

Bluetooth Virtual Keyboard



User Guide for BlackBerry® Smartphone



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System Requirements

The following table shows the Bluetooth Virtual Keyboard compatible BlackBerry system configuration.

Device Email System	Compatible	Requires Configuration	Configuration Notes
BES 4.0 & higher	Yes	Yes	VKB driver Application Control Policy must be configured to "ALLOW" VKB driver to use "Injector API"
BES 3.6	No	-	-
WAP email	Yes	No	-
No email system	Yes	No	-

- * Please contact your BES Administrator to configure your device Application Control Policy to "ALLOW" VKB driver to use Injector API.
- * Please see BlackBerry® BES Configuration section for details.

Device must have **OS & Platform** versions equal or higher than what is stated in the table below to be compatible with the Virtual keyboard driver.

Device	Model	OS Version	Platform Version
7100g	Cingular	4.0.0.219	1.8.0.129
7100t	T-Mobile	4.0.0.198	1.8.0.121
7100i	Nextel	4.1.0.136	2.0.0.44
7130e	Verizon	4.1.0.268	2.2.0.98
7250	Verizon	4.0.0.204	2.0.0.28
7250	Bell / Rogers	4.0.0.204	2.0.0.28
7290	T-Mobile	4.0.0.198	1.8.0.121
7290	Cingular	4.0.0.219	1.8.0.129
7520	Nextel	4.0.0.160	1.4.0.27
8700c	Cingular	4.1.0.194	2.0.0.90
8700r	Rogers	4.1.0.206	2.0.0.97

Introduction

Congratulations on choosing the VKB Virtual Keyboard for BlackBerry® smartphones. The keyboard will allow the effortless composition of documents and e-mails and will turn your smartphone 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.

Disclaimer

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Trademarks

BlackBerry is a registered trademark of Research In Motion 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

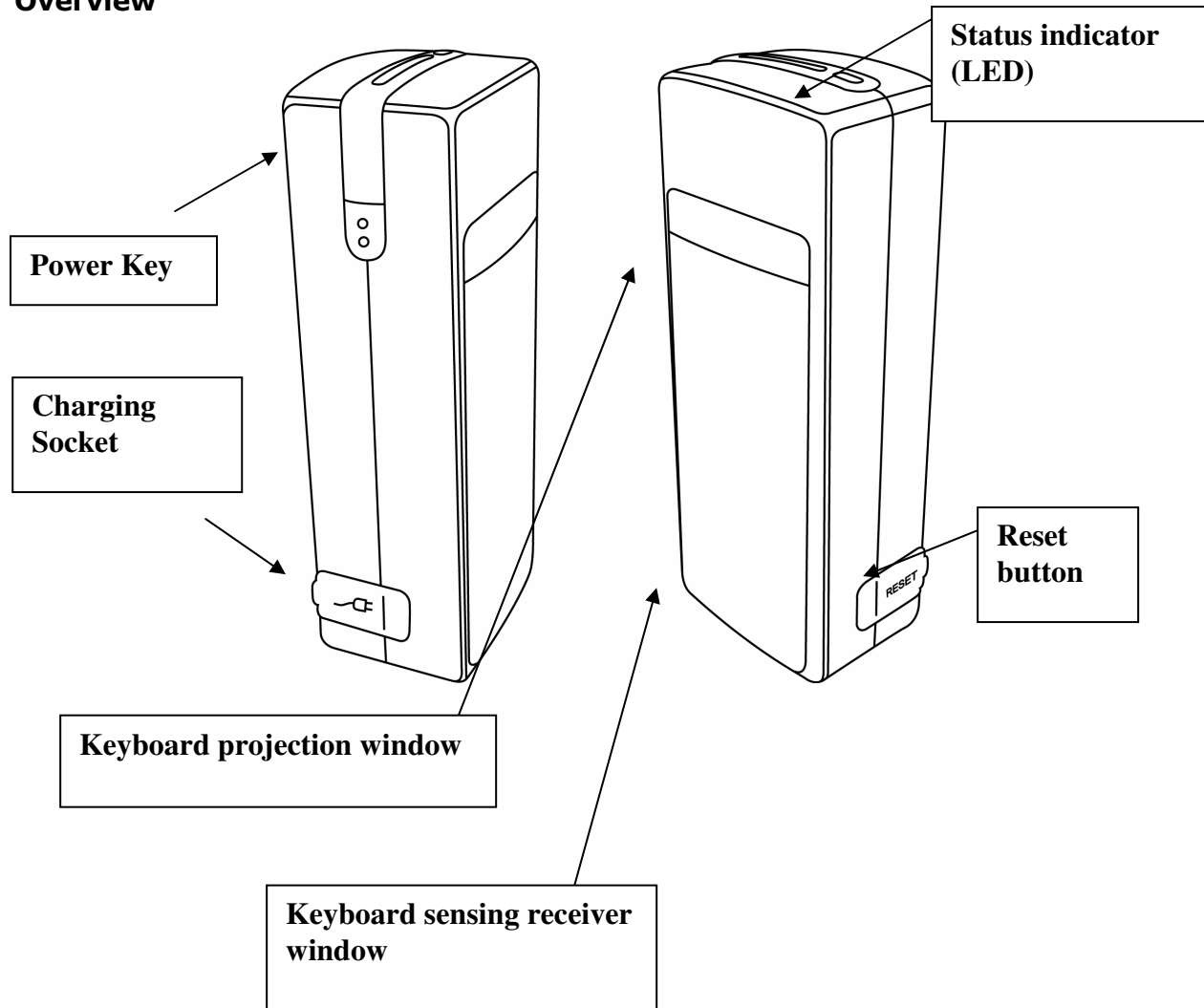


Figure 1 – Getting to know your Virtual Keyboard

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:

Functional Status Indicator

Color	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

Driver Installation

The Virtual Keyboard (VKB) is equipped with Bluetooth, a short-ranged radio communications technology which allows the device to communicate with your BlackBerry® handset up to 10 meters away without the need for a physical connection. As with all Bluetooth devices, to connect with your handset you will need to do the following:

- Pair/bond your BlackBerry® device to the virtual keyboard...
- ...open the VKB Driver to set up a connection...
- ...and connect.

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

Note: To install the Virtual keyboard driver you will need your BlackBerry® Desktop software that came with your handset and have successfully performed at least one synchronization between your BlackBerry® handset and the computer.

If not, please consult the documentation that came with your BlackBerry® handset and set up your system before continuing with this installation.

PC Installation

In order to install keyboard driver onto your device...

