

8525 G2/8530 G2 Vehicle-Mount Computer User Manual

December 4, 2007 Part No. 8100083.C



ISO 9001 Certified
Quality Management System



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Psion Teklogix provides a complete range of product support services to its customers. For detailed information, please refer to Appendix A: "Support Services And Worldwide Offices". This section also provides information about accessing support services through the Psion Teklogix web site.



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2002/96/EC

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TABLE OF CONTENTS

Program License Agreements	I
Approvals And Safety Summary.	VII
Chapter 1: Introduction	
1.1 About This Manual	3
1.2 Text Conventions	4
1.3 About The 8525 G2/8530 G2 Vehicle-Mount	4
1.4 8525 G2/8530 G2 Features	4
1.4.1 8525 G2 Vehicle-Mount Computer	7
1.4.2 8530 G2 Vehicle-Mount Computer & Keyboard	8
Chapter 2: Basic Checkout	
2.1 Preparing The 8525 G2/8530 G2 For Operation	11
2.2 8525 G2/8530 G2 Safety Instructions.	11
2.3 8525 G2/8530 G2 Freezer & Outdoor Guidelines	12
2.3.1 Important Operating Instructions	12
2.4 Switching The 8525 G2 On And Off	14
2.5 Switching The 8530 G2 On And Off	14
2.6 Calibrating The Touchscreen	15
2.7 Configuring Your IEEE 802.11 Radio	15
2.8 Setting Up Marvell-88W8300 802.11g Radios	15
2.8.1 Assigning An IP Address	21
2.8.2 Name Servers Tab	22
2.8.3 Advanced Features.	23
2.9 Setting Up Summit DC 802.11 SC CF Radios—SCU	24
2.9.1 Assigning The IP Address.	24
2.9.2 Using The SCU To Connect To The WLAN	24
2.10 SCU Tabs	26

2.10.1 Main Tab	27
2.10.2 Config Tab	28
2.10.3 Global Settings Tab	33
2.10.4 Status Tab	35
2.10.5 Diags Tab.	35
2.11 Resetting The 8525 G2/8530 G2 Vehicle-Mount	36

Chapter 3: Getting To Know The 8525/30 G2

3.1 Features Of The 8525 G2/8530 G2	39
3.2 Internal Backup Power.	41
3.2.1 The Optional Backup Battery	41
3.2.2 The Super Capacitor	41
3.3 The Keyboard	42
3.3.1 Modifier Keys	42
3.3.2 The Keys	43
3.4 Function Keys And Macro Keys.	45
3.4.1 Function Keys	45
3.4.2 Macro Keys.	45
3.4.3 The Keypad Backlight	46
3.5 The Display	46
3.5.1 Calibrating The Touchscreen.	46
3.6 8525 G2/8530 G2 Indicators.	47
3.6.1 Power Indicator LED.	47
3.6.2 LEDs	48
3.6.3 Onscreen Indicators	49
3.6.4 Audio Indicators	52
3.7 Scanning	52
3.7.1 Scanning Techniques.	53
3.7.2 Scan LED Indicators	53
3.7.3 Troubleshooting	54
3.7.4 Operating One Dimensional (1D) Laser Scanners.	54
3.7.5 Operating PDF Laser Scanners.	54
3.8 Connecting & Disconnecting Tethered Peripherals	55
3.9 The Cable Management Bar	56
3.10 Monitoring The Network Connection	56
3.11 Connecting An 8525 G2/8530 G2 To A PC	57

3.11.1 Using Microsoft ActiveSync To Work With Files	57
3.12 General Maintenance	58
3.12.1 Caring For The Touchscreen	58
3.12.2 Cleaning The 8525 G2/8530 G2.	58

Chapter 4: Working With Windows CE 5.0

4.1 Navigating In Windows CE And Applications	61
4.1.1 Navigating Using A Touchscreen And Stylus.	61
4.1.2 Navigating Using The Keyboard	61
4.2 Working With Files, Folders And Programs	62
4.3 The Startup Desktop.	62
4.3.1 The Desktop Icons	63
4.3.2 The Taskbar	64
4.4 The Start Menu	65
4.4.1 The Desktop	66
4.4.2 Security Levels	66
4.4.3 Programs.	68
4.4.4 Shortcuts	69
4.4.5 Settings.	71
4.4.6 Run.	72
4.4.7 Shutdown	72
4.5 Using A Dialog Box.	73

Chapter 5: Configuration

5.1 Remote Desktop Connection	79
5.2 Pocket PC Compatibility	79
5.3 The Control Panel	79
5.4 Control Panel Icons	80
5.5 Basic Setup	85
5.5.1 Display Properties	85
5.5.2 Keyboard Properties	87
5.5.3 Volume And Sound Properties	96
5.5.4 Power Properties.	97
5.5.5 Stylus Properties.	100
5.5.6 Manage Triggers.	102
5.5.7 Certificate Assignment	105

Contents

5.5.8	Narrow Band Radio Setup	106
5.5.9	Bluetooth Setup	118
5.5.10	Total Recall.	129
5.5.11	Input Panel	134
5.5.12	IPv6 Support	136
5.5.13	Scanner Properties Setup.	137
5.5.14	SNMP (Simple Network Management Protocol) Setup	157

Chapter 6: Peripheral Devices & Accessories

6.1	External Bar Code Readers	167
6.1.1	PowerScan™ Standard, LR and XLR Bar Code Scanners	167
6.1.2	Entering Data With The Bar Code Reader.	167
6.2	Bluetooth Peripherals	167
6.3	8525 G2/8530 G2 Mounting Accessories	168
6.3.1	8525 G2/8530 G2 Mounting Recommendations.	168
6.3.2	Installing The Cradle And Cradle Mounting Plate.	169
6.3.3	Installing The MT34XX RAM Mounting Kit	171
6.3.4	8530 G2 Keyboard Mounting Options.	177
6.3.5	Wiring Guidelines	178
6.3.6	8525 G2/8530 G2 Installation In High Voltage Vehicles	179
6.3.7	8525 G2/8530 G2 Installation In Vehicles.	179
6.3.8	Wiring Vehicle Power To The 8525 G2/8530 G2	180

Chapter 7: Specifications

7.1	8525 G2/8530 G2 Vehicle-Mount Specifications	183
7.2	Radio Specifications	184
7.3	Bar Code Scanning.	185
7.4	External Scanners	186
7.5	Optional Internal Lithium-Ion Battery.	186

Appendix A: Support Services And Worldwide Offices

A.1	Technical Support	A-1
A.2	Product Repairs	A-1
A.3	Worldwide Offices	A-2

Appendix B: Port Pinouts

B.1 Tether Port Pinout B-1

B.2 RS232 Port Pinout. B-1

B.3 DB-26 Auxiliary Port Pinout B-2

B.4 External Keyboard–High Density DB-26 (8530 G2 Only). B-3

Appendix C: USB Setup Application

C.1 USB Setup. C-1

 C.1.1 Launching The Application C-2

 C.1.2 Installation Complete Dialog Box. C-3

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APPROVALS AND SAFETY SUMMARY

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R&TTE Directive 1999/5/EC

This equipment complies with the essential requirements of EU Directive 1999/5/EC (Declaration available: www.psionteklogix.com).

Cet équipement est conforme aux principales caractéristiques définies dans la Directive européenne RTTE 1999/5/CE. (Déclaration disponible sur le site: www.psionteklogix.com).

Die Geräte erfüllen die grundlegenden Anforderungen der RTTE-Richtlinie (1999/5/EG). (Den Wortlaut der Richtlinie finden Sie unter: www.psionteklogix.com).

Questa apparecchiatura è conforme ai requisiti essenziali della Direttiva Europea R&TTE 1999/5/CE. (Dichiarazione disponibile sul sito: www.psionteklogix.com).

Este equipo cumple los requisitos principales de la Directiva 1995/5/CE de la UE, “Equipos de Terminales de Radio y Telecomunicaciones”. (Declaración disponible en: www.psionteklogix.com).

Este equipamento cumpre os requisitos essenciais da Directiva 1999/5/CE do Parlamento Europeu e do Conselho (Directiva RTT). (Declaração disponível no endereço: www.psionteklogix.com).

Ο εξοπλισμός αυτός πληροί τις βασικές απαιτήσεις της κοινοτικής οδηγίας EU R&TTE 1999/5/EK. (Η δήλωση συμμόρφωσης διατίθεται στη διεύθυνση: www.psionteklogix.com)

Deze apparatuur voldoet aan de noodzakelijke vereisten van EU-richtlijn betreffende radioapparatuur en telecommunicatie-eindapparatuur 199/5/EG. (verklaring beschikbaar: www.psionteklogix.com).

Dette udstyr opfylder de Væsentlige krav i EU's direktiv 1999/5/EC om Radio- og teleterminaludstyr. (Erklæring findes på: www.psionteklogix.com).

Approvals And Safety Summary

Dette utstyret er i overensstemmelse med hovedkravene i R&TTE-direktivet (1999/5/EC) fra EU. (Erklæring finnes på: www.pSIONteklogix.com).

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Toto zariadenie je možné prevádzkovať v Slovenskej republike na základe Všeobecného povolenia č. VPR-01/2001.

 Use of the 802.11 8525 G2/8530 G2 vehicle-mount in France:
Owing to French Government restrictions, the 802.11 8525 G2/8530 G2 vehicle-mounts are limited to indoor use. They may be used outdoors, on private property, only with prior authorization from the French Ministry of Defense.

FCC Information To Users

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.



IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Some equipment in hospitals and aircraft are not shielded from radio frequency energy. Do not use the 8525 G2/8530 G2 onboard aircraft, or in hospitals, without first obtaining permission.

Do not use near pacemakers. The product may affect the operation of some medically implanted devices such as pacemakers, causing them to malfunction. Avoid placing your product next to such devices. Keep a minimum distance of 20 cm between the device and the product to reduce the risk of interference. If you have any reason to suspect that interference is taking place, turn off the 8525 G2/8530 G2 and contact your cardiologist for assistance.



Note: *In August 1996 the Federal Communications Commission (FCC) of the US adopted an updated safety standard for human exposure to radio frequency energy emitted by FCC regulated transmitters. The design of this product complies with the FCC guidelines and those standards. To maintain compliance with the FCC RF exposure guidelines, ensure the antenna is at least 20 cm from your body when transmitting.*

Emissions Information For Canada

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. When using the 802.11 radio option, to prevent radio interference, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada. En cas d'utilisation du module radio 802.11, afin d'éviter toute interférence radio avec le service autorisé, l'appareil doit être utilisé à l'intérieur, tout en tant éloigné de toute fenêtre afin de garantir le maximum de protection. Si cet équipement (ou son antenne émettrice) est installé à l'extérieur, il est alors soumis à licence.

Warnings To Users

RF EXPOSURE



Warning: *To satisfy FCC RF exposure requirements for vehicle mount transmitting devices, a separation distance of 20 centimetres should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.*



DO NOT REMOVE COVERS OR OPEN ENCLOSURES

To avoid injury, the equipment covers and enclosures should only be removed by qualified service personnel. Do not operate the equipment without the covers and enclosures properly installed.



CAUTION

Use of the Vehicle Mount Computer while charging the fork truck battery is prohibited.



CAUTION

Use of additional wiring and attachments not recommended or sold by the manufacturer may result in fire, electric shock or personal injury.



CAUTION

If using an AC adaptor, use only the AC adaptor recommended by manufacturer.



CAUTION

Do not operate the vehicle-mount computer with a damaged cord or plug. Replace immediately.



CAUTION

Make sure the cord is positioned so that it is not stepped on, tripped over or otherwise subjected to damage or stress.



CAUTION

An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in fire or electric shock.



CAUTION

To reduce risk of electric shock, unplug the vehicle-mount computer from the DC source before attempting any maintenance or cleaning.



Warning: ***Physically disconnect the 8525 G2/8530 G2 from the vehicle battery during battery charging (into AC outlet).***

INTRODUCTION

1

1.1 About This Manual	3
1.2 Text Conventions	4
1.3 About The 8525 G2/8530 G2 Vehicle-Mount	4
1.4 8525 G2/8530 G2 Features	4
1.4.1 8525 G2 Vehicle-Mount Computer	7
1.4.2 8530 G2 Vehicle-Mount Computer & Keyboard	8

1.1 About This Manual

This manual describes how to configure, operate and maintain the Psion Teklogix 8525 G2/8530 G2 vehicle-mount computers.

Chapter 1: Introduction

provides a basic overview of the 8525 G2 and 8530 G2 vehicle-mounts.

Chapter 2: Basic Checkout

describes the steps required to get the 8525 G2/8530 G2 ready for operation.

Chapter 3: Getting To Know The 8525/30 G2

describes the 8525 G2/8530 G2 features and provides a description of the keyboard, how to navigate in Microsoft Windows CE, and so on.

Chapter 4: Working With Windows CE 5.0

describes the Microsoft Windows CE desktop and how to use it. This chapter also outlines the basics of moving around a Windows CE window, selecting and opening icons, files, folders and working with a Windows dialog box.

Chapter 5: Configuration

provides a description of the Windows CE Control Panel and how to use it to configure the 8525 G2/8530 G2, along with the scanners attached to the unit, and so on.

Chapter 6: Peripheral Devices & Accessories

describes the peripherals and accessories available for your 8525 G2/8530 G2.

Chapter 7: Specifications

details vehicle-mount computer, radio and battery specifications.

Appendix A: Support Services And Worldwide Offices

provides the helpdesk phone number at the Mississauga, Ontario, Canada office and details the support services available. This appendix also lists the worldwide office addresses and phone numbers.

Appendix B: Port Pinouts

includes 8525 G2/8530 G2 pinouts.

Appendix C: USB Setup Application

describes the USB setup application.

I.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.*

I.3 About The 8525 G2/8530 G2 Vehicle-Mount

The 8525 G2 and 8530 G2 are ruggedized vehicle-mount computers, running the Microsoft Windows CE operating system. They are intended for use in commercial and industrial applications with a focus on real time wireless data transactions. A wide range of data input capabilities are supported through a variety of imager, RFID and bar code scanner options.

I.4 8525 G2/8530 G2 Features

- Processor And Memory
 - PXA270 @ 520 MHz
 - 32KB instruction/32KB data cache
 - On-board RAM: 128 MBytes SDRAM
 - On-board ROM: 64 MBytes FLASH
- Operating System
 - Windows CE 5.0
- Programming Environment
 - HTML, XML
 - Visual Studio and SDK
 - Java Virtual Machines
 - BSquare JVM

- IBM JVM
- Standard protocol APIs
 - Windows sockets (WinCE)
- Wireless Communication
 - IEEE 802.11g, 54Mbps 2.4 GHz CF radio
Marvell-88W8300_802.11g_PC_Card (Model #RA2040)
 - IEEE 802.11g, 54Mbps 2.4 GHz CF radio
Summit DC-802.11_SC_CF (Model #RA2041)
 - External antenna options
 - Integrated *Bluetooth* radio 2.4 GHz (5m range)
- Application Software
 - Internet Explorer 6 for CE – HTML, XML, Jscript (Java available with optional JVM plug-in)
 - Open Tekterm V2.0
 - Terminal Emulations
 - ANSI, TESS
 - IBM 3270, IBM 5250, HP 2392
 - 802.11 security software

- User Interface

Colour Display:

8525 G2

- Transmissive industrial TFT for indoor/sunlight readability
- 1/2 VGA, 640 x 240, 8.8" diagonal
- CCFL Backlight, 220 cd/m² backlight with brightness control

8530 G2

- Transmissive TFT industrial for indoor/sunlight readability
- SVGA, 800 x 600, 10.4" diagonal
- CCFL Backlight, 350 cd/m² backlight with brightness control

8530 G2 Freezer Version

- Transmissive TFT industrial for indoor/sunlight readability
- VGA, 640 x 480 10.4" diagonal
- CCFL Backlight, 450 cd/m² backlight with brightness control

Keyboards:

- 3 keyboard formats available

- ABC
- Qwerty
- Azerty
- 68-key PC like format
- Green EL backlight
- Ergonomic design
- Dedicated function keys
- Epoxy coated elastomeric keys
- 8530 G2 includes a Soft Input Panel along with an external keyboard.
The keypad layout is shared with the 8525 G2.

Touchscreen:

- Passive stylus or finger operation
- Signature capture
- Stylus holder
- Rugged 5-wire technology
- Indicators and Controls
 - Internal 95 dBA beeper with volume control
 - Power indicator on the radio dome
 - 4 LED indicators: RX/TX, API, SCAN, PWR/CHG
- Internal Expansion Slots
 - One SD I/O (Multimedia Card) slot
 - One Type II Compact Flash
 - One Type III PC Card slot
 - Access to slots via sealed radio dome
- External Ports
 - One Tether port with:
 - one RS232 serial port (decoded scanner, printer)
 - undecoded scanner port
 - USB host port
 - One port with:
 - DB9 plug RS232 (optional +5V or +12V, 500MA on pin 9)
 - One High density port with:
 - one RS232 serial comm. port
 - 1 USB device port

- 2 USB host ports
 - Proprietary Keyboard port *for 8530 G2 only*
- Power Management
 - Internal power supply 10-90VDC designed for forklift power (pre-regulator not required)
 - Suspend mode backup power for up to five minutes
 - 1 week real-time clock backup
 - Optional 12.6 V Li-Ion internal battery for brown-out protection
 - 90 minutes operation
 - 25 hours data backup
 - Built-in fast charger
- Network Management
 - SNMP MIB 2 support
 - Remote software download
 - Remote WLAN management
 - MapRF
 - Mobile Control Centre
 - WaveLink Avalanche

1.4.1 8525 G2 Vehicle-Mount Computer

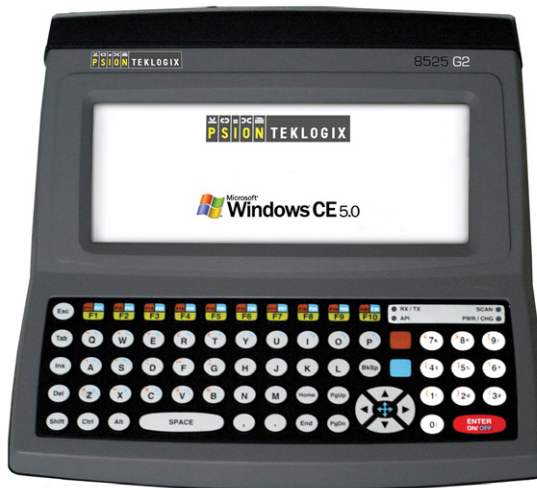


Figure 1.1 8525 G2 With Qwerty Keyboard

I.4.2 8530 G2 Vehicle-Mount Computer & Keyboard



Figure I.2 8530 G2 With Keyboard

BASIC CHECKOUT

2

2.1	Preparing The 8525 G2/8530 G2 For Operation	11
2.2	8525 G2/8530 G2 Safety Instructions	11
2.3	8525 G2/8530 G2 Freezer & Outdoor Guidelines	12
2.3.1	Important Operating Instructions	12
2.4	Switching The 8525 G2 On And Off	14
2.5	Switching The 8530 G2 On And Off	14
2.6	Calibrating The Touchscreen	15
2.7	Configuring Your IEEE 802.11 Radio	15
2.8	Setting Up Marvell-88W8300 802.11g Radios	15
2.8.1	Assigning An IP Address	21
2.8.2	Name Servers Tab	22
2.8.3	Advanced Features	23
2.8.3.1	Rearranging Preferred Networks	23
2.8.3.2	Deleting A Preferred Network	23
2.8.3.3	Changing Network Properties	23
2.9	Setting Up Summit DC 802.11 SC CF Radios–SCU	24
2.9.1	Assigning The IP Address	24
2.9.2	Using The SCU To Connect To The WLAN	24
2.10	SCU Tabs	26
2.10.1	Main Tab	27
2.10.2	Config Tab.	28
2.10.2.1	SCU Security Capabilities	30
2.10.2.2	EAP Credentials	32
2.10.2.3	ThirdPartyConfig.	32
2.10.3	Global Settings Tab	33
2.10.4	Status Tab	35
2.10.5	Diags Tab	35
2.11	Resetting The 8525 G2/8530 G2 Vehicle-Mount	36

2.1 Preparing The 8525 G2/8530 G2 For Operation

Typically, 8525 G2/8530 G2 vehicle-mounts are configured at the factory and arrive ready for use. Although the 8525 G2/8530 G2 is equipped with an internal Compact Flash slot, a PCMCIA slot and 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 Teklogix personnel. Refer to *Appendix A: Support Services And Worldwide Offices* for the service number closest to you.

2.2 8525 G2/8530 G2 Safety Instructions

- 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 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 8525 G2/8530 G2 battery or AC adaptor to rain or snow.

2.3 8525 G2/8530 G2 Freezer & Outdoor Guidelines

8525 G2/8530 G2 vehicle-mounts are sealed against dust and high-pressure water jets to the international standard IP66.

2.3.1 Important Operating Instructions



Warning: *IT IS CRITICAL that this information be reviewed and that any guidelines applicable to your vehicle-mount be strictly followed.*

For All Freezer Vehicle-Mounts

- Use vehicle-mounts only in the environments for which they are designed.
- All Psion Teklogix freezer vehicle-mounts have built-in heaters where required to warm internal components. To help maintain the temperature, units should be switched on before entry into a freezer environment and should be left connected to vehicle power and running at all times while in a freezer environment.
- When moving between freezer and warm, humid environments, window condensation or icing on the outside of the display window is a normal occurrence. Wiping the condensation from the window may help, but the operator may need to wait until the condensation stops forming before use.
- To reduce condensation and frost on vehicle-mount displays, use an anti-fogging agent once a week or as required.
- Contact lubricant and connector caps must be used on all external connectors to maintain a moisture barrier and prevent corrosion during freezer and outdoor use. On all 8525 G2/8530 G2 vehicle-mount computers, the contact lubricant –PN 95146 (Nyogel) must be used. Further, the appropriate contact lubricant should be replaced at least monthly in applications requiring daily or frequent removal of cables. Refer to the table below for connector cap part numbers.

Vehicle-Mount Type	Connector Cap	Part Number
8525 G2/8530 G2	26-pin DSUB Female	9008295
8525 G2/8530 G2	9-pin DSUB	9008296
8530 G2	26-pin DSUB Male	9008294

Table 2.1 Connector Caps

- To prevent condensation when a vehicle-mount is moved from a freezer to a warmer environment, it is recommended that the computer power be left on for at least five minutes.
- When not in use, vehicle-mount freezer units should be stored in temperatures above 0° C (32° F).
- To prevent keyboard keys from freezing up, the keyboard should be mounted off the horizontal plane. This allows water to run off the keyboard and prevents it from pooling on the keypad, freezing and finally physically jamming the keys. Mounting the keyboard off the horizontal plane also prevents water from dripping onto the keypad area.

Optional Backup Battery

The vehicle-mount backup battery capacity is reduced as the operating temperature cools. The table below provides a general outline of battery capacity based on the operating temperature. Charging of the back up battery will occur between +5° C and +45° 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 vehicle-mount operations. The backlight will switch back on when external power is restored or the battery temperature is above +10° C.*

Temperature	Backup Battery Capacity
-30° C (-22° F)	35%
-20° C (-4° F)	45%
-10° C (14° F)	60%
0° C (32° F)	close to 80%

Table 2.2 Backup Battery Performance



Warning: *Do not install the 8525 G2/8530 G2 in such a way that the power cable is bent 90 degrees as this may damage the power cable and power cable strain relief.*

2.4 Switching The 8525 G2 On And Off

- Press the [ENTER/ON] key.



Note: *If the 8525 G2/8530 G2 is in suspend state, pressing [ENTER/ON] ‘wakes’ the unit from this state. The screen in which you were working before the computer entered suspend state is displayed.*

To switch off the 8525 G2:

- Press the [BLUE] key, and then press the [ENTER/ON] key.

Turning off the 8525 G2/8530 G2 does not result in a complete reboot; rather, the unit enters a power-saving, “suspend” state. When the 8525 G2/8530 G2 is turned on from suspend state, operation resumes within a few seconds.



Important: *If the word ‘BLUE’ is displayed in uppercase in the taskbar at the bottom of the screen, this key is locked ‘on’ – the 8525 G2/8530 G2 will not switch off. Press the [BLUE] key again to unlock it; then press [BLUE] [ENTER/ON] to switch the 8525 G2 off.*

If, however, you’ve disabled the “Blue Key” in the ‘One Shot’ dialog box (see “Keyboard One Shots” on page 89), the 8525 G2 can be turned off even when the [BLUE] key is locked ‘on’.

2.5 Switching The 8530 G2 On And Off

- Press the [ON/OFF] switch on right side of the 8530 G2 to turn the unit on and off,

or

Press the [ENTER/ON] key on the keyboard to turn on the 8530 G2, and press [BLUE] [ENTER/ON] to turn off the unit.



Note: *Pressing the 8530 G2 ON/OFF switch or using the [BLUE][ENTER/ON] key combination does **not** result in a complete reboot. The unit enters ‘suspend’ state until it is switched on.*

2.6 Calibrating The Touchscreen

Before using your 8525 G2/8530 G2, you will need to calibrate the touchscreen. Refer to “Calibrating The Touchscreen” on page 46 for details.

2.7 Configuring Your IEEE 802.11 Radio

If your 8525/30 G2 is equipped with a *Marvell-88W8300_802.11g_PC_Card* (Model # *RA2040*), follow the steps outlined under the heading “Setting Up Marvell-88W8300 802.11g Radios” beginning on page 15.

If your vehicle-mount is equipped with a *Summit DC 802.11 SC* (Model # *RA2041*) *CF radio*, follow the steps under “Setting Up Summit DC 802.11 SC CF Radios–SCU” beginning on page 24 to set up this type of radio for communication with a wireless LAN.

2.8 Setting Up Marvell-88W8300 802.11g Radios

The most common 802.11g settings are configured as defaults. However, there are some fields that must be completed, including the SSID of your access point and the security methods implemented in the network (including access keys).



Important: *If the 8525 G2/8530 G2 is equipped with a radio that has never been configured, the radio settings dialog box opens automatically when the unit is powered on. In this case, skip to Step 4 on page 17.*

To configure the 802.11g radio:

1. Press [BLUE][0], and tap on **Settings>Network and Dial-up Connections.**

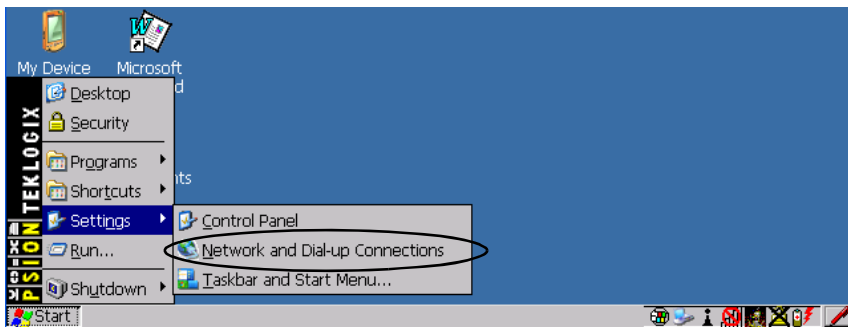


Figure 2.1 Network And Dial-Up Connections



Note: You can press [CTRL] [ESC] to display the Start Menu.

2. Choose the radio icon to open the *Wireless LAN Settings* window – in the sample screen below, this is labelled *PTXCF838*.

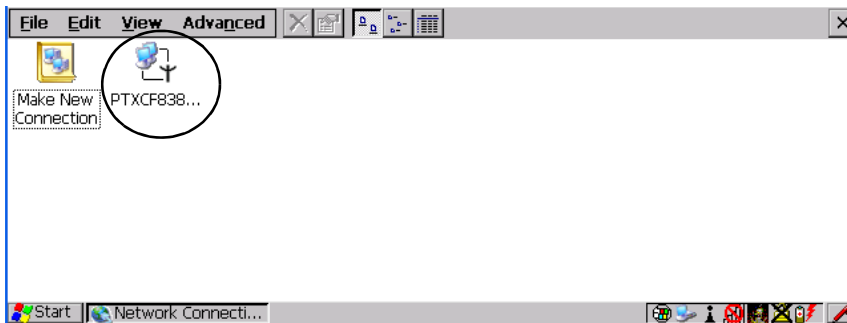


Figure 2.2 Wireless Settings Window

3. Wireless Statistics Tab

When you choose the **Wireless LAN** icon, a *Wireless Statistics* window is displayed.

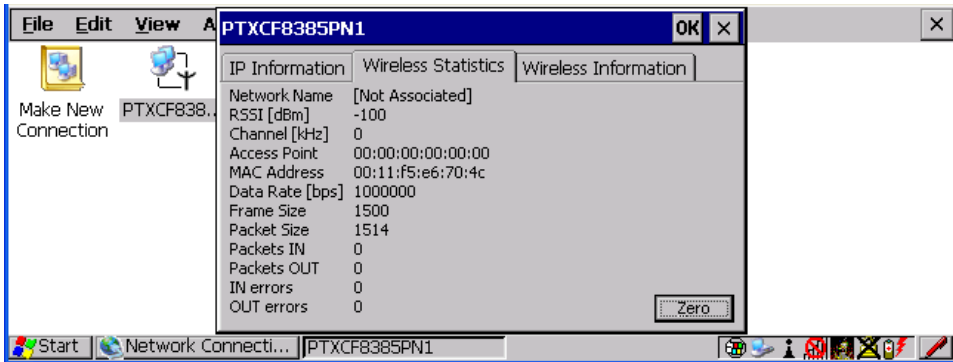


Figure 2.3 Wireless Statistics

This tab lists your radio statistics. Choosing the **Zero** button resets the statistics of the last four items – *Packets IN*, *Packets OUT*, *IN errors* and *OUT errors*.

- Tap the stylus on the **Wireless Information** tab.

4. Wireless Information Tab

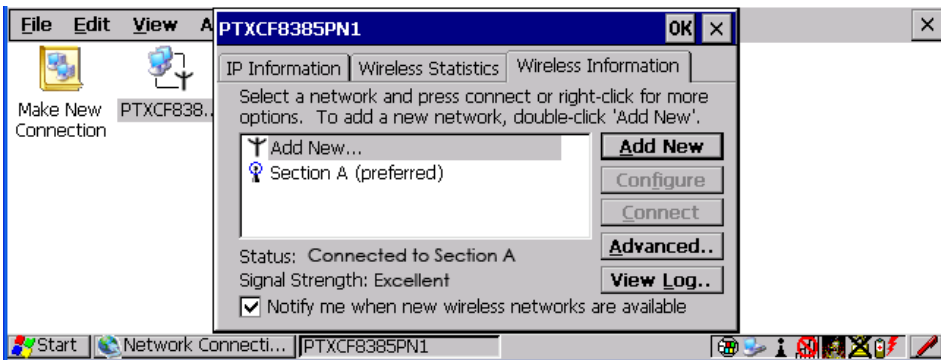


Figure 2.4 Wireless Information Tab

This tab displays existing networks to which you can connect, and it allows you to add a new network or modify the settings for an existing network.



Note: *Connect button – To force connection to a specific, existing network,*

*highlight the network to which you want your 8525 G2/8530 G2 to connect, and tap the **Connect** button.*

This tab lists available networks – any access points that are broadcasting an SSID, and it lists *preferred* networks – networks that you have configured. Since access points are generally secure, they will most likely not be listed here. By default, the 8525 G2/8530 G2 attempts to connect to preferred networks. This behaviour can be changed by enabling ‘*Automatically connect to non-preferred networks*’ in the *Advanced* dialog box (page 23).

- To add a new configuration, double-tap on the **Add New** item listed with the networks. A blank *Wireless Properties* dialog box is displayed.

5. Wireless Properties

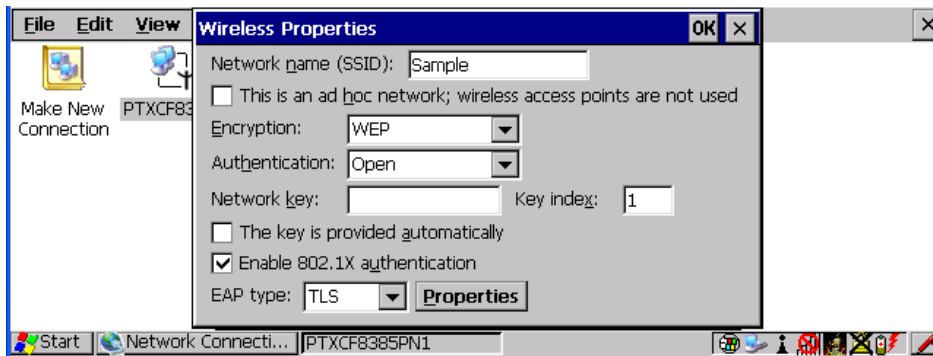


Figure 2.5 Wireless Properties Dialog Box

Network name (SSID):

- Type the appropriate SSID (Service Set Identifier) in the ‘*Network name (SSID):*’ text entry field at the top of this dialog box.

The *Network name* field can contain a maximum of 32 characters. The name assigned here is listed as a *preferred* network.



Important: *Keep in mind that the 8525 G2/8530 G2 will only communicate with access points that are configured with the same SSID.*

Ad Hoc And Infrastructure

If you are using an “Infrastructure” network – one in which 8525 G2/8530 G2s must pass data through an access point – leave the checkbox next to ‘*This is an ad hoc network*’ empty.

If you are using an *Ad Hoc* network – a network in which 8525 G2/8530 G2s pass data **directly** to other 8525 G2/8530 G2s without an access point – tap on the checkbox next to ‘*This is an ad hoc network*’ to enable Ad Hoc.

Encryption

WEP (Wired-Equivalent Privacy) encryption prevents others from accidentally accessing your network. If you are not using encryption, you can choose *Disabled* from the dropdown encryption menu. Otherwise, leave this field as is.



Note: *WEP cannot be disabled if you are using WPA or WPA-PSK authentication.*

TKIP (Temporal Key Integrity Protocol) is an encryption protocol included as part of the IEEE 802.11 standard for wireless LANs. Designed to enhance WEP, TKIP uses the original WEP programming but ‘wraps’ additional code at the beginning and end to encapsulate and modify it, encrypting each data packet with a unique encryption key.

Authentication

802.11 supports a number of subtypes of network authentication services: *Open*, *Shared*, *WPA* and *WPA-PSK*.

Using *Open* authentication, any wireless station can request authentication. The station that needs to authenticate with another wireless station sends an authentication management frame that contains the identity of the sending station. The receiving station then sends back a frame that indicates whether it recognizes the identity of the sending station.

Using *Shared* authentication, each wireless station is assumed to have received a secret shared key over a secure channel that is independent from the 802.11 wireless network communications channel.

WPA (Wi-Fi Protected Access) uses the Temporal Key Integrity Protocol (TKIP) to provide strong data encryption, and offers two user authentication and key management methods.

The first method of user authentication is intended for environments using a centralized Authentication Server, such as RADIUS. User authentication is based on IEEE 802.1X and mutual authentication based EAP.

In environments where a centralized Authentication Server or EAP framework is *not* available, user authentication is based on a ‘Pre-Shared Key’ method – *WPA-PSK*. If you are using Pre-Shared Key authentication, you

will need to manually enter a password (Master Key) in the Access Point or Wireless Router and enter the same password in each client device that accesses the wireless network. The manually configured *WPA* password (Master Key) automatically starts the TKIP data encryption process.

Network Key:

This text box is used to specify a 5 or 13 ASCII character sequence or an equivalent 10 or 26 Hexadecimal digit sequence that matches the active WEP key on the access point.

- To assign a *Network key*, tap in the checkbox next to ‘**The key is provided automatically**’ to remove the check mark next to this option.

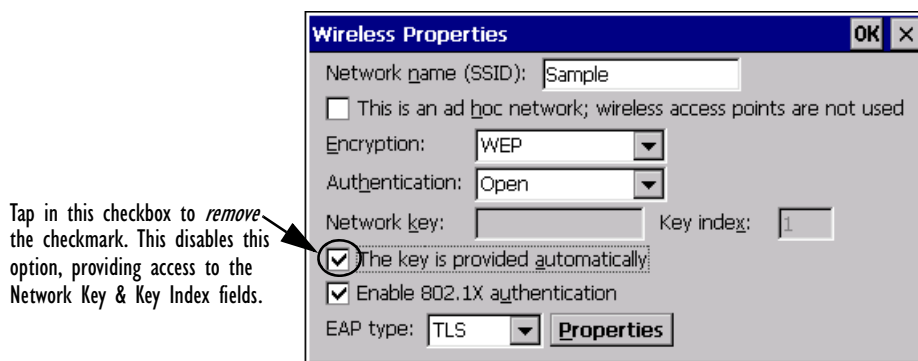


Figure 2.6 Accessing Network Key And Key Index

Key Index:

This field is used to identify the WEP key.

- Enter a value from 1 to 4.

Enable 802.1x authentication

“802.1X” is the IEEE standard that offers additional security for local area networks. It provides authentication for user devices attached to an Ethernet network, whether wired or wireless. A security protocol packet such as TLS or MD5 encapsulated in an “EAP” is used in conjunction with the “802.1x” standard to authenticate users at the MAC layer. Available EAPs are listed in the dropdown menu next to the ‘EAP’ option.

- To activate “802.1X”, tap on the checkbox next to ‘**Enable 802.1x authentication**’, and press the [SPACE] key to enable it.

EAP Type (Extensible Authentication Protocol):

This dropdown menu lists the EAP types available on your system. The items in this dropdown menu will vary depending on your network setup. Keep in mind also that some authentication protocols require that you select a 'Certificate'. By selecting the *Properties* button, you will be able to select a Certificate. "Certificate Assignment" on page 105 provides a website that outlines how to create certificates for your network.

6. Saving and exiting the radio setup.

Once you have completed your configuration, press [ENTER] or tap on **OK**.

The connection you created will be listed in the *Wireless Information* tab as a preferred network. The radio will search for the SSID and will compare the WEP and authentication information you specified. If there is a match between your 8525 G2/8530 G2 settings and the access point settings, the 8525 G2/8530 G2 will communicate on the network through the access point.

2.8.1 Assigning An IP Address

If your network is **not** using a DHCP server, you will need to assign an IP address.

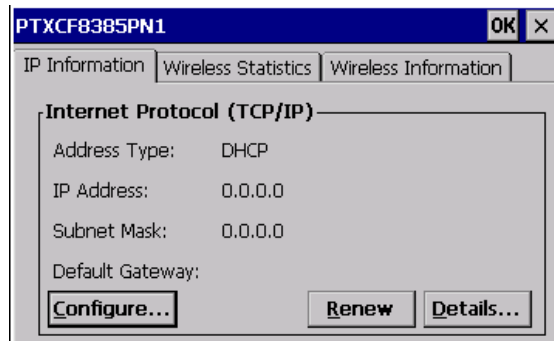


Figure 2.7 Configuring An IP Address



Note: Choosing the **Renew** button forces the 8525 G2/8530 G2 to renew or find a new IP address. This is useful if, for example, you are out of communication range for a longer period of time and your 8525 G2/8530 G2 is dropped from the network.

- To define a static IP address:
- Tap the **Configure** button.

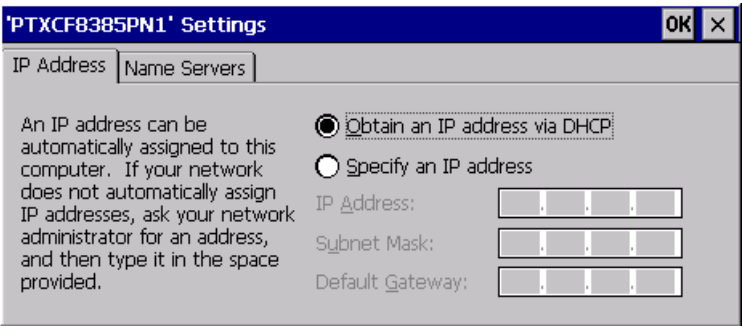


Figure 2.8 Defining An IP Address

- Tap on the radio button next to *Specify an IP address*.
- Tap on each field, and type an **IP**, **Subnet Mask** and **Default Gateway** address. Tap on **OK** to save your information.

