



Dolphin[®] 7900 Series *Microsoft[®] Windows Mobile[®] 5.0*



User's Guide— Preliminary

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Overview

Congratulations on the purchase of the Dolphin 7900 mobile computer! You have made a wise choice in selecting the Dolphin, a device known worldwide for its ergonomic form factor, light-weight, rugged design and single-handed data collection capabilities.

Ergonomics

The patented shape of the Dolphin 7900 fits into either hand comfortably with major function keys that are easy to access. The adjustable hand strap on the back panel ensures a secure grip on the terminal for solid one-handed operation in mobile environments.

Rugged Design

Dolphin 7900 terminals are the most durable mobile computers on the market. Their rugged design can withstand repeated five-foot drops onto a concrete floor, extreme temperatures, as well as high humidity, moisture, and dust conditions. The terminals are independently tested to meet IP64 specifications.

Mobile Computing Features

- Low-power, high-resolution image engine omni-directional and auto-discrimination decoding of most bar code symbologies
- Intel® X-Scale 400MHz RISC microprocessor for fast processing
- Optional Wireless Full Area Networking™ (WFAN) configuration for real-time data and voice communications
- Microsoft Windows Mobile 2003 Second Edition Software for Pocket PCs
- 64MB RAM (optional 128MB) and 64MB synchronous Flash memory configuration for ample and secure data storage
- Mini-Secure Digital (SD) memory interface that enables memory expansion
- Adaptus Imaging Technology for advanced point-and-shoot bar code decoding and image capture

Additional Features

- Long-lasting Lithium Ion (Li-ion) batteries
- 3.8", easy-to-read 1/4 VGA (240 x 320) backlit TFT color display with industrial touch screen
- Two keyboard options: 25-key numeric and 36-key alpha
- Industrial-grade mechanical connector that supports serial and USB communications, as well as power in and out
- Full suite of compatible peripheral devices
- Decoding of stacked linear and matrix codes with Optical Character Recognition (OCR) functionality
- Buttons on both side panels that can activate the image engine for easy one-hand scanning with either hand
- Digital picture capability
- Audio jack for headset use
- Speaker and microphone on the front panel

Application Development Tools

- Dolphin SDK Add-on for Pocket PC 2003—supports Embedded Visual C++ 4.0
- Dolphin .NET SDK for Pocket PC 2002 and 2003—supports Visual Studio .NET 2003 (VB.NET and C#.NET)
- Dolphin GSM/GPRS SDK Add-on for Pocket PC 2003—supports Embedded Visual C++ 4.0 and Visual Studio.NET 2003

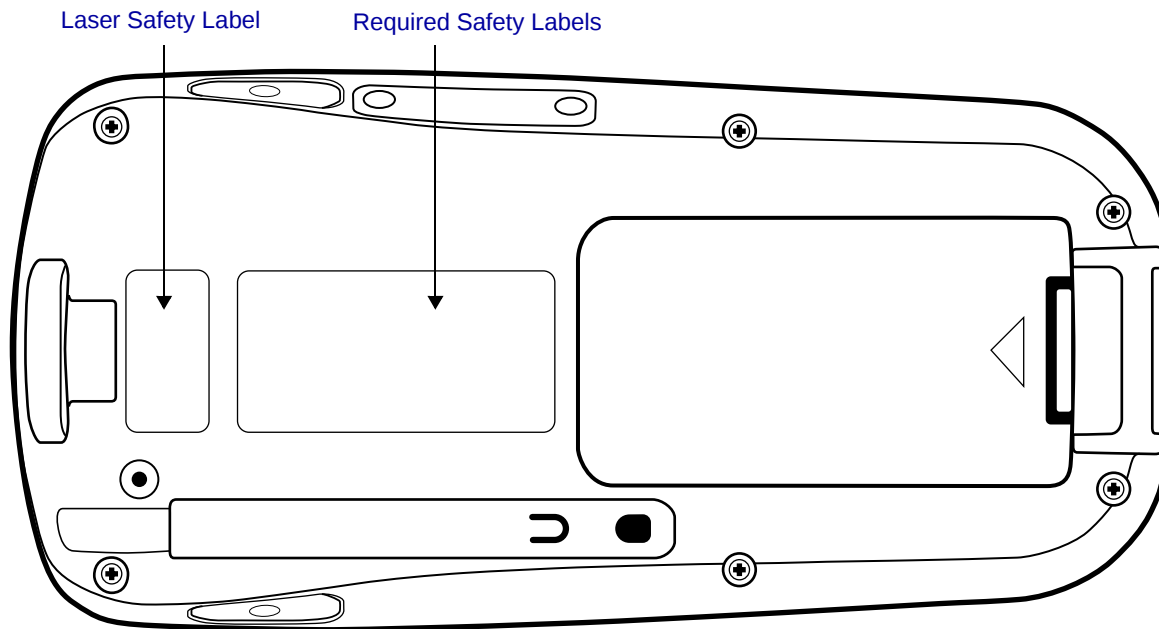
This User's Guide

The Dolphin 7900 Series Mobile Computer User's Guide provides you with the information you need to make the most of your Dolphin terminal.

Required Safety Labels

Dolphin 7900 mobile computers meet or exceed the requirements of all applicable standards organizations for safe operation. However, as with any electrical equipment, the best way to ensure safe operation is to operate them according to the agency guidelines that follow. Please read these guidelines carefully before using your Dolphin mobile computer.

Location



Laser Safety Label

If the following label is attached to your product, it indicates the product contains a laser engine or laser aimer:

Laser Eye Safety Statement

This device has been tested in accordance with and complies with EN60825-1: 1993+A1+A2 and 21 CFR 1040.10 and 1040.11, except for deviations pursuant to Laser Notice No. 50, dated July 26, 2001.

LASER LIGHT, DO NOT STARE INTO BEAM, CLASS 2 LASER PRODUCT, 1.0 mW MAX OUTPUT: 650nm.

Use of controls or adjustments or performance of procedures other than those specified in the user documentation may result in hazardous radiation exposure.

LASER LIGHT. DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT
1.0 mW MAX OUTPUT: 650nm
IEC60825-1:1993+A1+A2
Complies with 21 CFR 1040.10 and 1040.11
except for deviations pursuant to Laser
Notice No. 50, dated July 26, 2001.



LED Safety Statement

This device has been tested in accordance with IEC60825-1 LED safety, and has been certified to be under the limits of a Class 1 LED device.

Regulatory and Safety Approvals for all Dolphin 7900 Series Terminals

Parameter	Specification
U.S.A	FCC Part 15, Class B
Canada	ICES-003
European Community	EN 55022 (CISPR 22) Class B
	EN60950:2000
	EN60825-1:1994 + A11 + A2
	EN55024:1998

CE The CE Mark on the product indicates that the system has been tested to and conforms with the provisions noted within the 89/336/EEC Electromagnetic Compatibility Directive and the 73/23/EEC and 93/68/EEC Low Voltage Directive.

For further information, please contact:

Hand Held Products, Inc.
Nijverheidsweg 9
5627 BT Eindhoven
The Netherlands

Hand Held Products, Inc. shall not be liable for use of our product with equipment (i.e., power supplies, personal computers, etc.) that is not CE marked and does not comply with the Low Voltage Directive.

Dolphin 7900 Series WLAN (802.11b) or WPAN (Bluetooth) Radio

Dolphin 7900 RF terminals are designed to comply with the most current applicable standards on safe levels of RF energy developed by the Institute of Electrical and Electronics Engineers (IEEE) and the American National Standards Institute (ANSI) and has been recommended for adoption by the Federal Communications Commission (FCC).

Required Safety Labels

The required safety labels that appears on the back of Dolphin 7900 terminals equipped with the following radios are as follows:

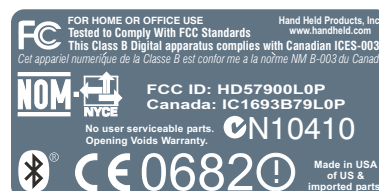
802.11b



Bluetooth

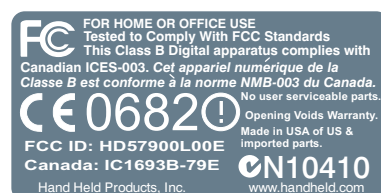


802.11b and Bluetooth



RoHS Compliant

802.11b



Bluetooth



802.11b and Bluetooth



Dolphin 7900 Series WWAN GSM Radio

Dolphin 7900 Series RF terminals are designed to comply with the most current applicable standards on safe levels of RF energy developed by the Institute of Electrical and Electronics Engineers (IEEE) and the American National Standards Institute (ANSI) and has been recommended for adoption by the Federal Communications Commission (FCC).

Required Safety Labels

The required safety labels that appears on the back of Dolphin RF terminals equipped with the following radios are as follows:

GSM

MC-45



MC-46



GSM and 802.11b

MC-45



MC-46



GSM and Bluetooth

MC-45



MC-46



GSM, 802.11b, and Bluetooth

MC-45



MC-46

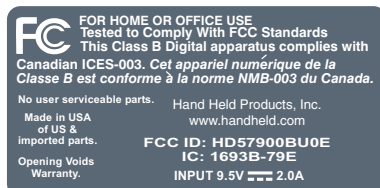


GSM

MC-75 Europe



MC-75 North America



GSM and 802.11b

MC-75 Europe



MC-75 North America



GSM and Bluetooth

MC-75 Europe



MC-75 North America



GSM, 802.11b, and Bluetooth

MC-75 Europe



MC-75 North America



FCC Compliance

Dolphin mobile computers meet or exceed all applicable standards and have been manufactured to the highest level of quality.

Dolphin 7900 Series Batch Terminal

Dolphin 7900 Series Batch terminals comply 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.

Dolphin 7900 Series RF Terminal with an 802.11b, Bluetooth, and/or GSM (MC-45, MC-46 and MC-75) Radio

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.

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. 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 or more 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.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet helpful: "Something About Interference." This is available at FCC local regional offices. Our company is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by our company. The correction is the responsibility of the user. Use only shielded data cables with this system.

In accordance with FCC 15.21, changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. To maintain compliance with FCC RF exposure guidelines for body-worn operation, do not use accessories that contain metallic components.

Canadian Compliance for Dolphin 7900 Series RF Terminals with an 802.11b, Bluetooth, and/or GSM (MC-45, MC-46, and MC-75) Radio

This Class B digital apparatus complies with Canadian ICES-003. 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.

To prevent radio interference to the licensed service, 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 est conforme à la norme NMB-003 du Canada.

RF, Regulatory, and Safety Agency Approvals for 802.11b and Bluetooth

Parameter	Specification
RF Approvals U.S.A Canada	FCC Part 15.247 RSS 210

RF, Regulatory, and Safety Agency Approvals for GSM (MC-45, MC-46, and MC-75)

Parameter	Specification
RF Approvals U.S.A Canada	FCC Part 24 RSS 133

Dolphin 7900 Series 802.11b, Bluetooth, and/or GSM (MC-45, MC-46, and MC-75)

R&TTE Compliance Statement

Dolphin 7900 RF terminals are in conformity with all essential requirements of the R&TTE Directive (1999/5/EC). This equipment has been assessed to the following standards as applicable:

Parameter	Specification
R&TTE	EN 300 328-2:2000 EN 301 489-1 (2002-08) EN 301 489-17 (2002-08) EN 60950: 2000 EN 50361: 2001

This product is marked with **CE 0682** ⓘ in accordance with the Class II product requirements specified in the R&TTE Directive, 1999/5/EC.