1. Locate the **Virtual keyboard driver** files. This is the files that were provided on some type of media, downloaded from the Internet, or as an attachment through an e-mail.
2. Once the driver files have been extracted and saved on you desktop or laptop computer, go to the following section "**Handset Installation**" to install the driver onto the handset.

Handset Installation

Device Installation - BlackBerry® Desktop Manager

The BlackBerry® Desktop Manager *provided with handset* used for synchronization of PIM information is used to install the Virtual keyboard driver onto your hand set. Simply connect your handset to your desktop PC and run the BlackBerry® Desktop Manager. The following steps explain the installation process.

1. Before continuing, connect the handset to the PC using the USB cable supplied with the handset.

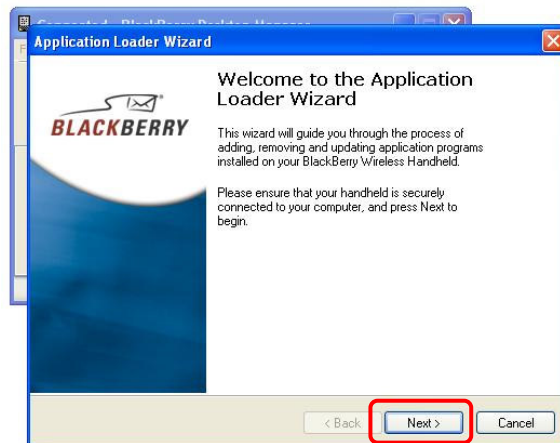
2. Launch the **BlackBerry® Desktop Manager** by clicking on the Icon as shown in the figure on the right.



3. Double click on the [**Application Loader**] icon to begin the installation process as shown on the left.



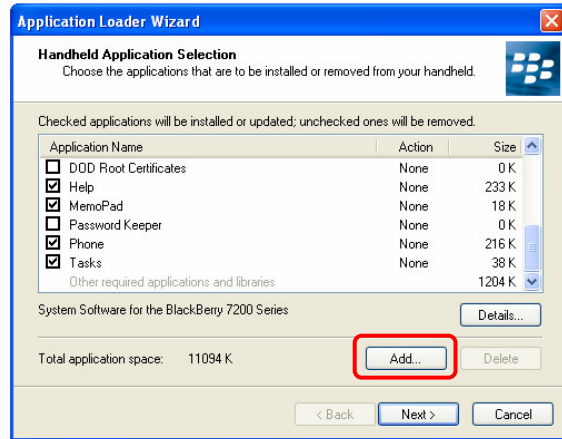
4. Click on the [**Next**] icon to begin the installation process.



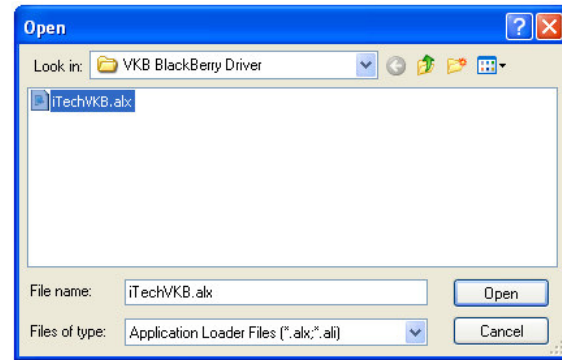
Handset Installation

BlackBerry® Desktop Manager

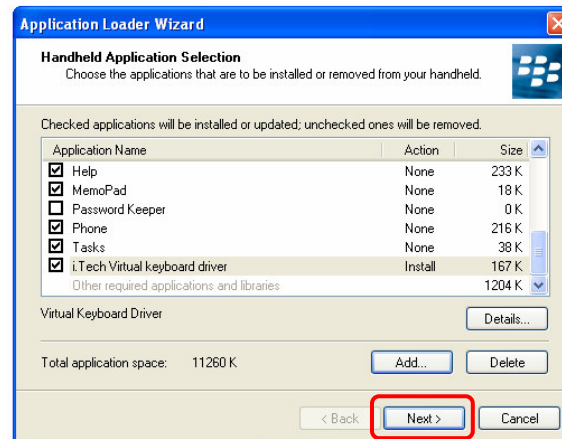
5. If the [i.Tech Virtual Keyboard driver] file is not shown as in the figure on the right, use the [**Add**] option to locate the folder where the files have been installed.



6. Click on the **iTechVKB.alx** file name as shown in the figure on the right.



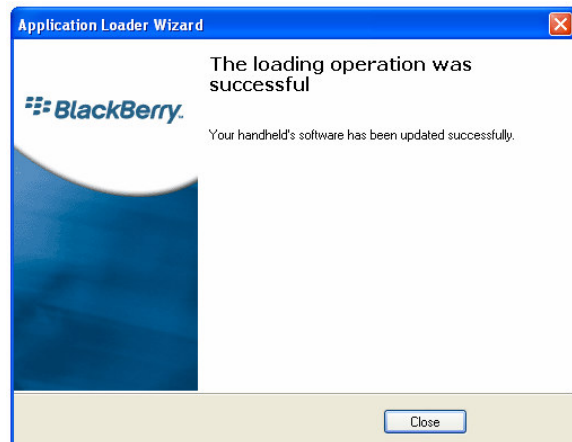
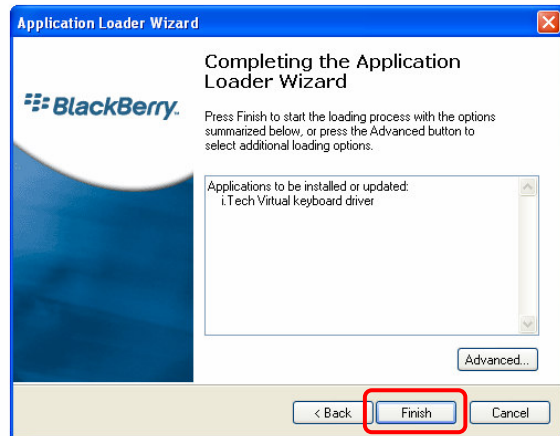
7. Click on the [**Next**] command option to begin the installation process.



Handset Installation

BlackBerry® Desktop Manager

8. Click on the [**Finish**] command option complete the installation process.



Bluetooth Setup

Turning On Bluetooth Radio

Now that the Virtual keyboard driver is installed on the BlackBerry® handset, the BlackBerry® Bluetooth Manager needs to be configured to work with the Virtual keyboard.

