

# **Bluetooth Virtual Keyboard For Smartphone 2003**

User Guide v1.7



<b>Introduction .....</b>	<b>3</b>
<i>GENERAL PRODUCT DESCRIPTION.....</i>	<i>3</i>
<i>LASER SAFETY PRECAUTION.....</i>	<i>3</i>
<i>DISCLAIMER .....</i>	<i>4</i>
<i>TRADEMARKS .....</i>	<i>4</i>
<b>Getting Started .....</b>	<b>5</b>
<i>YOUR VIRTUAL KEYBOARD .....</i>	<i>5</i>
<i>OVERVIEW .....</i>	<i>5</i>
<i>SWITCHING ON.....</i>	<i>6</i>
<i>VIRTUAL KEYBOARD YOUR SMARTPHONE AND BLUETOOTH .....</i>	<i>7</i>
<i>INSTALLING THE SOFTWARE DRIVER ON YOUR SMARTPHONE.....</i>	<i>7</i>
<i>PREPARING YOUR KEYBOARD FOR PAIRING .....</i>	<i>8</i>
<i>CONNECTING WITH YOUR DEVICE.....</i>	<i>8</i>
<i>APPLICATION DEMONSTRATION .....</i>	<i>11</i>
<b>Using the VKB Driver Software .....</b>	<b>12</b>
<i>VKB PAGE.....</i>	<i>12</i>
<i>Battery Level.....</i>	<i>12</i>
<i>Projection intensity.....</i>	<i>12</i>
<i>Sound Effects .....</i>	<i>12</i>
<i>PROPERTIES PAGE .....</i>	<i>13</i>
<i>Sensitivity.....</i>	<i>13</i>
<i>Reset to Default .....</i>	<i>13</i>
<i>Time-Outs.....</i>	<i>13</i>
<i>AUTO REPEAT CHARACTERS .....</i>	<i>14</i>
<i>Enable AutoRepeat.....</i>	<i>14</i>
<i>Repeat Rate.....</i>	<i>14</i>
<i>Initial Repeat Delay.....</i>	<i>14</i>
<i>SHORT-CUTS PAGE .....</i>	<i>14</i>
<i>ABOUT.....</i>	<i>15</i>
<b>General Handling Instruction .....</b>	<b>16</b>
<i>MICRO-SWITCH.....</i>	<i>16</i>
<i>GENERAL MAINTENANCE .....</i>	<i>16</i>
<i>RESETTING THE KEYBOARD TO FACTORY SETTINGS .....</i>	<i>16</i>
<i>PREPARING THE KEYBOARD TO BE PAIRED WITH A DIFFERENT DEVICE .....</i>	<i>16</i>
<b>Troubleshooting.....</b>	<b>17</b>
<b>Specifications.....</b>	<b>19</b>
<b>Short-Cuts .....</b>	<b>21</b>

## Introduction

Congratulations on choosing the VKB Virtual Keyboard for Smartphone2003. The keyboard will allow the effortless composition of documents and e-mails and will turn your phone into a truly indispensable tool whether in the office or on the go.

Please take a few minutes to review the simple operating instructions in order to get the most out of your keyboard.

### ***General Product Description***

The Virtual Keyboard is a miniature, stand-alone accessory that emulates the function of a standard, full-sized keyboard. The Virtual Keyboard can connect via Bluetooth to almost any information appliance, including: PCs, Tablet PCs, Laptops, PDAs and Smartphones, with the use of an appropriate driver.

### ***Laser Safety Precaution***

The Virtual Keyboard device emits two laser beams. One beam (red) projects the keyboard image, and the other beam (invisible) is used for sensing which keys have been touched.

The radiation levels of both laser beams do not exceed the Accessible Emission Limits of Class 1, as defined by the international standard IEC 60825-1 (A2) and the American standard 21 CFR 1040.10. The Virtual Keyboard device is, therefore, a "Class 1 Laser product".

This means that the Virtual Keyboard device is safe under reasonably foreseeable conditions of operation.

Although the emitted laser beams are safe, it is highly recommended not to stare directly into laser beams.

