Bluetooth Virtual Keyboard
For Windows Mobile 5

(**HID Connection**)

User Guide v1.5

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Introduction

Congratulations on choosing the VKB Virtual Keyboard for Pocket PC. The keyboard will allow the effortless composition of documents and e-mails and will turn your PDA 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 (in line with the standard quoted above), it is highly recommended not to stare directly into laser beams.

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Trademarks

Pocket PC is a registered trademark of Microsoft Corporation.
VKB Virtual Keyboard is a registered trademark of VKB Inc.
Bluetooth is a registered trademark of Bluetooth SIG.

Getting Started

Your Virtual Keyboard

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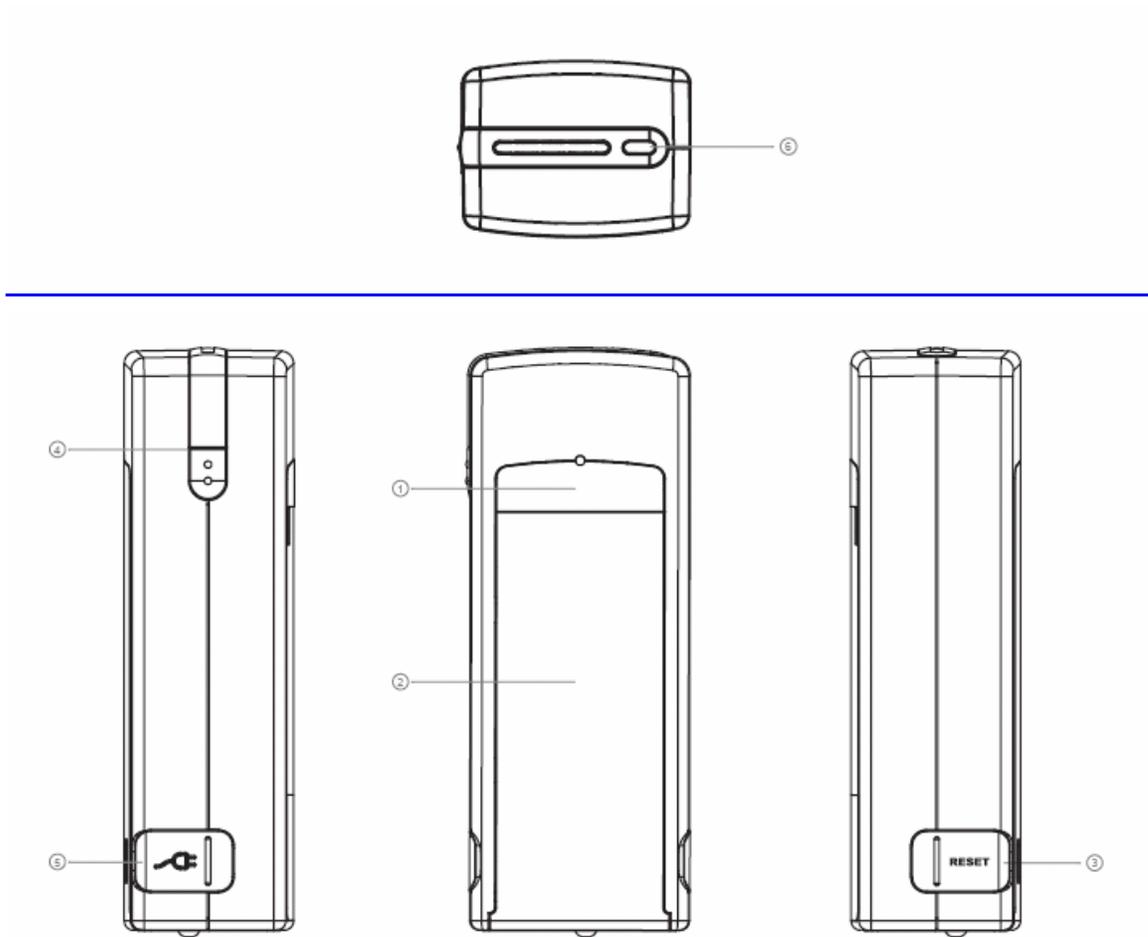
Overview

Figure 1 – Getting to know your Virtual Keyboard

1. Keyboard projection window
2. Keyboard sensing receiver window
3. Reset Button
4. On/Off Button
5. Charging Socket
6. Status indicator (LED)

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:

Colour	Status/Cause	Action
Blinking Blue	Virtual Keyboard is ready to pair to a Bluetooth device	
Long Flash Blue	Virtual Keyboard is paired to a Bluetooth device	
Blinking Red	Virtual Keyboard's battery is low.	Recharge the Virtual Keyboard
Solid Red	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

Virtual Keyboard your Pocket PC and Bluetooth

The Virtual Keyboard (VKB) is equipped with Bluetooth, a short-ranged radio communications technology which allows the device to communicate with your Pocket PC up to 10 meters away without the need for a physical connection.

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

- Pair/bond your Pocket PC device to the virtual keyboard…
- …and connect.