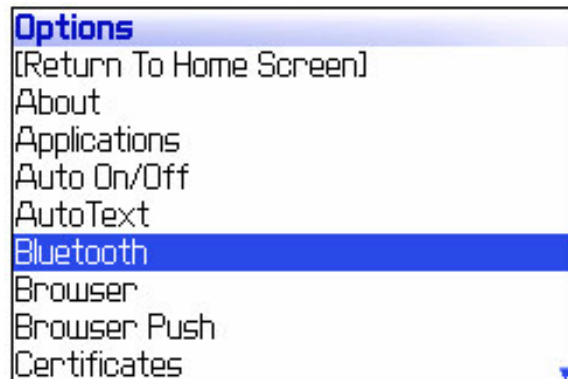
The following steps show how to [**Pair/Bond**] your Bluetooth Virtual keyboard using the BlackBerry® device Bluetooth manager application.

1. Before proceeding with the Virtual keyboard pairing, place the Virtual keyboard on a flat surface and switch the Virtual keyboard on.



2. Open the Bluetooth manager as shown in the figure on the right.

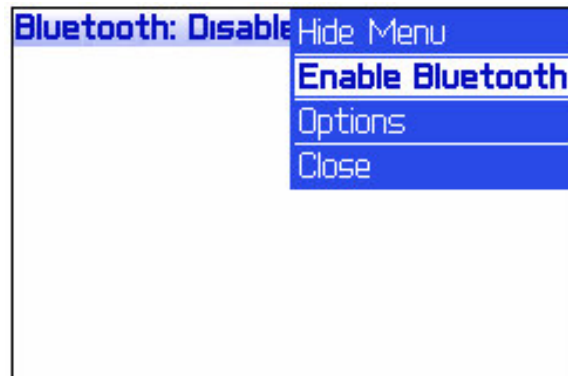
The Bluetooth manager is found under [**Options**] on your device.



3. Click on the thumbwheel to open the menu as shown in the figure on the right.

Highlight the [**Enable Bluetooth**] option as shown in the figure on the right.

Click the thumbwheel to enable the Bluetooth radio.

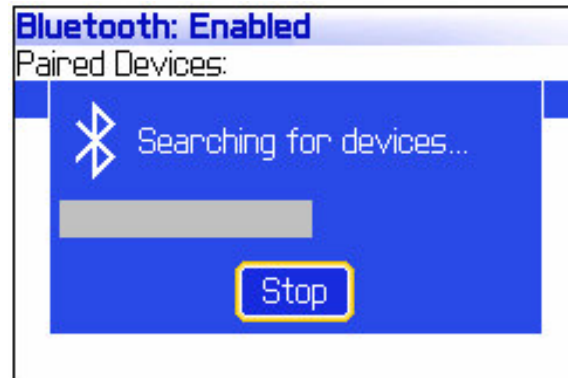
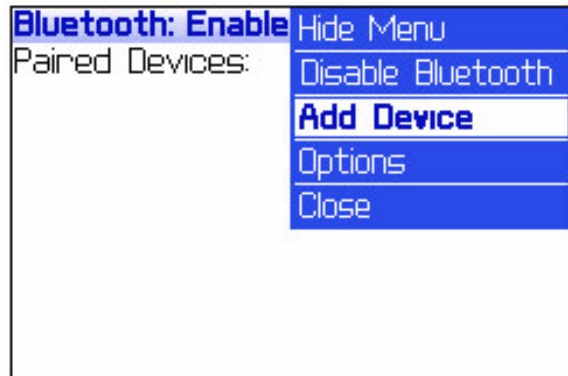


Bluetooth Setup

Adding Bluetooth Device

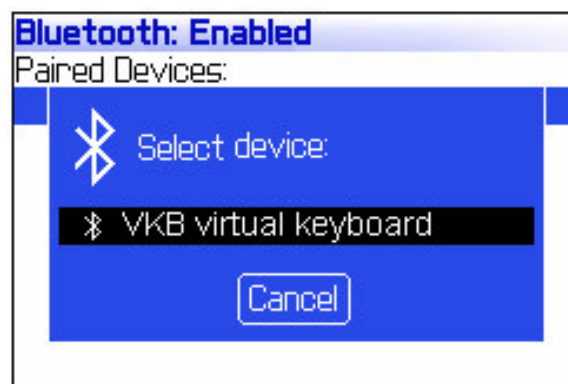
4. Click on the thumbwheel and select the [**Add Device**] menu option as shown in the figure on the right.

Click the thumbwheel to start the discovery process to search for nearby Bluetooth devices as shown in the figure below.



5. Highlight the [**VKB virtual keyboard**] from the list of nearby devices as shown in the figure on the right.

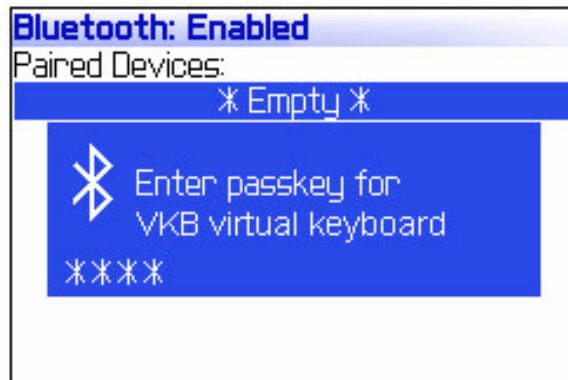
Click the thumbwheel or press [**Enter**] to select the Virtual keyboards.



Bluetooth Setup

Entering Passkey (Pairing key)

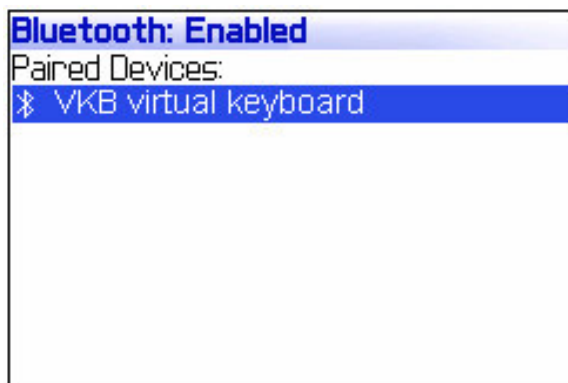
6. Enter your pairing passkey then click the thumbwheel or press the enter key to finalized the pairing of keyboard.
7. After entering the pairing passkey on the BlackBerry® handset you must *type the same pairing passkey on the Virtual keyboard* then press the [**Enter**] key.



Note:

If the above steps were performed correctly, the Virtual keyboard should be listed in the **Paired Device** list as shown in the figure on the right.

