8516

VEHICLE-MOUNT COMPUTER

User Manual

(Windows® Embedded CE 6.0)

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INTRODUCTION

1.1   About This Manual

This User Manual describes how to configure, operate, and maintain the Psion 8516 Vehicle-Mount Computer.

Chapter 1: Introduction
provides a basic overview of the 8516.

Chapter 2: Basic Operation
describes the steps required to get the 8516 ready for operation.

Chapter 3: Getting To Know Your 8516
describes 8516 features, including how to charge and maintain the battery, the keyboard features, the display, using the internal scanner, etc. Also describes the Microsoft® Windows® Embedded CE 6.0 desktop and how to use it, and how to change the appearance and actions of the desktop from Windows Classic Shell to the PsionVU Shell.

Chapter 4: Configuration
describes the Psion Software Advantage and Microsoft programs, and how to use them to configure the 8516, along with scanners/imagers, *Bluetooth*, and so on. This chapter also introduces you to the PsionVU program, which enables you to customize your computer settings, remove or add shortcuts to the desktop and Control Panel, and lock down access to various different components on the computer and the system tray icons for security. With PsionVU and PsionVU Shell you can greatly enhance your User Experience.

Chapter 5: Accessories
describes the peripherals and accessories available for your 8516 computer.

Appendix A: 8516 Specifications
lists the specifications for your 8516 computer, radios, and battery.

Appendix B: Port Pinouts
describes the 8516 and accessories pinouts.

Appendix C: Imager & Camera Settings
details your imager options.

Appendix D: Scanner Settings
details your barcode options.

Appendix E: Wireless Wide Area Network (WWAN) Settings
describes WWAN configuration information.

Appendix F: Wireless Zero Config Settings
outlines the steps used to configure your radio using *Windows Zero Config*.

1.2   Text Conventions

Note: Notes highlight additional helpful information.

*Important: **These statements provide particularly important instructions or additional information that is critical to the operation of the equipment.***

*Warning: **These statements provide critical information that may prevent physical injury, equipment damage or data loss.***

1.3   Overview of the 8516 Vehicle-Mount Computer

The 8516 is a modular, industrial vehicle-mounted computer, running the Microsoft Windows Embedded CE 6.0 operating system. It is intended for use in commercial and industrial applications with a focus on real time wireless data transactions with options suiting materials handling applications in warehouses, manufacturing facilities, ports, and yards. A wide range of data input capabilities are supported through a variety of imager, RFID and bar code scanner options.

Note: For product specifications, refer to Appendix A: "8516 Specifications".

Processor and Memory
- Texas Instruments® OMAP3® Processor 800 MHz
- Flash ROM: 1 GB
- RAM: 512 MB

Operating System
- Microsoft® Windows® Embedded CE 6.0

Bundled Applications
- Internet Explorer® 6
- Windows Mobile Device Center
- Wordpad®, ActiveSync®

Supported Applications
- Psion TekTerm
- Stay-Linked Terminal Emulation
- Naurtech Browser

Device Management and Provisioning
- PsionVU
- Total Recall, TweakIt, Dr. Debug
- Mobile Control Centre (MCC)
    - Easy configuration management and provisioning platform.
    - Powerful remote control and troubleshooting functionality.
    - Integrated real time geofancing and location services.
    - Advanced device security, user authentication and lockdown features.

User Interface
- Colour/Touch Display 20.32 cm (8") diagonal
    - VGA (800 x 480) Transflective
    - High visibility option: superior sunlight visibility with 640 cd/m^2 brightness
- Touchscreen
    - Passive stylus or finger operation
    - Optional heater
- Keyboard
    - 67-key QWERTY and AZERTY available
    - 12 dedicated function keys
    - LED backlight
- Voice and Audio
    - High volume beeper: 95 dBA
    - Optional Push-to-Talk speaker/microphone

Wireless Connectivity

- Model RA2070 802.11a/b/g/n Radio with *Bluetooth*® coexistence (*Bluetooth* V2.0 + EDR)
- Optional Model RA2047 802.11b/g Radio

The following figures illustrate the main features of the 8516 – for detailed views, please see "8516 Vehicle-Mount Computer Features" on page 9.

Figure 1.1   8516 Front View

Figure 1.2   Bottom View

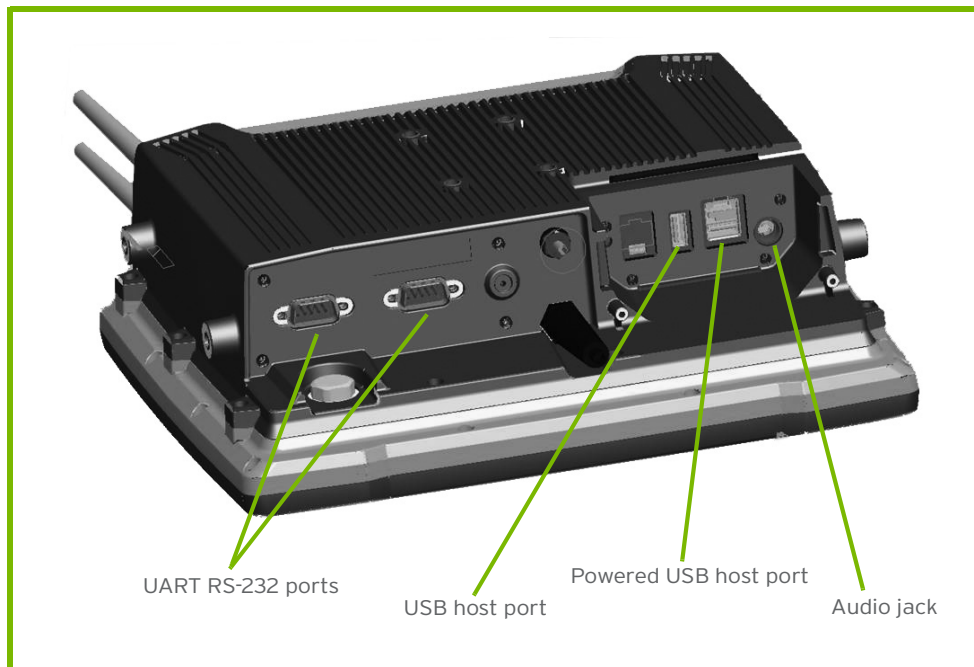# 2

BASIC OPERATION

2.1   8516 Vehicle-Mount Computer Features

Figure 2.1   Front View

Figure 2.2   Bottom View

2.2 Documents Available

To see a current list of documents and download what you need, please go to the Knowledge Base on the Psion Ingenuity Working community website:

http://community.psion.com/knowledge/w/knowledgebase/product-manuals.aspx

2.3 Preparing the 8516 for Operation

Typically the 8516 Vehicle-Mount Computer is configured at the factory and arrives ready for use. Although the 8516 is equipped with an internal Compact Flash slot and a Micro-SD I/O slot, these slots are not intended for user modification. If a device needs to be changed or added in these slots, contact qualified Psion personnel.

2.3.1 8516 Safety Instructions

Warning: IT IS CRITICAL that this information be reviewed and that any guidelines applicable to your 8516 be strictly followed.

- The cord should be installed in the vehicle so that it is not subjected to damage or stress.
- Use of a power cord that is not recommended or sold by the manufacturer may result in fire, electric shock, or personal injury.
- An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in fire or electric shock. If an extension cord must be used, make sure:
- The plug pins on the extension cord are the same number, size, and shape as those on the adaptor.
- The extension cord is properly wired and in good electrical condition and that the wire size is larger than 16 AWG.
- When the unit is connected to the battery or AC adaptor, the mains power cord shall comply with National safety regulations of the country where the equipment is to be used.
- Do not use the AC adaptor with a damaged cord or plug. Replace it immediately.
- Do not operate the AC adaptor if it has received a sharp blow, been dropped, or otherwise damaged in any way; it should be inspected by qualified service personnel.
- Do not disassemble the AC adaptor; it should be repaired by qualified service personnel. Incorrect reassembly may result in electric shock or fire.
- To reduce risk of electric shock, unplug the battery or AC adaptor from the outlet before attempting any maintenance or cleaning.
- Do not expose the battery or AC adaptor to rain or snow.

2.3.2 The Internal Backup Battery

The 8516 Vehicle-Mount Computer is equipped with an internal battery that will provide backup power to the unit for up to five minutes of normal operation. The display will be blank during this time. After five minutes, the unit will shut off to preserve the contents of RAM. The backup battery provides one week of real-time clock backup. An optional internal 5000 mAh rechargeable battery is available for operation during power loss or brown out.

The backup battery is not user accessible. It must be replaced by authorized Psion personnel.

Please see the following sections for detailed battery information:

- Calibration and power settings: "Power Properties" on page 75.
- Specifications: "Power Management" on page A-4.

The computer backup battery provides one hour of memory backup. The capacity is reduced as the operating temperature cools. Table 2.1: "Backup Battery Performance" on page 11 provides a general outline of battery capacity based on the operating temperature. Charging of the backup battery will occur between 0° C and 40° C.

Note: If the backup battery temperature is less than 10°C and a brown-out occurs, the display backlight will switch off in order to maintain computer operations. The backlight will switch back on when external power is restored or the battery temperature is above 10°C.

Table 2.1   Backup Battery Performance

Temperature	Backup Battery Capacity
-20° C (-4° F)	65%
-10° C (14° F)	80%
0° C (32° F)	close to 90%

2.4   Switching the 8516 On and Off

• To switch the 8516 on or off, press the Power button located on the top of the unit.

Note: If the 8516 is in suspend state, pressing [ENTER] 'wakes' the unit from this state. The screen in which you were working before the computer entered suspend state is displayed.

2.5   Resetting the 8516

To perform a warm or cold reset, you can access the menu by going to the Windows menu *Start>Shutdown*. Alternatively you can use the keyboard shortcuts described below.

Note: If your Desktop is switched to the PsionVU Shell (refer to "The PsionVU Desktop Shell" on page 31), resetting the unit is done solely by use of the keyboard shortcuts.

2.5.1   Performing a Warm Reset

During a *warm reset*, running programs are halted. The contents of the file system, RAM Disk, Flash Disk, and the registry are preserved.

• Press and hold down the **[FN]** key and the Power button simultaneously for a minimum of six seconds.

Note: You need to reset your 8516 after configuring the radio by switching between Windows Zero Config and WiFi Config.

2.5.2   Performing a Cold Reset

A *cold reset* reinitializes all hardware. All RAM including the RAM Disk is erased. Non-volatile storage such as the Flash Disk is preserved, as is the file system.

To execute a cold reset:

• Press and hold down the **[SYM]** key, the **[FN]** key, and the Power button, simultaneously for a minimum of six seconds.

Note: As part of the normal Windows Embedded CE cold boot process, the screen may go blank for a few seconds after the splash screen loading bar reaches the end. The desktop is displayed after a few moments.

2.5.3   Performing a Clean Start

A *clean start* returns the 8516 to factory settings, flushes the registry keys, and deletes volatile storage and the file system. The Flash Disk is preserved.

• Press and hold down the **[FN]** key, the Power button and the **[ENTER]** key simultaneously for a minimum of six seconds.

The 8516 displays the Boot to BooSt menu.

• Type **.clean**.

2.5.4   Boot to BooSt

If you choose Boot to BooSt, the BooSt menu is loaded.

- Press and hold down the **[FN]** key, the Power button and the **[ENTER]** key for a minimum of four seconds.
- Press **[1]** to launch the *OS*.

2.6   Calibrating the Touchscreen

Note: The touchscreen function can be turned off (see "Touch" on page 95).

The 8516 touchscreen feature is factory-calibrated and ready-to-go; however, over time the touchscreen's operating parameters may change, and it may need to be recalibrated for correct operation. Refer to "Calibrating the Touchscreen" on page 18 for details.

2.7   Connectivity

Data transfer options vary slightly depending on the type of operating system installed in your PC. Various options exist depending on whether you are using Windows XP or earlier, Windows Vista® , Windows 7 or later. For information on connecting the 8516 to a PC, please refer to "Data Transfer between 8516 and a PC" on page 54.

The 8516 contains an integrated 802.11a/b/g/n radio module. The *Wi-Fi Config* application is used to configure the radio for one or more wireless network profiles. To configure the radio, follow the steps outlined under the heading "Wi-Fi Config" on page 109.

To configure your *Bluetooth* settings, please go to "Bluetooth® Setup" on page 44.

To see the radio specifications, please go to "Wireless Radios" on page A-5.

3 GETTING TO KNOW YOUR 8516

3.1   Operating System

- Microsoft® Windows® Embedded CE 6.0

3.2   The Keyboard

The 8515 is available with an integrated keyboard in either QWERTY or AZERTY alphanumeric keyboard layout. It features 67 keys, 12 direct function keys, and an LED backlight.

Most of the keys on the keyboard operate much like a desktop computer. Where a key or key function is not consistent with the PC keyboard, those differences are described in the following sections.

There are a number of modifier keys that provide access to additional keys and system functions, as described in "Modifier Keys" on page 16.

The blue [FN] modifier key provides access to additional keys and system functions. These functions are colour coded in blue print above the keyboard keys.

Figure 3.1   Keyboard Layout

3.2.1   Regular Keys

The Arrow Keys

The [Arrow] keys are located near the bottom of the keyboard, and are represented on the keyboard as triangles pointing in different directions. The [Arrow] keys move the cursor around the screen in the direction of the arrow: up, down, left and right. The left arrow key should not be confused with the backspace [DEL] key which is depicted as a left arrow. The cursor is the flashing box or underline character that indicates where the next character you type will appear.

The [DEL] Key

The [DEL] key (represented on the keyboard as an arrow pointing left) moves the cursor one character to the left, erasing the previous key stroke.

The [FN] + [DEL]) erases the character at the current cursor position.

The [SHIFT/CAPS] Key

The [SHIFT/CAPS] key is used to display uppercase alpha characters. Pressing [FN][SHIFT] turns the [CAPS] key on so that all alpha characters are printed in uppercase until the [FN][SHIFT] sequence is pressed again.

The [CTRL] and [ALT] Key

The [CTRL] and [ALT] keys modify the function of the next key pressed and are application dependent. Pressing either key twice locks it 'on' (it appears underlined on the Taskbar). Pressing the key once again unlocks it.

The [TAB] Key

Typically, the [TAB] key moves the cursor to the next field to the right or downward.

The [ESC] Key

Generally, this key is used as a keyboard shortcut to close the current menu, dialog box, or activity.

The [SPACE] Key

Pressing this key inserts a blank space between characters. In a Windows dialog box, pressing the [SPACE] key enables or disables a checkbox.

The [INS] Key

The [INS] key inserts a character at the cursor position.

The [SCAN] Key

The 8516 is equipped with a single [SCAN] key on the keyboard and an era [SCAN] button located on the left side of the unit. [SCAN] keys activate the scanner beam. For units that do not have internal scanners, these keys can be remapped to serve other functions.

3.2.2   Modifier Keys

The [SHIFT], [CTRL], [ALT], [FN] and [SYM] keys are modifier keys that change the function of the next key pressed.

The [SHIFT], [CTRL] and [ALT] keys operate much like a desktop keyboard except that they are not chorded (two keys held down simultaneously). The modifier key must be pressed first followed by the key whose function you want modified.

[SHIFT] and [FN]

The [SHIFT] and [FN] modifier keys provide access to additional keys and system functions. The functions related to these modifier keys are colour-coded in white and blue print respectively above the keyboard keys, dependant on your keyboard format.

[SYM]

Note: When using the Mobile Devices SDK Developers' Guide (PN 8100016), note that the [SYM] key is interchangeable with the [ORANGE] key.

The Symbol [SYM] modifier key is represented on the keyboard by the characters 'SYM' and provides access to commonly used symbolic characters. Pressing the key brings up the Symbol soft input panel (SIP) onscreen keyboard, with symbols mapped to each key. If you wish to adjust the settings for the pop-up screen (e.g. time of delay before screen appears, etc.), modify the file *softinputpanel.xml*, located in the Windows folder.

Note: Modifier keys are remapped in the Control Panel, and the Symbol SIP will automatically show and use the new mappings after the next reboot.

The onscreen keyboard corresponds to the keyboard on your 8516.

3.2.2.1   Activating Modifier Keys

When a modifier key is pressed, it is shown in the softkey bar at the bottom of the screen, making it easier to determine whether a modifier key is active. For example, if the [CTRL] key is pressed, **Ctrl** is displayed at the bottom of the unit screen. Once the next key is pressed, the modifier key becomes inactive and disappears from the taskbar.

3.2.2.2   Locking Modifier Keys

When a modifier key is pressed twice, it is 'locked' on. A 'locked' modifier key is displayed in underlined letters in the taskbar. For example, pressing the [FN] key twice locks it on—it is displayed as an underlined blue 'FN' in the taskbar at the bottom of the computer screen. The same is true of the [SYM] key, which is shown as an underlined orange 'SYM' in the taskbar.

The locked modifier key will remain active until it is pressed a third time to unlock or turn it off. Once a modifier key is unlocked, the underline representation at the bottom of the screen is no longer displayed.

Note: *The locking function of the modifier keys can be changed so that pressing a key **once** will lock the key 'on'.*

If you disable the 'One Shot' function of the key, pressing it once will lock the key 'on'. Pressing the same key a second time will unlock or turn it 'off'. Refer to "Keyboard One Shot Modes" on page 65 for details.

3.2.3   Function Keys and Macro Keys

In addition to the standard keyboard functions (see "The Keyboard" on page 15), the 8516 supports function keys and macro keys.

All function keys and macro keys can be custom defined for each application. The Open TekTerm application utilizes these keys (for detailed information, see the *Open TekTerm Software User Manual*, PN 8000073).

3.2.3.1   Function Keys

Function keys perform special, custom-defined functions within an application. These keys are accessed by pressing one of the dedicated function keys on the keyboard, or through the appropriate [SHIFT] or [FN] key sequence, depending on the keyboard variant being used.

