PKB-044

Programmable POS Keyboard

User's Manual



Sep. 30, 2012

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1. Introduction

1.1 Unpacking

The contents may vary with different options. If there's any physical damage or missing parts, please contact your supplier immediately. Please keep all packing materials in case you need to ship back the device for service.

- PKB-044
- One piece of quad key and its transplant key cover.
- Magnetic Stripe Card Reader (Optional)
- A Set of Keys (3 keys for 3 different authorized level operators) (Optional)

1.2 Main Features

- Membrane key switches with tactile feeling
- Operating life cycles up to 10 million strokes
- True keyboard wedge function: Key Code or ASCII Code
- Windows software programming without TSR program
- Magnetic stripe card reader available with various track combinations
- 6 positions key lock function
- Each key can be programmed up to 200 codes

1.3 Magnetic Stripe Card Reader Features (Optional)

- Comply with ISO 7812, IBM standards, American Driving License
- Support programmable MSR setting for the header, tailor, separator, pre-amble, post-amble, and track sequence
- Track 1: 210BPI with max 76 characters
- Track 2: 75BPI with max 37 characters
- Track 3: 210BPI with max 107 characters
- Card swipe speed: 10 to 100 cm/sec.
- 30,000 or 1,000,000 swipe cycles
- Various track combinations

1.4 Specifications

Models	PKB-044
Physical	
Material	ABS
Interface	PS/2, USB
Dimension	234L x 144W x 45H mm
Cable Length	2800mm
Weight	0.68Kg
Color	Black or Beige (Option)
Travel Distance	4±0.5mm
Operating Life Cycles	10 million strokes
Electrical	
Power Supply	+5VDC±10%
Interface	PS/2
Current Input	≤100mA
Magnetic Stripe Card Reader (Optional)	
Card Density	Track 1: 210BPI with max. 76 characters Track 2: 75BPI with max. 37 characters Track 3: 210BPI with max. 107 characters
Magnetic Tracks	Track 1 or Track 2 or Track 3 or Dual Track (Track 1&2 or Track 2&3) or Three Track (Track 1&2&3)
Card Swipe Speed	10 to 100 cm/sec.
Swipe Cycles	30,000 or 1,000,000 (Optional)
Others	
OS	Windows 98, ME, 2000, XP, Vista 32
Position Key Lock	6 (Option)
Operating Temperature	0℃~+40℃
Storage Temperature	-20℃~+55℃
Operating Humidity	40%~90%

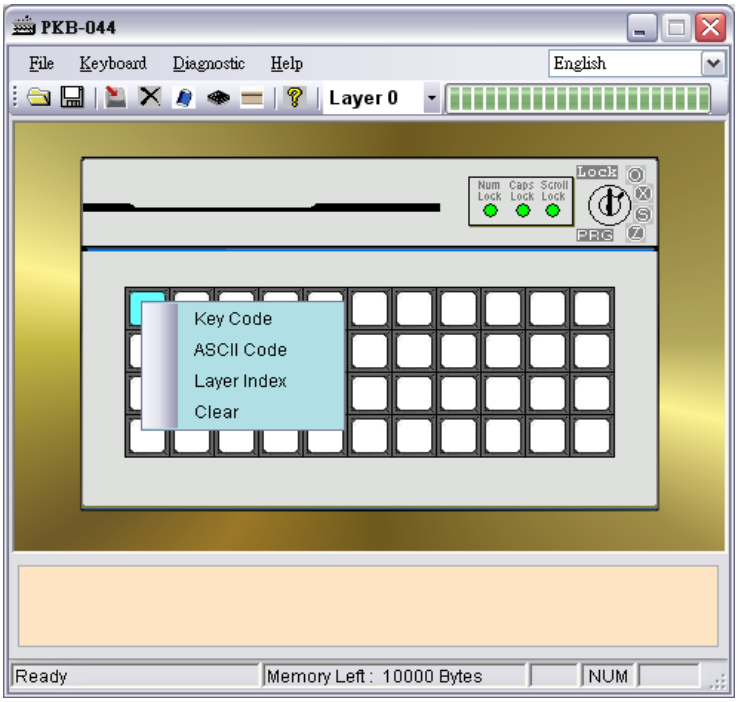
2. Get Started

Run the “PKB044Setup.exe” file from TYSSO official website to start the installation. After finishing the installation, execute **Start** >> **All Programs** >> **PKB044** to start the programming software.