If the Virtual keyboard is not listed, perform **Steps 4 – 7** until the keyboard is properly paired with the handset.



Enabling the Virtual Keyboard

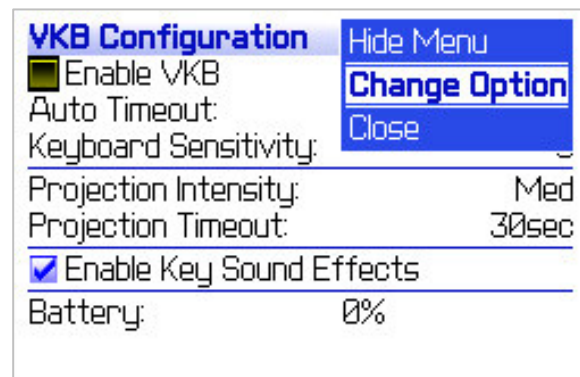
Enable / Disable VKB Driver

The Virtual keyboard driver when first installed is by default **[√] Enable VKB**. However if the driver needs to be Enabled or Disabled for any reason the steps are detailed below:

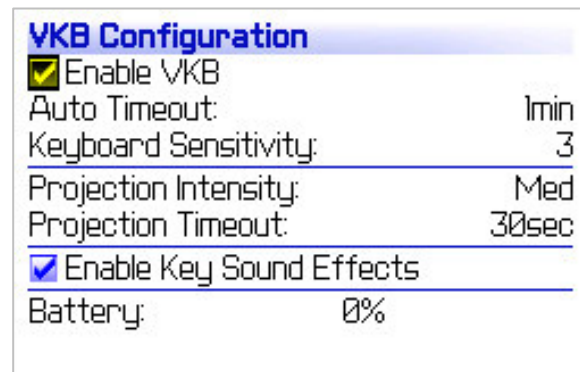
1. Open the VKB Configuration property page as shown the figure on the right.



2. Highlight the **[] Enable VKB** checkbox option then click the thumbwheel to open the pop-up menu as shown in the figure on the right.



3. Select the Change Option menu item and click the thumbwheel to set the new setting as shown in the figure on the right.



4. Turn on the Virtual keyboard and the driver will now connect to the keyboard.

Connection will take place in a few seconds after discovery of the Virtual keyboard.

Driver Configuration

VKB Driver Options

The Virtual keyboard driver application is divided into three main categories. A description of these categories is explained below.



1. Language:

The VKB BlackBerry® driver is capable of managing multiple languages depending on the language version of the Virtual keyboard. The **Language** option is used for selecting and configuring language options.

2. Hotkeys:

The **Hotkeys** option is used for creating and managing hotkeys (short-cuts) such as launching specific BlackBerry® and Third Party application or Quick dialing phone numbers.

3. Settings:

The **Settings** option is used for configuring and controlling various features of the Virtual keyboard such as:

- Power Management
 - VKB Automatic shutoff
 - Device Automatic Backlight On/Off
 - Projection Intensity
- Key-click sound
- Keyboard input modes
- Auto Repeat
- Warning Notifications

Language Manager

Multi-Language Configuration

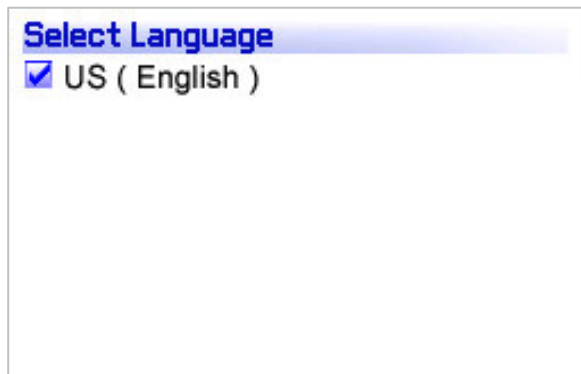
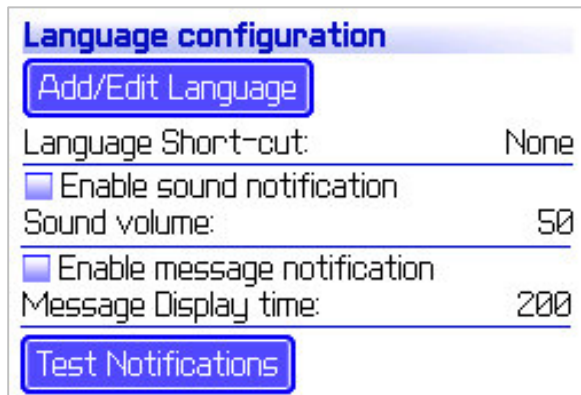
Usage: Is used when multiple keyboard language layout are used for data input from the keyboard. Example, one that is multi-lingual could use Language Manager to alternately switch between the different Virtual keyboard languages layouts using a user define key sequence [Hotkeys].

The following screens describe the various options used for managing multi-language layouts.

- **Add/Edit Language** – Displays the *Select Language* screen where enabling and disabling of languages are made.
- **Language Short-cut** – Is a user defined option used for switching between different language layouts.

Note that switching to between different languages can be made anywhere and at anytime after multiple languages have been configured.

- **[✓] Enable sound notification** – Audible notification indicating that the driver's layout is about to be switched.
- **Sound volume** – Adjust the level of the handset notification sound.
- **[✓] Enable message notification** – Visual notification indicating that the driver's layout is about to be switched.
- **Message Display time** – Presets the duration that the message notification is displayed.
- **Test Notification** – is used to see how the audible and visual notification works. Fine adjustments can be made before leaving the language configuration property page.
- **[✓] US (English)** – Enables language to be used. The VKB driver is installed with "US (English)" as the default language.



Hotkey (Short-Cuts) Manager

Hotkeys Overview

Usage: Hotkeys (Short-cuts) are used to help reduce the number of steps required to perform a task such as opening the message application and composing an email. The following list of items is what can be done using hotkey system.

- Launch Application (Standard BlackBerry® & third Party Applications)
- Quickdial Number (From Address book and entered)
- Compose Mail
- Create Memo
- Create Task
- Open Options
- Start Browser
- Open Options
- Lock Device
- Show Home Screen

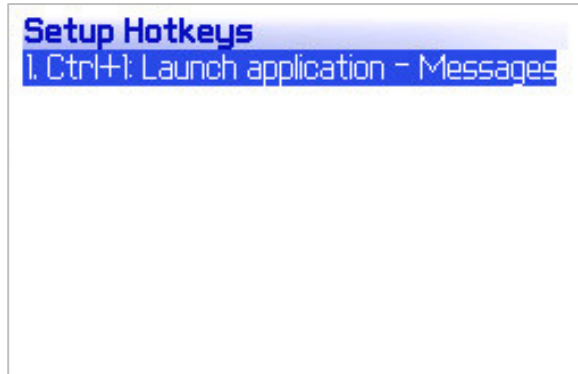


Manage Hotkeys

Creating Hotkeys

The following screens describe the various options used for managing hotkeys.