Alphanumeric Keyboard Function Keys

The Alphanumeric keyboards are equipped with up to thirty function keys, including those function keys that are colour-coded in blue print above the alpha keys or function keys (depending on your keyboard).

To access the blue function keys, press the [FN] key followed by the appropriate alpha or function key.

Function keys [F1] through [F24] can be used with the Windows Embedded CE operating system or another application. The additional function keys, [F25] through [F30] along with the macros, are not used as pa of the Windows Embedded CE operating system.

3.2.3.2   Macro Keys

Important: **Refer to "Keyboard Macro Keys" on page 65 for details about creating macros.**

Several of the 8516 keyboards are equipped with a series of macro keys that can be programmed to replace frequently used keystrokes, along with the function of executable keys like the [ENTER] key, the [BACK-SPACE] key, any function key and arrow key, etc.

59-Key Alphanumeric Keyboard Macro Keys

These keyboards have six macro keys: [M1] to [M6], located on the S to X keys (second-last row of keys).

To access a macro key, press the [FN] key followed by the macro key.

3.2.4 The Keypad Backlight

The intensity of the keypad backlight and the conditions under which this backlight is activated can be configured using the Keyboard icon in the Windows Embedded CE *Control Panel*. The behaviour of the keypad backlight is tailored in the Keyboard Properties dialog box. Refer to "Keyboard Backlight" on page 64 for details about this option.

> *Note: Keep in mind that this option may be restricted to supervisory use only.*

3.3 The Display

The 8516 is equipped with display backlighting to improve character visibility in low light conditions. The backlight switches on when a key is pressed.

3.3.1 Adjusting the Display Backlight

The behaviour of the display backlight and the intensity of the backlight can be specified in the *Display Properties* dialog box in the *Control Panel*.

> *Note: Refer to "Backlight" on page 55 for details about the Display Properties dialog box.*

3.3.2 Calibrating the Touchscreen

If you find that the stylus pointer is not accurate when you tap on an item on the 8516 screen, use the *Stylus Properties* dialog box in the *Control Panel* to recalibrate the screen.

- In the *Control Panel*, choose the **Stylus** icon to display the *Stylus Properties* window.

- Select the **Calibration** tab, and then choose the **Recalibrate** button.

- Follow the directions on the calibration screen to calibrate the screen.

3.4 Indicators

The 8516 uses LEDs (Light Emitting Diodes), onscreen messages, and audio tones as indicators.

3.4.1 LEDs

The 8516 is equipped with two coloured LEDs. This section outlines what these LEDs indicate.

> ⚠ ***Important: If an LED is illuminated in red, the operator should be cautious as this generally indicates an abnormal operating condition or active laser emission.***

Figure 3.2 LED Status Indicators

1. Operating System Status

2. Radio Status
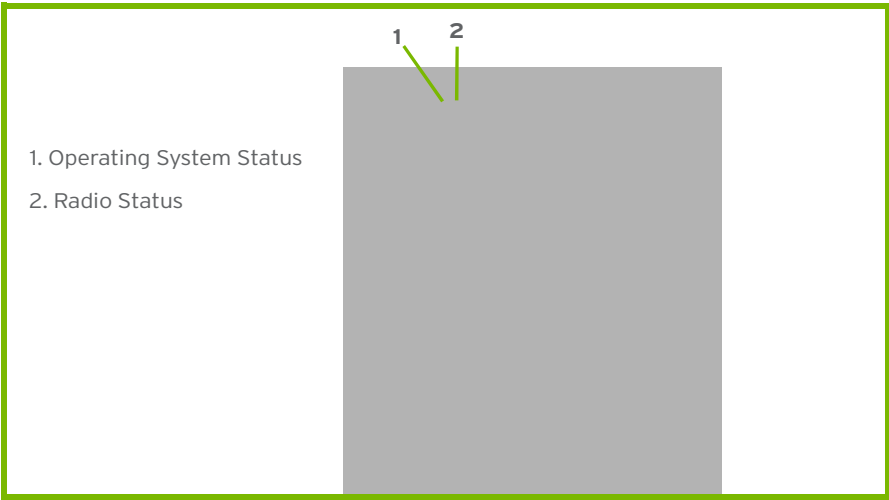
3.4.1.1 Operating System Status LED

The second LED indicates system notifications and operating system status. It is also available for user-loaded custom Windows Embedded CE applications.

Table 3.1

Operating LED Behaviour	Function
OFF when unit is in Suspend or Shutdown.	Normal operating status.
Solid Yellow	The unit is powering on.
Fast Flashing Yellow	The unit is entering Suspend mode.
Flashing Yellow	This LED is controlled by the Microsoft NLED api.

3.4.1.2 Radio Status LED

The third LED from the left indicates that the GPS radio is enabled or that the WWAN radio is enabled.

Table 3.2

Radio Traffic LED Behaviour	Function
OFF	The radio is disabled.
Slow Flashing Blue	The radio is enabled and active.

3.4.2 Onscreen Indicators

The taskbar at the bottom of the screen displays a variety of system status indicators, including the Input Panel button if you have chosen to show that option in the *Taskbar and Start Menu* settings.

Figure 3.3   Taskbar
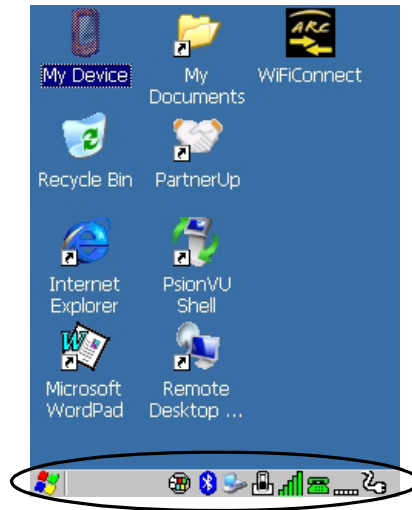
The taskbar changes dynamically, and only those icons that are applicable are displayed. For example, if a radio is not installed in your 8516, the radio signal icon is not displayed in the taskbar.

Windows® Start Button

If you are using the touchscreen, you can either tap the Windows icon at the bottom left of the screen, or press the [Windows] key to display the Start Menu, and then tap on the desired application.

Modifier Key Indicators

[SHIFT], [CTRL], [ALT], [FN] and [SYM] are modifier keys that have onscreen indicators to show when a key is active or locked. If a modifier key is pressed once to activate it, the key is displayed in the taskbar, for example, pressing the [FN] key once displays 'FN' in the taskbar. If a modifier key is pressed twice, it is 'locked on' and the onscreen indicator is displayed with underlined letters in the taskbar, for example, pressing [FN] twice displays 'FN' in the taskbar.

802.11 Radio Signal Quality

Increasing radio signal quality is represented by longer, filled bars within this icon.

| Good
Reception | | | | | Weak
Reception | No Radio
Link |
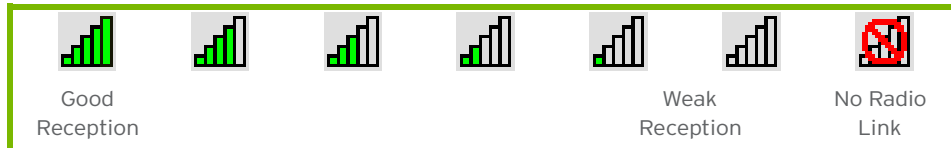
WWAN Radio Signal Quality

Wireless WAN icons in the taskbar indicate the status of your wide area network connection. For details, see "Taskbar Icons" on page E-3.

Bluetooth **Radio**

This icon displayed in the taskbar represents the installed *Bluetooth* radio.

Input Panel

You can tap the Input Panel icon to activate the soft keyboard application.

3.4.3   Audio Indicators

The 8516 supports several audio options, including *Bluetooth*. The optional rear speaker can be used for system (Windows) sounds and *.wav* files. When a rear speaker is absent, those sounds are routed to the front receiver. The beeper provides a variety of sounds and can be configured to emit a sound when a key is pressed, a keyboard character is rejected, scan input is accepted or rejected, an operator's entry does not

match in a match field or the battery is low. The volume rocker button is located on the left side of the Vehicle-Mount. Information on configuring sounds is detailed in "Volume & Sounds Properties" on page 108.

3.5 Inserting the microSD Card and SIM Card

There are two slots available in the battery compartment - the lower slot is provided for a *microSD* (Secure Digital) card, which provides additional non-volatile memory to your 8516, and the upper slot is for a *SIM* (Subscriber Identity Module) card, which allows access to the Voice option, access to the Internet, and so on.
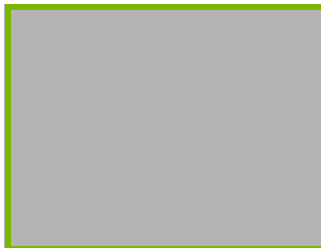

3.5.1 Inserting the Cards

• Switch off the power to the 8516.
• Remove the battery.
• Use a Phillips screwdriver to remove the SD cover screw. Flip the cover open or remove it.
For a microSD card:

• Slide the microSD card door to the left to unlock it. Flip it open.
• Slide the microSD card into the guides on the SD card door.
• Close the microSD card door, and slide it to the right to lock it.

For a SIM card:
• Slide the SIM card metal door latch to the right to unlock it, then flip the door open.
• Slide the card into the guides on the SIM card door.
• Swing the hinged door back down into place, and slide the metal door latch to the left to lock it.
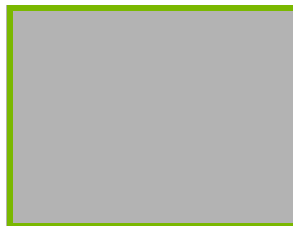
3.6   Scanners and Imagers

⚠️ ***Important: It is critical that you review the "Laser Warnings" in the 8516 Vehicle-Mount
            Computer Regulatory & Warranty Guide (PN 8000XXX) before using any of the
            scanners described in this chapter.***

The 8516 supports a wide range of scanner options to address a variety of user application requirements.
Refer to the following sections for detailed information:

- Configuration: "Scanners" on page 86 and "Manage Triggers" on page 71.
- "Scanning Techniques" on page 22 outlines the mechanics of a successful scan.
- Barcode Parameters: Appendix D: "Scanner Settings".
- "Troubleshooting" on page 22 provides some helpful suggestions should the scan fail.

Scanner types include:

- Long Range: reads large 1D barcodes (55 mil) at long distances (up to 3m).
- Standard Range/High Performance: reads damaged or low contrast regular 1D barcodes (5 - 55mil) at medium distances (up to 1m).
- Extended Range: reads regular 1D barcodes (5 - 55mil) at short to medium distances (1m), as well as large 1D barcodes (e.g. 55 mil) at long distances.
- 1D Imager: reads regular 1D and PDF417 barcodes at short to medium distances.
- EA11 2D imager: reads 1D and 2D barcodes including damaged and low contrast regular 1D barcodes; smallest barcode at 5 mil with a minimum read distance to 2.8 in. / maximum read distance of 5.1 in.; largest barcode at 40 mil with a minimum read distance of 3.1 in. / maximum distance of 32.4 in.
- EA20X 2D imager: reads 1D and 2D barcodes including damaged and low contrast regular 1D barcodes; shortest barcode at 6 mil with a minimum read distance of 6.1 inches / maximum read distance of 9.1 inches; longest barcode at 40 mil with a minimum read distance of 5.1 inches / maximum read distance of 49.2 inches.

3.6.1   Basic Scanner Operations

- Turn the Vehicle-Mount on. Wait until the unit has booted up completely.
- Aim at the barcode and press the scan key or the trigger. A scan beam and a warning indicator appear until a successful decode is achieved or six seconds have elapsed.

3.6.2   Scanning Techniques

- Hold the scanner at an angle. Do not hold it perpendicular to the barcode.
- Do not hold the scanner directly over the barcode. In this position, light can reflect back into the scanner's exit window and prevent a successful decode.
- Scan the entire barcode. If you are using a 1D or PDF laser scanner, make certain that the scan beam crosses every bar and space on the barcode, including the margins on either end of the symbol.
- If you are using a 2D imaging scanner, make certain the red, oval shaped framing mark is centered within the barcode you want to scan.
- When using imaging scanners, do not move the scanner while decoding the barcode. Movement blurs the image.
- Hold the scanner farther away for larger barcodes.
- Hold the scanner closer for barcodes with bars that are close together.

3.6.3   Troubleshooting

If the scanner is not working, investigate the following:

- Is the unit on?
- Check that the barcode symbology being scanned is enabled for the Vehicle-Mount you are using. Check any other parameters that affect the scanning procedure or the barcode.
- Check the barcode to make sure it is not damaged. Try scanning a different barcode to verify that the problem is not with the barcode.
- Check that the barcode is within the proper range.

- Does the Vehicle-Mount display the warning without scanning? This suggests a hardware problem in the Vehicle-Mount.
- Is the laser beam scanning across the barcode?
- Once the scan beam has stopped, check the scanner window for di or fogging.

3.6.4 Operating One Dimensional (1D) Internal Laser Scanners

- Turn the Vehicle-Mount on. Wait until the unit has booted up completely.

⚠️ *Important:* **If an aiming dot is available on the installed scanner, the dot will be enabled for a configurable time period (including off), after which normal scanning begins. Refer to "Dot Time (msec)" on page D-5 for details.**

Double-clicking the trigger will override the aiming delay and initiate an immediate scan. Note that the aiming dot is standard on long-range and high visibility internal scanners.

- Aim at the barcode and press the scan key or the trigger. A scan beam and a warning indicator appear until a successful decode is achieved or six seconds have elapsed.

3.6.5 Operating Internal Two Dimensional (2D) Imagers

An imager scanner takes a snap shot of a single barcode or multiple barcodes (at one time). It can find a barcode regardless of its orientation–that is, even a barcode printed at a 45 degree angle to the Vehicle-Mount will be decoded successfully.

ℹ️ *Note:* *When scanning* **multiple** *barcodes, ensure that all of the desired barcodes are within the field of view of the scanner. It is possible that even when all barcodes are within the field of view, not all of them will be decoded. Only successfully decoded barcodes are passed to the application program. The application program then issues a warning, asking that you scan the missing barcodes.*

When scanning a **single** *barcode, ensure that only the desired barcode is within the field of view of the scanner.*

Because imager scanners generally have a shorter depth of field than laser scanners, some practise may be required to find the optimal distance from the types of barcodes being scanned. Although the imager includes illumination LEDs, ambient light will help the imager decode the barcodes, especially if the barcode is far from the Vehicle-Mount.

⚠️ *Important:* **Keep in mind that the imager scanner is a camera, and the LED illumination is a flash. Glare can be an issue on reflective media such as plastic coated barcodes, just as glare is an issue for photographers. When pointing at a shiny surface, either shift the barcode to the side or top, or angle the barcode so that the glare reflects away from the imager scanner.**

Most imagers take several 'snap shots' of the barcode in order to decode it. It is normal for the LEDs to flash two or three times. Hold the unit steady between flashes to improve decode performance.

- Turn the Vehicle-Mount computer on. Wait until the unit has booted up completely.
- Aim at the barcode and press the scan key or the trigger. Hold the trigger until a successful or failed scan result is obtained.
- When the scan button or trigger is pressed, a red, oval shaped light (the framing marker) is displayed. Centre the framing marker in the field–either in the centre of the barcode you want to scan or in the centre of the area in which multiple barcodes are to be scanned.

The illumination LEDs will flash (typically several times) and a picture of the barcode is taken.

3.7 Windows Embedded CE 6.0

3.7.1 Navigating in Windows Embedded CE and Applications

Graphic user interfaces like Windows Embedded CE for portable devices and desktop Windows (2000, XP, etc.) utilize 'point and click' navigation. An equivalent keyboard shortcut is also available for every 'point and click' action.

Windows Embedded CE supports the same 'point and click' user interface and keyboard shortcuts as desktop Windows with one difference—the 'point and click' action is accomplished using a touchscreen rather than a mouse. Actions can be performed using any combination of keyboard shortcuts or touch-screen tapping. In those applications that support it, you can also flick and pan your finger to scroll through screens.

3.7.1.1 Navigating Using a Touchscreen

Note: *If the touchscreen is not registering your screen taps accurately, the touchscreen may need recalibration. Refer to "Calibrating the Touchscreen" on page 18.*

The 8516 comes equipped with a stylus—a pointing tool that looks like a pen. The stylus is used to select objects on the touchscreen. You can also use gestures with your fingers. You can use two gestures: pan and flick. Use left or right flicks to quickly move between tabs of a multi-tab control panel, or to scroll long lists of options. Use panning by touching and dragging a page that has scrollbars.

Note: *To prevent damage to the touchscreen, use only a finger touch or the stylus (pen) supplied with your 8516.*

To choose an icon, open a file, launch an applet or open a folder:

• Double-tap on the appropriate icon.

3.7.1.2 Navigating Using the Keyboard

If you would like to use keyed input to choose icons and navigating dialog boxes, displaying the desktop you can refer to Table 3.3 for a description of the navigation keys.

Table 3.3   Keyboard Navigation

Operation	Key or Key Combination
Switch between active applications	[ALT] [TAB]
Open task manager	[ALT] [ESC]
Move the cursor	Arrow keys
Open file, folder or icon	[ENTER]
Exit & Save	[ENTER]
Close/Exit & Do Not Save	[ESC]
Navigate Dialog Boxes	[TAB] To move cursor up [SHIFT] [TAB] To display the contents of the next 'tab' in a dialog box [CTRL] [TAB]
Select Radio Button/Press Button	[SPACE]
Go to Start Menu	[Windows]

Keep in mind that unlike a desktop computer, the 8516 does not support key chording (pressing two keys at the same time). You must press one key followed by the next in sequence.
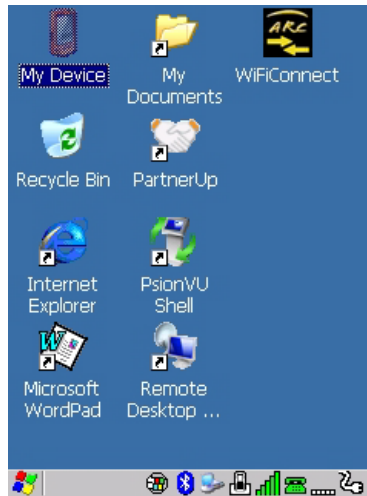
3.7.2 The Windows Classic Shell Startup Desktop

When the 8516 boots up, the default startup desktop (Windows Classic Shell) is displayed. Any applications stored in the Startup folder start up immediately.