### ***Disclaimer***

The manufacturer shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance or use of this material. This document contains proprietary information, which is protected by international patent applications and copyright. All rights reserved. No part of this document may be photocopied, reproduced or translated without prior written consent of the manufacturer. The manufacturer reserves the right to revise this publication and to make changes from time to time in the contents hereof without obligation to notify any person of such revision or change. The manufacturer also reserves the right to change the specifications without notice.

### ***Trademarks***

**VKB Virtual Keyboard** is a registered trademark of VKB Inc.

**Bluetooth** is a registered trademark of Bluetooth SIG.

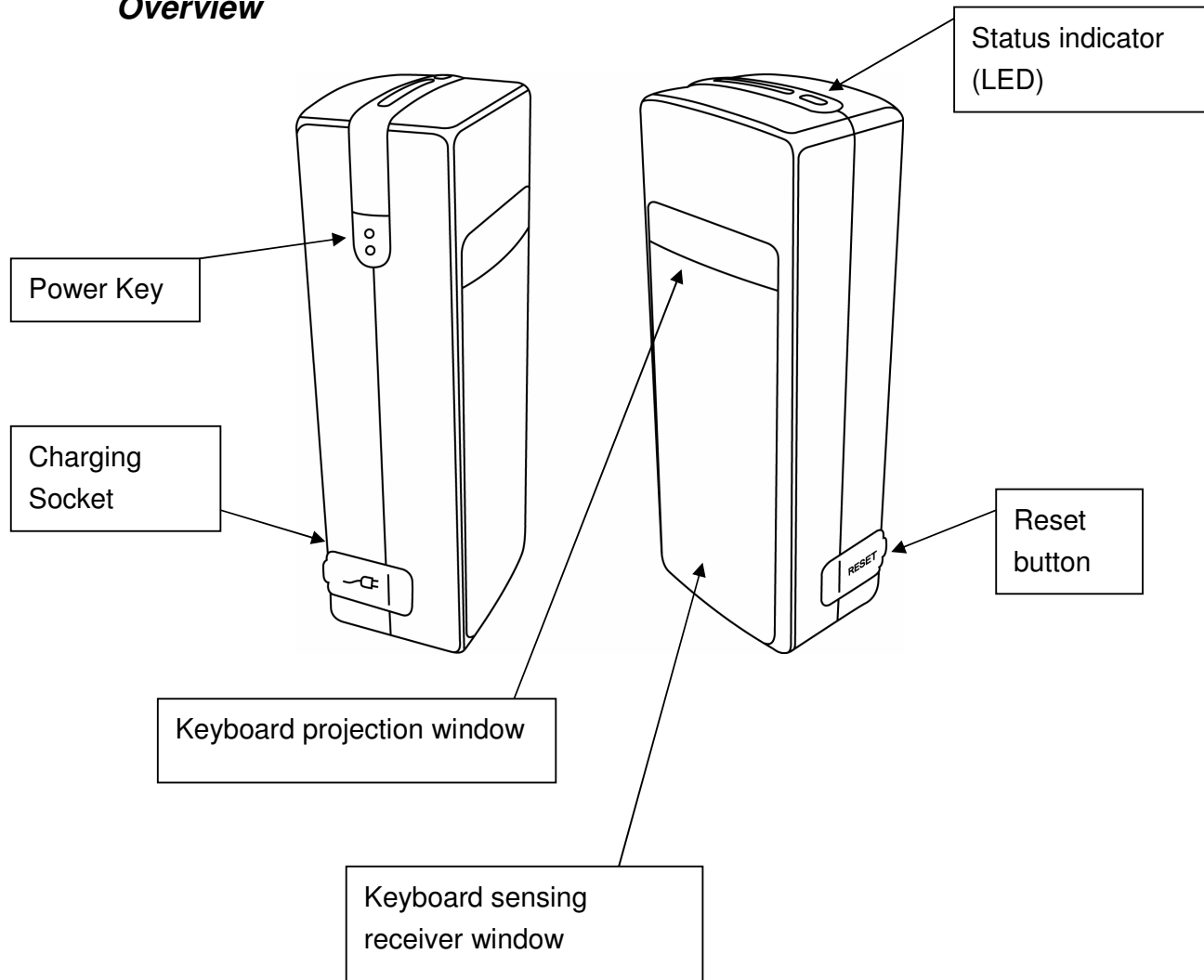
**Smartphone** is a registered trademark of Microsoft Corporation.

