Keys	Net weight	750±50g
	Multimedia Keys	5 Keys + Knob Multimedia	Wire Specs	Φ3.5mm*1.80 meters / 6 feet
	Working voltage	UBS 5V	Wire color	Standard Black / OEM
	Switch type	15mm*6mm Rubber Dome	Interface	USB1.1/2.0/3.0 – Full Speed
	Load of key	55g±7g	Compatibility	Win2000 and Above Other OS G-Key Not support
	Key life	10 million times	Key Type	ABS Materials
	Backlight Color	RGB + 10 Customized	Breathing	Support
	Backlight Control	Brightness / Speed / Directions	Water Light effect	Support
	Programmable	NO	Ergonomically	Support
	Anti Ghosting	26 keys without confliction	Storage	NO
	Palm-Rest	Detachable Wrist	Water Resistance	Support
	GRC Recording	Yes	Character	Laser grave / Silk Printing

Class	Item	Specification	Item	Specification
Electrical parameters	MCU	HK9708	MCU Vendors	Dakai Industrial
	IC package	COB	Working voltage	DC4.2V-5.5V
	Operating current	200mA	Operating current	≤50mA
	Working ℃	0 ~ 45℃	Storage ℃	-20 ~ +60℃
	Working humidity	20 ~ 90%	Storage humidity	≤93% (40℃)
Features & selling points	1	Driverless, USB 2.0 Plug and play		
	2	4 Macro buttons + GRC Macro record Function		
	3	12 Multimedia keys, easy to complete control FN1:FN12		
	4	2 internet keys, Active and easy to Access		
	5	Support ergonomic design, with detachable Full Size Palm-Rest		
	6	Support multicolor backlight design, all characters are clearly visible on the dark night;		
	7	Large Gaming Rubber Dome silicone design, feel good, button life up to 10 million times		
	8	Anti Ghosting - support 26 keys without confliction		
	9	Knob Multimedia Control Voice UP / Voice Down / Play / Pause		
	10	Water Resistance Function		
	11	Special Keys Caps Lock, Num Lock, Scroll Lock, Media Keys, Backlight toggle, Game / Windows Key, Mute Key, Volume Keys, Macro G-Keys, GRC Key		
	12	Windows Key Lock Function		

## **1 - Gaming Keyboard IC**


This is a dedicated USB Gaming keyboard IC with built-in backlight control, and can work with a special matrix to achieve a fixed 26-key non-conflicting key function keyboard.

## **2 - Product application**

This IC is a single-chip USB Gaming keyboard IC with a built-in backlight drive port. With the supporting DKL1008 LED control chip, it can realize the partition and independent lighting of a colorful backlit keyboard with a horseracing mode, and other keyboard ICs with special functions can be customized according to customer needs. .

Runs on Win2000, Win XP, Win ME, Vista, Win7, Win8 and other operating systems.

## **3 - Instructions:**

1. Open the product packaging, take off the keyboard wire tie, put the wire into the computer's USB port;
2. The first time you use this keyboard, the system may need to install the USB driver, then the computer will automatically search and install the keyboard driver;
3. After the installation is complete, the keyboard can be used normally;
4. Press the light key on the keyboard, can switch and change the backlight;
5. Press FN+ Windows Key  to Lock/Unlock Windows Key

### **Different backlight modes**

6. FN + (1 2 3 4 5 6 7 8 9) key to cycle through different backlight modes  
Power-on defaults to FN+1 combination mode  
FN + 1 Continuous flow  
FN + 2 Colorful horse racing  
FN + 3 Colorful circulatory breathing  
FN + 4 Pure color comet trailing  
FN + 5 Colorful manual switching, the backlight color changes every time you press it  
FN + 6 Colorful diffusion and shrinkage  
FN + 7 Customize the 6-zone backlight color, definition method: press FN+7 twice within two seconds, the backlight white flashes twice, indicating that you have entered the custom editing state, and then press FN+ up and down direction keys to select the color of the current zone, FN+ Use the left and right arrow keys to select the area to be customized; the customized color can be saved when the power is off  
FN + 8 Backlight color impact diffusion  
FN + 9 Voice-activated backlight: The brightness of the backlight changes with the intensity of the external environment. The first time you press, the backlight color is automatically changed by colorful voice control, and the second time you press, the backlight is single red.
7. Backlight brightness control: FN+PGUP brightness increases, FN + PGDN brightness decreases. 3 levels of brightness adjustment function, the default is the brightest.
8. Backlight breathing frequency and horse racing speed control: adjusted by FN + "=" / FN + "-\_" control, FN+ "-\_" frequency slows down, FN + "=" frequency speeds up, 3 levels adjustable, default 1 the fastest file.
9. Key lock function control: FN+WIN-L lock WIN function. Press FN+WIN-L, lock the WIN and lock APP keys at the same time, and then press to unlock.
10. Direction switching: Press FN + W to switch between ASDW and the 4 direction keys, and then press to restore;
11. Backlight breathing rate and Marquee speed control: FN+ "-" / FN+ "=" Control adjustment , FN+ "-" Reduced frequency period , FN+ "=" Extended frequency period, 4-speed Brightness adjustment function, The default is the first speed is the fastest.

## **12. Anti Ghosting Function - Special function description**

Special matrix: support 26 keys at the same time without conflict ("Q", "A", "Z", "W", "S", "X", "E", "D", "C", "B", "R", "F", "V", "T", "G", "M", "SPACE", "↑ (UP)", "↓ (Down)", "← (Left)", "(Right t) →", "Tab", "Alt-L", "Ctrl-L", "Shift-L", "CAPS".

## **13. Macro definition settings**

- G1~G4 are 4 macro keys, the default is F1, F2, F3, F4
- Recording a macro: Press FN + PrtScr, the SCROLL indicator flashes to indicate that during recording, enter the keys one by one (up to 16 characters), after inputting, press the macro key to be saved, if you press G1, the SCROLL indicator will be locked at this time Stop flashing, it means that M1 has been recorded; if you press M1 again, the saved keys will be played in sequence; then repeat the above operation to set G2-G4 in sequence
- Clear the macro: press FN + PrtScr, the SCROLL indicator flashes to indicate that it is in the process of clearing, press G1 directly, at this time the SCROLL indicator stops flashing, that is, it is cleared

## **14. Multimedia functions**

Standard key combination function description

- FN+F1 multimedia player
- FN+F2 Volume-
- FN+F3 Volume+
- FN+F4 mute
- FN+F5 previous song
- FN+F6 Next song
- FN+F7 pause/play
- FN+F8 stop
- FN+F9 Home
- FN+F10 Mail
- FN+F11 My Computer
- FN+F12 Collection

Product Information: If the product is something different from the introduction, please refer to the real device as the final confirmation.

## Material specification parameter

Components	Components	Material	Design
Upper case	Black	ABS	OEM
Bottom case	Black	ABS	OEM
Keycaps	Black	ABS	OEM
Membrane	Transparent	Dual PVC Silver	Standard
Rubber	15mm*6mm	Rubber Dome	Standard
Stand	Black	ABS	ABS Standard
Palm stand	Black	ABS	ABS Standard
PCB	1.6mm single side board	PCBA	Lead and non-lead process
PCBA	SMT → COB → DIP → test	SMT	Lead and non- lead process
Cable	Black 1.8mφ3.5mm	Braided Fiber	Standard

**15. Layout design**