The equipment is intended for use throughout the European Community. Its authorization for use in France is restricted as follows:

PAN European Frequency Range: 2.402 - 2.480 GHz

Restrictions in France are as follows:

- Indoor use - Maximum power (EIRP*) of 100 mW for the entire 2400-2483.5 MHz
- Outdoor use - Maximum power (EIRP*) of 100 mW for the 2400-2454 MHz band and maximum power (EIRP*) of 10 mW for the 2454-2483 MHz band

Pacemakers, Hearing Aids and Other Electrically Powered Devices

Most manufacturers of medical devices adhere to the IEC 601-1-2 standard. This standard requires devices to operate properly in an EM Field with a strength of 3V/m over a frequency range of 26 to 1000MHz.

The maximum allowable field strength emitted by the Dolphin is 0.3V/m according to Subpart B of Part 1 of the FCC rules. Therefore, the Dolphin RF has no effect on medical devices that meet the IEC specification.

Microwaves

The radio in the Dolphin RF terminal operates on the same frequency band as a microwave oven. Therefore, if you use a microwave within range of the Dolphin RF terminal you may notice performance degradation in your wireless network. However, both your microwave and your wireless network will continue to function.

The Dolphin Batch terminal does not contain a radio, and therefore, is not affected by microwave ovens.

For European Community Users

Hand Held Products complies with Directive 2002/69/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on waste electrical and electronic equipment (WEEE).

Waste Electrical and Electronic Equipment Information

This product has required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment, if not properly disposed.

In order to avoid the dissemination of those substances in our environment and to diminish the pressure on the natural resources, we encourage you to use the appropriate take-back systems for product disposal. Those systems will reuse or recycle most of the materials of the product you are disposing in a sound way.



The crossed out wheeled bin symbol informs you that the product should not be disposed of along with municipal waste and invites you to use the appropriate separate take-back systems for product disposal.

If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration.

You may also contact your supplier for more information on the environmental performances of this product.

Overview

The Dolphin 7900 terminal comprises one element of an enterprise data collection system that includes various models, peripherals, and accessories that you can combine to suit your exact needs. The Dolphin 7900 terminal itself combines the latest in multi-functional wireless data and voice communications technology with a unique, compact form factor, which makes it an ideal solution for today's in-transit applications.

Data Input

The Dolphin 7900 mobile computer features a PDA design with a larger display and smaller recessed keyboards. The display area is 3.8 inches with a 240 X 320 VGA display in TFT color that is backlit for maximum viewability, then covered with an industrial touch screen for maximum durability. There are two keyboard options: 25-key numeric-alpha and 36-key alpha-numeric.

Imaging

The Dolphin 7900 contains an integrated imager that can take digital images of damaged packages and recipient signatures in addition to decoding standard 1D and 2D symbologies. For the greatest ease-of-use when operating the imager, **both** side panels feature a scan button that initiates a scan with the touch of a thumb or forefinger.

Memory

The Dolphin 7900 is a Windows Mobile computer with 64 MB RAM and 64 MB non-volatile synchronous Flash memory.

Communications

Communications via the industrial, mechanical connector supports 115 Kbps using serial RS-232 and 12 Mbps using USB.

Dolphin 7900 Radio Configuration Options

Standard Configurations

Dolphin 7900 WLAN and WPAN (802.11b and Bluetooth)

This terminal features integrated 802.11b and Bluetooth radios, which means that your terminal contains the capabilities of both radios. You can operate the radios simultaneously or switch between them.

Dolphin 7900 WWAN and WLAN (GSM/GPRS and 802.11b)

This terminal features the functionality of both GSM/GPRS and 802.11b radio and network technologies.

Dolphin 7900 WWAN and WPAN (GSM/GPRS and Bluetooth)

This terminal features the functionality of both GSM/GPRS and Bluetooth radio and network technologies.

Dolphin 7900 WWAN, WLAN, and WPAN (GSM/GPRS, 802.11b, and Bluetooth)

This terminal features the functionality of GSM/GPRS, 802.11b, and Bluetooth radio and network technologies.

Custom Configurations

Please refer to the Dolphin 7900 pricing configuration guide or contact your Customer Account Representative (CAR) for details.

Dolphin 7900 WLAN (802.11b)

These terminals integrate the basic functionality of the Batch terminals with an integrated, IEEE 802.11b direct sequence radio that enable communication with a host computer through a wireless local area network (WLAN).

Dolphin 7900 WPAN (Bluetooth)

This terminal allows Bluetooth communications to Bluetooth enabled devices such as printers, mobile phones, Access Points (APs), Bluetooth-enabled PCs, etc.

Dolphin 7900 WWAN (GSM/GPRS)

This terminal features all the benefits of the Dolphin 7900 with the additional capabilities of GSM/GPRS technology.

Dolphin 7900 Series Peripherals

Each of the following items is sold separately to enhance your Dolphin 7900 terminal's capabilities.

Dolphin HomeBase™

The Dolphin HomeBase charging and communication cradle supports both RS-232 and USB communications, which enable it to interface with the majority of PC-based enterprise systems. When a terminal is seated in the HomeBase, its main battery pack charges in less than four hours. In addition, the HomeBase contains an auxiliary battery well that charges a spare Li-ion battery.

For more information, see [Dolphin HomeBase](#) on page 13-1.

Dolphin Mobile Base™

The Dolphin Mobile Base charging and communication cradle is designed specifically for in-premise and in-transit data collection applications. It features a flexible mounting bracket, a cigarette lighter adapter or power cable to adapt it to your environment.

When a terminal is seated in the Mobile Base, its main battery pack charges in less than four hours. The serial connector supports RS-232 communication and power out to peripheral devices, such as hand held scanners.

For more information, see [Dolphin Mobile Base](#) on page 14-1.

Dolphin QuadCharger™

The Dolphin QuadCharger is a four-slot charging station for Dolphin Li-ion battery packs that can charge each battery in less than four hours. The fourth slot features a battery analyzer that completely resets and re-calibrates a battery, then displays remaining capacity.

For more information, see [Dolphin QuadCharger](#) on page 16-1.

Dolphin ChargeBase

The Dolphin ChargeBase is a four-slot charging cradle that holds, powers, and charges a terminal in each slot.

For more information, see [Dolphin ChargeBase](#) on page 15-1.

Dolphin Net Base

The Dolphin Net Base is a four-slot charging/communication cradle that holds, powers, charges, and communicates with the terminal in each slot. Ethernet communication occurs via statically and dynamically-assigned IP addresses.

For more information about the Dolphin Net Base, please consult the Dolphin 7900 Net Base Quick Start Guide.

Dolphin 7900 Accessories

Each of the following items is sold separately to enhance your Dolphin 7900 terminal's capabilities.

Dolphin Cable Kits

USB and serial cables connect the Dolphin 7900 terminal directly to both a peripheral device for communication and a power source for charging.

Dolphin Mobile Charger

This charging cable plugs the terminal directly into a vehicle cigarette lighter/power port to power the terminal and charge the battery pack. This accessory converts the 12 Volts from the vehicle outlet to the 9 Volts required by the terminal.

Protective Enclosure

This enclosure wraps around the terminal to protect it from wear and tear.

Protective Holster

The protective holster holds the terminal for mobile use.

Dolphin Mobile Mount

The Dolphin Mobile Mount solution secures Dolphin 7900 in the cab of any vehicle. Used in conjunction with the Mobile Charger, Dolphin terminals can be adapted to almost any in-transit environment.

Li-ion Battery Pack

The 7.4v, 14.8 watt hour Li-ion rechargeable battery pack provides the main power supply for Dolphin 7900 terminals.

Using the Dolphin 7900 for the First Time

1. [Unpack the Carton and Verify its Contents](#), page 2-5.
2. [Install the Main Battery Pack](#), page 2-5.
3. [Charge the Main and Backup Batteries](#), page 2-6.
4. [Initialize the Mobile Computer](#), page 2-6.
5. [Let Autoinstall Run](#), page 2-7.
6. [Verify Operations with Demos](#), page 2-8.

Step 1. Unpack the Carton and Verify its Contents

Verify that the carton contains the following items:

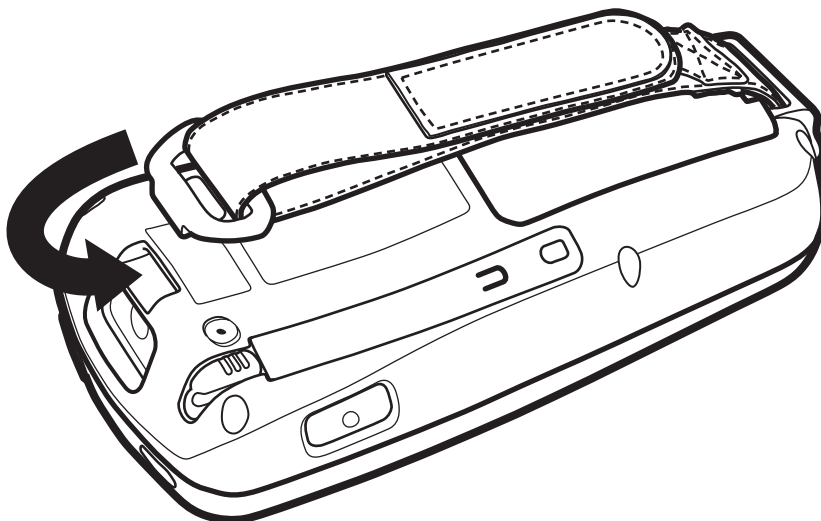
- Dolphin 7900 mobile computer (the terminal)
- Main battery pack (7.4v Li-ion)
- Microsoft Companion CD
- Dolphin 7900 Quick Start Guide

Note: If you ordered peripherals or accessories, verify that they are included with the order.

Be sure to keep the original packaging in the event that the Dolphin terminal should need to be returned for service. For details, see [Product Service and Repair](#) on page 17-1.

Step 2. Install the Main Battery Pack

The Dolphin 7900 ships with the handstrap installed and fastened with a clip on the top panel. To install the battery pack, you must detach the hand strap.



To detach the hand strap, push the clip up and away from the terminal.

To re-attach the hand strap, slide the clip back into place.