## Getting Started

### *Your Virtual Keyboard*

Unpack and inspect your Virtual Keyboard. Take a few moments to familiarize yourself with device using the diagram below.

### **Overview**



**Figure 1 – Getting to know your Virtual Keyboard**

Before using your Virtual Keyboard:

- Ensure that you remove all protection materials including the protection sheet on the laser windows.
- Your Virtual Keyboard will need to be charged for at least 2 hours.

## **Switching On**

Place the Virtual Keyboard on a flat surface with the Keyboard projection and sensing windows facing you. To switch it on press the On/Off button, located on the upper-left hand side.

Once the unit is switched on an image of a keyboard is projected on to the surface. Notice that the keyboard image is the basic English keyboard, including 4 Arrow keys, 1 Control, 2 Shift keys, 1 Alt and a VKB dedicated Fn function key.

A two-color LED located at the top of the unit indicates the current status of the Virtual Keyboard, where:

<b>Colour</b>	<b>Status/Cause</b>	<b>Action</b>
<b>Blinking Blue</b>	Virtual Keyboard is ready to pair to a Bluetooth device	
<b>Long Flash Blue</b>	Virtual Keyboard is paired to a Bluetooth device	
<b>Blinking Red</b>	Virtual Keyboard's battery is low.	Recharge the Virtual Keyboard
<b>Solid Red</b>	The area of the projected keyboard is exposed to direct sun-shine or some other source of direct light.	Move the Virtual Keyboard to a shaded location

**Table 1 – Functional Status Indicator**

The keyboard communicates with all the HOSTs that are in the transceiving range, and support HID profile, SPP profile, or both SPP and HID profiles. For communicating with the HID profile, no software installation is required. For communicating with the SPP profile, VKB driver should be installed on the HOST.

## ***Virtual Keyboard your Smartphone and Bluetooth***

The Virtual Keyboard (VKB) you have is equipped with Bluetooth, a short-ranged wireless communications technology allowing you to communicate with your Smartphone up to 10 meters away without a physical connection.

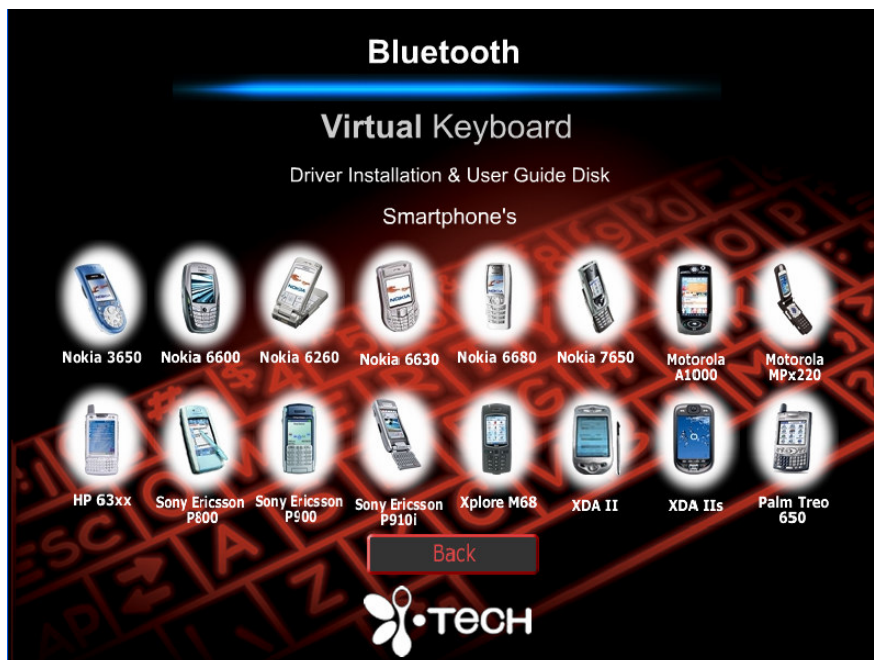
As with all Bluetooth devices, to connect with your Smartphone you will need to do the following:

- ...Open the VKB Driver to set up a connection...
- ...and connect.

