FEATURES

- Configurable USB 2.0 full speed and PS/2 interface
- User-Programmable keyboard matrix
- 4 sets of 8 x 18 keyboard matrix for Numlock and FN cases
- Up to 255 Custom/Macro keys: generate "LCTRL+LALT+DEL", "000" and "Coke" keys
- Global ghost key detection can be disabled for full n-key rollover design
- Advanced individual ghost key detection control for finer control
- Support one key cap covering multi-switches
- Key-controlled external PS/2 device lock feature without driver required
- Remap external PS/2 mouse X,Y movement to horizontal, vertical scrolling
- Built-in 8 direction KeyMouse
- Support one external PS/2 to interface an PS/2 mouse or keyboard
- Key-controlled 2 general purpose output (GPO), 1 state control output (SCO)
- GPO/PWM Backlight control
- Support three FN control modes: Level, Toggle and Sticky.
- Supports USB selective suspend and remote wakeup
- Built-in oscillator and digital circuit. No external crystal is needed
- Windows® application to design keyboard matrix
- Low profile QFN 48 pin package: 7x7x1.0mm (LxWxH)
- Low power consumption. 1.8 uA (PS/2 idle), 235 uA (USB suspend) and 4.8 mA (USB operation)
- Operating voltage: 4.35 to 5.25V (USB regulator enabled), 3.15 to 3.6V (USB regulator bypass) and 1.71 to 5.25V (PS/2)
- Industrial temperature range: -40°C to +85°C
- Custom versions available in small and large quantities

DESCRIPTION

The SK5126 is a low power USB and PS/2 combo keyboard encoder with a user-programmable keyboard matrix. The IC can be programmed to any keyboard with four matrix tables for FN and NUMLOCK cases, so the IC is the best choice for custom keyboard solution but with an off-the-shelf IC.

The SK5126 scans and encodes an 8-row by 18-column matrix. The key press events are translated to keyboard and mouse report. The encoder gets matrix information from on-chip flash matrix table. Sprintek provides Windows® application FlexMatrix Editor and Programmer software to edit, download and upload the matrix table.

The SK5126 provides an external PS/2 port that supports hot plug and hot swap of PS/2 mouse and keyboard devices. If the IC is configured to PS/2 interface, then the IC external PS/2 port supports only keyboards. If the IC is configured to USB interface, then the IC external PS/2 port supports keyboards, mice including wheel mice.

PIN ASSIGNMENTS

APPLICATION

- Industrial Keyboard
- Point-of-sale (POS) terminals
- Portable devices
- Netbook/Netbook PCs
- Tablets/Smart Phones
ORDEING INFORMATION
SK5126-LT QFN 48-pin, 0.5mm pitch, (7x7x1.0mm), Pb-Free, RoHS

MIGRATE FROM SK5122 and SK5120

| SK5122 without GPO2                  | Drop-in replacement - SK5126 with VMOD floating |
| SK5120 without GPO2 under 5V (VMOD = floating) | Drop-in replacement - SK5126 with USBEN floating, VMOD floating |
| Others                               | Talk to Sprintek support team for a solution    |

FUNCTION BLOCK DIAGRAM
## PIN DEFINITION

<table>
<thead>
<tr>
<th>Pin No</th>
<th>Type</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NC0</td>
<td>No connection pin</td>
<td></td>
</tr>
<tr>
<td>2-3</td>
<td>IO</td>
<td>COL16 – COL17</td>
<td>Column lines 16 to 17 for scan matrix</td>
</tr>
<tr>
<td>4 – 11</td>
<td>IO</td>
<td>ROW7 – ROW0</td>
<td>Row lines 0 to 7 for scan matrix with internal pull-up resistor</td>
</tr>
<tr>
<td>12</td>
<td>I</td>
<td>VMOD</td>
<td>Power supply voltage mode: float = high power supply voltage mode; tied to GND = low power supply voltage mode</td>
</tr>
<tr>
<td>13</td>
<td>O</td>
<td>GPO1/BLPWM</td>
<td>GPO1 or Backlight PWM pin</td>
</tr>
<tr>
<td>14-15</td>
<td>I</td>
<td>NC1-2</td>
<td>No connection pins</td>
</tr>
<tr>
<td>16</td>
<td>O</td>
<td>GPO0</td>
<td>GPO0 pin</td>
</tr>
<tr>
<td>17</td>
<td>IO</td>
<td>COL00/PRGC</td>
<td>Column line 00 for scan matrix and programming interface clock line</td>
</tr>
<tr>
<td>18</td>
<td>P</td>
<td>VSS</td>
<td>Ground connection</td>
</tr>
<tr>
<td>19</td>
<td>IO</td>
<td>D+/PS2CLK</td>
<td>USB D+ line / PS/2 clock line with internal pull-up resistor</td>
</tr>
<tr>
<td>20</td>
<td>IO</td>
<td>D-/PS2DAT</td>
<td>USB D- line / PS/2 data line with internal pull-up resistor</td>
</tr>
<tr>
<td>21</td>
<td>P</td>
<td>VDD</td>
<td>Power supply</td>
</tr>
<tr>
<td>22</td>
<td>IO</td>
<td>COL01/PRGD</td>
<td>Column line 01 for scan matrix and programming interface data line</td>
</tr>
<tr>
<td>23</td>
<td>I</td>
<td>USBEN</td>
<td>Interface mode: float = USB interface; tied to GND = PS/2 interface</td>
</tr>
<tr>
<td>24</td>
<td>IO</td>
<td>XPS2D</td>
<td>External PS/2 port data line with internal pull-up resistor</td>
</tr>
<tr>
<td>25</td>
<td>IO</td>
<td>XPS2C</td>
<td>External PS/2 port clock line with internal pull-up resistor</td>
</tr>
<tr>
<td>26</td>
<td>I</td>
<td>XRES</td>
<td>Active high external reset with internal pull down</td>
</tr>
<tr>
<td>27 – 38</td>
<td>IO</td>
<td>COL02 – COL13</td>
<td>Column lines 02 to 13 for scan matrix</td>
</tr>
<tr>
<td>39</td>
<td>O</td>
<td>nLEDSCROLL</td>
<td>Scroll lock LED: direct drive</td>
</tr>
<tr>
<td>40</td>
<td>O</td>
<td>nLEDCAPS</td>
<td>Caps lock LED: direct drive</td>
</tr>
<tr>
<td>41</td>
<td>P</td>
<td>VDD1</td>
<td>Power supply</td>
</tr>
<tr>
<td>42 – 43</td>
<td>NC3-4</td>
<td></td>
<td>No connection pins</td>
</tr>
<tr>
<td>44</td>
<td>O</td>
<td>nLEDNUM</td>
<td>Num lock LED: direct drive</td>
</tr>
<tr>
<td>45</td>
<td>O</td>
<td>nLEDFN</td>
<td>FN LED: direct drive</td>
</tr>
<tr>
<td>46</td>
<td>IO</td>
<td>COL14</td>
<td>Column line 14 for scan matrix</td>
</tr>
<tr>
<td>47</td>
<td>P</td>
<td>VSS1</td>
<td>Ground connection</td>
</tr>
<tr>
<td>48</td>
<td>IO</td>
<td>COL15</td>
<td>Column line 15 for scan matrix</td>
</tr>
<tr>
<td>CP</td>
<td>P</td>
<td>COL15</td>
<td>Column line 15 for scan matrix</td>
</tr>
</tbody>
</table>

LENGENG  I = Input, O = Output, IO = Input/Output, P = Power
FUNCTION BLOCK DESCRIPTION

The SK5126 consists functionally of several major sections (see the block diagram on the previous page). These include the keyboard interface, key mouse simulation, the oscillator circuit, the 16-bit timer, power management, programming interface, external PS/2 port, GPO&SCO, Backlight control, internal flag function control, flash data block and the USB/PS/2 interface. All sections communicate with each other and operate concurrently.

Keyboard Interface

The SK5126 scans a keyboard organized as an 8 row by 18 column matrix for a maximum of 144 keys. Smaller size matrixes can be accommodated by leaving unused pins open. The IC provides internal pull-ups for the row input pins. When active, the encoder selects each column line (COL0-COL17); for each column selected, it reads the row data lines (ROW0-ROW7). A key closure is detected as a zero in the corresponding position of the matrix.

Each key found pressed is debounced for a period of 42 ms. Once the key is verified, the corresponding key code(s) are loaded into the transmit buffer.

In any scanned contact switch matrix, whenever three keys defining a rectangle on the switch matrix are pressed at the same time, a fourth key positioned on the fourth corner of the rectangle is sensed as being pressed. This is known as the “ghost” or “phantom” key problem.

Although the problem cannot be totally eliminated without using external hardware, there are methods to neutralize its negative effects for most practical applications. Keys that are intended to be used in combinations should be placed in the same row or column of the matrix, whenever possible. Shift keys (Shift, Alt, Ctrl, Window) should not reside in the same row (or column) as any other keys. The SK5126 has built-in mechanisms to detect and reject “ghost” keys.

The ghost key detection mechanism can be disabled globally by a global flag via FlexMatrix Editor and the user may install isolation diodes between row and column for every key switch to implement full N-Rollover keyboard.

The SK5126 provides more detailed ghost detection control to individual key level in order to maximize the keyboard functionality.

The SK5126 provides 4 high current sink pins to drive LEDs directly. The LEDs are CapsLock, Numlock, Scrolllock and FN.

KeyMouse Simulation

The SK5126 simulates Windows KeyMouse function without any additional software support. It supports 8 direction movement, Z vertical scrolling, horizontal scrolling functions, mouse button functions (left, middle, right, backwards, forwards). All these features can be mapped to any location in the key matrix. The SK5126 can also work with switch-type joystick to get mouse function.

USB / PS/2 Interface

The SK5126 interfaces to PC via a USB or PS/2 port. USBEN and VMOD are used to configure the interface and power supply voltage.

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Operation mode</th>
<th>Power Supply Voltage (V)</th>
<th>POR (V) (Min, Typical, Max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USBEN = float, VMOD = float</td>
<td>USB regulator enabled</td>
<td>4.35 to 5.25</td>
<td>(~, 2.82, 2.95)</td>
</tr>
<tr>
<td>USBEN = float, VMOD = GND</td>
<td>USB regulator bypass</td>
<td>3.15 to 3.60</td>
<td>(~, 2.82, 2.95)</td>
</tr>
</tbody>
</table>
When the SK5126 works in USB mode, it follows USB.org’s *Universal Serial Bus Specification 2.0* and *Device Class Definition for HID 1.11* as a full speed HID composite device. The SK5126 has three function endpoints for bootable keyboard, bootable mouse, and consumer and system keys.

When the SK5126 works in PS/2 mode, it follows IBM standard PS/2 keyboard protocol to communicate with the host. The SK5126 supports keyboard scan code set 1, 2 and 3.

The following standard PS/2 keyboard commands are supported.

<table>
<thead>
<tr>
<th>Command Code (Hex)</th>
<th>Command Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF</td>
<td>Reset</td>
</tr>
<tr>
<td>FE</td>
<td>Resend</td>
</tr>
<tr>
<td>FD</td>
<td>Set Key Type - Make</td>
</tr>
<tr>
<td>FC</td>
<td>Set Key Type – Make/Break</td>
</tr>
<tr>
<td>FB</td>
<td>Set Key Type – Typematic</td>
</tr>
<tr>
<td>FA</td>
<td>Set All keys – Typematic/Make/Break</td>
</tr>
<tr>
<td>F9</td>
<td>Set All keys - Make</td>
</tr>
<tr>
<td>F8</td>
<td>Set All keys – Make/Break</td>
</tr>
<tr>
<td>F7</td>
<td>Set All keys – Typematic</td>
</tr>
<tr>
<td>F6</td>
<td>Set Default</td>
</tr>
<tr>
<td>F5</td>
<td>Default Disable</td>
</tr>
<tr>
<td>F4</td>
<td>Enable</td>
</tr>
<tr>
<td>F3</td>
<td>Set Typematic Rate/Delay</td>
</tr>
<tr>
<td>F2</td>
<td>Read ID</td>
</tr>
<tr>
<td>F1</td>
<td>Invalid Command</td>
</tr>
<tr>
<td>F0</td>
<td>Select Alternate Scan Codes</td>
</tr>
<tr>
<td>EF</td>
<td>Invalid Command</td>
</tr>
<tr>
<td>EE</td>
<td>Echo</td>
</tr>
<tr>
<td>ED</td>
<td>Set/Reset Status Indicators</td>
</tr>
</tbody>
</table>

**Power Management**

When the SK5126 works in USB mode, it supports selective suspend and remote wake up to get maximum power saving.