> *Note: The startup folder is located in \Windows\StartUp and \Flash Disk\StartUp.*

Figure 3.4   8516 Windows Classic Shell Startup Desktop

To access desktop icons:

•   Double-tap on the icon to open a window or, in the case of an application icon, launch an application.

On the keyboard:

•   Use the arrow keys to highlight the icon, and press **[ENTER]** to launch the highlighted icon.

> *Note: If the arrow keys do not highlight the desktop icons, the desktop may not be selected. Press [Windows] to display the Start Menu, and select Desktop. Now the desktop will be "in focus" and the arrow keys will highlight the icons.*

3.7.2.1 The Taskbar
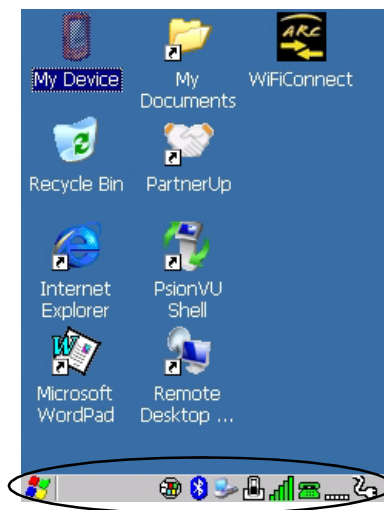
The 8516 is equipped with a taskbar at the bottom of the screen. It displays icons through which you can view the battery capacity and radio signal quality of your unit. In addition, the taskbar displays the application(s) currently running on your unit.

The taskbar also displays active modifier keys: [SHIFT], [ALT], [CTRL], [FN] and [SYM]. Keys that have been locked "on" are displayed with underlined letters. For example, if you have set the [CTRL] key lock to "on" in the Keyboard menu and you press the key, it is displayed as an underlined 'Ctrl' in the taskbar. (For detailed information on modifier keys and keyboard options, see "The Keyboard" on page 15).

3.7.2.1.1 Using the Taskbar

A tooltip is displayed as each taskbar icon is highlighted. The tooltip provides the status of each icon.

If you're using the touchscreen:

- Tap and hold on an icon to display the icon's tooltip. Double-tap the icon to open the Control Panel dialog box associated with the icon. For example, double-tap the battery icon to display a dialog box listing the current battery capacity information.

On the keyboard:

- Press **[Windows]** to display the *Start Menu*.
- Choose **Shortcuts** from the *Start Menu*, and then press the **[RIGHT]** arrow key to display the sub-menu.
- Choose **System Tray** in the sub-menu.
- Use the arrow keys to highlight the icon in the taskbar about which you'd like more information.
- Press **[ENTER]** to display the appropriate dialog box.

3.7.2.1.2 Customizing the Taskbar

To customize the taskbar so that it displays only those icons you require:

- In the *Start Menu*, choose **Settings**, and then **Taskbar**.

If you're using the keyboard:

- Press **[Windows]** to display the *Start Menu*.
- Highlight the **Settings** option, highlight **Taskbar** in the sub-menu, and press **[ENTER]**.

The *Taskbar and Start Menu* dialog box is displayed.

- Tap on the items you want to activate or deactivate. The check mark indicates active items.

If you're using the keyboard:

- Highlight the options you want to activate, and press the **[SPACE]** key to select them. A check mark indicates active items.

3.7.2.2 The Start Menu

The *Start Menu* lists the operations you can access and work with. It is available from the startup desktop or from within any application.

- To display the menu, tap on the **Start Menu**.

> **Note:** Tap on the item in the menu with which you want to work.

If you're using the keyboard:

- Use the arrow keys to highlight a menu item, and press **[ENTER]**, or

If the menu item has an underlined character:

- Type the underlined alpha character. For example, to display the *Run* dialog box, type the letter '**r**'.

3.7.2.2.1 Programs

- Choose **Programs** to display a sub-menu of options. The programs displayed will be those resident in the *Windows\Programs* folder of the computer.

Figure 3.5   Program Sub-Menu
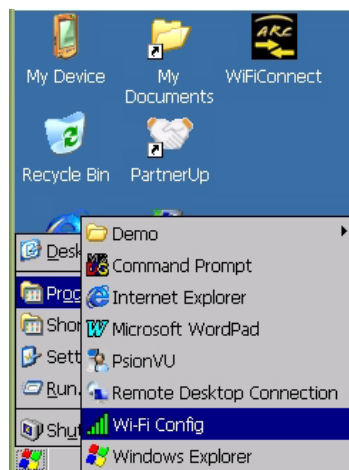
This sub-menu allows you to choose *Command Prompt*, *Internet Explorer*, installed applications (e.g., Microsoft WordPad), *PsionVU Access, Remote Desktop Connection*, *Wi-Fi Config*, or *Windows Explorer*.

Demo

This folder contains the *Scanner Demo*, *Demo Signature* and *Demo Sound* applications. *Scanner Demo* can be used to test how the Vehicle-Mount reads and writes barcodes. *Demo Signature* allows you to capture a signature written on the screen with your stylus and save it to a file. *Demo Sound* allows you to record and

playback sound files. The 'Sample Rate' and the 'Bits Per Sample' are the rates at which the sound will be recorded. Sounds recorded at the higher sample rate or bits per sample will be higher quality sound but will require more file storage space. Lower sample rates and/or bits per sample produces a smaller file, but the sound quality suffers. The record and play buttons operate the same as any recording device. The *X* icon deletes the sound and the *diskette* icon allows you to save your sound.

Command Prompt

Command Prompt is used to access the DOS command prompt. At the prompt, you can type DOS commands such as *dir* to display all the directories in the drive.

Internet Explorer

The 8516 is equipped with Microsoft Internet Explorer for Windows Embedded CE. You can access the *Internet Options* icon through the *Start Menu* under *Settings>Control Panel* or by double-tapping on the desktop icon **My Device** and then, double-tapping on the **Control Panel** icon.

Microsoft WordPad

WordPad is a basic word processor used to create, edit, and print *.f*, *.doc*, and *.t* files.

PsionVU Access

PsionVU Access allows you to change the appearance and actions of the desktop from the default Windows Classic Shell to the PsionVU shell.

Remote Desktop Connection

Remote Desktop Connection is an 8516 application used to connect to a Windows Terminal Server so that you can run a "session" on the Server machine using the Vehicle-Mount (Windows Embedded CE device). "Remote Desktop Connection" on page 85 provides a website with details about this option.

Wi-Fi Config

The *Wi-Fi Config* application is used to configure the 8516 802.11a/b/g/n radio for one or more wireless network profiles.

Windows Explorer

The Windows Explorer installed on your 8516 is consistent with all Windows Embedded CE devices.

3.7.2.2.2 Shortcuts

Figure 3.6   Shortcuts Sub-Menu

System Tray

If your touchscreen is not enabled, you can use the *System Tray* option to access the icons in the taskbar at the bottom of the screen. The taskbar displays indicators such as a radio signal icon. These indicators are attached to dialog boxes that provide additional information.

- Choose **Shortcuts>System Tray**.

When *System Tray* is chosen, the taskbar icons become accessible. To display the dialog box attached to an icon:

- Use the arrow keys to highlight an icon, for example, the *Bluetooth* icon.
- Press **[ENTER]** to display the *Bluetooth* menus.

Cycle Tasks

When *Cycle Tasks* is selected (and the Task Manager is not open), you can cycle through active applications.

To cycle through your active applications:

- Choose **Shortcuts>Cycle Tasks**, or
- Press [**ALT] [TAB]**.

Task Manager

The *Task Manager* allows you to switch to another task or to end an active task. To display the task manager window:

- Tap on **Shortcuts>Task Manager**, or
- Press **[ALT] [ESC]**.

3.7.2.2.3 Settings

The **Settings** sub-menu includes the following settings: *Control Panel*, *Network and Dial-up Connections* and *Taskbar and Start Menu*.

Figure 3.7   Settings Sub-Menu

Control Panel

The *Control Panel* contains applets used to configure hardware, the operating system and the shell. If your 8516 is running with the Psion Open TekTerm application or another application, additional configuration applets may appear in the *Control Panel*.

Network and Dial-Up Connections

The *Network and Dial-up Connections* window allows you to configure the 8516 network interfaces or execute an existing configuration. Refer to "Connectivity" on page 12 for radio setup details.

Taskbar and Start Menu

The *Taskbar and Start Menu* option displays a dialog box in which you can customize the taskbar, choosing which options will be displayed. Refer to "Customizing the Taskbar" on page 26 for additional details about this option.

3.7.2.2.4 Run

Choosing the *Run* option from the *Start Menu* displays a dialog box in which you can enter the name of the program, folder or document you want to open or launch.

3.7.2.2.5 Shutdown

The *Shutdown* menu includes these options: *Suspend, Warm Reset* and *Cold Reset*.

Suspend

The *Suspend* option suspends the 8516 immediately. This is equivalent to turning the Vehicle-Mount off.

Warm Reset

The *Warm Reset* option resets the Vehicle-Mount, leaving all saved files and registry settings intact. Any unsaved data is lost.

Cold Reset

The *Cold Reset* option resets the Vehicle-Mount (see page 11). Any files not stored in permanent memory are lost; however, the registry settings are saved.

3.8   The PsionVU Desktop Shell

The appearance and actions of the desktop can be changed by tapping on the **PsionVU Shell** icon on your desktop, which activates the PsionVU shell.

Note: The 8516 will be reset if you choose to switch shells.

Figure 3.8   Switch to PsionVU Shell
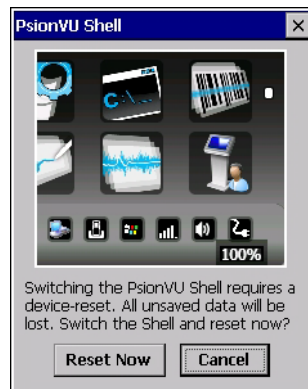
After resetting the 8516, the desktop appearance will be very different. The programs are accessed with finger (or stylus) taps and swipes. If there are more applications than shown on one screen, a white animated dot will be present on the side of the screen in the direction of the next set of icons. Swiping the screen to that direction will move the display to the next screen.

*Note: Although the Desktop appearance defaults to the "Ingenuity" theme, the theme is not changed using the **PsionVU Shell** icon. To change themes, open the Shell Settings>Advanced menu in **PsionVU Access** (see "Shell Settings" on page 81).*

Hold the stylus or your finger on the Active Tasks, Favourites, or Notifications Bar, and swipe to the left or right to switch to the next screen.
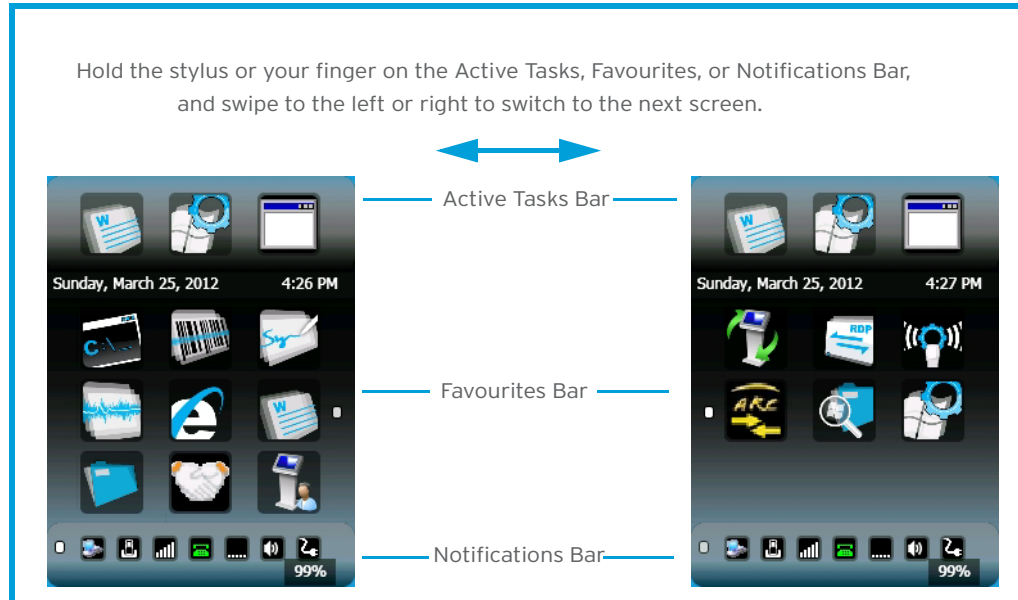
A different program, *PsionVU Access*, enables you to customize your computer settings, remove or add shortcuts to the Favourites Bar and Control Panel, and limit access to various different components on the computer and the system tray icons for security. For details see "PsionVU Access" on page 79. To change your Desktop background, refer to "Shell Settings" on page 81.

Active Tasks Bar

Open applications are shown in the top bar—the most recently opened is the first icon on the left. Tapping once on a program icon will maximize the application. This feature replaces the Task Manager of the Windows Classic Shell.

Date/Time Bar

Tapping once on the date or time will open the *Date/Time Properties* settings to enable you to change your settings and time zone.

Favourites Bar

The *Favourites Bar* replaces the Windows Classic Shell's Desktop and Start Menu. These icons are the program shortcuts from your *Windows\Start Menu*. Tapping once will open the program. If you tap and hold on an icon, the application name is displayed.

Notifications Bar

This bar shows the run-time program notifications for *Battery*, *Volume*, *Wi-Fi*, *Phone* or *GPRS*, and other notifications for the programs you are running. This feature replaces the Taskbar of the Windows Classic Shell.

Desktop Minimized View

When an application is opened and maximized, the desktop view is minimized and the *Notifications Bar* is shown at the bottom of the screen. Tapping anywhere on the **Notifications Bar** (except on the SIP) will restore the PsionVU desktop.

*Note: In order to use the SIP, turn on the automatic settings in **Control Panel>Input Panel**.*

PsionVU Access

The *PsionVU Access program* allows you to open a different program, *PsionVU*, which enables you to customize your computer settings, remove or add shortcuts to the Favourites Bar and Control Panel, and limit access to various different components on the computer and the system tray icons for security. For details see "PsionVU Access" on page 79. To change your Desktop background, refer to "Shell Settings" on page 81.

To open PsionVU:

- Tap on the **PsionVU Access** icon in the *Favourites Bar*.

3.8.1 Restoring the Windows Classic Shell

The default Desktop appearance and actions can be restored by tapping on the **PsionVU Shell** icon in the *Favourites Bar*.

Figure 3.9   Shell Switch to Windows Classic Shell Desktop
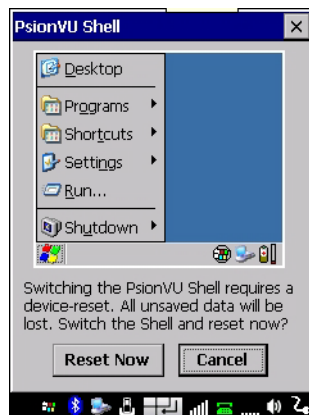
Note: The 8516 will be reset if you choose to switch shells.

3.9   General Maintenance

3.9.1 Caring for the Touchscreen

The touchscreen is covered with a thin, flexible polyester plastic sheet with a conductive coating on the inside. The polyester can be permanently damaged by harsh chemicals and is susceptible to abrasions and scratches. Using sharp objects on the touchscreen can scratch or cut the plastic, or crack the internal conductive coating. The chemicals listed below must not come into contact with the touchscreen:

- mustard
- ketchup
- sodium hydroxide
- concentrated caustic solutions
- benzyl alcohol
- concentrated acids

If the touchscreen is used in harsh environments, consider applying a disposable screen protector (RV6105). These covers reduce the clarity of the display slightly but will dramatically extend the useful life of the touchscreen. When they become scratched and abraded, they are easily removed and replaced.

Do not to expose the touchscreen to direct sunlight for prolonged periods of time. If this is unavoidable, use a UV screen protector to extend the life of the screen.

3.9.2   Cleaning the 8516

Important: *Do not immerse the unit in water. Dampen a soft cloth with mild detergent to wipe the unit clean.*

To prevent damage to the touchscreen, use only your finger or the stylus (pen) supplied with your 8516.

- Use only mild detergent or soapy water to clean the Vehicle-Mount unit.
- Avoid abrasive cleaners, solvents or strong chemicals for cleaning. The 8516 has a plastic case that is susceptible to harsh chemicals. The plastic is partially soluble in oils, mineral spirits and gasoline. The plastic slowly decomposes in strong alkaline solutions.
- Exposure to aircraft de-icing fluids can degrade the plastics on 8516. If the 8516 is used near aircraft de-icing environments, regular rinsing with water is recommended.
- To clean ink marks from the keypad and touchscreen, use isopropyl alcohol.

4 CONFIGURATION

4.1 Overview of Software

The 8516 programs and applications are accessed through two main areas from the Desktop: *Programs and Settings>Control Panel*. This chapter details the configuration for the major software from both areas, listed alphabetically.

4.1.1 Psion Software Advantage

Psion Software Advantage is a collection of applications and features designed to support system administrators and end users. These tools enable enterprises to customize the product to meet their needs and to maximize productivity.

AGPS	PsionVu
App Launch Keys	TweakIt
Battery Health	Scanner
Bluetooth Manager	Total Recall
Dr. Debug	Manage Triggers
PartnerUp	WiFi Config
WiFiConnect A.R.C.	

4.1.2 Microsoft Software

Windows CE 6.0 R3 is a 32-bit, real-time, multitasking Operating System. The OS features a small footprint, with compatibility to port existing Win32 applications and Touch & Gesture support.