2.8.2 Name Servers Tab



Note: *If DHCP is enabled, name server addresses are assigned automatically.*

- In the *IP Information* tab, tap on the **Configure** button. (“Figure 2.8” on page 22 is the window from which you choose the **Configure** button.)
- Tap on the **Name Servers** tab.

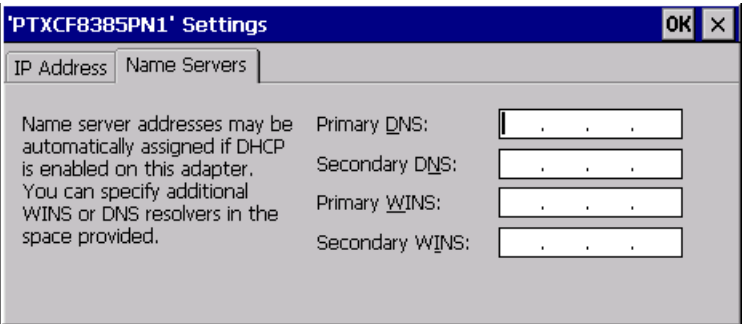


Figure 2.9 Name Servers Tab

The DNS and WINS fields in the *Name Servers* tab allow you to specify additional WINS and DNS resolvers. The format for these fields is ###.###.###.###.

2.8.3 Advanced Features

To display the *Advanced Wireless Settings* dialog box:

- Tap the **Advanced** button in the *Wireless Information* tab.

This window lists the available preferred networks.

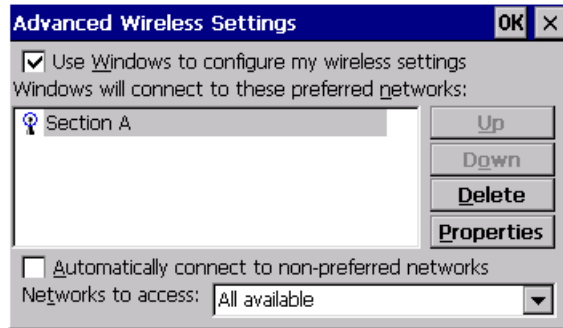


Figure 2.10 Advanced Settings

2.8.3.1 Rearranging Preferred Networks

The 8525 G2/8530 G2 attempts to connect with the networks listed in this dialog box *in sequence, beginning at the top of the list*. If you need to rearrange this list of networks – move networks up and down in the list:

- In the networks list, tap on the network that you want to move up or down in the list.
- To move the highlighted item upward or downward in the list, tap the **Up** or **Down** button, and press [ENTER].

2.8.3.2 Deleting A Preferred Network

To delete a network from this list:

- Tap on the network in the list to highlight it.
- Tap the **Delete** button, and press [ENTER].

2.8.3.3 Changing Network Properties

To change the properties of an existing preferred network:

- Highlight the network that you want to modify.
- Tap the **Properties** button, and press [ENTER].

- Make any necessary changes in the *Wireless Properties* dialog box, and press [ENTER] to save the changes.



Note: You do not need to reset your 8525 G2/8530 G2 after configuring the radio. Summit DC 802.11 SC (Model # RA2041) CF radio

2.9 Setting Up Summit DC 802.11 SC CF Radios—SCU

This section describes the *Summit Client Utility (SCU)*. The *SCU* provides the utilities you will need to configure the Summit 802.11g Compact Flash radio module, model number RA2041, so that it can communicate through a wireless LAN effectively and securely.

2.9.1 Assigning The IP Address

Before launching the *SCU*, you need to configure how the IP address will be obtained.

- Tap on **Start>Settings>Network and Dial-up Connections**.

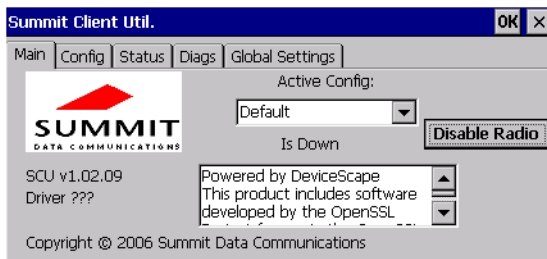
Follow the steps under the heading “Assigning An IP Address” on page 21 to determine how the IP address will be obtained – either via DHCP or by specifying an address.

2.9.2 Using The SCU To Connect To The WLAN

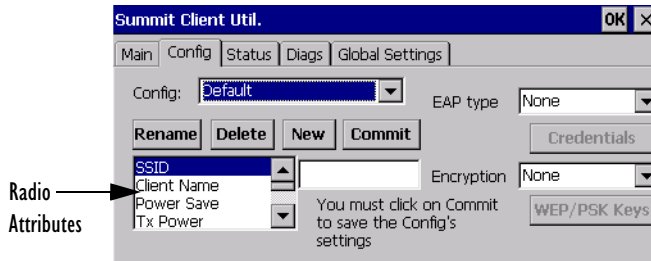
This section provides a quick set of steps to create a profile (referred to as a *config*). Detailed information about each of the SCU tabs – *Main*, *Config*, *Status*, *Diags* and *Global Settings* – is provided under “SCU Tabs” beginning on page 26.

To launch the *SCU* so that your vehicle-mount can connect to a wireless LAN:

- Tap on **Start>Programs>Summit>SCU**.



- Tap on the **Config** tab.



- Tap on the **New** button to define a new *config* (profile).
- Type a name for your configuration using any alpha-numeric combination to uniquely identify this *config*.
- Tap on **OK** to return to the *Config* tab.
- Tap on **Commit** to save the *config* name.
- When a pop-up message indicates that your configuration will be saved, tap on **OK**.

To configure the *SSID* for the network to which you want to associate:

- Type an **SSID** in the text box to the right of *SSID*. This field is limited to 32 characters.
- Tap on **Commit** and then, in the pop-up message, tap on **OK** to save your *SSID* setting.



Important: *To learn more about the other options available in the radio attributes list, refer to “Config Tab” beginning on page 28.*

To configure authentication:

- Tap on the **EAP type** dropdown menu, and choose the appropriate type of authentication – LEAP, EAP-FAST, PEAP-MSCHAP, and PEAP-GTC.
- Next, tap on the **Credentials** button, and type credentials for IEEE 802.1X EAP types.



Important: *Refer to “SCU Security Capabilities” on page 30 for details about security settings. Additional EAP details are described in “EAP Credentials” on page 32.*

To configure encryption:

- Tap on the **Encryption** dropdown menu, and choose the appropriate type of encryption – Manual WEP, Auto WEP, WPA PSK, WPA TKIP, WPA2 PSK, WPA2 AES, and CCKM TKIP.

If you choose *Manual WEP*, *WPA PSK* or *WPA2 PSK*:

- Tap on the **WEP/PSK Keys** button. For *Manual WEP*, choose up to four static WEP keys. For *PSK*, type an ASCII passphrase or hex PSK.
- Configure any other settings that are supplied by the network administrator for the *SSID* to which you will associate.
- Make certain that you tap on **Commit** *following each change*.

Once you've completed the configuration:

- Tap the **Main** tab. Tap on the **Active Config** button – your new *config* will be listed in the dropdown menu.

When you tap on the *config* you created, the Summit DC-802.11_SC_CF (Model #RA2041) radio module attempts to connect to the network using these steps:

- Associate to the SSID.
- Authenticate to the network.
- If EAP authentication is being used, derive dynamic encryption keys.
- If DHCP is being used by the network, obtain an IP address.

If the Summit DC-802.11_SC_CF (Model #RA2041) is not connecting:

- Tap on the **Status** tab.

The *Status* dialog box lists the IP and MAC address, and indicates the current state of the radio, the signal strength, channel and so on.

You can also use the *Status* screen for DHCP renewal and ICMP Echo Requests (Pings).



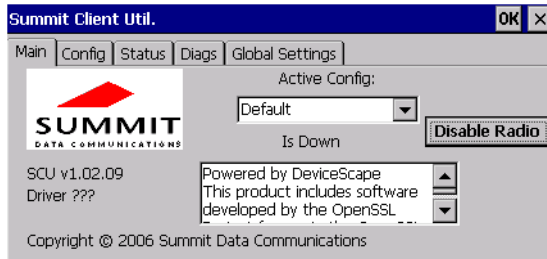
Important: For details about the *Status* dialog box, refer to “*Status Tab*” on page 35.

2.10 SCU Tabs

This section provides a detailed description of each of the tabs available in the SCU – Main, Config, Status, Diags and Global Settings.

2.10.1 Main Tab

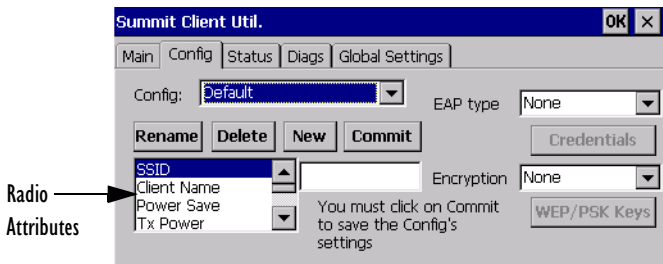
The *Main* tab is displayed when you tap on *Start>Programs>Summit>SCU*.



- **Enable/Disable Radio:** Enables or disables the radio. This is a toggle button; when the radio is enabled, this button reads *Disable Radio*, and when the radio is disabled, it reads *Enable Radio*.
- **Active Config:** Lists the name(s) of the active configuration profile(s) which are referred to as *configs*. When a *config* is chosen from the *Active Config* dropdown menu, the settings for that config become active. If *ThirdPartyConfig* is selected, after the vehicle-mount goes through a power cycle, WZC is used for configuration of the radio. See “ThirdParty-Config” on page 32 for details.
- **Association Status:** Indicates if the radio is associated to an access point. If this is not the case, *Association Status* indicates the radio status.
- **Software Version:** This field displays the version of the device driver and the *SCU* that are running on the 8525 G2/8530 G2.
- **About Box:** This box provides information about the *SCU*.

2.10.2 Config Tab

The *Config* tab allows you to define radio and security settings that are stored in the registry as part of the configuration profile or *config*.



The *config* you create and save is listed in the *Active Config* dropdown menu in the *Main* tab. You can define up to 20 *configs*.

- **Config:** Used to choose the *config* to be viewed or edited. If *ThirdParty-Config* is chosen, after the 8525 G2/8530 G2 goes through a power cycle, WZC is used for configuration of the radio.
- **Rename:** Allows you to assign a *config* name.
- **Delete:** Deletes the *config* unless it is currently active.
- **New:** Allows you to create a new *config* with default settings and assign it a name.
- **Commit:** Saves all changes.
- **Radio Attributes:** Lists radio attributes. These attributes can be individually chosen from this menu. When an attribute is chosen, an associated list of options is displayed where you can assign new settings or view existing settings.

The following table describes the options in the *Radio Attributes* dropdown menu:

Radio Attribute	Description	Value	Default
Config	Name of config (configuration profile). Use Rename button to change name.	Maximum of 32 characters.	None
SSID	Service set identifier (SSID) for WLAN to which the radio connects.	Maximum of 32 characters.	None

Radio Attribute	Description	Value	Default
Client Name	Name assigned to radio & vehicle-mount into which it is installed.	Maximum of 16 characters.	None
Power Save	Power save mode for radio.	CAM: Constantly awake. Maximum: Maximum power savings. Fast: Fast power save mode.	Fast
Tx Power	Maximum transmit power.	Max: Maximum defined for current regulatory domain. Measured in mW: 50,30,10, 1.	Max
Bit Rate	Used by radio when interacting with WLAN access point.	Auto: Rate automatically negotiated with access point. Rates in Mbps: 1, 2, 5.5, 6.9 11, 12, 18, 24, 36, 48, 54.	Auto
Radio Mode	Used by 802.11g when interacting with access point.	B rates only: 1, 2, 5.5, & 11 Mbps. G rates only: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps. BG rates full: All B and G rates. BG rates optimized: 1, 2, 5.5, 6, 11, 24, 36 & 54 Mbps.	BG rates optimized
Auth Type	802.11 authentication type used when associating with access point.	Open, shared-key, or LEAP (Network-EAP).	Open
EAP Type	Extensible Authentication Protocol type used for 802.1X authentication to access point.	None, LEAP, EAP-FAST, PEAP-MSCHAP – To use EAP-TLS, you must use WZC.	None

Radio Attribute	Description	Value	Default
Credentials	Authentication credentials for the selected EAP type. <i>Refer to “EAP Credentials” on page 32.</i>	User: Username or Domain/Username (up to 64 characters). Password: up to 64 characters. For PEAP: CA Cert–CA server certificate filename.	None
Encryption	Type of encryption used to protect transmitted data.	Off, Manual WEP, Auto WEP (generated during EAP authentication), WPA-PSK, WPA-TKIP, WPA2-PSK, WPA2-TKIP, WPA2-AES, CCKM-TKIP. For Manual WEP: Up to four static WEP keys. For PSK: ASCII passphrase or hex PSK.	None

- **EAP-Type & Encryption:** Security settings. These settings allow you to enhance the security of data across the wireless LAN. Refer to “EAP Credentials” on page 32 and “SCU Security Capabilities” on page 30 for details about these settings.

2.10.2.1 SCU Security Capabilities

The *SCU* provides integrated security to protect transmitted data as well as the vehicle-mount and wireless WAN infrastructure that transmit and receive data.

A foundational element of the IEEE 802.11i WLAN security standard is IEEE 802.1X and a critical application on a mobile device is an 802.1X supplicant. This supplicant provides an interface between the radio and the operating system and supports the authentication and encryption elements required for 802.11i, also known as Wi-Fi Protected Access 2 (WPA2), as well as predecessors such as WPA and WEP. Summit software includes an integrated supplicant that supports a broad range of security capabilities, including:

- 802.1X authentication using pre-shared keys or an EAP type, required for WPA2 and WPA.
- Data encryption and decryption using WPA2 AES, WPA TKIP or WEP.

Common EAP types include:

- **EAP-TLS:** Uses the same technology as a follow-on to Secure Socket Layer (SSL). It provides strong security, but relies on client certificates for user authentication.
- **PEAP:** Provides secure user authentication by using a TLS tunnel to encrypt EAP traffic. Two different inner methods are used with PEAP:
 - EAP-MSCHAPV2, resulting in PEAP-MSCHAP: This is appropriate for use against Windows Active Directory and domains.
 - EAP-GTC, resulting in PEAP-GTC: This is for authentication with one-time passwords (OTPs) against OTP databases such as SecureID.
- **LEAP:** Is an authentication method for use with Cisco WLAN access points. LEAP does not require the use of server or client certificates. LEAP supports Windows Active Directory and domains but requires the use of strong passwords to avoid vulnerability to offline dictionary attacks.
- **EAP-FAST:** Is a successor to LEAP and does not require strong passwords to protect against offline dictionary attacks. Like LEAP, EAP-FAST does not require the use of server or client certificates and supports Windows Active Directory and domains.



Note: *PEAP and EAP-TLS require the use of Windows facilities for the configuration of digital certificates.*

SCU EAP Types

The following EAP types are supported by the integrated supplicant and can be configured in SCU: PEAP-MSCHAP, PEAP-GTC, LEAP and EAP-FAST. With each of these four types, if authentication credentials are not stored in the *config*, you will be prompted to enter credentials the first time the radio attempts to associate to an access point that supports 802.1X (EAP).

Consider the following when configuring one of the EAP types:

- PEAP-GTC: SCU supports static (login) passwords only.
- LEAP: Strong passwords are recommended.
- EAP-FAST: SCU supports automatic, not manual, PAC provisioning.

EAP-TLS will work with a Summit DC-802.11_SC_CF (Model #RA2041) radio module when *Windows Zero Config* (WZC) rather than the SCU is used to configure the type. With WZC, the *native Windows supplicant* instead of the SCU integrated supplicant is used.

2.10.2.2 EAP Credentials

Keep the following in mind when defining security settings:

- If the credentials specified in the *config* are incorrect and that *config* is used, the authentication fails without an error message; you will not be prompted to enter correct credentials.
- If the credentials are not specified in the *config*, when the radio tries to associate using that *config*, you will be prompted to enter the credentials.
- When prompted, you can enter valid credentials, enter invalid credentials, or cancel the operation.
 - If you enter valid credentials and tap OK, the radio will associate and authenticate.
 - If you enter invalid credentials and tap on OK, the radio will associate but will not authenticate; you will be prompted again to enter credentials.
 - If you tap on Cancel or clear the credentials fields and tap on OK, the radio will not attempt to associate with that *config* until you perform one of the following actions (while the *config* is the *active config*):
 - Cause the vehicle-mount to go through a power cycle or suspend/resume.
 - Disable and enable the radio, or tap the **Reconnect** button on the *Diags* windows.
 - Modify the *config*, and tap on **Commit**.

Alternatively, you can choose another *config* as the active *config* and then switch back to the *config* for which EAP authentication was cancelled.

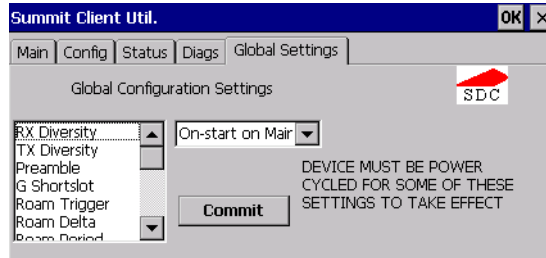
2.10.2.3 ThirdPartyConfig

If you choose to configure *ThirdPartyConfig*, the *SCU* will work with the operating system's *Windows Zero Config* (WZC) to configure radio and security settings for the CF radio installed in the unit.

Choosing this *config* means that *WZC* must be used to define the following radio and security options: SSID, Auth Type, EAP Type and Encryption. The *SCU* settings for *ThirdPartyConfig* include: Client Name, Power Save, Tx Power, Bit Rate and Radio Mode. These *SCU* settings along with *SCU* global settings and the *WZC* settings will be applied to the radio module.

2.10.3 Global Settings Tab

The *Global Settings* tab allows you to define radio and security settings that apply to all *configs* (profiles), along with settings that apply specifically to the *SCU*.



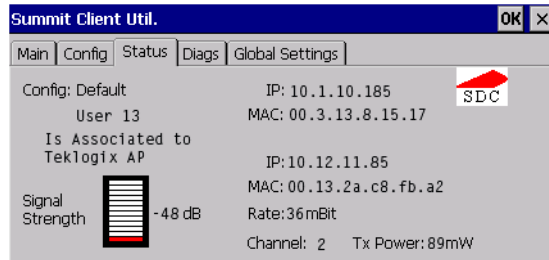
The *Global Settings* outlined in the table below can be edited in the SCU:

Global Setting	Description	Value	Default
CCX features	Activates three CCX features: AP-assisted roaming, AP-specified maximum transmit power & radio management.	On, Off	Off
Cert Path	Directory where certificates for EAP authentication are stored.	Valid directory path up to 64 characters.	Dependent on device.
Frag Thresh	Packet is fragmented when packet size (in bytes) exceeds threshold.	Integer from 256 to 2346.	2346
G Shortslot	802.11g short slot timing mode.	Auto, Off, On	Auto
Hide Passwords	On - SCU as well as EAP authentication dialog boxes hide passwords, WEP keys and other sensitive information.	On, Off	Off
LED	Available only with MCF10G.	On, Off	Off
Preamble	Type of radio preamble or headers.	Auto, Short, Long	Auto
Ping Payload	Amount of data to be transmitted on a ping.	Bytes: 32, 64, 128, 256, 512 & 1024	32
Ping Timeout ms	Amount of time in milliseconds that passes without a response before ping request is considered a failure.	Integer from 0 to 30000.	5000

Global Settings Tab

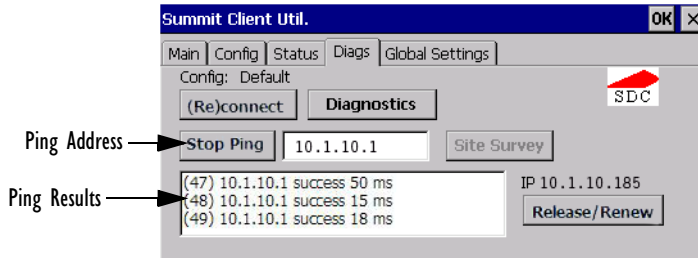
Global Setting	Description	Value	Default
Ping Delays ms	Amount of time in milliseconds between successive ping requests.	Integer from 0 to 7200000.	1000
Roam Delta	Amount by which second AP's RSSI must exceed the moving average RSSI for the current AP before the radio will attempt to roam to a second AP.	dBm: 5, 10, 15, 20, 25, 30, 35	15
Roam Period	Following an association or roam scan (with no roam), the number of seconds the radio collects RSSI scan data before considering roaming.	Seconds: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60	10
Roam Trigger	If RSSI from AP is less than roam trigger value, radio performs roam scan or probes for an AP with stronger signal.	dBm: -50, -55, -60, -65, -70, -75	-70
RTS Thresh	Packet size above which RTS/CTS is required on link.	An integer from 0 to 2347.	2347
RX Diversity	Defines how to handle antenna diversity when receiving data from AP.	-On-Start on Main: On startup, use main antenna. -On-Start on Aux: On startup, use auxiliary antenna. -Main only: Use main antenna only. -Aux only: Use auxiliary antenna only.	On-Start on Main
TX Diversity	Defines how to handle antenna diversity when transmitting data to AP.	-Main only: Use main antenna only. -Aux only: Use auxiliary antenna only. -On: Use diversity.	On
WMM	Use Wi-Fi Multimedia Extensions, also know as WMM.	On, Off	Off

2.10.4 Status Tab



The *Status* tab provides status information including IP address and MAC address for the client radio, IP address and MAC address for the AP, signal strength, channel, transmit power and data rate.

2.10.5 Diags Tab



Use the *Diags* tab as a troubleshooting tool. The functions are as follows:

- **(Re)Connect:** Enables/Disables the radio, applies/reapplies current *config* and tries to associate and authenticate to the wireless LAN, logging all activity in the output area at bottom of the dialog box.
- **Release/Renew:** Obtains a new IP address through DHCP and logs all activity in the output area.
- **Start Ping/Stop Ping:** Starts a continuous ping to the address in the text box next to this button. This a toggle button so when you tap on it, it changes to *Stop Ping*. Closing this window or tapping on another button also stops the ping.

- **Diagnostics:** Attempts to connect or reconnect to an AP, and provides a more detailed dump of data than if you used *(Re)connect*. The dump includes the radio state, config settings, global settings and BSSID list of APs. The SCU is saved to a file called `_sdc_diag.txt` in the Windows directory.

2.11 Resetting The 8525 G2/8530 G2 Vehicle-Mount

Warm Reset

To execute a warm reset:

- Press and hold down the [BLUE] key and the [ENTER/ON] key simultaneously for a minimum of six seconds.

A warm reset closes open applications; any unsaved data are lost. Installed programs and saved data are preserved.



Note: *You do not need to reset your 8525 G2/8530 G2 after configuring the radio.*

Cold Reset

There are two options when executing a cold reset: reset to BootLoader or reset directly to Windows CE operating system.

To execute a cold reset and access the BooSt menu:

- Press and hold down the left [BLUE] key, the [ENTER] key and the [SPACE] key simultaneously for a minimum of six seconds.

After a cold reset, the BooSt menu appears.

- If you want to load the *Windows CE* operating system, type **1**.
- If you want a clean start, press **!** (that is, [SHIFT] [1]). All data and settings are lost. Files and data stored in flash are preserved.

Once the OS loads, any executables and cab files in the startup folders are run. The cab files are deleted by the cab file installer unless they are marked read-only.

GETTING TO KNOW THE 8525/30 G2

3

3.1 Features Of The 8525 G2/8530 G2	39
3.2 Internal Backup Power	41
3.2.1 The Optional Backup Battery.	41
3.2.2 The Super Capacitor	41
3.3 The Keyboard	42
3.3.1 Modifier Keys	42
3.3.1.1 Activating Modifier Keys	42
3.3.1.2 Locking Modifier Keys	43
3.3.2 The Keys	43
3.4 Function Keys And Macro Keys	45
3.4.1 Function Keys	45
3.4.2 Macro Keys	45
3.4.3 The Keypad Backlight	46
3.5 The Display	46
3.5.1 Calibrating The Touchscreen	46
3.6 8525 G2/8530 G2 Indicators	47
3.6.1 Power Indicator LED	47
3.6.2 LEDs	48
3.6.2.1 PWR/CHG – Charge LED.	48
3.6.2.2 RX/TX – Radio Traffic LED	49
3.6.2.3 Scan LED	49
3.6.2.4 API – User Application LED	49
3.6.3 Onscreen Indicators.	49
3.6.4 Audio Indicators	52
3.7 Scanning.	52
3.7.1 Scanning Techniques	53
3.7.2 Scan LED Indicators	53
3.7.3 Troubleshooting.	54
3.7.4 Operating One Dimensional (1D) Laser Scanners	54
3.7.5 Operating PDF Laser Scanners	54
3.8 Connecting & Disconnecting Tethered Peripherals.	55
3.9 The Cable Management Bar	56
3.10 Monitoring The Network Connection	56

- 3.11 Connecting An 8525 G2/8530 G2 To A PC 57
 - 3.11.1 Using Microsoft ActiveSync To Work With Files 57
- 3.12 General Maintenance. 58
 - 3.12.1 Caring For The Touchscreen. 58
 - 3.12.2 Cleaning The 8525 G2/8530 G2. 58

3.1 Features Of The 8525 G2/8530 G2

The 8525 G2 and 8530 G2 vehicle-mounts share the same radio dome with identical features.

Inside The Radio Dome

- SDIO/MMC Slot — for additional storage memory
- PCMCIA slot - supports 2-Type II PCMCIA or 1-Type III PCMCIA card
- Compact Flash slot - for 802.11g radios or additional storage memory



Figure 3.1 Front Of 8525 G2

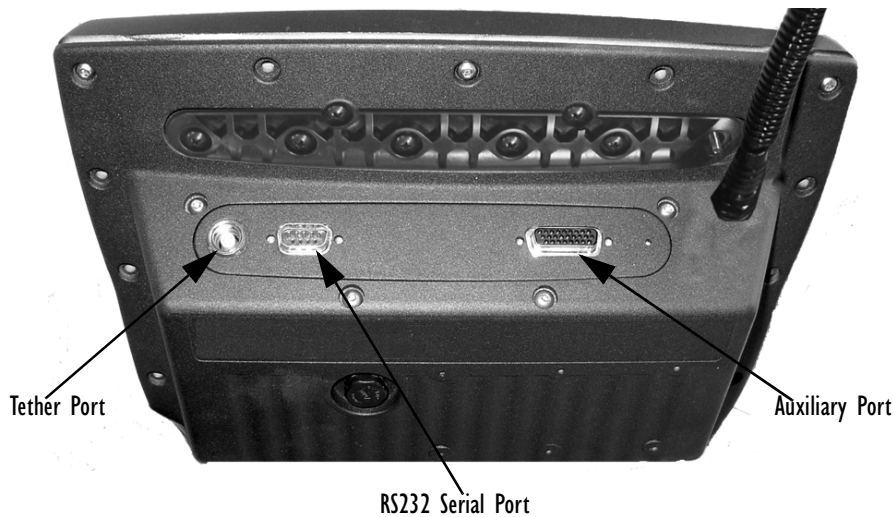


Figure 3.2 8525 G2 Ports

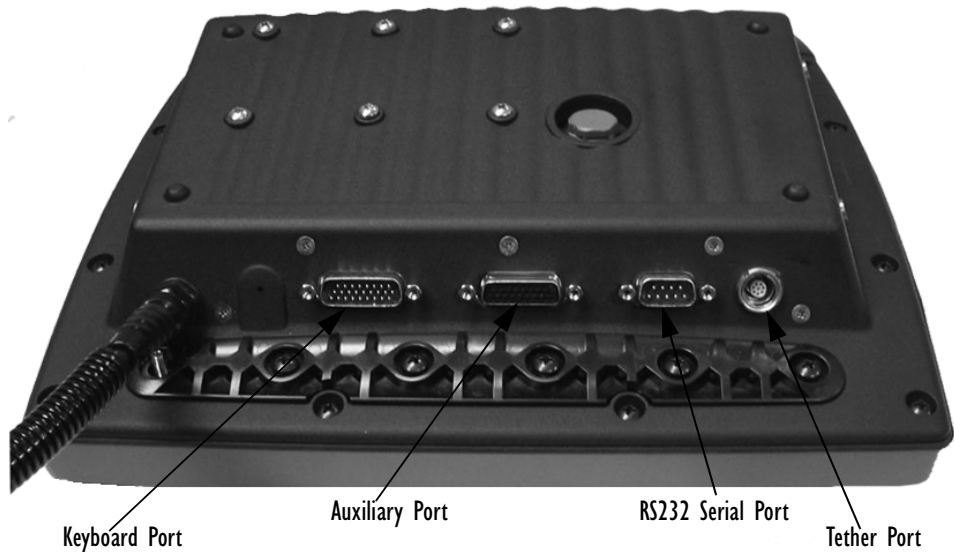


Figure 3.3 8530 G2 Ports

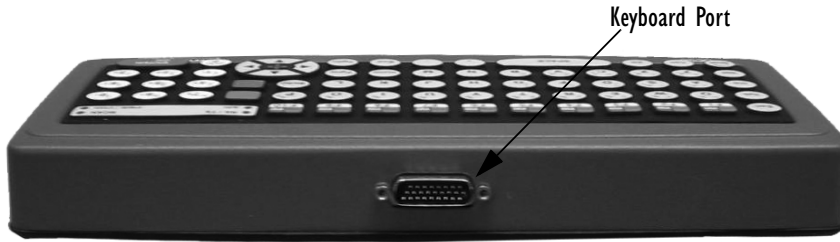


Figure 3.4 8530 G2 Keyboard Port

3.2 Internal Backup Power

Backup power is provided to ensure the safe shutdown of the vehicle-mount computer if external power is interrupted. Backup power is delivered by either an optional internal backup battery or a super capacitor. The difference between the two is that the backup battery provides full, operating power while the super capacitor only buffers the memory and does not allow the unit to be operated.

The 8525/30 G2 vehicle-mount can be ordered with or without an internal backup battery, depending on your requirements.



Note: *The backup battery and super capacitor are not user accessible. They can only be replaced by authorized Psion Teklogix personnel.*

3.2.1 The Optional Backup Battery

An 8525/30 G2 vehicle-mount that is equipped with an internal backup battery will provide full, operating power to the unit for up to 1.5 hours after external power is interrupted.



Note: *If the backup battery is completely discharged, you must provide external power to the vehicle-mount for at least one hour to ensure that the battery is fully charged.*

3.2.2 The Super Capacitor

If external power is interrupted on a unit *not* equipped with an internal backup battery, the onboard super capacitor provides suspend mode backup power to the unit for up to five minutes; all unnecessary draws on power such as the display and CPU are shut down to preserve power.

The Keyboard

If external power is reconnected before five minutes elapses, pressing [ENTER] will wake the unit from suspend mode. On an 8530 G2, you can press the Power button to wake the vehicle-mount. After five minutes, the vehicle-mount will shut down and the RAM content is lost.



Note: *When the vehicle-mount is initially installed, you need to provide external power to the unit for at least four minutes to ensure that the super capacitor is fully charged.*

3.3 The Keyboard

The 8525 G2/8530 G2 offers three keyboard layouts – Qwerty, ABC and Azerty. The 8530 G2 is equipped with an external keyboard offering the same layouts as the 8525 G2 vehicle-mount.

Most of the keys on these keyboards operate much like a desktop computer. If a key or key function is not consistent with the PC keyboard, the differences are noted.



Note: *On the 8530 G2, a soft keyboard that is an exact replica of the external keyboard is available. Refer to “Input Panel” on page 134 for details.*

3.3.1 Modifier Keys

The [SHIFT], [CTRL], [ALT], [BLUE] and [ORANGE] keys are *modifier* keys. Pressing a modifier key changes the function of the next key pressed. For example, a square bracket is printed in *orange* print above the [4] key. Pressing the [ORANGE] key followed by the [4] key displays a square bracket rather than the number 4.

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.

3.3.1.1 Activating Modifier Keys

When a modifier key is pressed once, it is displayed in lowercase letters in the taskbar at the bottom of the 8525 G2/8530 G2 screen. For example, if the [CTRL] key is pressed, *ctrl* key is displayed at the bottom of the unit screen. Once another key is pressed, the modifier key becomes inactive and disappears from the taskbar.

3.3.1.2 Locking Modifier Keys

When a modifier key is pressed twice, it is 'locked' on. A 'locked' modifier key is displayed in uppercase letters in the taskbar. For example, pressing the [BLUE] key twice locks it on – it is displayed as **BLUE KEY** in the taskbar at the bottom of the computer screen.

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 (pressed a third time), the uppercase representation at the bottom of the screen is no longer displayed.



Note: *The locking function of modifier keys can be disabled so that pressing a modifier key **once** will lock the key 'on'. If you disable the 'One Shot' function of these keys, pressing a modifier key once will lock it 'on'. Pressing the same key a second time will unlock or turn it 'off'. Refer to "Keyboard One Shots" on page 89 for details.*

3.3.2 The Keys

The [BLUE] And [ORANGE] Keys

The [BLUE] and [ORANGE] modifier keys provide access to additional symbols and keys. These additional symbols and keys are colour coded in *blue* and *orange* print above the keyboard keys.

Press the [BLUE] key to access functions or characters displayed in *blue* print on the keyboard. Press the [ORANGE] key to access functions or characters displayed in *orange* print on the keyboard.

The [SHIFT/CAPS] Key

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

The Arrow Keys

The Arrow keys move the cursor around the screen in the direction of the arrow – up, down, left and right. The cursor is the flashing box or underline character that indicates where the next character you type will appear.

The [INS] Key

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

The Keys

The [DEL] Key

The [DEL] key erases the character at the cursor position.

The [BKSP] Key

The [BKSP] key (sometimes referred to as destructive backspace) moves the cursor one character to the left, erasing the incorrectly entered key stroke.

The [CTRL] And [ALT] Key

The [CTRL] and [ALT] keys modify the function of the next key pressed and are application dependent.

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 and return to the previous one.

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 [HOME] Key

The [HOME] key moves the cursor to the top of the form or page.

The [END] Key

The [END] key moves the cursor to the bottom of the form or page.

The [PgUp] And [PgDn] Keys

The [PgUp] key displays the previous screen of information. The [PgDn] key displays the next screen of information.

3.4 Function Keys And Macro Keys

In addition to the standard keyboard functions (see “The Keyboard” on page 42), vehicle-mounts are equipped with function keys and macro keys.

3.4.1 Function Keys

The 8525 G2/8530 G2 is equipped with a series of function keys each of which is defined in the application software.

Accessing Function Keys [F1] to [F10]

Function keys [F1] to [F10] can be directly accessed by pressing the function keys labelled in *yellow* along the top of the keyboard. No key combination is required.

Accessing Function Keys [F11] To [F20]

These keys are labelled in *orange* in the top-left corner of the function keys. To access these keys, press the [ORANGE] key followed by [F1] to [F10].

- To access function key [F11], press the [ORANGE] key followed by [F1].
- Press [ORANGE] [F2] to access function key [F12], and so on.

Accessing Function Keys [F21] To [F30]

These keys are labelled in *blue* in the top-right corner of the function keys. To access these keys, press the [BLUE] key followed by [F1] to [F10].

- To access function key [F21], press the [BLUE] key followed by [F1].
- Press [BLUE] [F2] to access Function key [F22], and so on.

3.4.2 Macro Keys



Important: Refer to “*Keyboard Macro Keys*” on page 91 for details about creating macros.

8525 G2/8530 G2 vehicle-mounts are equipped with a twelve macro keys that can be programmed to replace frequently used keystrokes, along with the *function* of executable keys like the [ENTER] key, the [BKSP] key, any function key and arrow key, and so on.

Macro Keys [M1] To [M12]

These keys are displayed in *blue* print across the top row of alpha keys and the first two alpha keys in the second row on the keyboard.

To access a macro key, press the [BLUE] key followed by the appropriate alpha key. For example, on a *Qwerty* keyboard:

- Press [BLUE] [Q] to access macro key [M1].
- To access [M2], press [BLUE] [W], and so on.

3.4.3 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 CE *Control Panel*. The behaviour of the keypad backlight is tailored in the *Keyboard Properties* dialog box.



Note: Refer to “*Keyboard Backlight*” on page 89 for details about this option. Keep in mind that this option may be restricted to supervisory use only.

3.5 The Display

8525 G2/8530 G2s are equipped with display backlighting to improve character visibility in low light conditions. The backlight switches on when a key is pressed or the touchscreen is tapped. The backlight intensity and the duration of time that the backlight will remain at full intensity can be specified in the *Display Properties* dialog box in the Windows CE *Control Panel*.



Note: Refer to “*Display Backlight*” on page 86 for details about the *Display Properties* dialog box.

3.5.1 Calibrating The Touchscreen

If your 8525 G2/8530 G2 touchscreen has never been calibrated or if you find that the stylus pointer is not accurate when you tap on an item, use the *Stylus Properties* dialog box in the Windows CE *Control Panel* to recalibrate the screen.

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

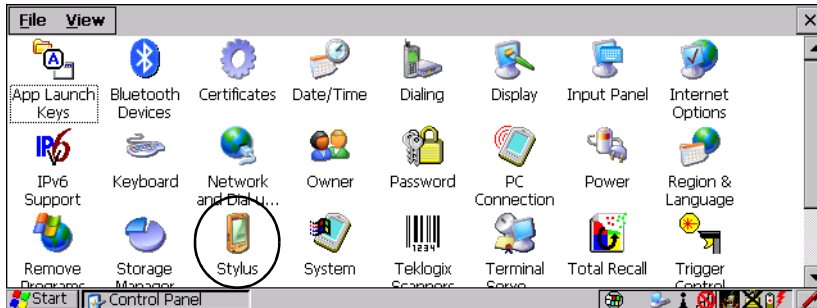
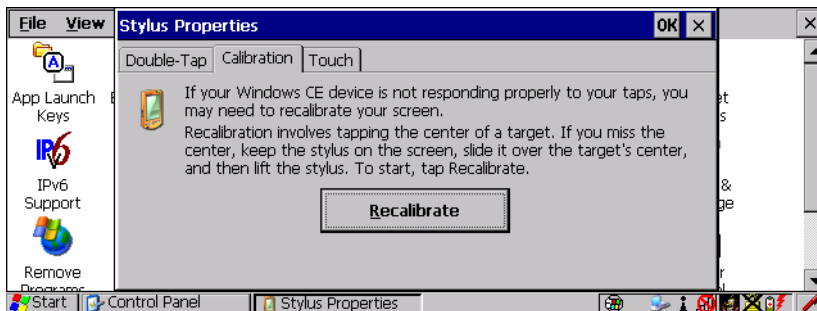


Figure 3.5 Stylus Icon

- Choose the **Calibration** tab, and then tap on the **Recalibrate** button.



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

3.6 8525 G2/8530 G2 Indicators

8525 G2/8530 G2s use LEDs (Light Emitting Diode), onscreen messages and audio tones as indicators. The vehicle-mount is also equipped with a power indicator LED.