- **Setup Hotkeys** – Main screen used for managing hotkeys. Hotkey main screen displays the *list of user defined hotkeys*.
- **New Hotkey** – Command option used for creating new hotkeys.
- **Edit Hotkey** – Command option used for editing existing hotkey assignments.

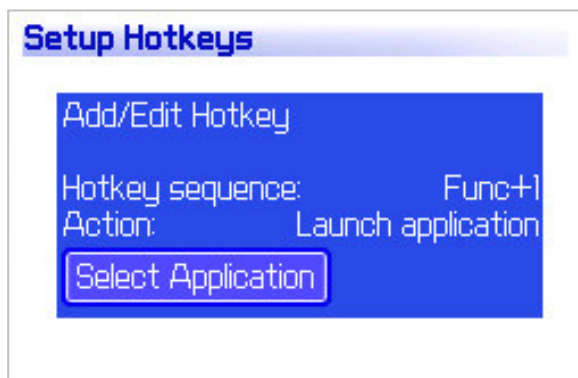


- **Delete Hotkey** – Command option used for permanently deleting existing hotkey assignments.
- **Hotkey sequence** – Is a user defined key sequence used for performing the specified *Action*. For example launching a BlackBerry application.



Hotkey Range: Ctrl + (0 – 9)
 Alt + (0 – 9)
 Fn + (0 – 9)

- **Action** – Defines the hotkey action to be carried out. The following is a list of available actions.
 - Launch Application
 - Quickdial Number
 - Compose Mail
 - Create Memo
 - Create Task
 - Open Options
 - Start Browser
 - Open Options
 - Lock Device
 - Show Home Screen



- **Select Application** – User defined application assigned to hotkey.

VKB Configuration

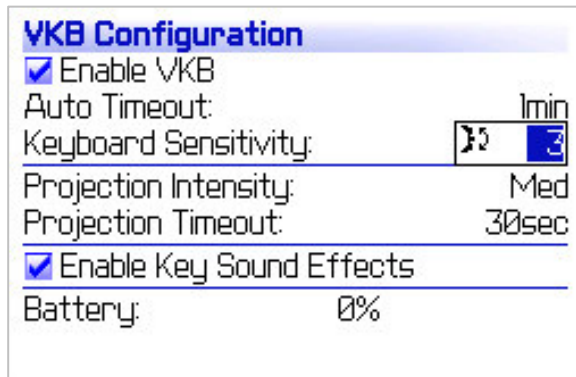
Managing the Virtual keyboard

The following describe the various options used for managing the Virtual keyboard.

- **[√] Enable VKB** – Turns on auto connection between handset and VKB. Disabling VKB turns off auto connection and *Turns-Off* the VKB.
- **Auto Timeout** – 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. Auto Timeout switches off the whole device. 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.



- **Keyboard Sensitivity** – 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 sensitivity setting. If you are experiencing extra key presses, try lowering the sensitivity.
- **Projection Intensity** – 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.
- **Projection Timeout** – Projection Timeout switches off the projected keyboard. 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.
- **[√] Enable Key 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.
- **Battery** - The battery level indicator displays the current level of the battery in the Virtual Keyboard. Use this indicator to check when the Virtual Keyboard required charging. If the battery level drops too low during use a “Low Battery” warning indicator will display. (See Indicators). Time to recharge the battery!



Driver Preference

Configuring the VKB Driver

The following describe the various options used for managing the VKB driver.

- **Keyboard Mode** – Sets the default driver input mode.

Standard mode emulates the PC style “Repeating characters” when key is held down. Auto Repeat must be enabled.

BlackBerry mode emulates the automatic-upper case characters when key is held down and insert special characters when key is held down and Up/Down arrows are pressed.

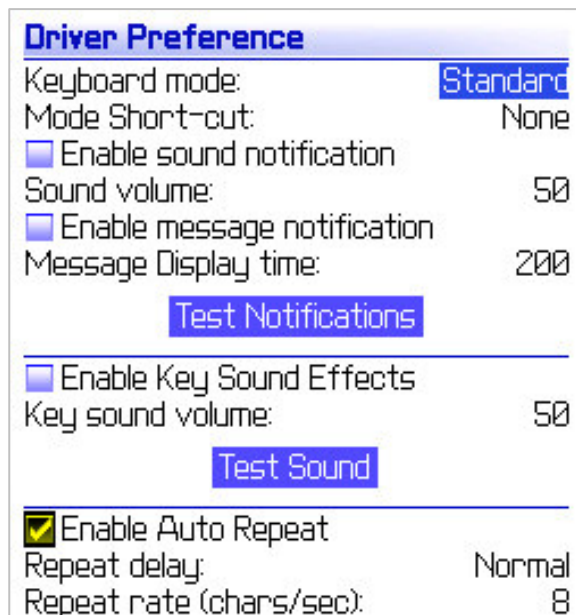


- **Mode Short-cut** – Is a user defined short-cut key sequence used for switching between the different driver input modes.
- **[√] Enable sound notification** – Audible notification indicating that the driver’s input mode is about to be switched.

- **Sound volume** – Adjust the level of the handset notification sound.
- **[√] Enable message notification** – Visual notification indicating that the driver’s input mode is about to change.

- **Message Display time** – Length of time the notification message is displayed.

- **Test Notification** – Used to sample the audible and visual notification settings. Fine adjustments can be made before leaving the preference property page.



Driver Preference (Continue)

- **[√] Enable Key Sound Effects** – The BlackBerry® handset can be set up to emit a “key-click” sound whenever a key is pressed on the projected Virtual keyboard.
- **Key sound volume** – Adjust the level of the handset key-click sound simulation.

Driver Preference	
Keyboard mode:	Standard
Mode Short-cut:	None
<input type="checkbox"/> Enable sound notification	
Sound volume:	50
<input type="checkbox"/> Enable message notification	
Message Display time:	200
Test Notifications	
<hr/>	
<input type="checkbox"/> Enable Key Sound Effects	
Key sound volume:	50
Test Sound	
<hr/>	
<input checked="" type="checkbox"/> Enable Auto Repeat	
Repeat delay:	Normal
Repeat rate (chars/sec):	8

The Auto Repeat feature employed by the Virtual keyboard Driver allows the system to automatically repeat a key that is being pressed.