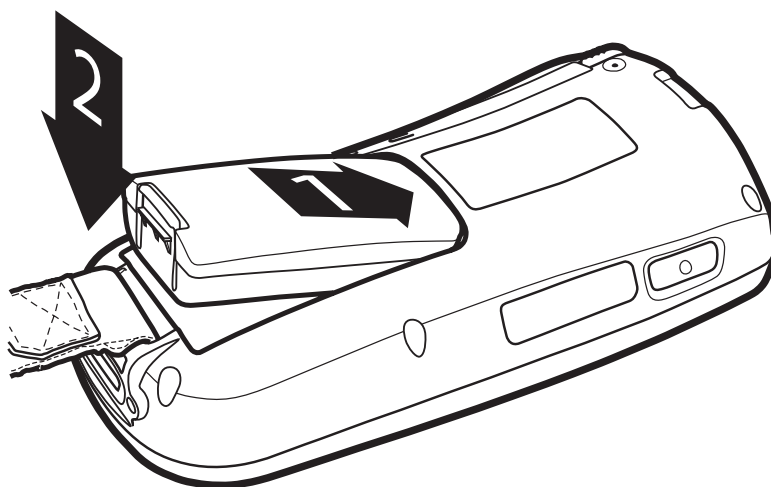
Installing the Main Battery Pack



Use only the Li-ion battery packs provided by Hand Held Products. The use of any battery pack not sold/manufactured by Hand Held Products in a Dolphin terminal will void your warranty and may result in damage to the Dolphin terminal or battery.

1. Unpack the Li-ion battery pack.
2. Hold the terminal with the front panel (keyboard) facing down and detach the handstrap.

3. Take the battery and insert the end without the locking tab into the top of the battery well and push down with a hinging motion until the locking tab snaps.



4. Re-attach the handstrap.

To Remove the Main Battery Pack

Put the terminal in Suspend mode **before** removing the battery; [Suspend Mode](#), page 2-9.

1. Detach the handstrap.
2. Press the locking tab on the battery pack and pull it away from the bottom panel.
3. Pull the battery pack up with a hinging motion.

Step 3. Charge the Main and Backup Batteries

The power supply consists of two types of battery power: the main battery pack and the backup battery located inside the terminal. The main battery powers the terminal and charges the internal backup battery. The internal backup battery maintains the application data stored in RAM and the system clock for up to 30 minutes when the main battery pack is completely discharged or removed.

Before initial use - Because the terminals are shipped with both batteries discharged of all power, charge the main battery pack for a **minimum of four hours** before initial use. When installed in the terminal, the battery pack can be charged in the HomeBase, Mobile Base, or with the appropriate charging cable. When not installed in the terminal, battery packs can be charged in the QuadCharger or the auxiliary well of the HomeBase.

Time to Charge - Four hours for the main battery pack, eight hours for the internal backup battery the first time. For more information, see [Battery Power](#) on page 3-10.



Use only Dolphin 7900 Series peripherals, power cables, and power adapters. Use of peripherals, cables, or power adapters not sold/manufactured by Hand Held Products will void the warranty and may damage the terminal.

Charging with Dolphin Peripherals

When the battery is installed in the terminal, you can insert the terminal into any one of the following peripherals to charge the main battery pack:

- [Dolphin HomeBase](#) (see page 13-1)
- [Dolphin Mobile Base](#) (see page 14-1)
- [Dolphin ChargeBase](#) (see page 15-1) or the Dolphin 7900 Net Base

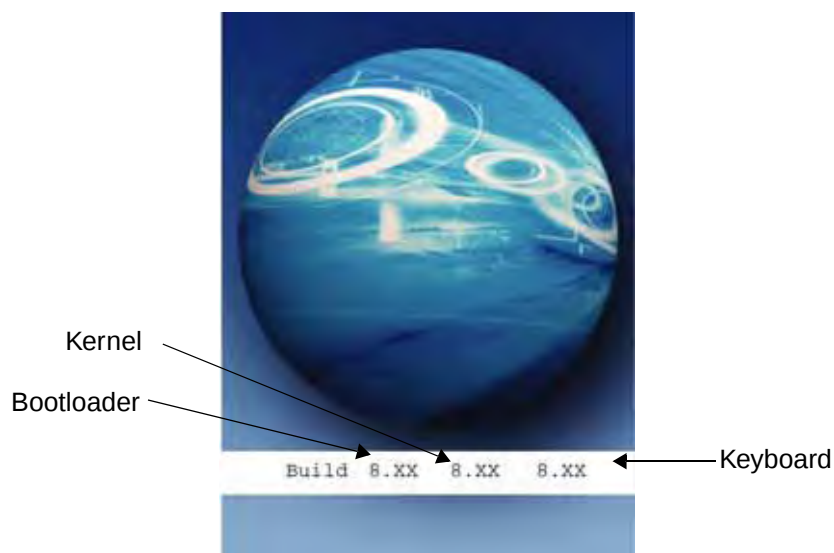
To fully charge the Li-ion battery before installing it in the terminal, use the

- [Dolphin QuadCharger](#) (see page 16-1)
- [Auxiliary Battery Well](#) of the Dolphin HomeBase (see page 13-5)

Step 4. Initialize the Mobile Computer

1. Power on the terminal. The decode LED lights and the scan LED blinks for approximately three seconds. Do **NOT** press any keys while the terminal is booting up.

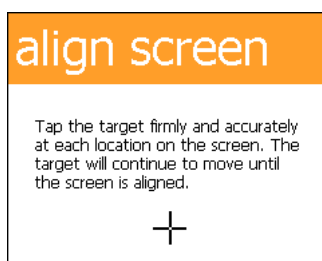
-
2. The terminal initializes and the splash screen appears for a few seconds. The Build numbers indicate the software versions.



3. The system performs a hard reset. When the display activates again, follow the instructions that appear.

Step 5. Align the Screen

You are prompted to align the screen by tapping the target five times. Use the stylus provided by Hand Held Products.



- Alignment should always be performed with a stylus designed for touch screen applications. The small point is required for accurate calibration.
- Press the stylus firmly into the center of the cross-hair target once and release. Do not “double-tap” the target.
- You can re-align the screen at any time by going to **Start > Settings > System tab > Screen**.

Step 6. Let Autoinstall Run

For each program that loads, a status bar indicates that the program is loading. Autoinstall occurs after each hard reset. Do NOT touch the keyboard or the screen while programs are loading!

All configurations of the Dolphin 7900 terminal install Demos and Power Tools. If the terminal is configured with a wireless radio, the appropriate radio drivers and utilities for each radio install.

After Autoinstall is complete, the terminal performs a soft reset automatically. When it finishes booting up after the soft reset, the Today screen appears; see [Today Screen](#) on page 4-1.

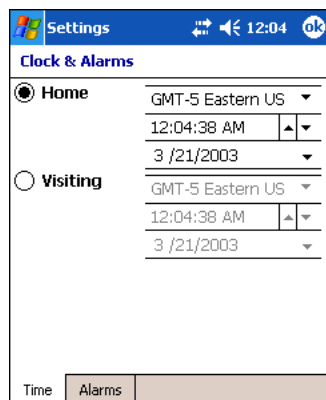
Step 7. Setting the Time and Date

The time and date need to be reset after every hard reset of the terminal. It is a good idea to set the time and date before you begin using the device, so that the system clock is accurate.

On the Today screen, tap the line that displays the time and date,



The Clock Settings screen appears.



Step 8. Verify Operations with Demos

For details, see [Using the Image Engine](#) on page 5-1.

Resetting the Terminal

There are two ways to reset the Dolphin terminal: a soft and a hard reset.

Soft Reset (Warm Boot)

A soft reset re-boots the device without losing RAM data. You would perform a soft reset when

- The terminal fails to respond
- After installing some software applications
- After making changes to certain system settings, such as network cards

1. Press and hold the Red + ESC keys for approximately five seconds.
2. The decode and scan LEDs flash for approximately three seconds as the terminal resets.
3. When the reset is complete, the Today screen displays.

Hard Reset (Cold Boot)

A hard reset resets the operating system, restores the terminal back to factory defaults, and resets the terminal after a bootloader, keyboard, and kernel upgrade.



A hard reset erases all of the data stored in RAM memory and all RAM installed applications.

1. Press and hold the Red + TAB keys for approximately five seconds.
2. The decode and scan LEDs light for approximately three seconds.
3. The terminal re-initializes; see [Initialize the Mobile Computer](#) on page -6.

Suspend Mode

To put the Dolphin terminal into suspend mode manually, press and hold Blue + Backlight keys. The terminal also goes into suspend mode automatically when the terminal is inactive for a programmed period of time. For more information, see [Power](#) on page 7-10.

To wake the Dolphin terminal from suspend mode, press the SCAN key.

System Features

Processor

The Dolphin 7900 terminal is equipped with an Intel X-Scale 400MHz RISC microprocessor that runs on a 100 MHz RAM BUS, making it one of the most powerful mobile computers on the market.

Operating System

Windows Mobile 2003 Second Edition software provides a compact, highly efficient, scalable operating system. The open architecture facilitates the development of applications for energy-efficient data collection devices such as the Dolphin terminal.

Memory

Main Board/IPSM

The standard memory configuration is 64 MB RAM (optional 128 MB) and 64 MB non-volatile synchronous Flash. For more information about each kind of memory, see [Memory](#) on page 7-8.

Mini SD Card

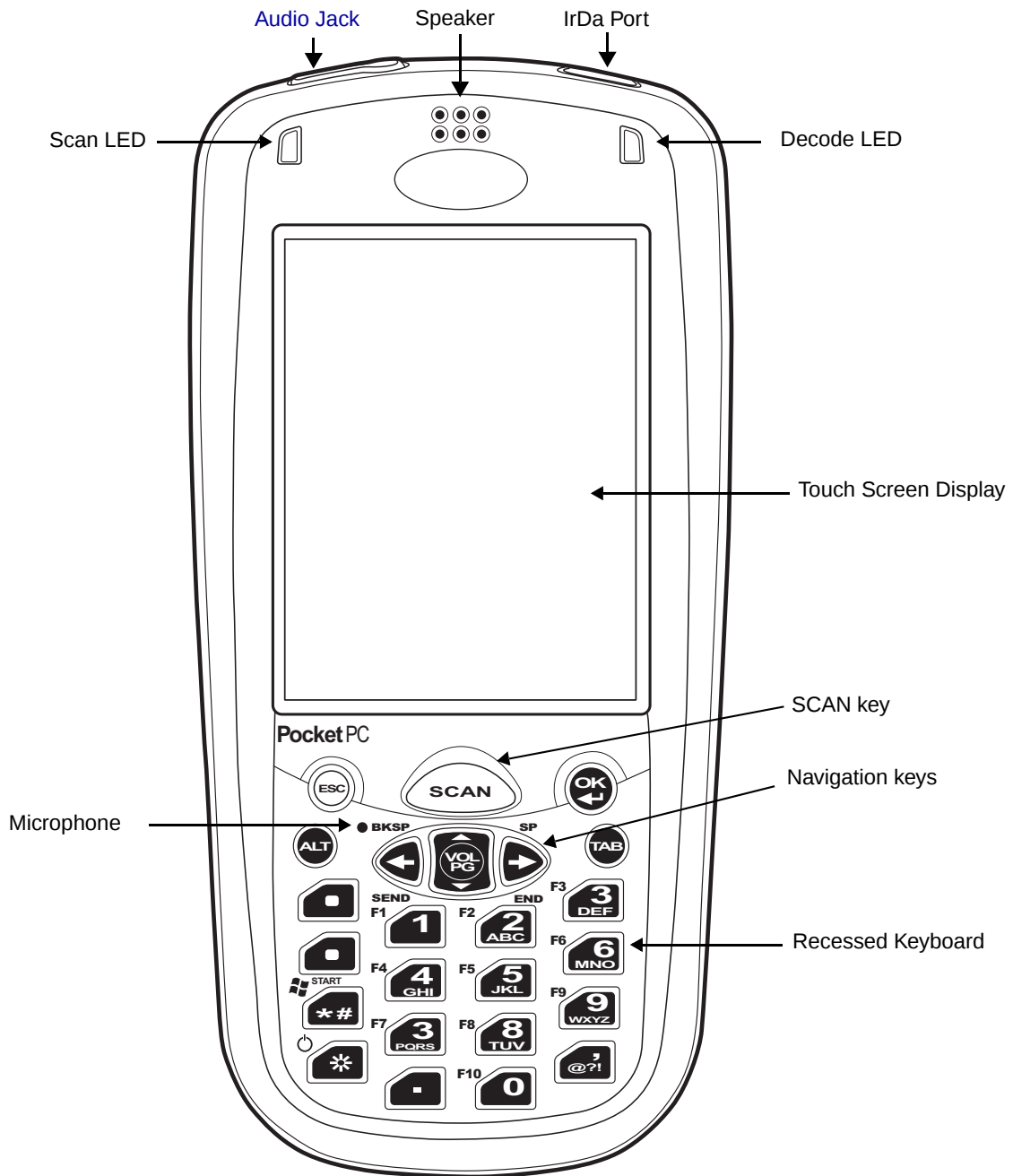
Dolphin 7900 terminals contain a mini SD memory interface on the left side panel to support memory expansion. The memory interface is covered by an access door that can be opened to insert a memory card. For more information about the access door, see [Access Door](#) on page 3-6.