When the SK5126 works in PS/2 mode, it enters low power mode when no key is pressed and no communication activities happen.

**Power On Reset Circuit**

The SK5126 has built-in power on reset circuit and low voltage detect circuit.

**Oscillator Circuit**

The SK5126 has built-in oscillator circuit and no external crystal or resonator is needed. The oscillator provides high frequency and 32k low frequency clocks to other blocks.

**16-bit Timer**

The 16-bit timer provides the timing control for USB or PS/2 communication, keyboard scan and sleep timer wakeup.
Programming Interface

The programming interface is reserved for Sprintek to programming new firmware. **PRGC, PRGD and XRES pins are recommended to be connected to a 5 pin header J5 in the schematic.** The header needn’t be populated in the final assembly. Three test points are preferred if 5 pin header is not allowed due to space reason.

GPO and SCO

The SK5126 provides 2 general purpose output (GPO) pins that can be associated to any keys. The GPO pins are operated independently. The IC also provides state control output (SCO) logic that can be associated to one key. The SCO controls several GPO together in a predefined table.

GPO/PWM Backlight Control

Backlight control is completed by redefining GPO0 and GPO1 to control backlight circuit. The backlight control logic can be associated to one key. All GPO ports can be configured to resistive pullup, strong drive low, strong drive high and high-Z four modes.

Backlight control is also completed by enabling PWM output from GPO1. Users can define the duty cycle of PWM to control the brightness; also can define the period (frequency) to match LED driver circuits requirements.

Internal Flag Function Control

The SK5126 provides functions to set/clear/toggle internal flags that can be associated to any keys. The change of these flags can trigger a predefined key event.

External PS/2 Port

The SK5126 provides an external PS/2 port that supports hot plug and hot swap of PS/2 mouse including wheel mouse, and keyboard devices.

The key-controlled external PS/2 lock feature can allow users to disable and enable external PS/2 mouse such as touchpad by key without driver support.

The SK5126 supports USB command to relay PS/2 command from the USB port to the external PS/2 port. This enables a customized mouse driver to setup external PS/2 mouse such as touchpad or pointing stick.

Flash Data Block

The SK5126 provides an on-chip flash data block to store keyboard matrix, GPO and SCO control parameters, SKey-scan code mapping table and etc. The flash data block can be edited via FlexMatrix Editor program, uploaded and downloaded via FlexMatrix Programmer program.
KEYBOARD MATRIX DESIGN

Four Keyboard Matrix
The SK5126 supports four 8X18 keyboard matrixes for the following cases: Fn off and Numlock off, Fn off and Numlock on, Fn on and Numlock off, and Fn on and Numlock on. The keyboard matrix is stored in on-chip flash memory. The matrix is programmable by FlexMatrix Editor and Programmer software.

Design Keyboard Matrix
Please refer to Microsoft Windows Platform Design Notes “Keyboard Scan Code Specification” to get more information.

Create Keyboard Matrix and Fn Mode
The FlexMatrix Editor program enables the user to create keyboard matrix including macro key definition and function key definition, then save them in binary format.

The Editor program allows the user to assign a logical key to any position in the 8 x 18 matrix for each of four situations:
- Matrix0 – Num Lock (or RFn) off and LFn off
- Matrix1 – Num Lock (or RFn) on and LFn off
- Matrix2 – Num Lock (or RFn) off and LFn on
- Matrix3 – Num Lock (or RFn) on and LFn on

Fn state is controlled by Fn (function) key in three methods: Level, Toggle and Sticky. The setting is can be changed via FlexMatrix Programmer.

- Fn Level mode: when Fn key is pressed, Fn mode is on; when Fn key is released, Fn mode is off.
- Fn Toggle mode: when Fn key is pressed, Fn mode is inverted; Releasing Fn key does nothing.
- Fn Sticky mode: when Fn is pressed once, Fn is in sticky state; when Fn is pressed twice, Fn is on state; when Fn is pressed for three times, Fn is off state. When Fn is in sticky state, any other key press will change Fn mode to off state.

The Editor program also allows the user to create up to 255 macro keys, which can then be assigned to positions in the matrix.

Once a matrix has been created, it is saved in a binary file. The file can be downloaded to the SK5126 flash data block via FlexMatrix Programmer software.

For detailed information and instructions for the FlexMatrix Editor program, see the help file provided with the program.

The Editor program can be downloaded from the SK5126 page on the Sprintek web site

http://www.sprintek.com/
Here is the screen snapshot of FlexMatrix Editor software.

![Screen snapshot of FlexMatrix Editor software](image)

**Download Keyboard Matrix**

The FlexMatrix Programmer program enables the user to download matrix binary file to the SK5126, upload matrix data from the SK5126’s flash data block to a binary file.

The Programmer program can be downloaded from the SK5126 page on the Sprintek web site [http://www.sprintek.com/](http://www.sprintek.com/)

Here is the screen snapshot of FlexMatrix Programmer software.

![Screen snapshot of FlexMatrix Programmer software](image)
Test Keyboard Matrix

Sprintek offers a keyboard test tool to verify your keyboard design. The FlexMatrix Tester software can be downloaded from the SK5126 page on the Sprintek web site [http://www.sprintek.com/](http://www.sprintek.com/)

Here is the screen snapshot of FlexMatrix Tester software.
DEFAULT KEYBOARD MATRIX

The following table shows the default keyboard matrix on chip.

<table>
<thead>
<tr>
<th>Col</th>
<th>Row</th>
<th>Fn Off Numlock Off</th>
<th>Fn Off Numlock On</th>
<th>Fn On Numlock Off</th>
<th>Fn On Numlock On</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>F19</td>
<td>F19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>F20</td>
<td>F20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>F21</td>
<td>F21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>3</td>
<td>F22</td>
<td>F22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>4</td>
<td>F23</td>
<td>F23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>5</td>
<td>F24</td>
<td>F24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>6</td>
<td>LCTRL</td>
<td>LCTRL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>7</td>
<td>RCTRL</td>
<td>RCTRL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>ESC</td>
<td>ESC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>F1</td>
<td>F1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>F2</td>
<td>F2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>F4</td>
<td>F4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>6</td>
<td>F3</td>
<td>F3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td>Q</td>
<td>Q</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>TAB</td>
<td>TAB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Z</td>
<td>Z</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>CAPSLOCK</td>
<td>CAPSLOCK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>A</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>F5</td>
<td>F5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>W</td>
<td>W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>F13</td>
<td>F13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>F14</td>
<td>F14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>F15</td>
<td>F15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>F16</td>
<td>F16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>F17</td>
<td>F17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>F18</td>
<td>F18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>LALT</td>
<td>LALT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>RALT</td>
<td>RALT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>SAPCE</td>
<td>SAPCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>V</td>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>S</td>
<td>S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>F6</td>
<td>F6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>E</td>
<td>E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>SLEEP</td>
<td>SLEEP</td>
<td>SLEEP</td>
<td>SLEEP</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>LWIN</td>
<td>LWIN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>KEY45</td>
<td>KEY45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>~/</td>
<td>~/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>F11</td>
<td>F11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>F12</td>
<td>F12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>LOGIN</td>
<td>LOGIN</td>
<td>LOGIN</td>
<td>LOGIN</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>LFN</td>
<td>LFN</td>
<td>LFN</td>
<td>LFN</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>C</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>D</td>
<td>D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>T</td>
<td>T</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>F7</td>
<td>F7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>T</td>
<td>T</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>G</td>
<td>G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>RWIN</td>
<td>RWIN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>F</td>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>3</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>F8</td>
<td>F8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>8</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>CUST_32</td>
<td>CUST_32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>CUST_33</td>
<td>CUST_33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>INSERT</td>
<td>INSERT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>./&gt;</td>
<td>./&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>M</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>3</td>
<td>J</td>
<td>J</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>U</td>
<td>U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>F9</td>
<td>F9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>6</td>
<td>9</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>H</td>
<td>H</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>DELETE</td>
<td>DELETE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>. //?</td>
<td>. //?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>./&lt;</td>
<td>./&lt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>3</td>
<td>K</td>
<td>K</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>I</td>
<td>I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>5</td>
<td>F10</td>
<td>F10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>7</td>
<td>.{</td>
<td>.{</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>ARWL</td>
<td>ARWL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>APPS</td>
<td>APPS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>.&quot;</td>
<td>.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>L</td>
<td>L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>O</td>
<td>O</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>NUMLOCK</td>
<td>NUMLOCK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td>.-/</td>
<td>.-/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>7</td>
<td>.{</td>
<td>.{</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>0</td>
<td>ARWDN</td>
<td>ARWDN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>ARWUP</td>
<td>ARWUP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>2</td>
<td>ENTER</td>
<td>ENTER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>.://</td>
<td>.://</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>4</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>5</td>
<td>SCRLLOCK</td>
<td>SCRLLOCK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>6</td>
<td>.=/+</td>
<td>.=/+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>7</td>
<td>.{</td>
<td>.{</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>0</td>
<td>BLCINC</td>
<td>BLCINC</td>
<td>BLCINC</td>
<td>BLCINC</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>BLKOUT</td>
<td>BLKOUT</td>
<td>BLKOUT</td>
<td>BLKOUT</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>ALERT</td>
<td>ALERT</td>
<td>ALERT</td>
<td>ALERT</td>
</tr>
<tr>
<td>12</td>
<td>3</td>
<td>SHIFTF2</td>
<td>SHIFTF2</td>
<td>SHIFTF2</td>
<td>SHIFTF2</td>
</tr>
<tr>
<td>12</td>
<td>4</td>
<td>SHIFTF3</td>
<td>SHIFTF3</td>
<td>SHIFTF3</td>
<td>SHIFTF3</td>
</tr>
<tr>
<td>12</td>
<td>5</td>
<td>SHIFTF4</td>
<td>SHIFTF4</td>
<td>SHIFTF4</td>
<td>SHIFTF4</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
<td>RSHIFT</td>
<td>RSHIFT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>7</td>
<td>LSHIFT</td>
<td>LSHIFT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>0</td>
<td>ARWR</td>
<td>ARWR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>END</td>
<td>END</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>2</td>
<td>PAGEDN</td>
<td>PAGEDN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>3</td>
<td>PAGEUP</td>
<td>PAGEUP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>4</td>
<td>BKSPACE</td>
<td>BKSPACE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>5</td>
<td>PRNTSCR</td>
<td>PRNTSCR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>6</td>
<td>PAUSE</td>
<td>PAUSE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The following table shows the default flag key located.