2.1 Edit Key Map

When the mouse cursor moves to a key on the key mapping drawing, the key becomes light blue indicating that the key at the state of being edited. Click the key with the left mouse button, a menu will pop up for selecting. Two methods can be used to assign the key map; one is “Key Code” and the other is “ASCII Code”.

“Layer Index” is used to assign a layer index to a key. There are total 0~15 layers can be defined. “Clear” can be selected to clear the codes that have been assigned to a key.



2.1.1 Key Code

In this method, you can assign key code to a key with a virtual keyboard. Double click the field on the “Key Code Definition” window. A “Keyboard Interface” window will appear. Up to 200 codes can be mapped to per key.

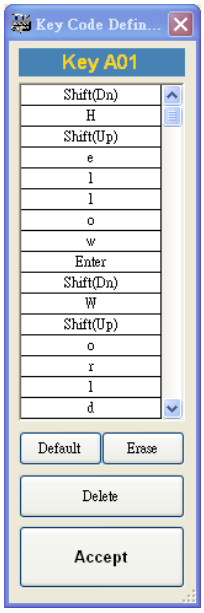


The default keyboard picture is English version. If you click the language combox to select other language, for example, Japanese, the Japanese keyboard picture will popup.



Example

If you want to assign a key to “Hello\nWorld”, press “Shift”, “H”, “Shift”, “E”, “L”, “L”, “O”, “Enter”, “Shift”, “W”, “Shift”, “O”, “R”, “L”, “D” in sequence on the virtual keyboard. The key mapping is as shown in the window below. Then press “Accept” on the window to finish the programming.



After programming this key (A01), if you type this key on the programmable keyboard, it will display:

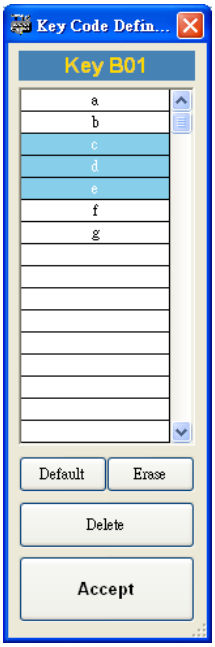
Hello

World

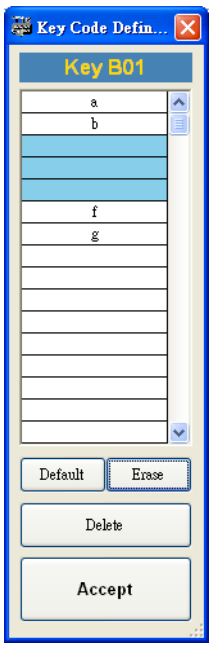
Note

- Press “Shift” once on the virtual keyboard and the codes will change to uppercase. Press “Shift” again and the codes will change to lowercase.
- If you want to delete the codes, press the mouse left button and drag to select the codes to be deleted. Press “Erase” on the window and the selected fields will become blank for assigning new codes. Or press “Delete” and the selected fields will be deleted directly.

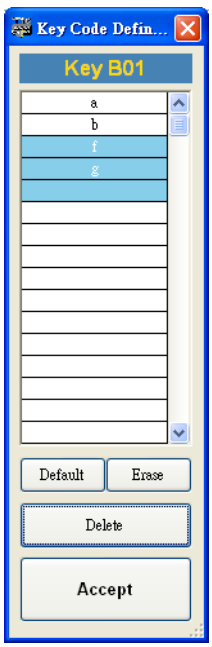
Mark Area



Erase



Delete



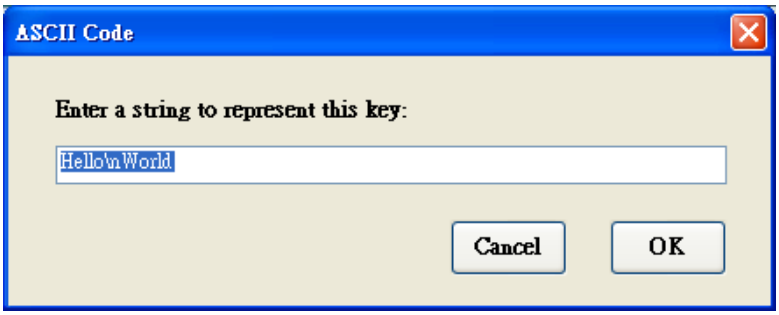
2.1.2 ASCII Code

In this method, you can assign any printable ASCII Codes, i.e. A-Z, a-z, 0-9, +, - ,* , / , and punctuation symbols with a computer keyboard. Up to 200 ASCII codes can be assigned. Five special symbols can also be assigned by the following representations.