Some of the major WCE 6.0 R3 components are:

Control Panel, where both Psion Advantage and Microsoft applications are grouped
Flash Lite
Internet Explorer Embedded
Microsoft WordPad
Remote Desktop Connection
Windows Explorer

4.2 The Control Panel

The Windows Embedded CE *Control Panel* provides a group of applications through which you can set a variety of system-wide properties, such as power, keyboard sensitivity, network configuration, system backup, desktop appearance, and so on.

When the 8516 boots up, the startup desktop (Windows Classic Shell) is displayed, and any applications stored in the Startup folder start up immediately.

To access the *Control Panel*:
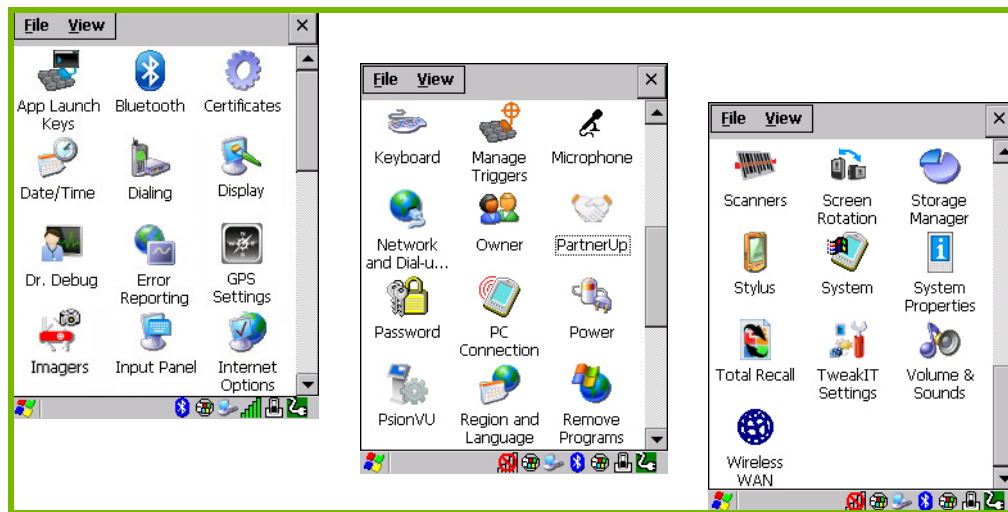
• Press **[Windows]** to display the *Start Menu*.
• Tap on **Settings**>**Control Panel**.

If you're using the keyboard:

• Press **[Windows]** to display the *Start Menu*.
• Highlight **Settings** in *Start Menu*, and press the [RIGHT] arrow key to highlight the *Control Panel*.
• Press the **[ENTER]** key.

The *Control Panel* folder contains icons used in the setup of your 8516.

Figure 4.1   Control Panel Icons

4.2.1   Control Panel Applications

The *Control Panel* provides a group of applications that allow you to customize and adjust settings on your 8516. This section shows the related icons in the Control Panel and gives a brief description of each.

App Launch Keys

By mapping keys to applications using this program, you can then launch those applications from a single key-press.

Bluetooth

Opens the Bluetooth Manager which provides options for configuring various Bluetooth peripherals. It also provides the capability to use a *Bluetooth*-enabled cellular phone as a data modem to exchange information with other *Bluetooth* devices and provide network access.

Certificates

This program provides access to the Certificates Manager and Stores. The Certificates Manager displays the Certificates in the Windows Certificates Store, and allows you to import, delete, and view these certificates. "Certificates" on page 53 directs you to the appropriate setup information.

Date/Time

Allows you to set the current Month, Date, Time, and Time Zone on your unit.

Dialing

Specifies dialing settings, including area code, country code, dial type and the code to disable call waiting. You can store multiple patterns–for example, 'Work', 'Home', and so on using this dialog box.

Display

Changes the display backlight and the appearance (colour scheme) on the unit desktop.

Dr. Debug

Provides both error diagnostic and troubleshooting tools.

Error Reporting

Allows you to enable or disable Microsoft error reporting prompts.

GPS Settings

Allows you to enable and configure GPS operation.

Input Panel

Provides the framework for a Microsoft Soft Input Panel (SIP) should you need to design your own SIP, or change some soft keyboard options.

Internet Options

Provides options to configure your Internet browser. You can determine items such as the default and search page that the browser applies when connecting to the Internet, the cache size, the Internet connection options, and the security level that is applied when browsing.

Keyboard

Toggles character repeat on and off and specifies delay and rate for repeated characters. It also allows you to adjust the keyboard backlight threshold and intensity, and many other functions.

Manage Triggers

This utility allows you to define buttons as triggers for different devices. For example you would use this utility to configure a button for the scanner, or RFID reader.

Microphone

Enables you to adjust the gain for the specific microphones associated with your Vehicle-Mount.

Network and Dial-up Connections

Displays network interfaces and allows new dial-up and VPN interfaces to be created. It also allows Windows configuration of the interface. Refer to "Connectivity" on page 12 for details.

Owner

Provides fields in which you can specify owner information. A *Notes* tab allows additional information to be entered and displayed when the unit is powered up. *Network ID* tab information is used to access network resources. (This information should be provided by your System Administrator.)

PartnerUp

This app displays a number of pre-loaded applications. By tapping on an application in the list, you are taken to the associated web site and allowed to install the application.

Password

Allows you to assign a password to restrict access to elements of the unit. Once assigned, password access cannot be circumvented so it is important that you write down your password and keep it in a safe place.

PC Connection

Enables direct connection to a desktop computer (or through ActiveSync—see "Data Transfer between 8516 and a PC" on page 54). Selecting the *Change Connection* button allows you to change the type of direct connection to your PC.

Power

Displays battery pack power status. (Alternately, battery status can be accessed through the taskbar.) Additional tabs allow you to determine suspend states and specify a suspend threshold.

PsionVU

PsionVU enables you to customize your computer settings, remove or add shortcuts to the desktop and Control Panel, and lock down access to various different components on the computer and the system tray icons for security. With *PsionVU* and *PsionVU Shell* (see "The PsionVU Desktop Shell" on page 31) you can customize the entire look and feel of your User Experience.

Region and Language

Allows you to specify the local language that is to be displayed on the Vehicle-Mount screen along with the format of numbers, currency, time and date for your region.

Remove Programs

Lists the programs that can be removed from your unit. To remove a program, select it and then click on the **Remove** button.

Scanners

Provides scanner parameters and the barcode symbologies that the 8516 barcode scanner will successfully read.

Storage Manager

Allows you to view information about the storage devices that are present, such as SD-MMC flash cards. For details, see page 92.

Stylus

Adjusts how Windows Embedded CE recognizes your double-tap (as slow or rapid successive taps). In the *Calibration* tab, you can recalibrate your touchscreen by tapping on the **Recalibrate** button and following the directions on the screen.

System

You can display the system and memory properties, as well as create your device name. In the *Memory* tab, you can allocate memory between storage memory and program memory.

System Properties

Identifies the computer's software and hardware components, indicating which components are installed, their version or pa numbers, and whether they are enabled or disabled.

Total Recall

Provides access to a backup\restore and deployment utility to maintain applications and settings over cold reboots and for multiple devices.

TweakIt

Allows you to change Advanced System Settings (interface, network, and servers), User System Settings (display font size), and provides the Registry Editor.

Volume & Sounds

Allows you to adjust the volume of the sound emitted to indicate events like warnings, key clicks, and screen taps. You can also configure system (Windows) sounds and *.wav* files.

Wireless WAN

Provides access to technology like GSM/GPRS, which allows wide area networking capability such as internet browsing via GSM/GPRS. It also provides access to the Phone API. For detailed information, see Appendix E: "Wireless Wide Area Network (WWAN) Settings".
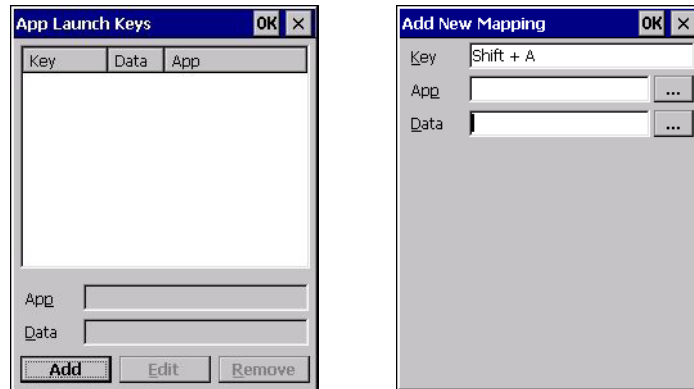
4.3   App Launch Keys

The *App Launch Keys* icon allows you to map a key to an application so that you can then launch the application from a single key-press.

- In the *Control Panel*, choose the **App Launch Keys** icon.
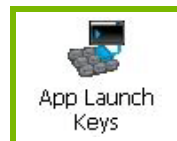
To assign an application key:

- Tap the **Add** button.

- Press the key you want to use to launch an application. (If an unsupported key is pressed, a message appears on this screen letting you know.)

The cursor moves to the *App* field and a new screen is displayed where you can choose the application to which you want to assign the application key. If you need to, you can *Browse* through the information in your 8516 until you locate the application you want to launch.
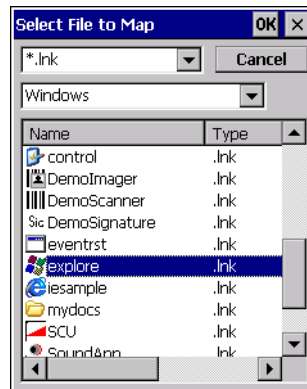
- Once you've selected the file you want to map, tap on **OK**.

The cursor moves to the *Data* field. You can use this field if you need to need to define command line parameters for your application. If you don't want to assign any parameters, you can leave the *Data* field blank. If, for example, you want to assign an application launch key to launch the *WordPad* application, you can leave this field blank. If you want to assign an application launch key that will open a specific document in the *WordPad* application, you need to browse to and choose that document while the cursor is in the *Data* field.

- Tap on **OK**.
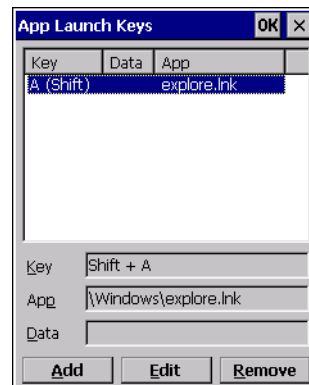
- If you need to Edit, Remove or Add another *App Launch Key*, you can do it from this final screen. Otherwise, tap on **OK** to save your *Application Launch Key*.

• To launch the application you chose, press the application key you assigned.

4.4 *Bluetooth*® **Setup**

Bluetooth is a global standard for wireless connectivity for digital devices and is intended for Personal Area Networks (PAN). The technology is based on a short-range radio link that operates in the ISM band at 2.4 GHz. When two *Bluetooth*-equipped devices come within a 10 metre (32 ft.) range of each other, they can establish a connection. Because *Bluetooth* utilizes a radio-based link, it does not require a line-of-sight connection in order to communicate.

It is possible to communicate with a variety of *Bluetooth* peripherals, including GSM/GPRS handsets, scanners, printers, and so on.

Psion provides built-in support for:

• GSM/GPRS universal handset
• *Bluetooth* printer
• *Bluetooth* headset

Keep in mind that *Bluetooth* and IEEE 802.11g radios both operate in the 2.4GHz band. Although the 8516 includes features to minimize interference, performance of the system will not be optimal if you use both radios simultaneously. Typically, when both radios operate in the Vehicle-Mount at the same time, they cannot transmit simultaneously—this has a negative impact on overall system throughput. To minimize the impact on the backbone 802.11 network, Psion recommends using *Bluetooth* peripherals that have low transaction rates (such as printers and scanners).

Bluetooth peripherals are configured by choosing the **Bluetooth** icon in the *Control Panel*. In addition, review the manual shipped with your *Bluetooth* device to determine the method used to associate with the 8516 host.

> *Note:* *The* **Bluetooth** *radio uses an internal antenna.*

• In the *Control Panel*, choose the **Bluetooth** icon to display the **Bluetooth** *Manager* screen.

The **Bluetooth** *Manager* allows users to search, pair and connect to other *Bluetooth* devices within their personal area network.

The *Bluetooth* radio is disabled by default. Before you begin the setup process:

• Tap on the **Mode** tab, and tap in the checkbox next to *Turn on* **Bluetooth**. Tap on **OK**.

When the radio is enabled, a *Bluetooth* icon appears the taskbar at the bottom of the screen. It is ready for setup.

4.4.1 **Paired**

This tab lists all paired devices and their corresponding services. The format of the name is ‹Device Name›:‹Service Name›. Additional information may appear in this screen such as the Port Numbers for Serial Profiles service.
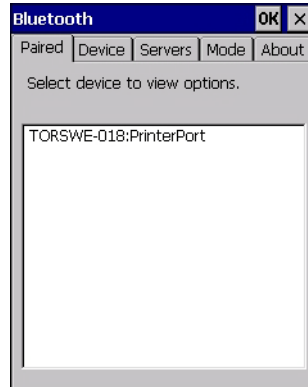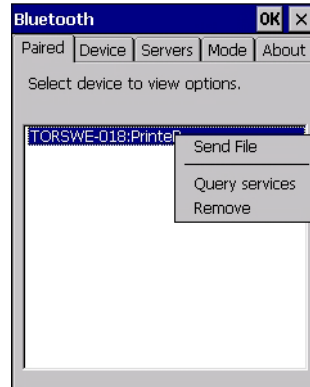
To learn how to scan for devices to pair, review "Device" on page 46.

Note: If a service is actively paired and connected, the device and its services are displayed in bold typeface in this list.

- Tap on an item in the *Paired* tab to display an associated pop-up menu.

The displayed menu depends on the type of the service chosen.

Query Services and Remove Commands
- *Query Services* displays a *Services* dialog box where a pairing service is chosen.
- *Remove* unpairs the highlighted service and deletes the entry from the tab.

OBEX OPP (Object Exchange-Object Push Profile) Commands
The *OPP* defines two roles—a *Push Server* and a *Push Client*. *Push Server* is the device that provides an object exchange server. *Push Client* is the device that pushes and pulls objects to and from the *Push Server*.

OBEX OPP contains the following unique menu option:
- *Send File* displays an *Open File* dialog box where the file to be sent can be selected. When the transmission begins, another dialog box tracks the progress of the file transmission.

HSP/HFP (Headset Profile/Hands-Free Profile) Service Commands
The *HSP (Headset Profile)* allows users to connect their device to *Bluetooth* enabled headsets and other audio devices.

HSP/HFP services provide the following unique menu options:
- *Connect Audio* establishes an audio connection to the *Bluetooth* headset.
- *Disconnect Audio* disconnects the audio connection from the *Bluetooth* headset.
- *Volume Control* displays a dialog box where the headset and microphone volume can be adjusted.

4.4.2 Device

In this tab, users can discover and display *Bluetooth* devices.

4.4.2.1 Discovering and Removing Devices

Scan discovers *Bluetooth* devices in range of the 8516 and lists them in this tab. Any existing devices previously discovered and listed will also be displayed.

Clear removes all *Bluetooth* devices listed except those with currently paired and connected services.

Note: To limit the number of devices listed to a particular type of device, refer to "Filtering By Class of Device (COD)", next section.

4.4.2.2 Filtering By Class of Device (COD)
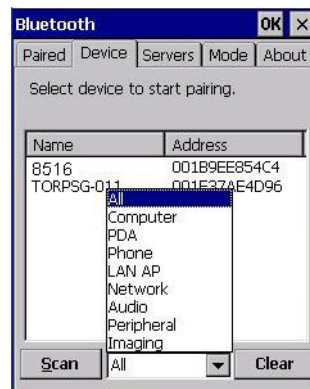
This menu allows you to filter the displayed devices by their COD. If, for example, you choose **Computer** from this menu, only the devices that have the matching *Computer* COD value will be displayed. Choosing *All* lists all detected devices.

4.4.2.3 Device Pop-up Menu

The *Device* pop-up menu allows you to pair a device, update a device name or delete a device from the list.

Pair begins the pairing process by inquiring the services and profiles of the discovered device. An *authentication* dialog box is displayed the first time a *Bluetooth* device is paired.

Refresh Name repeats the device name inquiry, updating the name. This command is useful if a device is listed without a name (unknown), or if a device name has been changed remotely.
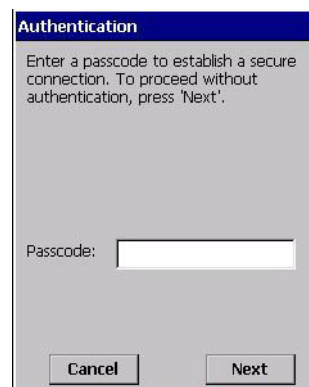
Delete removes this device from the list.

4.4.2.4 Pairing a Device

To pair devices:

- Follow the manufacturer's instructions to place the remote device in pairing mode.
- Choose the **Devices** tab and **Scan** for devices in your area.
- When the scan is complete, tap on the **device** to which you want to pair.
- In the pop-up *Device* menu, tap on **Pair**.

An *Authentication* dialog box is displayed.

- If the remote device has authentication enabled, type the PIN in this dialog box.
- To proceed *without* authentication, tap on **Next**.

After entering the device *PIN*, the *Services* dialog appears with a list of services available for that device.
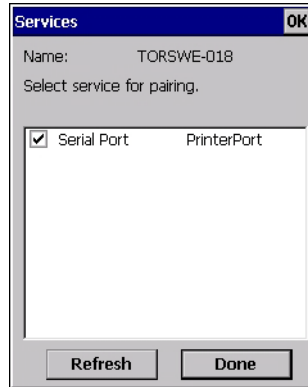
- Click in the checkbox to the left of the service to activate it.
- Click on **Done**.