<table>
<thead>
<tr>
<th>Flag#</th>
<th>Output Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SPACE</td>
</tr>
<tr>
<td>1</td>
<td>ENTER</td>
</tr>
<tr>
<td>2</td>
<td>BKSPACE</td>
</tr>
<tr>
<td>3</td>
<td>LSHIFT</td>
</tr>
<tr>
<td>4</td>
<td>RSHIFT</td>
</tr>
<tr>
<td>5</td>
<td>N0</td>
</tr>
<tr>
<td>6</td>
<td>NENTER</td>
</tr>
<tr>
<td>7</td>
<td>N+</td>
</tr>
<tr>
<td>8</td>
<td>NULL</td>
</tr>
<tr>
<td>9</td>
<td>NULL</td>
</tr>
<tr>
<td>10</td>
<td>NULL</td>
</tr>
<tr>
<td>11</td>
<td>NULL</td>
</tr>
<tr>
<td>12</td>
<td>NULL</td>
</tr>
<tr>
<td>13</td>
<td>NULL</td>
</tr>
<tr>
<td>14</td>
<td>NULL</td>
</tr>
<tr>
<td>15</td>
<td>NULL</td>
</tr>
<tr>
<td>16</td>
<td>NULL</td>
</tr>
<tr>
<td>17</td>
<td>NULL</td>
</tr>
<tr>
<td>18</td>
<td>NULL</td>
</tr>
<tr>
<td>19</td>
<td>NULL</td>
</tr>
<tr>
<td>20</td>
<td>NULL</td>
</tr>
</tbody>
</table>

CUST_16 to 31 are KeyMouse functions. Check scan code table for detail.
CUST_32: Key "00"
CUST_33: Key "000"
SKEY AND SCAN CODE TABLE

The SK5126 supports 255 skeys excluding the null key (0). The following table shows the default assignment of these skeys. Any skey can be assigned to any scan code via FlexMatrix Editor and Programmer.

Table Notes

SKEY is the Spritnek key number.
Program code is the code entered by the user in the Editor program to identify the key
AT-101 is the key reference number on the standard AT-101 keyboard layout, shown in the diagram below
USB page is the Universal Serial Bus (USB) Human Interface Device (HID) usage page for the key. Most keys are on the keyboard page, page 0x07. For information about USB codes, see the USB HID specifications, published by the USB-IF (http://www.usb.org/).

USB usage is the USB HID usage ID for the key on the specified USB HID page.

PS/2 codes are the make (key press) and break (key release) codes for PS/2 scan sets 1, 2, and 3; U/A means unassigned. Note that some keys, by default, do not generate break codes, even if the break codes are shown in this table.