The first time you use your Virtual Keyboard with a Smartphone device you will also need to install some software, called a driver, on the Smartphone.

### ***Installing the software driver on your Smartphone***

1. Ensure your Smartphone is connected to your computer and switched on.
2. Open the Microsoft ActiveSync program.
3. Insert the Bluetooth Virtual Keyboard & User Guide Disk into a CD-ROM drive on your computer. (The CD should run automatically however if it does not start by itself, please open the CD and run **setup.exe**)
4. Follow the onscreen prompts to arrive at the Smartphone page.



**Figure 2 – Driver Installation and User Guide Device Selection**

5. Select your device and follow the onscreen instructions to install the software onto your Smartphone.

The software driver has now been installed on your Smartphone

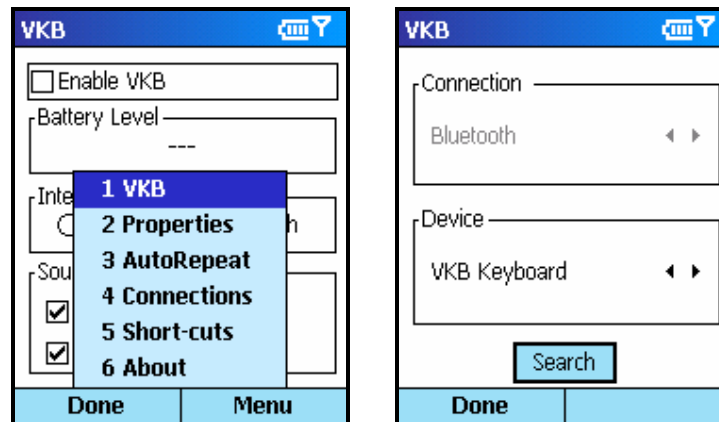
### ***Preparing your keyboard for pairing***

Place the Virtual keyboard on a flat surface and turn it on. The blue LED at the top should flash at about once a second. This signifies that the Virtual Keyboard is currently “unpaired” with any device. If this is not the case, please see “Resetting the keyboard to factory settings” or “Preparing the VKB to be paired with a different device” on page 17.

Your keyboard is now ready for pairing.

### ***Connecting with your device***

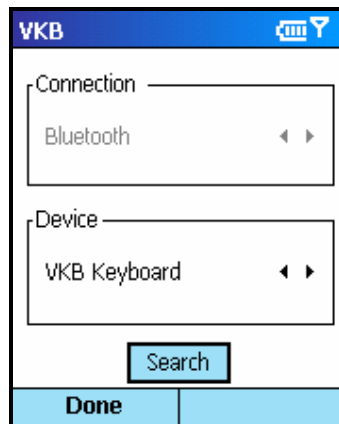
- 1) Press **Start**, locate and select **VKB** program (📱).
- 2) Press **Menu** and select **Connections**



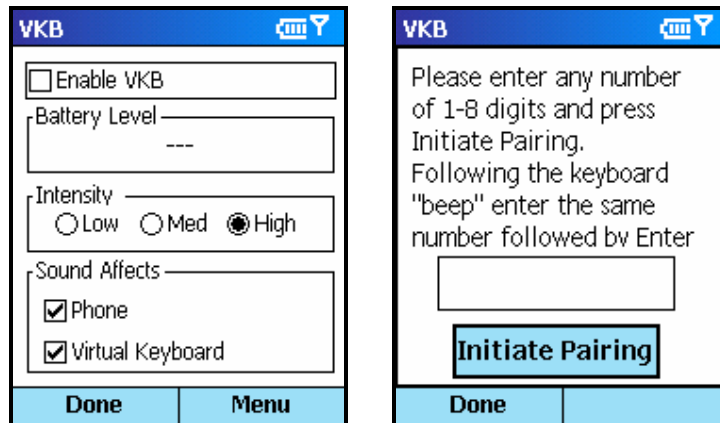
- 3) Press the **Search** button at the bottom of the dialog.
- 4) (If Bluetooth on your Smartphone has not been turned on, you will be prompted to do so)



- 5) Upon completion of the search, the drop down list of devices will be filled with VKB Keyboards found – select one.