Services that require more information present a configuration dialog box. *Serial Profile* is an example.
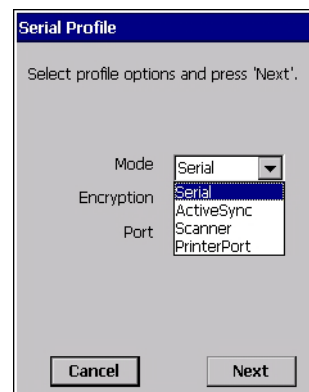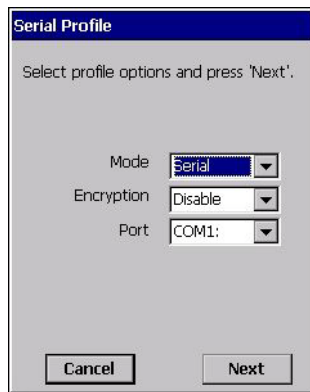
This dialog box offers a number of additional options such as enabling *Encryption* and selecting four different *Modes*: *Serial*, *ActiveSync, Scanner*, and *Printer Po*rt.

Serial is used for simple serial port communication.

ActiveSync is for ActiveSync-over-*Bluetooth*.

Scanner is used to create a connection to a barcode scanner. A serial connection is created, then the *Scanner Services* is notified of the connection so that the incoming barcode scan will be forwarded to *Scanner Services* directly.

Printer Port must be chosen here if you want to communicate with a paired *Bluetooth* printer. For further details, see "Mode" on page 49.

- Once you've completed the information, tap on **Next** and then in the *Services* screen, click on **Done**.

4.4.3   Servers

When a remote *Bluetooth* device initiates a *Bluetooth* connection to the 8516, the remote device is considered the '*Bluetooth* master' and the Vehicle-Mount, the '*Bluetooth* slave'. In order for the remote device to connect to the Vehicle-Mount, the 8516 must offer a service in the form of a server. The *Servers* tab allows these services to be enabled and configured. There are three server services available: *Serial*, *Scanner* and *OBEX OPP*.

Serial server enables the Serial Port Profile server; a Serial Port can be selected from the drop-down menu.

You can assign either a BSP or a COM prefix from the drop-down menu. BSP (*Bluetooth* Serial Port) was created by Microsoft to allow *Bluetooth* to have its own serial prefix in order to free up virtual COM prefixes as these are limited and are widely used.

Note: Even after a Serial Port Profile server is created, an application must open the created port before a remote device can connect.

Scanner server enables a Serial Port Profile server and then relays it to the Scanner Service (SCS). This is used for *Bluetooth* barcode scanners that operate in client mode. SCS opens the server port and handles the scanner input.

OBEX OPP server enables the Object Push Profile server. A warm reset must be performed on the 8516 after a change is made to this option. The OPP Server allows other *Bluetooth* devices to send files to this device.

•   Tap on the checkbox to activate the server.

4.4.4   Mode
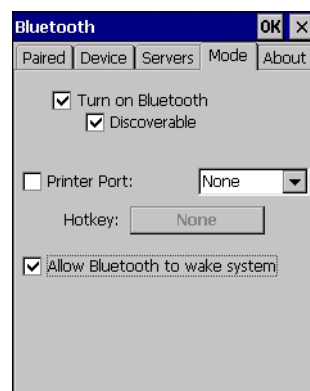
***Turn on*** *Bluetooth* activates the *Bluetooth* radio.

Discoverable determines whether the 8516 is visible or invisible to other devices.

Printer Port allows you to assign and enable a virtual outgoing COM port selected from the drop-down menu to communicate with a paired *Bluetooth* printer. Keep in mind that when a port is chosen, the printer must be on and connected to the chosen port for a remote device to be able to connect.

- Select a port within the *Printer Port* drop-down list, e.g. **BSP1:**
- Check the *Printer Port* check box.
- Open the *Device* tab and tap on **Scan**.
- Tap-and-hold each *Bluetooth* Printer device entry and then select **Pair**, key-in the Passcode (if needed) and then tap **Done**. DO NOT select any services!
- Close the *Bluetooth* Manager.
- Select the *Bluetooth* device to print to—you will need to key-in (or programmatically raise) the following key sequence [CTRL] [ALT] [F1].
- You can now select the *Bluetooth* device to which you wish to print.

Allow Bluetooth to wake system allows remote *Bluetooth* devices to wake the 8516 by requesting a *Bluetooth* service that requires host intervention. This feature can also be used when the 8516 is waking from suspend to significantly to reduce the initialization time of the *Bluetooth* system.

4.4.5 About
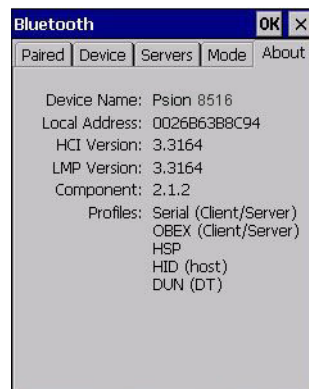
Device Name displays the broadcasted name of the Vehicle-Mount. The name can be changed in the *System Properties* applet: *Start>Settings>Control Panel>System icon>Device Name tab*.

Local Address displays the MAC address (BD_Addr) of the *Bluetooth* chip.

HCI Version & LMP Version display the version of the chip firmware.

Component indicates the version of the Psion *Bluetooth* Subsystem (the manager, drivers, etc).

***Profiles*** lists the supported profiles on this specific 8516.

4.4.6 The Bluetooth GPRS WAN Connection

The following steps describe how to set up an Internet data connection using a GSM cellular telephone with *Bluetooth*. The 8516 communicates via *Bluetooth* to the cell phone, which then accesses a WAN (Wide Area Network) and transfers data using GPRS.

1. Enable the *Dial-Up Networking service* in the cell phone.
2. Make the phone *discoverable*.
3. Pair the phone service with the 8516 Dial-Up Networking service using the *Bluetooth Manager*. (For instructions on pairing devices, refer to "Pairing a Device" on page 47.)
4. To set up the Internet parameters, choose the **Network And Dial-up Connections** icon from the *Control Panel*.
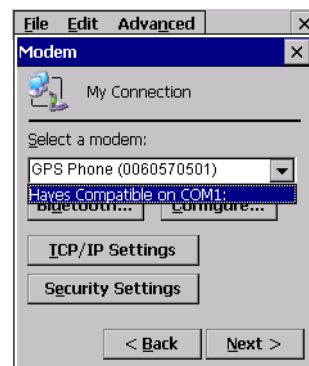
5. Tap on **Make New Connection**.
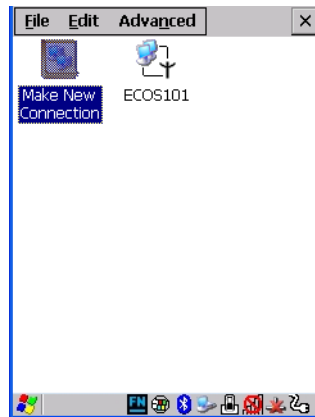
6. In the *Make New Connection* dialog box, choose **Dial-Up Connection**. Enter a name for your GPRS network connection.
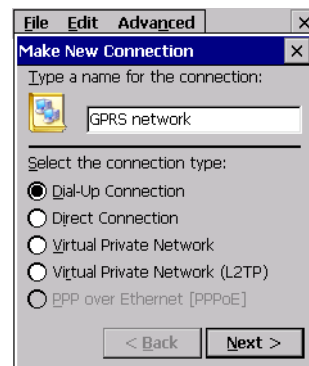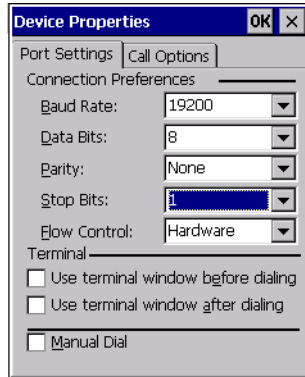
7. Choose the **Next** button to display the *Modem* dialog box.

8. In the drop-down menu labelled *Select a modem*, choose the name of the modem with which you want to connect, and then choose the **Configure** button to display the *Device Properties* dialog box.

   The 8516 communicates via *Bluetooth* to your *Bluetooth* equipped cellular telephone and retrieves the parameters for the *Device Properties* dialog box. 8516 then disconnects.

9. Under the *Call Options* tab, turn off **Cancel the call if not connected within,** and press [ENTER] to save your changes.
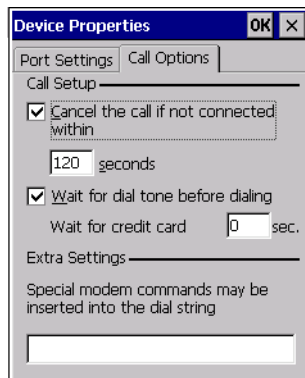
10. In the *Modem* dialog box, choose the **Next** button to display the *Phone Number* dialog box.

The phone number you enter is network carrier dependent. Once you've specified all the necessary information, choose the **Finish** button.

11. In the *Control Panel*, choose the **Dialing** icon.

12. The values in the *Dialing Properties* dialog box need to be edited according to your network carrier specifications.

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Once you've edited this dialog box to reflect your network carrier requirements, press **[ENTER]** to save your changes.

13. At this point, return to the *Control Panel,* and choose the **Network and Dial-up Connections** icon.

14. In the network connection window, the new network configuration—in this case, *New Connection* is displayed. Tap on the **new** icon.
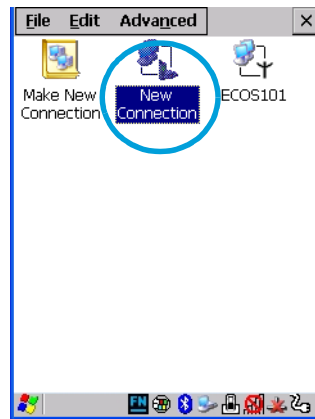
When you tap on your new connection, an onscreen message indicates the status of your connection: *connected*, *disconnected*, *error messages*, and so on.
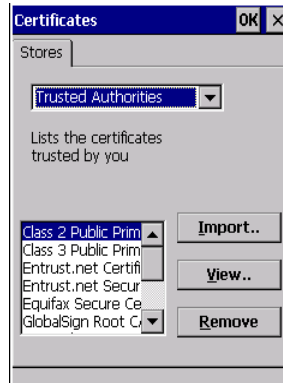
4.5   Certificates

This program provides access to the Certificates Manager and Stores. The Certificates Manager displays the certificates in the Windows Certificates Store, and allows you to import, delete, and view these certificates. 8516 checks that the certificate has been digitally signed by a certification authority that the 8516 explicitly trusts. This option is used in conjunction with 802.1x authentication to enhance 8516 security.

• In the *Control Panel*, choose the **Certificates** icon.

Your 8516 has certificates preinstalled in the computer. *My Certificates* is the repository for the device's personal certificate store, *Other Authorities* is the repository for the intermediate certificate store, and *Trusted Authorities* is the repository for the Trusted Root certificate store.

You can import or remove certificates, and view certificate information for any listing, including names, dates, serial numbers, etc.

For a detailed description about Certificate setup for both the server and client-side devices (8516 Vehicle-Mount Computers), refer to the following website:

http://www.microsoft.com/windowsserver2003/techinfo/overview/security.mspx

4.6   Data Transfer between 8516 and a PC

Data transfer options vary slightly depending on the type of operating system installed in your PC.

For Windows XP SP2 operating systems or earlier, Microsoft® ActiveSync® connectivity software can be used to connect your 8516 to PCs.

If the Windows Vista® , Windows 7 or later, operating system is installed in your PC, ActiveSync is not required to transfer data between your 8516 and your PC.

You can connect to a PC with a cable and:

- View 8516 files from Windows Explorer.
- Drag and drop files between the 8516 and the PC in the same way that you would between PC drives.
- Back up 8516 files to the PC, restore them from the PC to the Vehicle-Mount again, etc.

4.6.1   Using Microsoft ActiveSync

Note: If you use a serial port to connect devices like the 8516 to your desktop computer, the connection may not succeed because ActiveSync has trouble connecting at non-default baud rates.

To work around this problem, set the ActiveSync baud rate on the desktop to use the same baud rate as the device. You can set the baud rate by editing the registry on the desktop host computer, as detailed in the steps outlined at the following website:

http://suppo.microsoft.com/kb/324466

To install ActiveSync, follow the step-by-step instructions provided with the program's setup wizard. For details, go to the following website and type the name into the search box:

http://www.microsoft.com/downloads/en/default.aspx

4.6.2   Using Windows Mobile Device Center

If you are running *Windows Vista*, *Windows 7,* or later, your data transfers do not require ActiveSync. Instead, you will need to download *Windows Mobile Device Center*. For instructions, go to the following website and type the name into the search box:

http://www.microsoft.com/downloads/en/default.aspx

To transfer data between your PC and your Vehicle-Mount:

- Tap on **Start>Computer** to display the drives. The 8516 will be visible here.
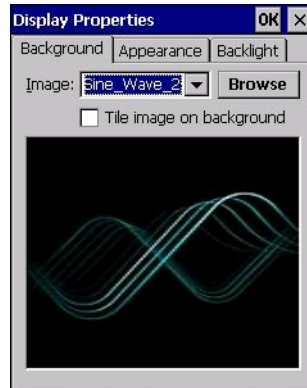- Open drives, files and folders as you would on your PC.

4.7   Display Properties

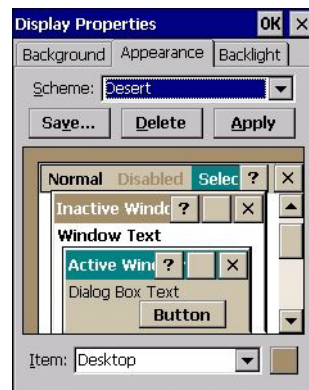- In the *Control Panel*, choose the **Display** icon.

4.7.1   Background

- In the *Display Properties* dialog box, open the **Background** tab. This dialog box allows you to customize your background image.

4.7.2   Appearance

- In the *Display Properties* dialog box, open the **Appearance** tab. This dialog box allows you to customize the display colour scheme.
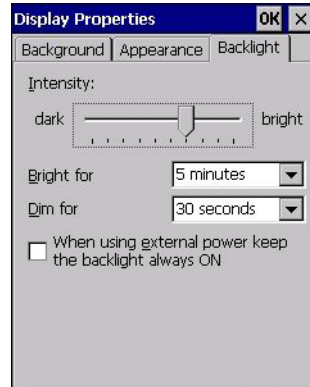

4.7.3   Backlight

The backlight is activated for a configurable amount of time. The *Display Properties* dialog box in the *Control Panel* allows you to specify the intensity of the backlight along with how long the backlight remains on when the unit is not in use (no key press, scanner trigger, etc.).

Note: Keep in mind that this option may be restricted to supervisory use only.

- In the *Display Properties* dialog box, open the **Backlight** tab.

Note: Backlight changes take effect immediately. You do not need to reset the unit.

To maximize battery run time, keep the display backlight brightness and active durations as low as possible.

Intensity

This parameter is used to adjust the light intensity of the 8516 backlight. Sliding the bar to the left lowers the light intensity, and sliding it to the right raises the intensity.

Bright For

The value chosen from this drop-down menu determines the duration of time that the backlight stays on at the configured intensity after the last user action (keypress, scan trigger).

Dim For

The value chosen from this drop-down menu determines the duration of time that the backlight stays on at half the configured intensity (dimmed backlight) after expiration of the Bright For delay and as long as no user action takes place (such as a keypress or scan trigger). At the expiration of the Dim For duration, the display backlight shuts off.

External Power Checkbox

When you select the checkbox next to *When using external power keep the backlight always ON*, the back-light remains ON at the configured intensity when the 8516 is operating with external power (not battery power). If the 8516 is drawing power from its battery, this option is ignored and the other parameters defined in *Display Properties* dialog box take effect.
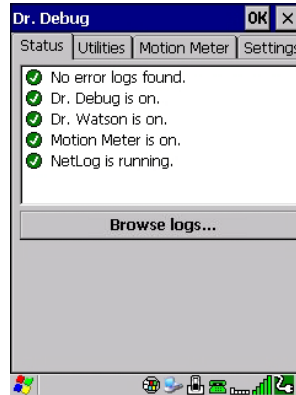
4.8   Dr. Debug

Dr. Debug is an error diagnostic and troubleshooting tool.

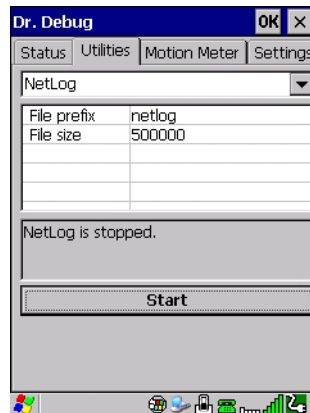- Tap on **Start>Settings**>**Control Panel**. Tap on the **Dr. Debug** icon.
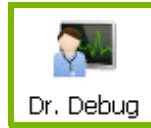
4.8.1   Status

This tab indicates the status (on/off) of the debug engines. Tapping on **Browse logs** displays error logs for your review. The logs should be used as reference when working with Psion Technical Support personnel.

4.8.2   Utilities

The *Utilities* tab is used to log network traffic. When you tap on the **Start** button, debug data is collected so that, if necessary, it can be forwarded to a Psion technician for evaluation.

4.8.3   Motion Meter
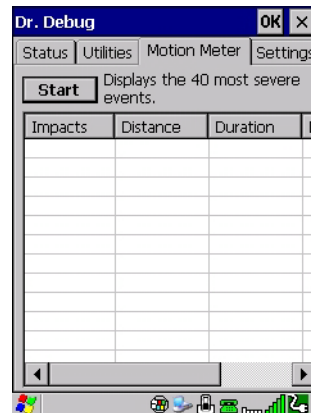
Tapping on the *Start* button enables the *Motion Meter* feature. Once enabled, this applet records the number of impacts the 8516 has sustained, the distance of the fall in meters, the duration in 10^{ths} of a second, and the date and time that the event occurred. The top 40 events are logged in a non-volatile location and can be used for diagnostic purposes by Psion or the site administrator.

