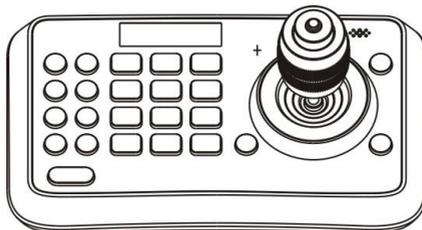


MKB02

Mini Mobile PTZ Keyboard Controller

User Manual



Safety Notes

Thank you for choosing our mini keyboard controller!

When you open the box:

1. Check that the packing and the contents are not visibly damaged. Contact the retailer immediately if any parts are either missing or damaged.
2. Make sure if the contents are all included as per the packing list.
3. Do not attempt to use the device with missing or damaged parts. Send the product back in its original packing if it is damaged.

[Note] The information contained in the document is subject to change without notice.

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Safety Notice---Important!!!

The following important notes must be followed carefully to run the controller and respective accessories in total safety.

- Power shall be cut immediately when the controller is not working correctly;
- Use DC12V power supply. Wrong power supply may damage the controller;
- To prevent electric shock, do not remove screws or covers of the camera. There are no self-serviceable parts inside. Refer to qualified service personnel for servicing.
- Do not operate the camera beyond the specified temperature and humidity.

About The Product

Introduction

The mini keyboard controller is a full-function system keyboard. With features of ergonomic design, multi-function, high reliability and easy operation, it is a perfect controller for rugged PTZ cameras, video conference cameras, surveillance cameras and so on.

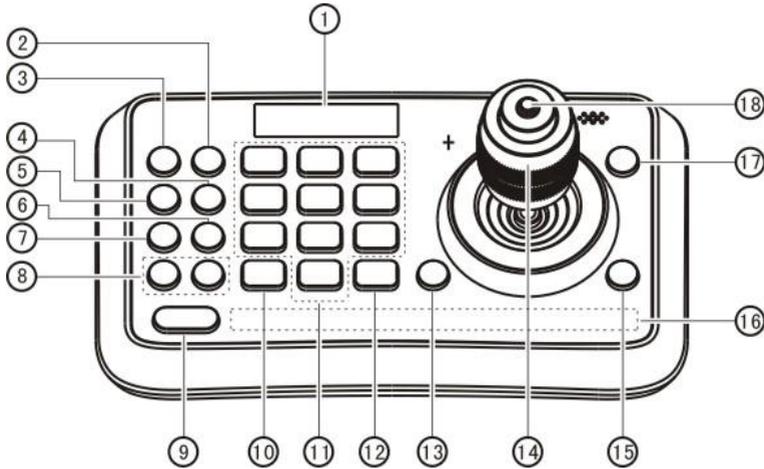
Features

- 4D joystick for pan/tilt/zoom/focus control, ergonomic design and excellent finishing;
- High brightness OLED display;
- Auto backlight keys;
- Shortcut keys customization;
- Batch program cameras in the systems;
- Multi-level protection from illegal operation or setting;
- Multi-baud rate and protocols;
- 256 address;
- Compact design with portable features;

Technical Data

Comm. Interface	RS-485/RS-232
Protocol	Pelco-D, Pelco-P, VISCA
Baud Rate	2400bps, 4800bps, 9600bps, 19200bps, 38400bps
Address	0~255
Joystick	4-axis (Left/Right, Up /Down, Zoom In/Zoom Out, Focus Near / Focus Far)
Display	OLED
Power	DC12V
Power Consumption	<2W
Working Temperature	0°C~40°C
Storage Temperature	-20°C~+50°C
Relative Humidity	≤90% (non-condensation)
Dimensions	200mm(L)*120mm(W)*103mm(H)
Net Weight	0.5kg

Parts and view



① OLED screen

The OLED screen displays status of current operation.

② CALL (Call preset)

Input preset number, then press **CALL** key to call a preset

③ CAMERA (Switch cameras)

Input camera number, then press **CAMERA** key to switch to another camera.