Symbol	Representation
Enter Character	\n or \N
Esc Character	\e or \E
Tab Character	\t or \T
\ Character	\\
ASCII Code	\999 where 999 must be a three digit integer

Example

Enter “Hello\nWorld” with the computer keyboard and the entered string will be shown on the “ASCII Code” window.



After programming this key (A01), if you press this key on the programmable keyboard, it will display:

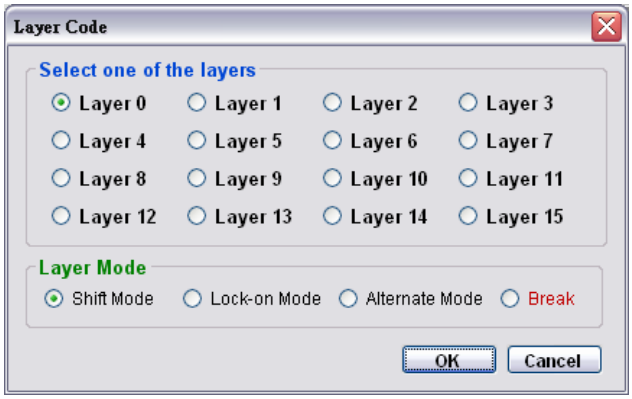
Hello
World

Note

In this method, no matter Caps Lock is on or off will not change the character string. That is, the same character string will be displayed.

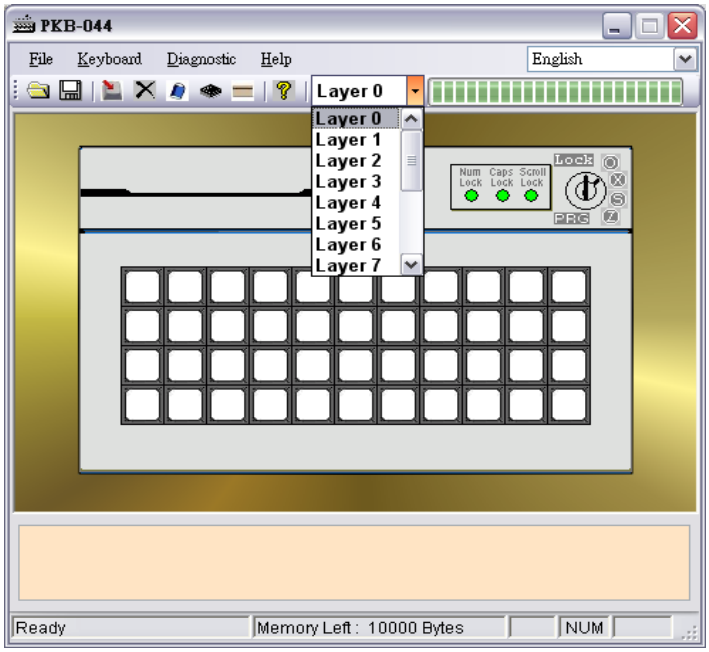
2.1.3 Layer Index

Depending on the category of the keyboard, the keyboard can be programmed up to 16 layers. You can assign a layer index to any key you like.



If, for example, you want to program the keyboard at the 2nd layer, choose Layer 2 in the tool bar. Then assign the key codes by “Key Code” or “ASCII Code” method. Assigning a key to Layer Index 2 is required for changing the whole key map to the 2nd layer. There are three operational modes of the layer index key and one function allows user to set the layer index key back to layer 0. Their operations are described as below:

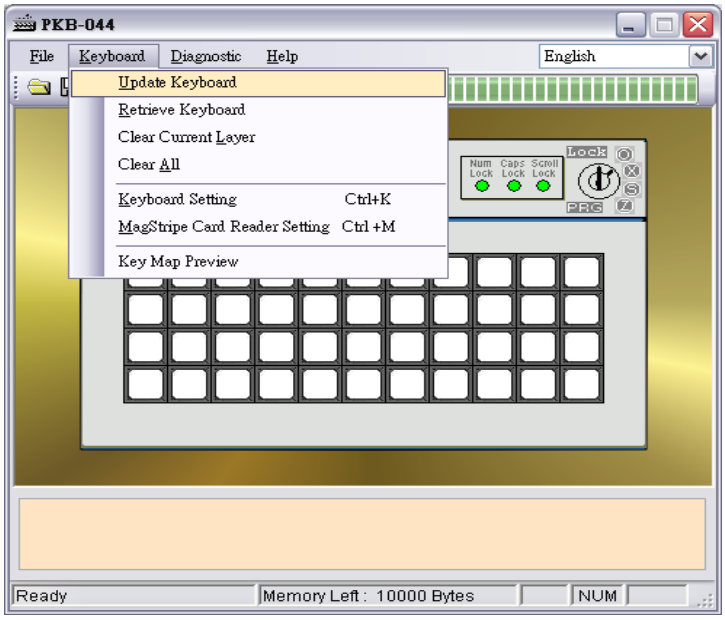
1. Shift Mode: Press index key while strike any key at the keyboard. When release the pressing of the layer index key it alters the keyboard back to layer 0.
2. Lock-on Mode: The index layer key pressed, the keyboard is locked to the designated layer. At this mode, any key strike without pressing index layer key is required. When the index layer key is pressed again, then, the keyboard alters to layer 0.
3. Alternate Mode: The index layer key pressed, the board is locked to the designated layer. However, after any key strike would alter the keyboard back to layer 0.
4. Break: The index layer key is programmed and it pressed, the index layer key would back to layer 0.



2.2 Basic Settings

2.2.1 Update Keyboard

After assigning the codes to the buttons of the programmable keyboard, click “Keyboard” then “Update Key Mappings” or click  icon on the toolbar to download the key mappings to the programmable keyboard.

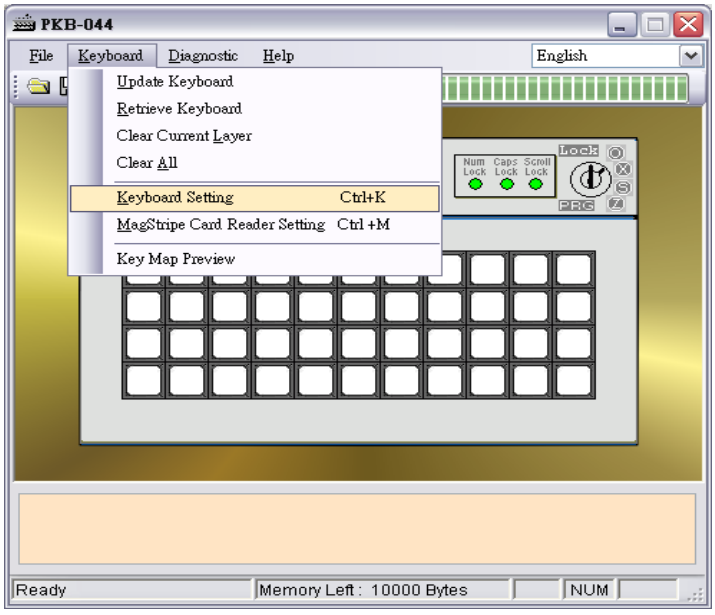


Note

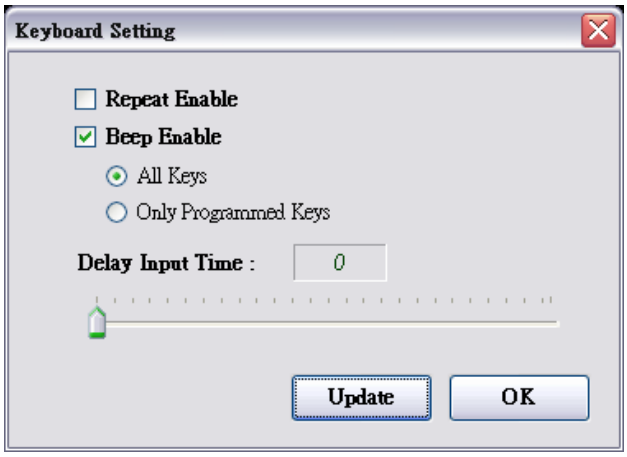
Please do not press any keys on the keyboard during updating.

2.2.2 Keyboard Setting

On the menu bar, click “Keyboard” and then “Keyboard Setting”.



The following dialogue window will appear:



If you want to have a beep sound when pressing a button on the keyboard, select “Beep Enable”.

Then you can choose either “All Keys” or “Only Programmed Keys”.

If you allow the key to be displayed repeatedly when pressing the button continuously, select “Repeat Enable”.