- 6) Tap the **VKB** tab and select **Enable VKB**




**Figure 4 – Bluetooth Passkey Entry**

- 7) Using the keyboard on the screen of the Smartphone device, enter a passkey of between 1 and 8 digits and then tap **Initiate Pairing**.
- 8) Listen for the “beep” on the Virtual Keyboard, then, using the keyboard projected by the Virtual Keyboard repeat the passkey and press return [↵].

The blue LED will go on to show your successful connection. You are now ready to use the keyboard.

The Virtual Keyboard is now connected to your Smartphone device.

## ***Application Demonstration***

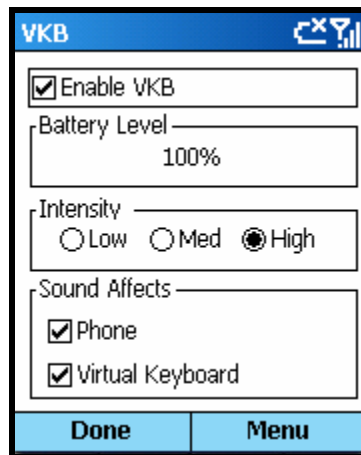
42/160		Abc 
<b>To:</b>		
This was typed with the virtual keyboard!		
Send	Menu	

## Using the VKB Driver Software

The VKB driver software can be used to adjust the settings of your Virtual Keyboard.

Press **Start** and locate the software driver, (📱) on your Smartphone. Open the VKB page by selecting the VKB icon (📱).

### *VKB Page*



**Figure 5 – VKB Main Page**

#### Battery Level

The battery level, displays the current level of the battery in the Virtual Keyboard. Use this indicator to check when the Virtual Keyboard required charging.

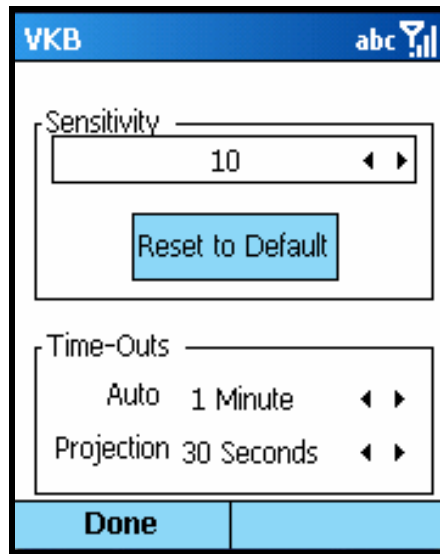
#### Projection intensity

You may adjust the intensity of the projected keyboard to so that it is visible in different light conditions. You may select from between Low, Medium and High settings.

#### Sound Effects

The Virtual Keyboard can be set up to emit a “key-click” whenever you press a key on the projected virtual keyboard. Using the checkboxes you can set the key-click to be emitted by your computer and/or the Virtual Keyboard.

## Properties Page



**Figure 6 – Properties Menu**

### Sensitivity

You can adjust the sensitivity of the Virtual Keyboard's key-press detection. The default value for this parameter is 10, however you may need to adjust this for optimal use. If you are experiencing missed key presses, try raising the setting. If you are experiencing extra key presses, try lowering the sensitivity.

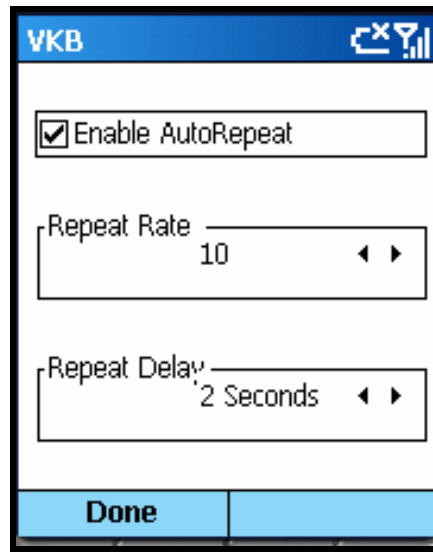
### Reset to Default

Pressing the **Reset To Default** button will cause the Virtual Keyboard and driver to reset the sensitivity to the keyboard's factory settings.