④ SET (Set / Clear preset)

Input preset number, then press **SET** key to set or delete a preset (Short press to “set”; long press to “clear”).

⑤ SETUP (Enter setup menu)

Press **SETUP** key to enter menu and program the keyboard

⑥ CRUISE (Auto Cruise)

Press **CRUISE** key to do auto cruise.

⑦ PATTERN (Pattern Scan)

Press **PATTERN** key to do pattern scan

⑧ F1, F2 (Reserved)

These keys are reserved.

⑨ SHIFT (Extension key)

It is an extension key to be used with other keys for special functions.

⑩ ESC (Exit / Delete)

It is a key to EXIT in a menu or DELETE in other operations.

11 0-9 (Numbers)

Those are keys used to input numbers.

Combine with **SHIFT** key to activate various functions shown on number keys. For example, press **SHIFT** + **1** will turn on DIS function of the camera.

12 ENT (Confirm)

It is used to confirm menu setting.

13 OPEN (IRIS Open)

This key is used to activate IRIS open of the camera. It is also a “confirm” key in a menu.

14 Joystick

This joystick is used to Pan, Tilt, Zoom and Focus

Non-Menu State:

Left/Right/Up/Down: Pan/Tilt the camera correspondingly

Twist clockwise: Zoom In,

Twist anti-clockwise: Zoom Out;

Press Zoom/ Focus Switch Key and Twist:

Focus Near/Far

Menu State:

Right: Enter a submenu or Confirm;

Left: Return to previous menu or exit (expect some not returnable menus);

Up: Move to last option;

Down: Move to next option.

15 CLOSE (IRIS Close)

This key is used to activate IRIS close of the camera; it is “return” key in a menu.

16 Status Display area

This area is used to display status of functions that are turned on, relative icons will be back lighted.

17 MENU (Enter Camera Menu)

This key is used to enter camera menu.

18 Zoom / Focus Switch Key

This key is used to switch between zoom and focus function.

Operation: Press this key, the crisscross of indicator lighter near the joystick will go out, twist the joystick to zoom in / out; press this key again, the crisscross of indicator lighter will be lightened, twist the joystick will adjust focus value.

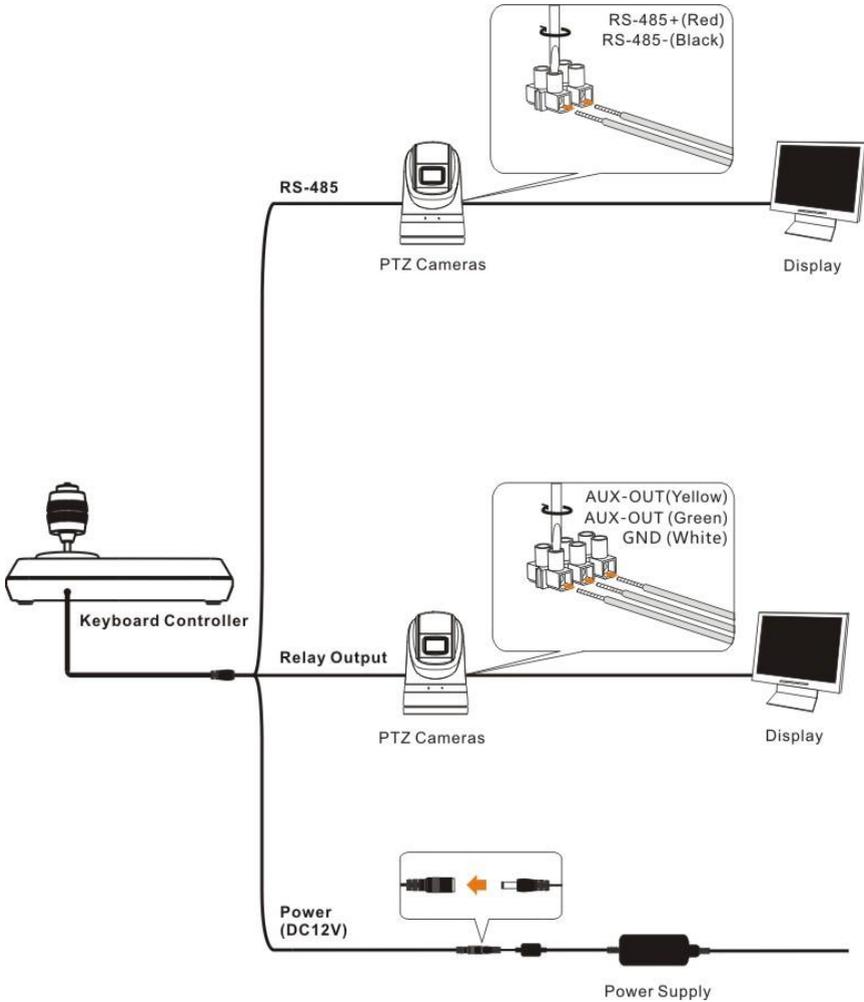
List of status and functions on Status Display Area