3.6.1 Power Indicator LED

A power indicator LED is located in the radio dome at the top of the unit. When the vehicle-mount is receiving power either from a battery or an external source, the blue power indicator LED is illuminated.



Note: *Keep in mind that even when the power indicator LED is illuminated, if the battery voltage is below 10.0V, you will not be able to turn the vehicle-mount on.*

3.6.2 LEDs

The 8525 G2/8530 G2 is equipped with four tri-coloured LEDs located in the upper-right corner of the keyboard. If you have an 8530 G2 and are using the onscreen, soft keyboard, only the API and Rx/Tx LEDs are available in the taskbar.



Important: *You should proceed cautiously if a LED is illuminated in red; this generally indicates an abnormal operating condition or an active laser emission.*

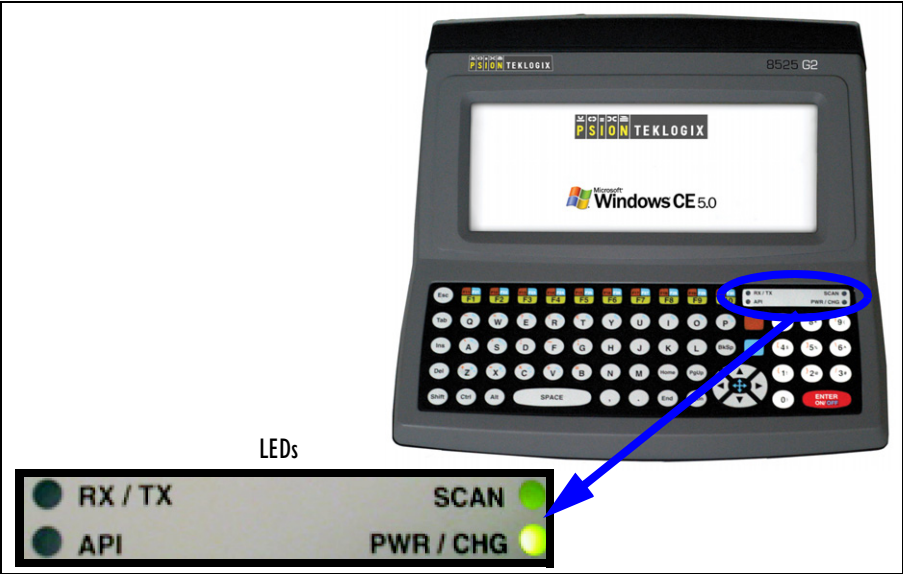


Figure 3.6 Keyboard LEDs

3.6.2.1 PWR/CHG — Charge LED

The lower-right LED is reserved for internal charger/power status. This LED operates as follows:

LED Behaviour	Description
Solid green	External power in use. Backup battery is present.
Slow flashing green	External power in use. Backup battery <i>not</i> present.
Blinking yellow	External power <i>not</i> in use. Unit drawing power from backup battery.

3.6.2.2 RX/TX — Radio Traffic LED

The upper-left LED on your 8525 G2/8530 G2 flashes either yellow or green to indicate when the radio transmits and receives data.



Note: *Keep in mind that while the standard 802.11g radio supports the transmit/receive LED, not all radios support this function.*

Function	Radio Traffic LED Behaviour
Radio Transmit	LED flashes yellow.
Radio Receive	LED flashes green.

3.6.2.3 Scan LED

Successful scans are indicated in two ways – with a scan LED and with an audio tone.

Function	Scan LED Behaviour
Scan in progress	LED displays solid red during scan.
Successful scan	LED displays solid green after decode. Off when scan ended.
Unsuccessful scan	LED flashes red.

3.6.2.4 API — User Application LED

This indicator is available for user-loaded custom Windows CE applications. Neither Windows CE nor Tekterm use this LED. Your supervisor will be able to describe how this LED behaves with your application.

3.6.3 Onscreen Indicators

The taskbar at the bottom of the screen displays a variety of system status indicators.

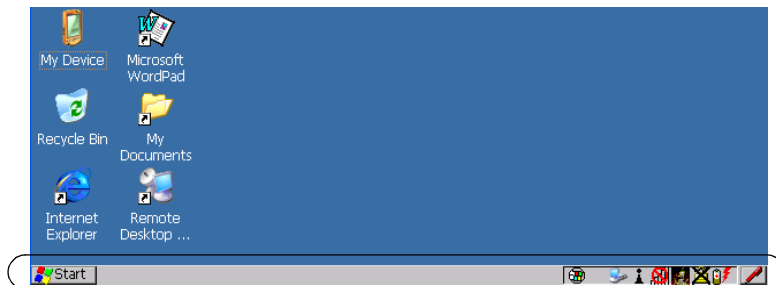


Figure 3.7 Taskbar

The taskbar changes dynamically, and only those icons that are applicable are displayed. For example, if a radio is not installed in your 8525 G2/8530 G2, the radio signal icon is not displayed in the taskbar.



Windows Start Button

You can display the *Start Menu* by tapping on the *Start* button in the taskbar.



Modifier Key Indicators

[SHIFT], [CTRL], [ALT], [BLUE] and [ORANGE] 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 in *lowercase* characters – for example, pressing the [BLUE] key once displays *blue key* in the taskbar. If a modifier key is pressed twice, it is ‘locked on’ and the onscreen indicator is displayed in *uppercase* letters in the taskbar – for example, pressing [BLUE] twice displays BLUE KEY 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



Narrow Band Radio Signal Quality

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



Good
Reception



Weak
Reception

No Radio
Link

The radio signal is determined when the 8525 G2/8530 G2 receives a message. If the unit receives no messages within a second, the “no signal” icon is displayed. The signal strength icon shows the following cases: No signal, 1% to 25% bar, 26% to 50% bar, 51% to 75% bar and 75% to 100% bar.

Link Status

The Narrow Band radio displays one of three link state icons. An uppercase 'LINK' with a green background indicates the radio is powered on and that the unit is online and locked onto a channel. A lowercase 'Link' with a yellow background indicates that the radio is powered on but the 8525 G2/8530 G2 is not online or not locked onto a channel. A lowercase 'Link' with a yellow background and a red 'X' through it indicates that the radio is *not* powered on, is *not* online and is *not* locked onto a channel.



Bluetooth Radio

This icon represents the *Bluetooth* radio installed in your 8525 G2/8530 G2.



Security Level

Security levels can be set to limit user access to 8525 G2/8530 G2 settings. In addition, applications can be restricted to prevent inadvertent changes.

Battery Icons



Battery In Use

This icon indicates that the 8525 G2/8530 G2 is drawing power from the optional backup battery rather than external DC power.



Battery Very Low

When the 8525 G2/8530 G2 is running on the optional backup battery (rather than external power) and the battery power is nearly depleted, this icon is displayed in the taskbar.



Battery Charging

This battery icon indicates that the vehicle-mount is running on external DC power, and that the optional backup battery is present.



External DC Power

This external DC power icon is displayed in the taskbar when the unit is using external DC power and the backup battery is *not* present.



Onscreen LEDs (8530 G2 Only)

When the 8530 G2 keyboard is removed, two onscreen-LEDs are displayed in the taskbar. The LED to the left acts as the API indicator, and the LED to the right acts as the TX/RX (transmit and receive) indicator.

These onscreen LEDs behave in the same way as those on the keyboard, changing colour to indicate different operations. ***For details about LED behaviour,*** refer to “RX/TX – Radio Traffic LED” and “API – User Application LED” on page 49.



Tethered Devices

When a peripheral is attached to the tether port and activated, an associated icon appears in the taskbar.



Scanner



USB Device



RFID



Serial Device

3.6.4 Audio Indicators



***Note:** Care must be taken when routing cabling to the external port because audio volume can be adversely affected if these cables block the beeper.*

The 8525 G2/8530 G2 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 or an operator’s entry does not match in a match field.



***Note:** Refer to “Volume And Sound Properties” on page 96 for details about the Volume & Sound Properties dialog box.*

3.7 Scanning

Non-decoded scanners are configured using the *Scanner Properties* dialog box in the *Control Panel*.



***Note:** Refer to “Scanner Properties Setup” on page 137 for details.*

Decoded scanners must be configured by scanning special configuration bar codes. In these cases, the scanner manufacturer provides programming manuals for configuration purposes.

The 8525 G2/8530 G2 supports a variety of one dimensional (1D) and two dimensional (2D) laser scanners.

“Scanning Techniques” outlines the mechanics of a successful scan. In addition, review “Scan LED Indicators” on page 53 to better understand how to interpret whether or not a bar code has been successfully scanned. Finally, “Troubleshooting” on page 54 provides some helpful suggestions should the scan fail.

3.7.1 Scanning Techniques



Note: *External scanners can be connected to the 8525 G2/8530 G2 tether, serial or USB device port.*

- Hold the scanner at an angle. Do not hold it perpendicular to the bar code.
- Do *not* hold the scanner directly over the bar code. In this position, light can reflect back into the scanner’s exit window and prevent a successful decode.
- Scan the entire bar code. If you are using a 1D or 2D scanner, make certain that the scan beam crosses every bar and space on the bar code, 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 bar code you want to scan.
- When using imaging scanners, do not move the scanner while decoding the bar code. Movement blurs the image.
- Hold the scanner farther away for larger bar codes.
- Hold the scanner closer for bar codes with bars that are close together.

3.7.2 Scan LED Indicators

The 8525 G2/8530 G2 scanner LED (the upper-right LED) indicates whether or not your scan is successful. Keep in mind that scan indicators only function when using a non-decoded, 1D laser scanner connected to the tether port. All other external scanners have integrated LED indicators that are not controlled by the 8525 G2/8530 G2.

The LED behaves as follows:

- Scan In Progress: scan LED displays solid red colour.
- Successful Scan: scan LED displays solid green colour and turns off when the scan is ended.
- Unsuccessful scan: scan LED flashes red.

A bar code icon appears on the screen during a scan. While the scanner beam is active, the onscreen message states – SCANNING. If the scan is successful, the bar code data is displayed on the screen until the scan trigger is released.

3.7.3 Troubleshooting

If the scanner is not working, investigate the following:

- Is the 8525 G2/8530 G2 on?
- Check that the bar code symbology being scanned is enabled for the 8525 G2/8530 G2 you are using. Check any other parameters that affect the scanning procedure or the bar code.
- Check the bar code to make sure it is not damaged. Try scanning a different bar code to verify that the problem is not with the bar code.
- Check that the bar code is within the proper range.
- Does the vehicle-mount display the warning without scanning? This suggests a hardware problem in the 8525 G2/8530 G2.
- Is the laser beam scanning across the bar code?
- Once the scan beam has stopped, check the scanner window for dirt or fogging.

3.7.4 Operating One Dimensional (1D) Laser Scanners

- Turn the 8525 G2/8530 G2 on. Wait until the unit has booted up completely.



Important: *If an aiming dot is available on the 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 139 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 bar code and press the trigger. A scan beam and a warning indicator appear until a successful decode is achieved or six seconds have elapsed.

3.7.5 Operating PDF Laser Scanners

This scanner decodes PDF417 two-dimensional bar codes.

- Turn the vehicle-mount on. Wait until the unit has booted up completely.

- Aim at the bar code and press the trigger. The beam expands into a rectangle covering the bar code to properly scan it. The scan beam and a warning indicator are visible until a successful decode is achieved or three seconds have elapsed.

3.8 Connecting & Disconnecting Tethered Peripherals

Tethered peripherals such as imagers, RFID readers, scanners and/or printers connect to the vehicle-mount computer with a quick release, circular connector. For most peripherals, when they are connected to the vehicle-mount, the 8525 G2/8530 G2 detects them and loads the necessary drivers. Keep in mind however that some peripherals may require their own specific drivers to be loaded manually. An icon in the taskbar at the bottom of the screen provides a visual representation of the peripheral and indicates that it is ready for operation.

To attach a peripheral to the round, tether port on the side of the 8525 G2/8530 G2:

- Insert the barrel of the plug into the tether port and rotate slowly until it clicks into place. The red dot on the port and on the connector should be aligned.



Important: *To protect cables from cable strain, it is important to secure them using the cable management bar. Refer to “The Cable Management Bar” on page 56 for details.*

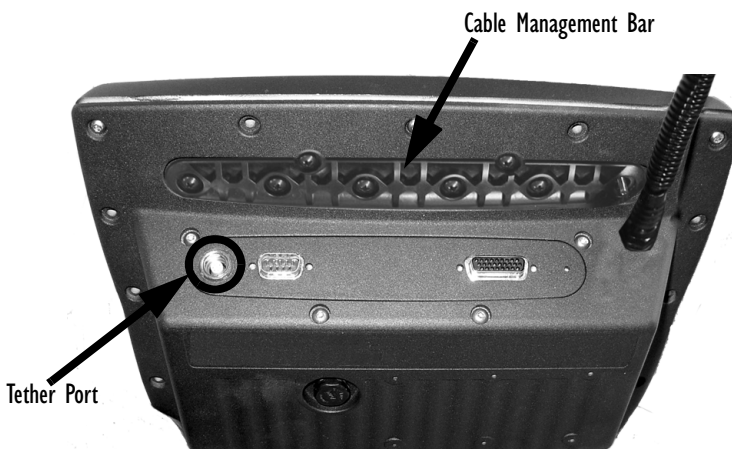


Figure 3.8 The Tether Port

To remove the peripheral:

- Grasp the *shell* of the plug, and pull it back gently to unlock and release the connector.



Important: *Never attempt to disconnect a peripheral by pulling the connector by the wire. The connector is locked into place and can only be unlocked and removed by pulling back the plug shell.*

3.9 The Cable Management Bar

It is important to safeguard cables against cable strain. To accomplish this, the vehicle-mount is equipped with a cable management bar. This bar is designed with rungs through which you can pass cable ties to firmly secure cables.

- Thread cable ties through the rungs in the cable management bar and tighten around cables to protect them against strain.

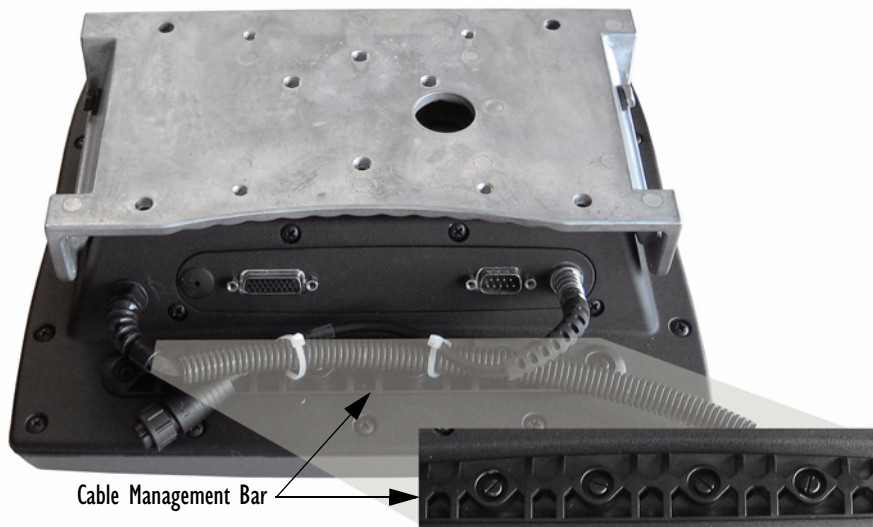


Figure 3.9 Attaching Cables To the Cable Management Bar

3.10 Monitoring The Network Connection

If your vehicle-mount is equipped with a wireless LAN radio, it will typically associate with the nearest access point. The radio signal quality meter in the taskbar indicates the relative strength of the communication link.

To access the radio signal icon from the keyboard:

- Tap on the **radio icon** in the taskbar to display the *Wireless Statistics* dialog box.



Note: *Moving in and out of the radio coverage area can have varying effects on a network session. At times, you may need to renew your connection by logging in again.*

3.11 Connecting An 8525 G2/8530 G2 To A PC

To pass information between an 8525 G2/8530 G2 and a PC or laptop, you'll need to connect them using an Auxiliary Port Cable (Model CA2200). This cable is equipped with two USB Host I/F connections (for devices such as a mouse or keyboard) and one USB Device I/F connection (to, for example, connect a PC or laptop computer to the 8525 G2/8530 G2).

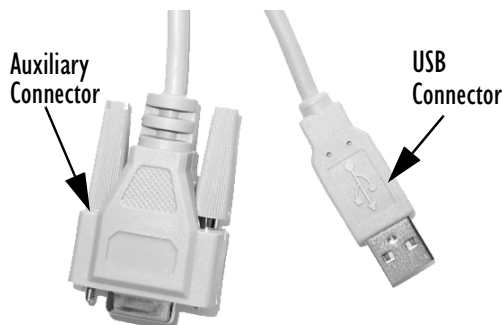


Figure 3.10 Auxiliary Port Cable

- Attach the auxiliary connector to the auxiliary port on the 8525 G2/8530 G2 – the port closest to the vehicle-mount power cable.
- Attach the USB connector to your PC or laptop.

3.11.1 Using Microsoft ActiveSync To Work With Files

Before communication can begin between an 8525 G2/8530 G2 and a PC, ActiveSync® – Microsoft PC connectivity software – must be installed on your PC. Once the devices are cabled together, running ActiveSync on the PC will allow you to:

- View 8525 G2/8530 G2 files from Windows Explorer.
- Drag and drop files between the 8525 G2/8530 G2 and the PC in the same way that you would between PC drives.

General Maintenance

- Back up 8525 G2/8530 G2 files to the PC, then restore them from the PC to the vehicle-mount again, if needed, and so on.

To install ActiveSync, follow the step-by-step instructions provided with the program's setup wizard. Refer to the following website for details:

<http://www.microsoft.com/windowsmobile/resources/downloads/pocketpc/activesync35.msp>



Note: *You'll need to run an application – usbsetup.exe – to configure Windows to recognize the 8525 G2/8530 G2. For information about this USB application, refer to Appendix C: USB Setup Application.*

3.12 General Maintenance

3.12.1 Caring For The Touchscreen

The top of the touchscreen is 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.

If the touchscreen is used in harsh environments, consider applying a disposable screen protector (PN 1008009). 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.

The chemicals listed below must not come into contact with the touchscreen:

- mustard, ketchup,
- sodium hydroxide,
- concentrated caustic solutions,
- benzyl alcohol, and
- concentrated acids.

3.12.2 Cleaning The 8525 G2/8530 G2



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

- Use **only** mild detergent or soapy water to clean the vehicle-mount unit.
- Avoid abrasive cleaners, solvents or strong chemicals for cleaning.
- To clean ink marks from the keypad and touchscreen, use isopropyl alcohol.

WORKING WITH WINDOWS CE 5.0

4

4.1 Navigating In Windows CE And Applications	61
4.1.1 Navigating Using A Touchscreen And Stylus	61
4.1.2 Navigating Using The Keyboard	61
4.2 Working With Files, Folders And Programs	62
4.3 The Startup Desktop	62
4.3.1 The Desktop Icons	63
4.3.2 The Taskbar.	64
4.3.2.1 Using The Taskbar.	64
4.3.2.2 Customizing The Taskbar	65
4.4 The Start Menu	65
4.4.1 The Desktop	66
4.4.2 Security Levels	66
4.4.2.1 Changing A Password	67
4.4.2.2 Configuring Security.	67
4.4.3 Programs	68
4.4.4 Shortcuts	69
4.4.5 Settings	71
4.4.6 Run	72
4.4.7 Shutdown	72
4.5 Using A Dialog Box	73

4.1 Navigating In Windows CE And Applications

Graphic user interfaces like Windows 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 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 touchscreen tapping.

4.1.1 Navigating Using A Touchscreen And Stylus



Note: *If the touchscreen is not registering your screen taps accurately, it may need recalibration. Refer to “Calibrating The Touchscreen” on page 46.*

Each 8525 G2/8530 G2s is equipped with a *stylus* – a pointing tool that looks like a pen – that is used to select objects on the touchscreen.



Note: *To prevent damage to the touchscreen, use only the stylus (pen) supplied with your 8525 G2/8530 G2.*

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

- Double-tap the stylus on the appropriate icon.

To navigate through a dialog box – for example, display the information in a tab, choose a radio button, check a checkbox and so on:

- Tap the stylus on a tab, radio button, checkbox and so on.

4.1.2 Navigating Using The Keyboard

If your touchscreen has been disabled, you can use the keyboard rather than a stylus to choose icons and navigate dialog boxes, display the desktop, and so on. If your unit has already been fully configured and your application is launched at startup, you’ll have little need for 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]

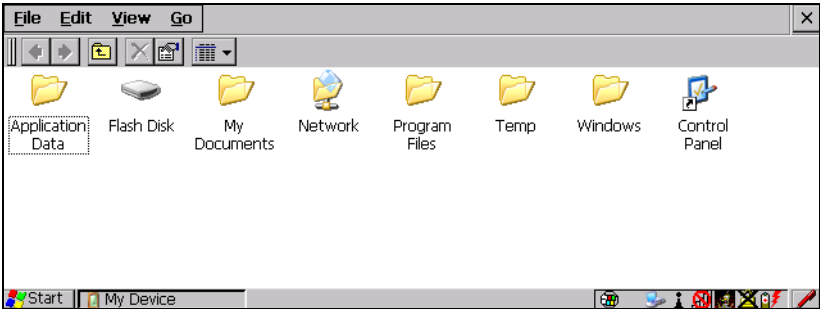
Exit & Save	[ENTER]
Close/Exit & Do Not Save	[ESC]
Navigate Dialog Boxes	[TAB] To move cursor up [SHIFT] [TAB] To display the contents of the next 'tab' in a dialog box [CTRL] [TAB]
Select Radio Button/Press Button	[SPACE]
Go to Start Menu	[BLUE][0]

Table 4.1 Keyboard Navigation

Keep in mind that unlike a desktop computer, the 8525 G2/8530 G2 does not support key chording (pressing two keys at the same time). You must press one key followed by the next in sequence.

Refer to “Working With Files, Folders And Programs” on page 62 for additional details about keyboard navigation.

4.2 Working With Files, Folders And Programs



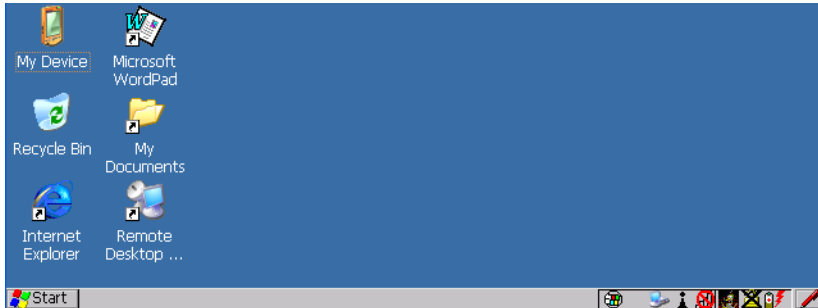
- Double-tap on the appropriate icon – either a folder icon, an application icon or a file icon – to open or launch your selection.

4.3 The Startup Desktop

When the 8525 G2/8530 G2 boots up, the startup desktop (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`.



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

4.3.1 The Desktop Icons

The icons displayed in the startup desktop operate in much the same way as those displayed on any standard PC desktop that is running Windows.

My Device

Choosing this icon displays the contents of your 8525 G2/8530 G2 computer. If you're not sure how to work with the files, folders and programs displayed, refer to "Working With Files, Folders And Programs" on page 62.

Recycle Bin

The Recycle Bin temporarily contains items that were deleted, allowing you to either permanently delete or restore these items.

Internet Explorer

Choosing this icon launches Internet Explorer – a standard Windows CE version. Keep in mind that your supervisor will need to set up access using the *Internet Options* and the *Network and Dial-up Connections* icons in the *Control Panel*.

Microsoft WordPad

Choosing this option launches Microsoft WordPad, a trimmed version of the Microsoft Word application.

Remote Desktop Connection

This option allows your 8525 G2/8530 G2 to communicate with a remote desktop PC. “Remote Desktop Connection” on page 79 provides a website with step-by-step instructions.

4.3.2 The Taskbar



The 8525 G2/8530 G2 is equipped with a taskbar at the bottom of the screen. It displays icons through which you can view the internal battery capacity, the radio signal quality of your unit, and so on. If the vehicle-mount is attached to a peripheral device, an associated icon is displayed. In addition, the taskbar displays the application(s) currently running on your unit and the security level assigned to your 8525 G2/8530 G2.

The taskbar also displays active modifier keys – [SHIFT], [ALT], [CTRL], [BLUE] and [ORANGE]. Keys that have been locked “on” are displayed in *uppercase* letters. For example, if you press the [CTRL] key twice to lock it “on”, it is displayed as CTRL KEY in the taskbar.

4.3.2.1 Using The Taskbar

A taskbar icon allows you to display a *tooltip* – a short description of the status of the icon, or to display the *Control Panel* dialog box associated with the icon.

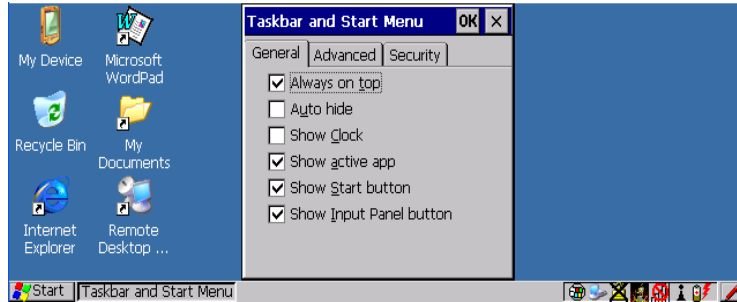
- To display a *tooltip*, tap and hold the stylus on an icon.
- To display the *Control Panel* dialog box associated with an icon, double-tap on the icon.

4.3.2.2 Customizing The Taskbar

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

- From the *Start Menu*, tap on the **Settings>Taskbar and Start Menu**.

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



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



Note: The *Advanced* tab allows you to tap on a *Clear* button to delete the contents of the *Documents* folder.

4.4 The Start Menu



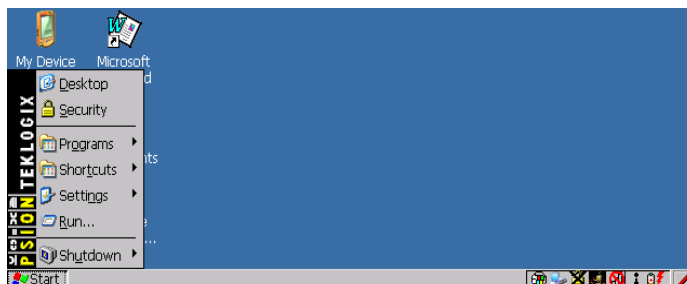
Note: Some of the *Start Menu* items may be disabled based on the current 8525 G2/8530 G2 security settings.

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

- Press [BLUE] [0] (zero) to display the *Start* menu using the keyboard.



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



The Desktop

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 Security dialog box, type the letter 's'.

4.4.1 The Desktop

Choosing the *Desktop* option from the *Start Menu* displays the 8525 G2/8530 G2 desktop.

4.4.2 Security Levels

Choosing the **Security** option from the *Start Menu* displays a dialog box in which you can define the access level for the 8525 G2/8530 G2 – *Supervisor* or *User*.

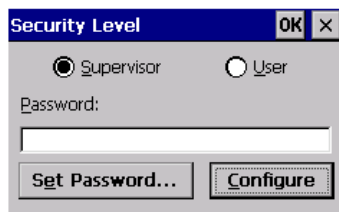


Figure 4.1 Security Levels

Assigning The Supervisor Security Level

The security level is represented by an icon in the shape of a lock in the taskbar. The security levels define the options accessible to the operator in the *Start Menu* and the taskbar. By default, the security level is set to *User*, restricting access to only the most basic *Start Menu* items.

To allow access to all the *Start Menu* and taskbar options:

- Tap on the radio button next to **Supervisor**.
- Tap in the **Password** field, and type the Supervisor level password – the default password is *123456*.
- Tap on **OK** – you can now access all menu items in the *Start Menu* along with the icons in the taskbar.

4.4.2.1 Changing A Password



Note: *Keep in mind that this is the same password as that assigned through the Password control panel applet.*

- To assign a password, choose a **security level**, and enter the **existing password** in the *Password* field.
- Tap on the **Set Password** button.

A dialog box labelled *Password Properties* is displayed.

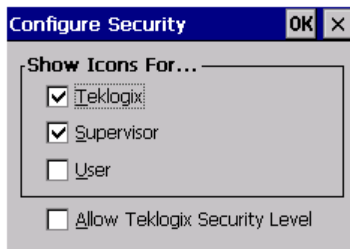
- Type the new password in the *Password:* text box
- In the *Confirm Password:* text box, retype the new password.

4.4.2.2 Configuring Security

In the *Security Level* dialog box (see Figure 4.1 on page 66):

- Tap on the **Configure** button.

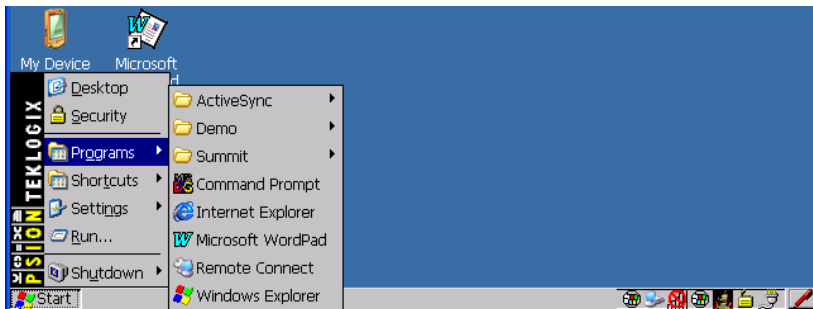
This dialog box allows you to determine which security levels will have an associated icon displayed in the taskbar. By default, a security icon is not displayed for user-level security.



Note: *It is recommended that you enable 'Allow Teklogix Security Level' so that authorized Psion Teklogix service personnel can access your unit should it require maintenance.*

4.4.3 Programs

- Tap on **Programs** to display a sub-menu of options.



This sub-menu allows you to choose *ActiveSync*, *Demo* and *Command Prompt*, and you can access *Internet Explorer*, along with installed applications (e.g., *Microsoft WordPad*), *Remote Desktop Connection* and *Windows Explorer*.

ActiveSync®

ActiveSync is used to connect your 8525 G2/8530 G2 to your PC.

Demo

The *Demo* folder contains demo programs available on the 8525 G2/8530 G2. Some demo programs such as *Sound* and *Imager* require hardware support not available on these vehicle-mounts.

Summit

The *Summit* folder provides access to the *SCU* (Summit Client Utility). The *SCU* is the utility you will need to configure the Summit 802.11g Compact Flash radio module, model number RA2041 so that it can communicate through a wireless LAN effectively and securely.

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 8525 G2/8530 G2 is shipped with the Microsoft Internet Explorer for Windows CE. You can access the *Internet Options* icon through the *Start Menu* under *Settings>Control Panel* or by double-tapping on the desktop icon labelled *My Device* and then, double-tapping on the *Control Panel* icon.

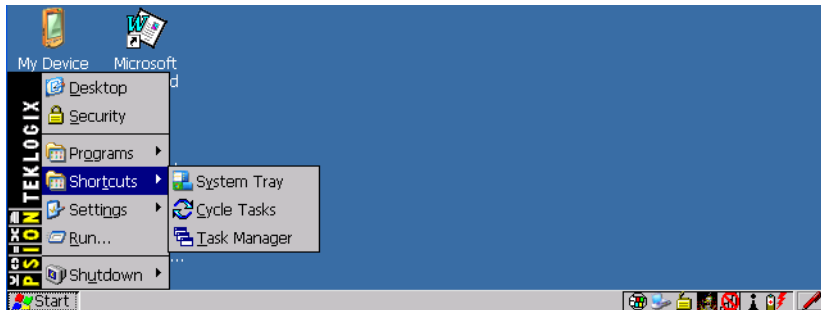
Remote Desktop Connection

Remote Desktop Connection is an 8525 G2/8530 G2 application used to connect to a Windows Terminal Server so that you can run a “session” on the Server machine using the 8525 G2/8530 G2 (Windows CE device). “Remote Desktop Connection” on page 79 provides a website with details about this option.

Windows Explorer

The *Windows Explorer* installed on your 8525 G2/8530 G2 is consistent with all Windows CE devices. You can access this option either from the *Start Menu* under *Programs>Windows Explorer* or from your device desktop.

4.4.4 Shortcuts



The 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 and the security level. Highlighting a taskbar icon allows you to display a *tooltip* – a short description of the status of the icon, or to display the *Control Panel* dialog box associated with the icon.

- Choose **System Tray** from the *Shortcuts Start Menu*.

Shortcuts

When *System Tray* is chosen, you can access the taskbar icons using the arrow keys.

- Press the [LEFT] and [RIGHT] arrow keys to highlight the icon in the taskbar about which you'd like more information – a *tooltip* is displayed as each taskbar icon is highlighted.
- To display the *Control Panel* dialog box associated with the highlighted icon, press [ENTER].

Cycle Tasks

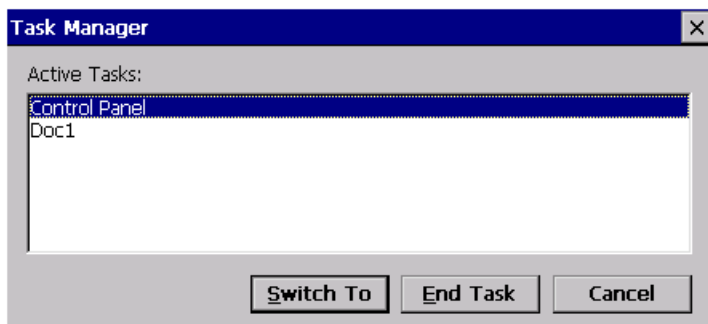
When *Cycle Tasks* is selected (and the Task Manager is not open), you can cycle through active applications. To choose this option:

- Choose **Cycle Tasks** from the *Shortcuts* menu, or
Press [ALT] [TAB].

The Task Manager

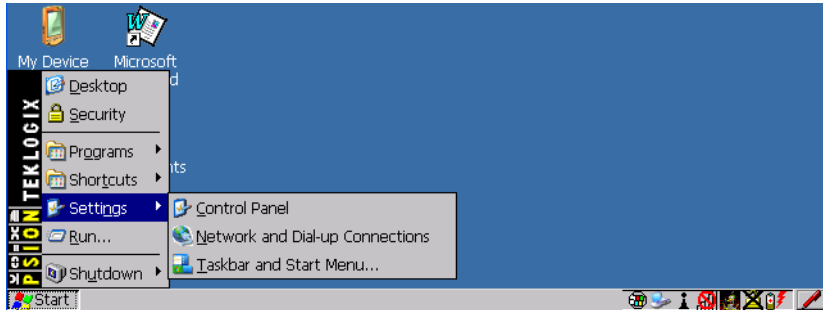
The *Task Manager* option allows you to switch to another task or to end an active task. To display the task manager window:

- Choose **Task Manager** in the *Start Menu*, or
Press [ALT] [ESC].



4.4.5 Settings

- Tap on **Settings** to display a sub-menu of options.



Control Panel

The *Control Panel* contains applets used to configure hardware, the operating system and the shell. If your 8525 G2/8530 G2 is running with the Psion Teklogix Tekterm application or another application, additional configuration applets may appear in the *Control Panel*.

Network And Dial-Up Connections

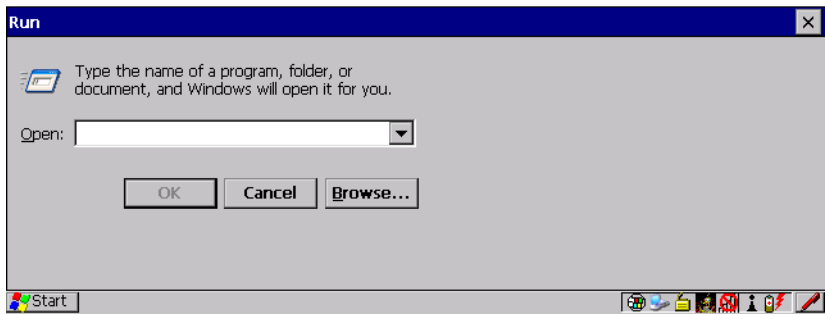
The *Network and Dial-up Connections* window allows you to configure an 802.11 radio or execute an existing configuration. Refer to “Configuring Your IEEE 802.11 Radio” on page 15 for radio setup details.

Taskbar And Start Menu

The *Taskbar and Start Menu* option displays a dialog box in which you can customize the taskbar, selecting the icons that will be displayed. Refer to “Customizing The Taskbar” on page 65 for additional details about this option.

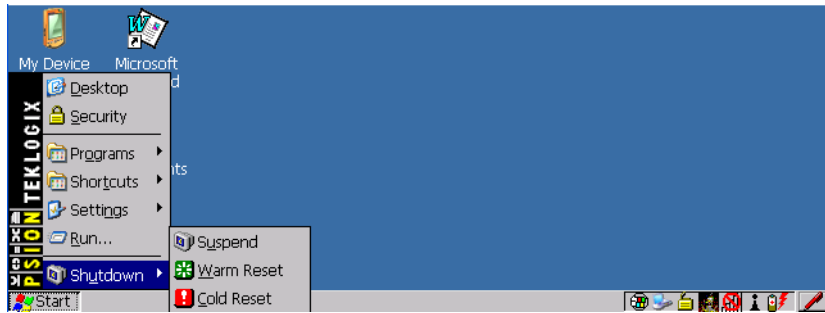
4.4.6 Run

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.



4.4.7 Shutdown

Choosing *Shutdown* displays a sub-menu of options, including *Suspend*, *Warm Reset* and *Cold Reset*.



Note: This menu varies slightly depending on the security level chosen. When the 8525 G2/8530 G2 is set to **User** level, the *Shutdown* option is replaced by *Suspend*. A sub-menu is not available.

At **Teklogix** security level, an additional option is available in the sub-menu – *Bootloader*. This option behaves like cold-reset, except that the 8525 G2/8530 G2 starts *Bootloader* rather than *Windows CE*.

Suspend

The *Suspend* option suspends the 8525 G2/8530 G2 immediately – this is equivalent to turning the vehicle-mount off.

Warm Reset

The *Warm Reset* option resets the 8525 G2/8530 G2, leaving all saved files and (registry) settings intact. Any unsaved data is lost.

Cold Reset

The *Cold Reset* option resets the 8525 G2/8530 G2. Any files not stored in permanent memory are lost. However, the registry settings are saved.

4.5 Using A Dialog Box

A dialog box (like the samples screens in this section) appears when you need to make selections and enter further information.