- **[√] Enable Auto Repeat** – Checking the Enable Auto Repeat checkbox switches the Auto Repeat function to on. While un-checking the Enable Auto Repeat checkbox switches the Auto Repeat function to off.
- **Repeat delay** – The rate at which the key depression occurs is set. The available settings are Slowest, Slow, Normal, Fast, and Fastest.
- **Repeat rate** – Adjust the level of the handset key-click sound simulation. The range of settings is from (2 – 20) with the slowest at 2 and fastest repeat rate of 20.

Warning Notification

Enabling / Disabling Notifications

The following describe the various options used for managing audible and visual warning notifications.

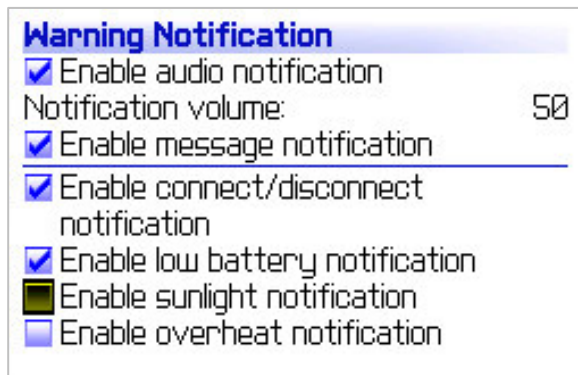
- **[✓] Enable audio notification** – Turns On/Off the sound notifications for all warning types.
- **Notification volume** – Sets the volume level of all warning notifications.
- **[✓] Enable message notification** – Turns On/Off message notifications for all warning types.
- **[✓] Enable connect/disconnect notification** – Turns On/Off notification that the Virtual keyboard has connected or disconnected.



Connect notification occurs when the VKB driver discovers the presence of the Virtual keyboard and makes a software connection. This notification can be used to determine when the Virtual keyboard can be used for typing.

Disconnect notification occurs when the Virtual keyboard is turned off or goes out of Bluetooth range. This notification is used to notify user that the Virtual keyboard is no longer available for use.

- **[✓] Enable low battery notification** – Turns On/Off VKB low battery notifications. This message is used to inform the user that the VKB battery needs recharging.
- **[✓] Enable sunlight notification** – Turns On/Off VKB sunlight notifications. This message is used to inform the user that the area of the projected keyboard is exposed to sunshine or some other source of direct lighting.
- **[✓] Enable overheat notification** – Turns On/Off notification that the VKB temperature is above normal.



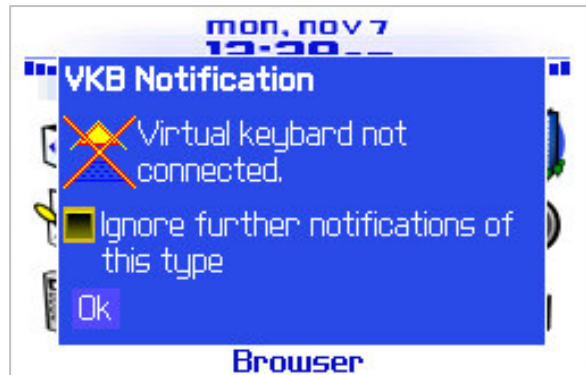
Warning Notification (Continue)

Notification Dialog

The following example shows the typical warning notification message dialog screen.

- **[√] Ignore further notification of this type** – Turns Off all warning notifications for the message type currently displayed in VKB Notification dialog.

To place a check mark in the *Ignore further notifications of this type* option use the "Space Bar" on the handset or Virtual keyboard.



If a warning message type has been disabled, reactivating the warning message type(s) is done through the *Warning Notification* manager.

- **[Ok]** – Closes the VKB Notification dialog.

Handset Backlight Control

Backlight Auto-On/Off

The following screens describe the various options used for managing the handset's automatic Backlight On/Off feature.

- **[✓] Enable Automatic On/Off** – Turns On/Off automatic backlight control when a key is pressed on the projected Virtual keyboard image.
- **Auto Turn-Off (sec.)** – To conserve the handset battery, the handset backlight can be set to automatically shutoff when no keys are pressed within the specified time. The automatic shutoff range is (0 – 60) seconds.

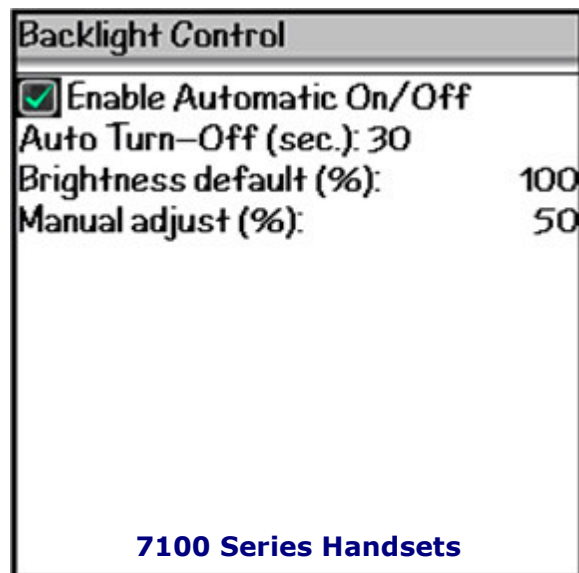
Note: - Devices that support brightness (Backlight intensity) adjustments have the additional control options listed below.

- **Brightness default (%)** – Default automatic brightness level. The range is (10 – 100) percent in increments of 10%. When the backlight is automatically turned on when a key is pressed it is set to this level.
- **Manual adjust (%)** – The default Difference level that the backlight will be set to when the backlight is manually controlled. The range is (10 – 100) percent in increments of 10%.

Brightness - Manual = *Actual Brightness*

Example: 100 – 50 = 50

- **Manual Control** – To adjust backlight brightness manually use the following short-cut keys:



- [Ctrl +] Increase Intensity
 - [Ctrl -] Decrease Intensity
-

General Handling Instructions

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.