Wireless Radio Options

For more information, see [Radio Options](#) on page 4-5.

Front Panel Features

This section describes features on the front panel of the Dolphin 7900 terminal. The following graphic shows a Dolphin 7900 with a 25-key keyboard.



Audio Jack

Dolphin 7900 terminals contain a 2.5mm audio jack that supports both speaker (stereo) and microphone (mono) headsets. Both microphone and speaker are located on the front panel for voice communication that is fully integrated with terminal operation.

Speaker

The Dolphin 7900 terminal has an integrated speaker that sounds audio signals as you scan bar code labels and enter data. The operating frequency range is 500Hz at 71 dB up to 80 dB. The speaker can also be used for playing sounds (e.g., WAV or MP3 files).

When used in conjunction with the microphone on the keyboard, the speaker can also be used for two-way voice communications. Both speaker and microphone are located on the front panel for voice communication that is fully integrated with terminal operation.

IrDA Port

The IrDA (Infrared Data Association) port communicates with IrDA-enabled devices such as PCs, printers, modems, or other Dolphin terminals. The maximum speed is 115kbps. For more information, see [Using Infrared](#) on page 8-5.

Scan LED

The scan LED lights red when you press the SCAN key in scanning applications.

Decode LED

The decode LED lights green when a scanned bar code is successfully decoded.

Note: Both LEDs can be programmed by various software applications.

Touch Screen Display

The 3.8" liquid crystal display (LCD) is covered with an industrial, protective touch screen lens. The video graphic array (VGA) resolution is 1/4 (240 X 320 pixel). The color LCD is 16 bits/pixel and uses active display or thin film transistor (TFT) technology.

Activate the touch screen with the stylus provided or a finger. See [Using the Touch Screen](#) on page 4-2.

By default, the display backlight illuminates when the screen is touched. See [Adjusting the Backlight](#) on page 4-3.

SCAN Key

The SCAN key is centrally located for easy access with the right or left hand. When pressed, the SCAN key activates the scanner/imager. The SCAN key also functions as an on or system wakeup control for the terminal.

Navigation Keys

The centrally-located navigation keys enable you to move and position the cursor through software programs. The up and down arrows are programmed to perform specific functions when pressed in combination with the Blue and Red modifier keys.

Recessed Keyboard

The Dolphin 7900 Series features two keyboard options: 25-key numeric and 36-key alpha keyboard. Both keyboards are recessed under the overlay for maximum durability and backlit for easy viewing in various lighting conditions. For a complete overview of each keyboard, see [Using the Keyboards](#) on page 6-1.

Microphone

Dolphin 7900 terminals feature an integrated microphone that provides audio input to the terminal when a headset is not plugged into the audio jack. When a headset is plugged in, the terminal defaults to the microphone on the headset. For more information, see [Headset Control](#) on page 7-4.

Back Panel Features

The following graphic describes features on the back panel of the Dolphin 7900 terminal.

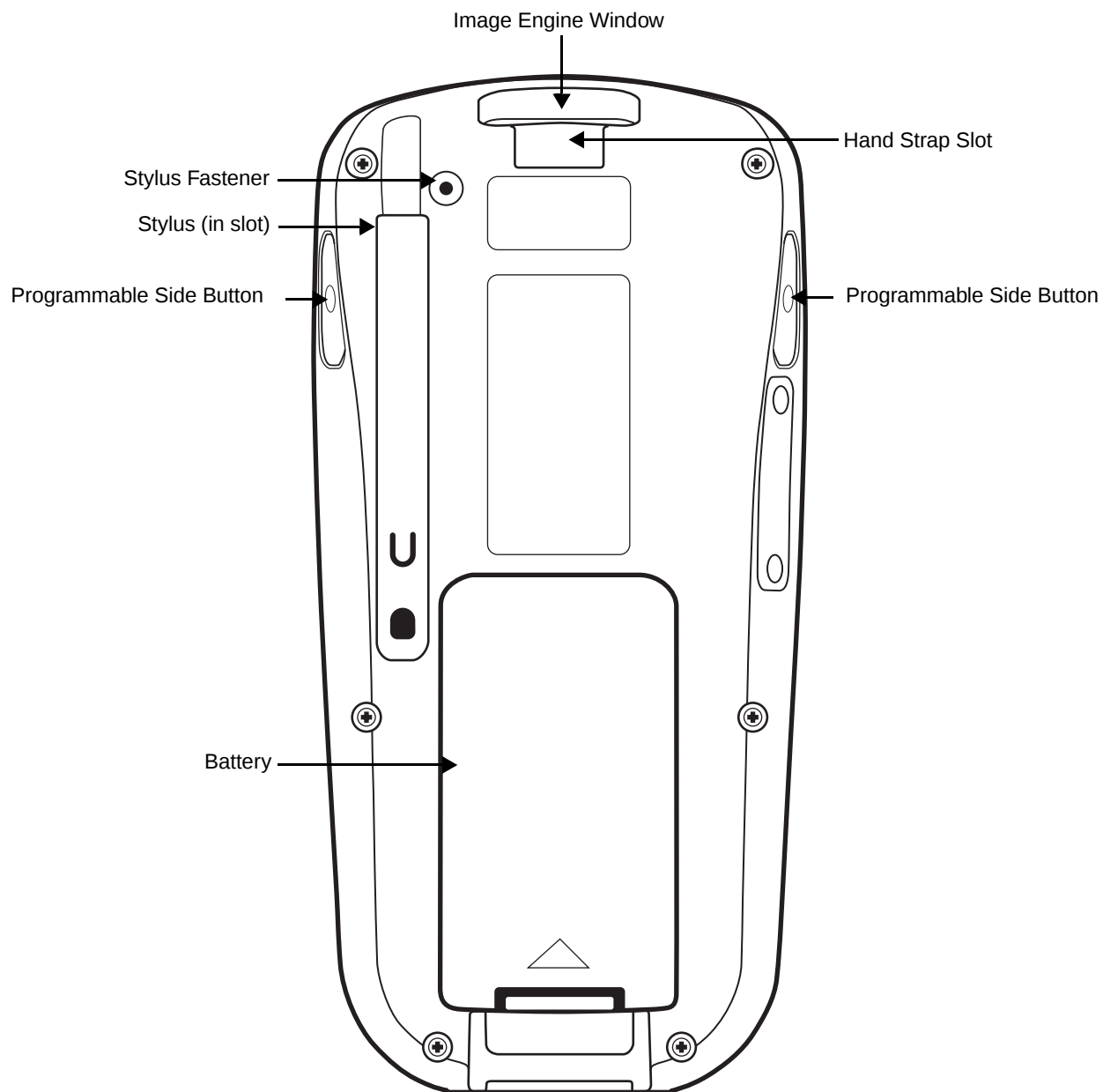


Image Engine Window

Dolphin 7900 terminals have an optional image engine that reads and decodes linear, stacked linear (PDF417), and 2D matrix bar code symbologies. With the latest CMOS-based technology, the engine works like a digital camera and enables digital image capture, signature capture, and reading of OCR characters.

The engine points out the top panel at a slight downward angle so that the terminal needs to be positioned slightly above the image or bar code when using the engine.

For more information about imaging, see [Using the Image Engine](#) on page 5-1.

Hand Strap Slot

The Dolphin 7900 has an adjustable, elastic hand strap attached to the terminal with a slot on the top of the back panel. You can detach the handstrap from this clip when you need access to the battery or other item on the back panel.

Battery

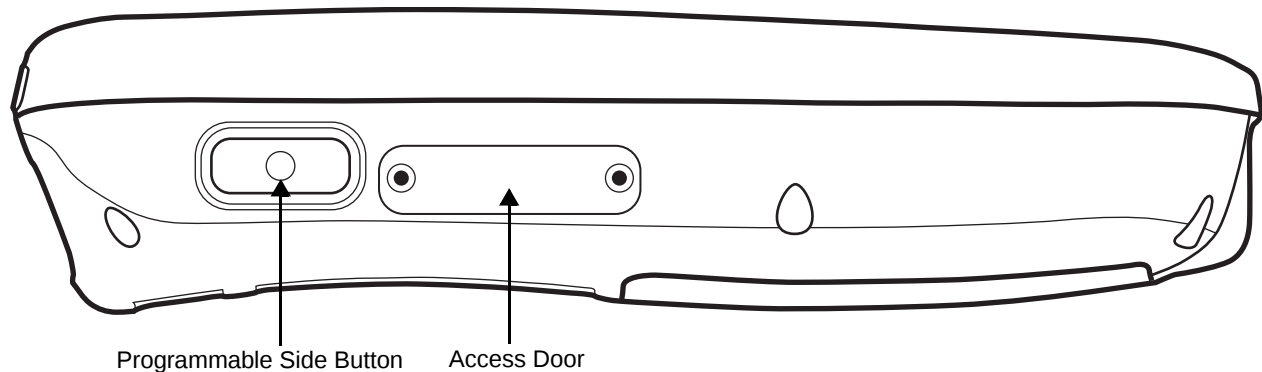
The Battery well is a recessed area on the back of the Dolphin terminal that holds the Li-Ion battery pack. For more information, see [Battery Power](#) on page 3-10.

Stylus and Fastener

The stylus is used to operate the touch screen. The back panel features this storage slot to hold the stylus when not in use. There is also a fastener on the back panel to which you can attach stylus tethers. A stylus tether is a coiled elastic cord with one end to attach to the stylus and another to attach fasten to the back panel.