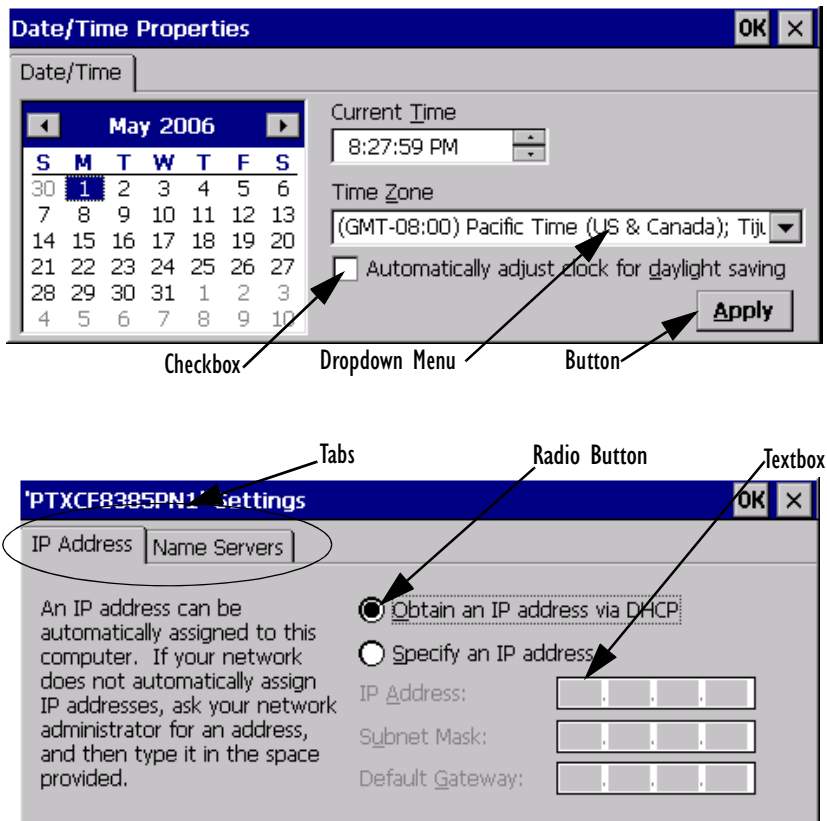


Figure 4.2 Navigating Dialog Boxes

Using A Dialog Box



Note: *If you're using the touchscreen, use the stylus to tap on an element in a dialog box to select or deselect it, display dropdown menus, save your selections, and so on. If you're using a keyboard, follow the directions below.*

Dialog boxes contain one or more of the following elements:

Tab: A tab separates different elements of a dialog box. Tap on a tab to display the associated information.

Textbox: A textbox requires that you type information. Highlight the textbox with the stylus and then type the appropriate information.

Dropdown: This type of menu is identified by up and down arrows next to the dropdown menu to indicate that additional options are available. Tap the stylus on the arrow to display the options in the menu.

Checkbox: This box allows you to select or deselect an option. To select or deselect a checkbox, tap the stylus on the checkbox to select or deselect it.

Radio buttons: These buttons allow you to choose from a number of options. For example, in the sample screen in Figure 4.2 on page 73 you can choose to 'Obtain an IP address via DHCP' or 'Specify an IP address'. Tap the stylus on the button to select or deselect it.

Buttons: This type of button allows you to 'Save', 'Delete' and so on the options you've chosen in a dialog box. Tap the stylus on the button to activate it.

Saving Your Choices: Once you've made all your changes, tap on **OK** to save your changes and exit the window.



Note: *A dialog box item that is displayed in grey text indicates that it is not currently available.*

CONFIGURATION

5

5.1 Remote Desktop Connection	79
5.2 Pocket PC Compatibility	79
5.3 The Control Panel	79
5.4 Control Panel Icons	80
5.5 Basic Setup	85
5.5.1 Display Properties	85
5.5.1.1 Display Background	85
5.5.1.2 Display Appearance	86
5.5.1.3 Display Backlight	86
5.5.2 Keyboard Properties	87
5.5.2.1 Key Repeat.	88
5.5.2.2 Keyboard Backlight	89
5.5.2.3 Keyboard One Shots.	89
5.5.2.4 Keyboard Macro Keys.	91
5.5.2.5 Unicode Mapping	92
5.5.2.6 Scancode Remapping	93
5.5.3 Volume And Sound Properties	96
5.5.3.1 Volume Adjustments.	96
5.5.4 Power Properties	97
5.5.4.1 Battery Capacity	97
5.5.4.2 Suspend	98
5.5.4.3 Advanced Power Properties	98
5.5.4.4 Devices.	99
5.5.5 Stylus Properties	100
5.5.5.1 Setting Double-Tap Sensitivity	100
5.5.5.2 Touchscreen Calibration.	101
5.5.5.3 Touch – Disabling The Touchscreen.	101
5.5.6 Manage Triggers	102
5.5.6.1 Trigger Mappings	102
5.5.6.2 Add And Edit Trigger Mapping	104
5.5.7 Certificate Assignment	105
5.5.8 Narrow Band Radio Setup	106
5.5.8.1 Info Tab	106

5.5.8.2	Channel Tab	109
5.5.8.3	Protocol Tab	113
5.5.8.4	Power Tab	115
5.5.8.5	Radio Tab.	116
5.5.9	Bluetooth Setup	118
5.5.9.1	The Devices Tab	119
5.5.9.2	The Server Tab	122
5.5.9.3	Outgoing Tab.	122
5.5.9.4	Active Conn. Tab.	123
5.5.9.5	Properties Tab	124
5.5.9.6	Bluetooth GPRS Connection.	125
5.5.10	Total Recall	129
5.5.10.1	Creating A Backup Profile	130
5.5.10.2	Restoring A Profile	133
5.5.11	Input Panel	134
5.5.12	IPv6 Support	136
5.5.13	Scanner Properties Setup	137
5.5.13.1	Scanner Barcodes	137
5.5.13.2	Decoded Scanners	138
5.5.13.3	Non-Decoded Scanners	138
5.5.13.4	Non-Decoded Options	139
5.5.13.5	Code 39 Settings	140
5.5.13.6	Code 128 Settings.	142
5.5.13.7	EAN 13 Settings	143
5.5.13.8	EAN 8.	145
5.5.13.9	UPC A Settings	146
5.5.13.10	UPC E Settings	146
5.5.13.11	Codabar	147
5.5.13.12	Code 93	148
5.5.13.13	Code 11	148
5.5.13.14	Interleaved 2 of 5	149
5.5.13.15	MSI Plessey	149
5.5.13.16	Discrete 2 of 5	150
5.5.13.17	IATA 2 of 5	150
5.5.13.18	Bar Code Options Tab.	151
5.5.13.19	Translations Tab	153
5.5.13.20	Ports Tab.	154
5.5.13.21	Tether Port (COM 1)	154

5.5.13.22	Serial Port (COM 2).	155
5.5.14	SNMP (Simple Network Management Protocol) Setup	157
5.5.14.1	Contacts Tab	158
5.5.14.2	Communities Tab.	159
5.5.14.3	Trap Destination Tab	160
5.5.14.4	Permitted Hosts Tab	162

5.1 Remote Desktop Connection

Remote Desktop Connection is an 8525 G2/8530 G2 application used to connect to a Windows Terminal Server so that you can run a “session” on the Server machine, using the 8525 G2/8530 G2 (Windows CE device).

Refer to the following website for step-by-step information about setting up this connection:

<http://www.microsoft.com/WindowsXP/pro/using/howto/gomobile/remotedesktop/default.asp>

5.2 Pocket PC Compatibility

The 8525 G2/8530 G2 supports the AYGShell API set that allows PocketPC-compatible applications to run on the vehicle-mount. Microsoft Windows CE 5.0 is designed to include application programming interface (API) compatibility support for the Microsoft Windows Powered Pocket PC 2002 shell in 8525 G2/8530 G2s running Windows CE 5.0.

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

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

5.3 The Control Panel

The Windows CE *Control Panel* provides a group of icons through which you can set a variety of system-wide properties, such as mouse sensitivity, network configuration and the desktop color scheme.



Note: *If you are uncertain how to move around a dialog box and make selections, review “Using A Dialog Box” on page 73.*

When the 8525 G2/8530 G2 boots up, the startup desktop (shell) is displayed, and any applications stored in the Startup folder start up immediately.

- Press [BLUE][0], or
- Tap on the **Start** button in the taskbar to display the *Start Menu*.
- Tap on **Settings>Control Panel**.

The *Control Panel* folder contains icons used in the setup of your 8525 G2/8530 G2.

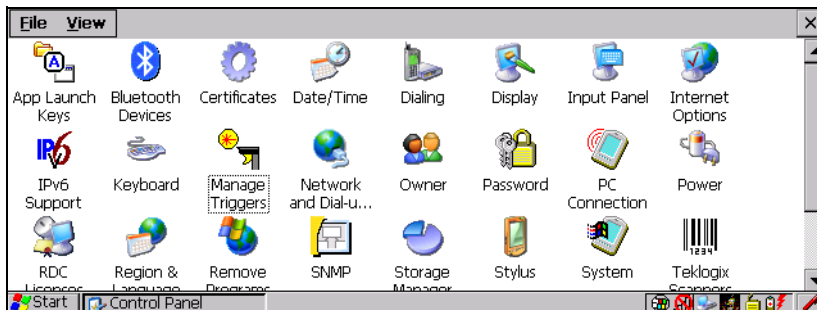


Figure 5.1 Control Panel

5.4 Control Panel Icons

The Windows CE *Control Panel* provides a group of icons that allow you to customize and adjust settings on your 8525 G2/8530 G2.



App Launch Keys

Allows you to map keys to applications, so that you can launch those applications from a single key-press.



Bluetooth

A short-range wireless technology that enables data communication between devices. It also provides the capability to use a *Bluetooth*-enabled cellular phone as a data modem, exchanging information with other *Bluetooth* devices and providing network access.



Certificates

A public key is transmitted as part of a certificate. The certificate assigned through this icon is used to ensure that the submitted public key is, in fact, the public key that belongs to the submitter. The client checks that the certificate has been digitally signed by a certification authority that the client explicitly trusts. “Certificate Assignment” on page 105 directs you to the appropriate setup information.



Date/Time

Date/Time

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



Dialing

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

Display

Changes the appearance (window colour scheme) on the unit desktop. This applet can also be used to adjust the backlight level.



Input Panel

Input Panel

The 8525 G2/8530 G2 is equipped with the framework for a Soft Input Panel (SIP) should you need to design your own SIP. On the 8530 only, when a keyboard is not connected, a soft keyboard is available.



Internet
Options

Internet Options

Used to configure your Internet browser including options such as identifying the default and search page that the browser applies when connecting to the Internet, setting the cache size, specifying the Internet connection options, and defining the security level that is applied when browsing.



IPv6
Support

IPv6 Support

Refers to a new Internet Protocol specification (version 6) that has been published to use 128-bit IP addresses (replacing version 4).



Keyboard

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. Additional tabs also allow the configuration of macros and scanner key remapping.



Manage
Triggers

Manage Trigger

Allows multiple-scanner triggering, including the ability to configure each of the trigger buttons. You can configure the trigger ID for each trigger button for both single- and double-click, the double-click time and the double-click data.



Network
and Dial-u...

Network And Dial-up Connections

Displays a network window from which the 8525 G2/8530 G2 radio can be configured and an existing configuration can be executed. Refer to “Configuring Your IEEE 802.11 Radio” on page 15 for details.



Owner

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.)



Password

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. Refer to “Security Levels” on page 66 for details.



PC
Connection

PC Connection

Enables direct connections to a desktop computer. Selecting the ‘*Change Connection*’ button allows you to change the type of direct connect to your PC.



Power

Power

Allows you to define if, why and when the unit will automatically switch to *Suspend* state. It also allows you to define which *Card Slots* are active and to turn power for the card slots (PCMCIA and SD/MMC) on and off. This dialog box also allows you to enable and disable the built-in *Bluetooth* radio.



RDC Licenses

The Terminal Services license server stores all license tokens that have been installed for a group of terminal servers and tracks licenses issued. The *Remote Desktop Licenses* (RDC) application displays license ‘tokens’ for devices that connect to a Terminal Server.



Region & Language Settings

Allows you to specify the local language the display text will use 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, choose it and then tap on the **Remove** button.



Stylus

Adjusts how Windows CE recognizes your double-tap (as slow or rapid successive taps).

Under the *Calibration* tab, you can recalibrate your touchscreen by tapping on the Recalibrate button and following the directions on the calibration screen.



Storage Manager

Allows the user to view information about the storage devices that are present, such as SD-MMC flash cards.



System

Displays system and memory properties. Under the *Memory* tab, you can allocate memory between storage memory and program memory.



Teklogix Scanners

Used to set up scanner parameters and choose the bar code symbologies that the 8525 G2/8530 G2 scanner will successfully read.



Total Recall

Total Recall

This is a Psion Teklogix utility developed to maintain applications and setting over cold boots. This utility is based on a backup and restore concept and is extended to incorporate powerful advanced features.



TweakIT Settings

TweakIT
Settings

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



Volume & Sound

Volume &
Sounds

Allows you to adjust the volume of the beep that is emitted to indicate events like warnings, key clicks and screen taps.

Sounds (wave files) cannot be reproduced on 8525 G2/8530 G2 units. The beeper volume and the conditions under which it sounds are tailored from within the application installed on your unit.



SNMP

SNMP

SNMP (Simple Network Management Protocol) is the protocol used to monitor and manage devices attached to a TCP/IP network.



Narrow Band Radio

Narrow Band
Radio

This icon is displayed only if a Narrow Band radio is installed in the unit. It provides access to the Narrow Band setup screens.



Wireless WAN

Wireless
WAN

Provides access to technology like GSM/GPRS and CDMA which allows wide area networking capability such as internet browsing via GSM/GPRS.

5.5 Basic Setup

5.5.1 Display Properties

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

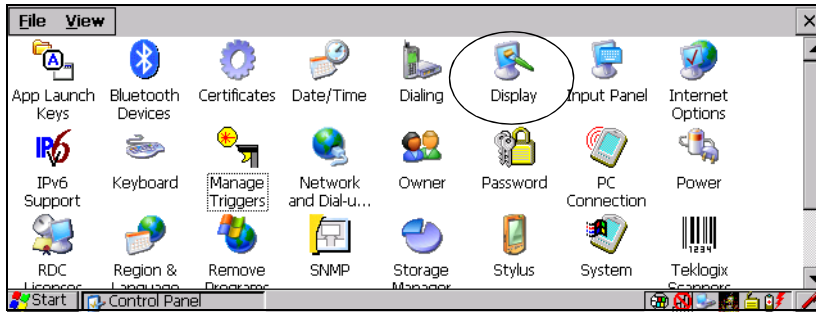
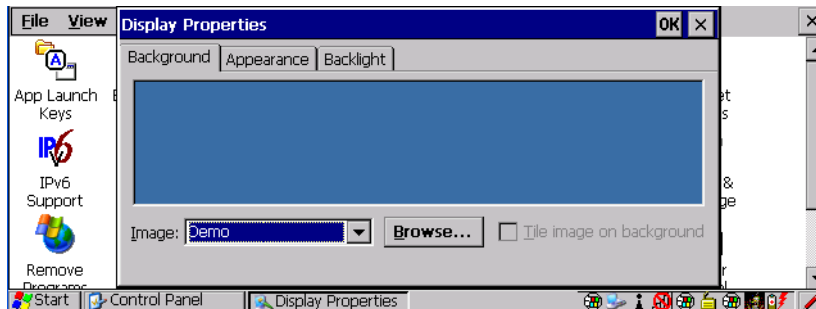


Figure 5.2 Display Icon

5.5.1.1 Display Background

The *Background* tab allows you to adjust the 8525 G2/8530 G2 display background.

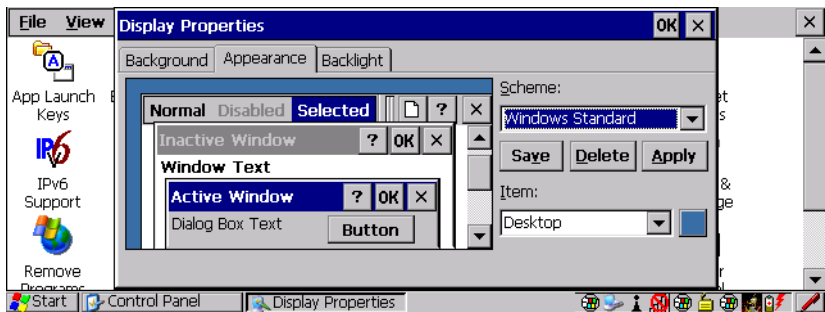
- In the *Display Properties* dialog box, open the **Background** tab.



This option allows you to change the background colour or add an image.

5.5.1.2 Display Appearance

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



This dialog box allows you to customize the display colour scheme.

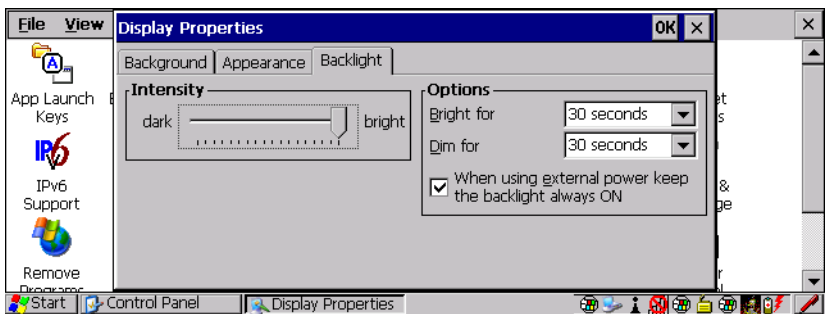
5.5.1.3 Display Backlight

The backlight is activated for a configurable amount of time when the 8525 G2/8530 G2 is in use (key press, scanner trigger or data received from the host). The *Display Properties* dialog box in the *Control Panel* allows you to specify the intensity of the backlight along with how long the display will maintain the specified intensity.



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 8525 G2/8530 G2.*

Intensity

This parameter is used to adjust the light intensity of the 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 dropdown menu determines the duration of time that the backlight stays on at the configured intensity when a unit is not in use.

Dim For

The value chosen from this dropdown menu determines the duration of time that the backlight stays on at half the configured intensity (dimmed backlight) when a unit is not in use.

External Power Checkbox

When you select the checkbox next to *'When using external power keep the backlight always ON.'*, the backlight remains ON at the configured intensity **when the 8525 G2/8530 G2 is operating with external power** (not internal battery power). If the 8525 G2/8530 G2 is drawing power from a battery, this option is ignored and the other parameters defined in *Display Properties* dialog box take affect.

5.5.2 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 [BLUE] and [ORANGE] modifier keys. This dialog box also allows you to define macro keys and remap the keyboard.

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

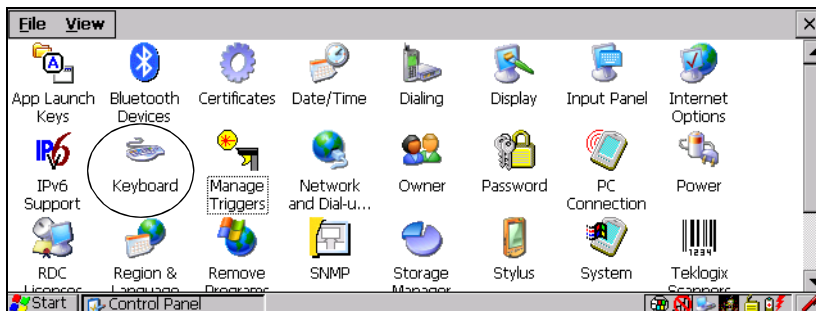
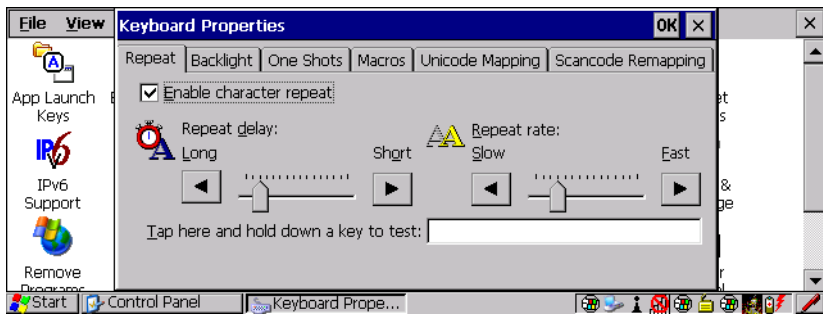


Figure 5.3 Keyboard Icon

5.5.2.1 Key Repeat

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



Enable Character Repeat

Tapping in the checkbox next to this option enables the key behaviour you specify in this dialog box.

Repeat Delay

The position of the slider determines how long a key must be held down before it begins to autorepeat.

Repeat Rate

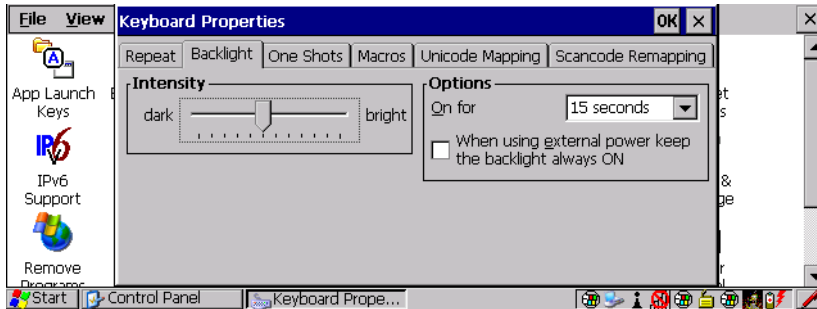
The value assigned for the *Repeat Rate* parameter determines how quickly the key you press repeats and is measured in characters per second (cps). Sliding the bar to the left slows the repeat rate, and sliding the bar to the right increases the repeat rate.



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

5.5.2.2 Keyboard Backlight

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



Intensity

This parameter is used to adjust the light intensity of the 8525 G2/8530 G2 keyboard backlight. Sliding the bar to the left darkens the keyboard backlight intensity, and sliding it to the right lightens the intensity.

Options — ON For

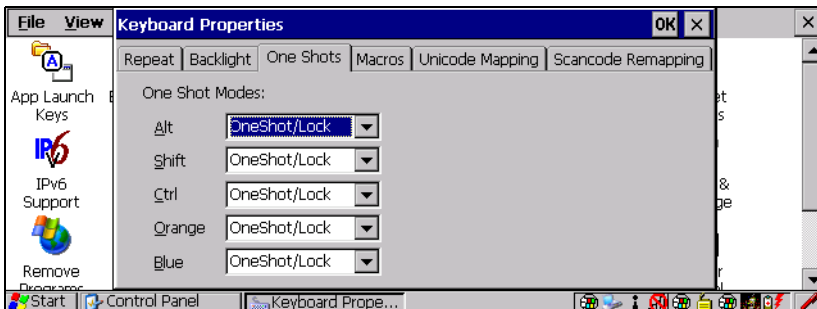
The value chosen from this dropdown menu determines the duration of time that the keyboard backlight stays on when a unit is not in use.



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 such as vehicle battery or A/C adaptor.

5.5.2.3 Keyboard One Shots

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



The options in this tab allows you to determine how modifier keys on your 8525 G2/8530 G2 behave. For each modifier key—[ALT], [SHIFT], [CTRL], [ORANGE] and [BLUE]—you have the following options in the drop-down menu: Lock, One-Shot, 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 [ORANGE] key is locked ‘on’, the taskbar at the bottom of the screen displays it in **uppercase** characters – ORANGE KEY. If this key is displayed in **lowercase** characters in the taskbar, you’ll know that the orange 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.

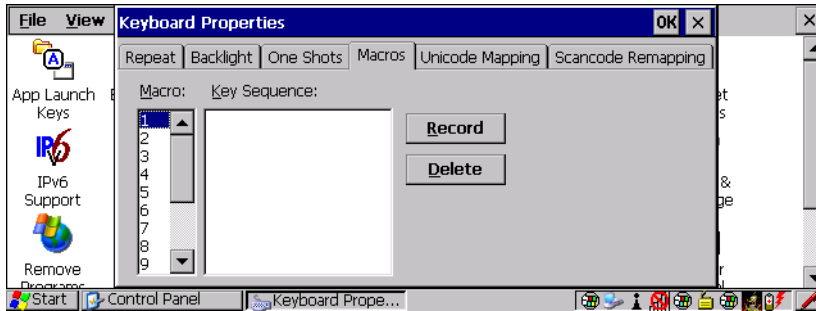
OneShot/Lock

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’.

5.5.2.4 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], [BKSP] and [DEL] ([BLUE]-[BKSP]), function keys and arrow keys.

Recording And Saving A Macro

You can program up to 12 macro keys.

- In the *Macro* menu, highlight a macro key number – for example, macro 1 to assign a macro to macro key [M1]. Tap on 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.



Note: Tap on the ‘Stop Recording’ button at any time to suspend the process.

- When you’ve finished recording your macro sequence, press the **Stop Recording** button, or type the key sequence – [CTRL] [ALT] [ENTER].

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

- Tap on the **Save** button.



Note: If you want to discard the macro you’ve just created, tap on the ‘Discard’ button.

Executing A Macro

To execute a macro:

- Press the macro key to which you’ve assigned the macro. For example, if you created a macro for macro key ‘1’, press [M1] to execute the macro.

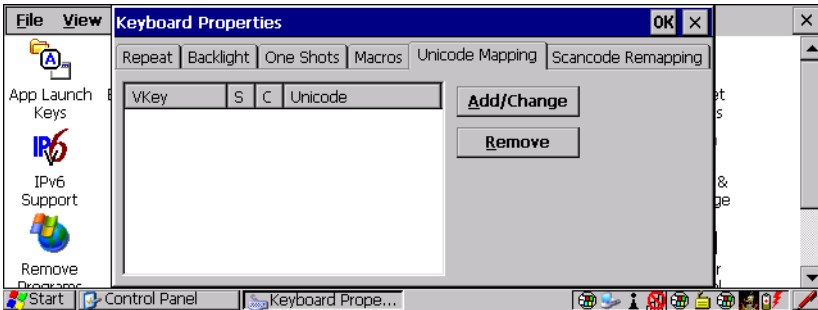
Deleting A Macro

To delete a macro:

- In the *Macros* tab, tap on the macro number you want to delete.
- Tap on the **Delete** button.

5.5.2.5 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. Keep in mind that Unicode configurations are represented as hexadecimal rather than decimal values.

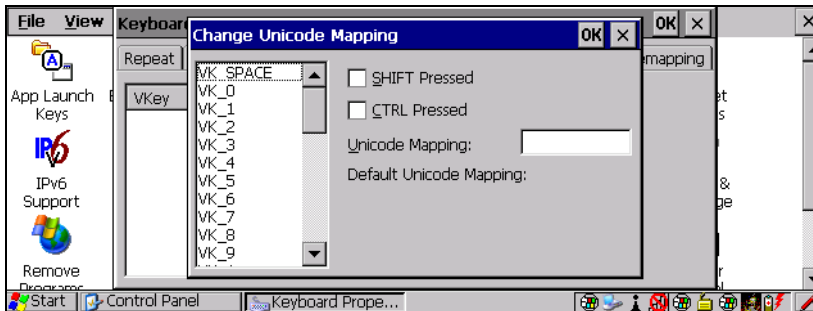
All user-defined Unicode mappings are listed in the *Unicode Mapping* tab in order of virtual key value, and then by order of the shift state. If a Unicode mapping is not listed, the Unicode mapping is mapped to the default Unicode value.

Adding And Changing Unicode Values



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

- Tap on the **Add/Change** button.



- Tap on a value in the Unicode mapping list – in the sample screen above, a value will be assigned to virtual key 0 (VK 0).
- Tap the stylus in the **Unicode Mapping** field, and type a Unicode value for the highlighted key.



Note: *To add a shifted state – [SHIFT] and/or [CTRL], tap the checkbox next to ‘SHIFT Pressed’ and/or ‘CTRL Pressed’. to select the shift state you want to assign.*

Removing Unicode Values

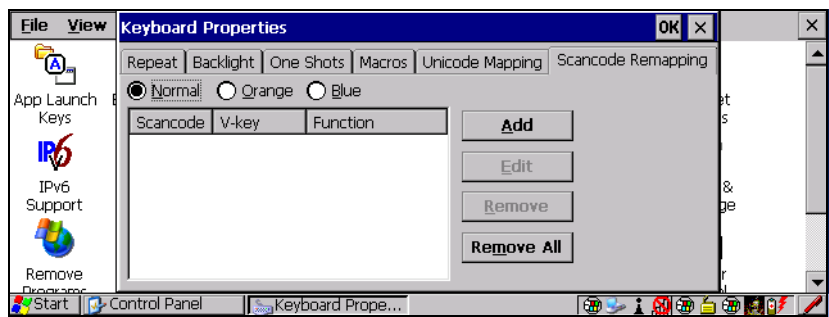
- In the *Unicode Mapping* tab, highlight the item you want to delete, and tap the stylus on the **Remove** button.

5.5.2.6 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/ON] key, etc.), perform a function (e.g. turn the scanner on, change volume/contrast, etc.) or run a macro.

There are three different tables of scancode mappings: the *Normal* table, the *Blue* table and the *Orange* table. The *Normal* table defines unmodified key presses; the *Blue* table defines key presses that occur when the [BLUE] modifier is on; the *Orange* table defines key presses that occur when the [ORANGE] 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 hexadecimal. 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’.

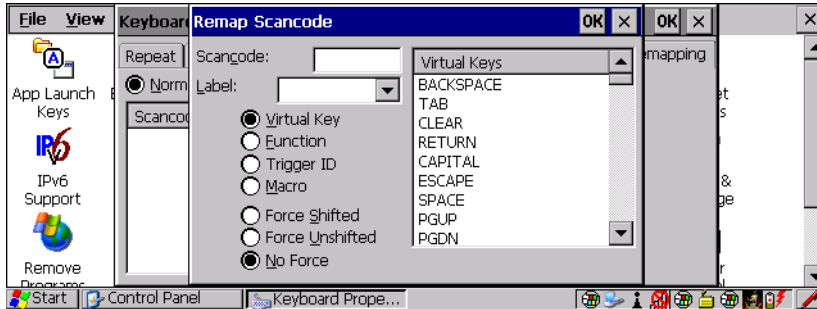
If the scancode is remapped to a function or a macro, the first and second columns remain blank while the third column contains the function name or macro key number (e.g., Macro 2).

Adding A Remap

To add a new remapping:

- Tap the stylus on the **Add** button at the bottom of the dialog box.

The *Remap Scancode* dialog box is displayed.



- Type the scan code in hexadecimal in the field labelled *Scancode*:



Note: The *Label* field displays the default function of the scan code you are remapping.

Virtual Key, Function And Macro

The radio buttons along the side 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 scan code:

- 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**.

5.5.3 Volume And Sound Properties



Note: *Sounds (wave files) cannot be reproduced on 8525 G2/8530 G2 units. The conditions under which 8525 G2/8530 G2s emit sounds are tailored from within the application installed on your unit.*

- In the *Control Panel*, choose the **Volume & Sounds** icon.

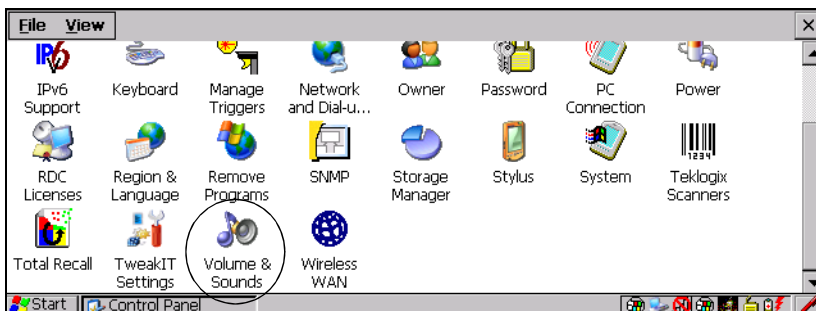
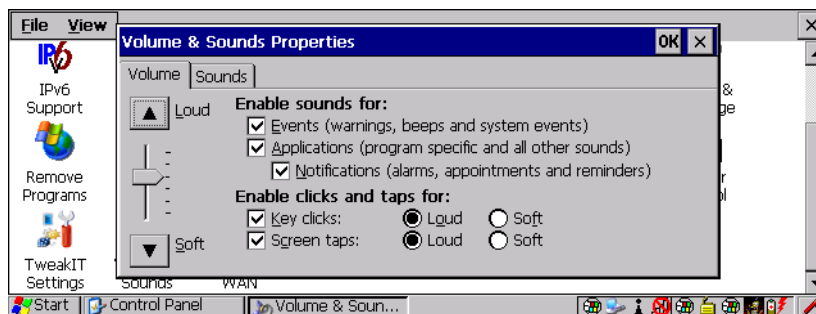


Figure 5.4 Volume Icon

5.5.3.1 Volume Adjustments



- Slide the volume button upward to increase the beeper volume or down-

ward to decrease the beeper volume.

- Under the heading *Enable sounds for*, enable the conditions under which you want the 8525 G2/8530 G2 to emit a beep.

5.5.4 Power Properties

This icon allows you to define the *Suspend* state of your unit. It also allows you to define which *Card Slots* are active and to turn power for the card slots (PCMCIA and SD/MMC) on and off. *Power Properties* also allows you to enable and disable the built-in *Bluetooth* radio.

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

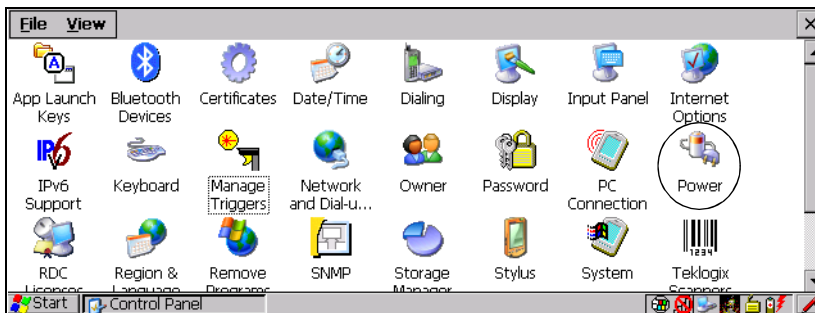
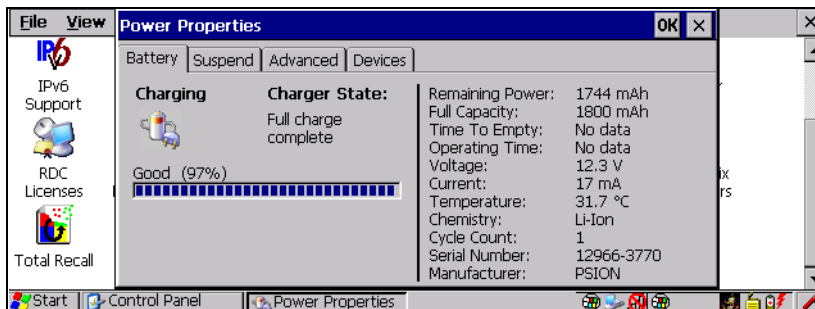


Figure 5.5 Power Icon

5.5.4.1 Battery Capacity

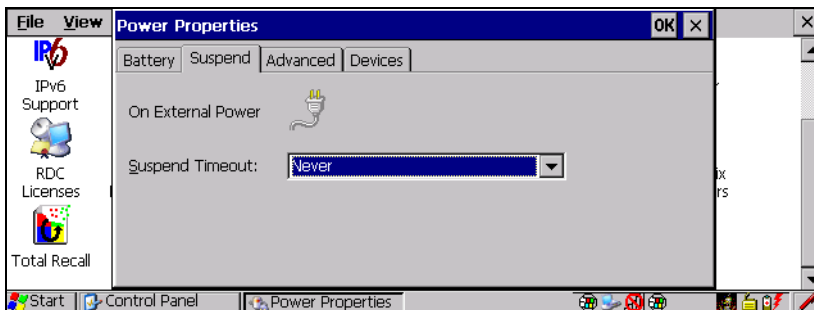
The *Battery* tab displays status of the internal battery in your unit.



Keep in mind that for units using a *super capacitor* for backup purposes (rather than an optional internal backup battery), the battery details on the right side of the *Battery* tab (see sample screen above) are not displayed; this portion of the tab will be blank.

5.5.4.2 Suspend

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

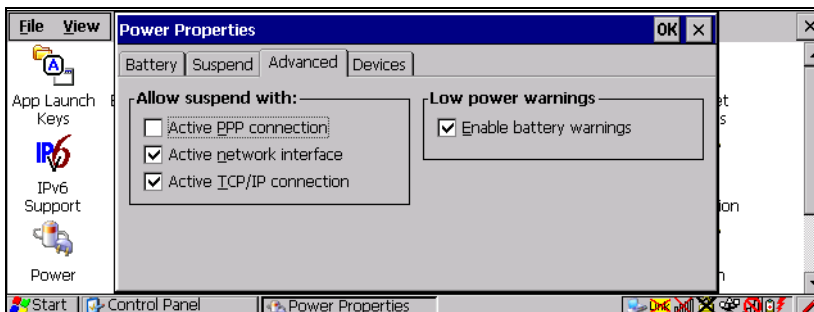


Suspend

When the 8525 G2/8530 G2 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 value chosen in the *Suspend Timeout* dropdown menu determines when the unit will go to suspend state (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 8525 G2/8530 G2 CPU enters a sleep state, and the radio is shut off. The state of the device (RAM contents) is preserved. Pressing [ENTER] wakes the system from suspend state. When the 8525 G2/8530 G2 is in suspend state, the network connection is broken immediately; you must re-establish the network connection.

5.5.4.3 Advanced Power Properties



Allow Suspend With

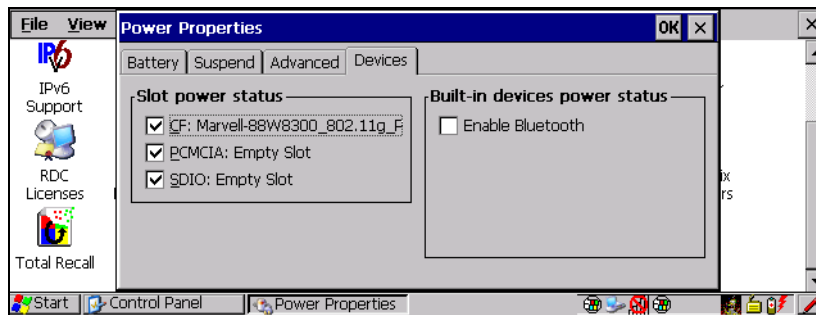
This tab allows you to specify whether or not your unit will enter suspend state while is operating with an active PPP connection, network interface or active TCP/IP connection.

Low Power Warning

When this option is enabled, a *Low Battery Power* warning dialog will be displayed every 5 minutes if the vehicle-mount detects a critically low backup battery level.

Keep in mind that for units using a *super capacitor* for backup purposes (rather than an optional internal backup battery), the *Low Power Warning* option on the right side of the *Advanced* tab is not available.

5.5.4.4 Devices



Slot Power Status

This tab allows you to enable or disable power to the individual CF, PC Card and SDIO slots in your unit.

Built-In Devices Power Status

A checkmark next to *Enable Bluetooth* indicates that the unit's built-in, *Bluetooth* radio is enabled.

5.5.5 Stylus Properties



Note: Touchscreen calibration may not be enabled on your unit. If your screen appears to require recalibration, contact your supervisor.