Standard Character Keys

Character Output

Key Press	Output	Key Press	Output
1	1	⇧	!
2	2	⇧	@
3	3	⇧	#
4	4	⇧	\$
5	5	⇧	%
6	6	⇧	^
7	7	⇧	&
8	8	⇧	*
9	9	⇧	(
0	0	⇧)
-	-	⇧	_
=	=	⇧	+
<-	Backspace	⇧	<-
Tab	N/A	⇧	Tab
q	q	⇧	Q
w	w	⇧	W
e	e	⇧	E
r	r	⇧	R
t	t	⇧	T
y	y	⇧	Y
u	u	⇧	U
i	i	⇧	I
o	o	⇧	O
p	p	⇧	P
[[⇧	{
]]	⇧	}
a	a	⇧	A
s	s	⇧	S
d	d	⇧	D
f	f	⇧	F
g	g	⇧	G

Table 2

Standard Character Keys

Character Output

Key Press	Output	Key Press	Output
h	h	⇧	H
j	j	⇧	J
k	k	⇧	K
l	l	⇧	L
;	;	⇧	:
'	'	⇧	"
z	z	⇧	Z
x	x	⇧	X
c	c	⇧	C
v	v	⇧	V
b	b	⇧	B
n	n	⇧	N
m	m	⇧	M
,	,	⇧	<
.	.	⇧	>
/	/	⇧	?

Table 3

Special Function Keys

Virtual Keyboard Control

Short Cuts	Function	Note
Fn + S	Toggle Key Clicks on/off	
↑ + Fn + B	<Break Pairing>	Disables [] Enable VKB in driver configuration property page. Must enable [✓] Enable VKB to reconnect
↑ + 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

Table 4

PIM Short-Cuts

Short Cuts	Application
Fn + Z	Message (eMail)
Fn + X	Contacts
Fn + C	Task (ToDo)
Fn + V	Calendar
Fn + N	Symbol key simulation

Table 5

Special Characters

Short-cuts	Character
ALT + W	®
ALT + E	©
ALT + R	€
ALT + T	¥
ALT + Y	£
ALT + D	«
ALT + E	»
ALT + F	μ
ALT + G	Ç
ALT + H	ñ
ALT + J	ı

Table 6

Navigation & Editing Keys

Control Keys

Key	Function	Description
Fn + Enter	Thumbwheel Click	Thumbwheel click emulation
ESC	Escape / Exit	Escape key emulation
Up Arrow	Thumbwheel Scroll Up	Thumbwheel scroll up emulation
Down Arrow	Thumbwheel Scroll Down	Thumbwheel scroll down emulation

Table 7

Navigation Keys

Key	Function	Description
Left Arrow	Left one position	Navigating Cursor / Menus / List
Right Arrow	Right one position	Navigating Cursor / Menus / List
Up Arrow	Up one position	Navigating Cursor / Menus / List
Down Arrow	Down one position	Navigating Cursor / Menus / List
Space	Page Down	Display next page
↑ + Space	Page Up	Display previous page
T	Top of Page	Move screen to top of document
B	Bottom of Page	Move screen to bottom of document

Table 8

Editing Keys

Key	Function	Description
↑ + Left/Right Arrow	Select	Select single or multiple characters
ESC	Turn Off Select Text	Turn Off select text editing option
↑ + Backspace	Cut	Cut selected text or characters
ALT + Fn + Enter	Copy	Copy selected text or characters
↑ + Fn + Enter	Paste	Paste text or characters from clipboard
CTL+ X	Cut	Cut selected text or characters
CTL + C	Copy	Copy selected text or characters
CTL + V	Paste	Paste text or characters from clipboard
Del	Character deletion	Delete selected character
Backspace	Character deletion	Delete character to the left

Table 9

Phone Application Keys

Entering Number and Special characters

7100 & 7200 & 7500		Description
Home Screen	Phone Application	
1	1	1 – is typed into phone application
2	2	2 – is typed into phone application
3	3	3 – is typed into phone application
4	4	4 – is typed into phone application
5	5	5 – is typed into phone application
6	6	6 – is typed into phone application
7	7	7 – is typed into phone application
8	8	8 – is typed into phone application
9	9	9 – is typed into phone application
0	0	0 – is typed into phone application
SHIFT #	SHIFT #	# – is typed into phone application
SHIFT *	SHIFT *	* – is typed into phone application
SHIFT +	SHIFT +	+ – is typed into phone application

Table 10

BlackBerry® BES Configuration

Application Control

Because of the high security profile of BlackBerry® devices, most third party applications including drivers are restricted from use of certain low level API that could possibly compromise the security features of BlackBerry® devices.

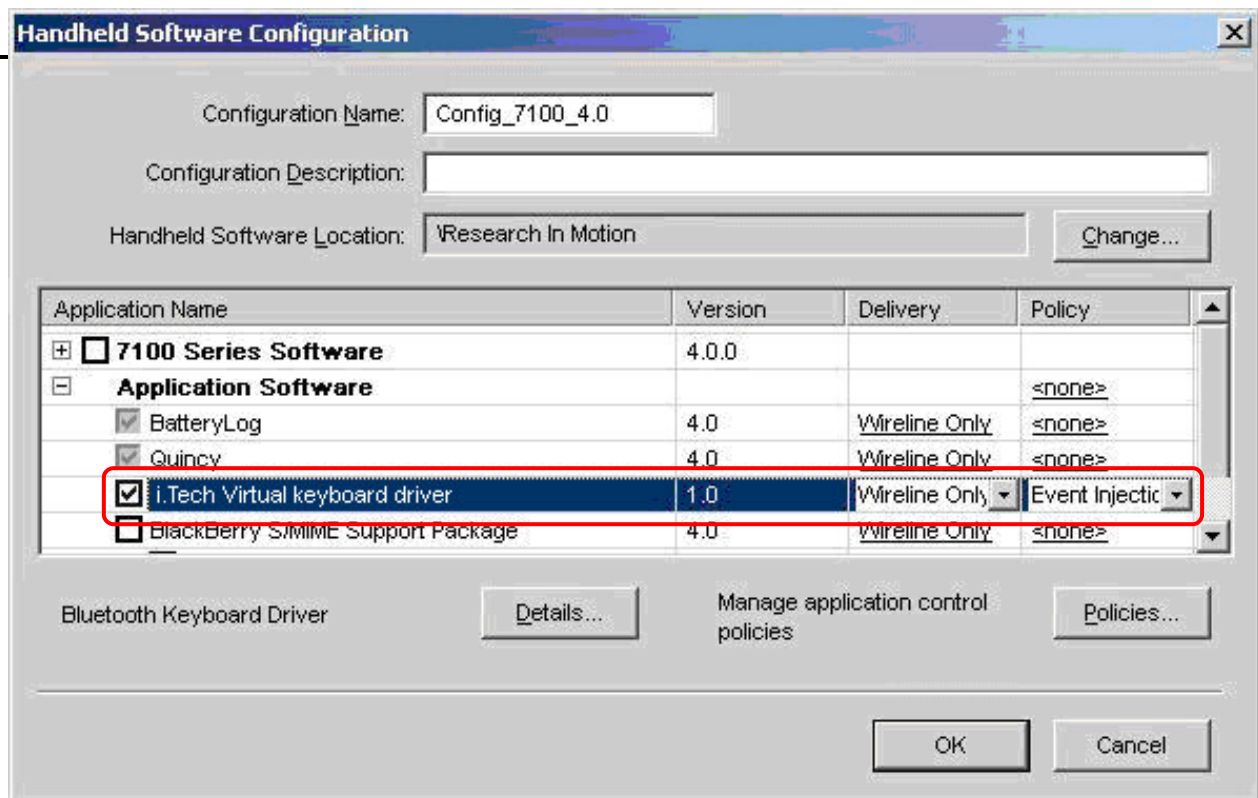
BlackBerry® devices using BES email service require device configuration to allow the Virtual keyboard driver to function properly. The Virtual keyboard driver must be "Allowed" to use the low level *Event Injector API* that enable keyboard input to be displayed (injected into) applications running on the BlackBerry® handset.