Icon	Explanation	Icon	Explanation
	Wiper		Far & Near light (Auto)
	Defogger		DIS
	Heater	WDR	WDR
	Auto Heating	AUX	AUX Switching (Switch Output)
	Far Light (Manual)		Tracking
	Near Light (Manual)		

Connections

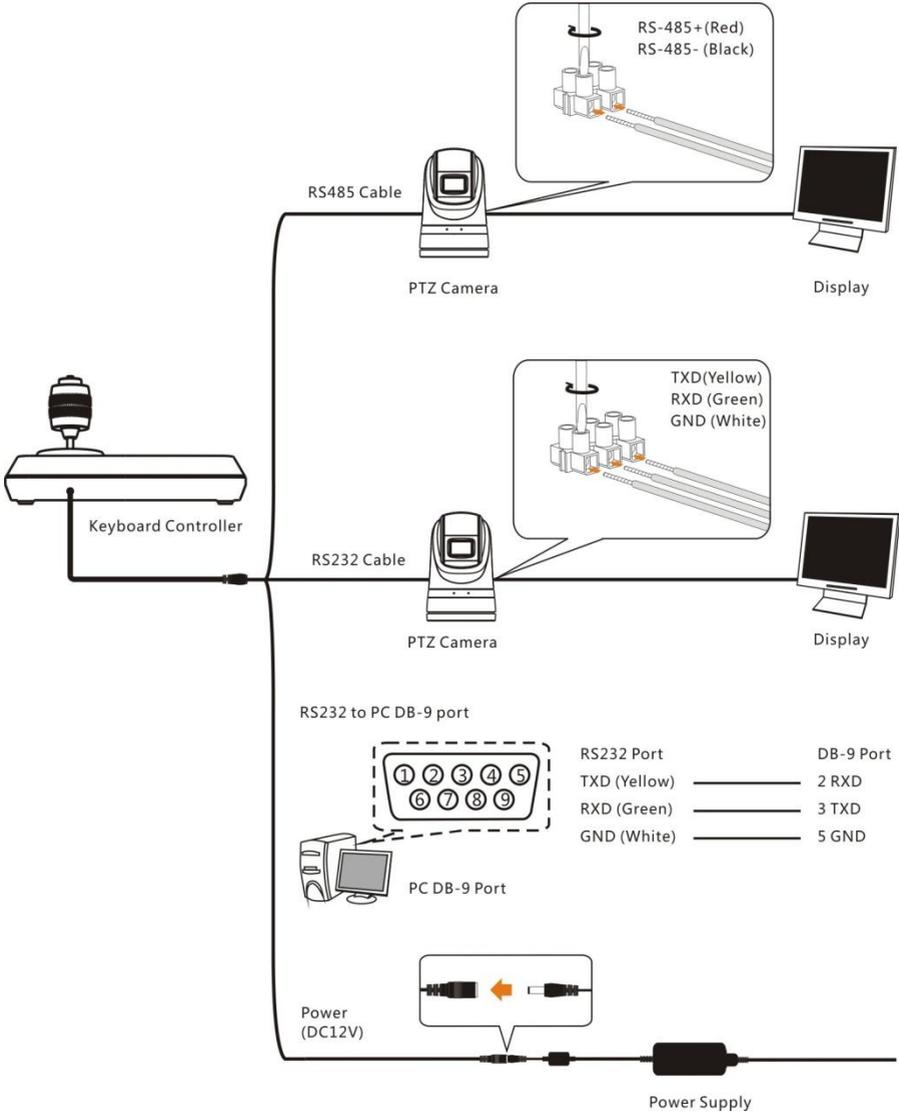
There are two options of cables. Please see the instruction label at bottom of the device.