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 keyboard to be paired with a different device" on page 10.
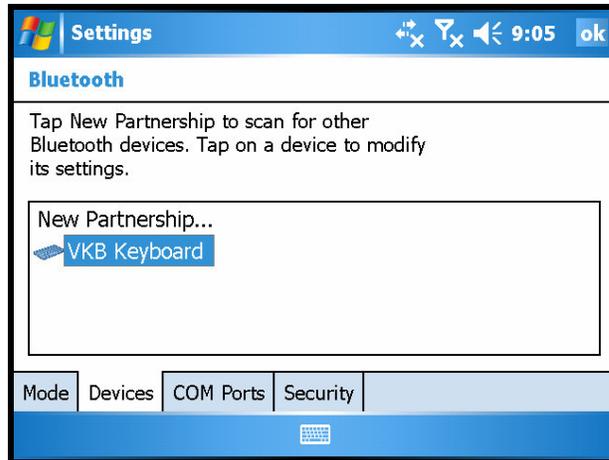
Your keyboard is now ready for pairing.

Pairing/Bonding with your device

1) Ensure Bluetooth is turned **On**.
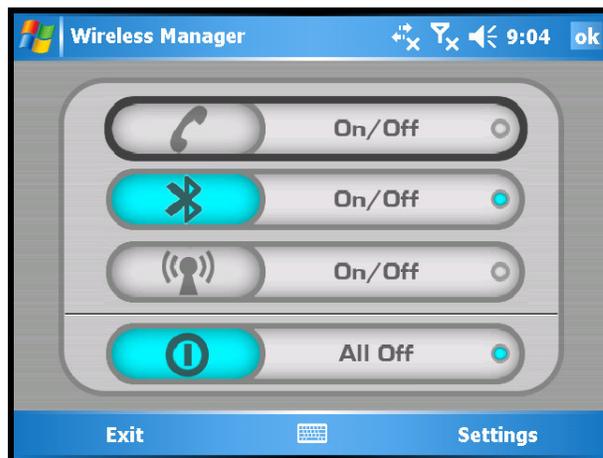
2) Go to the **Bluetooth Settings** program.
3) Tap the **Devices** button and then **New Partnership**.

4) Tap the **VKB Keyboard** icon.
5) Using the keyboard on the screen of the Pocket PC device, enter a passkey of between 1 and 8 digits and then tap **OK**
6) Listen for the "beep" on the Virtual Keyboard, then, using the keyboard projected by the Virtual Keyboard repeat the passkey and press return [↵].
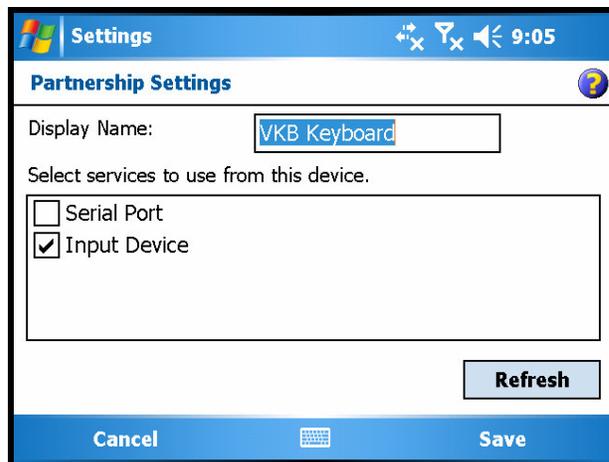
7) From the services available for the VKB Keyboard, select **Input Device**.
8) Click finish. The keyboard will "beep" and you may now type.

Virtual Keyboard Features

Projection Intensity
You may adjust the intensity of the projected keyboard to your liking, selecting between a low, medium and high setting. Press **Shift-Fn-UpArrow** to increase the intensity and **Shift-Fn-DownArrow** to decrease the intensity.

Sensitivity
As part of the Virtual Keyboard's detection a Sensitivity setting is employed. You may need to adjust this for optimal use. If you are experiencing missing keys, try increasing the sensitivity. If you are experiencing extra keys, try lowering the sensitivity. Press **Shift-Fn-RightArrow** to increase the sensitivity and **Shift-Fn-LeftArrow** to decrease the sensitivity.

Reset To Default Sensitivity
Pressing **Shift-Fn-R** will cause the Virtual Keyboard and driver to reset the sensitivity to the keyboard's factory settings.

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

- Turn the keyboard on and gently insert the end of a 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.
- After about 2 seconds, the keyboard will emit a short "beep" and the LED will flash blue.
- Pick up the keyboard and wait for it to turn off,
- Place the Virtual Keyboard back on the flat surface and turn it on.
- 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.

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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 Pocket PC doesn't accept the authentication of my keyboard while pairing	Matching passkey is not being entered on both Pocket PC and virtual keyboard.	Re-start pair device to re-enter the matched passkey.
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

Specifications

Keyboard Projector	Light source	Red diode laser
	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

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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, Pocket PC2003, Smartphone 2003,Symbian
Mechanical & Environmental	Dimensions	Approximately 35 x 92 x 25 mm
	Weight	~90 gram
	Temperature - operation	10 – 35 Cº
	Temperature - storage	-10 – 75 Cº
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	Pocket PC	Note
⇧ Fn B	<Break Pairing>	
⇧ 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