Side Panel Features

The following graphic shows the left, side panel:

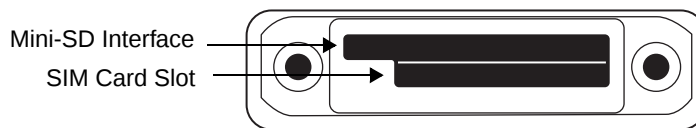


Programmable Side Button

Programmable buttons are located on both side panels. By default, these buttons activate the image/scan engine as a more ergonomic alternative to pressing the SCAN key on the keyboard. These buttons can be programmed to perform specific functions in the Buttons setting. For details, see [Buttons](#) on page 7-3.

Access Door

When the access door is open, the mini-SD memory interface and SIM card slot are available. The following graphic displays both slots as they appear when the Dolphin terminal is placed flat with the keyboard facing down.



Mini-SD Interface

You can install a mini-SD card to expand the capacity of the terminal's storage memory. 256 MB cards are currently available from Hand Held Products. (The mini-SD memory interface does not support SDIO.)

SIM Card

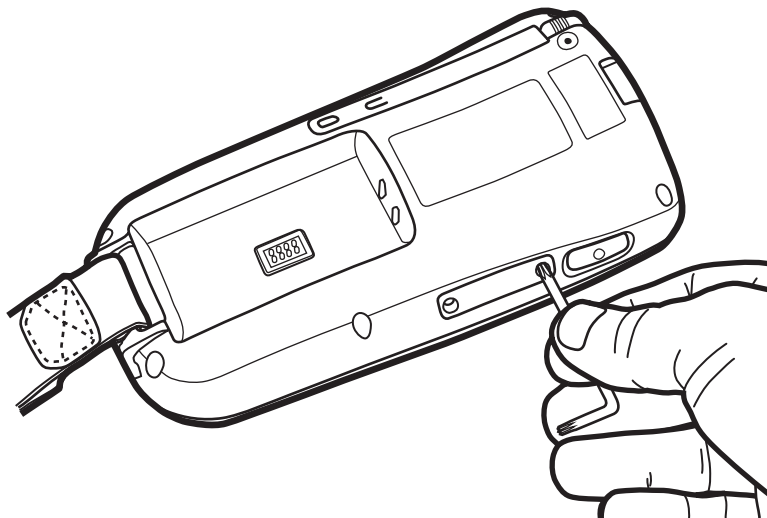
SIM cards are used with a GSM/GPRS radio.

Opening the Access Door

Note: Access door removal **requires** a special tool from Hand Held Products, part number 100001024.

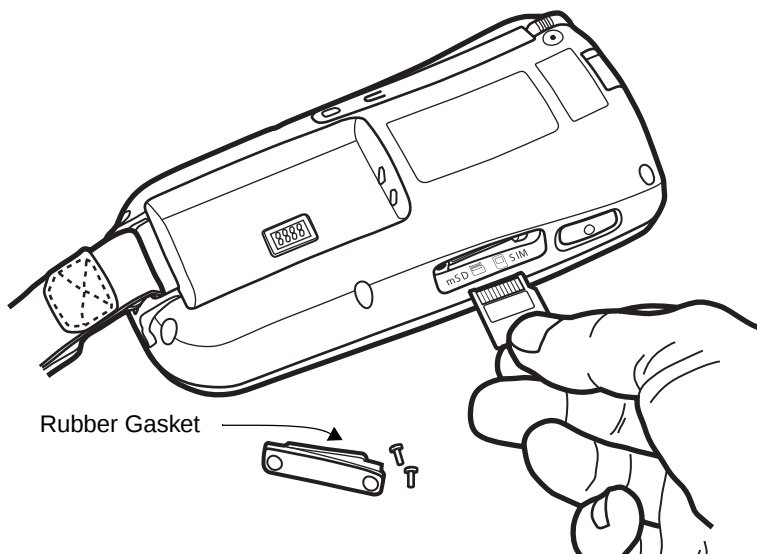
1. Press Blue + Backlight key to put the terminal in suspend mode; see [Suspend Mode](#) on page 2-9.
2. Remove the battery; see page 2-5.
3. Place the terminal on a flat, secure surface with the keyboard face-down.

-
- Using the special tool from Hand Held Products, unscrew both screws.

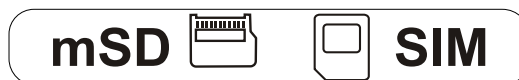


Installing a Mini-SD Card

- When the access door is open, slide the mini-SD card into the appropriate slot until it clicks into place.



- The bottom panel inside the opening displays the following guide to help you insert the mini-SD card correctly:



To remove an installed mini-SD card, tap on the edge lightly to unlock the card; the card will pop out just enough for you to grab its edge and pull it out.

- Replace the access door and tighten the screws.
There is a rubber gasket on the inside of access door that **must** be in place when you seal the door. This gasket performs the sealing action for the door.

Installing a SIM Card

*Note: The SIM card **must** be activated by the service provider prior to installation.*

1. When the access door is open, slide the SIM card into the appropriate slot. The guide on the bottom panel inside the opening illustrates the correct position; see page [3-7](#).
2. Replace the access door and tighten the screws.
There is a rubber gasket on the inside of access door that **must** be in place when you seal the door. This gasket performs the sealing action for the door.
3. Power on the terminal.



Do NOT power on the device with the SIM card installed and the access door still open. You must secure the access door before you can resume terminal operation.

4. Tap **Start > Programs > uPhone > Dialler**. If the SIM card is not installed properly, the uPhone Dialler indicates that no SIM card is installed.

For more information about SIM cards and the GSM/GPRS radio, see [SIM Card](#) on page [11-2](#).

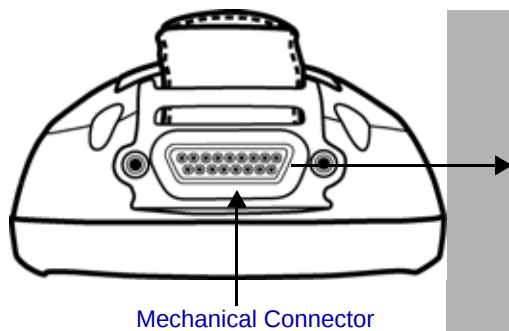
Replacing the Access Door

The access door must be replaced before resuming terminal operation. Replace the door and use the special tool from Hand Held Products (part number 100001024) to tighten the screws.



When closed, the access door seals the memory interface from moisture and particle intrusion thus preserving the terminal's environmental rating. The access door must be properly sealed before resuming terminal operation. Failure to seal the access door will void the warranty.

Bottom Panel Features



Note: Signals referenced are for a DTE device.

Mechanical Connector

The bottom panel features a custom, industrial-grade connector with 17 pins. When seated in a Dolphin 7900 Series peripheral, the terminal is powered, the main battery charged, and communication occurs via this connector. All Dolphin 7900 Series peripherals are designed to work exclusively with this connector.

The 17-pin connector communicates with Dolphin peripherals via RS-232 or USB. For RS-232, the maximum communication speed is 115 Kbps with seven baud rate settings. For USB, the communication speed is up to 12 Mbps. If the peripheral unit is connected to a PC, this connector also transmits data.

Powering Out

The mechanical connector also provides power out 5V at 500mA. This means that, with the proper Hand Held Products cable, the terminal can power another device.

By default, power out is disabled. To enable power out, alter the registry as follows:

```
[HKEY_LOCAL_MACHINE\Drivers\BuiltIn\Serial4]
```

```
Conn5Venable=1
```

Battery Power

The Dolphin 7900 features intelligent battery technology with two types of battery power:

- The main battery pack installed in the back panel
- The backup battery located inside the terminal

Both batteries work together to prevent data loss when the terminal is used over long periods of time. Both batteries must also be charged to full capacity before using the Dolphin 7900 for the first time.

Main Battery Pack



Use only the Li-ion battery packs provided by Hand Held Products. The use of any battery pack not sold/manufactured by Hand Held Products in a Dolphin terminal will void your warranty and may result in damage to the Dolphin terminal or battery.

The 7.4V, 14.8 watt hour Li-Ion battery pack is the primary power source for the Dolphin. The Li-Ion battery is designed to operate in a temperature range of -10 to 50° C (14 to 122° F). For the location of the Li-Ion battery on the terminal, see [Battery](#) on page 3-5.

Charging Options

When the Li-ion battery is installed in the terminal:

- Place the terminal in a HomeBase (page 13-5), Mobile Base (page 14-7), ChargeBase (page 15-3), or Net Base that is connected to an appropriate power supply.
- Connect a charging/communication cable to the mechanical connector, plug the cable into the AC adapter, and plug the adapter cable into a power outlet.
- Connect the terminal to the Mobile Charger and vehicle power port.

When the Li-ion battery is not installed in the terminal:

- Place the battery pack in the Dolphin QuadCharger - see [Charging Batteries in the QuadCharger](#) on page 16-3.
- Place the battery pack in the auxiliary battery well of the HomeBase - see page 13-5.

Charging Time

The Li-ion battery pack requires four hours to charge to full capacity.

Internal Backup Battery

Located inside the terminal, the backup battery is a 3.6 Volt nickel metal hydride (NiMH) battery.

Purpose

The internal backup battery prevents the terminal from being reset if you need to remove and replace the main battery pack. It retains RAM data and allows the real-time clock to remain operational for up to 30 minutes when the main battery pack is removed. If the terminal is left without the main battery pack for more than 30 minutes, the internal backup battery needs to be recharged to function according to its specifications.

Note: Data and programs stored in Flash memory are not lost even if the internal backup battery fails. However, you must reset the real-time clock; see [Setting the Time and Date](#) on page 2-7.

Charging

The internal backup battery is powered by the main battery pack. Therefore, charging the internal backup battery requires that the main battery pack be installed in the terminal and the terminal be connected to a charging device.

The internal backup battery must be fully charged before using the terminal for the first time. The initial charge cycle takes approximately eight hours. After that, if the internal backup battery becomes fully discharged of power, it requires a minimum of 10 hours of charging time to function normally.

Guidelines

Follow these guidelines to maximize the life of the Dolphin's internal backup battery:

- Keep a charged Li-Ion battery pack in the Dolphin terminal. The internal battery prematurely discharges if there is not at least a partially charged battery in the terminal.
- Keep the Dolphin terminal connected to power when the terminal is not in use.

Managing Battery Power

Data and files saved on the Dolphin terminal may be stored in RAM; therefore, maintain a continuous power supply to the terminal to help prevent data loss. Letting the backup battery become fully discharged causes the terminal to lose all data in RAM. The internal battery discharges prematurely if there is not at least a partially charged battery in the terminal. When you remove a battery pack, insert another charged battery pack in the Dolphin.

If the main battery is low and the terminal is in suspend mode, pressing the SCAN key will not wake the Dolphin terminal; you must replace the discharged battery with a fully charged battery.

Default Low and Critical Battery Points

The navigation bar at the top of the screen displays battery warning icons when the main battery reaches a low and critical battery points. For details about these warning icons, see [Status Icons](#) on page 4-9. If the navigation bar does not contain a warning icon, then the battery is adequately charged.