### Time-Outs

To conserve the battery of the Virtual Keyboard it can be set to switch off automatically if it has not been used for a while. There are two separate settings which may be adjusted to suit you. Projection Timeout switches off the projected keyboard. Auto Timeout switches off the whole device. When a period exceeding the Projection Timeout has elapsed without typing on the keyboard, the projection will automatically turn off. Pressing anywhere will cause the keyboard to be projected again. When the Auto Time-Out has elapsed the Virtual Keyboard will switch off. If this occurs, press the button on the Virtual Keyboard to turn it on again.

## ***AutoRepeat Characters***



**Figure 8 – AutoRepeat Page**

The AutoRepeat feature employed by the VKB Driver allows the system to automatically repeat a key that is being pressed. Depending on your phone, this feature may be disabled or autorepeat only some of the characters.

### **Enable AutoRepeat**

Selecting the Enable AutoRepeat checkbox switches the AutoRepeat function on and off.

### **Repeat Rate**

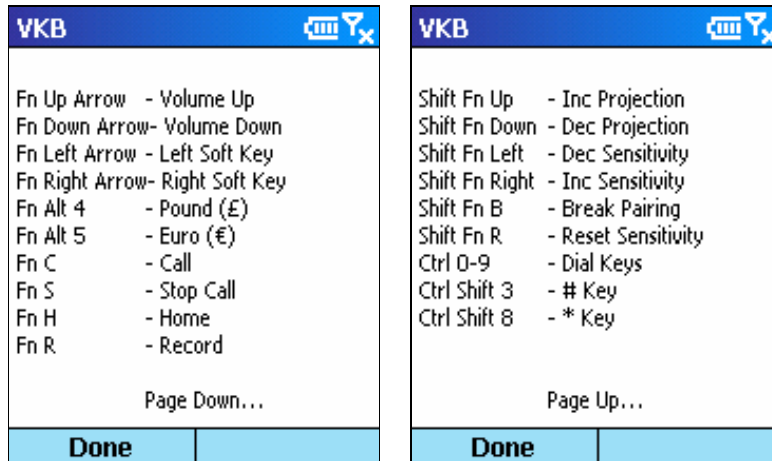
The rate at which the key depression occurs is set using the Repeat Rate slider.

### **Initial Repeat Delay**

The period before the key press is repeated can be set between 1 and 4 seconds using Initial Repeat Delay drop down box.

### ***Short-Cuts Page***

The Short-Cuts page, displays the Virtual Keyboard's special combination keys, which may be accessed without exiting the application with which you may be working.



**Figure 9 – Short-Cuts Page**

### ***About***

The About Page displays the Virtual Keyboard Driver's software version as well as the software version of the Virtual Keyboard. If you have encountered, and are reporting a problem, please relay information displayed on this page.

Remarks : the displayed screen is for reference, for detail please browse i.Tech website : <http://www.itechdynamic.com>

## **General Handling Instruction**

### ***Micro-switch***

The device is equipped with a micro-switch which disables the Virtual Keyboard lasers when the device is picked up. This is a safety measure. Do not attempt to override this micro-switch.

### ***General Maintenance***

- Avoid touching the keyboard sensing receiver window.
- Never touch the keyboard projection element.
- Avoid exposing the keyboard to moisture or extreme temperatures.
- Do not disassemble or try to touch the inside of the device.
- Do not attempt to charge the device with a different charger than the one provided by VKB.
- If the windows become dirty clean only with a soft, lint free dry cloth. Do not use any solvents or cleaners.

### ***Resetting the keyboard to factory settings***

- 1) Turn the keyboard on and gently insert the end of a long sharp object into the reset hole found under the rubber flap on the right side of the keyboard. Press for about half a second and then remove the clip.
- 2) After about 2 seconds, the keyboard will emit a short “beep” and the LED will flash blue.
- 3) Pick up the keyboard and wait for it to turn off,
- 4) Place the Virtual Keyboard back on the flat surface and turn it on.
- 5) The Virtual Keyboard is now ready for pairing.

### ***Preparing the keyboard to be paired with a different device***

Once the keyboard has been paired and connected to a host device, to pair the keyboard with a different host device, turn the keyboard on, and on the projected image press the keys **⌘+Fn+B** simultaneously for 3 seconds. The keyboard will emit a short beep and the LED will flash blue to indicate it is ready for pairing with another device.