4.8.4   Settings
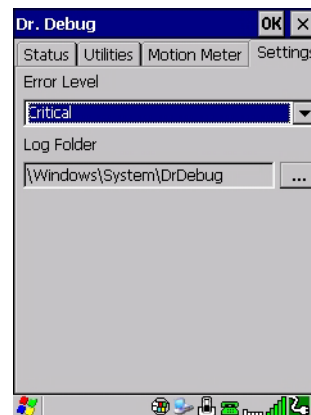
- Choose an **Error Level** from the drop-down menu.
- To change the location where debug information will be stored, tap on the button to the right of the *Log Folder* option.
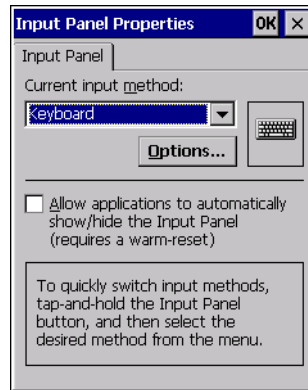
4.9   Error Reporting

Error Reporting allows you to enable or disable Microsoft error reporting prompts.

- Tap on **Start>Settings**›**Control Panel**›**Error Reporting** icon to access your options.

To customize the appearance and behaviour of the soft keyboard:

Tap on the **Input Panel** icon in the *Control Panel*.
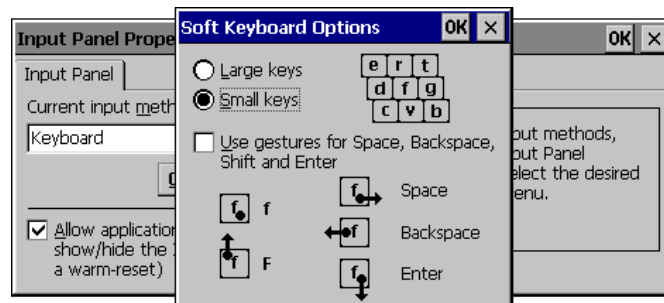
Figure 4.2   Input Panel Properties

• Tap on the Options button to change the appearance of your soft keyboard.

ⓘ *Note: You can also display this dialog box by double-tapping on the Input icon in the far-right cor-
ner of the taskbar.*

Figure 4.3   Soft Keyboard Options

4.11.1   Keyboard Properties

This icon displays the *Keyboard Properties* dialog box in which you can adjust the repeat rate of the keys, the intensity of the keyboard backlight and the behaviour of the [FN] and [SYM] modifier keys. This dialog box also allows you to define macro keys and Unicode characters.

• In the *Control Panel*, choose the **Keyboard** icon.
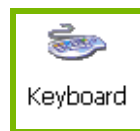
4.11.1.1   Key Repeat

ⓘ *Note: These settings apply when a key is held down continuously.*

• In the *Keyboard Properties* dialog box, open the **Repeat** tab.

Repeat Delay

The value assigned for this parameter determines the delay in milliseconds between repeat characters. Sliding the *Repeat Delay* bar to the left increases the delay between key repeats, and sliding the bar to the right shortens the repeat delay time.
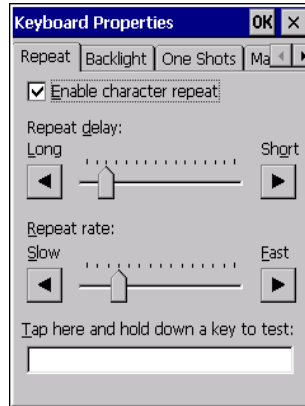
Repeat Rate

The value assigned for the *Repeat Rate* parameter determines how quickly the key you press repeats and is measured in characters per second (cps). Sliding the bar to the left slows the repeat rate, and sliding the bar to the right increases the repeat rate.

> *Note: Use the field at the bottom of this dialog box to test the repeat delay and rate settings you've chosen.*

4.11.1.2   Keyboard Backlight

- In the *Keyboard Properties* dialog box, open the **Backlight** tab.
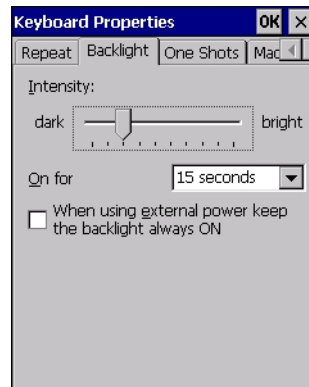
Intensity

This parameter is used to adjust the light intensity of the 8516 keyboard backlight. Sliding the bar to the left darkens the keyboard backlight intensity, and sliding it to the right lightens the intensity.

> *Note: The keypad backlight maximum brightness will decrease over time as it ages. Use mid-range intensity settings when possible to extend the backlight lifespan. When the backlight starts to dim, use this parameter to make it brighter.*

ON For

The value chosen from this drop-down menu determines the duration of time that the keyboard backlight stays on after the last user action (keypress or scan trigger).

Note: *Tapping in the checkbox next to* **'When using external power, keep the backlight always ON'** *forces the keypad backlight to remain on when the unit is operating with external power.*

4.11.1.3   Keyboard One Shot Modes

- In the *Keyboard Properties* dialog box, open the **One Shots** tab.

The options in this tab allow you to determine how modifier keys on your 8516 behave. For each modifier key—[ALT], [SHIFT], [CTRL], [FN], and [SYM]—you have the following options in the drop-down menu: *Lock*, *OneShot*, and *OneShot/Lock*.

Note: *Keep in mind that checking the taskbar lets you know whether or not these keys are locked on. For example, if the [FN] key is locked 'on', the taskbar at the bottom of the screen displays it underlined. If this key is displayed without the underline in the taskbar, you'll know that the key is not locked. It will become inactive following a key press.*

Important: **Once you've assigned a One Shot mode to a modifier key, you need to tap on the OK button at the top of the tab to activate your selection.**

Lock

If you choose *Lock* from the drop-down menu, pressing a modifier key once locks it 'on' until you press the modifier key a second time to unlock or turn it off.

OneShot

If you choose *OneShot*, the modifier key remains active only until the next key is pressed.

OneShot/Lock

*OneShot/Lock* allows you to combine these functions. When you choose this option and you press the modifier key once, it remains active only until the next key is pressed.

If you press the modifier key twice, it is locked 'on', remaining active until the modifier key is pressed a third time to turn it 'off'.

4.11.1.4   Keyboard Macro Keys

- In the *Keyboard Properties* dialog box, open the **Macros** tab.
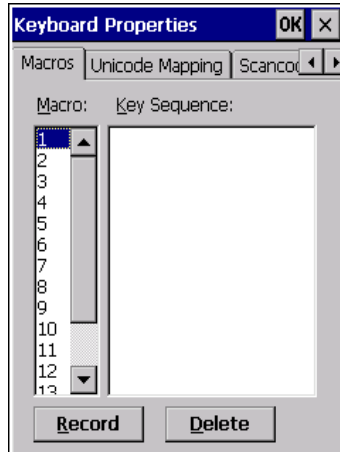
A macro has 200 programmable characters (or "positions"). The macro keys can be programmed to replace frequently used keystrokes, along with the function of executable keys including [ENTER], [BACKSPACE] and [DEL] ([FN]-[BACKSPACE]), function keys and arrow keys.

Recording and Saving a Macro

You can program up to 6 physical macro keys, depending on your keyboard layout. You can also increase the number of virtual macro keys up to 15 using *Scancode Remapping* (for details, see "Scancode Remapping" on page 68).

- In the *Macro* menu highlight a macro key number, for example macro 1, to assign a macro to macro key [M1]. Choose the **Record** button.

A message screen is displayed instructing you to *Enter Key Strokes to Record*.

- Type the macro sequence you want to assign to the Macro key. You can type text and numbers, and you can program the function of special keys into a macro.
- When you've finished recording your macro sequence, press the key sequence: [CTRL] [ALT] [ENTER], or choose the **Stop Recording** button.

A new screen 'Verify Macro' displays the macro sequence you created. The *Save* button is highlighted.

- Press **[ENTER]** to save your macro, or highlight CANCEL and press **[ENTER]** to discard it.

Executing a Macro

To execute a macro:
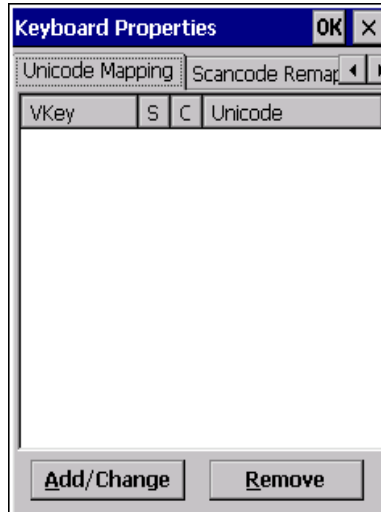
- Press the macro key to which you've assigned the macro.

Deleting a Macro

To delete a macro:

- In the *Macros* tab, highlight the *macro number* you want to delete.
- Choose the **Delete** button.

4.11.1.5 Unicode Mapping

- In the *Keyboard Properties* dialog box, open the **Unicode Mapping** tab.

The *Unicode Mapping* tab is used to map combinations of virtual key values and [CTRL] and [SHIFT] states to Unicode™ values. This tab shows the configured Unicode character along with the Unicode value. For example, the sample screen above shows "a (U+0061)" indicating that the character "a" is represented by the Unicode value "0061", and so on. Keep in mind that Unicode configurations are represented as hexidecimal rather than decimal values.

All user-defined Unicode mappings are listed in the *Unicode Mapping* tab in order of virtual key value, and then by order of the shift state. If a Unicode mapping is not listed, the Unicode mapping is mapped to the default Unicode value.

Adding and Changing Unicode Values

Important: Changes to Unicode mappings are not saved until you exit the Keyboard Properties dialog box.

- Choose the **Add/Change** button.
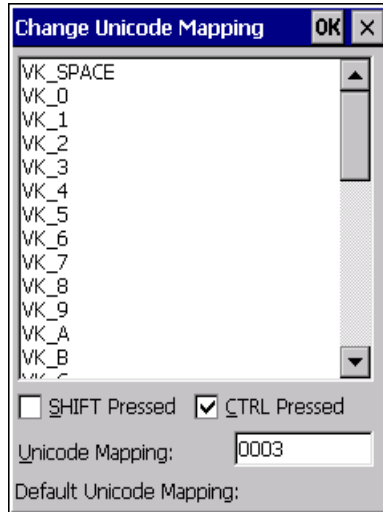
- Highlight a value in the Unicode mapping list. In the sample screen above, a value will be assigned to virtual key 0 (VK 0).

- Position the cursor in the *Unicode Mapping* field, and type a **Unicode value** for the highlighted key.

Note: *To add a shifted state, [SHIFT] and/or [CTRL], press [TAB] to position the cursor in the checkbox next to 'SHIFT Pressed' and/or 'CTRL Pressed'. Press [SPACE] to select the shift state you want to assign.*

Removing Unicode Values

- In the *Unicode Mapping* tab, highlight the item you want to delete, and choose the **Remove** button.

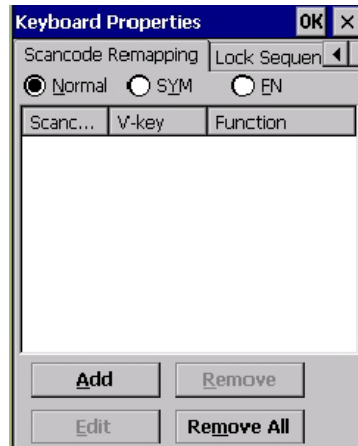### 4.11.1.6 Scancode Remapping

A scancode is a number that is associated with a physical key on a keyboard. Every key has a unique scancode that is mapped to a virtual key, a function or a macro. *Scancode Remapping* allows you to change the functionality of any key on the keyboard. A key can be remapped to send a virtual key (e.g. VK_F represents the 'F' key; VK_RETURN represents the [ENTER/Power] key, etc.), perform a function (e.g. turn the scanner on, change volume, etc.) or run a macro.

There are three different tables of scancode mappings: the *Normal* table, the *FN* table and the *SYM* table.

Note: *When using the Mobile Devices SDK Developers' Guide (PN 8100016), note that the [ORANGE] key is interchangeable with the [SYM] key. Similarly, in the context of the scancode mapping tables, 'Orange' is interchangeable with 'SYM'.*

The *Normal* table defines unmodified key presses; the *FN* table defines key presses that occur when the [FN] modifier is on; the *SYM* table defines key presses that occur when the [SYM] modifier is on. The default mappings of these scancodes can be overwritten for each of these three tables using the *Scancode Remapping* tab accessed from the *Keyboard Properties* dialog box.

The first column in the *Scancode Remapping* tab displays the scancodes in hexidecimal. If the scancode is remapped to a virtual key, that virtual key is displayed in the next column labelled 'V-Key'. A virtual key that is 'Shifted' or 'Unshifted' is displayed in the third column labelled 'Function'.
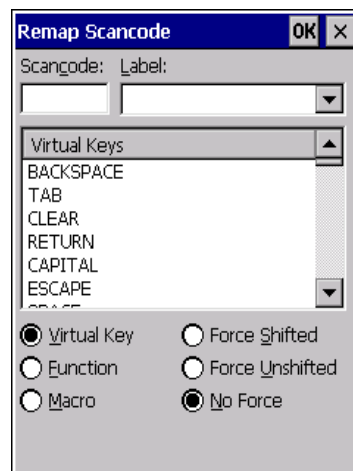
If the scancode is remapped to a function or a macro, the first and second columns remain blank while the third column contains the function name or macro key number (e.g., Macro 2).

Adding a Remap

To add a new remapping:

- Choose the **Add** button at the bottom of the dialog box.

The *Remap Scancode* dialog box is displayed.

- Type the scan code in hexidecimal in the field labelled *Scancode*.

Note: The Label field displays the default function of the scancode you are remapping.

Virtual Key, Function and Macro

The radio buttons at the bottom of the dialog box allow you to define to what the scan code will be remapped: Virtual Key, Function or Macro.

When *Virtual Key* is selected, you can choose to force [SHIFT] to be *on* or *off* when the virtual key is sent. If *No Force* is selected, the shift state is dependent on whether the shift state is on or off at the time the virtual key is sent.

When *Function* is selected, a list of valid functions appears in the dialog box.

When *Macro* is selected, the macro keys available on your unit are listed in the dialog box.

- Choose **Virtual Key**, **Function** or **Macro**.
- Choose a function from the *Function* list in the dialog box, and tap on **OK**.

Editing a Scancode Remap

To edit a scancode:

- In the *Scancode Remapping* tab, tap on the remap you want to edit.
- Tap on the **Edit** button, and make the appropriate changes.
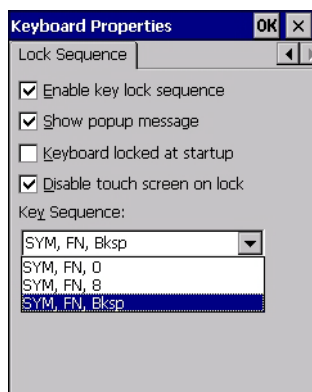- Tap on **OK** to save your changes.

Removing a Remap

To delete a remap:

- In the *Scancode Remapping* tab, highlight the scancode you want to delete, and tap on the **Remove** button.
- Tap on **OK**.

4.11.1.7   Lock Sequence

The *Lock Sequence* menu allows you to lock the 8516 keyboard to prevent keys from being pressed accidentally.


- To lock the keyboard, tap in the checkbox next to *Enable key lock sequence*.
- Tap in the checkbox next to *Keyboard locked at startup*.
- In the *Key sequence* drop-down menu, choose the key sequence you will need to type to unlock the keyboard.

Note: It is useful to leave the 'Show popup message' enabled (default) so that anyone attempting to use the keyboard will see the key sequence they will need to enter to unlock the keyboard displayed on the screen.

A *locked keyboard* icon is displayed in the softkey bar when the keyboard is locked.

Locked Keyboard
Icon
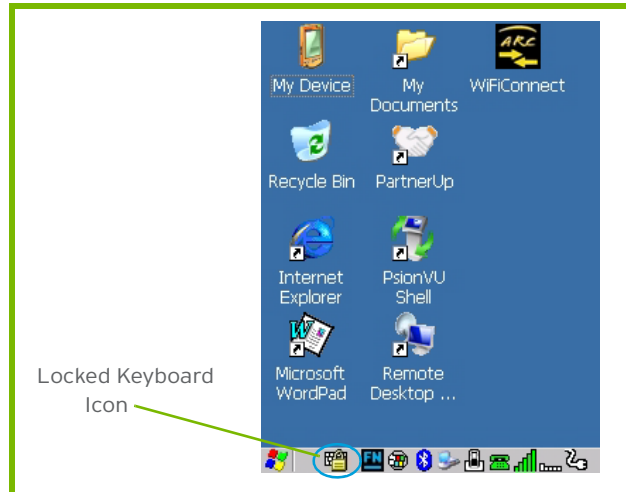
- Type the key sequence to unlock the keyboard.

4.12 Manage Triggers

Allows users to configure how barcode scanners and other devices such as RFID readers are triggered. You can configure the trigger ID for each trigger button for both single- and double-click, and the double-click time.

- In the *Control Panel*, choose the **Manage Triggers** icon.

- In the *Manage Triggers* screen you'll see a list of trigger mappings.
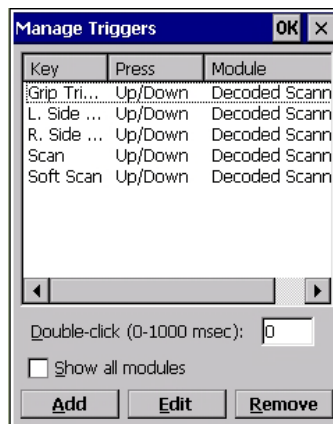
4.12.1 Trigger Mappings

A trigger mapping is an association between a particular key on the keyboard and a driver or application, the module(s)—sometimes referred to as "trigger consumer(s)"—of the trigger source. Along with keyboard keys, the external trigger (scan button) is software-based. When the specified key is pressed, the owner (for example, a decoded scanner) is sent a message.