The Dolphin terminal ships with default low and critical battery points already programmed in the registry. The registry contains two DWORD settings in the **[HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Power]** entry:

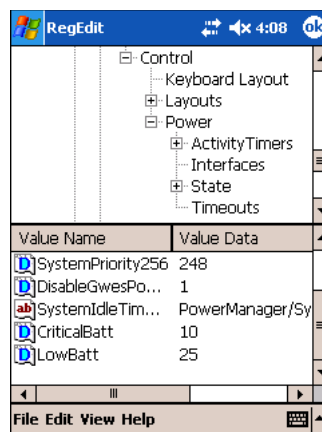
- “LowBatt”=19 (25%)** This sets the Low battery point to 25 percent (19 hex=25 decimal). The low battery setting is the point at which the user is notified that the battery is low. The user is notified only once for a low battery.
- “CriticalBatt”=a (10%)** This sets the Critical Battery point to 10 percent (a hex=10 decimal). The critical battery setting is the point at which the customer is warned that the battery charge is very low. This warning is posted every 3 minutes until the situation is corrected.

Note: Warnings do not appear when the terminal is on external power.

Setting Critical and Low Battery Points

Developers can re-reset the default battery points in the RegEdit Power Tool.

1. Tap **Start > Power Tools > RegEdit**.
2. Drill-down to **HKEY_LOCAL_MACHINE > System > CurrentControlSet > Control > Power**.
The Battery Points appear in the list.

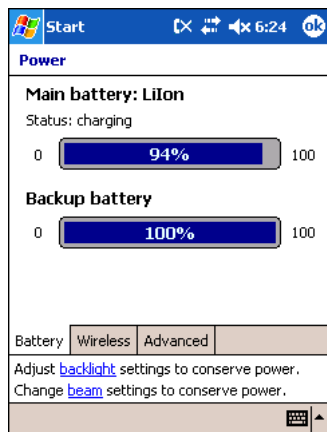


3. Tap the **Value Name** to change the Value Data. You can reset the Value Data from 0 (no warning) to 99 (would nearly always warn).
4. Tap **OK** to save changes.

For more information about the RegEdit Power Tool, refer to the Dolphin Power Tools User's Guide available for download at www.handheld.com.

Checking Battery Power

Tap **Start** > **Settings** > **System** tab > **Power**. The Battery tab opens displaying the charge status of both the installed Li-ion battery pack and the NiMH backup battery inside the terminal.



For more information, see [Power](#) on page 7-10.

Storing Batteries

To maintain optimal battery performance, follow these storage guidelines:

- Avoid storing batteries outside the specified range of -4 to 104° F (-20 to 40°C) or in extremely high humidity.
- For prolonged storage, do not keep batteries stored in a charger that is connected to a power source.

Guidelines for Battery Use and Disposal

The following are general guidelines for the safe use and disposal of batteries:

- Use only the battery supplied, recommended, or approved by Hand Held Products.
- Replace defective batteries immediately; using a defective battery could damage the Dolphin terminal.
- Never throw a used battery in the trash. It contains heavy metals and should be recycled according to local guidelines.
- Don't short-circuit a battery or throw it into a fire. It can explode and cause severe personal injury.
- Excessive discharge damages a battery. Recharge the battery when your terminal indicates low battery power.
- Although your battery can be recharged many times, it will eventually be depleted. Replace it after the battery is unable to hold an adequate charge.
- If you are not sure the battery or charger is working properly, please send it to Hand Held Products or an authorized Hand Held Products service center for inspection.

Maintenance

When needed, clean the image engine window and the LCD display with a clean, non-abrasive, lint-free cloth. The terminal can be cleaned with a damp cloth.

Dolphin 7900 Technical Specifications

System Architecture	
Processor:	Intel X-Scale PXA255 400MHz
Software Development Kits:	- Dolphin SDK Add-on for Windows Mobile 2003 Second Edition (Supports Embedded Visual C++ 4.0) - Dolphin .NET SDK for Windows Mobile 2003 Second Edition (Supports Visual Studio.NET 2003 (VB.NET and C#.NET)) - Dolphin GSM/GPRS SDK Add-on for Pocket PC 2003 (Supports Embedded Visual C++ 4.0 and Visual Studio.NET 2003)
Operating Platform:	Windows Mobile 2003 Second Edition Software for Pocket PCs
Third-Party Software:	Support for Connect Terminal Emulation software (TNVT, 3270, 5250) and Java Virtual Machine (JVM) runtime, ITScriptNet Batch and Omni, MCL, and App Forge
Memory:	64MB RAM x 64MB non-volatile synchronous Flash standard; 128MB RAM high memory optional
Data Inputs	
Imager/Scanner:	See Image Engine Options on page 5-1.
1D Symbolologies:	See 1D Symbolologies on page 5-2.
2D Symbolologies:	See 2D Symbolologies on page 5-2.
Composite Codes	See Composite Codes on page 5-2.
OCR Fonts:	See OCR Codes on page 5-2.
Three Keyboard Options:	Two backlit keyboard options: 25-key numeric alpha, 36-key alpha numeric See Using the Keyboards on page 6-1.
Data Outputs	
Display:	See Touch Screen Display on page 3-3.
I/O Ports:	Industrial-grade mechanical connector supports communications (USB 1.1, serial RS-232 up to 115Kbps) and charging via cradles or AC adapter cables, Integrated IrDA port, Integrated Speaker, Integrated Microphone, Integrated Headset jack
Mass Storage:	User-accessible Mini Secure Digital (Mini-SD) memory interface
Wireless Radio Options	
WWAN:	GSM/GPRS: MC-45: 900/1800/1900 MHz in Europe, Middle East, Asia, and Australia. MC-46: 850/1800/1900 MHz in the U.S., Canada, and Latin America. MC-75: 850/900/1800/1900 MHz in the U.S., Canada, Latin America, Europe, Middle East, Asia, and Australia.
WLAN:	IEEE 802.11b DSSS Authentication Methodologies: LEAP, MD5, TLS, TTLS, PEAP, and WEP
WPAN:	Bluetooth radio (Class 2)
Physical	
Dimensions:	7.3"L x 3.5"W x 1.7"D max (185 x 89 x 43 mm), 3.2"W x 1.5"D at grip (81 x 38 mm)
Weight:	Batch: 17 oz. (482 gm) WLAN: 17.3 oz. (490 gm) WPAN: 17.1 oz. (484 gm), WLAN/WPAN: 18.9 oz. (536 gm)

Dolphin 7900 Technical Specifications

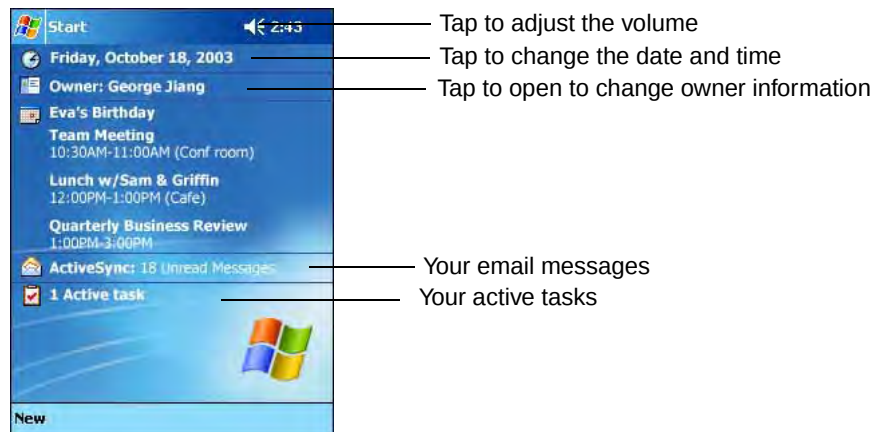
Operating Temperature:	14 to 122°F (-10°C to 55°C) The terminal can operate in temperatures lower than -20°C with potential degradation in performance depending on the application.
Storage Temperature:	-22 to 176°F (-30°C to 80°C)
Humidity:	95% humidity, non-condensing
ESD:	15 KVA on all surfaces
Impact Resistance:	Withstands multiple 5ft (1.5m) drops onto concrete
Environmental Resistance:	Independently certified to meet IP64 standards for moisture and particle resistance
Power:	Lithium-Ion battery technology, 7.4V, 14.8 watt-hour main battery with hot-swappable design for fast replacement in the field
Other:	Integrated stylus with optional tether and adjustable, removable hand strap
Peripherals/Accessories	
Dolphin HomeBase	Charging/communications cradle with auxiliary battery well. Data transfer via RS-232 serial or USB ports.
Dolphin Mobile Base	Mobile charging/communication cradle. Data transfer via RS-232 serial. Power out 5 volts for peripheral devices.
Dolphin QuadCharger	Four-slot battery charger that charges four batteries in under four hours. One slot doubles as a battery analyzer.
Dolphin Mobile Charger	Charges a Dolphin terminal by plugging into a vehicle cigarette lighter/power port.
Dolphin Net Base	Four-slot charging/communication cradle designed for Ethernet-based communications.
Dolphin ChargeBase	Four-slot charging cradle that holds, powers, and charges a terminal in each slot.
Dolphin Cable Kits	USB or serial cables that charge and communicate with the terminal directly, without a cradle.
Li-Ion Battery Pack	7.4V, 14.8 watt hour Li-ion rechargeable main battery for the Dolphin.
Regulatory Approvals	
FCC-CE-Radio Country:	US/Canada, R&TTE

Overview

This chapter provides the basic instructions you need to operate the Dolphin 7900 terminal.

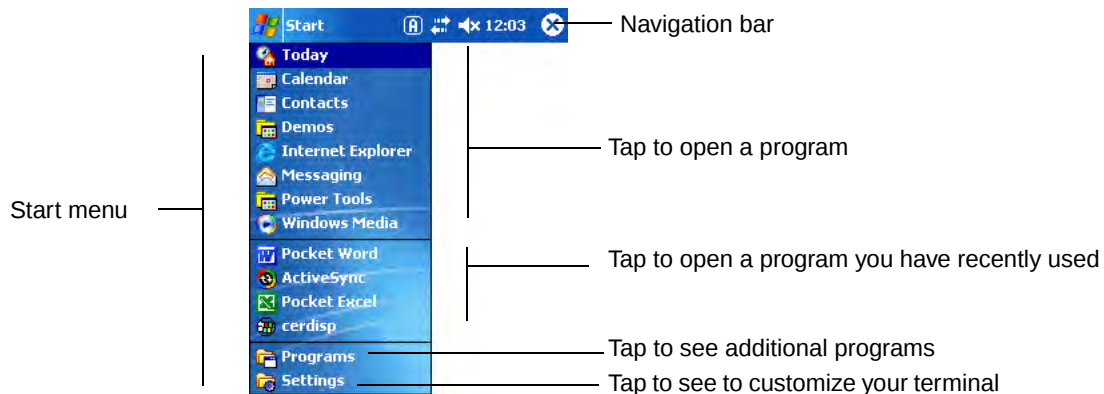
Today Screen

When the terminal powers on for the first time, you see the Today screen. You can also display it by tapping **Start** and then **Today**. On the Today screen, you can see at a glance important information for the day.



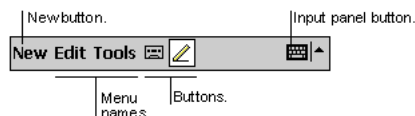
Navigation Bar and Start Menu

The navigation bar is located at the top of the screen and displays the active program and current time, and allows you to switch to programs and close screens.