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

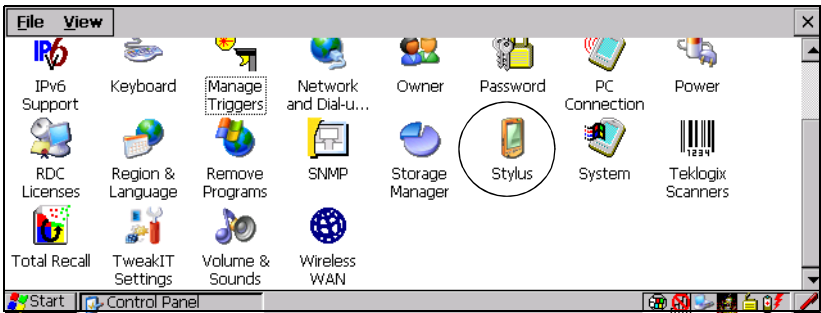
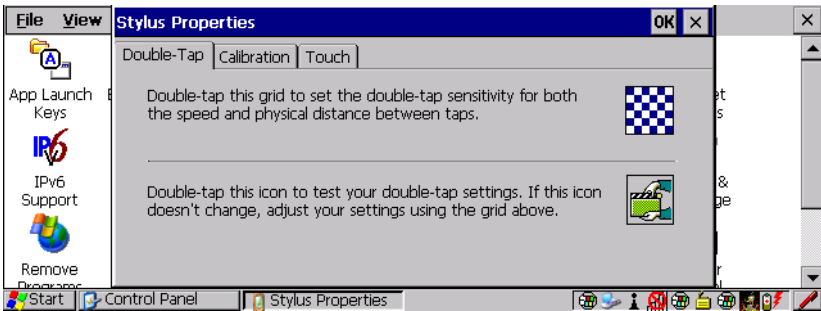


Figure 5.6 Stylus Icon

5.5.5.1 Setting Double-Tap Sensitivity

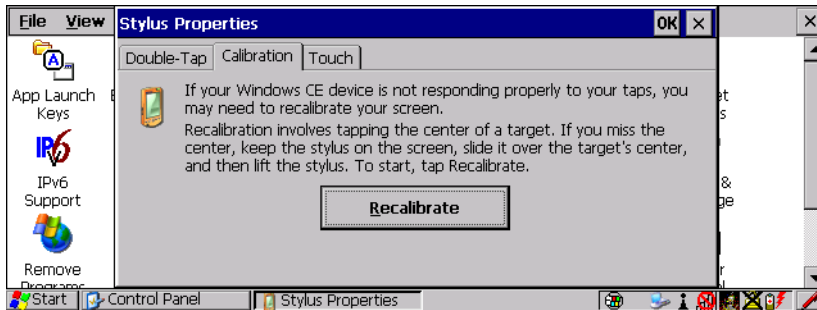
- In the *Double-Tap* tab, follow the directions to tailor the sensitivity of the stylus when you tap on the touchscreen.



5.5.5.2 Touchscreen Calibration

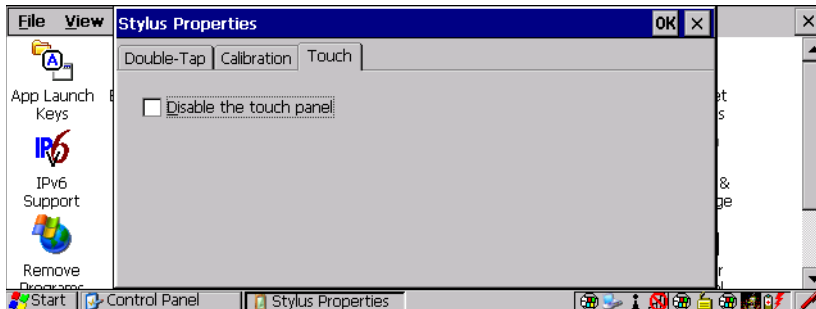
Touchscreens rarely require recalibration. However, if your touchscreen has never been calibrated or if you find that the stylus pointer is not accurate when you tap on an item, you can use the *Calibration* tab to recalibrate the touchscreen.

- Choose the **Calibration** tab and then tap on the **Recalibrate** button.



- Follow the directions in the *Calibration* tab to recalibrate the screen.

5.5.5.3 Touch — Disabling The Touchscreen



- Tap on the checkbox next to *Disable the touch panel*. The touchscreen will not accept screen taps.

5.5.6 Manage Triggers

This applet allows you to configure how barcode scanners 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.

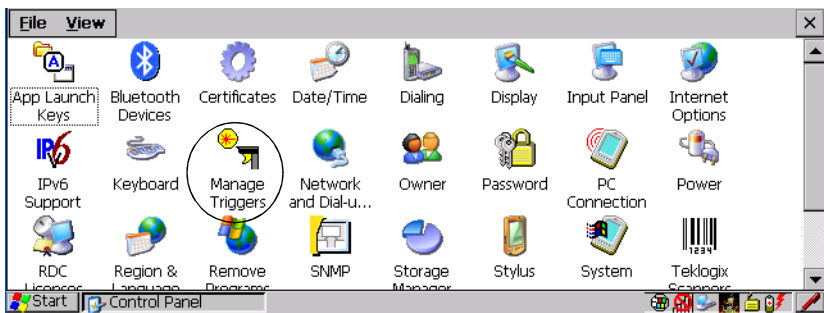
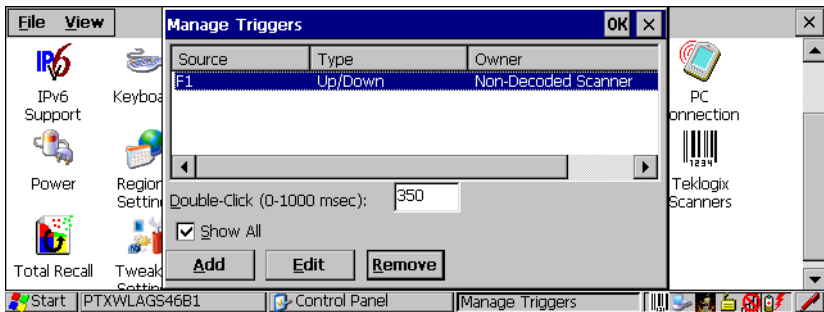


Figure 5.7 Manage Triggers Icon

The *Manage Triggers* screen lists any trigger mappings.



5.5.6.1 Trigger Mappings

A trigger mapping is an association between a particular key on the keyboard and a driver or application, the “owner(s)” of the trigger source. 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** milliseconds), a double-click occurs. See also “Trigger Type” on page 104.

Show All

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 box, so that you can add new trigger mappings.

Edit

Tapping this button brings up the *Edit* mapping dialog box, so that you can edit existing trigger mappings.

Remove

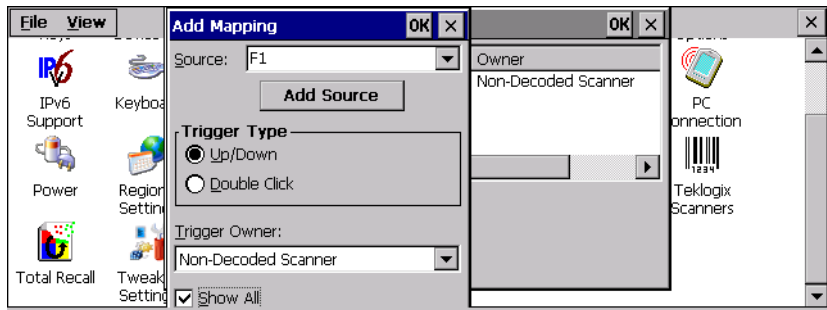
Tapping this button removes an existing mapping.

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.

5.5.6.2 Add And Edit Trigger Mapping

This dialog box is used to add trigger mappings.



Source

This dropdown list allows you to specify the source of the trigger events, such as a keyboard key [F1], for the *Trigger Owner* selected.



Notes: *It is possible to map the same source to different owners—for example, [F1] can be mapped 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 that draw a great deal of current, such as Imagers.*

It is also possible to map different sources to the same owner.

Add Source

Only existing trigger sources are shown in the *Source* combo-box. To add a new source to this list, tap on the **Add Source** button. A dialog box pops up, allowing you to select the keyboard key to use as a trigger source.

Trigger 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.

Trigger Owner

This identifies the driver or application receiving the trigger presses.

Show All

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

5.5.7 Certificate Assignment

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

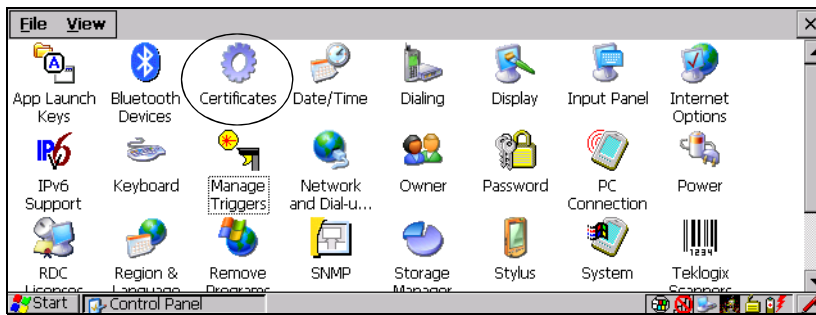


Figure 5.8 Certificates Icon

This dialog box is used in conjunction with 802.1x authentication to enhance 8525 G2/8530 G2 security.



For a detailed description about *Certificate* setup for both the server and client-side devices (8525 G2/8530 G2s), refer to the following website:

www.microsoft.com/windows2000/techinfo/planning/walkthroughs/default.asp - "Security Services"



Note: When importing certificates, the 8525 G2/8530 G2 only recognizes .cer files.

5.5.8 Narrow Band Radio Setup



Note: Keep in mind that the Narrow Band icon is only visible in the Control Panel when a Narrow Band radio is installed in the unit.

- In the Control Panel, choose the **Narrow Band Radio** icon.

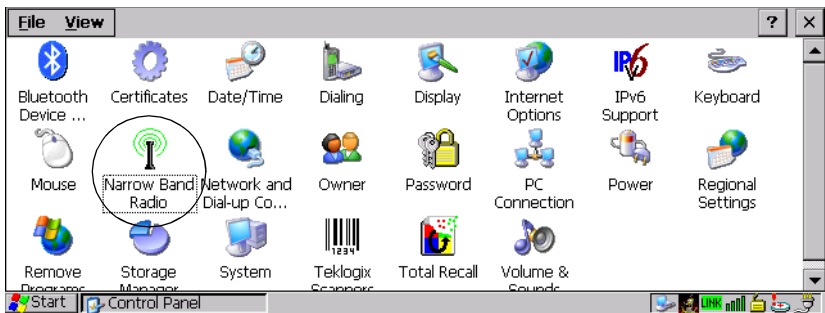


Figure 5.9 Narrow Band Icon

5.5.8.1 Info Tab

In the *Narrow Band Radio* dialog box, the *Info* tab displays information about the radio – it *cannot* be edited.

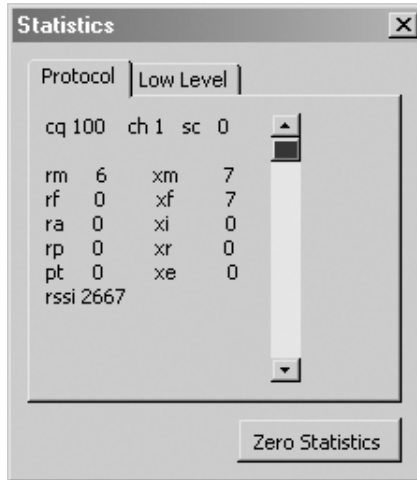


The *Power* information in this screen indicates the power of the radio installed in the unit – 0.5 or 1.0 W. The *Serial Number* is the identifier for the radio and is used by the protocol when the “Auto Radio Address” parameter is enabled. The *CIS Data* (Card Information Structure) is manufacturer information describing the PC Card installed in the 8525 G2/8530 G2. *DSP x.x / FPGA 0xNN* indicates the firmware revision of the radio’s DSP (x.x) and FPGA (0xNN) where x.x and NN represent actual revision numbers.

Statistics Screen

- Tap on **Statistics** to display the *Protocol Statistics* screen.

These statistics are updated every second while the dialog box is displayed.



The following table provides a brief description of these statistics:

Statistic	Description
cq	Channel quality. See the description of the “Channel Switch Speed” parameter in the channel tab for more information on how “cq” affects channel switching (see “Channel Switch Speed” on page 110).
ch	Current channel
sc	Monitor state of RF Link: LOCKED=0, LOCKPENDING=1, LOWC-QWAIT=2, SCANNING=3, STARTUP=4, ABANDON=5
rm	Number of received messages, complete application messages
xm	Number of transmitted messages, complete application messages
rf	Number of received polls with attached message
xf	Number of transmitted frames
ra	Number of received radio link aborts
xi	Number of transmitted radio link initialization messages
rp	Number of received polls
xr	Number of transmitted retries

pt	Number of poll timeouts
xe	Number of transmitted errors
rssi	Received Signal Strength Indicator

Table 5.1 Protocol Statistics Descriptions

Low Level Screen

- Tap on the **Low Level** tab to display the *Low Level* statistics screen.

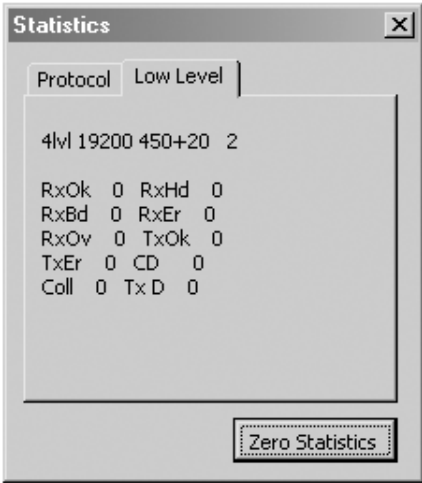


Table 5.2 defines the elements of the *Low Level* statistics screen.

Statistic	Description
RxOk	Message buffers discarded due to lack of available receive buffers
RxHd	Message headers successfully received
RxBd	Message bodies successfully received
RxEr	Message buffers received with detected errors
RxOv	Number of transmitted messages, complete application messages
TxOk	Message buffers successfully transmitted
TxEr	Message buffers which failed to transmit
CD	Number of carrier detect changes detected
Coll	Number of collisions detected
Tx D	Actual difference in time (in RTC ticks) between when the most recent transmit (with timestamp) was scheduled to start and when it actually started.

TxMD	Maximum "Tx D" value
Rx X	Number of extra characters received for last received message (due to delay in host reporting back actual body size)
RxMx	Maximum "Rx X" value
MChg	Number of completed mode changes

Table 5.2 Low Level Statistics Descriptions

Default All Parameters

- Tap on the **Default all Parameters** button to return all registry parameters to default values.

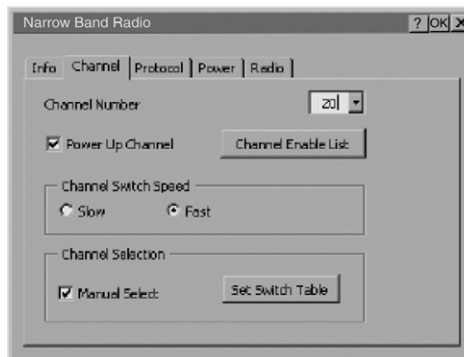
When this button is pressed, a screen appears asking if you're sure you want to return all parameters to their default values.

- Tap on **Yes** to return values to their default settings.



Note: This button does **not** default the radio parameters set under the Radio tab.

5.5.8.2 Channel Tab



Channel Number

This parameter determines the operating radio channel of the 8525 G2/8530 G2. The allowable range for this parameter is 1 to 20. The default value is 1.



Note: The Channel Number dropdown menu displays only the channels that have been enabled in the Channel Enable List.

Power Up Channel

When this parameter is enabled, the 8525 G2/8530 G2 begins communicating on the channel specified in the *Channel Number* parameter when the unit is powered up. This setting may prevent the migration of 8525 G2/8530 G2s to the same channel due to uneven coverage in some sites.

If this parameter is disabled (unchecked), the unit will continue communicating on the same channel that it was on before it was powered off.

Channel Enable List

- Tap on the **Channel Enable List** button to display a dialog box listing available channels.



This dialog box is completed by default with all channels that have frequencies configured. A checkmark indicates that a channel is enabled. An unchecked check box indicates that the channel is disabled. The maximum number of channels supported by the RA1001 Narrow Band radio is 20.

Enabling a channel allows the channel to be set to an operating channel (*Channel Number*) and makes it available for channel searching. For example, if *Channel 1* is the operating channel and all other channels are enabled, the 8525 G2/8530 G2 can roam through all 20 channels.

Channel Switch Speed

This parameter changes the threshold the 8525 G2/8530 G2 uses to determine when communication quality with a base station is unacceptable. When this threshold is exceeded, the unit starts channel searching for a new base station.

Setting this parameter to *Slow* means a higher threshold – the 8525 G2/8530 G2 is more tolerant of poor communication quality. When the channel quality of the vehicle-mount radio drops below 46%, the unit monitors the channel quality for 15

timeout periods before searching for a new channel. If *Channel Switch Speed* is set to *Fast*, the current channel is only monitored for up to 2 time-out periods before channel switching begins.



Important: *“Fast” switch speed is most effective where coverage areas are largely overlapping. If the coverage areas barely overlap, have dead spots, or if the 8525 G2/8530 G2 frequently operates on the fringe of coverage, this parameter should be set to “Slow”.*

Channel Selection

Enabling *Manual Select* allows you to set the channel search order the 8525 G2/8530 G2 will use if communication quality drops and channel switching is required. If this parameter is enabled, the 8525 G2/8530 G2 uses the channel switching lists specified in the *Manual Switch Table*. If this parameter is disabled (unchecked), the vehicle-mount uses a standard algorithm to decide which channel it should switch to in the event of poor channel quality.



Warning: *It is not recommended that the “Manual Select” parameter be used without a clear understanding of how to order the channel sequences for optimum performance.*

Manual Switch Table

- Tap on **Set Switch Table** to display the *Manual Switch Table* dialog box.

Channel	List
1	- 0, 0, 0, 0, 0, 0, 0, 0, 0
2	- 0, 0, 0, 0, 0, 0, 0, 0, 0
3	- 0, 0, 0, 0, 0, 0, 0, 0, 0
4	- 0, 0, 0, 0, 0, 0, 0, 0, 0
5	- 0, 0, 0, 0, 0, 0, 0, 0, 0
6	- 0, 0, 0, 0, 0, 0, 0, 0, 0

OK X

Edit Channel List

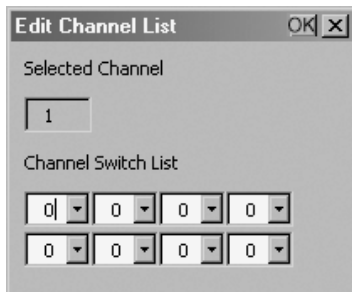
This feature is used rarely. It is used when the order of channel switching needs to be tightly controlled. The values in the *Channel* column are completed for you with the enabled channels when this dialog box is opened. For each corresponding enabled channel, the “List” column contains “0,0,0,0,0,0,0” values by default.

If communication quality falls below 46%, only the channels entered in the *Manual Switch Table* are considered for channel switching. The channel search is carried out in the order in which the channels were entered in the table.

To configure channel switching order for a particular channel:

- Highlight the channel you want to edit, and tap on **Edit Channel List**.

Editing The Channel List

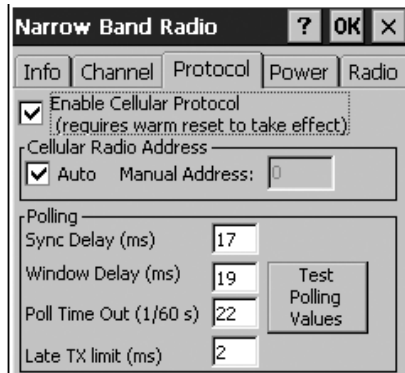


Only those channels that are enabled are displayed in the dropdown menus in the *Edit Channel List* dialog box. The allowable values range from 0 to 20.

- Tap on the arrow next to dropdown menu to scroll through the available channels. Highlight the value you want to assign.
- Once you’ve assigned the switching order, tap on **OK** to close the dialog box.

The channel list is added to the selected channel in the *Manual Switch Table* dialog box.

5.5.8.3 Protocol Tab



The screenshot shows a window titled "Narrow Band Radio" with tabs for Info, Channel, Protocol, Power, and Radio. The Protocol tab is active. It contains a checkbox for "Enable Cellular Protocol" which is checked, with a note "(requires warm reset to take effect)". Below this is a "Cellular Radio Address" section with a checked "Auto" option and a "Manual Address" field set to "0". A "Polling" section contains four input fields: "Sync Delay (ms)" with value 17, "Window Delay (ms)" with value 19, "Poll Time Out (1/60 s)" with value 22, and "Late TX limit (ms)" with value 2. A "Test Polling Values" button is located to the right of these fields.

Enable Cellular Protocol

The value assigned to this parameter must be identical to the value assigned to the corresponding parameter in the Psion Teklogix Network Controller, Wireless Gateway or Base Station. A warm reset of the 8525 G2/8530 G2 is required before this parameter can take effect.

If *Enable Cellular Protocol* is disabled (unchecked), the options in the *Cellular Radio Address* frame are displayed in grey text indicating that they cannot be accessed.

Cellular Radio Address

Auto Radio Address

If *Auto* radio address is enabled, the 8525 G2/8530 G2 requests an automatically assigned radio address. *Manual* radio address is displayed in grey text indicating that it cannot be accessed.

Manual Radio Address

The value entered in the *Manual Radio Address* parameter is used to identify the 8525 G2/8530 G2 over the radio link. A unique value from 1 to 3840 must be assigned for each unit.



Note: This parameter is set to '0' (an out-of-range value) by default to block radio communication when the unit is initially powered up. This prevents several new terminals from attempting to communicate with the same default terminal number at initial power up. Once the default value is changed, it cannot be set back to '0'.

Polling

The default values for the *Polling* parameters are dependent on the value assigned to the *Modulation / Baud Rate* parameter in the *Radio* tab.

Modulation / Baud Rate	Sync Delay	Window Delay	Poll Timeout
4 Level / 19200	17	20	20
4 Level / 9600	17	23	25
2 Level / 9600	17	19	22
2 Level / 4800	25	23	37

Table 5.3 Polling Parameters

Sync Delay



Warning: *This parameter should not be changed from its factory setting without a clear understanding of radio protocol timing.*

The *Sync Delay* parameter specifies the delay between the base station transmission and the first response window, measured in milliseconds. The value assigned to this parameter must be compatible with other terminals and base stations in the system. The allowable range for this parameter is between 1 and 40.

Window Delay



Important: *The value assigned to this parameter should not be changed from the factory setting without a clear understanding of the timing of the radio protocol.*

This parameter specifies the amount of time (in milliseconds) the 8525 G2/8530 G2 should add to each response window in order to accommodate the receive/transmit switching characteristics of the radio. The value assigned must be compatible with other units and base stations in the system. The default setting of 19 is based on the requirements of a 2 level modulation narrow band radio, operating at 9600 baud.

Poll Timeout

This parameter (in units of 16.6 ms) sets the time-out value used for automatic channel switching. “Poll Timeout” is the time during which the 8525 G2/8530 G2 should detect at least one poll from a base station. As each “Poll Timeout” passes without a successful poll from the base station, the 8525 G2/8530 G2 channel quality decreases. If the channel quality falls to below 46%, the terminal begins searching for a new channel.

A value from 1 to 200 can be assigned to this parameter.

Late TX Limit

The value entered for this parameter (measured in milliseconds) sets the maximum allowable deviation time from the start of a response window during which an 8525 G2/8530 G2 can make a transmission. After this threshold, the transmission will not be attempted and the 8525 G2/8530 G2 will try again at the next opportunity. For example, suppose this parameter is set to 5. From the beginning of the response window, the 8525 G2/8530 G2 can be up to 5 milliseconds late sending a transmission. Beyond this threshold, the transmission is not attempted. The vehicle-mount waits for the next opportunity.

The allowable range for this parameter is from 1 and 10 – the default value is 2.

Test Polling Values

- Tap on the **Test Polling Values** button to test the polling values indicated in this dialog box without committing them to memory.

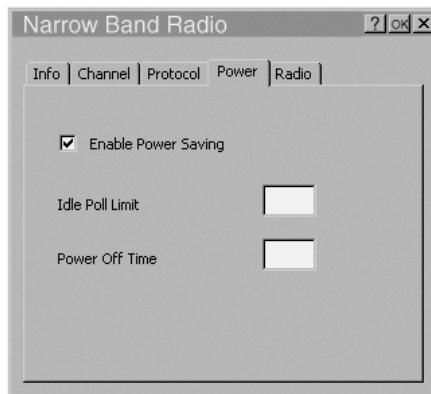
To commit the new polling values to memory:

- Tap on the **OK** button – the dialog box is closed and the new values are saved.

To discard the new values, and retain the existing values:

- Tap on the **X** button at the top of the dialog box.

5.5.8.4 Power Tab



Enable Power Saving

When this parameter is checked, power saving is enabled.

Idle Poll Limit



Note: The “Idle Poll Limit” parameter is only used when “Enable Power Saving” is enabled.

This parameter determines how many transmit opportunities – base station polls with available response windows – must be consecutively skipped before the 8525 G2/8530 G2 places the radio into power-down mode for power saving. The allowable range for this parameter is from 1 to 200. The default value is 10.

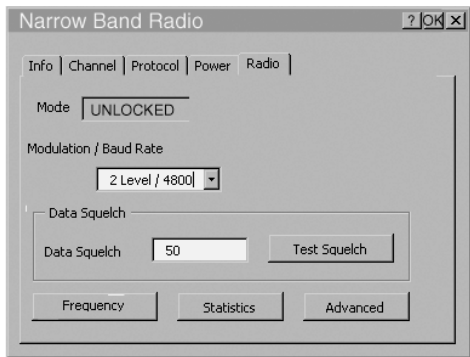
Lower values cause the vehicle-mount to enter power saving mode quickly, extending battery life but reducing 8525 G2/8530 G2 responsiveness. Higher values increase responsiveness but decrease battery life.

Power Off Time

This parameter determines the amount of time (in seconds) the 8525 G2/8530 G2 radio stays in power-down mode when a power down period has been initiated. “Power Off Time” is only used when the “Enable Power Saving” parameter is enabled.

The allowable range for this parameter is 1 to 60.

5.5.8.5 Radio Tab



Modulation/Baud Rate

The options in the Modulation / Baud Rate dropdown menu are: 2 Level/4800, 2 Level/9600, 4 Level/9600 and 4 Level/19200. The value assigned to this parameter must be identical to the corresponding parameter in the Psion Teklogix Base Station. This parameter is stored in the radio’s non-volatile memory. The default value for Modulation/Baud Rate is 2 Level/9600

Data Squelch

Data Squelch controls the radio receiver, cutting it off when the signal is too weak for reception of anything but noise. Receive Signal Strength Indicator values below the *Data Squelch* threshold prevent further processing of the receive signal while higher values allow further processing. The allowable range is 0 to 100 with a default value of 0.

In noisy environments, this value can be increased to reject noise. In environments with less noise, this value can be decreased to allow the received signal and increase range. This parameter is stored in the radio's non-volatile memory.

Test Squelch

- Tap on the **Test Squelch** button to prompt the radio to use the *Data Squelch* value without committing it to the radio's non-volatile memory – in other words, to 'test' the value assigned to the *Data Squelch* parameter.

To commit the new *Data Squelch* value to the radio's non-volatile memory:

- Tap on the **OK button** – the dialog box is closed and the new value is saved.

To discard the new value, and keep the old *Data Squelch* value:

- Tap on the **X** button at the top of the dialog box. The old value is sent to the protocol driver.

Frequency Table

- Tap on the **Frequency** button to display the *Frequency Table* dialog box.

Channel	Receive (MHz)	Transmit (MHz)
1.	446.837500	446.837500
2.	443.000000	443.000000
3.	451.000000	451.000000
4.	437.750000	437.750000
5.	438.250000	438.250000

Copy "Receive" to "Transmit"

- Tap on the **Copy "Receive" to "Transmit"** button to copy the contents of the *Receive* fields into the corresponding *Transmit* fields.

When you tap on this button, a warning box is displayed asking “**Copy all the Rx frequencies to the Tx frequencies?**”

- Tap on **Yes** to go ahead or **No** to stop the copy process.

Statistics

- Tap this button to display communication statistics.

Refer to “Statistics Screen” beginning on page 107 for details about this screen.

Advanced

This button launches the *Radio Test Application*.

5.5.9 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 2 meter 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.



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

- In the *Control Panel*, choose the **Bluetooth Device Properties** icon to display the **Bluetooth Manager** screen.

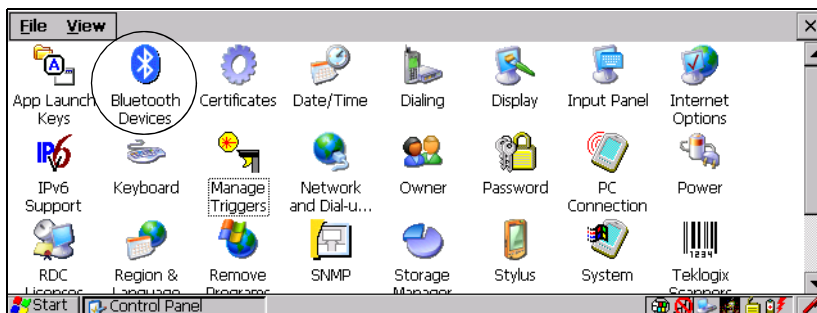


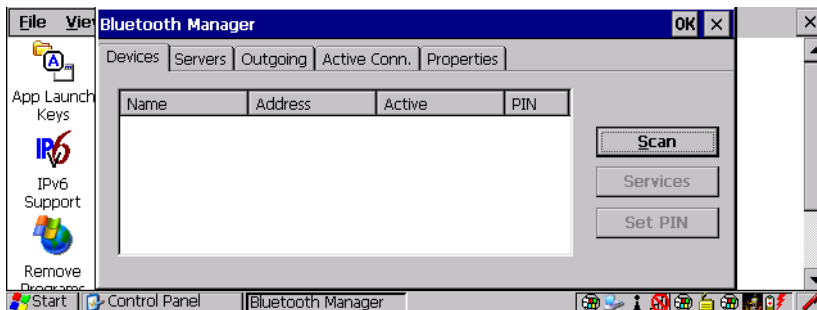
Figure 5.10 Bluetooth Icon

The *Bluetooth Manager* dialog box is used to display the other *Bluetooth* devices with which you can communicate.

5.5.9.1 The Devices Tab

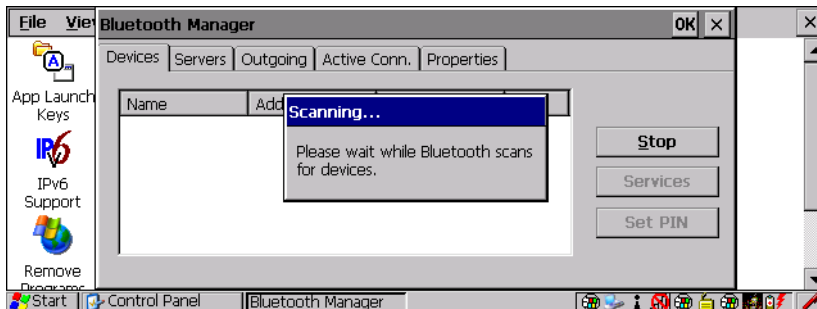


Note: If you intend to configure **Bluetooth** communication with specific devices (e.g., a scanner or printer), turn on the devices and bring them within 5 metres of the vehicle-mount before proceeding with the discovery process described below.



Scan

- Tap on the **Scan** button to list available devices.



Wait for the 8525 G2/8530 G2 to complete its scan (approximately 20 seconds). When scanning starts, the *Scan* button will change to *Stop* – if necessary, you can tap on this button to stop the process. Once scanning is complete, all discovered devices will be displayed in the list box, with **Name**, **Address**, **Active** status, and **PIN** information.



Note: During the scanning process, addresses are located first, followed by names. Only the names of devices that are within the **Bluetooth** radio coverage range will be retrieved.

The **Active** column indicates whether any service is activated for that device. When a service is activated, the device is displayed in the list even when it is not detected during the scan.

The **PIN** column indicates whether you have a PIN (password) set for the device.

At this point you can either query for services or set the PIN for each device. Once you highlight a device in the list box, both the *Services* and *Set PIN* buttons become available.

Services

A discovered device may display several service profiles that it can use to communicate, and you will want to activate the type you need. Supported profiles that can be activated include: DUN (Dial-Up Networking service), Printer (serial service), and LANPPP (LANAccessUsingPPP service). ASync (ActiveSync) is another available profile.

- To start the service scan, highlight a device in the *Devices* tab list, and then click on the *Services* button or double-click on the device entry.



Note: *If the remote device is out of reach or turned off, it can take a considerable amount of time for the Services dialog box to appear – it may appear to be frozen.*

Once the device's service profiles are displayed in the Services list box:

- Highlight the service to be activated.
- Press [SPACE] or right-click to display the Activation menu.

The Activation menu contains four options – Activate, Authenticate, Outgoing and Encrypt.

Once the service is successfully activated, the assigned port (if applicable) will appear in the *Port* column of the *Services* list box. You can choose to use *BSP* or *COM* as the port name. BSP is the latest Microsoft *Bluetooth* stack standard, but older applications assume serial ports are COM. When using *COM* as the port name, the *Bluetooth* manager will try to find and use a free port between COM7 and COM9. When using *BSP* as the port name, BSP2 to BSP9 are available for use. The port is available as soon as it is activated.



Note: *The CH column shows the RFCOMM channel of the service **if** the service is RFCOMM-based. This information is not generally needed except for debugging purposes.*

To add a service to the *Outgoing* port, an active service must first be deactivated. Then you can choose the 'Outgoing' option from the Activation menu (highlight a service, right-click or press the [SPACE] bar to display the Activation menu).

The *Authentication* and *Encryption* options can be changed only before activation. To change these after activation, deactivate the service first, then change the options.

Once a service is activated, all the information regarding the service, including the RFCOMM channel number, is saved in the registry. (Some remote devices may change their RFCOMM channel numbers when they reboot, so your saved setting may not work when the remote device is rebooted. In that case, you must deactivate the service and reactivate it to detect the current RFCOMM channel.)

Set PIN

PINs can be set for each device by pressing the *Set PIN* button in the *Devices* tab, or you can skip this step and try to connect to the device first.



Important: *The remote device must have authentication enabled, otherwise the PIN authentication will fail.*

- Highlight a device, tap on the **Set Pin** button, and type the **PIN**.

You will receive a message, either that the PIN has been successfully validated or that it has been rejected.

If the PIN has been validated, an asterisk (*) appears in the PIN column in the *Devices* list box, indicating that this device has a PIN set. Once a PIN is entered, it is saved in the registry.

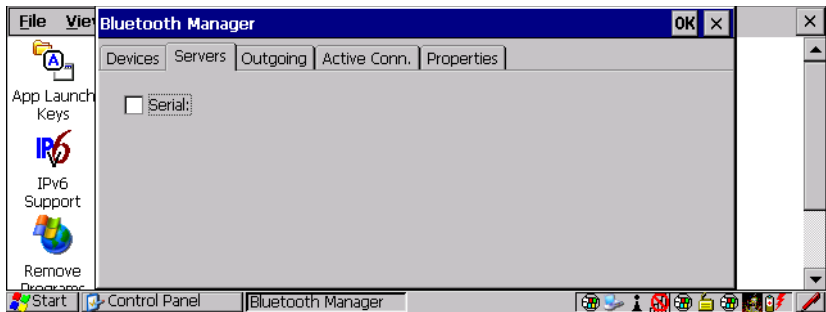
To remove the PIN:

- Choose **Set PIN**, and press [ENTER].

If the 8525 G2/8530 G2 attempts to connect to a remote device that has Authentication enabled and does not have a required PIN set, an *Authentication Request* dialog box is displayed.

- Enter the **PIN**, and tap on **OK** to connect the devices.

5.5.9.2 The Server Tab



The *Bluetooth* connection is initiated from your 8525 G2/8530 G2 to the remote device – therefore the 8525 G2/8530 G2 is called the ‘client’ and the remote is called the ‘server’. The *Servers* tab displays the server profiles that can be activated in your 8525 G2/8530 G2. There is currently one server profile available: **Serial**.

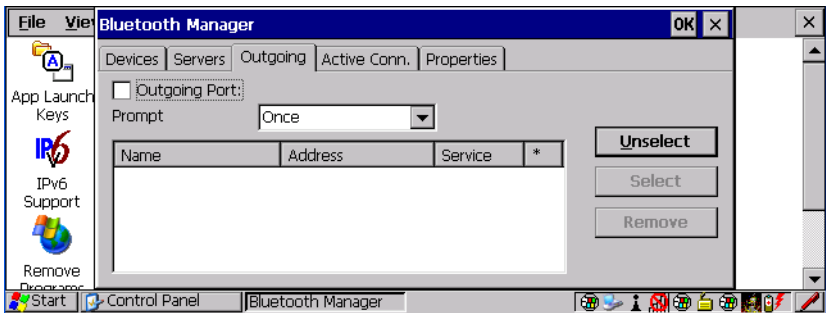
- Tap on the checkbox to activate the server, and it will display the associated port name beside the server name.

Once you activate a server profile, it is recommended that the 8525 G2/8530 G2 be rebooted before you try to bond from a server.



Note: *You do not need to reboot if you are deactivating a server.*

5.5.9.3 Outgoing Tab



Outgoing Port acts as a serial port that can be used to connect to a list of *Bluetooth* devices (one at a time), but you have the freedom to **switch on-the-fly**.

The *Outgoing Port* checkbox allows you to create the Outgoing port. When the port is created, the Outgoing tab lists the port name.

The Outgoing list dialog box displays a list of services marked as ‘Outgoing’. The * column indicates the currently selected service. You can tap on *Unselect* to reset the current selection, or you can tap on *Select* to make a selection. The *Remove* button deletes the service from the outgoing list.

The Prompt menu determines the behaviour of the pop-up Selection menu. Choosing *Everytime* causes the Selection menu to be displayed each time an outgoing port is created. If you choose *Once*, the menu is displayed only when a partner service is not selected.

To display the *Selection* menu at any time:

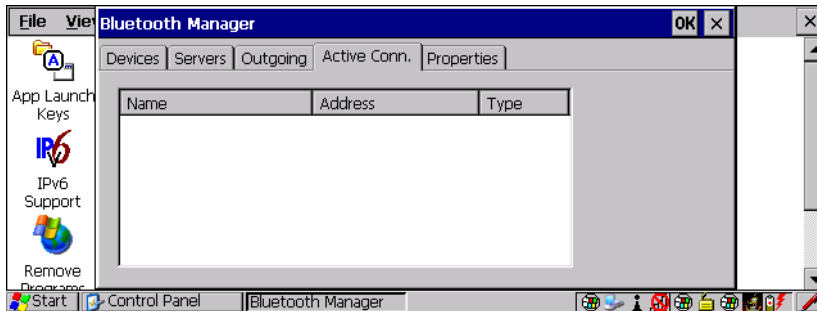
- Press [CTRL] [ALT] [F1], and switch the partner *Bluetooth* device.

If a connection to a partner device already exists, the connection is dropped and another connection to the newly selected device is created instantly without disrupting the application that has opened the outgoing port.



Note: To add a service to the **Outgoing** port, an active service must first be deactivated. Then you can choose the ‘Outgoing’ option from the Activation menu (highlight a service, right-click or press the [SPACE] bar to display the Activation menu).

5.5.9.4 Active Conn. Tab



The **Active Conn.** tab lists the *Name*, *Address*, and *Type* of the currently active connections. The table is periodically updated while on display, but it can take a few seconds before it reflects the actual list of connections. The *Type* column of the table shows ‘ACL’ or ‘SCO’. The Connection list table shows the connections for scanning as well as the service connections.



Note: You can change the device-name and description of your radio by clicking on the System icon in Control Panel, which will open the System Proper-

ties dialog box. Click on the **Device Name** tab to access the menu and change your settings. Then click on **OK**.

Although the name will have changed in the Properties menu in **Bluetooth Controls**, the radio only reads it on boot-up. For the changes to take effect, you must reset the 8525 G2/8530 G2.

5.5.9.5 Properties Tab



The *Properties* tab displays information about your 8525 G2/8530 G2, and provides some port options.

The *Device Name* field shows the device name of your 8525 G2/8530 G2. This name can be changed (see the **Note** in this section for details).

Device Class shows the Class of Device (e.g. desktop), which is always set to vehicle-mount.