⚠️ **Important:** *It is not possible to have two or more identical mappings—for example [F1] cannot be mapped to the Non-Decoded Scanner twice—even if the trigger type is different.*

A keyboard key that is used as a trigger source will no longer generate key data, or perform its normal function. For example, if the space button is used as a trigger source, it will not be able to send space characters to applications.

Double-Click

When a key is pressed and released, then pressed again within the configured time (between 0 to 1000 msec), a double-click occurs. See also "Trigger-Press Type" on page 73.

Show All Modules

By default, the trigger mapping list only shows active mappings. Mappings for drivers or applications that are not currently active are not normally displayed. By checking this checkbox, all mappings, both active and inactive, are displayed.

Add

Tapping this button brings up the *Add Mapping* dialog (see page 72), so that you can add new trigger mappings.

Edit

Tapping this button brings up the *Edit Mapping* dialog (see page 72), so that you can edit existing trigger mappings.
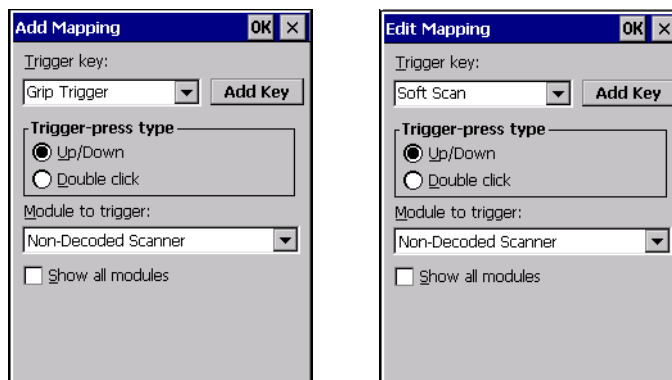
Remove

Tapping this button removes an existing mapping.

OK

The *OK* button in the top right of the *Manage Triggers* screen saves all changes made. If the cancel button *X* is tapped instead, or the [ESC] key is pressed, all changes made will be discarded.

4.12.2 Add and Edit Trigger Mapping

These dialogs allow you to add and edit trigger mappings.

Trigger Key

This drop-down list allows you to specify the source of the trigger events, such as the *Soft Scan*, *Left Scan*, etc., for the trigger module selected.

Note: *It is possible to map the same source to different modules (trigger consumers)—for example, to both the Imager and Non-Decoded Scanner. If so, both devices/operations will occur simultaneously. This is not recommended in most cases, especially with devices such as Imagers or RFID Readers.*

It is also possible to map different sources to the same module (trigger consumer)—for example, two different trigger keys can be mapped to the RFID File System.

Add Key

Only existing trigger sources are shown in the Source combo-box. To add a new source to this list, tap on the **Add Key** button. A dialog will pop up and allow you to select the keyboard key to use as a trigger source.
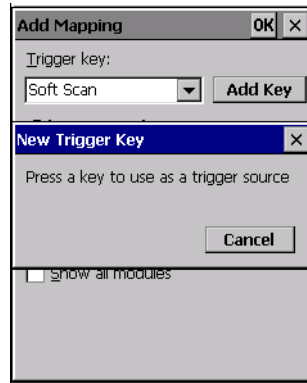
Trigger-Press Type

You can enable either an *Up/Down* or *Double Click* response to a trigger press. Normally, when a trigger (keyboard key, etc.) is pressed and released, a "trigger down" event is sent to the "owner"—that is, the application receiving the trigger press information—followed by a "trigger up". If *Double Click* is chosen in this menu, when the trigger is pressed, released, and then pressed again, a "double-click" event will have occurred. If a mapping with the type *Up/Down* has also been configured for the same source, it will only receive the first set of trigger events.

Module Trigger

This identifies the driver or application receiving the trigger presses.

Show All Modules

By default, inactive owners are not shown. By checking this checkbox, all owners, both active and inactive, are displayed.

4.13 Microphone

- In the *Control Panel*, choose the **Microphone** icon. Use this dialog box to adjust the gain for the specific microphones associated with your Vehicle-Mount.
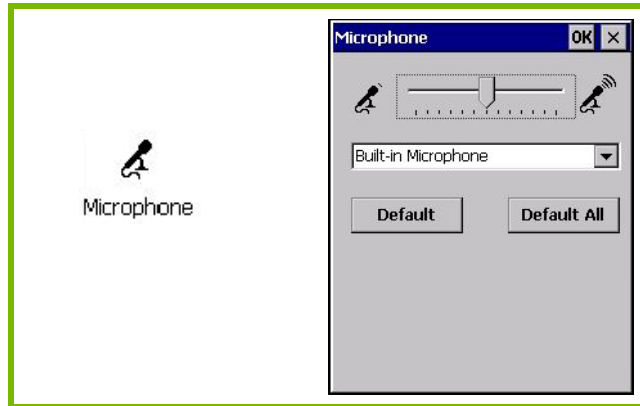
- Tap on the drop-down menu, and choose the microphone for which you want to adjust the gain.
- Slide the microphone tab to the left to decrease the gain and to the right to increase the gain.

Tapping on the *Default* button sets the current microphone you've chosen to the default gain. Tapping on *Default All* sets *all* microphones listed to their default gain.

4.14   Open TekTerm

Open TekTerm is a powerful emulation application ideally suited for real time data transaction applications associated with mainframes and servers. The 8516 includes unique features that support Open TekTerm, a Psion application that has the ability to maintain multiple simultaneous sessions with a variety of host computers. For detailed information, please refer to the *Open TekTerm Software User Manual*, PN 8000073.

4.15   PartnerUp

This app displays a number of pre-loaded applications. Tapping on an app in the list takes you to an associated web site.

The operator can then install the application. If a license is required, it can be obtained by sending an e-mail to the software license mailbox or by contacting a Sales Representative from the Psion contact web page.

www.psion.com/us/about/contact_psion-offices.htm

Additional pieces of software such as a server must be obtained through Psion.

Tapping on a preloaded client in this screen displays a drop-down menu from which the operator can choose from an array of related options. In the example following, Stay-Linked Documentation was chosen.

4.16 Pocket PC Compatibility

The 8516 supports the AYGShell API set that allows Pocket PC-compatible applications to run on the Vehicle-Mount. Windows Embedded CE includes application programming interface (API) compatibility support for the Microsoft Windows Powered Pocket PC 2002 shell in units running Windows Embedded CE.

The website listed below describes the APIs exposed through AYGShell and the application compatibility between Windows Powered Pocket PC 2002-based applications and Windows Embedded CE based devices:

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dncenet/html/WINCENET_CEPCC_App.asp

4.17 Power Properties

This icon displays a Power Properties dialog box that indicates the unit's battery capacity and allows you to manage battery use.

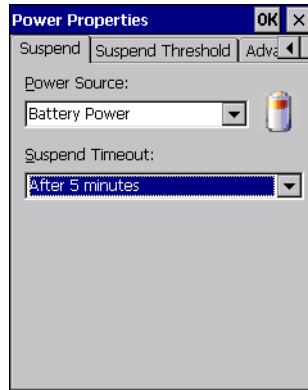- In the *Control Panel*, choose the **Power** icon.

4.17.1 Battery Capacity

- In the *Power Properties* dialog box, open the **Battery** tab to view battery details.

4.17.2 Power Saving Suspend

- In the *Power Properties* dialog box, open the **Suspend** tab.

Power Source

This drop-down menu allows you to specify whether the unit is using *AC Power* or *Battery Power*.

Suspend Timeout

> *Important:* ***Psion recommends setting the Suspend value to 3 minutes. To further reduce power consumption, carefully consider the duration of time that the display back-light is 'on' (see*** *"Backlight" on page 55****).***

When the 8516 is idle—not receiving any user input (a key touch, a scan, and so on) or system activity (serial data, an activity initiated by an application, and so on)—the Vehicle-Mount uses the value assigned in the *Suspend Timeout* field to determine when the unit will go to sleep (appear to be off).

When the time in the *Suspend Timeout* field elapses without any activity, the unit enters *suspend* state. In suspend state, the 8516 CPU enters a sleep state, and wireless communication is shut off. The state of the device (RAM contents) is preserved. Pressing **[ENTER]** wakes the system from suspend state.

4.17.3 Suspend Threshold and Estimated Battery Backup
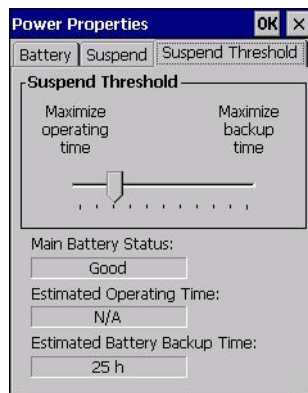
The *Suspend Threshold* adjustment tells the system when to shut down when the battery drains. If you choose *Maximum Operating Time*, the unit will run until the battery is completely empty; the RAM is only backed up for a short period of time. If you choose *Maximum Backup Time*, the Vehicle-Mount shuts off with more energy left in the battery so RAM can be backed up for a longer period of time.

Important: *Selecting Maximum backup time will reserve approximately 20% of the battery capacity for memory backup. Once the battery is drained, the system RAM memory is lost and the unit must cold boot.*

In most real-time transaction environments this is not a problem (it only takes a few seconds to cold boot). Batch transaction environments, where data is not saved to a non-volatile memory (such as an SD FLASH card), may need to pay particular attention to this parameter. Psion does not recommend the storage of any valuable data in system RAM.

The 8516 Windows Embedded CE 6.0 environment does not store any critical data in RAM (such as the registry or file system).

If your application does not save data to RAM, Psion recommends keeping the Suspend Threshold setting as low as possible to maximize battery run time.

The *Estimated Battery Backup* is the amount of battery power that has been reserved or set aside to protect data until a charged battery can be installed in the Vehicle-Mount. When the battery capacity is depleted up to the *Estimated Battery Backup* reserve specified in the *Suspend Threshold* menu, the 8516 shuts off automatically and uses the reserve power to preserve the data stored on the computer. Once the 8516 shuts down, it cannot be switched on until a fresh battery is installed.

- Slide the **Suspend Threshold** button to the right to increase the battery capacity reserved for backup purposes. Data will be preserved to a maximum of 124 hours.
- Slide the **Suspend Threshold** button to the left to decrease the power reserved for backup purposes; this increases the 8516 operating time—the amount of time the unit will operate before shutting down—but reduces the power reserved for backup purposes to a minimum of 24 hours.

Internal super-capacitors will protect the data stored in the computer while the battery is swapped for a fully charged one.

Important: *Once the battery is removed, the super-capacitors will preserve the data stored on the 8516 for approximately 4 minutes. It is critical that you install a charged battery before this time elapses.*

4.17.4 Advanced

- In the *Power Properties* dialog box, open the **Advanced** tab.
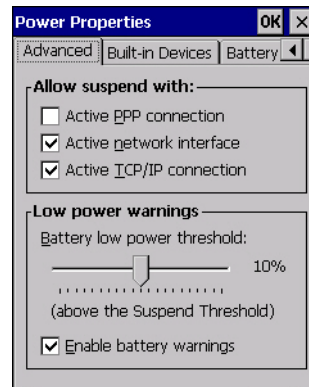

Allow Suspend With

This menu allows you to specify whether or not your unit will enter Suspend Mode while it is operating with an active PPP connection, network interface or active TCP/IP connection.

Low Power Warnings

The sliding scale at the bottom of this menu allows you to specify the remaining battery capacity at which a warning message is displayed on the 8516 screen, from 0% to 20%.

4.17.5 Built-in Devices

- In the *Power Properties* dialog box, open the **Built-in Devices** tab.
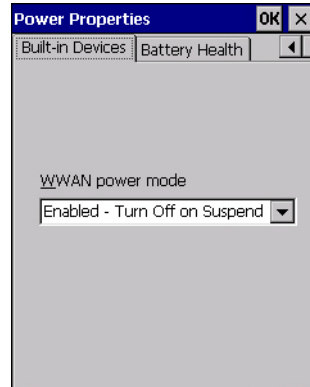
WWAN Power Mode

This menu allows you to enable power to your WWAN radio, and whether or not the radio will turn off when the 8516 enters Suspend Mode. To configure the radio, please refer to Appendix E: "Wireless Wide Area Network (WWAN) Settings".
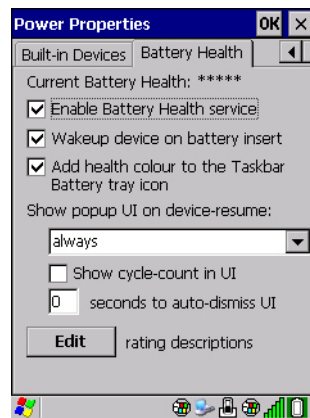
4.17.6 Battery Health

The Battery Health service provides an estimate of battery health based on a number of different measurements, beyond just capacity.

⚠️ *Important: **Battery Health is an estimate and should not be depended on to provide a 100% account of battery condition.***

• In the *Power Properties* dialog box, open the **Battery Health** tab.

Current Battery Health Meter

The Current Battery Health Meter default values are shown here as ***** (Excellent), *** (Used), and * (Battery should be replaced). If you tap on the battery icon in the taskbar, a pop-up screen will show the state of the battery. The image below shows the default *Excellent* status screen.
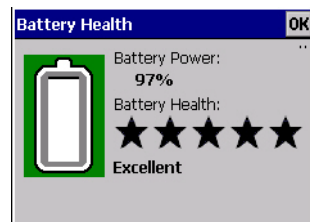
Enable Battery Health Service

This option allows you to enable the service. To access the menus after enabling the service, you will need to either wait until a resume from Suspend or restart the 8516.

Wakeup Device on Battery Insert

When this option is enabled, whenever the battery is replaced the 8516 is powered up from Suspend and the current health of the battery is displayed.

**Add Health Colour to the Taskbar Battery Tray Icon**

Enabling this option changes the background colour for the battery icon in the Taskbar, based on battery condition: *Green* (excellent), *Yellow* (used), and *Red* (battery should be replaced).

Show Popup UI on Device-Resume

You can decide when the battery status pop-up user interface (UI) will appear, for how many seconds, and whether the battery cycle count is displayed (**off** by default).

Edit – Changing Ratings Text

You can customize the ratings text with the *Edit* option. By enclosing your text within the html tag used for **Bold** <b> (or removing the tag to unbold the text), you can change the text that will appear in the pop-up battery status screen. For example, the default text "**Excellent**" can be changed to: "Battery is excellent, and will last one day shift."...
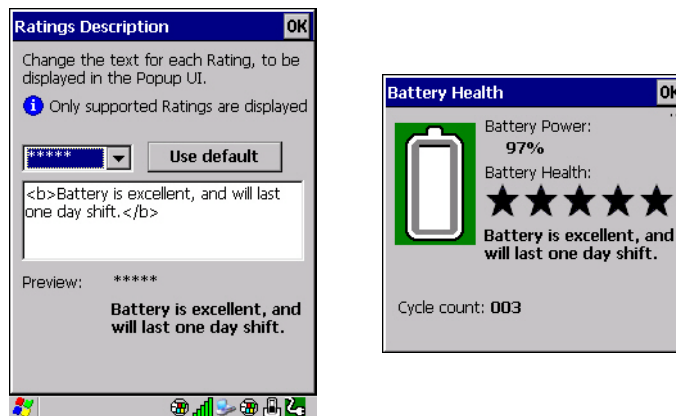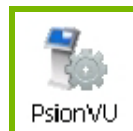
4.18 PsionVU Access

PsionVU Access enables you to customize your computer settings, remove or add shortcuts to the desktop and Control Panel, and limit access to various different components on the computer and the system tray icons for security.

ⓘ *Note:* *The Desktop theme can be changed from the default Windows Classic Shell to the PsionVU Shell either in the* **PsionVU Access** *settings (see "Other Shell Themes" on page 82) or by tapping on the Desktop icon* **PsionVU Shell** *(see "The PsionVU Desktop Shell" on page 31).*

• In the *Control Panel*, choose the **PsionVU** icon.

When opening the *PsionVU* application, the *PsionVU Access* dialog will come up that enables you to either proceed to the *PsionVU Settings* menus, or change from you current Access mode to the other (Administrator or User). The computer must be reset following a change, and a confirmation will appear to enable you to continue or dismiss the change.
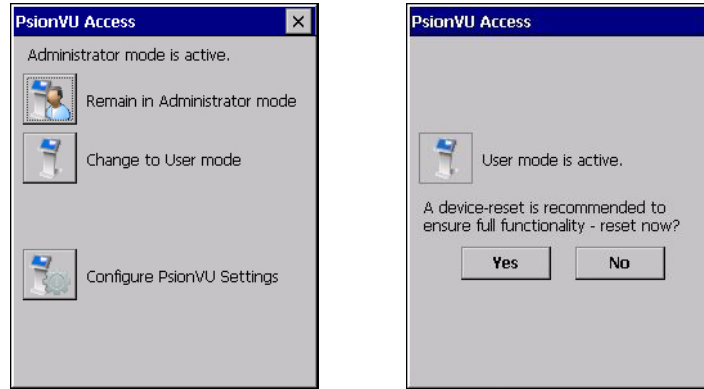
When opening the *PsionVu Settings* option, the following menus will be available:

Figure 4.4   PsionVU Settings
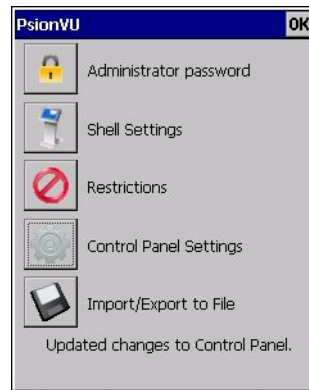
4.18.1   Administrator Password

By setting an Administrator Password, you can limit access to various different components on the compu-ter and the system tray icons for security. The default security setting allows User access to all options, therefore restrictions and settings can be configured without setting a password.