Enhanced AT-101 Keyboard Physical Layout

The following figure shows the standard AT-101 keyboard with Windows keys. The numbers on keys are the position number.
<table>
<thead>
<tr>
<th>SKEY (Dec)</th>
<th>Program Code</th>
<th>Description</th>
<th>AT-101 (Dec)</th>
<th>USB Page (Hex)</th>
<th>USB Usage (Hex)</th>
<th>Set 1 Make (Hex)</th>
<th>Set 1 Break (Hex)</th>
<th>Set 2 Make (Hex)</th>
<th>Set 2 Break (Hex)</th>
<th>Set 3 Make (Hex)</th>
<th>Set 3 Break (Hex)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No Key</td>
<td>No Event</td>
<td>N/A</td>
<td>07</td>
<td>00</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>1</td>
<td>ROLLOVER</td>
<td>Keyboard ErrorRollOver</td>
<td>N/A</td>
<td>07</td>
<td>01</td>
<td>FF</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>POSTFAIL</td>
<td>Keyboard POSTfail</td>
<td>N/A</td>
<td>07</td>
<td>02</td>
<td>FC</td>
<td>None</td>
<td>FC</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>UNDEFINED</td>
<td>Keyboard ErrorUndefined</td>
<td>N/A</td>
<td>07</td>
<td>03</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>4</td>
<td>A</td>
<td>Keyboard a and A</td>
<td>31</td>
<td>07</td>
<td>04</td>
<td>1E</td>
<td>9E</td>
<td>1C</td>
<td>F0 1C</td>
<td>1C</td>
<td>F0 1C</td>
</tr>
<tr>
<td>5</td>
<td>B</td>
<td>Keyboard b and B</td>
<td>50</td>
<td>07</td>
<td>05</td>
<td>30</td>
<td>B0</td>
<td>32</td>
<td>F0 32</td>
<td>32</td>
<td>F0 32</td>
</tr>
<tr>
<td>6</td>
<td>C</td>
<td>Keyboard c and C</td>
<td>48</td>
<td>07</td>
<td>06</td>
<td>2E</td>
<td>AE</td>
<td>21</td>
<td>F0 21</td>
<td>21</td>
<td>F0 21</td>
</tr>
<tr>
<td>7</td>
<td>D</td>
<td>Keyboard d and D</td>
<td>33</td>
<td>07</td>
<td>07</td>
<td>20</td>
<td>A0</td>
<td>23</td>
<td>F0 23</td>
<td>23</td>
<td>F0 23</td>
</tr>
<tr>
<td>8</td>
<td>E</td>
<td>Keyboard e and E</td>
<td>19</td>
<td>07</td>
<td>08</td>
<td>12</td>
<td>92</td>
<td>24</td>
<td>F0 24</td>
<td>24</td>
<td>F0 24</td>
</tr>
<tr>
<td>9</td>
<td>F</td>
<td>Keyboard f and F</td>
<td>34</td>
<td>07</td>
<td>09</td>
<td>21</td>
<td>A1</td>
<td>2B</td>
<td>F0 2B</td>
<td>2B</td>
<td>F0 2B</td>
</tr>
<tr>
<td>10</td>
<td>G</td>
<td>Keyboard g and G</td>
<td>35</td>
<td>07</td>
<td>0A</td>
<td>22</td>
<td>A2</td>
<td>34</td>
<td>F0 34</td>
<td>34</td>
<td>F0 34</td>
</tr>
<tr>
<td>11</td>
<td>H</td>
<td>Keyboard h and H</td>
<td>36</td>
<td>07</td>
<td>0B</td>
<td>23</td>
<td>A3</td>
<td>33</td>
<td>F0 33</td>
<td>33</td>
<td>F0 33</td>
</tr>
<tr>
<td>12</td>
<td>I</td>
<td>Keyboard i and I</td>
<td>24</td>
<td>07</td>
<td>0C</td>
<td>17</td>
<td>97</td>
<td>43</td>
<td>F0 43</td>
<td>43</td>
<td>F0 43</td>
</tr>
<tr>
<td>13</td>
<td>J</td>
<td>Keyboard j and J</td>
<td>37</td>
<td>07</td>
<td>0D</td>
<td>24</td>
<td>A4</td>
<td>3B</td>
<td>F0 3B</td>
<td>3B</td>
<td>F0 3B</td>
</tr>
<tr>
<td>14</td>
<td>K</td>
<td>Keyboard k and K</td>
<td>38</td>
<td>07</td>
<td>0E</td>
<td>25</td>
<td>A5</td>
<td>42</td>
<td>F0 42</td>
<td>42</td>
<td>F0 42</td>
</tr>
<tr>
<td>15</td>
<td>L</td>
<td>Keyboard l and L</td>
<td>39</td>
<td>07</td>
<td>0F</td>
<td>26</td>
<td>A6</td>
<td>4B</td>
<td>F0 4B</td>
<td>4B</td>
<td>F0 4B</td>
</tr>
<tr>
<td>16</td>
<td>M</td>
<td>Keyboard m and M</td>
<td>52</td>
<td>07</td>
<td>10</td>
<td>32</td>
<td>B2</td>
<td>3A</td>
<td>F0 3A</td>
<td>3A</td>
<td>F0 3A</td>
</tr>
<tr>
<td>17</td>
<td>N</td>
<td>Keyboard n and N</td>
<td>51</td>
<td>07</td>
<td>11</td>
<td>31</td>
<td>B1</td>
<td>31</td>
<td>F0 31</td>
<td>31</td>
<td>F0 31</td>
</tr>
<tr>
<td>18</td>
<td>O</td>
<td>Keyboard o and O</td>
<td>25</td>
<td>07</td>
<td>12</td>
<td>18</td>
<td>98</td>
<td>44</td>
<td>F0 44</td>
<td>44</td>
<td>F0 44</td>
</tr>
<tr>
<td>19</td>
<td>P</td>
<td>Keyboard p and P</td>
<td>26</td>
<td>07</td>
<td>13</td>
<td>19</td>
<td>99</td>
<td>4D</td>
<td>F0 4D</td>
<td>4D</td>
<td>F0 4D</td>
</tr>
<tr>
<td>20</td>
<td>Q</td>
<td>Keyboard q and Q</td>
<td>17</td>
<td>07</td>
<td>14</td>
<td>10</td>
<td>90</td>
<td>15</td>
<td>F0 15</td>
<td>15</td>
<td>F0 15</td>
</tr>
<tr>
<td>21</td>
<td>R</td>
<td>Keyboard r and R</td>
<td>20</td>
<td>07</td>
<td>15</td>
<td>13</td>
<td>93</td>
<td>2D</td>
<td>F0 2D</td>
<td>2D</td>
<td>F0 2D</td>
</tr>
<tr>
<td>22</td>
<td>S</td>
<td>Keyboard s and S</td>
<td>32</td>
<td>07</td>
<td>16</td>
<td>1F</td>
<td>9F</td>
<td>1B</td>
<td>F0 1B</td>
<td>1B</td>
<td>F0 1B</td>
</tr>
<tr>
<td>23</td>
<td>T</td>
<td>Keyboard t and T</td>
<td>21</td>
<td>07</td>
<td>17</td>
<td>14</td>
<td>94</td>
<td>2C</td>
<td>F0 2C</td>
<td>2C</td>
<td>F0 2C</td>
</tr>
<tr>
<td>24</td>
<td>U</td>
<td>Keyboard u and U</td>
<td>23</td>
<td>07</td>
<td>18</td>
<td>16</td>
<td>96</td>
<td>3C</td>
<td>F0 3C</td>
<td>3C</td>
<td>F0 3C</td>
</tr>
<tr>
<td>25</td>
<td>V</td>
<td>Keyboard v and V</td>
<td>49</td>
<td>07</td>
<td>19</td>
<td>2F</td>
<td>AF</td>
<td>2A</td>
<td>F0 2A</td>
<td>2A</td>
<td>F0 2A</td>
</tr>
<tr>
<td>26</td>
<td>W</td>
<td>Keyboard w and W</td>
<td>18</td>
<td>07</td>
<td>1A</td>
<td>11</td>
<td>91</td>
<td>1D</td>
<td>F0 1D</td>
<td>1D</td>
<td>F0 1D</td>
</tr>
<tr>
<td>27</td>
<td>X</td>
<td>Keyboard x and X</td>
<td>47</td>
<td>07</td>
<td>1B</td>
<td>2D</td>
<td>AD</td>
<td>22</td>
<td>F0 22</td>
<td>22</td>
<td>F0 22</td>
</tr>
<tr>
<td>28</td>
<td>Y</td>
<td>Keyboard y and Y</td>
<td>22</td>
<td>07</td>
<td>1C</td>
<td>15</td>
<td>95</td>
<td>35</td>
<td>F0 35</td>
<td>35</td>
<td>F0 35</td>
</tr>
<tr>
<td>29</td>
<td>Z</td>
<td>Keyboard z and Z</td>
<td>46</td>
<td>07</td>
<td>1D</td>
<td>2C</td>
<td>AC</td>
<td>1A</td>
<td>F0 1A</td>
<td>1A</td>
<td>F0 1A</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
<td>Keyboard 1 and !</td>
<td>2</td>
<td>07</td>
<td>1E</td>
<td>02</td>
<td>82</td>
<td>16</td>
<td>F0 16</td>
<td>16</td>
<td>F0 16</td>
</tr>
<tr>
<td>31</td>
<td>2</td>
<td>Keyboard 2 and @</td>
<td>3</td>
<td>07</td>
<td>1F</td>
<td>03</td>
<td>83</td>
<td>1E</td>
<td>F0 1E</td>
<td>1E</td>
<td>F0 1E</td>
</tr>
<tr>
<td>32</td>
<td>3</td>
<td>Keyboard 3 and #</td>
<td>4</td>
<td>07</td>
<td>20</td>
<td>04</td>
<td>84</td>
<td>26</td>
<td>F0 26</td>
<td>26</td>
<td>F0 26</td>
</tr>
<tr>
<td>33</td>
<td>4</td>
<td>Keyboard 4 and $</td>
<td>5</td>
<td>07</td>
<td>21</td>
<td>05</td>
<td>85</td>
<td>25</td>
<td>F0 25</td>
<td>25</td>
<td>F0 25</td>
</tr>
<tr>
<td>34</td>
<td>5</td>
<td>Keyboard 5 and %</td>
<td>6</td>
<td>07</td>
<td>22</td>
<td>06</td>
<td>86</td>
<td>2E</td>
<td>F0 2E</td>
<td>2E</td>
<td>F0 2E</td>
</tr>
<tr>
<td>35</td>
<td>6</td>
<td>Keyboard 6 and ^</td>
<td>7</td>
<td>07</td>
<td>23</td>
<td>07</td>
<td>87</td>
<td>36</td>
<td>F0 36</td>
<td>36</td>
<td>F0 36</td>
</tr>
<tr>
<td>36</td>
<td>7</td>
<td>Keyboard 7 and &amp;</td>
<td>8</td>
<td>07</td>
<td>24</td>
<td>08</td>
<td>88</td>
<td>3D</td>
<td>F0 3D</td>
<td>3D</td>
<td>F0 3D</td>
</tr>
<tr>
<td>SKEY (Dec)</td>
<td>Program Code</td>
<td>Description</td>
<td>AT-101 (Dec)</td>
<td>USB Page (Hex)</td>
<td>USB Usage (Hex)</td>
<td>Set 1 Make (Hex)</td>
<td>Set 1 Break (Hex)</td>
<td>Set 2 Make (Hex)</td>
<td>Set 2 Break (Hex)</td>
<td>Set 3 Make (Hex)</td>
<td>Set 3 Break (Hex)</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
<td>--------------------------------------</td>
<td>--------------</td>
<td>----------------</td>
<td>----------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>37</td>
<td>8</td>
<td>Keyboard 8 and *</td>
<td>9</td>
<td>07</td>
<td>25</td>
<td>09</td>
<td>89</td>
<td>3E</td>
<td>F0 3E</td>
<td>3E</td>
<td>F0 3E</td>
</tr>
<tr>
<td>38</td>
<td>9</td>
<td>Keyboard 9 and (</td>
<td>10</td>
<td>07</td>
<td>26</td>
<td>0A</td>
<td>8A</td>
<td>46</td>
<td>F0 46</td>
<td>46</td>
<td>F0 46</td>
</tr>
<tr>
<td>39</td>
<td>0</td>
<td>Keyboard 0 and )</td>
<td>11</td>
<td>07</td>
<td>27</td>
<td>0B</td>
<td>8B</td>
<td>45</td>
<td>F0 45</td>
<td>45</td>
<td>F0 45</td>
</tr>
<tr>
<td>40</td>
<td>ENTER</td>
<td>Keyboard Return(ENTER)</td>
<td>43</td>
<td>07</td>
<td>28</td>
<td>1C</td>
<td>9C</td>
<td>5A</td>
<td>F0 5A</td>
<td>5A</td>
<td>F0 5A</td>
</tr>
<tr>
<td>41</td>
<td>ESC</td>
<td>Keyboard ESCAPE</td>
<td>110</td>
<td>07</td>
<td>29</td>
<td>01</td>
<td>81</td>
<td>76</td>
<td>F0 7E</td>
<td>08</td>
<td>F0 08</td>
</tr>
<tr>
<td>42</td>
<td>BACKSPACE</td>
<td>Keyboard Backspace</td>
<td>15</td>
<td>07</td>
<td>2A</td>
<td>0E</td>
<td>8E</td>
<td>66</td>
<td>F0 66</td>
<td>66</td>
<td>F0 66</td>
</tr>
<tr>
<td>43</td>
<td>TAB</td>
<td>Keyboard Tab</td>
<td>16</td>
<td>07</td>
<td>2B</td>
<td>0F</td>
<td>8F</td>
<td>0D</td>
<td>F0 0D</td>
<td>0D</td>
<td>F0 0D</td>
</tr>
<tr>
<td>44</td>
<td>SPACE</td>
<td>Keyboard Spacebar</td>
<td>61</td>
<td>07</td>
<td>2C</td>
<td>39</td>
<td>B9</td>
<td>29</td>
<td>F0 29</td>
<td>29</td>
<td>F0 29</td>
</tr>
<tr>
<td>45</td>
<td>-/</td>
<td>Keyboard - and (</td>
<td>12</td>
<td>07</td>
<td>2D</td>
<td>0C</td>
<td>8C</td>
<td>4E</td>
<td>F0 4E</td>
<td>4E</td>
<td>F0 4E</td>
</tr>
<tr>
<td>46</td>
<td>+/-</td>
<td>Keyboard = and +</td>
<td>13</td>
<td>07</td>
<td>2E</td>
<td>0D</td>
<td>8D</td>
<td>55</td>
<td>F0 55</td>
<td>55</td>
<td>F0 55</td>
</tr>
<tr>
<td>47</td>
<td>[]</td>
<td>Keyboard [ and {</td>
<td>27</td>
<td>07</td>
<td>2F</td>
<td>1A</td>
<td>9A</td>
<td>54</td>
<td>F0 54</td>
<td>54</td>
<td>F0 54</td>
</tr>
<tr>
<td>48</td>
<td>}</td>
<td>Keyboard ] and }</td>
<td>28</td>
<td>07</td>
<td>30</td>
<td>1B</td>
<td>9B</td>
<td>5B</td>
<td>F0 5B</td>
<td>5B</td>
<td>F0 5B</td>
</tr>
<tr>
<td>49</td>
<td>|</td>
<td>Keyboard \ and</td>
<td></td>
<td>29</td>
<td>07</td>
<td>31</td>
<td>2B</td>
<td>AB</td>
<td>5D</td>
<td>F0 5D</td>
<td>5C</td>
</tr>
<tr>
<td>50</td>
<td>KEY42</td>
<td>Keyboard Non-US# and ~</td>
<td>42</td>
<td>07</td>
<td>32</td>
<td>2B</td>
<td>AB</td>
<td>5D</td>
<td>F0 5D</td>
<td>5C</td>
<td>F0 5C</td>
</tr>
<tr>
<td>51</td>
<td>:/</td>
<td>Keyboard</td>
<td>40</td>
<td>07</td>
<td>33</td>
<td>27</td>
<td>A7</td>
<td>4C</td>
<td>F0 4C</td>
<td>4C</td>
<td>F0 4C</td>
</tr>
<tr>
<td>52</td>
<td>‘/’</td>
<td>Keyboard ` and “</td>
<td>41</td>
<td>07</td>
<td>34</td>
<td>28</td>
<td>A8</td>
<td>52</td>
<td>F0 52</td>
<td>52</td>
<td>F0 52</td>
</tr>
<tr>
<td>53</td>
<td>‘/~’</td>
<td>Keyboard ` and ~</td>
<td>1</td>
<td>07</td>
<td>35</td>
<td>29</td>
<td>A9</td>
<td>0E</td>
<td>F0 0E</td>
<td>0E</td>
<td>F0 0E</td>
</tr>
<tr>
<td>54</td>
<td>‘/’</td>
<td>Keyboard , and &lt;</td>
<td>53</td>
<td>07</td>
<td>36</td>
<td>33</td>
<td>B3</td>
<td>41</td>
<td>F0 41</td>
<td>41</td>
<td>F0 41</td>
</tr>
<tr>
<td>55</td>
<td>‘/&gt;’</td>
<td>Keyboard , and &gt;</td>
<td>54</td>
<td>07</td>
<td>37</td>
<td>34</td>
<td>B4</td>
<td>49</td>
<td>F0 49</td>
<td>49</td>
<td>F0 49</td>
</tr>
<tr>
<td>56</td>
<td>‘?/’</td>
<td>Keyboard / and ?</td>
<td>55</td>
<td>07</td>
<td>38</td>
<td>35</td>
<td>B5</td>
<td>4A</td>
<td>F0 4A</td>
<td>4A</td>
<td>F0 4A</td>
</tr>
<tr>
<td>57</td>
<td>CAPSLOCK</td>
<td>Keyboard CapsLock</td>
<td>30</td>
<td>07</td>
<td>39</td>
<td>3A</td>
<td>BA</td>
<td>58</td>
<td>F0 58</td>
<td>14</td>
<td>F0 14</td>
</tr>
<tr>
<td>58</td>
<td>F1</td>
<td>Keyboard F1</td>
<td>112</td>
<td>07</td>
<td>3A</td>
<td>3B</td>
<td>BB</td>
<td>05</td>
<td>F0 05</td>
<td>07</td>
<td>F0 07</td>
</tr>
<tr>
<td>59</td>
<td>F2</td>
<td>Keyboard F2</td>
<td>113</td>
<td>07</td>
<td>3B</td>
<td>3C</td>
<td>BC</td>
<td>06</td>
<td>F0 06</td>
<td>0F</td>
<td>F0 0F</td>
</tr>
<tr>
<td>60</td>
<td>F3</td>
<td>Keyboard F3</td>
<td>114</td>
<td>07</td>
<td>3C</td>
<td>3D</td>
<td>BD</td>
<td>04</td>
<td>F0 04</td>
<td>17</td>
<td>F0 17</td>
</tr>
<tr>
<td>61</td>
<td>F4</td>
<td>Keyboard F4</td>
<td>115</td>
<td>07</td>
<td>3D</td>
<td>3E</td>
<td>BE</td>
<td>0C</td>
<td>F0 0C</td>
<td>1F</td>
<td>F0 1F</td>
</tr>
<tr>
<td>62</td>
<td>F5</td>
<td>Keyboard F5</td>
<td>116</td>
<td>07</td>
<td>3E</td>
<td>3F</td>
<td>BF</td>
<td>03</td>
<td>F0 03</td>
<td>27</td>
<td>F0 27</td>
</tr>
<tr>
<td>63</td>
<td>F6</td>
<td>Keyboard F6</td>
<td>117</td>
<td>07</td>
<td>3F</td>
<td>40</td>
<td>C0</td>
<td>0B</td>
<td>F0 0B</td>
<td>2F</td>
<td>F0 2F</td>
</tr>
<tr>
<td>64</td>
<td>F7</td>
<td>Keyboard F7</td>
<td>118</td>
<td>07</td>
<td>40</td>
<td>41</td>
<td>C1</td>
<td>83</td>
<td>F0 83</td>
<td>37</td>
<td>F0 37</td>
</tr>
<tr>
<td>65</td>
<td>F8</td>
<td>Keyboard F8</td>
<td>119</td>
<td>07</td>
<td>41</td>
<td>42</td>
<td>C2</td>
<td>0A</td>
<td>F0 0A</td>
<td>3F</td>
<td>F0 3F</td>
</tr>
<tr>
<td>66</td>
<td>F9</td>
<td>Keyboard F9</td>
<td>120</td>
<td>07</td>
<td>42</td>
<td>43</td>
<td>C3</td>
<td>01</td>
<td>F0 01</td>
<td>47</td>
<td>F0 47</td>
</tr>
<tr>
<td>67</td>
<td>F10</td>
<td>Keyboard F10</td>
<td>121</td>
<td>07</td>
<td>43</td>
<td>44</td>
<td>C4</td>
<td>09</td>
<td>F0 09</td>
<td>4F</td>
<td>F0 4F</td>
</tr>
<tr>
<td>68</td>
<td>F11</td>
<td>Keyboard F11</td>
<td>122</td>
<td>07</td>
<td>44</td>
<td>57</td>
<td>D7</td>
<td>78</td>
<td>F0 78</td>
<td>56</td>
<td>F0 56</td>
</tr>
<tr>
<td>69</td>
<td>F12</td>
<td>Keyboard F12</td>
<td>123</td>
<td>07</td>
<td>45</td>
<td>58</td>
<td>D8</td>
<td>07</td>
<td>F0 07</td>
<td>5E</td>
<td>F0 5E</td>
</tr>
<tr>
<td>70</td>
<td>PRINT SCRN</td>
<td>Keyboard PrintScreen</td>
<td>124</td>
<td>07</td>
<td>46</td>
<td>E0 37</td>
<td>E0 B7</td>
<td>E0 7C</td>
<td>E0 F0 7C</td>
<td>57</td>
<td>F0 57</td>
</tr>
<tr>
<td>71</td>
<td>SCROLLSCRN</td>
<td>Keyboard ScrollScreen</td>