Option1: Power + Aux output + RS-485



About The Product

Option2: Power + RS-232 + RS-485



Menu operation

After powered on, "USER PIN" will show on the controller's screen. The initial pin is "111111".



USER PIN:

Enter "USER PIN"
See "PIN SETTING" to set pin.

Pin Error: When "USER PIN: ERROR" shows on screen, it indicates wrong pin was input. Enter correct pin to get to next step

Pin Correct: Screen shows "1" camera icon and default camera number. If there is no further operation for long time, screen will display current time automatically. If still no operations, the controller will enter sleeping mode.

Enter OSD menu

Press **SETUP** key.

Screen shows "ADMIN PIN:". Initial admin pin is "111111".



ADMIN PIN:

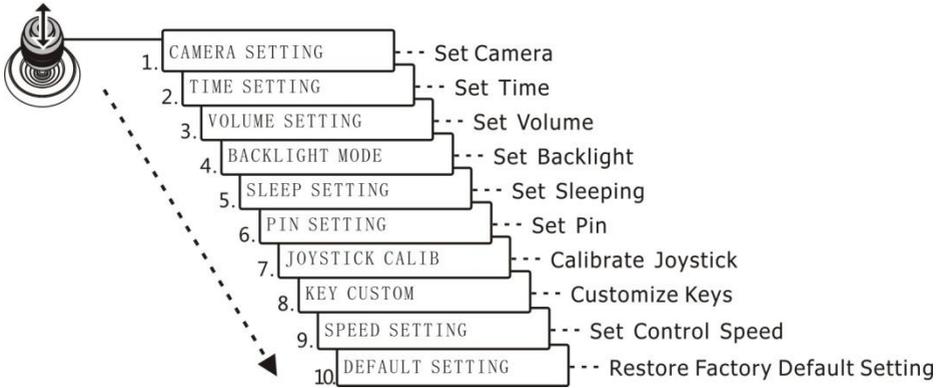
Enter "ADMIN PIN"
See "PIN SETTING" to set pin.



CAMERA SETTING ▶



OSD Menu List:



Camera Setting

Set camera ID (Range from 0~255), corresponding protocol, baud rates and camera address of the target cameras. Then every camera can be controlled easily by choosing their relative camera ID.

- 1 Move up / down the joystick, choose "CAMERA SETTING".



- 2 Right move the joystick or press **ENT** key to enter menu "□: ". Press number keys to input camera number (range from 0~255) . If the input number exceeds this range, the system will show "ERROR" . After the setting is finished, press **ENT** key to confirm.



- ③ Protocol Setting. Move up/down the joystick, choose protocol, right move the joystick or press **ENT** to confirm.



PROTOCOL: PELCO D

----- Set protocol. This protocol must be the same as the camera's protocol.

Available Options:
PELCO D/PELCO P
/VISCA

- ④ Baud rate setting. Move up/down the joystick, choose baud rate, and right move the joystick or press **ENT** to confirm.



BAUD RATE: 2400

----- Set baud rate. This baud rate must be the same as the camera's baud rate.

Available Options:
2400/4800/9600/19200
/38400

- ⑤ Address Setting. Input number to set camera address (range from 0~255). Press **ENT** to confirm.



ADDRESS: 1

----- Set the controller's address, this address must be the same as the camera's address.