Note: If a setting or restriction is configured without setting an Administrator password, the follow-ing message is displayed: "!Administrator password is currently not set." Once a password has been set, the message will disappear.

When an administrator password is set, the restricted options are accessed using a key combination. If a password has been set, the user would be prompted for the password.
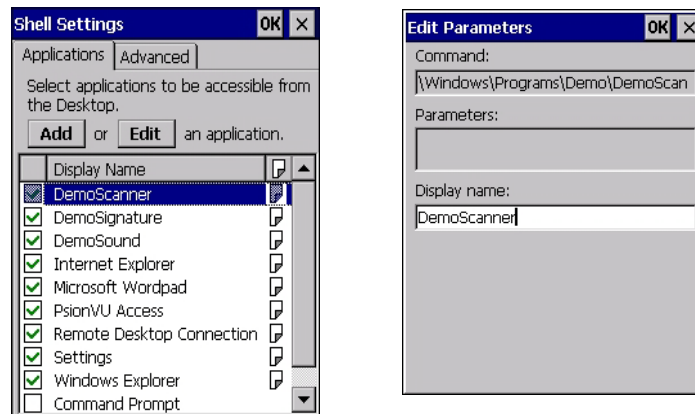
The option *Show Password* changes the displayed password from hidden (***) to readable.
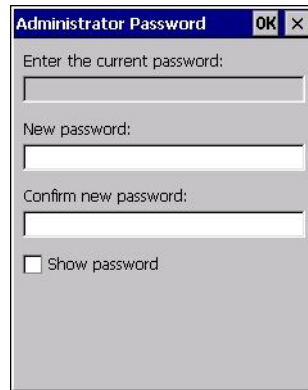
4.18.2 Shell Settings

The Shell Settings application has two menus: *Applications* and *Advanced*.

Applications

The Applications menu lists all the applications installed on the computer, alphabetically. The items checked in this view are shown on the Desktop.

The *Add* and *Edit* buttons allow you to search for and add an application to the list of items in the selection window. You can add a maximum of 18 applications, after which the Add option will be greyed out and the following message is displayed: "!Maximum 18 entries reached."

When you select an application and tap on Edit, you will see fields for Command, *Parameters*, and *Display Name*.

- **Command:** The *Command* field is prefilled with the path and name of the executable (.*exe*) or corresponding link (.*lnk*). If the selected file can't be found (e.g. external memory card has been removed, files have been deleted), a message will be displayed at the bottom of the screen: "These files cannot be found."
- **Parameters:** The *Parameters* option provides the option of adding era parameters to the application (for .*exe* files only, not .*lnk*). For example, if the Command field is running "pword.exe" (Microsoft WordPad), the Parameters field could specify a document to open.
- **Display name:** This is an editable field which is prefilled with the name of the application.

Advanced

The Applications menu allows you to enable or disable some device functions.

Windows Classic Shell
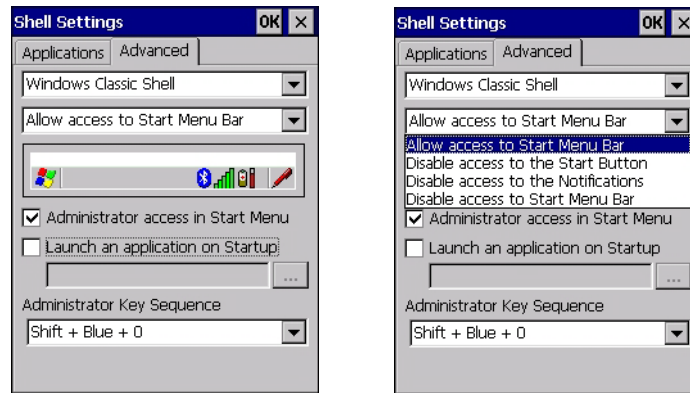
The following options can be enabled or disabled in the Windows Classic Shell Desktop theme:
- **Start Menu Bar**: If disabled, access to both Start Menu and Notifications are disabled. The Notification tooltips will still display. Any changes made will occur after a device reset.
- **Start Button:** If disabled, access to the Start Button and Notifications are disabled. The Notification tooltips will still display.

Note: If "Disable access to the Start Button" is selected, but the "PsionVU Access by Key Sequence" remains unchecked, you will see the following status-message "!A Key Sequence is required when the Start Button is disabled.", the checkbox will be auto-checked, and the focus will be set to the key-sequence selection.

- **Notifications:** If disabled, the Notifications tooltips will still display.
- **Administrator Access in Start Menu:** When this box is checked, the *PsionVU Access* program will be shown in the *Start Menu>Programs* list.

The following item is not optional:
- **Administrator Key Sequence:** Sets the key sequence to open *PsionVU Access*.

Other Shell Themes
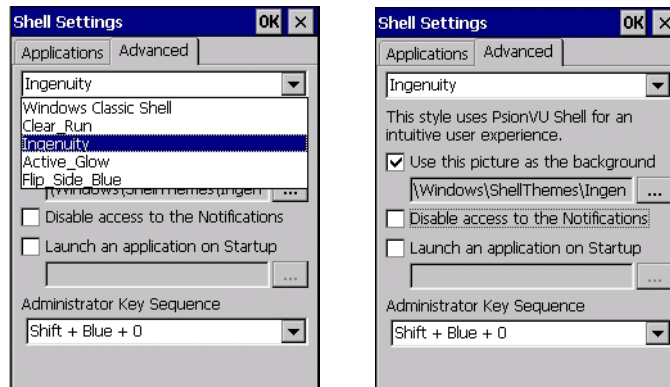
The following options can be enabled or disabled in the PsionVU Shell Desktop themes (shown in the drop-down list as *Windows Classic Shell*, *Clear_Run*, *Ingenuity*, *Active_Glow*, and *Flip_Side_Blue*):

*Note: The Desktop theme can be changed from the default Windows Classic Shell to one of the PsionVU themes shown here—but by tapping on the Desktop icon **PsionVU Shell** (see "The PsionVU Desktop Shell" on page 31), the "Ingenuity" theme is automatically loaded. The computer must be reset in order for the shell to change.*

- **Use this picture as the background:** You can select a picture as the Desktop background.
- **Notifications:** If disabled, the Notifications tooltips will still display.
- **Launch an application Startup:** A window is displayed listing all of the installed and added applications. Any applications selected will startup after a reboot.

The following item is not optional:

- **Administrator Key Sequence:** Sets the key sequence to open *PsionVU Access*.

4.18.3 Restrictions

This section deals with items that are by default available to users but can be restricted by an administrator.

Advanced

The Advanced menu lists the system features you can restrict or block.


Notifications

The Notifications menu allows you to block or disable notifications.

4.18.4 Control Panel Settings

In these menus you can set which applets and tabs you want to *Hide* in Control Panel, and which applets and tabs will be *Accessible* as a shortcut icon from the Desktop.

- You have the option of setting the entire applet or specific tabs within the applet as hidden or accessible. Any applet that can't be set is greyed out.
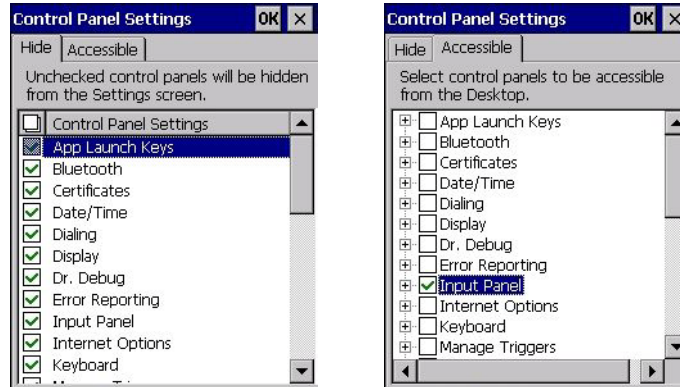
- You can add a maximum of 18 applications, after which the following message is displayed: "!Maximum 18 entries reached."

4.18.5   Import/Expo to File

This option enables you to *Expo* your settings file (*.xml*), and save it in the location of your choice. In addition, an Administrator has the option to *import* these settings from one device to multiple devices *of the same operating system*.

> **Important: A copy of this file should also be saved in a central repository for all Psion .xml files with a predefined name so that other Psion utilities can locate it.**

Tapping on the **Expo** button will display a "Save As" Expo Settings dialog, with the default name *PsionVU_Settings.xml*, which the Administrator can change even after it has been saved.

The *.xml* file contains all of the PsionVU configured settings, including the *Administrator Password*. When the file is imported to a device, the new password is applied immediately.

- Whether choosing to import or expo files, the same file location options under *My Device* will be listed. Following the action, a message stating the success of the operation and the location of the file will be displayed.
- With the exception of the password, changes made to settings will take effect only after a warm reset. If further changes to the configuration are made, they will overwrite the changes caused by the import operation. After importing a file, a dialog will appear to enable you to reset now or later.
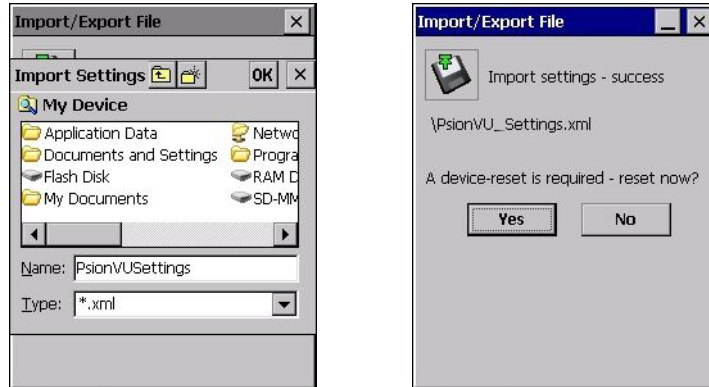
4.19 Remote Desktop Connection

Remote Desktop Connection, located in **Start>Programs**, is an 8516 application used to connect to a Windows Terminal Server so that you can run a "session" on the Server machine, using the 8516 (Windows Embedded CE device).

Refer to the following website for step-by-step information about setting up this connection: http://www.microsoft.com/windowsxp/using/mobility/getstarted/remoteintro.mspx or contact Psion support services. Locate the office closest to you at: www.psion.com/service-and-suppo.htm

4.20 Scanners

The *Scanners* icon in the *Control Panel* provides dialog boxes in which you can tailor barcode options and change the ports settings. If you wish to recover the factory defaults after making changes, the defaults can be applied by holding the stylus on a parameter, which will pop up a menu allowing you to default that parameter, or all settings. This option cannot be accessed without a touchscreen.
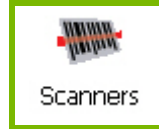
Scanners

4.20.1 Barcodes
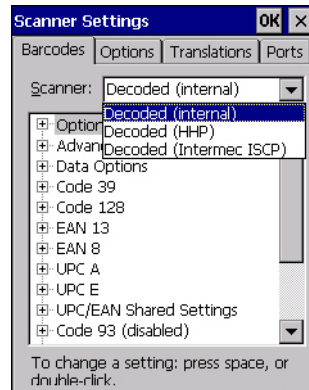
4.20.1.1 Scanner

The drop-down menu to the right of the *Scanner* option allows you to choose configurations for one of the following scanner types, depending on what is installed in/on your Vehicle-Mount: *Decoded* (internal), *Decoded* (Intermec ISCP), *Imager* and *Non-decoded*.

The symbologies listed in the *Barcodes* tab change to reflect the scanner you choose and the barcodes it supports. Always defer to your barcode scanner's programming manual when in doubt about the availability or settings for any parameter.

Note: Your 8516 comes preconfigured from the factory for internal scanner types. The type of scanner installed can be determined from the **System** *icon in the Control Panel, under the System Properties tab.*

Important: To improve the decode speed and performance, enable (set to 'on') only those codes that are required by the application.

For information on configuring the barcode symbologies, see Appendix D: "Scanner Settings".

Keep in mind that some barcode types are only available when an internal imaging scanner is installed. All internal scanners can be configured using these dialog boxes.

4.20.1.2 Restoring Default Settings

If you want to restore the factory defaults after making changes, the defaults can be applied to a selected parameter, sub-tree of parameters or all scanner parameters.
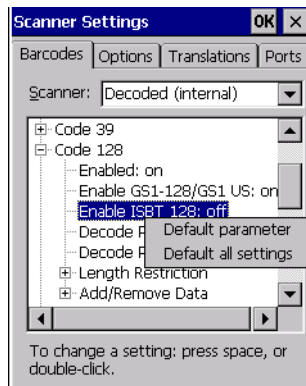
• Press and hold on a symbology (e.g., Code 128) to display a pop-up menu.
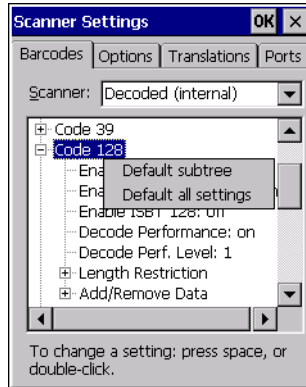
- Choose **Default subtree** to reset only the parameters in the symbology you selected, or choose **Default all settings** to reset all scanner parameters to default settings.

To reset a single parameter to its default setting:

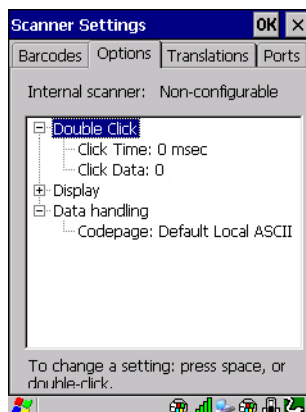- Press and hold on the parameter you want to reset.

- Choose **Default parameter** to reset the parameter to the default setting.

4.20.2 Options

This tab allows you to tailor the double-click parameters, display, and data handling options associated with your scanner.

4.20.2.1 Double Click Parameters

Click Time (msec)

This parameter controls the maximum gap time (in milliseconds) for a double-click. If the time between the first and second clicks of the scanner trigger is within this time, it is considered a double-click. The allowable range is 0 to 1000. A value of zero disables this feature.

A double-click produces different results depending on whether or not a value is assigned in the "Click Data" parameter. When a value is not assigned for the "Click Data", double-clicking the scanner trigger overrides the target dot delay set in the "Dot Time" parameter and initiates a normal scan sweep. If a value is assigned for the "Click Data" parameter, double-clicking the scanner trigger inserts the "Click Data" value rather than initiating a scan.

Click Data

This parameter determines which character is sent to the application installed in your 8516 following a double-click. A dialog box appears, asking that you press the key you want to insert. The ASCII/Unicode key value of the keypress is displayed.

Pressing the [ESC] key in this dialog box resets the data to zero.

4.20.2.2 Display Parameters

Scan Result

When this parameter is enabled, the type of barcode and the result of the scan appear on the screen. Note that this information is only displayed after a successful decode and is visible only while the scanner trigger is pressed. When the trigger is released, this information is cleared from the screen.

Scan Indicator

When this parameter is enabled, the laser warning logo appears on the display whenever the scanner is activated.

Scan Result Time (sec)

The value assigned to the *Scan Result Time* parameter determines how long the scan results of a successful scan are displayed on the screen. Time is measured in seconds, and a value of 0 (zero) disables the parameter. When you choose this option, a dialog box appears where you can enter a value.

> *Note:* *To remove the scan result from the screen before the "Result Time" has expired, point the scanner away from the barcode and press the trigger.*

Good Scan Beep and Bad Scan Beep

These parameters determine whether or not the 8516 emits an audible scanner 'beep' when a good (successful) scan or a bad (unsuccessful) scan is performed. Set these parameters to either **on** to enable the beeper or **off** to disable it.

Multiple Beep Tones

You can set the audible scanner 'beep' to emit a series of three beeps instead of one. Set this parameter to **on** to enable the multiple beep tones.

Soft Scan Timeout

This parameter is used by the SDK "Scan" function (soft-scan: starting a scan session via the SDK function, instead of a physical user trigger press). The value assigned to this parameter determines the soft-scan timeout from *1* to *10 sec* (default is *3 sec*).

Scan Log File

If this parameter is enabled, the input barcode and the modified/translated output barcode are logged in the file *\Flash Disk\ScanLog.t*. Keep in mind that if *Scan Log File* is enabled, there is a slight performance reduction when performing multiple scans since the log file is written to persistent storage.

4.20.2.3 Data Handling

Codepage

If you are encountering a scan failure because there is an unrecognized language character in the barcode, the Codepage option may correct the problem by allowing the *ISO-8859-1 Latin 1* codepage to be used. The default value is *Default Local ASCII*.

⚠ *Important:* **Do not change this parameter from the default setting unless you are certain that it will correct your scan problem.**

4.20.3 Translations

The *Translations* menu allows you to define up to 10 cases, each consisting of up to 10 rules in sequential order. Only one case will be applied to a barcode and a case will only be applied if all rules specified in the case are successful—if a rule within a case fails, the entire case fails.
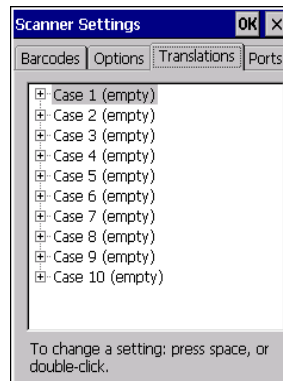
- In the *Translation* menu, tap on the **Case #** to create rules.
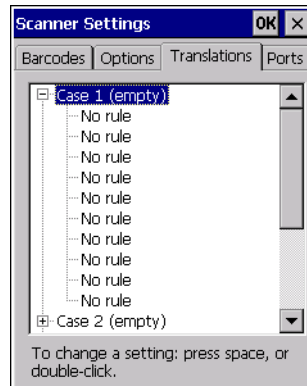
- Tap on the **No rule** drop-down menu to display the rules.