Command Bar

Use the Command bar at the bottom of the screen to perform tasks in programs. The Command bar includes menu names, buttons, and the Input Panel button.



Using the Touch Screen

Hand Held Products recommends using screen protectors to protect the touch screen; especially when used with applications that require high-volume interfacing with the touch screen. Screen protectors help prevent damage to the touch screen display and are easily installed. Screen protectors can be purchased at any major computer retail store or directly from Hand Held Products; contact Hand Held Products directly for part numbers and pricing.



For touch screen input, use the included stylus or your finger. The method you choose depends on which one is appropriate for your application. While there is a great deal of variation in different applications, for buttons or icons that are close together, you generally achieve greater accuracy with the stylus. Use of other objects, such as paper clips, pencils, or ink pens can damage the input panel and will void the warranty.

Selecting Programs

To see additional programs loaded on your terminal, tap **Start > Programs**. The Programs screen displays the programs that are not listed on the Start menu. To open a program, tap once on the icon.

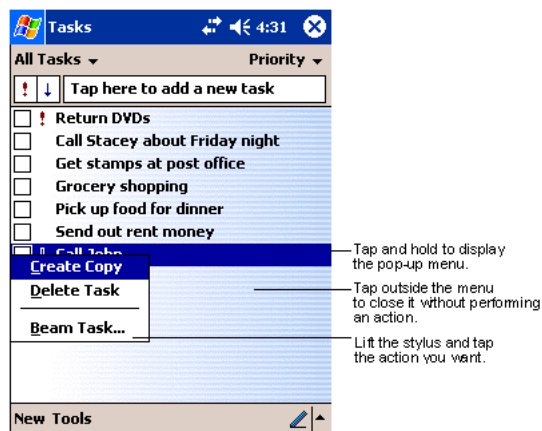


Some programs have abbreviated labels underneath the icon. To see the full spelling of an abbreviated label, tap and hold the stylus on the label. Drag the stylus off the label so that the command is not carried out.

Pop-Up Menus

With pop-up menus, you can quickly choose an action for an item. For example, you can use the pop-up menu in the contact list to quickly delete a contact, make a copy of a contact, or send an e-mail message to a contact. The actions in the pop-up menus vary from program to program.

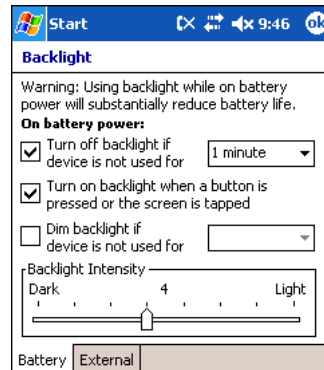
1. Tap and hold the stylus on the item name. The pop-up menu appears.
2. Lift the stylus, and tap the action you want to perform.



Note: To close the menu without performing an action, tap the screen anywhere outside the menu.

Adjusting the Backlight

The backlight for the color display is user-defined. There are two tabs - one for Battery and the other for External power. The options on each tab are the same. Go to **Start > Settings > System tab > Backlight**. Backlight settings open displaying the Battery tab.



There are two tabs: **Battery** and **External**; the options on each tab are the same. The Battery tab determines display backlight settings when the terminal is running on battery power. The External tab determines display backlight settings when the terminal is powered by an external source, such as a Hand Held Products cable.

Field	Description
Turn off backlight	Select how many minutes you want to elapse before the backlight automatically turns off.
Turn on backlight	Select this option if you want the backlight to turn on when the a button is pressed or the touch screen is tapped.
Dim backlight if	Select how many minutes you want to elapse before the backlight dims.
Backlight Intensity	Move the slider to set the intensity of the backlight.
OK	Tap OK to save settings. The display backlight functions according to the settings saved on each tab.

Communication Options

Mechanical Connector

The 17-pin, industrial-grade, mechanical connector on the bottom panel is designed to work only with communication and charging peripherals sold/manufactured by Hand Held Products. For more information about the connector, see [Mechanical Connector](#) on page 3-9.

IrDA Port

The IrDA port enables the Dolphin 7900 to transmit data via pulses of light to and from other IrDA-compliant devices, such as printers and PCs or to other Dolphin terminals. For more information, see [Using Infrared](#) on page 8-5.

Wireless Radios

For more information, see [Radio Options](#) on page 4-5.

Software Communication Programs

Microsoft ActiveSync v3.7 or Higher

Microsoft ActiveSync is a tool that enables mobile computing devices, such as the Dolphin 7900, to exchange and synchronize application data with a desktop computer. For more information, see [Using ActiveSync](#) on page 8-2.

RAS

Short for Remote Access Services, RAS is a feature built into Windows NT that enables users to log into an NT-based LAN using a modem, X.25 connection or WAN link. RAS is fully supported and allows the use of PPP or SLIP connections for network connectivity.

Radio Options

Dolphin 7900 terminals can be configured with a combination of the following radios:

- 802.11b - [Wireless LAN \(WLAN\) Communications with 802.11b](#) (see page 9-1)
- Bluetooth - [Wireless PAN \(WPAN\) Communications with Bluetooth](#) (see page 10-1)
- GSM/GPRS - [Wireless WAN \(WWAN\) Communications with GSM/GPRS](#) (see page 11-1)

Radio Combinations

Note: Configuration of simultaneous radio operation is done during the manufacturing process according to FCC regulations. All radios and radio drivers are integrated inside the terminal.

802.11b and GSM radios cannot be enabled at the same time. Bluetooth radios can be enabled and operating with either the 802.11b or GSM radio or both.

Radio Driver Installation

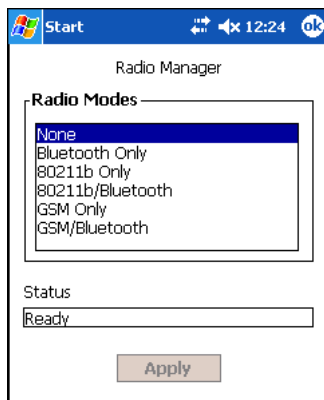
Radio drivers install during the autoinstall process after a hard reset (see [Let Autoinstall Run](#) on page -7). Only the appropriate drivers for the terminal's radio configuration install.

Radio Manager

The Radio Manager allows you to enable and disable radios installed in the terminal after initial bootup. If the Dolphin terminal is configured with an 802.11b radio, the Radio Manager defaults to the 802.11b radio after initial bootup. However, if the Dolphin terminal is configured with a GSM radio, the Radio Manager defaults to the GSM radio after the initial bootup.

Accessing the Radio Manager

Tap **Start > Settings > Connections** tab > **Radio Manager**. The Radio Manager appears identifying which radio drivers are installed. The highlighted entry is the radio mode that is currently enabled; its Status should be Ready.



Radio Modes

The Radio Modes section lists the radio drivers currently installed on the terminal.

Status field

The Status field displays the status of the radio driver selected in the Radio Modes box.

Ready - The selected radio is enabled.

Success - The selected radio has been successfully enabled.

Error message - The radio cannot be enabled. You cannot successfully enable the radio if the radio's driver is not installed. An error will appear telling you that the radio driver is not installed.

Enabling Radios and Radio Combinations

Note: To successfully enable a radio, both the hardware module and the software driver must be installed on the terminal.

If multiple radios are installed in your terminal, you must enable the radio combination and not each individual radio. To enable a radio or radio combination, select the radio in the Radio Modes list and tap **Apply**.

The radio drivers are enabled and disabled (if necessary) in the proper sequence. For example, if the radio enabled is Bluetooth Only and you try to switch to 802.11b Only, after **Apply** is tapped, the Radio Manager disables the Bluetooth radio first, then enables the 802.11b radio.

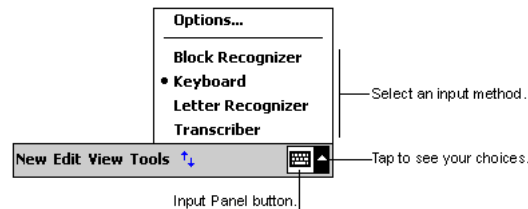
Disabling Radios

To disable all radios, select **None** and tap **Apply**.

Using the Soft Input Panel (SIP)

Use the SIP to enter information in any program on the Dolphin terminal. You can either type on the soft keyboard or write on the touch screen using Letter Recognizer or Block Recognizer. In either case, the characters appear as typed text on the screen.

To show or hide the SIP, tap the **Input Panel** button. Tap the arrow next to the Input Panel button to see your choices.

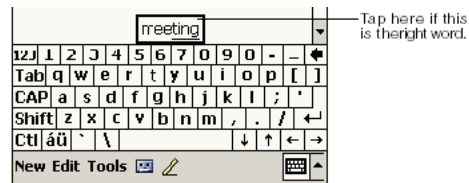


When you use the SIP, your terminal anticipates the word you are typing or writing and displays it above the input panel. When you tap the displayed word, it is inserted into your text at the insertion point. The more you use your Dolphin terminal, the more words it learns to anticipate.

To change word suggestion options, such as the number of words suggested at one time, tap **Start > Settings > Personal** tab > **Input > Word Completion** tab.

Using the SIP Keyboard

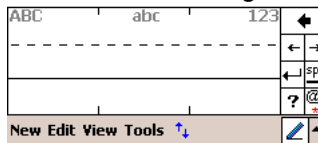
Tap the arrow next to the Input Panel button and select **Keyboard**. On the soft keyboard that displays, tap the keys with your stylus.



Using the Letter Recognizer

With Letter Recognizer you can write letters using the stylus just as you would on paper.

Tap the arrow next to the Input Panel button and then **Letter Recognizer** and write a letter in the box.

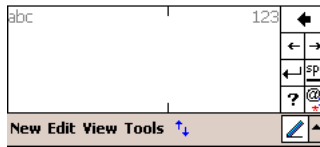


When you write a letter, it is converted to typed text that appears on the screen.

Using the Block Recognizer

With Block Recognizer you can input character strokes using the stylus.

Tap the arrow next to the Input Panel button and then **Block Recognizer** and write a letter in the box.



When you write a letter, it is converted to typed text that appears on the screen.

Selecting Text

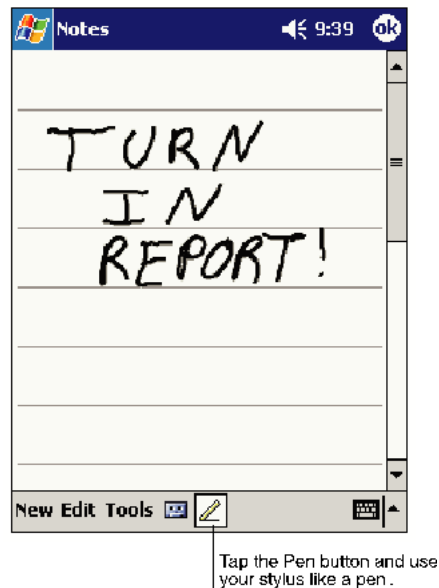
To edit or format typed text, select it by dragging the stylus across the text. Then, use the commands on the pop-up menu to cut, copy, and paste the selected text.