## Troubleshooting

Problem	Possible cause	Corrective action
My keyboard is connected, but little or no keys are being detected	The detection sensitivity is too low.	Raise the detection sensitivity setting and try again.
When typing, multiple and/or erroneous keys are displayed in addition to those I have pressed.	The detection sensitivity setting is too high.	Lower the detection sensitivity setting and try again.
	Device is not resting on a firm flat surface	Reposition device to a firm surface.
My Smartphone doesn't display the battery indicator when enable checkbox is clicked	Device is not pairing on a Bluetooth compatible device	Start pairing the device.
My Smartphone doesn't accept the authentication of my keyboard while pairing	Device is not entering matched passkey to request authentication check	Re-start pair device to re-enter the matched passkey.
My Smartphone doesn't emit keyclicks when pressing a key	Sound affects, on your Smartphone, have not been enabled.	Enable Sound affects on the Smartphone, device driver.
My keyboard is turned on but no image appears.	Device is not charged	Charge device
	Device is overheated	Move device to a cooler location and wait a few minutes
	Device is not resting on a firm flat surface	Reposition device to a firm surface and verify that the micro-switch is fully

		depressed.
	Micro-switch stuck	Clean micro-switch
"VKB Keyboard" does not appear as option in Connections list	You have not performed a "Search" from the Connections page while the keyboard was prepared for pairing.	

## Specifications

Keyboard	Light source	Red diode laser
Projector	Keyboard layout	63 key / full sized QWERTY layout
	Keyboard size	295 x 95mm projected keyboard size
	Keyboard position	60mm from VKB unit
	Projection surface	Non-reflective, opaque flat surface
	Visibility	Good contrast up to 600 lux ambient illumination
Keystroke Sensor	Ambient illumination	Works under all standard indoor illuminations up to 600 lux
	Detection rate	Up to 400 characters per minute
	Detection algorithm	Multiple keystroke support
	Effective keystroke	Approximately 2mm
	Operating surface	Any firm flat surface with no protrusions greater than 1mm
Bluetooth	Bluetooth Specification	Bluetooth v1.1 class 2
	Bluetooth Profile Supported	HID and SPP
	Range of Frequency	2.4GHz Spectrum
	Transmission range	9m
	Number of supported passkeys	5
Electrical	Power source	Integrated, rechargeable lithium-ion battery
	Voltage	3.6 Volts
	Battery capacity	> 120 minutes continuous typing
	Interface	Bluetooth v1.1 class 2
	Connector – to charger	Vbat, Gnd

Software	Compatibility	MS Windows 2000 / XP, PalmOS5, PocketPC2003, Smartphone2003, Symbian
Mechanical & Environmental	Dimensions	Approximately 35 x 92 x 25 mm
	Weight	~90 gram
	Temperature - operation	10 – 35 C°
	Temperature - storage	-10 – 75 C°
Certification & Safety*	EMC per CE	EN 55024; 55022; EN 61000-3-2; -3-3
	BQB, CE, FCC	
	Laser safety	IEC 60825-1; Class 1 laser enclosure

\*Certification will be completed prior to commercial introduction

## Short-Cuts

Short Cuts	Smartphone	Note
Fn Alt 4	Pound (£) Symbol	
Fn Alt 5	Euro (€) Symbol	
Fn Enter	Joystick Press	
Fn Left Arrow	Left Soft Key	
Fn Right Arrow	Right Soft Key	
Fn Up Arrow	Increase Smartphone Volume	
Fn Down Arrow	Decrease Smartphone Volume	
Fn C	Call	
Fn S	Stop Call	
Fn H	Home Page	
Fn R	Record	
↑ Fn B	<Break Connection>	
↑ Fn R	<Reset to default Sensitivity>	
↑ Fn Up Arrow	Increase Projection Intensity	Special beep is emitted at maximum intensity
↑ Fn Down Arrow	Decrease projection intensity	Special beep is emitted at minimum intensity
↑ Fn Right Arrow	Increase sensitivity	Different beep tone emitted for each sensitivity setting
↑ Fn Left Arrow	Decrease sensitivity	Different beep tone emitted for each sensitivity setting
Ctrl 0-9	Dial Keys	
Ctrl ↑ 3	# Key	
Ctrl ↑ 8	* Key	