Allowing the keyboard driver the use of the *Event Injector API* requires the following:

1. Setting up a driver application profile
2. Installing the driver onto the handset from the BES using USB or OTA.

Step 1: Install the Virtual keyboard driver onto the BES or Host computer.

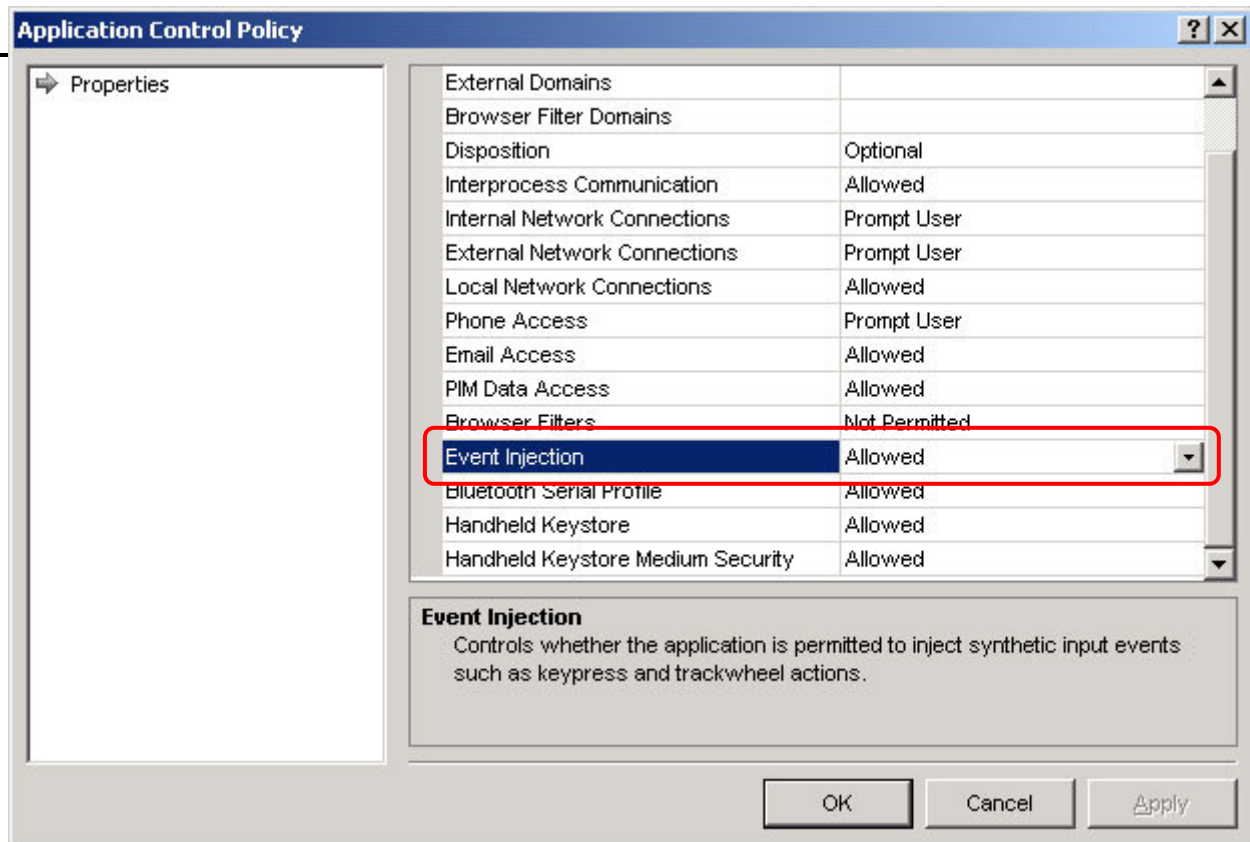
Step 2: **Re-indexing** the software application files using the "Apploader.exe" Application to recognize the new driver files as shown below.



BlackBerry® BES Configuration

Application Control Policy

Step 3: Change the Application Control Policy for the "Event Injector" from "Not Permitted" to "Allowed" as shown in the figure below.



Step 4: Now that the Virtual keyboard driver has been allowed use of the *Event Injector API*, install the driver onto the device from the BES or Host system using USB or OTA.

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
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 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

Table 11

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 keyboard doesn't show the battery indicator when enable checkbox is clicked	Device is not pairing with a Bluetooth compatible device	Start pairing the device.
My BlackBerry doesn't accept the authentication of my keyboard while pairing	Matching passkey is not being entered on both handset and virtual keyboard.	Re-start pair device to re-enter the matched passkey.
My BlackBerry doesn't emit key taps when pressing a key	Sound effects, on your BlackBerry® device have not been enabled.	Enable "Key sound effects on BlackBerry®" on Virtual keyboard driver.
My keyboard is turned on and my driver says it is connected but I can not type using the VKB.	Driver not communicating correctly with Virtual keyboard.	<ol style="list-style-type: none"> 1. Turn-off the VKB. 2. Exit the driver configuration application 3. Turn-on the VKB. Wait for connection between VKB and 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
After first connection keyboard does not connect. Blue LED flashes on and off every 2-3 seconds.	Your BlackBerry® device is not setup to accept incoming connections.	Check your handset Bluetooth Settings; ensure that Inbound and Outbound are checked.

Table 12