Available Options :
0~255

- ⑥ The controller can also batch program cameras in the system. It will set the same baud rate, protocol for the 10 cameras next to the current one while the cameras' address to be increased by increment number sequentially. After step 5, press **SHIFT** to enter menu "INCREMENT:" Input a number within 1~20, press **ENT** to confirm.



INCREMENT:

----- The address increment between two sequential cameras. For example, the current camera address is 1 and the increment is 2, then the next camera address is 3.

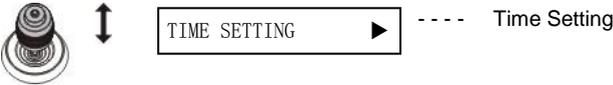
Available options:
1~20

- ⑦ After the camera setting is finished, the system will automatically return to the main menu.

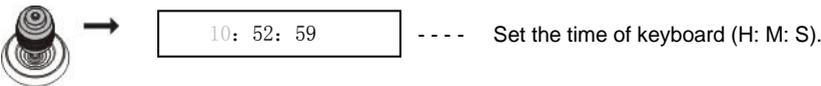
Time Setting

Set time in 24 hour format.

- 1 Move the joystick up/ down, choose "TIME SETTING".



- 2 Right move the joystick or press **ENT** to get into time setting menu, "H" hour becomes editable, input digits from keypad or move joystick up / down to set the "H" (range: 0~23). If input digits by keypad, after the hour has been set, it will automatically get into "M" minute setting; if set by joystick, right move the joystick to get into "M" minute setting. Move right / left the joystick to select from "H", "M" and "S" settings.



Available Value:
0~23

- 3 "M" minute setting menu. Set the "M" minute and "S" second, refer to "H" hour setting.



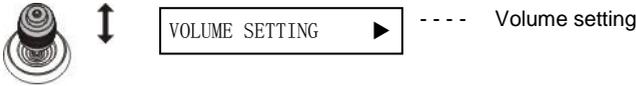
Available Value:
00~59

- 4 Press **ENT** to save and return to Main Menu.

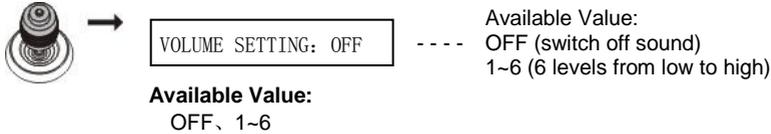
Volume Setting

6 levels of volume from low to high are available to choose from.

- 1 Move the joystick up/down, select "VOLUME SETTING".



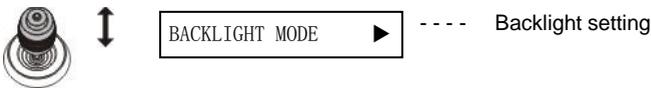
- Right move the joystick or press **ENT** to get into " VOLUME SETTING" ; after setting right move the joystick or press **ENT** to confirm.



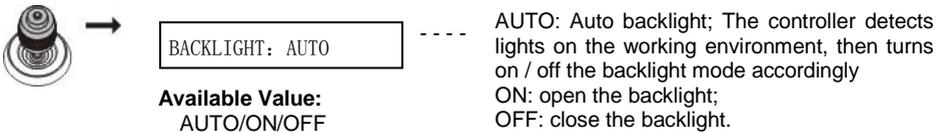
Backlight Setting

Back light mode enables the keys to be clearly presented even at very dark environment.

- Move the joystick up/ down, select " BACKLIGHT MODE".



- Right move the joystick or press **ENT** to enter "BACKLIGHT MODE". Move the joystick up/ down to select backlight options. Right move the joystick or press **ENT** to confirm.



Sleep Setting

Set sleep time of the controller. In non-menu status, the screen will enter the sleep mode if no operation is performed for a programmable period.

- Move the joystick up/ down, select " SLEEP SETING".



SLEEP SETTING ▶

---- Sleep setting

- ② Right move the joystick or press **[ENT]** to enter “ SLEEP SETTING” . Move the joystick up/ down to select sleep time. Right move the joystick or press **[ENT]** to confirm.