Local Bluetooth Address shows the address of your 8525 G2/8530 G2 radio.

Port Prefix is used to set the port name to either *BSP* or *COM*. When the name is set to *BSP*, BSP2 to BSP9 are available for activated services (including the server).

When *COM* is chosen, COM7 to COM9 are available.

Name Query Retry governs the number of times the vehicle-mount will attempt to query the names of other *Bluetooth* devices if the first attempt fails. (When the unit scans for other devices, it sometimes fails to scan names.)

5.5.9.6 Bluetooth GPRS Connection

1. To connect to the internet using a GPRS phone equipped with a *Bluetooth* radio, begin by setting up the *Bluetooth* radio. The setup information is outlined beginning on page 118. Remember to choose the *modem* with which you want your 8525 G2/8530 G2 to communicate from the *Scan Device* list.
2. To set up the internet parameters, tap on the **Network And Dial-up Connections** icon in the *Control Panel*.

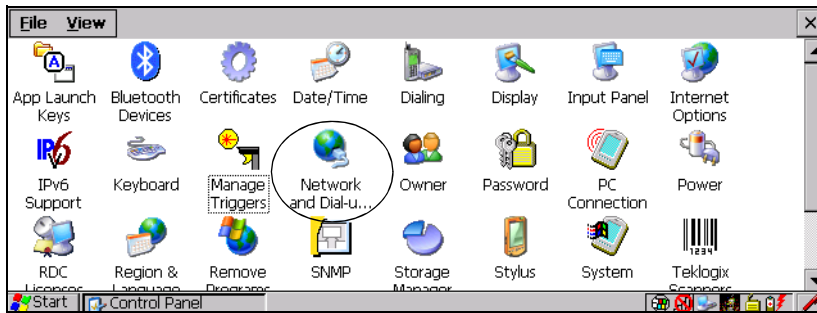
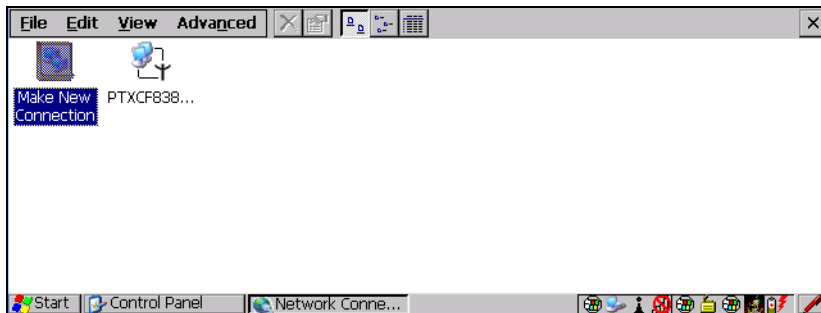
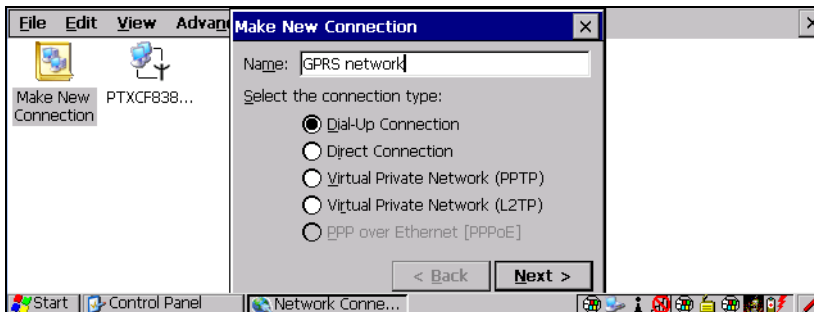


Figure 5.11 Network And Dial-up Connection Icon

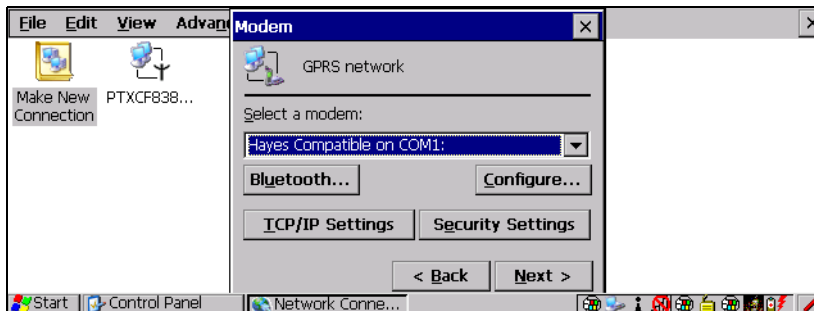
3. Tap on the **Make New Connection** icon.



4. In the *Make New Connection* dialog box, choose **Dial-Up Connection**. Enter a name for your GPRS network connection. ^

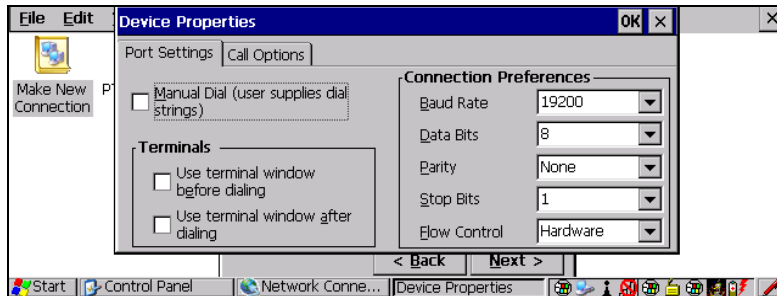


5. Tap on **Next** to display the *Modem* dialog box.

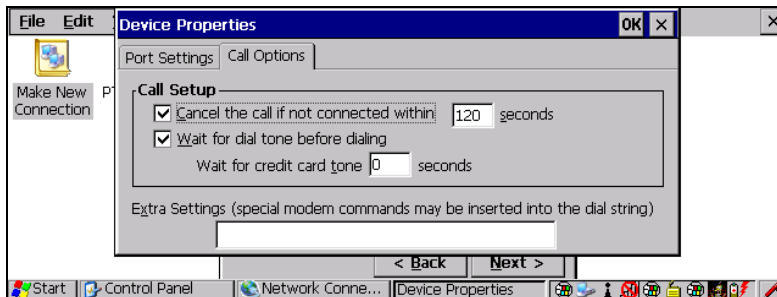


6. In the dropdown menu labelled *Select a modem:*, choose the name of the modem with which you want to connect, and then tap on **Configure** to display the *Device Properties* dialog box.

The 8525 G2/8530 G2 communicates with your phone and retrieves the parameters for the *Device Properties* dialog box. The 8525 G2/8530 G2 then disconnects.



7. Under the *Call Options* tab, turn off *Cancel the call if not connected within*, and press [ENTER] to save your changes.



8. In the *Modem* dialog box, choose **Next** to display the *Phone Number* dialog box.



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

9. In the *Control Panel*, tap on the **Dialing** icon.

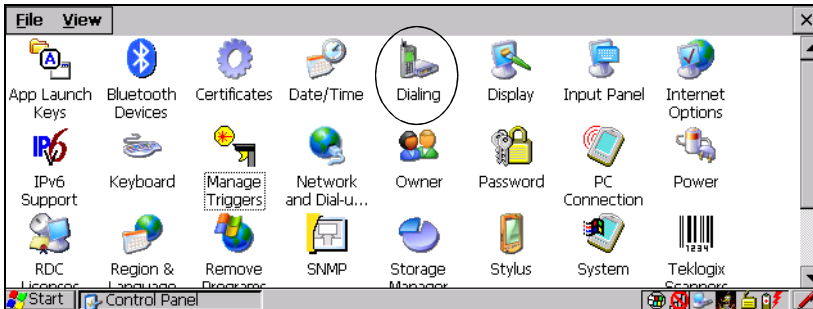
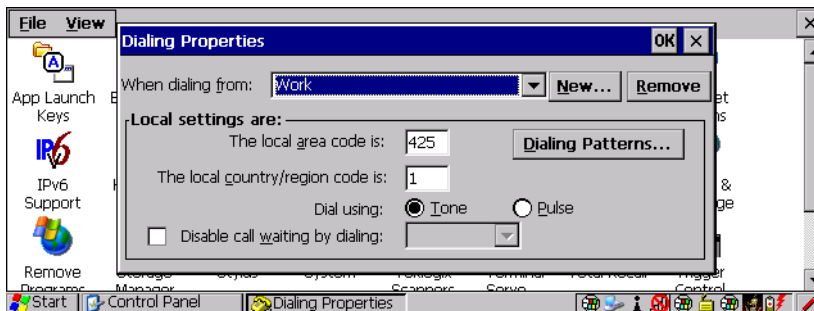


Figure 5.12 Dialing Icon

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



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

11. At this point, you'll need to return to the *Control Panel* and choose the **Network and Dial-up Connections** icon.

12. In the network connection window, the new network configuration – in this case – *GPRS Network* – is displayed. Tap on the new icon.



Figure 5.13 GPRS Network Connection

An onscreen message indicates the status of your connection – opening, connected, disconnected, error messages, and so on.

- Once the onscreen message reads *Connected*, click on **Hide** and access the internet.

5.5.10 Total Recall

Total Recall is a Psion Teklogix utility developed to maintain applications and setting over cold boots. This utility is based on a backup and restore concept.

- In the *Control Panel*, choose the **Total Recall** icon.

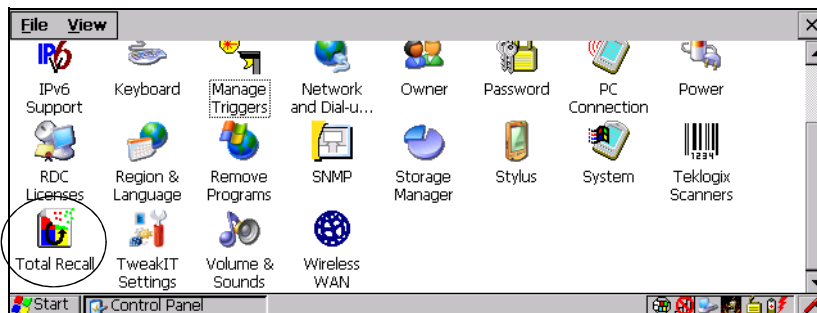
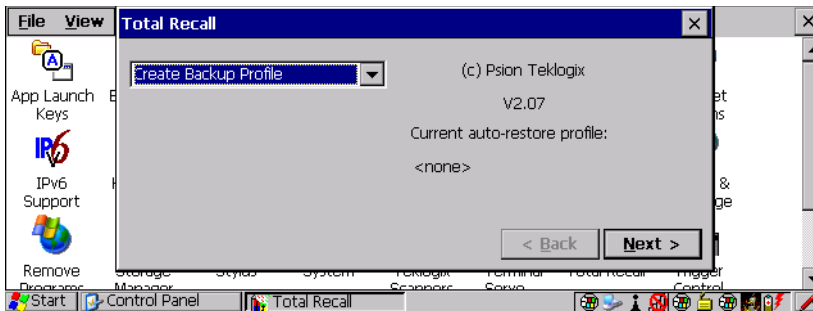


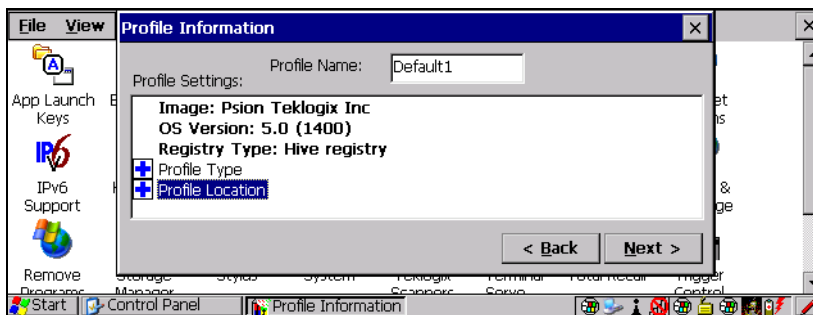
Figure 5.14 Total Recall Icon

5.5.10.1 Creating A Backup Profile



In the dropdown menu, you can choose from four options: *Create Backup Profile*, *View Selected Profile*, *Restore Selected Profile* and *Delete Selected Profile*. Keep in mind however that until a profile is created, the only available option is *Create Backup Profile*.

Profile Information



This dialog box lists the possible storage destinations for the profile file.

- To begin, type a name for the profile in the field labelled *Profile Name*.

The image type – *OS Version* and *Registry Type* – for the 8525 G2/8530 G2 is displayed at the top of the dialog box.

- Tap on the  icon to expand the settings for *Profile Type* and *Profile Location*.



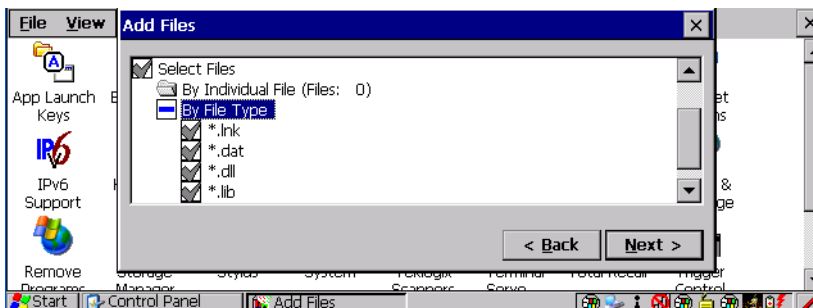
- *For this device only* – creates a backup that is manually restored by the operator.
 - *AutoRestore for this device only* – creates a profile that automatically restores itself following a cold boot.
 - *AutoRestore for this and other devices* – creates a profile that automatically restores after resuming from a cold boot, but it will not contain the touchscreen calibration coordinates or the Wireless radio settings.
 - *Profile Location* – allows the operator to specify where the profile is to be saved. The location for the profile is either *\Flash Disk* or *\SD-MMC Card*.
- Tap on **Next** to display the next dialog box – *Add Files*.

Add Files



By default, *All Files*: is selected so that all installed or copied files, database entries, and the Registry will be saved. You can, however, limit the backup to database, and/or the registry only.

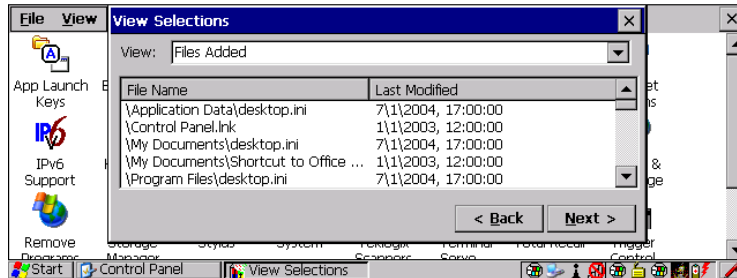
The *Select Files* option allows choose to limit the backup *By Individual File*, or you can choose to define which files will be backed up *By File Type*.



- Tap on **Next** to view your selections

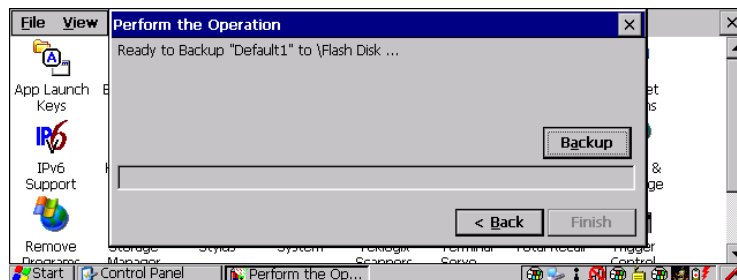
View Selections

Depending on what you have selected for inclusion in your profile, you can view a list of the selected files, databases and/or registry.



- Tap on **Next** to perform the operation.

Performing The Backup



- Tap on **Backup** to start the process and create a profile.

5.5.10.2 Restoring A Profile

To manually restore a profile:

- Tap on the **Total Recall** icon.
- Choose **Restore Selected Profile** from the dropdown menu.
- Choose the **Profile Name** you want to restore from the *Profile Name* dropdown menu.



Note: You can also manually restore an auto restore profile located in flash or a storage device.

5.5.11 Input Panel

The 8530 G2 is equipped with at Soft Input Panel (SIP).

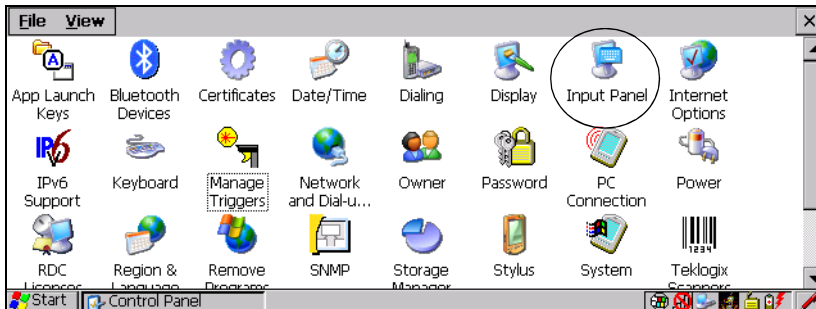
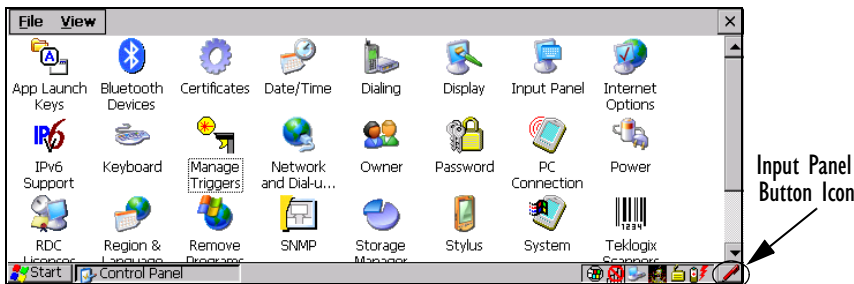


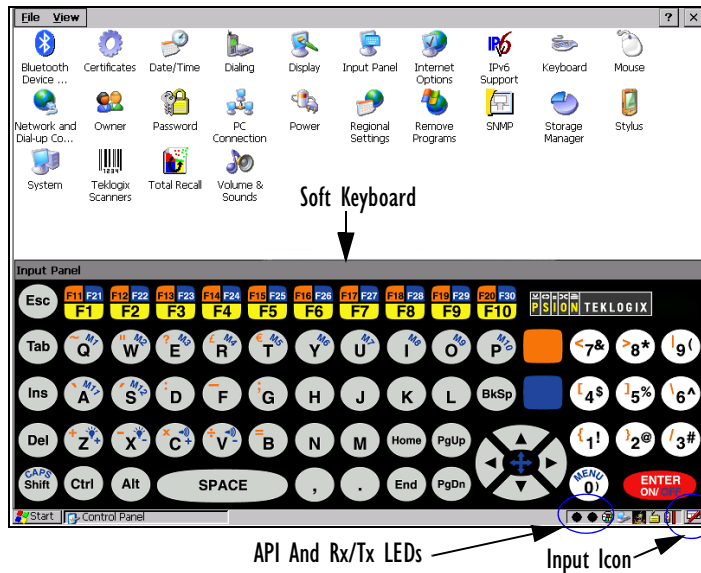
Figure 5.15 Input Panel Icon

On the 8530 G2 only, when a keyboard is **not** connected to the unit, tapping on the *Input Panel* button displays a soft input panel (soft keyboard) that can be customized using the *Input Panel* dialog box.



Important: *If the Input Panel Button icon is not visible in the taskbar, from the 'Start' menu, tap on Settings>Taskbar and Start Menu. Tap the checkbox next to 'Show Input Panel Button'. To remove this icon from the taskbar, tap in the checkbox to erase the check mark.*

- Tap on the **Input Panel Button** icon in the taskbar to display the *soft input panel* on the 8530 G2 screen. Keep in mind that the soft keyboard is not displayed when a physical keyboard is attached to the vehicle-mount.



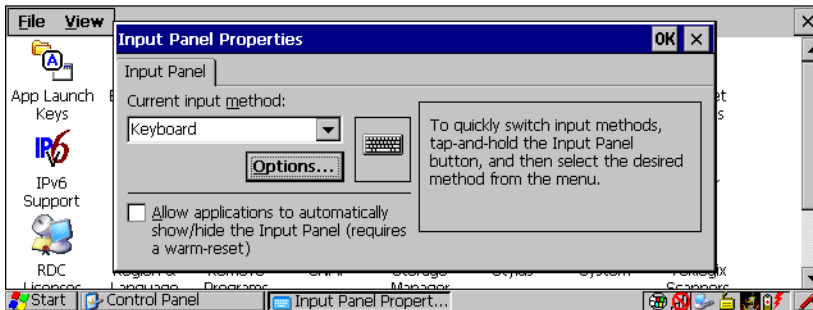
The soft keyboard operates just like a standard keyboard except that rather than pressing a key, you tap on letters, numbers, modifier keys, etc. on the 8530 G2 screen.



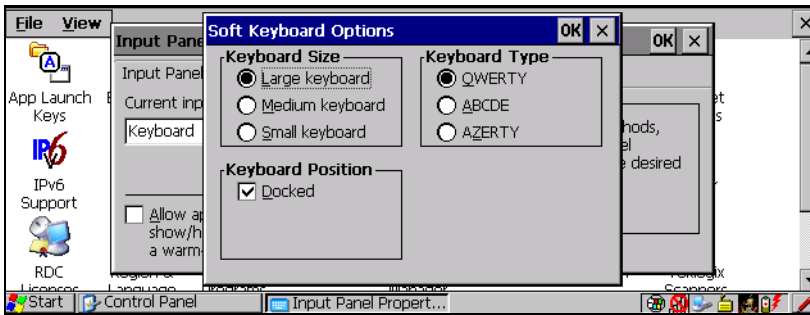
Note: Two LEDs – API and Rx/Tx – are available in the taskbar below the soft keyboard. For information about these LEDs, refer to page 48.

To customize the appearance and behaviour of the soft keyboard:

- Tap on the **Input Panel** icon in the *Control Panel*.



- 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 corner of the taskbar.

Keyboard Size and Type

The options under *Keyboard Size* and *Keyboard Type* allow you to alter the size of the keyboard keys and to choose the keyboard layout of the soft keyboard.

Keyboard Position

Tapping in the checkbox next to *Docked* locks the soft keyboard in place on the screen. Leaving this option unchecked allows you to use your stylus to drag the keyboard around the 8530 G2 screen.

5.5.12 IPv6 Support

The *IPv6 Support* icon in the *Control Panel* allows you to activate IPv6 network support on your unit. This internet protocol specification (version 6) supports 128-bit IP addresses, replacing version 4.

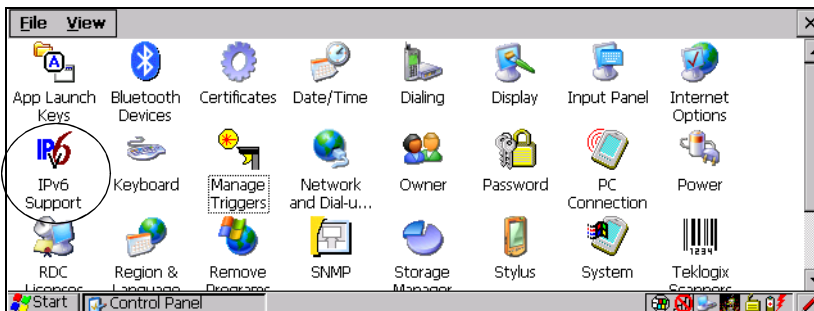
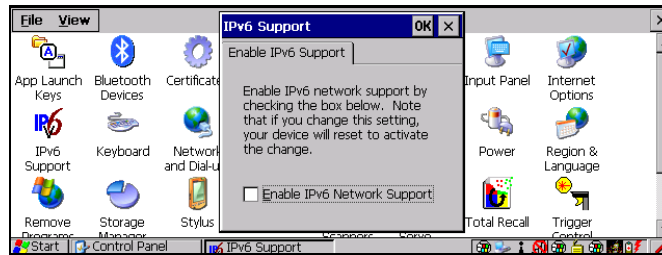


Figure 5.16 IPv6 Support Icon

- Tap on the icon to display the *IPv6 Support* dialog box.



- Tap on the checkbox next to *Enable IPv6 Network Support* to enable this internet protocol.

5.5.13 Scanner Properties Setup

The *Teklogix Scanners* icon in the *Control Panel* provides dialog boxes in which you can tailor bar code options and choose the bar codes your scanner will recognize.

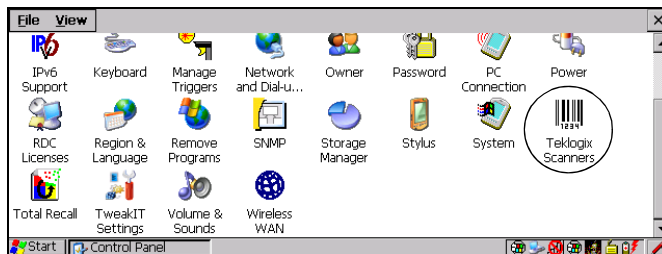
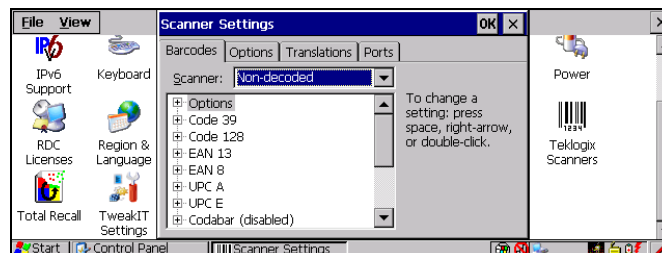


Figure 5.17 Teklogix Scanners Icon

5.5.13.1 Scanner Barcodes



Important: *To improve the decode speed and performance, enable only those codes that are required by the application.*

The symbologies listed in the *Barcodes* tab change to reflect the scanner you choose and the bar codes it supports. Keep in mind that the items listed in the *Barcodes* tab are used to configure external, *non-decoded* scanners only. Decoded scanners cannot be configured using the symbologies listed under this tab. See “Decoded Scanners” below for information about these scanners.

5.5.13.2 Decoded Scanners

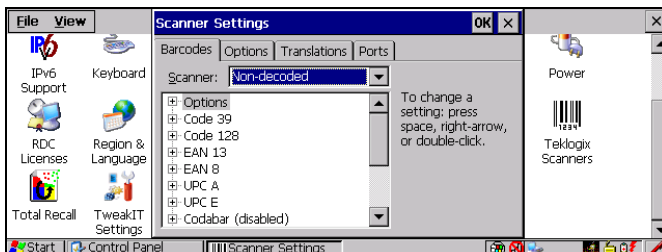
While *non-decoded* scanners are configured through the *Scanner Properties* dialog box (refer to “Non-Decoded Scanners” on page 138 for details), *decoded* scanners must be configured by scanning special configuration bar codes. In these cases, the scanner manufacturer provides programming manuals for configuration purposes.

- For Symbol decoded scanners, refer to the *LS3408* programming guide.
- For PowerScan (PSC) decoded scanners, refer to the *Powerscan Programing Guide (PSC)*.



Note: For port setup information, refer to “Ports Tab” on page 154.

5.5.13.3 Non-Decoded Scanners



All the available bar code symbologies for this type of scanner can be selected in this tab.

A ‘plus’ sign (+) to the left of the menu item indicates that a sub-menu of parameters is attached.

- Tap the stylus on the + sign to display the sub-menu.
- To change a parameter value, double-tap on the parameter. If you need to type a value, a dialog box is displayed in which you can type a new value. If you need to change a *yes* or *no* value, double-tapping on the parameter toggles between *yes* and *no*.

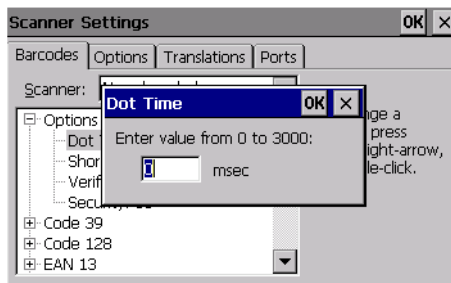
If you're using the keyboard:

- Highlight the bar code you want to work with, and press the [RIGHT] arrow key to display the sub-menu.
- Use the [UP] and [DOWN] arrow keys to highlight a parameter.
- To change a parameter value, press [SPACE] *or* the [RIGHT] arrow key. If a field requires text entry, a text box is displayed in which you can enter the appropriate value.

5.5.13.4 Non-Decoded Options

Dot Time (msec)

The value selected for *Dot Time* determines (in milliseconds) how long the targeting dot remains on before the scanner switches to a normal scan sweep. Choosing this option displays a window in which you can enter a value.



A value of 0 (zero) disables the target dot.

Short Code

When enabled (set to *on*), this parameter allows scanning of short 12 of 5 bar codes (2 characters). When disabled, these short bar codes are rejected.

Enabling *Short Code* may reduce the robustness of the decoding since the 8525 G2/8530 G2 must decode more potential bar codes; it is therefore not recommended for general-purpose bar codes with 4 or more characters.

Verify

The value entered for this parameter determines the number of correct additional decodes required after the initial decode before a bar code is accepted. Higher values significantly increase the time it takes to decode a bar code but also improve the reliability of the decoded bar code.

Security

This parameter controls the tolerance for decoding edge-to-edge bar codes (Code 93, Code 128, UPC/EAN). Lower values have a lower tolerance for misreads, but they also increase the time it takes to decode the bar code. The default value of 30 is generally a good compromise setting.

5.5.13.5 Code 39 Settings

Enabled

Set this parameter to *on* to enable Code 39 or ‘off’ to disable it.

Full Ascii

If this parameter is enabled (set to *on*), the characters +, %, and / are used as escape characters. The combination of an escape character and the next character is converted to an equivalent ASCII character.

Include Check

If this parameter is enabled (set to *on*), the check digit is included with the decoded bar code data.

AIAG Strip

If this parameter is enabled (set to *on*), the AIAG data identifier is removed from each decoded Code 39 label. The data identifier occurs in the first position next to the Code 39 start character. It can be a single alphabetic character or a series of numeric digits followed by an alphabetic character. This identifier defines the general category or specific use of the data contained in the rest of the bar code.



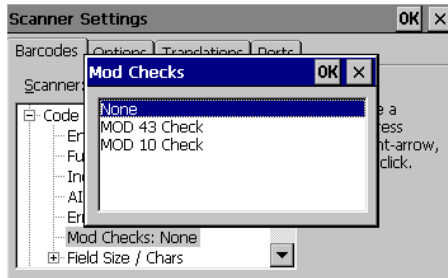
Note: *If your unit is operating with the Psion Teklogix TESS application, this parameter should **not** be used in conjunction with the TESS AIAG feature. This is because the 8525 G2/8530 G2 vehicle-mount performs the strip function before it processes the data through the AIAG feature; if the prefix is stripped, the data is not identified as AIAG.*

Error Accept

If the *Err Accept* and *AIAG Strip* parameters are enabled (set to *on*), all label data without an AIAG identifier character is accepted. If the *Err Accept* parameter is disabled and the “AIAG Strip” parameter is enabled (set to *on*), the label data is not accepted.

Mod Checks

Tapping on this option displays a list of options.



None

If you choose *None*, a check is not executed.

Mod 43 Check

If this parameter is enabled (set to *on*), the Mod 43 check digit is calculated.

Mod 10 Check

If this parameter is enabled (set to *on*), the Mod 10 check digit is calculated.

Field Size/Chars

Field Size

The field size is the length of the field after the first character is stripped and the prefix and suffix characters are added. If the field size is non-zero, only bar codes of that length are passed through.

Prefix Char

This character, if non-zero, is added before a successfully decoded bar code. Press the key you want to insert in the dialog box attached to this parameter. The ASCII/Unicode key value of the keypress is displayed.

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

Suffix Char



Note: *The appended character is treated as any other keyboard character. For example, if [BKSP] is pressed, the usual action for that key is performed. If your unit is operating with the Psion Teklogix ANSI emulation application, the 8525 G2/8530 G2 transmits the escape sequence associated with the function immediately after the bar code data.*

This character, if non-zero, is added after a successfully decoded bar code. Press the key you want to insert in the dialog box attached to this parameter. The ASCII/Unicode key value of the keypress is displayed.

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

Strip Leading

This parameter determines the number of characters that will be removed from the beginning of the bar code before the prefix character is added.



Note: *For Code 39 bar codes, the “AIAG Strip” is performed before the “Strip Leading”.*

Strip Trailing

The value entered in this parameter determines the number of characters that will be removed from the end of the bar code before the suffix character is added.

5.5.13.6 Code 128 Settings

Enabled

Set this parameter to *on* to enable Code 128 or *off* to disable it.

Include Sym

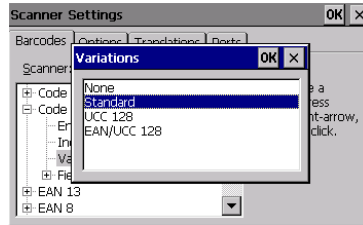
Setting *Include Sym* to *on* causes the group separator(s) and start code contained in this type of bar code to be displayed on the screen.



Note: *This option is available only when ‘EAN/UCC 128’ is selected.*

Variations

When using Code 128, you can choose the variation or type of bar code variation the scanner will recognize. The options available are: Standard, UCC and EAN/UCC. These options are described below. Choosing Variations displays a window from which you can choose one of these options.



Standard

Choose *Standard* if Code 128 is desired.

UCC 128

UCC 128 is a variation of Code 128.

EAN/UCC 128

To successfully scan this type of bar code, *EAN/UCC* must be enabled. *EAN/UCC 128* bar codes include group separators and start codes.

Field Size/Chars

Refer to the description beginning on page 141 for details.

5.5.13.7 EAN 13 Settings

Enabled

Set this parameter to *on* to enable EAN 13 or *off* to disable it.

Enable Bookland EAN

Setting this parameter to *on* allows your scanner to recognize Bookland EAN bar codes.

Include Country

If this parameter is enabled (set to *on*), the country code is included with the decoded bar code data.

Include Check

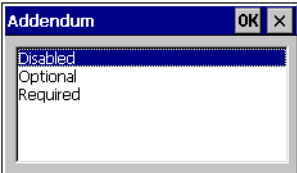
If this parameter is enabled (set to *on*), the check digit is included with the decoded bar code data.

Addendum



Important: Before “Addendum” can take effect, the “Short Code” parameter in the Options menu (see page 139) must be enabled (set to ‘on’).

An addendum is a separate bar code, supplementary to the main bar code. Choosing this option displays a window from which you can select one of three options.

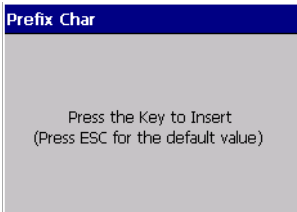


When *Addendum* is set to *Disabled*, the scanner does not recognize an addendum. If this parameter is set to *Optional*, the scanner searches for an addendum and if one exists, appends it to the main bar code. When the parameter is set to *Required*, the scanner does not accept the main bar code without an addendum.

Prefix/Suffix Chars

Prefix Char

This character, if non-zero, is added before a successfully decoded bar code. Choosing this option displays a window in which you can assign a character.



When this window is displayed, 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.

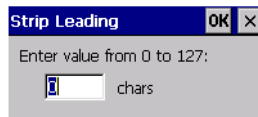
Suffix Char

This character, if non-zero, is added after a successfully decoded bar code. Choosing this option displays a window in which you can assign a character. When this window is displayed, 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.

Strip Leading

This parameter determines the number of characters that will be removed from the beginning of the bar code before the prefix character is added. Choosing this option displays a window in which you can assign a value.



Note: *The appended character is treated as any other keyboard character. For example, if [BKSP] is pressed, the usual action for that key is performed. If your 8525 G2/8530 G2 is operating with the Psion Teklogix ANSI emulation application, the vehicle-mount transmits the escape sequence associated with the function immediately after the bar code data.*

Strip Trailing

The value entered in this parameter determines the number of characters that will be removed from the end of the bar code before the suffix character is added.

5.5.13.8 EAN 8

Enabled

Set this parameter to *on* to enable EAN 8 or *off* to disable it.

Include Check

If this parameter is enabled (set to *on*), the check digit is included with the decoded bar code data.



Addendum

Important: *Before “Addendum” can take effect, the “Short Code” parameter in the Options menu (see page 139) must be enabled (set to ‘ON’).*

Refer to “Addendum” on page 144.

Prefix/Suffix Chars

See “Prefix/Suffix Chars” on page 144.

5.5.13.9 UPC A Settings

Enabled

Set this parameter to *on* to enable UPC A or *off* to disable it.

Include Number Sys

If this parameter is enabled (set to *on*), the number system digit is included with the decoded bar code data.

Include Check

If this parameter is enabled (set to *on*), the check digit will be included with the decoded bar code data.

Addendum



Important: *Before “Addendum” can take effect, the “Short Code” parameter in the Options menu (see page 139) must be enabled (set to ‘ON’).*

Refer to “Addendum” on page 144.

Prefix/Suffix Chars

See “Prefix/Suffix Chars” on page 144.

5.5.13.10 UPC E Settings

Enabled

Set this parameter to *on* to enable UPC E or *off* to disable it.

Convert to UPC-A

Setting this parameter to *on* results in a non-standard decoding that returns 12 digits from the 6 digit UPC E bar code.

Include Number Sys

If this parameter is enabled (set to *on*), the number system digit is included with the decoded bar code data.

Include Check

When enabled (set to *on*), the check digit is included with the decoded bar code data.

Addendum



Important: *Before “Addendum” can take effect, the “Short Code” parameter in the Options menu (see page 139) must be enabled (set to ‘ON’).*

Refer to “Addendum” on page 144.

Prefix/Suffix Chars

See “Prefix/Suffix Chars” on page 144.

5.5.13.11 Codabar

Enabled

Set this parameter to *on* to enable Codabar or *off* to disable it.

Strip Start/Stop Chars

Codabar uses the characters A, B, C, and D as start and stop characters. The first and last digits of a Codabar message must be A, B, C, or D, and the body of the message should not contain these characters. Setting this parameter to *on* strips the start and stop characters from this bar code.

Field Size/Chars

Refer to the description beginning on page 141 for details.

5.5.13.12 Code 93

Enabled

Set this parameter to *on* to enable Code 93 or *off* to disable it.

Field Size/Chars

Refer to the description beginning on page 141 for details.

5.5.13.13 Code 11

Enabled

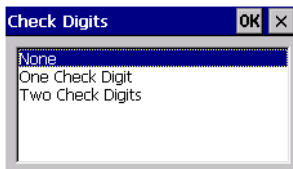
Set this parameter to *on* to enable Code 11 or *off* to disable it.

Include Check

If *Include Check* is enabled (set to *on*), the check digit is included with the decoded bar code data.

Check Digits

Choosing this option displays a window in which you can select one of three options: None, One Check Digit or Two Check Digits.



If this parameter set to *One Check Digit*, it is assumed that the last digit is a check digit.

If this parameter is set to *Two Check Digits*, it is assumed that the last two digits are check digits.

Field Size/Chars

Refer to the description beginning on page 141 for details.

5.5.13.14 Interleaved 2 of 5

Enabled

Set this parameter to *on* to enable Interleaved 2 of 5 or *off* to disable it.

Mod 10 Check

If this parameter is enabled (set to *on*), the Mod 10 check digit is calculated. This calculation is the same as the Code 39 Mod 10 check digit.

ITF Check

If this parameter is enabled (set to *on*), the ITF-14/16 Mod10 check digit is calculated.

Include Check

If this parameter is enabled (set to *on*), the check digit is included with the decoded bar code data.

Field Size/Chars

Refer to the description beginning on page 141 for details.