<td>125</td>
<td>07</td>
<td>47</td>
<td>46</td>
<td>C6</td>
<td>7E</td>
<td>F0 7E</td>
<td>5F</td>
<td>F0 5F</td>
</tr>
<tr>
<td>72</td>
<td>PAUSE</td>
<td>Keyboard Pause</td>
<td>126</td>
<td>07</td>
<td>48</td>
<td>E1 1D 45</td>
<td>E19D C5</td>
<td>None</td>
<td>E1 1D 45</td>
<td>E1 F0 14</td>
<td>None</td>
</tr>
<tr>
<td>SKEY (Dec)</td>
<td>Program Code</td>
<td>Description</td>
<td>AT-101 (Dec)</td>
<td>USB Page (Hex)</td>
<td>USB Usage (Hex)</td>
<td>Set 1 Make (Hex)</td>
<td>Set 1 Break (Hex)</td>
<td>Set 2 Make (Hex)</td>
<td>Set 2 Break (Hex)</td>
<td>Set 3 Make (Hex)</td>
<td>Set 3 Break (Hex)</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>-------------</td>
<td>----------------</td>
<td>----------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>72</td>
<td>PUASE</td>
<td>Keyboard Break (Ctrl+Pause)</td>
<td>126</td>
<td>07</td>
<td>48</td>
<td>E0 46 E0 C6</td>
<td>None</td>
<td>E0 7E</td>
<td>None</td>
<td>62</td>
<td>F0 62</td>
</tr>
<tr>
<td>73</td>
<td>INSERT</td>
<td>Keyboard Insert</td>
<td>75</td>
<td>07</td>
<td>49</td>
<td>E0 52</td>
<td>E0 D2</td>
<td>E0 70</td>
<td>E0 F0 70</td>
<td>67</td>
<td>F0 67</td>
</tr>
<tr>
<td>74</td>
<td>HOME</td>
<td>Keyboard Home</td>
<td>80</td>
<td>07</td>
<td>4A</td>
<td>E0 47</td>
<td>E0 C7</td>
<td>E0 6C</td>
<td>E0 F0 6C</td>
<td>6E</td>
<td>F0 6E</td>
</tr>
<tr>
<td>75</td>
<td>PAGE UP</td>
<td>Keyboard PageUp</td>
<td>85</td>
<td>07</td>
<td>4B</td>
<td>E0 49</td>
<td>E0 C9</td>
<td>E0 7D</td>
<td>E0 F0 7D</td>
<td>6F</td>
<td>F0 6F</td>
</tr>
<tr>
<td>76</td>
<td>DELETE</td>
<td>Keyboard Delete Forward</td>
<td>76</td>
<td>07</td>
<td>4C</td>
<td>E0 53</td>
<td>E0 D3</td>
<td>E0 71</td>
<td>E0 F0 71</td>
<td>64</td>
<td>F0 64</td>
</tr>
<tr>
<td>77</td>
<td>END</td>
<td>Keyboard End</td>
<td>81</td>
<td>07</td>
<td>4D</td>
<td>E0 4F</td>
<td>E0 CF</td>
<td>E0 69</td>
<td>E0 F0 69</td>
<td>65</td>
<td>F0 65</td>
</tr>
<tr>
<td>78</td>
<td>PAGE DOWN</td>
<td>Keyboard PageDown</td>
<td>86</td>
<td>07</td>
<td>4E</td>
<td>E0 51</td>
<td>E0 D1</td>
<td>E0 7A</td>
<td>E0 F0 7A</td>
<td>6D</td>
<td>F0 6D</td>
</tr>
<tr>
<td>79</td>
<td>ARWR</td>
<td>Keyboard RightArrow</td>
<td>89</td>
<td>07</td>
<td>4F</td>
<td>E0 4D</td>
<td>E0 CD</td>
<td>E0 74</td>
<td>E0 F0 74</td>
<td>6A</td>
<td>F0 6A</td>
</tr>
<tr>
<td>80</td>
<td>ARWL</td>
<td>Keyboard LeftArrow</td>
<td>79</td>
<td>07</td>
<td>50</td>
<td>E0 4B</td>
<td>E0 CB</td>
<td>E0 6B</td>
<td>E0 F0 6B</td>
<td>61</td>
<td>F0 61</td>
</tr>
<tr>
<td>81</td>
<td>ARWDN</td>
<td>Keyboard DownArrow</td>
<td>84</td>
<td>07</td>
<td>51</td>
<td>E0 50</td>
<td>E0 D0</td>
<td>E0 72</td>
<td>E0 F0 72</td>
<td>60</td>
<td>F0 60</td>
</tr>
<tr>
<td>82</td>
<td>ARWUP</td>
<td>Keyboard UpArrow</td>
<td>83</td>
<td>07</td>
<td>52</td>
<td>E0 4E</td>
<td>E0 C8</td>
<td>E0 75</td>
<td>E0 F0 75</td>
<td>63</td>
<td>F0 63</td>
</tr>
<tr>
<td>83</td>
<td>NUMLOCK</td>
<td>Keypad NumLock</td>
<td>90</td>
<td>07</td>
<td>53</td>
<td>45</td>
<td>C5</td>
<td>77</td>
<td>F0 77</td>
<td>76</td>
<td>F0 76</td>
</tr>
<tr>
<td>84</td>
<td>N/</td>
<td>Keypad /</td>
<td>95</td>
<td>07</td>
<td>54</td>
<td>E0 35</td>
<td>E0 B5</td>
<td>E0 4A</td>
<td>E0 F0 4A</td>
<td>77</td>
<td>F0 77</td>
</tr>
<tr>
<td>85</td>
<td>N+</td>
<td>Keypad +</td>
<td>100</td>
<td>07</td>
<td>55</td>
<td>37</td>
<td>B7</td>
<td>7C</td>
<td>F0 7C</td>
<td>7E</td>
<td>F0 7E</td>
</tr>
<tr>
<td>86</td>
<td>N-</td>
<td>Keypad -</td>
<td>105</td>
<td>07</td>
<td>56</td>
<td>4A</td>
<td>CA</td>
<td>7B</td>
<td>F0 7B</td>
<td>84</td>
<td>F0 84</td>
</tr>
<tr>
<td>87</td>
<td>N+</td>
<td>Keypad +</td>
<td>106</td>
<td>07</td>
<td>57</td>
<td>4E</td>
<td>CE</td>
<td>79</td>
<td>F0 79</td>
<td>7C</td>
<td>F0 7C</td>
</tr>
<tr>
<td>88</td>
<td>NENTER</td>
<td>Keypad ENTER</td>
<td>108</td>
<td>07</td>
<td>58</td>
<td>E0 1C</td>
<td>E0 9C</td>
<td>E0 5A</td>
<td>E0 F0 5A</td>
<td>79</td>
<td>F0 79</td>
</tr>
<tr>
<td>89</td>
<td>N1</td>
<td>Keypad 1 and End</td>
<td>93</td>
<td>07</td>
<td>59</td>
<td>4F</td>
<td>CF</td>
<td>69</td>
<td>F0 69</td>
<td>69</td>
<td>F0 69</td>
</tr>
<tr>
<td>90</td>
<td>N2</td>
<td>Keypad 2 and Down Arrow</td>
<td>98</td>
<td>07</td>
<td>5A</td>
<td>50</td>
<td>D0</td>
<td>72</td>
<td>F0 72</td>
<td>72</td>
<td>F0 72</td>
</tr>
<tr>
<td>91</td>
<td>N3</td>
<td>Keypad 3 and PageDn</td>
<td>103</td>
<td>07</td>
<td>5B</td>
<td>51</td>
<td>D1</td>
<td>7A</td>
<td>F0 7A</td>
<td>7A</td>
<td>F0 7A</td>
</tr>
<tr>
<td>92</td>
<td>N4</td>
<td>Keypad 4 and Left Arrow</td>
<td>92</td>
<td>07</td>
<td>5C</td>
<td>4B</td>
<td>CB</td>
<td>6B</td>
<td>F0 6B</td>
<td>6B</td>
<td>F0 6B</td>
</tr>
<tr>
<td>93</td>
<td>N5</td>
<td>Keypad 5</td>
<td>97</td>
<td>07</td>
<td>5D</td>
<td>4C</td>
<td>CC</td>
<td>73</td>
<td>F0 73</td>
<td>73</td>
<td>F0 73</td>
</tr>
<tr>
<td>94</td>
<td>N6</td>
<td>Keypad 6 and Right Arrow</td>
<td>102</td>
<td>07</td>
<td>5E</td>
<td>4D</td>
<td>CD</td>
<td>74</td>
<td>F0 74</td>
<td>74</td>
<td>F0 74</td>
</tr>
<tr>
<td>95</td>
<td>N7</td>
<td>Keypad 7 and Home</td>
<td>91</td>
<td>07</td>
<td>5F</td>
<td>47</td>
<td>C7</td>
<td>6C</td>
<td>F0 6C</td>
<td>6C</td>
<td>F0 6C</td>
</tr>
<tr>
<td>96</td>
<td>N8</td>
<td>Keypad 8 and Up Arrow</td>
<td>96</td>
<td>07</td>
<td>60</td>
<td>48</td>
<td>C8</td>
<td>75</td>
<td>F0 75</td>
<td>75</td>
<td>F0 75</td>
</tr>
<tr>
<td>97</td>
<td>N9</td>
<td>Keypad 9 and PageUp</td>
<td>101</td>
<td>07</td>
<td>61</td>
<td>49</td>
<td>C9</td>
<td>7D</td>
<td>F0 7D</td>
<td>7D</td>
<td>F0 7D</td>
</tr>
<tr>
<td>98</td>
<td>N0</td>
<td>Keypad 0 and Insert</td>
<td>99</td>
<td>07</td>
<td>62</td>
<td>52</td>
<td>D2</td>
<td>70</td>
<td>F0 70</td>
<td>70</td>
<td>F0 70</td>
</tr>
<tr>
<td>99</td>
<td>N.</td>
<td>Keypad . and Delete</td>
<td>104</td>
<td>07</td>
<td>63</td>
<td>53</td>
<td>D3</td>
<td>71</td>
<td>F0 71</td>
<td>71</td>
<td>F0 71</td>
</tr>
<tr>
<td>100</td>
<td>KEY45</td>
<td>Keyboard Non-US, 1 and j</td>
<td>45</td>
<td>07</td>
<td>64</td>
<td>56</td>
<td>D6</td>
<td>61</td>
<td>F0 61</td>
<td>61</td>
<td>F0 61</td>
</tr>
<tr>
<td>101</td>
<td>APPL</td>
<td>Keyboard Application</td>
<td>129</td>
<td>07</td>
<td>65</td>
<td>E0 5D</td>
<td>E0 DD</td>
<td>E0 2F</td>
<td>E0 F0 2F</td>
<td>8D</td>
<td>F0 8D</td>
</tr>
<tr>
<td>102</td>
<td>POWER</td>
<td>Keyboard Power</td>
<td>U/A</td>
<td>07</td>
<td>66</td>
<td>E0 5E</td>
<td>E0 DE</td>
<td>E0 37</td>
<td>E0 F0 37</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>103</td>
<td>N=</td>
<td>Keypad =</td>
<td>U/A</td>
<td>07</td>
<td>67</td>
<td>59</td>
<td>D9</td>
<td>0F</td>
<td>F0 0F</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>104</td>
<td>F13</td>
<td>Keyboard F13</td>
<td>U/A</td>
<td>07</td>
<td>68</td>
<td>64</td>
<td>E4</td>
<td>08</td>
<td>F0 08</td>
<td>08</td>
<td>F0 08</td>
</tr>
<tr>
<td>105</td>
<td>F14</td>
<td>Keyboard F14</td>
<td>U/A</td>
<td>07</td>
<td>69</td>
<td>65</td>
<td>E5</td>
<td>10</td>
<td>F0 10</td>
<td>10</td>
<td>F0 10</td>
</tr>
<tr>
<td>106</td>
<td>F15</td>
<td>Keyboard F15</td>
<td>U/A</td>
<td>07</td>
<td>6A</td>
<td>66</td>
<td>E6</td>
<td>18</td>
<td>F0 18</td>
<td>18</td>
<td>F0 18</td>
</tr>
<tr>
<td>107</td>
<td>F16</td>
<td>Keyboard F16</td>
<td>U/A</td>
<td>07</td>
<td>6B</td>
<td>67</td>
<td>E7</td>
<td>20</td>
<td>F0 20</td>
<td>20</td>
<td>F0 20</td>
</tr>
<tr>
<td>SKEY (Dec)</td>
<td>Program Code</td>
<td>Description</td>
<td>AT-101 (Dec)</td>
<td>USB Page (Hex)</td>
<td>USB Usage (Hex)</td>
<td>Set 1 Make (Hex)</td>
<td>Set 1 Break (Hex)</td>
<td>Set 2 Make (Hex)</td>
<td>Set 2 Break (Hex)</td>
<td>Set 3 Make (Hex)</td>
<td>Set 3 Break (Hex)</td>
</tr>
<tr>
<td>------------</td>
<td>--------------</td>
<td>-------------</td>
<td>-------------</td>
<td>---------------</td>
<td>----------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>108</td>
<td>F17</td>
<td>Keyboard F17</td>
<td>U/A</td>
<td>07</td>
<td>6C</td>
<td>68</td>
<td>E8</td>
<td>28</td>
<td>F0 28</td>
<td>28</td>
<td>F0 28</td>
</tr>
<tr>
<td>109</td>
<td>F18</td>
<td>Keyboard F18</td>
<td>U/A</td>
<td>07</td>
<td>6D</td>
<td>69</td>
<td>E9</td>
<td>30</td>
<td>F0 30</td>
<td>30</td>
<td>F0 30</td>
</tr>
<tr>
<td>110</td>
<td>F19</td>
<td>Keyboard F19</td>
<td>U/A</td>
<td>07</td>
<td>6E</td>
<td>6A</td>
<td>EA</td>
<td>38</td>
<td>F0 38</td>
<td>38</td>
<td>F0 38</td>
</tr>
<tr>
<td>111</td>
<td>F20</td>
<td>Keyboard F20</td>
<td>U/A</td>
<td>07</td>
<td>6F</td>
<td>6B</td>
<td>EB</td>
<td>40</td>
<td>F0 40</td>
<td>40</td>
<td>F0 40</td>
</tr>
<tr>
<td>112</td>
<td>F21</td>
<td>Keyboard F21</td>
<td>U/A</td>
<td>07</td>
<td>70</td>
<td>6C</td>
<td>EC</td>
<td>48</td>
<td>F0 48</td>
<td>48</td>
<td>F0 48</td>
</tr>
<tr>
<td>113</td>
<td>F22</td>
<td>Keyboard F22</td>
<td>U/A</td>
<td>07</td>
<td>71</td>
<td>6D</td>
<td>ED</td>
<td>50</td>
<td>F0 50</td>
<td>50</td>
<td>F0 50</td>
</tr>
<tr>
<td>114</td>
<td>F23</td>
<td>Keyboard F23</td>
<td>U/A</td>
<td>07</td>
<td>72</td>
<td>6E</td>
<td>EE</td>
<td>57</td>
<td>F0 57</td>
<td>57</td>
<td>F0 57</td>
</tr>
<tr>
<td>115</td>
<td>F24</td>
<td>Keyboard F24</td>
<td>U/A</td>
<td>07</td>
<td>73</td>
<td>76</td>
<td>F6</td>
<td>5F</td>
<td>F0 5F</td>
<td>5F</td>
<td>F0 5F</td>
</tr>
<tr>
<td>116</td>
<td>LCTRL</td>
<td>Keyboard LeftControl</td>
<td>58</td>
<td>07</td>
<td>E0</td>
<td>1D</td>
<td>9D</td>
<td>14</td>
<td>F0 14</td>
<td>11</td>
<td>F0 11</td>
</tr>
<tr>
<td>117</td>
<td>LSIFT</td>
<td>Keyboard LeftShift</td>
<td>44</td>
<td>07</td>
<td>E1</td>
<td>2A</td>
<td>AA</td>
<td>12</td>
<td>F0 12</td>
<td>12</td>
<td>F0 12</td>
</tr>
<tr>
<td>118</td>
<td>LALT</td>
<td>Keyboard LeftAlt</td>
<td>60</td>
<td>07</td>
<td>E2</td>
<td>38</td>
<td>B8</td>
<td>11</td>
<td>F0 11</td>
<td>39</td>
<td>F0 39</td>
</tr>
<tr>
<td>119</td>
<td>LWIN</td>
<td>Keyboard Left GUI</td>
<td>127</td>
<td>07</td>
<td>E3</td>
<td>E0 5B</td>
<td>E0 DB</td>
<td>E0 1F</td>
<td>E0 F0 1F</td>
<td>8B</td>
<td>F0 8B</td>
</tr>
<tr>
<td>120</td>
<td>RCTRL</td>
<td>Keyboard RightControl</td>
<td>64</td>
<td>07</td>
<td>E4</td>
<td>E0 1D</td>
<td>E0 9D</td>
<td>E0 14</td>
<td>E0 F0 14</td>
<td>58</td>
<td>F0 58</td>
</tr>
<tr>
<td>121</td>
<td>RSHIFT</td>
<td>Keyboard RightShift</td>
<td>57</td>
<td>07</td>
<td>E5</td>
<td>36</td>
<td>B6</td>
<td>59</td>
<td>F0 59</td>
<td>59</td>
<td>F0 59</td>
</tr>
<tr>
<td>122</td>
<td>RALT</td>
<td>Keyboard RightAlt</td>
<td>62</td>
<td>07</td>
<td>E6</td>
<td>E0 38</td>
<td>E0 B8</td>
<td>E0 11</td>
<td>E0 F0 11</td>
<td>39</td>
<td>F0 39</td>
</tr>
<tr>
<td>123</td>
<td>RWIN</td>
<td>Keyboard Right GUI</td>
<td>128</td>
<td>07</td>
<td>E7</td>
<td>E0 5C</td>
<td>E0 DC</td>
<td>E0 27</td>
<td>E0 F0 27</td>
<td>8C</td>
<td>F0 8C</td>
</tr>
<tr>
<td>124</td>
<td>SK124</td>
<td>Reserved</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>125</td>
<td>SK125</td>
<td>Reserved</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>126</td>
<td>SK126</td>
<td>Reserved</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>127</td>
<td>SK127</td>
<td>Reserved</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>128</td>
<td>SK128</td>
<td>Reserved</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>129</td>
<td>SK129</td>
<td>Reserved</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>130</td>
<td>SK130</td>
<td>Reserved</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>131</td>
<td>SK131</td>
<td>Reserved</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>132</td>
<td>SK132</td>
<td>Reserved</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>133</td>
<td>KEY107</td>
<td>Keypad, (Brazilian Keypad)</td>
<td>107</td>
<td>07</td>
<td>85</td>
<td>7E</td>
<td>FE</td>
<td>6D</td>
<td>F0 6D</td>
<td>7B</td>
<td>F0 7B</td>
</tr>
<tr>
<td>134</td>
<td>KEY=</td>
<td>Keypad Equal Sign</td>
<td>U/A</td>
<td>07</td>
<td>86</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>135</td>
<td>INTL1</td>
<td>Keyboard Intl 1 (Ro)</td>
<td>56</td>
<td>07</td>
<td>87</td>
<td>73</td>
<td>F3</td>
<td>51</td>
<td>F0 51</td>
<td>51</td>
<td>F0 51</td>
</tr>
<tr>
<td>136</td>
<td>INTL2</td>
<td>Keyboard Intl 2 (Katakana/Hiragana)</td>
<td>133</td>
<td>07</td>
<td>88</td>
<td>70</td>
<td>F0</td>
<td>13</td>
<td>F0 13</td>
<td>87</td>
<td>F0 87</td>
</tr>
<tr>
<td>137</td>
<td>INTL3</td>
<td>Keyboard Intl 3 (Yen)</td>
<td>14</td>
<td>07</td>
<td>89</td>
<td>7D</td>
<td>FD</td>
<td>6A</td>
<td>F0 6A</td>
<td>5D</td>
<td>F0 5D</td>
</tr>
<tr>
<td>138</td>
<td>INTL4</td>
<td>Keyboard Intl 4 (Henkan)</td>
<td>132</td>
<td>07</td>
<td>8A</td>
<td>79</td>
<td>FD</td>
<td>F9</td>
<td>64</td>
<td>F0 64</td>
<td>86</td>
</tr>
<tr>
<td>139</td>
<td>INTL5</td>
<td>Keyboard Intl 5 (Muhenkan)</td>
<td>131</td>
<td>07</td>
<td>8B</td>
<td>7B</td>
<td>FB</td>
<td>67</td>
<td>F0 67</td>
<td>85</td>
<td>F0 85</td>
</tr>
<tr>
<td>140</td>
<td>INTL6</td>
<td>Keyboard Intl 6 (PC9800 Keypad)</td>
<td>U/A</td>
<td>07</td>
<td>8C</td>
<td>5C</td>
<td>DC</td>
<td>27</td>
<td>F0 27</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>141</td>
<td>INTL7</td>
<td>Keyboard Intl 7</td>
<td>U/A</td>
<td>07</td>
<td>8D</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>142</td>
<td>INTL8</td>
<td>Keyboard Intl 8</td>
<td>U/A</td>
<td>07</td>
<td>8E</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
</tbody>
</table>
SKey and Scan Code Table – Continued