SLEEP TIME: 30S

---- Available Value:
OFF/ 30S/ 1M/ 5M/10M / 30M/60M.

Available Value:
OFF/30S/1M/5M/10M/
30M/60M

Pin Setting

Set user and admin pins of the controller.

- ① Move the joystick up/ down, select “PIN SETTING”.



PIN SETTING ▶

---- PIN setting

- ② Right move the joystick or press **[ENT]** to enter “PIN SETTING”. Move the joystick up/ down to select the PIN digits. Right move the joystick or press **[ENT]** to confirm.



PIN: USER

---- USER: this is the first level pin, correct pin must be input before the controller can be operated.
ADMIN: this is the second level pin, correct pin must be input before menu setting and controller setup.

Available Value:
USER/ADMIN

- ③ Enter the PIN setting menu. “OLD PIN” requires to be input, press **[ESC]** to cancel input digit. If correct Pin is input, it will get into “NEW PIN” menu. If wrong pin is input, “ERROR” will be displayed.



OLD PIN:

---- Input "OLD PIN":
Initial USER PIN: 111111
Initial ADMIN PIN: 111111

4 "NEW PIN"



NEW PIN:

---- Input "NEW PIN"

(Digits key)

- 5 "CONFIRM": after new pin is input, input it again to confirm. If the two pins don't match, it displays "PIN NOT MATCH", menu goes back to "NEW PIN".



CONFIRM:

---- Input "NEW PIN" again to confirm

(Digits key)

- 6 If the two pins match, it displays "OK!" and new pin will be applicable..

OK!

---- New pin is set.

To disable "PIN PROTECTION" function, there is no need to input any digit in both "NEW PIN" and "CONFIRM", press **ENT** directly to confirm. To enable "PIN PROTECTION" again, simply set new pins with digits

During these operations, press key **ESC** to exit the PIN setting menu.

[Note] In non-menu status, quickly lock function can be realized by simply pressing **SHIFT** + **ENT**. "USER PIN" or "ADMIN PIN" is required for operation the controller again.

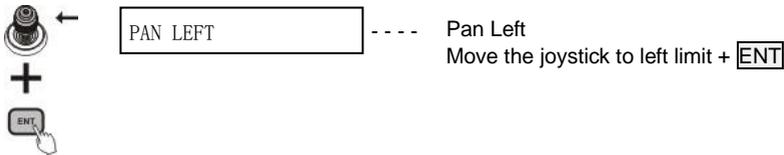
Joystick Calib

After long-time use, the joystick may require calibration.

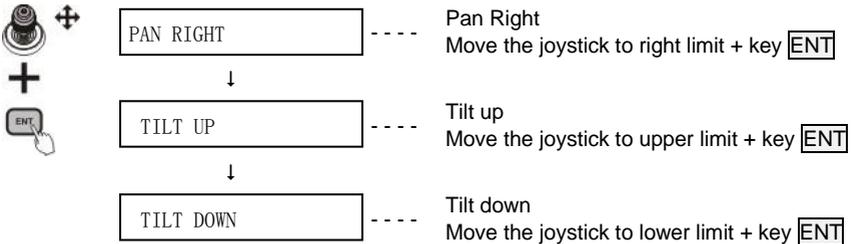
- 1 Move the joystick up/ down, select "JOYSTICK CALIB".



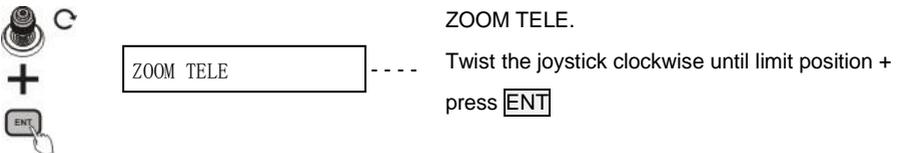
- 2 Right move the joystick or press **ENT** to confirm, enter the "JOYSTICK CALIB" menu. "PAN LEFT" will be displayed, move the joystick to the left limit and hold, then press **ENT** to finish "PAN LEFT" calibration. It will enter next menu.