5.5.13.15 MSI Plessey

Enabled

Set this parameter to *on* to enable MSI Plessey or *off* to disable it.

One Check Digit

If this parameter is enabled (set to *on*), it is assumed that the last digit is a check digit.

Include Check

If this parameter is enabled (set to *on*), the check digit is included with the decoded bar code data.

Field Size/Chars

Refer to the description beginning on page 141 for details.

5.5.13.16 Discrete 2 of 5

Enabled

Set this parameter to *on* to enable *Discrete 2 of 5* or *off* to disable it.

Mod 10 Check

If this parameter is enabled (set to *on*), the Mod 10 check digit is calculated. This calculation is the same as the Code 39 Mod 10 check digit.

ITF Check

If this parameter is enabled (set to *on*), the ITF-14/16 Mod10 check digit is calculated.

Include Check

If this parameter is enabled (set to *on*), the check digit is included with the decoded bar code data.

Field Size/Chars

Refer to the description beginning on page 141 for details.

5.5.13.17 IATA 2 of 5

Enabled

Set this parameter to *on* to enable *IATA 2 of 5* or *off* to disable it.

Mod 10 Check

If this parameter is enabled (set to *on*), the Mod 10 check digit is calculated.

ITF Check

If this parameter is enabled (set to *on*), the ITF-14/16 Mod10 check digit is calculated.

Include Check

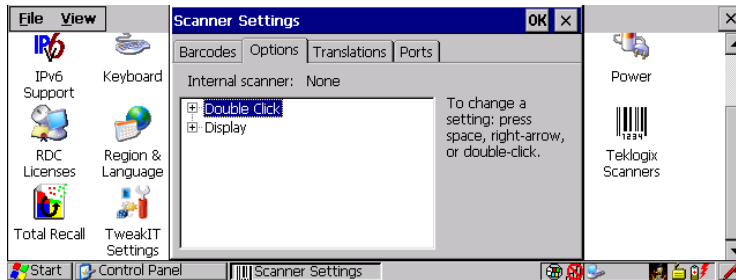
If this parameter is enabled (set to *on*), the check digit is included with the decoded bar code data.

Field Size/Chars

Refer to the description beginning on page 141 for details.

5.5.13.18 Bar Code Options Tab

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



Double Click

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 8525 G2/8530 G2 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.

Display

Scan Result

When this parameter is enabled, the type of bar code 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 (sec)’ 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 bar code and press the trigger.*

Good Scan Beep And Bad Scan Beep

These parameters determine whether or not the vehicle-mount 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.

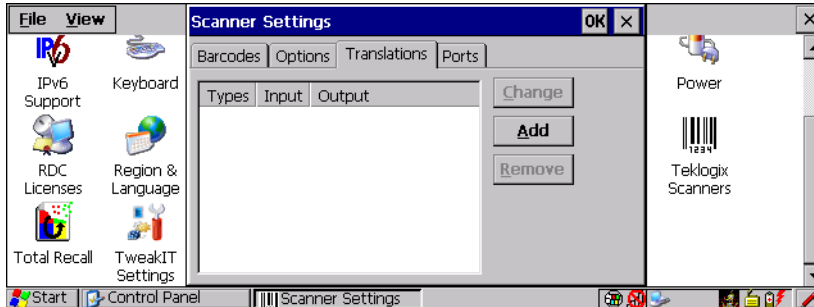
Soft Scan Timeout

This parameter is used by the SDK ‘Scan’ function (soft-scan: starting a scan session via the SDK function rather than through a physical trigger press). The value assigned to this parameter determines the soft-scan timeout from 1 to 10 sec. (default is 3 sec.).

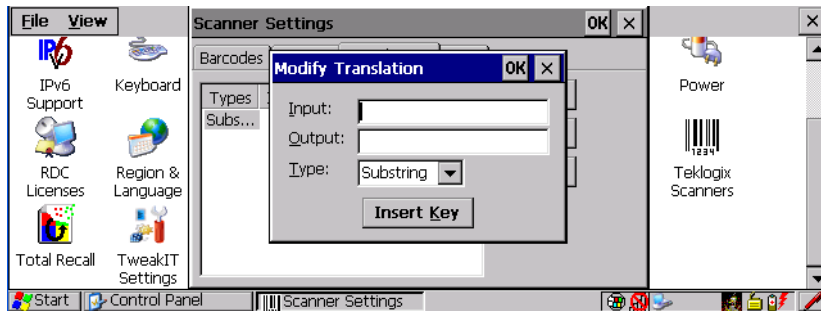
Scan Log File

If this parameter is enabled, the input barcode and the modified/translated output bar code are logged in the file \Flash Disk\ScanLog.txt. Keep in mind that if this parameter is enabled, there is a slight performance effect when performing multiple scans because the log file is written to persistent storage.

5.5.13.19 Translations Tab



- In the *Translation* tab, choose the **Add** button.



Input

This value is compared with the decoded bar code reading. If there is a match, the *Output* string is translated into the decoded bar code.

Output

If there is a match between the decoded bar code and the corresponding *Input* string, the decoded bar code will be translated into the *Output* string. This string entry parameter can be null, or it may contain any combination of standard and special characters (e.g., function keys, [ENTER], etc.).

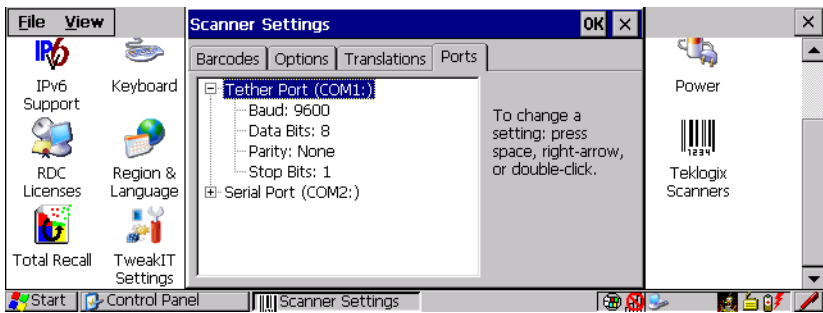
Type

The value chosen from this dropdown menu determines what is compared with the decoded bar code reading – the beginning of decoded bar code, the end of decoded bar code, the entire decoded bar code or anywhere within the decoded bar code (default).

5.5.13.20 Ports Tab

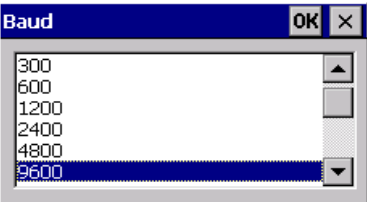
While you cannot configure external decoded scanners, you can configure *communications* with a serial decoded scanner using the options in this tab

5.5.13.21 Tether Port (COM 1)



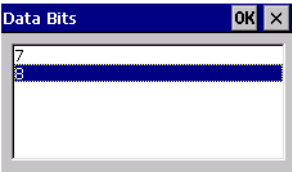
Baud

Double-tapping on this parameter displays a pop-up window in which you can choose an appropriate baud rate.



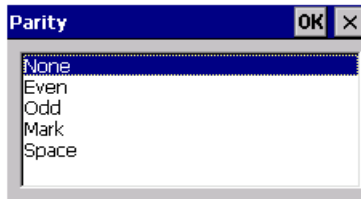
Data Bits

This parameter determines the number of bits for the data going through this port. Double-tapping on this option displays a pop-up window in which you can choose either 7 or 8 data bits.



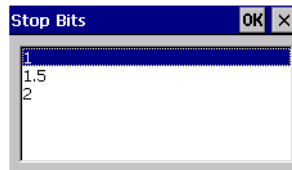
Parity

This parameter determines the type of parity checking used on the data going through the tether port. Double-tapping on this option displays a pop-up window in which you can choose the appropriate Parity.

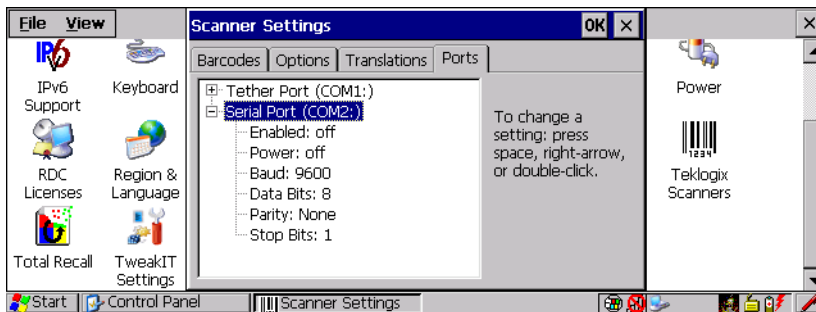


Stop Bits

This parameter specifies the number of stop bits – 1, 1.5 or 2 – used for asynchronous communication.



5.5.13.22 Serial Port (COM 2)

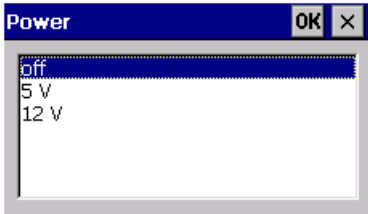


Enabled

This parameter must be set to *on* in order for the 8525 G2/8530 G2 to recognize the device connected to the serial port.

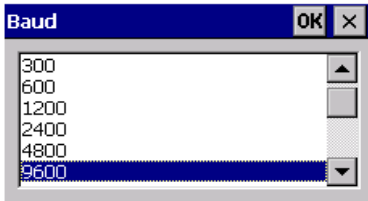
Power

Double-tapping on this parameter displays a dialog box in which you can choose from a number options – you can disable (turn *off*) this port, or you can assign 5V or 12V power to the port.



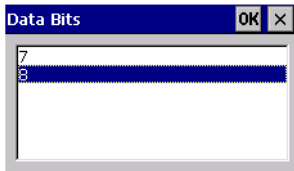
Baud

Double-tapping on this parameter displays a pop-up window in which you can choose an appropriate baud rate.



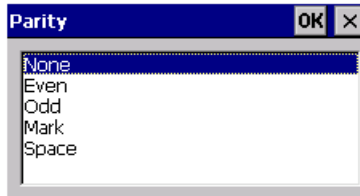
Data Bits

This parameter determines the number of bits for the data going through this port. Double-tapping on this option displays a pop-up window in which you can choose either 7 or 8 data bits.



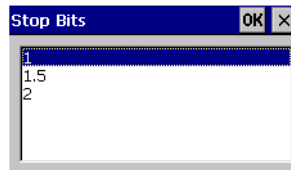
Parity

This parameter determines the type of parity checking used on the data going through the tether port. Double-tapping on this option displays a pop-up window in which you can choose the appropriate Parity.



Stop Bits

This parameter specifies the number of stop bits – 1, 1.5 or 2 – used for asynchronous communication.



5.5.14 SNMP (Simple Network Management Protocol) Setup

Simple Network Management Protocol (SNMP) is the protocol used to monitor and manage devices attached to a TCP/IP network (providing they support SNMP). SNMP uses Management Information Bases (MIBs) that define the variables an SNMP Network Management Station can access. Each product has a defined set of MIBs that determine how SNMP operates, the type of access allowed and so on.

SNMP (Simple Network Management Protocol) Setup

All Psion Teklogix products support the TEKLOGIX-GENERIC-MIB – a MIB that defines some common features across Teklogix products. All devices also support MIB-II, a management information base that defines the common features of TCP/IP networks. The SNMP Agent software embedded in the 8525 G2/8530 G2 product supports SNMPv1 (RFC 1157).

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

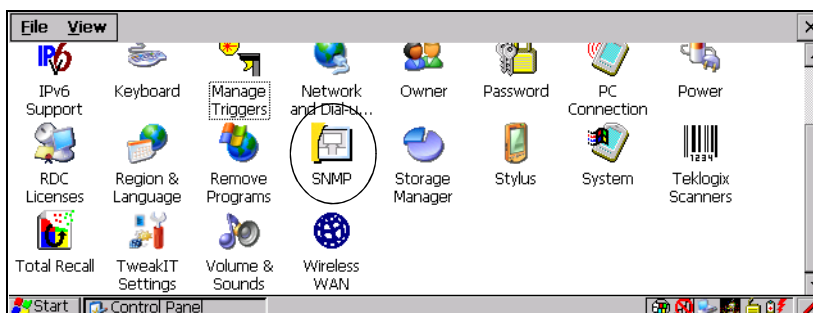
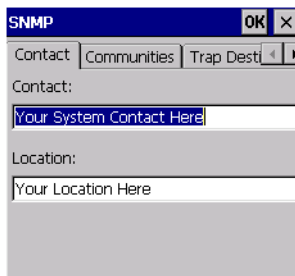


Figure 5.18 SNMP Icon

The *SNMP* dialog box is displayed.

5.5.14.1 Contacts Tab



Contact

This field identifies the contact person for this managed node along with information about how to get in touch with this person. The content of this parameter is accessible through MIB-II's sysContact object.

Location

This parameter is used to identify the physical location of this node (e.g., Warehouse A: Pillar 32B). The content of this parameter is accessible through MIB-II's sysLocation object.

5.5.14.2 Communities Tab



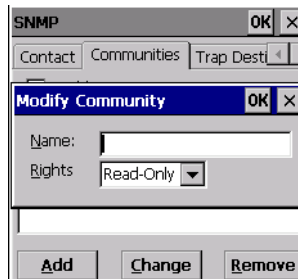
The *Communities* tab provides a means of limiting access to SNMP managed devices to those SNMP Managers with matching “community names”, as specified by RFC 1157.

Enable SNMP

Enabling *Enable SNMP* allows the device to respond to SNMP queries and to send Traps. After enabling this option and rebooting the device, the SNMP Agent will automatically start up. To disable this feature, remove the check mark from the check box.

Adding A Community

- Tap on **Add** to add a new ‘community’.



Name

The value assigned here is the name assigned by the network administrator to the set of devices to which this managed node belongs.

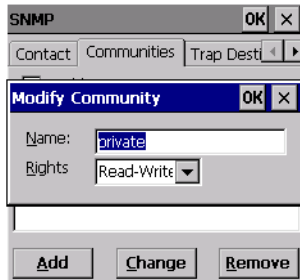
Rights

This menu allows you to specify access – that is, ‘Read-Only’ or Read-Write’

Modifying A Community Setting

To modify an existing community:

- Highlight the community you want to alter.
- Tap on **Change**.



A *Modify Community* dialog box is displayed, listing the community you highlighted.

- Edit the **Name** and/or **Rights**, and press [ENTER] to save your changes.

Removing An Existing Community

- Highlight the community you want to remove in the *Communities* tab and then tap on the **Remove** button.

A *Delete Confirmation* screen is displayed.

- To remove a community, tap on **Yes**, *or*
If you decide not to remove the community, tap on **No**.

5.5.14.3 Trap Destination Tab

A trap is an unsolicited report sent to SNMP Managers by the SNMP Agent running on the managed node. This option allows you to define where the report will be sent.



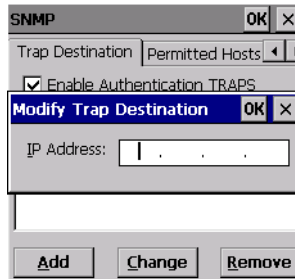
Enabling Authentication TRAPS

Enabling *Enable Authentication TRAPS* allows authorization traps to be sent when a failure is detected (e.g., an SNMP message received with a bad community name).

Adding A Destination

To add a new destination:

- Tap on the **Add** button.



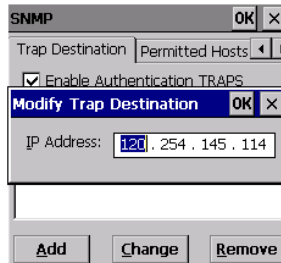
- Type a destination in the text box provided, and press [ENTER].

Changing A Destination

To change an existing trap destination:

- Highlight the destination you want to alter in the *Trap Destination* tab, and then tap on the **Change** button.

A dialog box like the one displayed when you *add* a destination is displayed.



- Make the changes to the destination, and tap on **OK** to save the changes.

Removing A Trap Destination

To remove a trap destination:

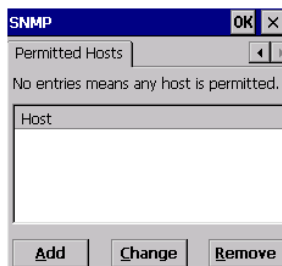
- In the *Trap Destination* tab, highlight the destination you want to delete.
- Tap on the **Remove** button.

A *Delete Confirmation* screen is displayed.

- To remove a destination, tap on **Yes**, or
If you decide not to remove the destination, tap on **No**.

5.5.14.4 Permitted Hosts Tab

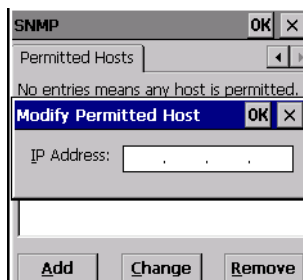
For security reasons, the Network Administrator may want to restrict SNMP-node access to a known sub-set of SNMP Managers. This tab lists the IP addresses of all the SNMP Managers which are allowed to monitor and manage this device. If no entries are listed, the device will accept SNMP queries from any host.



Adding A Host

To add a new host:

- Tap on the **Add** button.



- Type a new host IP address in the text box provided, and press [ENTER].

Changing A Host

To change an existing host IP address:

- Highlight the IP address you want to alter in the *Permitted Hosts* tab, and then tap on the **Change** button.

A dialog box like the one displayed when you *add* a host is displayed.

- Make the necessary changes, and press [ENTER].

PERIPHERAL DEVICES & ACCESSORIES 6

6.1	External Bar Code Readers	167
6.1.1	PowerScan™ Standard, LR and XLR Bar Code Scanners	167
6.1.2	Entering Data With The Bar Code Reader	167
6.2	Bluetooth Peripherals	167
6.3	8525 G2/8530 G2 Mounting Accessories.	168
6.3.1	8525 G2/8530 G2 Mounting Recommendations	168
6.3.2	Installing The Cradle And Cradle Mounting Plate	169
6.3.3	Installing The MT34XX RAM Mounting Kit	171
6.3.3.1	Preparation.	171
6.3.3.2	Installation	172
6.3.3.3	Positioning The Vehicle-Mount	176
6.3.3.4	Component Part Numbers	176
6.3.4	8530 G2 Keyboard Mounting Options	177
6.3.4.1	Keyboard Mounting Cradle	177
6.3.4.2	Keyboard RAM Mount	178
6.3.5	Wiring Guidelines	178
6.3.6	8525 G2/8530 G2 Installation In High Voltage Vehicles.	179
6.3.7	8525 G2/8530 G2 Installation In Vehicles	179
6.3.8	Wiring Vehicle Power To The 8525 G2/8530 G2	180

6.1 External Bar Code Readers

6.1.1 PowerScan™ Standard, LR and XLR Bar Code Scanners

The 8525 G2/8530 G2 supports Psion Teklogix' PowerScan™ industrial bar code scanner with standard, long range and extra long range options.

To connect this scanner to the 8525 G2/8530 G2, attach the device to the tether port. Review your "PowerScan Programing Guide (PSC)" before you begin.

6.1.2 Entering Data With The Bar Code Reader



Note: For helpful scanning tips, refer to "Scanning Techniques" on page 53.

When a label is scanned successfully, the 8525 G2/8530 G2 will beep if configured appropriately and the scan LED will flash. Occasionally, the bar code labels are poorly printed or damaged and cannot be read properly. In this case, use the keyboard to enter data from the label.

6.2 Bluetooth Peripherals

All 8525 G2/8530 G2 are equipped with *Bluetooth* radios, making it is possible to communicate with a variety of *Bluetooth* peripherals, including GSM/GPRS handsets, scanners, printers, and so on. The range of the *Bluetooth* radio in the 8525 G2/8530 G2 is limited to between 2 and 5 meters.

Psion Teklogix provides built-in support for the *Bluetooth* peripherals listed below.

- GSM/GPRS tri-band universal handset
- *Bluetooth* printer

Keep in mind that *Bluetooth* and IEEE 802.11g radios both operate in the 2.4GHz band. Although the 8525 G2/8530 G2 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 8525 G2/8530 G2 at the same time, they cannot transmit simultaneously – this has a negative impact on overall system throughput. To minimize the impact on the backbone 802.11g network, Psion Teklogix recommends using *Bluetooth* peripherals that have low transaction rates (such as printers and scanners).

Bluetooth peripherals are configured using the *Bluetooth* control panel applet. Refer to "Bluetooth Setup" on page 118 for information about setting up your *Bluetooth* devices for communication. In addition, review the manual shipped with your *Bluetooth* device to determine the method used to associate with the 8525 G2/8530 G2 host.

6.3 8525 G2/8530 G2 Mounting Accessories



Note: *Because the 8530 G2 has a detachable keyboard, keyboard mounting equipment is available for this model.*

The 8525 G2 and the 8530 G2 are secured using the same mounting equipment. There are two mounting options:

- Quick-Release Mount, includes two adaptor plates, quick release and cradle mount (along with necessary hardware) – Kit PN 1008424
- RAM Mount

6.3.1 8525 G2/8530 G2 Mounting Recommendations



Warnings: ***Before mounting an 8525 G2/8530 G2 in a vehicle, there are a number of operator safety issues that require careful attention. An improperly mounted 8525 G2/8530 G2 may result in one or more of the following: operator injury, operator visibility obstruction, operator distraction and/or poor ease of egress for the operator. Psion Teklogix strongly recommends that you seek professional mounting advice from the vehicle manufacturer.***

Cable routing within a vehicle cab also requires careful consideration, especially for separately tethered scanners and other devices with loose cables. If you are unable to obtain suitable advice, contact Psion Teklogix for assistance (see "Appendix A: Support Services and Worldwide Offices" at the end of this document). Note also that for better protection, the equipment should be mounted inside the vehicle roll cage.

Use of the Powered Fork Lift Cradle while charging the fork truck battery is prohibited.



Important Safeguards

- To avoid possible injury, this device must be properly secured when in a moving vehicle.
- Keep this device away from magnetic fields.
- Do not place the computer near a television or radio receiver.
- Do not disassemble your 8525 G2/8530 G2 computer—there are no user-serviceable parts inside.

6.3.2 Installing The Cradle And Cradle Mounting Plate

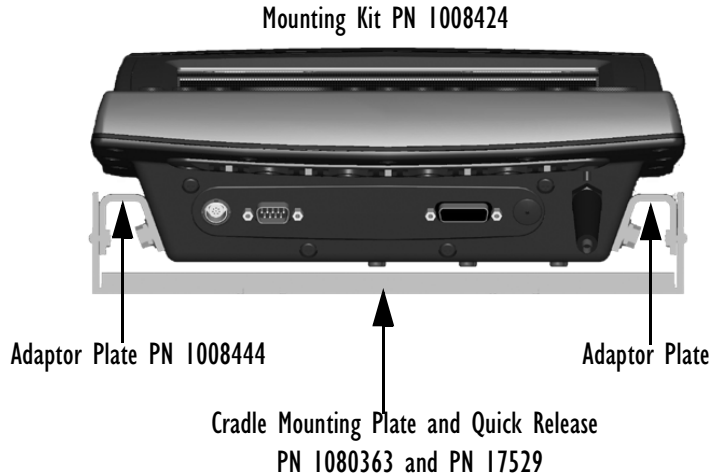


Figure 6.1 Quick Release Mount Installed

First, the 8525 G2/8530 G2 must be attached to the cradle (Figure 6.2 on page 169). To do this:

- Place the terminal in the cradle so that the ports face away from the quick release fasteners.
- Match the side screw holes on the 8525 G2/8530 G2 with the appropriate pairs of holes on the cradle and screw them together. The choice of holes determines the angle at which the terminal tilts.

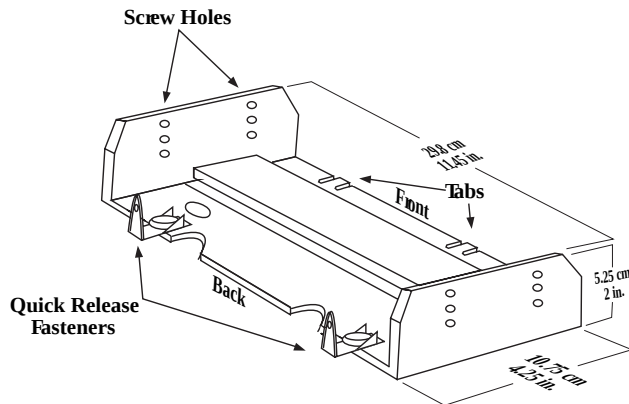


Figure 6.2 Mounting Cradle And Quick Release

Installing The Cradle Mounting Plate

Next, the cradle mounting plate must be attached to the vehicle. The cradle mounting plate shown in Figure 6.3 holds the 8525 G2/8530 G2 and cradle in place.

- Screw the cradle mounting plate onto the vehicle using the four 1/4" holes.



Note: The bolts used for all installations are SAE 1/4-20.

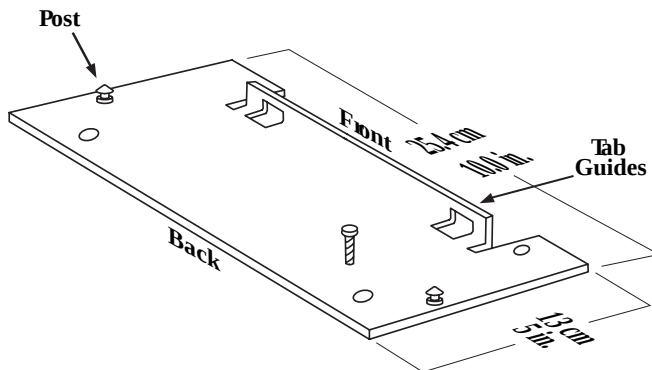


Figure 6.3 The Cradle Mounting Plate

Attaching The Cradle To The Cradle Mounting Plate

Next, the 8525 G2/8530 G2 and cradle must be attached to the cradle mounting plate.

- Align the tabs on the front of the cradle to the tab guides on the mounting plate and push the cradle back and down.
- Slide the fasteners on the back of the cradle until they snap to the posts on the mounting plate.



Warning: *Never operate the vehicle if the quick release fasteners are not locked.*

6.3.3 Installing The MT34XX RAM Mounting Kit



Warning: *Failure to install the mount correctly or any attempt to modify the mount may result in serious injury or damage to property. Contact Psion Teklogix Technical Support or your Psion Teklogix representative if you have problems installing this mount.*

To ensure operator safety, you must use a calibrated torque wrench and the supplied mounting hardware when fastening the cradle and mount. Use of this mount in vehicles driven on public roads or highways is prohibited. Contact Psion Teklogix for further details.

6.3.3.1 Preparation

This articulating mount can be installed in a wide variety of orientations (see Figure 6.9 on page 176).

1. Select the best orientation for your specific application. Preferred orientations maintain the centre of mass of the vehicle-mount assembly, directly over the centre of the base (see Figure 6.4).

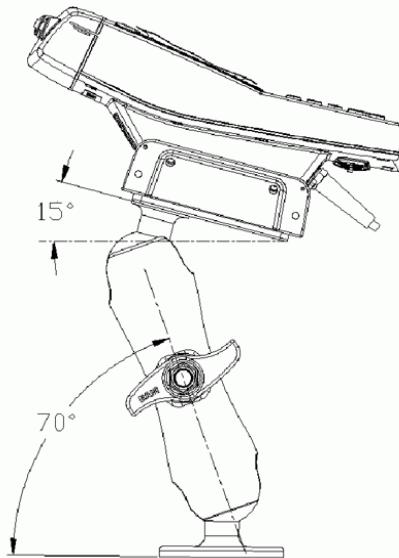


Figure 6.4

The tilt and rotation of the cradle can be adjusted by the operator. Keep in mind that if the handscrew is loosened, the cradle can slip causing harm to the operator or damage to equipment. Also note that under extreme vibra-

Installation

tion, the mount may slowly ‘settle’. Occasional readjustment and tightening of the handscrew may be required. Psion Teklogix offers a tightening tool (PN 9000594) which can be used to minimize settling (see Figure 6.5).

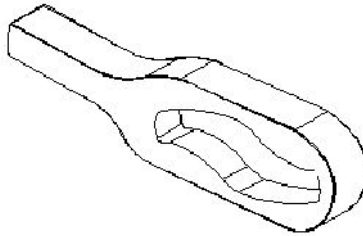


Figure 6.5

The platform on which you secure the vehicle-mount must be strong enough to support 25 kg. Never attach the mount to a plastic dash or a wooden platform without the appropriate backing plate and bracing. In addition, you must provide operator access at the top, bottom and sides of the unit.

6.3.3.2 Installation

Figure 6.6 on page 173 provides a diagram and a legend to help you attach the mounting bracket to the vehicle-mount and attach the RAM Vesa base.

1. **Attaching the mounting bracket to the vehicle-mount:** The kit provides four screws and washers that are used to secure the mounting bracket to the vehicle-mount. Place screw (D) through washer (C) and mounting bracket (B) and affix to the vehicle-mount (A). Torque to 23 in-lbs.
2. **Attaching the RAM base to the mounting bracket:** Apply Loctite 243 to screw (G) threads. (Note that Loctite is not supplied by Psion Teklogix). Place screw (G) through washer (F), RAM Vesa base (E) and affix to mounting bracket (B), securing screws and washers in all four drilled holes. Torque to 26 in-lbs.

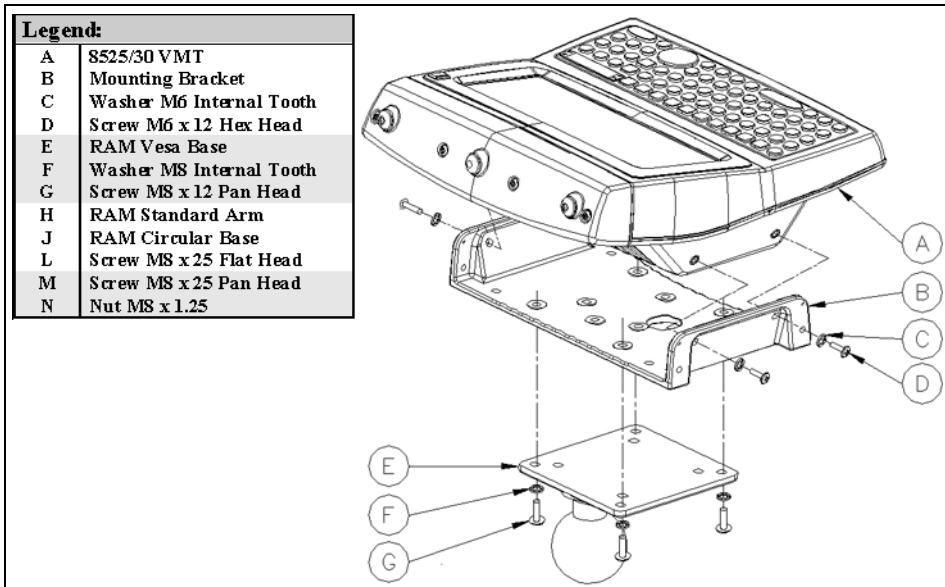


Figure 6.6

3. **Securing the RAM Base to the local platform and attach RAM Standard Arm:** Use the supplied bolt hole pattern to drill the required holes in the local platform. Hole diameters must not exceed 10mm [13/32 inches]. Hardware (F, L, M and N) for securing RAM Bases (E or J) to the local platform are recommended sizes. If replacement hardware is required, it should be consistent with these diameters. All fasteners must use a suitable locking mechanism to ensure that they do not loosen under shock and vibration.
 - If you are assembling with RAM Vesa Base, see Figure 6.7 on page 174.
 - If you are assembling with RAM Circular Base, see Figure 6.8 on page 175.

Installation

4. **For the RAM Vesa Base**, in four places, insert screw (M) through the RAM Vesa Base (E), the local platform and the washer (F). Affix with nut (N). Torque to 26 in-lbs. Secure RAM Standard Arm (H) by inserting RAM Balls in to both ends of arm sockets.

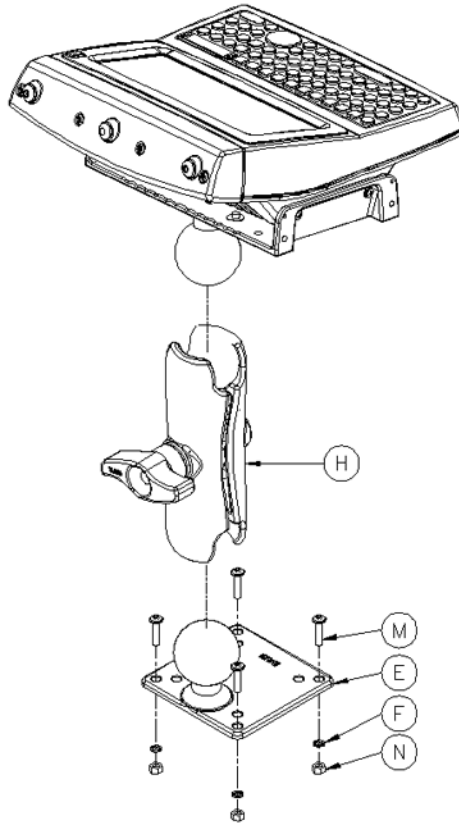


Figure 6.7 RAM Vesa Base

5. **For the RAM Circular Base**, in four places, insert screw (L) through the RAM Circular Base (J), the local platform and the washer (F). Affix with nut (N). Torque to 26 in-lbs. Secure RAM Standard Arm (H) by inserting RAM Balls in to both ends of sockets.

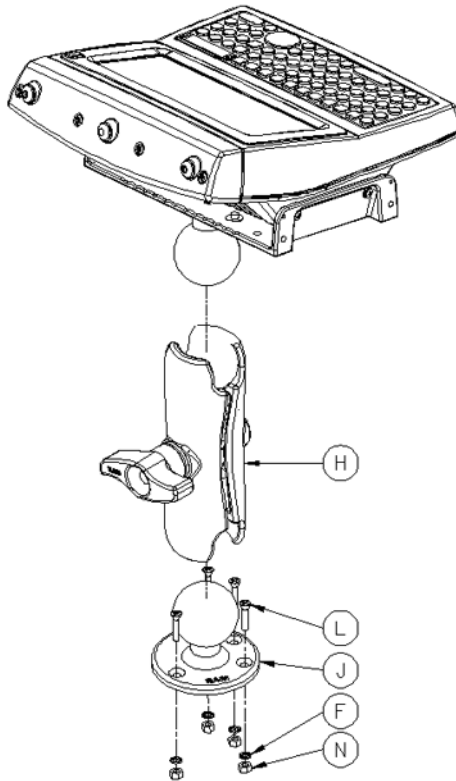


Figure 6.8 RAM Circular Base

6.3.3.3 Positioning The Vehicle-Mount

Position the vehicle-mount into an angle that best corresponds to RAM hardware used (see Figure 6.9) and tighten by hand until secure. Mount orientations shown in Figure 6.9 are considered the preferred configurations for the Circular Base to platform and Vesa Base to platform.

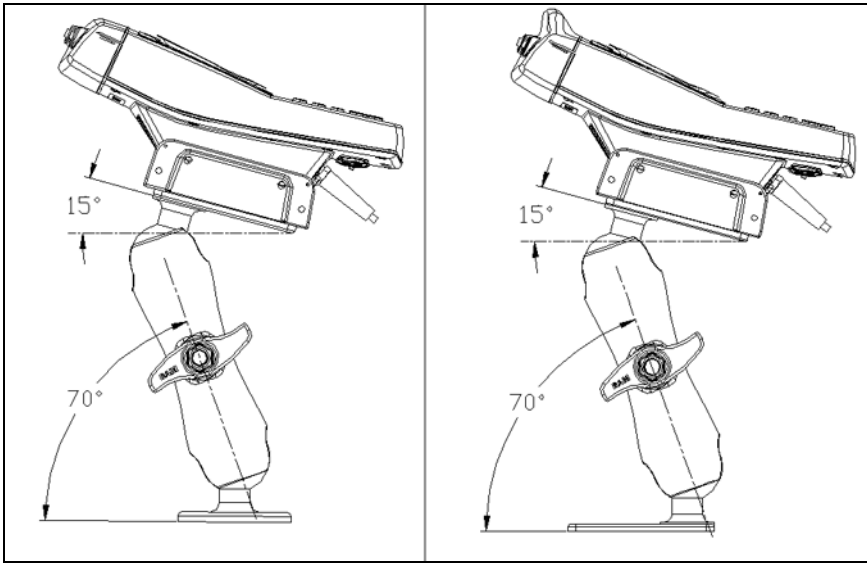


Figure 6.9 Circular Base and Vesa Base Mount Orientations

6.3.3.4 Component Part Numbers

The table below lists the mounting component part numbers.

Legend Item	Description	Psion Teklogix Part Number
B	Mounting Bracket	1008442
C	Washer M6 Internal Tooth	9004501
D	Screw M6 x 12 Hex Head	9008799
E	RAM Vesa Base	9001934
F	Washer M8 Internal Tooth	9008800
G	Screw M8 x 12 Pan Head	9004517
H	RAM Standard Arm	9001805

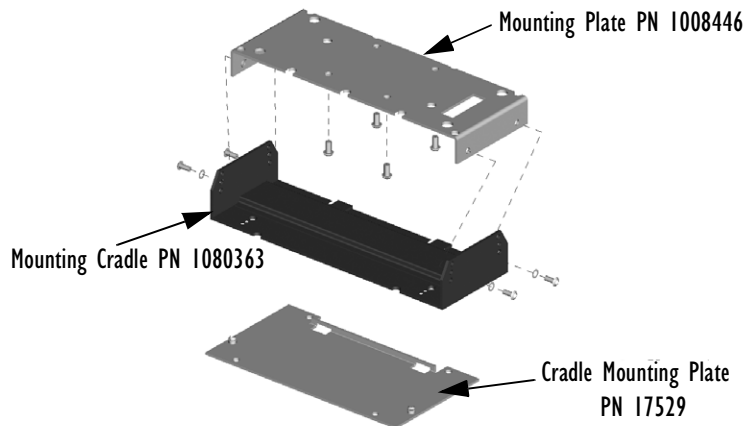
Legend Item	Description	Psion Teklogix Part Number
J	RAM Circular Base	9001804
L	Screw M8 x 25 Flat Head	9004522
M	Screw M8 x 25 Pan Head	9004518
N	Nut M8 x 1.25	9008801

6.3.4 8530 G2 Keyboard Mounting Options

Because the 8530 G2 vehicle-mount is equipped with an external keyboard, a number of keyboard mounting options are available.

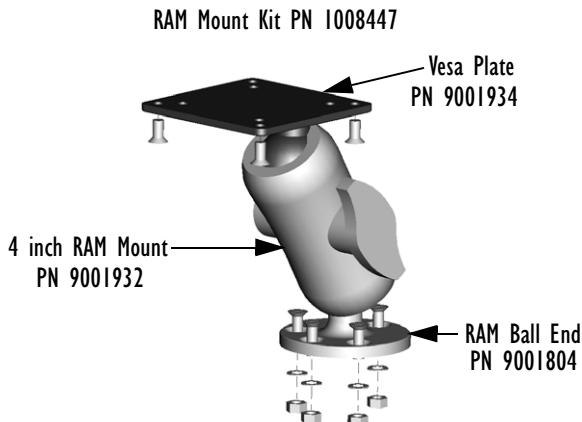
6.3.4.1 Keyboard Mounting Cradle

- Use the four screws provided to secure the keyboard to the mounting plate (PN 1008446).
- Insert the screws into the side of the mounting cradle to secure the mounting plate to the cradle (PN 1080363).



Keyboard RAM Mount

6.3.4.2 Keyboard RAM Mount



You can install two vesa plates or one each of a vesa plate and a RAM ball end to the RAM mount.