Delay Input Time

Each key can be key-mapped as a Delay Input key, value 0 represents the shortest delay input time. To drag the arrow mark by pointing the mouse cursor on it and press the left button to travel it across in the line to set the optimized value of the delay input time. While dragging the allow mark, a represented number would rotate to appear at the small box. The higher number appears, the longer delay input time acts.

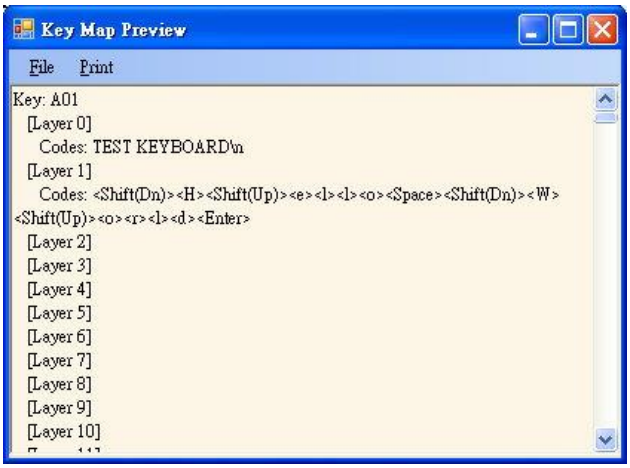
After finishing the settings, press the “Update” button to send the settings to the keyboard, or press the “OK” button to save the setting in the program memory, and then the dialogue window will be automatically closed.

Caution

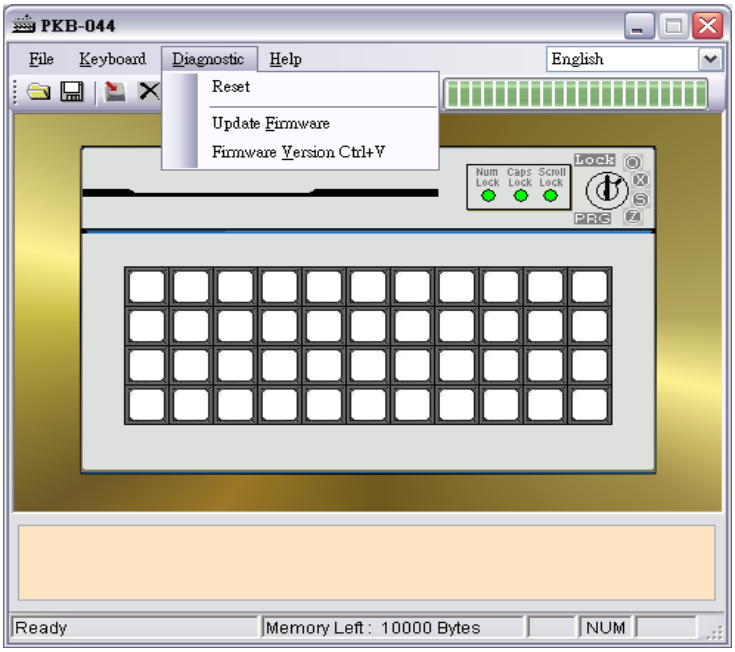
If “Repeat Enable” option is selected and no layer index for certain key lock position is assigned, for example, assigning “Hello” for key lock L. When the key is switched on L position, “Hello” will be generated repeatedly. If “Beep Enable” is selected as well, you will hear a continuous beep sound. Therefore, it is recommended the key lock to be assigned to a layer index.

2.2.3 Key Map Preview

Click “Keyboard” and then “Key Map Preview” to view the whole key mapping.



2.2.4 Diagnostic



Reset

Reset the keyboard only.

Update Firmware

Click “Keyboard” and then “Update Firmware” on the menu bar, or click  icon on the toolbar, and it will ask you the location of the firmware file.

During updating, please do not press any keys on the keyboard.

Firmware Version

Get the current version of the firmware.

2.2.5 Clear All

Click “Keyboard” on the menu bar and then “Clear All” or click  icon on the toolbar to clear all key mappings and keyboard setting.

This action only clears the program memory. It does not clear the settings in the actual keyboard.

2.2.6 Save

If you want to save all key mappings, the keyboard setting or the magnetic stripe card reader setting into a file, click “File” and then “Save” on the menu bar, or click  icon on the toolbar.

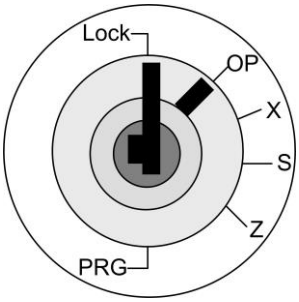
2.2.7 Open

Click “File” then “Open” on the menu bar, or click  icon on the toolbar to load the key mappings and keyboard settings from a file.