<table>
<thead>
<tr>
<th>AT-101</th>
<th>USB Page Usage (Hex)</th>
<th>Set 1 Break (Hex)</th>
<th>Set 2 Break (Hex)</th>
<th>Set 3 Break (Hex)</th>
<th>Description</th>
<th>Program Code</th>
<th>KeyCode (Dec)</th>
<th>KeyCode (Hex)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTL9</td>
<td>07</td>
<td>UA</td>
<td>UA</td>
<td>UA</td>
<td>Keyboard Intl 9</td>
<td>143</td>
<td>9F</td>
<td>07</td>
</tr>
<tr>
<td>LANG1</td>
<td>07</td>
<td>UA</td>
<td>UA</td>
<td>UA</td>
<td>(Hiragana)</td>
<td>144</td>
<td>99</td>
<td>07</td>
</tr>
<tr>
<td>LANG2</td>
<td>07</td>
<td>F2</td>
<td>None</td>
<td>None</td>
<td>(Katakana)</td>
<td>145</td>
<td>91</td>
<td>07</td>
</tr>
<tr>
<td>LANG3</td>
<td>07</td>
<td>F1</td>
<td>None</td>
<td>None</td>
<td>(Hiragana)</td>
<td>146</td>
<td>78</td>
<td>07</td>
</tr>
<tr>
<td>LANG4</td>
<td>07</td>
<td>77</td>
<td>76</td>
<td>5F</td>
<td>(Hiragana)</td>
<td>147</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG5</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>148</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG6</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>149</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG7</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>150</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG8</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>151</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG9</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>152</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG10</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>153</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG11</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>154</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG12</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>155</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG13</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>156</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG14</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>157</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG15</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>158</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG16</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>159</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG17</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>160</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG18</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>161</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG19</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>162</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG20</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>163</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG21</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>164</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG22</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>165</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG23</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>166</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG24</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>167</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG25</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>168</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG26</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>169</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG27</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>170</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG28</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>171</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG29</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>172</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>LANG30</td>
<td>07</td>
<td>76</td>
<td>5F</td>
<td>None</td>
<td>(Zenkaku/Hankaku)</td>
<td>173</td>
<td>76</td>
<td>07</td>
</tr>
<tr>
<td>USB Page Usage (Hex)</td>
<td>USB Program Code (Dec)</td>
<td>Set 1 Make (Hex)</td>
<td>Set 2 Break (Hex)</td>
<td>Set 3 Break (Hex)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0C</td>
<td>0153</td>
<td>0C</td>
<td>0154</td>
<td>0C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00</td>
<td>0155</td>
<td>00</td>
<td>0156</td>
<td>00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>0157</td>
<td>01</td>
<td>0158</td>
<td>01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>0159</td>
<td>02</td>
<td>0160</td>
<td>02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>0161</td>
<td>03</td>
<td>0162</td>
<td>03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>0163</td>
<td>04</td>
<td>0164</td>
<td>04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>0165</td>
<td>05</td>
<td>0166</td>
<td>05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>0167</td>
<td>06</td>
<td>0168</td>
<td>06</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07</td>
<td>0169</td>
<td>07</td>
<td>016A</td>
<td>07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08</td>
<td>016B</td>
<td>08</td>
<td>016C</td>
<td>08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09</td>
<td>016D</td>
<td>09</td>
<td>016E</td>
<td>09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0A</td>
<td>016F</td>
<td>0A</td>
<td>0170</td>
<td>0A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0B</td>
<td>0171</td>
<td>0B</td>
<td>0172</td>
<td>0B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0C</td>
<td>0173</td>
<td>0C</td>
<td>0174</td>
<td>0C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0D</td>
<td>0175</td>
<td>0D</td>
<td>0176</td>
<td>0D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0E</td>
<td>0177</td>
<td>0E</td>
<td>0178</td>
<td>0E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0F</td>
<td>0179</td>
<td>0F</td>
<td>017A</td>
<td>0F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>017B</td>
<td>10</td>
<td>017C</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>017D</td>
<td>11</td>
<td>017E</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>017F</td>
<td>12</td>
<td>0180</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>0181</td>
<td>13</td>
<td>0182</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>0183</td>
<td>14</td>
<td>0184</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>0185</td>
<td>15</td>
<td>0186</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>0187</td>
<td>16</td>
<td>0188</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>0189</td>
<td>17</td>
<td>018A</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>018B</td>
<td>18</td>
<td>018C</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>018D</td>
<td>19</td>
<td>018E</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1A</td>
<td>018F</td>
<td>1A</td>
<td>0190</td>
<td>1A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1B</td>
<td>0191</td>
<td>1B</td>
<td>0192</td>
<td>1B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1C</td>
<td>0193</td>
<td>1C</td>
<td>0194</td>
<td>1C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1D</td>
<td>0195</td>
<td>1D</td>
<td>0196</td>
<td>1D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1E</td>
<td>0197</td>
<td>1E</td>
<td>0198</td>
<td>1E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1F</td>
<td>0199</td>
<td>1F</td>
<td>019A</td>
<td>1F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SKey and Scan Code Table – Continued**
<table>
<thead>
<tr>
<th>SKEY (Dec)</th>
<th>Program Code</th>
<th>Description</th>
<th>AT-101 (Dec)</th>
<th>USB Page (Hex)</th>
<th>USB Usage (Hex)</th>
<th>Set 1 Make (Hex)</th>
<th>Set 1 Break (Hex)</th>
<th>Set 2 Make (Hex)</th>
<th>Set 2 Break (Hex)</th>
<th>Set 3 Make (Hex)</th>
<th>Set 3 Break (Hex)</th>
</tr>
</thead>
<tbody>
<tr>
<td>210</td>
<td>MSFWD</td>
<td>AC Forward Message</td>
<td>U/A</td>
<td>0C</td>
<td>028B</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>211</td>
<td>SEND</td>
<td>AC Send Message</td>
<td>U/A</td>
<td>0C</td>
<td>028C</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>212</td>
<td>OFFICE</td>
<td>Office</td>
<td>U/A</td>
<td>0C</td>
<td>029D</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>213</td>
<td>TASK</td>
<td>Task Panel</td>
<td>U/A</td>
<td>0C</td>
<td>029E</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>214</td>
<td>CUST_0</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>215</td>
<td>CUST_1</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>216</td>
<td>SOCINC</td>
<td>SOC Cycle Increase</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>217</td>
<td>GPO0</td>
<td>GPO 0 Level Output</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>218</td>
<td>GPO1</td>
<td>GPO 1 Level Output</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>219</td>
<td>BLKOUT</td>
<td>GPO 2 Toggle Output</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>220</td>
<td>CUST_6</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>221</td>
<td>CUST_7</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>222</td>
<td>CUST_8</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>223</td>
<td>CUST_9</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>224</td>
<td>CUST_10</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>225</td>
<td>CUST_11</td>
<td>LCTRL + LALT + DELETE</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>226</td>
<td>SHIFTF1</td>
<td>LSHIFT + F1</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>227</td>
<td>SHIFTF2</td>
<td>LSHIFT + F2</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>228</td>
<td>SHIFTF3</td>
<td>LSHIFT + F3</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>229</td>
<td>SHIFTF4</td>
<td>LSHIFT + F4</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>230</td>
<td>CUST_16</td>
<td>KeyMs LBln</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>231</td>
<td>CUST_17</td>
<td>KeyMs RBln</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>232</td>
<td>CUST_18</td>
<td>KeyMs MBln</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>233</td>
<td>CUST_19</td>
<td>KeyMs 4Bln</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>234</td>
<td>CUST_20</td>
<td>KeyMs 5Bln</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>235</td>
<td>CUST_21</td>
<td>KeyMs Z Scroll Up</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>236</td>
<td>CUST_22</td>
<td>KeyMs Z Scroll Down</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>237</td>
<td>CUST_23</td>
<td>KeyMs XPlus</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>238</td>
<td>CUST_24</td>
<td>KeyMs XMinus</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>239</td>
<td>CUST_25</td>
<td>KeyMs YPlus</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>240</td>
<td>CUST_26</td>
<td>KeyMs YMinus</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>241</td>
<td>CUST_27</td>
<td>KeyMs XPlus and YPlus</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>242</td>
<td>CUST_28</td>
<td>KeyMs XMinus and YMinus</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>243</td>
<td>CUST_29</td>
<td>KeyMs XMinus and YMinus</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>244</td>
<td>CUST_30</td>
<td>KeyMs XPlus and YMinus</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>245</td>
<td>CUST_31</td>
<td>KeyMs LBln Double Click</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
</tr>
<tr>
<td>SKEY (Dec)</td>
<td>Program Code</td>
<td>Description</td>
<td>AT-101 (Dec)</td>
<td>USB Usage (Hex)</td>
<td>USB Page (Hex)</td>
<td>Break (Hex)</td>
<td>Make (Hex)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>-------------</td>
<td>----------------</td>
<td>---------------</td>
<td>-------------</td>
<td>------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>246</td>
<td>CUST_32</td>
<td>Key '00'</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>247</td>
<td>CUST_33</td>
<td>Key '000'</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>248</td>
<td>CUST_34</td>
<td>External PS/2 Lock Toggle</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>249</td>
<td>CUST_35</td>
<td>Delay1</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>250</td>
<td>CUST_36</td>
<td>Delay0</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>251</td>
<td>CUST_37</td>
<td>Flag0</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>252</td>
<td>CUST_38</td>
<td>Flag1</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>253</td>
<td>CUST_39</td>
<td>Flag2</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>254</td>
<td>CUST_40</td>
<td>Flag3</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>255</td>
<td>CUST_41</td>
<td>Flag4</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td>U/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Description:
- Key '00': Key 0
- Key '000': Key 00
- External PS/2 Lock Toggle
- Delay1
- Delay0
- Flag0
- Flag1
- Flag2
- Flag3
- Flag4
## ELECTRONICS SPECIFICATION

### Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSTG</td>
<td>Storage Temperature</td>
<td>-55</td>
<td>25</td>
<td>+125</td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>VDD</td>
<td>Supply Voltage on Relative to VSS</td>
<td>-0.5</td>
<td>-</td>
<td>+6.0</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIO</td>
<td>DC Input Voltage</td>
<td>VSS-0.5</td>
<td>-</td>
<td>VDD+0.5</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIOZ</td>
<td>DC Voltage Applied to Tri-State</td>
<td>VSS-0.5</td>
<td>-</td>
<td>VDD+0.5</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>IMIO</td>
<td>Maximum Current into any Port Pin</td>
<td>-25</td>
<td>-</td>
<td>+50</td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>ESD</td>
<td>Electro Static Discharge Voltage</td>
<td>2000</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td>Human Body Model ESD</td>
</tr>
<tr>
<td>LU</td>
<td>Latch-up Current</td>
<td>-</td>
<td>-</td>
<td>200</td>
<td>mA</td>
<td></td>
</tr>
</tbody>
</table>

### Operating Temperature

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOP</td>
<td>Operating Temperature</td>
<td>-40</td>
<td>-</td>
<td>+85</td>
<td>°C</td>
<td></td>
</tr>
</tbody>
</table>

### Keyboard Scan Characteristics

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCAN</td>
<td>Keyboard scan debounce down time</td>
<td>42</td>
<td></td>
<td></td>
<td>ms</td>
<td>Debounce down time is set to 3 at default. Each tick is 14ms. If you control the key switch using IO, you need drive the IO to low or high for at least 70ms.</td>
</tr>
</tbody>
</table>

### Operation Mode Configuration

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Operation mode</th>
<th>Power Supply Voltage VDD (V)</th>
<th>POR (V) (Min, Typical, Max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USBEN = float, VMOD = float</td>
<td>USB regulator enabled</td>
<td>4.35 to 5.25</td>
<td>(-, 2.82, 2.95)</td>
</tr>
<tr>
<td>USBEN = float, VMOD = GND</td>
<td>USB regulator bypass</td>
<td>3.15 to 3.60</td>
<td>(-, 2.82, 2.95)</td>
</tr>
<tr>
<td>USBEN = GND, VMOD = float</td>
<td>PS/2 high voltage</td>
<td>3.13 to 5.25</td>
<td>(-, 2.82, 2.95)</td>
</tr>
<tr>
<td>USBEN = GND, VMOD = GND</td>
<td>PS/2 low voltage</td>
<td>1.71 to 5.25</td>
<td>(1.61, 1.66, 1.71)</td>
</tr>
</tbody>
</table>