With the keyboard RAM ball end or vesa plate(s) installed on the RAM mount:

- Attach the RAM mount to a standard cradle (PN 1008442) using the hardware included with your kit.
- Attach the other end of the mount to almost any surface. The ball design allows both ends of the RAM mount to be angled to suit the operator's needs.

6.3.5 Wiring Guidelines

Before installing the cables between the computer and other devices, consider the following:

- Ensure the vehicle body and underlying wiring is not damaged while drilling mounting holes.
- Protect cable runs from pinching, overheating and physical damage.
- Use grommets to protect cables that pass through metal.
- Use plastic straps and tie-downs to secure cables and connectors in their desired location, away from areas where they may get snagged or pulled.
- Keep the cables away from heat sources, grease, battery acid, and other potential hazards.

- Keep the cables away from control pedals and other moving parts that may pull on the cables or interfere with the operation of the vehicle.
- Leave enough slack on the cables so that the computer can be removed easily for maintenance.



Note: *Make sure the cables run inside the roll cage of the vehicle.*

6.3.6 8525 G2/8530 G2 Installation In High Voltage Vehicles



Warning: *Voltages exceeding 60VDC are considered hazardous. For 8525 G2/8530 G2 installations on vehicles with batteries above this voltage, ensure the 8525 G2/8530 G2 power connector is mounted in a secure location out of the vehicle operator's reach.*

Due to the hazardous voltages present on these vehicles, it is necessary to ensure that the unit's power supply cable connector is not accessible to the vehicle operator, and is not exposed to water or other liquids. To accomplish this:

- Ensure the power connector is installed in a dry location on the vehicle, away from the vehicle operator's reach (perhaps under a vehicle dash or in a sealed housing).
- Cover the power connector with waterproof heat shrink material.
- Wrap the connector securely with waterproof electrical tape in an area out of the vehicle operators reach.

All other installation requirements outlined in this document should also be followed for High Voltage vehicles to insure safe installation and operation of the 8525 G2/8530 G2 vehicle-mount.

6.3.7 8525 G2/8530 G2 Installation In Vehicles



Note: *The metal chassis of the 8525 G2/8530 G2 is equipped with a ground lug (located on the underside of the 8525 G2/8530 G2, beside the cable management bar) to provide an additional ground to the vehicle, if desired. The grounding strap must connect from the ground stud on the vehicle-mount to a solid, reliable contact point on the main portion of the vehicle chassis. It must not be connected to battery negative or a terminal block.*

As with other vehicle cables, the routing of the ground strap should be carefully considered to ensure it does not pose a hazard to the operator or the safe operation of the vehicle. If necessary, secure the ground strap with cable ties or some other mechanical means to prevent loops or loose lengths of wire from catching on stationary items when the vehicle is in motion.

6.3.8 Wiring Vehicle Power To The 8525 G2/8530 G2



Warning: *The 8525 G2/8530 G2 accepts DC power sources between 10V and 90VDC nominal.*

Applying a voltage above 90VDC or reversing polarity may result in permanent damage to the 8525 G2/8530 G2 and will void the product warranty.

A 1.8 meter (6 ft.) extension power cable (PN 13985-302 std or -301 display off) is supplied with your 8525 G2/8530 G2. This cable should be wired to a filtered, fused (maximum 10A) accessory supply on the vehicle. The 8525 G2/8530 G2 draws no more than 8A (less if the accessory supply is greater than 12V). Any additional wiring (minimum 18 gauge), connectors or disconnects used should be rated for at least 90 VDC, 10A.

When connecting PN 13985-301 (display-off version), ensure that the screen blanking wires (clearly labelled) and the power wires (red/black leads) are reliably secured away from each other, or are separated with reliably secured certified insulation. Minimum 2.8mm distance, or 0.4mm distance through insulation is required for the separation.

The red lead of the power cable attaches to the positive vehicle supply. The black lead connects to the negative supply – this should be connected to a proper terminal block and not to the vehicle body. The 8525 G2/8530 G2 is fully isolated and can be used with both negative and positive chassis vehicles.

You may have the option of connecting power before or after the ‘key’ switch. It is preferable to wire the 8525 G2/8530 G2 after the key switch – that is, the 8525 G2/8530 G2 cannot be switched on without turning the vehicle key on. However, if the operator switches the key off repeatedly for long periods during a shift, it may make more sense to wire the 8525 G2/8530 G2 before the switch. Keep in mind that the 8525 G2/8530 G2 will continue to operate with or without vehicle power if it is equipped with an optional backup battery *and* the backup battery has sufficient charge.



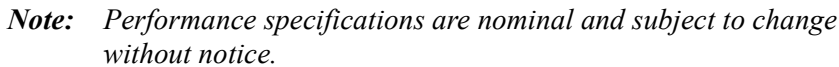
Note: *If the backup battery is completely discharged, or is used for the first time, you must provide external power to the vehicle-mount for at least one hour to ensure that the battery is fully charged.*

If an unfused power source must be used, a fuse assembly (PN 19440) must be added to the extension power cable (the fuse and instructions are supplied with the cable). Use only a 10A slow blow UL approved fuse in the fuse assembly. The fuse assembly must be located as close as practical to the DC supply, and shall connect to the positive side of the DC supply.

SPECIFICATIONS

7

7.1 8525 G2/8530 G2 Vehicle-Mount Specifications	183
7.2 Radio Specifications	184
7.3 Bar Code Scanning	185
7.4 External Scanners	186
7.5 Optional Internal Lithium-Ion Battery	186



7.1 8525 G2/8530 G2 Vehicle-Mount Specifications

Size

- 8525 G2:298mm W x 117mm D x 294mm L (11 3/4" x 4 5/8" x 11 1/2")
- 8530 G2:Terminal – 298mm W x 117mm D x 294mm L (11 3/4" x 4 5/8" x 11 1/2")
Keyboard – 292mm W x 38mm D x 127mm L (11 1/2" x 1 1/2" x 5")

Weight

Approximately 4.3 kg (9.5 lbs)

8530 G2 keyboard: approximately 0.91 kg (2 lbs)

Environmental

Standard Temperature Unit

Operating Temperature	-20° C to 60° C (-4° F to 140° F)
Storage Temperature	-35° C to 70° C (-31° F to 158° F)
Rain And Dust Resistance	IEC 529, classification IP66.
Humidity	5% - 95% RH non-condensing
3 axis Vibration	1.5g RMS PSD (4 - 500 Hz)
3 axis Shock	30g 11ms saw tooth.

Freezer Unit

Temperature Range	-30° C to 60° C (-22° F to 140° F)
Storage Temperature	-35° C to 70° C (-31° F to 158° F)
Rain And Dust Resistance	IEC 529, classification IP66.
Humidity	5% - 95% RH condensing
3 axis Vibration	1.5g RMS PSD (4 - 500 Hz)
3 axis Shock	30g 11ms saw tooth.

Approvals

Safety	UL 60950-1, CAN/CSA-C22.2 NO. 60950-1 LVD EN 60950-1
EMC	FCC Part 15 Class B

- Complies with European R & TTE Directive.

* Note this product will carry the CE Mark.

7.2 Radio Specifications

Marvell 802.11g Direct Sequence Spread Spectrum (Model Number RA2040)

Form Factor	Compact Flash
Antenna Port	Single U.FL jack, no diversity
Transmit Power	20mW
Frequency Range	2.400 - 2.4835GHz
Channels	1 to 11 for USA, Canada 1-13 for EU countries
RX Sensitivity	(8% FER, 1024 bytes packet) = -89dBm @ 1Mbps, -87dBm @ 11Mbps, -83dBm @ 6Mbps, -72dBm @ 54Mbps
Data Rates	6, 9, 12, 18, 24, 36, 48 & 54Mbps

Summit 802.11g Direct Sequence Spread Spectrum (Model Number RA2041)

Form Factor	Compact Flash
Antenna Port	Two Hirose U.FL connectors for antenna diversity
Transmit Power	30mW
Frequency Range	2.400 - 2.4897GHz
Channels	FCC: 11 ETSI: 13 TELEC: 13
RX Sensitivity	-96 dBm @ 1Mbps, -95 dBm @ 2Mbps, -94 dBm @ 5.5Mbps, -94 dBm @ 6Mbps, -91 dBm @ 9Mbps, -90 dBm @ 11Mbps, -88 dBm @ 12Mbps, -86 dBm @ 18Mbps, -83 dBm @ 24Mbps, -78 dBm @ 36Mbps, -76 dBm @ 48Mbps, -75 dBm @ 54Mbps
Data Rates	6, 9, 12, 18, 24, 36, 48 & 54Mbps

RA1001A - Narrow Band Radio

Psion Teklogix Proprietary Narrowband Modulation (2/4 level FSK)

Type III PC Card Form Factor	
Transmit Power	1W or 0.5W
Frequency Range	403-422MHz, 419-435MHz, 435-451MHz, 450-470MHz, 464-480MHz, 480-496MHz, 496-512MHz
Rx Sensitivity	< -110dBm @ 19.2kbps (4 level FSK)
Data Rates	4800bps, 9600bps, 19.2kbps

Bluetooth Radio

Embedded (USB interface)	
Bluetooth Version	1.2 compliant (features Adaptive Frequency Hopping for better co-existence with 802.11 radio)
Chip Antenna	2dBi peak
Transmit Power	-3dBm (0.5mW) minimum, +4dBm (2.5mW) max
Frequency Range	2.400 - 2.4835GHz
RX Sensitivity (BER<=0.1%)	-80dBm max
Data Rate	732.2kbps and 57.6kbps asymmetric, 433.9kbps symmetric

7.3 Bar Code Scanning

Scanner Types	Decoded and non-decoded.
Non-Decoded Codes Supported	Code 39, code 128, EAN 13, EAN 8, EAN 128, UPC-A, UPC-E, Codabar, Code 93, Code 11, Interleaved 2-of-5, MSI/PLESSY, Discrete 2-of-5.
Decoded Codes Supported	Dependent on external scanner choice.
Code Discrimination	Automatic for all selected codes, Non-Decoded input. Decoded input is external scanner dependent.

7.4 External Scanners

Supported Types	Decoded and Non-Decoded 5V or 12V. (Refer to “Power” on page 156 for details.)
Interface	Via tether port.

7.5 Optional Internal Lithium-Ion Battery

Not user accessible.	
Technology	12.6V Lithium-Ion (Li-Ion) backup battery

APPENDIX

A

SUPPORT SERVICES AND WORLDWIDE OFFICES

Psion Teklogix provides a complete range of product support services to its customers worldwide. These services include technical support and product repairs.

A.1 Technical Support

For technical support in North America:

Call Toll free: +1 800 387 8898 Option 3 *or*

Direct Dial: +1 905 813 9900 Ext. 1999 Option 3

For technical support in EMEA (Europe, Middle East and Africa), please contact the local office listed in the website below:

http://www.psionteklogix.com/EMEA_Support

For technical support in Asia, contact the local office listed in the website below:

<http://www.psionteklogix.com>

Technical Support for Mobile Computing Products is provided via email through the Psion Teklogix customer and partner extranets. To reach the website, go to www.psionteklogix.com, and click on the appropriate Teknet link on the home page. Then click on the “Login” button or the “Register” button, depending on whether you have previously registered for Teknet. Once you have logged in, search for the “Support Request Form”.

A.2 Product Repairs

For repair service in North America:

Call Toll free: +1 800 387 8898 Option 2 *or*

Direct Dial: +1 905 813 9900 Ext. 1999 Option 2

For repair service in EMEA (Europe, Middle East and Africa), please contact the local office listed in the website below:

http://www.psionteklogix.com/EMEA_Support

For repair service in Asia, contact the local office listed in the website below:

<http://www.psionteklogix.com>

A.3 Worldwide Offices

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APPENDIX B

PORT PINOUTS

B.1 Tether Port Pinout

The tether port connector incorporates multiplexed undecoded scanner, decoded scanner, RS232 serial, and USB interfaces. In order for it to operate, a special wiring scheme is needed. If you need to create cables for the tether port, contact Psion Teklogix and request an instruction sheet for tether port termination.



Important: *Do not attempt to interface with the tether connector without direction from a qualified Psion Teklogix technician. Doing so may cause damage to the 8525 G2/8530 G2 and/or the tethered device.*

B.2 RS232 Port Pinout

Pin No.	Description
1	DCD (Data Carrier Detect)
2	RXD (Receive Data)
3	TXD (Transmit Data)
4	DTR (Data Terminal Ready)
5	GND (Signal Ground)
6	DSR (Data Set Ready)
7	RTS (Ready To Send)
8	CTS (Clear to Send)
* 9	5V POWER *

* **CAUTION:** If enabled (software configurable), 5V or 12V power will appear on this line, which may be the Ring Indicator line on some devices such as modems.
1/2 Amp Max.

B.3 DB-26 Auxiliary Port Pinout

Pin Number	Signal Name	Signal Type	Notes
1	EXT_5V_SW	Power	5 VDC @ 0.5 A maximum.
2	EXT_5V_SW	Power	5 VDC (Tied to pin 1).
3	N/C		Not used.
4	N/C		Not used.
5	N/C		Not used.
6	N/C		Not used.
7	GND	Power	
8	P1_USB_HOST+	5V diff	12 Mbps serial data interface; connects as a USB host to a USB client device.
9	P1_USB_HOST-	5V diff	
10	GND	Power	
11	USB_DEVICE+	5V diff	12 Mbps serial data interface; connects as a USB client to a USB host device.
12	USB_DEVICE-	5V diff	
13	GND	Power	
14	P2_USB_HOST+	5V diff	12 Mbps serial data interface; connects as a USB host to a USB client device.
15	P2_USB_HOST-	5V diff	
16	GND	Power	
17	CONSOLE_RXD	RS232D	Console / diagnostic port.
18	CONSOLE_TXD	RS232D	Console / diagnostic port.
19	GND	Power	
20	CONSOLE_TXD_SEL	3V3	Grounding this pin selects the PCON as the console data source; disconnecting it selects the main processor.
21	MOTION_DETECT	3V3	Grounding this pin indicates that the terminal is in motion.
22	AUXILARY_PORT_ID	Analog	Connect this pin to ground through an external resistor to identify the connected device.

Pin Number	Signal Name	Signal Type	Notes
23	N/C		Not used.
24	PCON PROGRAM	3V3	Grounding this pin, together with removing & re-asserting power to the terminal puts the PCON in programming mode.
25	N/C		Not Used.
26	5V POWER	Power	

B.4 External Keyboard—High Density DB-26 (8530 G2 Only)

Signal #	Function	Signal	Type	Notes
1	32 Khz Clock +		5V diff	
2	32 Khz Clock -		5V diff	
3	Keyboard Interrupt +		5V diff	
4	Keyboard Interrupt -		5V diff	
5	Ground		Power	
6	I2C Serial Clock			I2C serial data interface
7	Ground		Power	
8	I2C Serial Data			I2C serial data interface
9	5V		Power	
10	5V Switched		Power	
11	3V3 Standby		Power	
12	3V3 Switched		Power	
13	EL Command			Serial data to EL backlight controller
14	Ground		Power	
15	Ground		Power	
16	Ground		Power	
17	Ground		Power	

Appendix B: Port Pinouts

External Keyboard–High Density DB-26 (8530 G2 Only)

Signal #	Function	Signal	Type	Notes
18	No connect			Not used
19	System Power		15V	Heater Power
20	System Power		15V	Heater Power
21	No connect			Not used
22	Ground		Power	
23	Ground		Power	
24	No Connect			Not used
25	Keyboard Detect IN		3V3	Loop-back signal to detect keyboard installed
26	Keyboard Detect Out		3V3	Loop-back signal to detect keyboard installed

APPENDIX C

USB SETUP APPLICATION

C.1 USB Setup

The USB Setup application is used to update a Windows PC so that it can connect to a Psion Teklogix 8525 G2/8530 G2. To download the USB Setup application, go to:

www.psionteklogix.com/downloads

This will take you to the Teknet home page.

- Login with your Teknet Username and Password. (If you're not already a member of Teknet, you can register for free at this home page so that you can access the USB Setup application.)

Once you've entered your name and password, the Download page is displayed.

- Scroll down to the *Utilities* heading, and then under *USB Setup*, tap on **Download**. If you need further assistance, please contact Psion Teklogix support (1-800-387-8898).

System Requirements

- Windows 2000 or XP
- ActiveSync 3.5 or later

The install program:

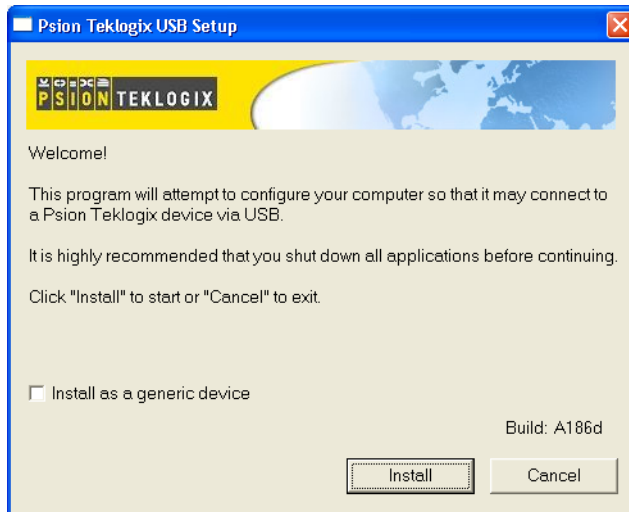
- updates copies of the device installation scripts `usbstor.inf` and `wceusbsh.inf` with Psion Teklogix-specific information, *and*
- sets up a USB connection between the PC and the 8525 G2/8530 G2.

C.I.1 Launching The Application

Before running the USB Setup application:

1. Unplug the 8525 G2/8530 G2 from your PC, and exit all running applications.
2. Double-click on the USB Setup executable in the directory you copied it to.

Welcome Dialog Box

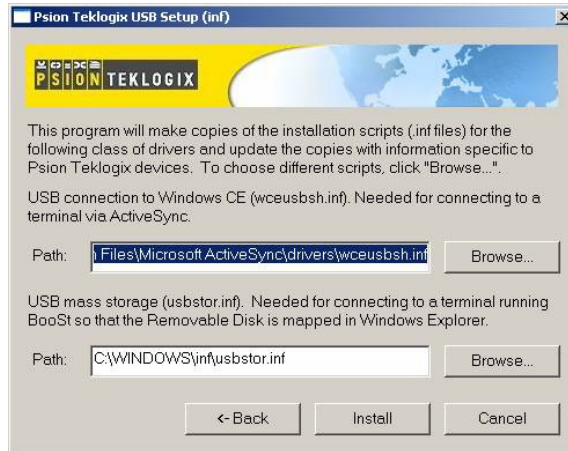


If you check the “Install as a generic device” checkbox, the Hardware Manager on your PC will not prompt you to install every new device you connect to your PC. A generic configuration will be used for the Psion Teklogix devices.

3. Tap on the **Install** button to configure your PC or the **Cancel** button to exit the USB Setup program.

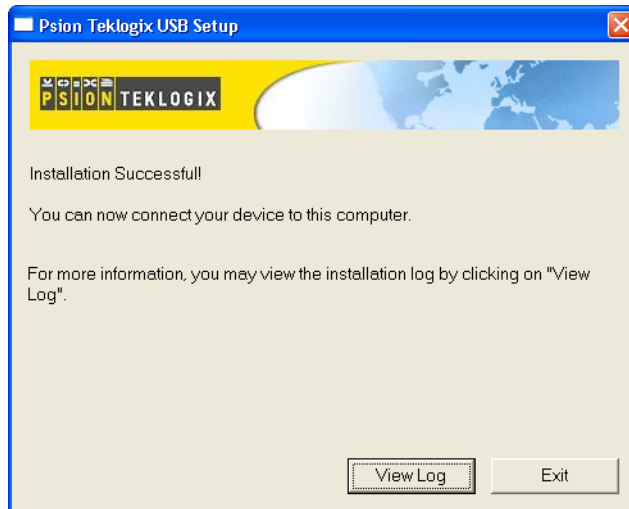
The program checks that ActiveSync is installed and that it is a supported version – 3.5 or later. If the version installed on your PC is not supported, you’ll need to exit the USB Setup application, and install a later version of ActiveSync. ActiveSync can be downloaded from Microsoft at: <http://www.microsoft.com/downloads>.

In some cases, you may see an additional dialog:



Usually, this dialog is shown when more than one version of ActiveSync is installed. You can either select the correct inf file for the USB Setup program to work with, or you can cancel the installation, and uninstall the extra copies of ActiveSync.

C.1.2 Installation Complete Dialog Box



This dialog box indicates the success or failure of the installation.

4. Tap on **Exit** to exit the application.

Appendix C: USB Setup Application
Installation Complete Dialog Box

If you need to view the log file, tap on **View Log**.

Once the USB Setup program is exited, you can connect the vehicle-mount to your PC using a USB cable, and turn the unit on. If the USB Setup process was successful, the “Found new hardware” wizard may start. If this occurs, choose the recommended defaults. ActiveSync will detect your 8525 G2/ 8530 G2.

INDEX

A

- accessories
 - bar code readers, connecting 167
- Active Conn Tab 123
- ActiveSync
 - ASync profile 120
- Addendum** 144, 146, 147
- Ad Hoc network 18
- Advanced (wireless connection) 23
- Advanced button (Radio tab) 118
- AIAG
 - AIAG Strip** 140
- AIAG Strip** 140
- aiming dot, duration of 139
- ALT Key 44
- ANSI
 - transmitting data 142, 145
- appearance (display colour scheme) 86
- appending to bar codes
 - characters 142, 145
- approvals
 - 8525 G2 183
 - 8530 G2 183
- arrow keys
 - moving the cursor 43
- ASCII
 - Full Ascii** 140
- audio indicators
 - description of beep conditions 52
- Authentication**, Bluetooth Controls 121
- authentication, network 19
- Auto Radio Address** (Cellular Radio) 113
- Auto Radio Address** (Cellular Radio Address) 113

B

- backlight
 - display 86
 - keyboard 46
- backup battery (optional) 41
- backup profile, creating (Total Recall) 130
- backup profile, restoring (Total Recall) 133
- Bad Scan Beep** 152
- bar code
 - appending to 142, 145
 - connecting bar code reader 167
 - decodes required 139
 - decoding edge-to-edge 140
 - parameters 137–153
 - prefix character 141, 144
 - Security** 140
 - stripping characters 142, 145
 - suffix character 142, 145
 - symbolologies
 - Codabar 147
 - Code 11 148
 - Code 128 142
 - Code 39 140
 - Code 93 148
 - Discrete 2 of 5 150
 - EAN 13 143
 - EAN 8 145
 - IATA 2 of 5 150
 - Interleaved 2 of 5 149
 - MSI Plessey 149
 - UPC A 146
 - UPC E 146
- bar code reader
 - external (specs) 186
 - external scanner, operation of 167
- batteries
 - backup battery (optional) 41
 - backup battery in use indicator 51
 - charging 51
 - power card slots, enabling 99
 - power suspend 98
 - specifications 186
 - super capacitor 41
 - very low icon 51
- Baud** 154, 156
- Baud Rate/Modulation 116
- beeper

Index

- description of beep conditions 52
- BKSP 44
- BKSP Key 44
- BLUE Key 43
- Bluetooth, enabling 99
- Bluetooth radio
 - changing device name 124
 - device service profiles 120
 - ISM band 118
 - PINs for devices 121
 - radio configuration 118–124
- Bluetooth setup 118
 - GPRS setup 125
 - peripherals 167
- Bootloader (Shutdown menu) 72
- Bright For** (backlight) 87
- BSP**, Bluetooth Controls 124

C

- cable diagrams B-1
- cables
 - installing in vehicle 178
- calibrating (touchscreen) 46, 101
- capacitor, super 41
- card slot power 99
- card slots (Devices), enabling power to 99
- Cellular Radio Address** 113
- CH**, Bluetooth Controls 120
- changing password (Start Menu security) 67
- Channel Enable List** 110
- Channel List, editing 112
- Channel Number** 109
- Channel Selection** 111
- Channel Switch Speed** 110
- Channel Tab (Narrow Band radio) 109
- characters
 - appending to bar codes 142, 145
 - prefix 141, 144
 - stripping 142, 145
 - suffix 142, 145
- Check Digit** 148
- check digit 144, 147, 148, 149, 150
- Check Digit, One** 149
- Click Data** 151
- Click Time** 151
- Codabar 147
- Code 11 148
- Code 128 142
- Code 39 140

- Code 93 148
- cold reset 36
- Cold Reset (Shutdown menu) 73
- COM**, Bluetooth Controls 124
- Command Prompt 68
- Communities** 159
- connection list table, Bluetooth Controls 123
- Contact** 158
- Contacts** 158
- control panel
 - accessing 79
 - basic setup 85
 - Display Properties 85
 - icons 80
 - keyboard properties 87
 - power management properties 97
 - stylus properties 100
- Convert to UPC-A** 147
- country code 143
- CTRL Key 44
- cycle tasks 70

D

- data
 - entering
 - with a bar code reader 167
- Data Bits** 154, 156
- Data Squelch** 117
- DC external power icon 51
- decoded (external) parameters 154, 155
- decoded scanners 138
- decoding bar codes
 - decodes required 139
 - Security** 140
- Default All Parameters** 109
- DEL Key 43
- desktop connection, remote 79
- Device Name**, changing 124
- dialogue box, using 73
- digit
 - check digit 144, 147, 148, 149, 150
 - number system 146, 147
- Dim For** (backlight) 87
- Discrete 2 of 5 150
- display
 - appearance (colour scheme) 86
 - background (control panel) 85
 - backlight 86
 - Display Properties 85

Display (scanning) 152
 Display Properties 85
Dot Time 139
Double Click 151
Double-Click, Manage Triggers menu 103
 Double-Tap (stylus settings) 100
 DSSS, 802.11g radio 184
 DUN service, Bluetooth 120

E

EAN/UCC 128 143
 EAN 13 143
 EAN 8 145
 EAP (Extensible Authentication Protocol) 21
Enable Cellular Protocol 113
Enable Power Saving 115
Enable SNMP 159
 encryption
 TKIP (Temporal Key Integrity Protocol) 19
 WEP (Wired-Equivalent Privacy) 19
Encryption, Bluetooth Controls 121
 END 44
 END Key 44
Error Accept 140
 ESC Key 44
 Extensible Authentication Protocol (EAP) 21

F

features, of 8525/30G2 4
 fields
 Field Size 141
 size 141
 Frequency Table (Radio tab) 117
Full Ascii 140
 Function Keys 45

G

Good Scan Beep 152
 GPRS (bluetooth) 125

H

helpdesk iv
 HOME 44
 HOME Key 44

I

IATA 2 of 5 150
Idle Poll Limit 116
 IEEE 802.11 radio, configuring 15
Include Check 144, 145, 147, 149, 150
Include Check (Discrete 2 of 5 symbology) 150
Include Check (Interleaved 2 of 5 symbology) 149
Include Chk 140, 146, 148
Include Country 143
Include Number Sys 146, 147
Include Sym (Code 128) 142
 indicators
 backup battery in use 51
 battery charging icon 51
 battery very low icon 51
 LED functions 48
 modifier keys 50
 onscreen 49
 power, DC 51
 radio signal quality 50
 scanner message 54, 55
 security level 51
 task bar 64
 tethered device 52
 tooltips 64, 69
 Info Tab (Narrow Band radio) 106
 Infrastructure network 18
Input 153
 input
 bar code reader 167
 Input Panel 134
 Input Panel (control panel) 81
 INS Key 44
 installation
 8570 cables to devices 178
Intensity (7035 backlighting) 87, 89
 Interleaved 2 of 5 149
 Internet Explorer 68
 IP address, assigning 21
 ISM band, Bluetooth radio 118
ITF Check (Discrete 2 of 5 symbology) 150
ITF Check (IATA 2 of 5 symbology) 150
ITF Check (I 2 of 5 symbology) 149
 I 2 of 5
 Short Code 139

Index

K

- keyboard
 - key repeat 87, 89
 - one shot mode 89
- keyboard backlight 46
- keyboard keys 42
 - ALT 44
 - arrow keys 43
 - BKSP 44
 - BLUE key 43
 - CTRL 44
 - DEL 43
 - END 44
 - ESC 44
 - Function keys 45
 - HOME 44
 - INS 44
 - macro keys 45, 91
 - modifiers 42
 - navigating using the keyboard 61
 - one shot mode 89
 - ORANGE key 43
 - SHIFT 43
 - SPACE 44
 - TAB 44
- Keyboard Properties 87, 89
 - backlight 89
 - one shot mode 89
- Key Index, assigning 20
- Key Repeat tab 88

L

- LANAccessUsingPPP service, Bluetooth 120
- Late TX Limit** (Polling) 115
- LED
 - charge 48
 - functions 48
 - receive 49
 - scan 49
 - transmit 49
- Location** 158
- Low Level screen (Narrow Nand radio) 108

M

- Macro keys
 - accessing 45
 - executing a macro 92
 - Macros menu, accessing 91
 - recording and saving 91

- maintenance 58
- Manage Triggers 102
- Manual Radio Address** (Cellular Radio Address) 113
- Manual Switch Table** 111
- Marvell-88W8300_802.11g_PC_Card (Model #RA2040) 5, 15
- Marvell-88W8300_802.11g_PC_Card (Model #RA2040)radio
 - Marvell-88W8300_802.11g_PC_Card (Model #RA2040), configuring 15
- modifier keys 42
 - locking 42
 - One Shot Mode** 89
 - unlocking 42
- Modulation/Baud Rate** 116
- Mod 10 Check** 141, 150
- Mod 10 Check** (Discrete 2 of 5 symbology) 150
- Mod 10 Check** (12 of 5 symbology) 149
- Mod 43 Check** 141
- MSI Plessey 149

N

- Name** 159
- name servers, assigning 22
- Narrow Band radio 106
 - Channel tab 109
 - Info tab 106
 - Low Level screen 108
 - Power tab 115
 - Protocol tab 113
 - Radio tab 116
 - statistics screen 107
- network
 - Ad Hoc 18
 - connection, monitoring 56
 - infrastructure 18
- network authentication 19
- Network Key, assigning 20
- non-decoded scanners 138
- number system digit 146, 147

O

- OFDM, 802.11g radio 184
- offices list iv
- One Check Digit** 149
- one dimensional internal scanner 54
- One Shot Mode** 89
- ON For** 89

Open (network authentication) 19
 Options (scanning) 151
 ORANGE Key 43
Outgoing, Bluetooth Controls 122
Output 153

P

Parity 155, 157
 PDF scanner, operating 54
PIN, Bluetooth Controls 120
 pinouts *B-1*
 PINs, Bluetooth devices 121
 pocket PC compatibility 79
Polling 114
 polling values, testing 115
Poll Timeout (Polling) 114
 port pinouts *B-1*
Port Prefix, Bluetooth Controls 124
Power (Serial Port) 156
 power icon, external DC 51
 Power Management Properties 97
 devices (card slots) 99
 suspend, power saving 98
Power Off Time 116
 Power Tab (Narrow Band radio) 115
Power Up Channel 110
 power up 8525 G2 14
 power up 8530 G2 14
 preferred networks 23
Prefix Char 141, 144
 Printer (serial service), Bluetooth 120
 profile, creating backup 130
 profile, restoring backup 133
 Programs
 Command Prompt 68
 Internet Explorer 68
 Remote Desktop Connection 68
 Windows Explorer 68
 Protocol Tab (Narrow Band radio) 113
 punctuation marks, accessing (SHIFT
 Key) 43

R

radio
 adding new network connection 18
 advanced settings of 23
 Bluetooth 118–124
 configuring
 adding a new network connection
 18

Ad Hoc 18
 authentication, network 19
 Connect button 17
 EAP (Extensible Authentication
 Protocol) 21
 Infrastructure 18
 Key Index 20
 Key Index, assigning 20
 network authentication 19
 Network Key 20
 Network Key, assigning 20
 wireless information 17
 wireless properties 18
 802.1X authentication 20
 Connect button 17
 IP address, assigning 21
 name servers 22
 Narrow Band 106
 preferred networks, arranging 23
 RA2040 (Marvell), configuring 15
 RA2041 (Summit), configuring 24
 SCU 24
 signal quality 50
 Summit DC-802.11_SC_CF (Model
 #RA2041) 24
 wireless connection, setting up 15
 802.11, configuring 15
 802.11g Direct Sequence SS 184
 radio specifications 184
 Radio Tab (Narrow Band radio) 116
 RA2040 (Marvell) radio 15
 RA2041 (Summit radio) 24
 recalibrating (touchscreen) 46, 101
 receive LED 49
 Remote Desktop Connection 68
 remote desktop connection 79
Repeat Delay (between key repeats) 88
Repeat Rate (of key repeats) 88
 Repeat tab (key repeat settings) 88
 resetting the vehicle-mount 36
 cold reset 36
 warm reset 36
Rights 159
 Run (Start Menu) 72

S

safeguards 168
 safety instructions
 general *VII*
Scan Indicator 152

Index

- Scan Log File** 152
- scanning
 - aiming (target) dot duration 139
 - appending characters 142, 145
 - Bad Scan Beep** 152
 - check digit 144, 147, 148, 149, 150
 - Click Data** 151
 - Click Time** 151
 - country code 143
 - decoded 138
 - decoded (external)
 - Serial Port 155
 - Display 152
 - Dot Time** 139
 - Double Click 151
 - Good Scan Beep** 152
 - Input** (translate) 153
 - LED Indicators 53
 - non-decoded 138
 - number system digit 146, 147
 - Options Tab 151
 - Output** (translate) 153
 - PDF scanner, operating 54
 - Ports
 - Tether Port 154
 - prefix character 141, 144
 - removing characters 142, 145
 - Scan Indicator** 152
 - Scan Log File** 152
 - Scan Result** 152
 - Scan Result Time** 152
 - Security** 140
 - Short Code** 139
 - Soft Scan Timeout** 152
 - suffix character 142, 145
 - target (aiming) dot duration 139
 - techniques 52, 53
 - troubleshooting 54
 - Type** (translate) 153
 - Verify** 139
 - 1D Laser, operating 54
- Scan Result** 152
- Scan Result Time (sec)** 152
- screen
 - stylus, using to navigate 61
 - touch pen, using 61
 - Windows CE, navigating 61
- SCU (Summit Client Utility) 24
 - Config Tab 28
 - configuring 24
 - Diags (Diagnostics) Tab 35
 - EAP Credentials 32
 - EAP Types 30, 31
 - Global Settings Tab 33
 - IP, assigning 24
 - Main Tab 24, 27
 - security 30
 - Status Tab 35
 - ThirdPartyConfig 32
 - Windows Zero Config (WZC) 32
 - WLAN, connecting to 24
- Security** 140
 - security level icon 51
- Security Settings 66
 - changing password 67
 - configuring taskbar 67
 - level 66
 - Supervisor 66
 - Teklogix 66
 - User 66
- Serial Port settings 155
 - Baud** 156
 - Data Bits** 156
 - Parity** 157
 - Power** 156
 - Stop Bits** 157
- Servers**, Bluetooth Controls 122
- service information iv
- Services**, Bluetooth Controls 120
- Set PIN**, Bluetooth Controls 121
- Settings
 - Control Panel 71
 - Network and Dial-up connections 71
 - Run 71
 - Taskbar and Start Menu 71
- Shared Mode (network authentication) 19
- SHIFT Key 43
- Short Code** 139
- Shutdown
 - Bootloader 72
 - Cold Reset 73
 - Suspend 72
 - Warm Reset 73
- Shutdown (Start Menu) 72
- signal quality, radio 50
- Simple Network Management (SNMP)**
 - See* **SNMP** 157
- SIP 134
- SIP (Soft Input Panel) 81
- size
 - of fields 141
- Size/Chars** (bar code scanning) 141

- slot power status, built-in device, enabling 99
 - SNMP** (Simple Network Management Protocol) 157
 - Communities** 159
 - Contact** 158
 - Contacts** 158
 - Enable SNMP** 159
 - Location** 158
 - Name** 159
 - Rights** 159
 - Soft Input Panel (SIP) 81
 - soft keyboard 134
 - Soft Scan Timeout** 152
 - SPACE Key 44
 - specifications
 - battery 186
 - 8525 G2 183
 - 8530 G2 183
 - Standard** (Code 128) 143
 - Start Menu 65
 - cycle tasks 70
 - desktop 66
 - programs 68
 - Run 72
 - Security 66
 - Settings 71
 - Shutdown 72
 - system tray 69
 - task manager 70
 - Statistics button (Radio tab) 118
 - Statistics screen (Narrow Band radio) 107
 - Stop Bits** 155, 157
 - Strip Leading** 142, 145
 - Strip Start/Stop Chars** 147
 - Strip Trailing** 142, 145
 - stylus (touch pen), using 61
 - Stylus Properties 100
 - Double-tap (stylus sensitivity) 100
 - Suffix Char** 142, 145
 - Summit Client Utility (SCU) 24
 - Summit DC-802.11_SC_CF (Model #RA2041) 5, 24
 - super capacitor 41
 - Supervisor security level 66
 - support services iv
 - Suspend (Shutdown menu) 72
 - suspending power 98
 - Suspend Timeout** 98
 - symbolologies
 - IATA 2 of 5 150
 - Sync Delay** (Polling) 114
 - system tray 69
- ## T
- TAB Key 44
 - target dot, duration of 139
 - taskbar
 - onscreen indicators
 - backup battery in use 51
 - battery charging 51
 - battery very low icon 51
 - modifier keys 50
 - power, external DC 51
 - radio signal quality 50
 - security level 51
 - tethered device 52
 - tooltips 64, 69
 - using 64
 - task manager 70
 - Teklogix security level 66
 - Test Polling Values 115
 - Test Squelch (Radio tab) 117
 - tethered device
 - connecting and disconnecting 55
 - taskbar icons 52
 - Tether Port settings 154
 - Baud** 154
 - Data Bits** 154
 - Parity** 155
 - Stop Bits** 155
 - TKIP (Temporal Key Integrity Protocol)
 - encryption 19
 - tooltips (taskbar) 64, 69
 - Total Recall 129
 - backup profile, creating 130
 - backup profile, restoring 133
 - touch pen, using 61
 - touchscreen
 - recalibration 46, 101
 - stylus, using 61
 - touch pen, using 61
 - touchscreen, disabling 101
 - transmit LED 49
 - trigger mappings 102
 - triggers, configuring 102
 - Trigger Type**, Manage Triggers menu 104
 - turning 8525 G2 on and off 14
 - turning 8530 G2 on and off 14
 - Type** (translate) 153

Index

U

UCC 128(Code 128) 143

UPC A 146

UPC E 146

USB Setup Application C-1

launching C-2

User security level 66

V

Variations (Code 128) 143

vehicle installation

cables 178

Verify 139

W

warm reset 36

Warm Reset (Shutdown menu) 73

warranty iv

WEP (Wired-Equivalent Privacy)

encryption 19

Wi-Fi Protected Access Pre-Shared Key

(network authentication) 19

Wi-Fi Protected Access-WPA (network

authentication) 19

Window Delay (Polling) 114

Windows® Start Menu *See* Start Menu 65

Windows CE

dialogue box 73

files, folders, & programs, working
with 62

Windows CE, navigating in 61

Windows Explorer 68

Windows Zero Config (WZC) 32

wireless connection setup 15

Wireless Information Tab 17

Wireless Properties tab 18

worldwide offices iv

WPA (network authentication) 19

WPA-PSK (network authentication) 19

WZC (Windows Zero Config) 32

approvals 183

specifications 183

1D internal scanner 54

802.1X authentication, enabling 20

802.11b radio, configuring 15

8525 G2

approvals 183

specifications 183

8530 G2