An error will occur if you choose to load a key mapping file with a wrong format.

2.3. Key Lock Function (Option)

2.3.1 Control Keys

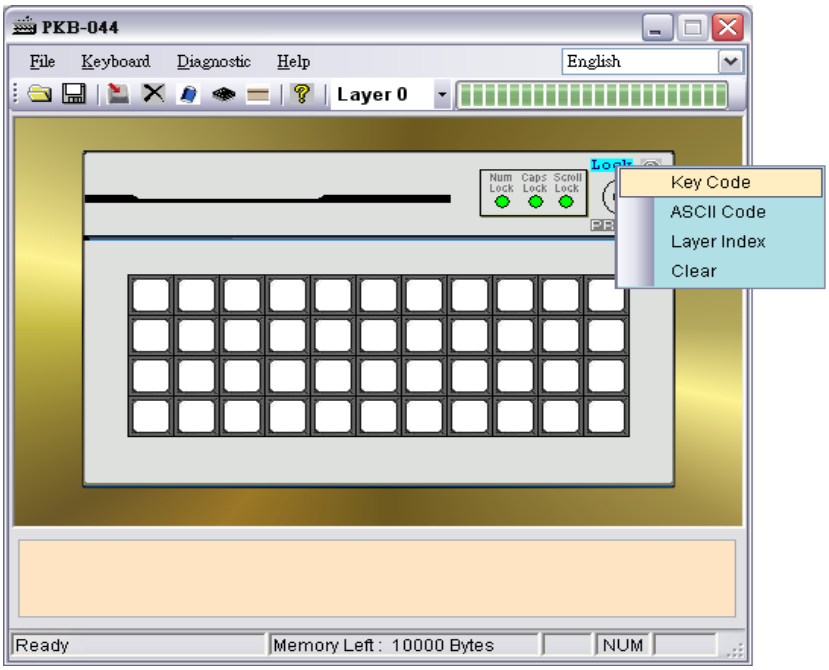


Key Position	Key Revolving Positions		
	OP	S	PRG
Lock			
OP			
X			
S			
X			
PRG			

The programmable keyboard is equipped with 3 operating keys named OP, S, and PRG. Each key can be revolved to its corresponding positions (refer to the above table), which enables different key holders to have different levels of authorization.

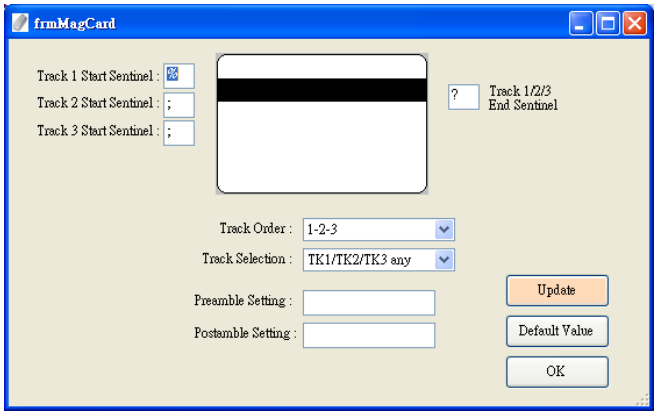
2.3.2 Key Lock Settings

The key lock has 6 positions and can be used as a key or a layer. Press the left mouse button and the menu bar will appear for setting. (Refer to 2.1.1 Key Code, 2.1.2 ASCII Code, and 2.1.3 Layer Index.)



2.4 Magstrip Card Reader Settings (Option)

On the menu bar, click “Keyboard” and then “Magstrip Card Reader Setting”, or on the toolbar, click  icon, the following dialogue window will appear.



Set Preamble, Separator, and Postamble by clicking the computer keyboard. The code length for preamble and postamble string is limited to 10 only.

After sliding a magstrip card along the reader, it will display as follows:

Preamble string, Track 1 Start Sentinel, Track 1 Data, Track 1 End Sentinel, Track 2 Start Sentinel, Track 2 Data, Track 2 End Sentinel, Track 3 Start Sentinel, Track 3 Data, Track 3 End Sentinel, Postamble string.

After finishing the settings you like, press the “Update” button to send these settings to the keyboard, or press the “OK” button to save the setting in the program memory, and then the dialogue window will be automatically closed.