- 3 Refer to the setting of "PAN LEFT" to calibrate "PAN RIGHT", "TILT UP" and "TILT DOWN".



- 4 "ZOOM TELE" calibrating menu, twist the joystick clockwise until limit position, and press **ENT**.



- 5 "ZOOM WIDE" calibrating menu, twist the joystick anticlockwise until limit position, and press **ENT**.



ZOOM WIDE

Zoom wide.

Twist the joystick anticlockwise until limit position + press **ENT**.

- 6 "FREE STATE" setting menu, no need any operation, simply press ENT to confirm.



FREE STATE

---- No need any operation, press **ENT**.

- 7 Upon completion of the above settings, "<SAVE> CANCEL" will be displayed to save or cancel.

Move the joystick left/ right to choose, and press **ENT** to confirm.



<SAVE> CANCEL

---- SAVE.
CANCEL.

Key Custom

It is used to custom keys to realize special functions requested, see below chart for operation, function.

- 1 Move the joystick up/down, choose "KEY CUSTOM".



KEY CUSTOM

---- Key Custom

- 2 Right move the joystick or press **ENT** to enter "KEY CUSTOM" setting menu.



MENU PRESET: 95

---- MENU PRESET.
Customize the preset number to call up the OSD menu.

- 3 Example of keys without special function printed: If preset 60 is requested to call Pattern Scan.

Press **PATTERN**, then press number key 60, press **ESC** to cancel, finally press **ENT** key to confirm.



(Numeric Keys)

PATT PRESET: 60



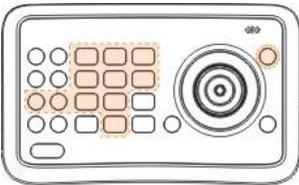
CHANGED TO: 60

---- PATT PRESET: 60

---- Changed to 60.

- ④ Example of keys with special function printed: If preset 35 is requested to activate WIPER, press **7 (WIPER)** and **SHIFT** in the same time. If press **7 (WIPER)** only, then only 7 will be displayed.

List of Custom Keys and Functions



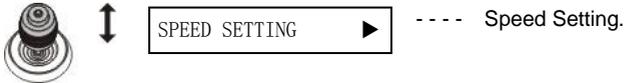
Custom Button Diagram

Key	Function	Operation
PATTERN	Start Pattern Scan	PATTERN
CRUISE	Start Cruise	CRUISE
MENU	Enter Camera Menu	MENU
HEATER	Activate Heater	SHIFT + 9
DEFOGGER	Activate Defogger	SHIFT + 8
WIPER	Activate Wiper	SHIFT + 7
LIGHTS-A	Far&Near Lights On	SHIFT + 6
LIGHTS-N	Near Lights On	SHIFT + 5
LIGHTS-F	Far Lights On	SHIFT + 4
WDR	Activate Wide Dynamic Range	SHIFT + 2
DIS	Activate Digital Image Stabilization	SHIFT + 1
TRACKING	Start Tracking Function	SHIFT + 0

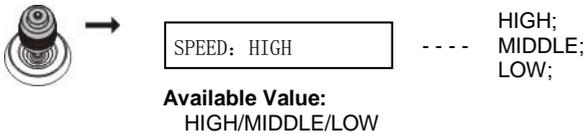
Speed Setting

Set control speed of the joystick.

- 1 Turn the joystick up/down, choose "SPEED SETTING".



- 2 Right move the joystick or press **ENT** to enter "SPEED SETTING" menu. Move the joystick up/down to switch among speed levels, and right move the joystick or press **ENT** to confirm.



Default Setting

Restore the keyboard setting to factory default.

- 1 Move the joystick up/ down, choose "DEFAULT SETTING".



- 2 Right the joystick or press **ENT** key, enter "DEFAULT SETTING" menu, move the joystick left/right, select options "<YES> NO", press **ENT** to confirm.