### DC Electrical Characteristics (USB Regulator Enabled)

#### When USBEN = float and VMOD = float,

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDD</td>
<td>Supply Voltage at USB regulator enabled interface</td>
<td>4.35</td>
<td></td>
<td>5.25</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>IDD</td>
<td>Supply Current when IC is in USB regulator enabled interface</td>
<td>5.0</td>
<td></td>
<td></td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>ISD</td>
<td>Supply Current when IC is in suspend mode under USB regulator enabled interface</td>
<td>330</td>
<td></td>
<td></td>
<td>uA</td>
<td></td>
</tr>
<tr>
<td>POR</td>
<td>Power On Reset Voltage in USB regulator enabled interface</td>
<td>2.82</td>
<td>2.95</td>
<td></td>
<td>V</td>
<td>100ms firmware delay after power on reset</td>
</tr>
<tr>
<td>RPU</td>
<td>Pull-up Resistor</td>
<td>4</td>
<td>5.6</td>
<td>8</td>
<td>kΩ</td>
<td></td>
</tr>
<tr>
<td>VOH</td>
<td>High Output Level</td>
<td>VDD-0.9</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VOL</td>
<td>Low Output Level</td>
<td>-</td>
<td>-</td>
<td>0.75</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIL</td>
<td>Input Low Level</td>
<td>-</td>
<td>-</td>
<td>0.8</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIH</td>
<td>Input High Level</td>
<td>2.0</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIL</td>
<td>Input Leakage Current (Absolute Value)</td>
<td>-</td>
<td>1</td>
<td>1000</td>
<td>nA</td>
<td></td>
</tr>
</tbody>
</table>
### DC Electrical Characteristics (USB Regulator Bypass)

When USBEN = float and VMOD = GND,

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDD</td>
<td>Supply Voltage at USB regulator bypass interface</td>
<td>3.15</td>
<td>-</td>
<td>3.60</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>IDD</td>
<td>Supply Current when IC is in USB regulator bypass interface</td>
<td>4.8</td>
<td></td>
<td></td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>ISD</td>
<td>Supply Current when IC is in suspend mode under USB regulator bypass interface</td>
<td>235</td>
<td></td>
<td></td>
<td>uA</td>
<td></td>
</tr>
<tr>
<td>POR</td>
<td>Power On Reset Voltage in USB regulator bypass interface</td>
<td>2.82</td>
<td>2.95</td>
<td></td>
<td>V</td>
<td>100ms firmware delay after power on reset</td>
</tr>
<tr>
<td>RPU</td>
<td>Pull-up Resistor</td>
<td>4.5</td>
<td>5.6</td>
<td>8</td>
<td>kΩ</td>
<td></td>
</tr>
<tr>
<td>VOH</td>
<td>High Output Level</td>
<td>VDD-0.9</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VOL</td>
<td>Low Output Level</td>
<td>-</td>
<td>-</td>
<td>0.75</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIL</td>
<td>Input Low Level</td>
<td>-</td>
<td>-</td>
<td>0.8</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIH</td>
<td>Input High Level</td>
<td>2.0</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIL</td>
<td>Input Leakage Current (Absolute Value)</td>
<td>-</td>
<td>1</td>
<td>1000</td>
<td>nA</td>
<td></td>
</tr>
</tbody>
</table>

### DC Electrical Characteristics (PS/2 High Voltage)

When USBEN = GND and VMOD = float,

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDD</td>
<td>Supply Voltage at PS/2 high power interface</td>
<td>2.95</td>
<td>-</td>
<td>5.25</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>IDD</td>
<td>Supply Current when IC is in operation mode under PS/2 high power interface</td>
<td>2.3</td>
<td></td>
<td></td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>ISD</td>
<td>Supply Current when IC is in idle mode under PS/2 high power interface</td>
<td>1.8</td>
<td></td>
<td></td>
<td>uA</td>
<td></td>
</tr>
<tr>
<td>POR</td>
<td>Power On Reset Voltage in PS/2 high power interface</td>
<td>2.82</td>
<td>2.95</td>
<td></td>
<td>V</td>
<td>100ms firmware delay after power on reset</td>
</tr>
<tr>
<td>RPU</td>
<td>Pull-up Resistor</td>
<td>4.5</td>
<td>5.6</td>
<td>8</td>
<td>kΩ</td>
<td></td>
</tr>
<tr>
<td>VOH</td>
<td>High Output Level</td>
<td>VDD-0.9</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VOL</td>
<td>Low Output Level</td>
<td>-</td>
<td>-</td>
<td>0.75</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIL</td>
<td>Input Low Level</td>
<td>-</td>
<td>-</td>
<td>0.8</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIH</td>
<td>Input High Level</td>
<td>2.0</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIL</td>
<td>Input Leakage Current (Absolute Value)</td>
<td>-</td>
<td>1</td>
<td>1000</td>
<td>nA</td>
<td></td>
</tr>
</tbody>
</table>

### DC Electrical Characteristics (PS/2 Low Voltage 3.00V to 5.25V)

When USBEN = GND and VMOD = GND,

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDD</td>
<td>Supply Voltage at PS/2 low power interface</td>
<td>1.71</td>
<td>-</td>
<td>5.25</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>IDD</td>
<td>Supply Current when IC is in operation mode under PS/2 low power interface</td>
<td>2.3</td>
<td></td>
<td></td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>ISD</td>
<td>Supply Current when IC is in idle mode under PS/2 low power interface</td>
<td>1.8</td>
<td></td>
<td></td>
<td>uA</td>
<td></td>
</tr>
<tr>
<td>POR</td>
<td>Power On Reset Voltage in PS/2 low power interface</td>
<td>1.61</td>
<td>1.66</td>
<td>1.71</td>
<td>V</td>
<td>100ms firmware delay after power on reset</td>
</tr>
<tr>
<td>RPU</td>
<td>Pull-up Resistor</td>
<td>4.5</td>
<td>5.6</td>
<td>8</td>
<td>kΩ</td>
<td></td>
</tr>
<tr>
<td>VOH</td>
<td>High Output Level</td>
<td>VDD-0.9</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VOL</td>
<td>Low Output Level</td>
<td>-</td>
<td>-</td>
<td>0.75</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIL</td>
<td>Input Low Level</td>
<td>-</td>
<td>-</td>
<td>0.8</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIH</td>
<td>Input High Level</td>
<td>2.0</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIL</td>
<td>Input Leakage Current (Absolute Value)</td>
<td>-</td>
<td>1</td>
<td>1000</td>
<td>nA</td>
<td></td>
</tr>
</tbody>
</table>

February 20, 2015 Document No. DS0026 Ver. 1.04 24
DC Electrical Characteristics (PS/2 Low Voltage 2.40V to 3.00V)

When USBEN = GND and VMOD = GND,

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDD</td>
<td>Supply Voltage at PS/2 low power interface</td>
<td>1.71</td>
<td>-</td>
<td>5.25</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>IDD</td>
<td>Supply Current when IC is in operation mode under PS/2 low power interface</td>
<td>2.3</td>
<td></td>
<td></td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>ISD</td>
<td>Supply Current when IC is in idle mode under PS/2 low power interface</td>
<td>1.8</td>
<td></td>
<td></td>
<td>uA</td>
<td></td>
</tr>
<tr>
<td>POR</td>
<td>Power On Reset Voltage in PS/2 low power interface</td>
<td>1.61</td>
<td>1.66</td>
<td>1.71</td>
<td>V</td>
<td>100ms firmware delay after power on reset</td>
</tr>
<tr>
<td>RPU</td>
<td>Pull-up Resistor</td>
<td>4</td>
<td>5.6</td>
<td>8</td>
<td>kΩ</td>
<td></td>
</tr>
<tr>
<td>VOH</td>
<td>High Output Level</td>
<td>VDD-0.4</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VOL</td>
<td>Low Output Level</td>
<td>-</td>
<td>-</td>
<td>0.75</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIL</td>
<td>Input Low Level</td>
<td>-</td>
<td>-</td>
<td>0.72</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIH</td>
<td>Input High Level</td>
<td>1.4</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIL</td>
<td>Input Leakage Current (Absolute Value)</td>
<td>-</td>
<td>1</td>
<td>1000</td>
<td>nA</td>
<td></td>
</tr>
</tbody>
</table>

DC Electrical Characteristics (PS/2 Low Voltage 1.71V to 2.40V)

When USBEN = GND and VMOD = GND,

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDD</td>
<td>Supply Voltage at PS/2 low power interface</td>
<td>1.71</td>
<td>-</td>
<td>5.25</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>IDD</td>
<td>Supply Current when IC is in operation mode under PS/2 low power interface</td>
<td>2.3</td>
<td></td>
<td></td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>ISD</td>
<td>Supply Current when IC is in idle mode under PS/2 low power interface</td>
<td>1.8</td>
<td></td>
<td></td>
<td>uA</td>
<td></td>
</tr>
<tr>
<td>POR</td>
<td>Power On Reset Voltage in PS/2 low power interface</td>
<td>1.61</td>
<td>1.66</td>
<td>1.71</td>
<td>V</td>
<td>100ms firmware delay after power on reset</td>
</tr>
<tr>
<td>RPU</td>
<td>Pull-up Resistor</td>
<td>4</td>
<td>5.6</td>
<td>8</td>
<td>kΩ</td>
<td></td>
</tr>
<tr>
<td>VOH</td>
<td>High Output Level</td>
<td>VDD-0.5</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VOL</td>
<td>Low Output Level</td>
<td>-</td>
<td>-</td>
<td>0.40</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIL</td>
<td>Input Low Level</td>
<td>-</td>
<td>-</td>
<td>0.3xVDD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIH</td>
<td>Input High Level</td>
<td>0.65xVDD</td>
<td>-</td>
<td>-</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>VIL</td>
<td>Input Leakage Current (Absolute Value)</td>
<td>-</td>
<td>1</td>
<td>1000</td>
<td>nA</td>
<td></td>
</tr>
</tbody>
</table>
PACKAGING INFORMATION

SK5126-LT Drawing

NOTES:

1. HATCH AREA IS SOLDERABLE EXPOSED METAL
2. REFERENCE JEDEC#: MO-220
3. PACKAGE WEIGHT: 13+/- 1mg
4. ALL DIMENSIONS ARE IN MILLIMETERS

SK5126-LT 48-Lead (7x7x1.0mm) QFN
## Assembly Specification

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>θJA</td>
<td>Thermal Impedance</td>
<td>1</td>
<td>8</td>
<td></td>
<td>°C/W</td>
<td>TJ = TA + POWER x θJA To achieve the thermal impedance, the center thermal pad should be soldered to the PCB ground plane.</td>
</tr>
<tr>
<td>SRPT</td>
<td>Solder Reflow Peak Temperature</td>
<td>240*</td>
<td>-</td>
<td>260</td>
<td>°C</td>
<td>*Higher temperatures may be required based on the solder melting point. Typical temperatures for solder are 220±5°C with Sn-Pb or 245±5°C with Sn-Ag-Cu paste. Refer to the solder manufacturer specifications.</td>
</tr>
<tr>
<td>MSL</td>
<td>Moisture Sensitivity Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MSL3</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>Package Weight</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>mg</td>
<td></td>
</tr>
</tbody>
</table>
SALE AND SERVICE INFORMATION

To obtain information about Sprintek Corporation or FlexMatrix keyboard controller family sales and technical support, reference the following information.

Sprintek Corporation
4969 Corral St.
Simi Valley, CA 93063, USA
Phone: 805.405.8787
Web Site: http://www.sprintek.com

REVISION HISTORY

<table>
<thead>
<tr>
<th>Revision</th>
<th>Issue Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.04</td>
<td>February 20, 2015</td>
<td>Added horizontal scrolling in KeyMouse; added PWM mode backlight control via GPO1; added multiple drive modes (drive low, drive high, pullup, floating) to backlight control's GPO mode.</td>
</tr>
<tr>
<td>1.03</td>
<td>February 12, 2015</td>
<td>Revised USB resistor R5, R6 from 24ohm to 22ohm.</td>
</tr>
<tr>
<td>1.02</td>
<td>December 11, 2014</td>
<td>Updated the power consumption parameters.</td>
</tr>
<tr>
<td>1.01</td>
<td>November 18, 2014</td>
<td>Revised the specification with more detail information; replaced GPO2 with VMOD.</td>
</tr>
<tr>
<td>1.00</td>
<td>November 11, 2014</td>
<td>Initial Release</td>
</tr>
</tbody>
</table>