Input Panel Options

You can set input options by going to **Start > Settings > Personal tab > Input**. The following graphics are the tab windows where you can customize the input panel to your preferences:

Writing on the Screen

You can use your stylus to write directly on the screen as you would on paper. To write on the screen, tap the **Pen** button to switch to writing mode. This action displays lines on the screen to help you write.



Note: Some programs that accept writing may not have the Pen button. See the documentation for that program to find out how to switch to writing mode.

To Select Writing

If you want to edit or format writing, you must select it first.

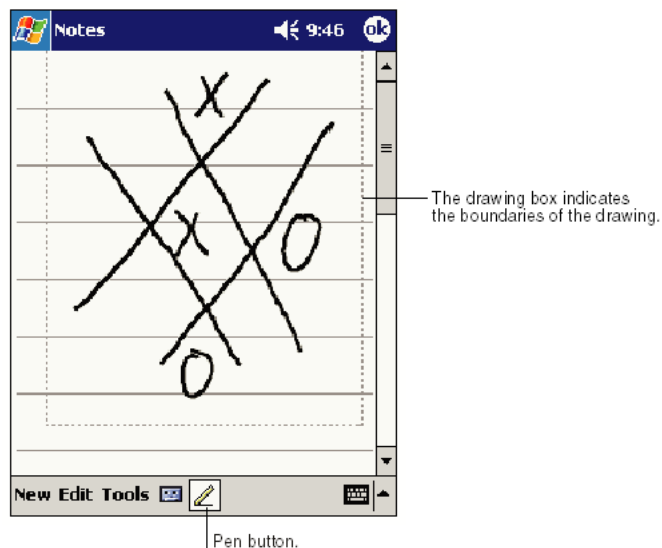
1. Tap and hold the stylus next to the text you want to select until the insertion point appears.
2. Without lifting, drag the stylus across the text you want to select.

If you accidentally write on the screen, tap **Tools**, then **Undo** and try again. You can also select text by tapping the **Pen** button to deselect it and then dragging the stylus across the screen. You can cut, copy, and paste written text in the same way you work with typed text: tap and hold the selected words and then tap an editing command on the pop-up menu, or tap the command on the **Edit** menu.

Drawing on the Screen

Drawing on the screen is similar to writing on the screen. The difference between writing and drawing on the screen is how you select items and how they can be edited. To create a drawing, cross three ruled lines on your first stroke. A drawing box appears. Subsequent strokes in or touching the drawing box become part of the drawing. Drawings that do not cross three ruled lines will be treated as writing.

For example, selected drawings can be resized, while writing cannot.



Status Icons

Status Icon	Meaning
	Opens the sound and volume drop-down that turn the sound on and off and adjust the volume
	Backup battery is low
	Main batteries are charging
	Main batteries are low
	Main batteries are very low
	Main batteries are full
	Synchronization is beginning or ending
	Notification that one or more e-mail messages were received

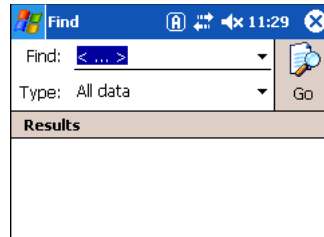
Note: The Notification icon  displays if more notification icons need to be displayed than there is room to display them. Tap the icon to view all notification icons that cannot be displayed.

Notifications

Notifications remind you when you have something to do. For example, if you've set up an appointment in Calendar, a task with a due date in Tasks, or an alarm in Clock, you'll be notified by a message box appearing on the screen or a sound is played. To choose reminder types and sounds, tap **Start > Settings > Personal tab > Sounds & Notifications; Personal Tab**, page 7-2.

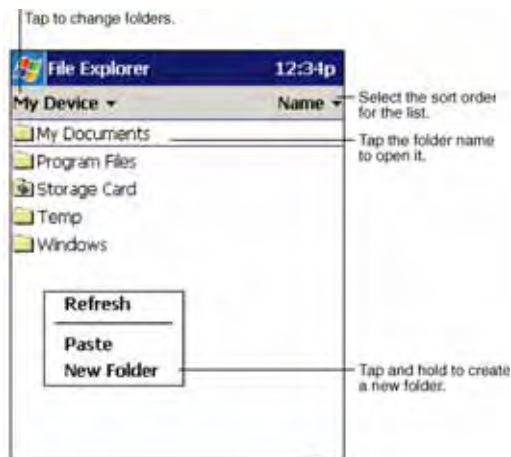
Using Find

The Find feature helps you quickly locate information. Tap **Start > Programs > Find**. Enter the text you want to find, select a data type, and then tap **Go** to start the search.



Using File Explorer

You can also use the File Explorer to find files and organize these files into folders. Tap **Start > Programs > File Explorer**.



You can move files in File Explorer by tapping and holding the item you want to move, and then tapping **Cut** or **Copy** and **Paste** on the pop-up menu.

Overview

The Dolphin 7900 terminal houses a compact image engine that instantly reads all popular 1D and 2D bar codes and supports omni-directional aiming and decoding for greater flexibility in real-world settings. The image engine can also capture digital images, such as signatures and pictures of damaged inventory. Images are saved in industry-standard file formats.

Image Engine Options

Dolphin 7900 terminals may be equipped with one of the following image engines.

5300 Standard Range (5300SR)

Code	8 mil Linear	10 mil PDF417	13 mil UPC	15 mil QR	15 mil Data Matrix	35 mil MaxiCode
Working Range	(.020 cm)	(.025 cm)	(.033 cm)	(.038 cm)	(.038 cm)	(.089 cm)
Near	3.4 in. (8.6 cm)	3 in. (7.6 cm)	2 in. (5.1cm)	3 in. (7.6 cm)	2.2 in. (5.6 cm)	1.9 in. (4.8 cm)
Far	7.5 in. (19 cm)	8.9 in. (22.6 cm)	13.1 in. (33.3 cm)	8.7 in. (22 cm)	10.1 in. (25.6 cm)	12.9 in. (32.7 cm)

The 5300SR image engine contains a high-visibility aimer that projects aiming brackets around the bar code or image preview for maximum viewability. For details, see [Omni-Directional Scanning](#) on page 5-4.

Bar Code Symbolologies Supported

The Dolphin 7900 supports the following bar code symbolologies:

Symbology Type	Symbology Name
1D Symbolologies	Codabar Code 3 of 9 Code 11 Code 32 Pharmaceutical (PARAF) Code 93 Code 128 EAN with Add-On EAN with Extended Coupon Code EAN-13 Interleaved 2 or 5 Matrix 2 of 5 Plessey PosiCode RSS Straight 2 of 5 IATA Straight 2 of 5 Industrial Telepen Trioptic Code UCC/EAN-128 UPC and UPC-A
2D Symbolologies	Aztec Code 16K Composite Data Matrix MaxiCode OCR PDF417 QR Code RSS
Composite Codes	Aztec Mesa Codablock F EAN-UCC RSS-14
OCR Codes	OCR-A OCR-B
Postal Codes	Postnet and most international 4 state codes Australian Post British Post Canadian Post China Post Japanese Post KIX (Netherlands) Post Korea Post Planet Code

Activating the Engine

The Dolphin 7900 terminal offers the following options to activate the engine:

- The SCAN key located in the center of both keyboards for easy access from either hand; see [SCAN key](#) on page 3-2.
- The buttons located on each side panel; see [Side Panel Features](#) on page 3-6.

Programmable Side Buttons

By default, the buttons on each side panel activate the imager; for exact location, see [Side Panel Features](#) on page 3-6.

These buttons can be programmed to perform specific functions as well as open software applications; see [Buttons](#) on page 7-3.

Demos

Dolphin terminals contain demo programs that operate the image engine.

To access demos, tap **Start > Demos >**

- **> Scan Demo** to verify decoding; see [Decoding](#) on page 5-3.
- **> Image Demo** to verify imaging; see [Capturing Images](#) on page 5-5.

Use the Scan and Image Demos to test and verify image engine performance.

Decoding

The Dolphin terminal supports two types of image decoding for use in various bar code reading and imaging applications: full-area imaging and Advanced Linear Decoding (ALD).

Full-area Imaging

Full-area imaging provides omni-directional reading of linear and non-linear 1D and 2D bar codes, OCR, signature capture, and picture taking. When reading all bar code types using full-area imaging, a positive read can be obtained from many positions; see [Omni-Directional Scanning](#) on page 5-4. To achieve the best read, the aiming beam should be centered horizontally across the bar code.

ALD

ALD provides fast reading of linear and stacked linear bar codes. To achieve a positive read when reading linear 1D and PDF417 bar codes, the green aiming beam should be centered horizontally across the bar code. When ALD is enabled, the reader does not read matrix or postal codes.

To Decode a Bar Code

1. Tap **Start > Demos > Scan Demo**.
2. Position the Dolphin 7900 terminal over the bar code. A range of 4-10 inches (10-25 cm) from the bar code is recommended.
3. Project the aiming pattern by pressing and holding the SCAN key or one of the side buttons; [Programmable Side Buttons](#) (see page 5-3). The Scan LED lights.
4. Center the aiming pattern over the bar code. For optimal decoding, make sure the aiming beam is in line with the bar code.
5. Release the SCAN key or side button.
6. When the bar code is successfully decoded, the decode LED lights and the terminal beeps; [Decode LED](#) (see page 3-2).

Sample Bar Codes

Use the following bar codes to verify decoding. Each bar code displays a text message on the screen when scanned.

Sample 128 Bar Code



Text message: Code 128

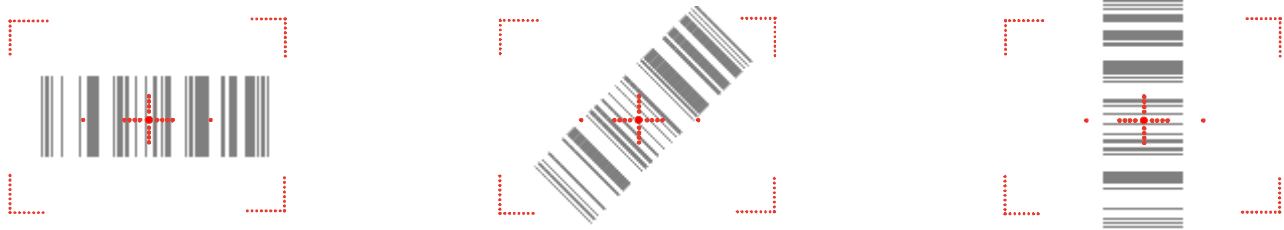
Sample PDF417 Bar Code



Text message: PDF417 Test Message

Omni-Directional Scanning

Dolphin terminals support omni-directional scanning. The red high-vis aiming pattern frames the bar code to provide you with the best scanning performance.



The aiming pattern is smaller when the terminal is held closer to the bar code and larger when farther from the bar code. Symbolologies with smaller bars or elements (mil size) should be read closer to the terminal whereas larger bars or elements (mil size) should be read farther from the terminal.

Capturing Images

The image-capture process is an intuitive, split-second operation for experienced users. By following the basic guidelines, new users can easily develop their own technique and, with practice, quickly learn to adapt it to different application environments.

Image Preview

When the imaging process is initiated, the Dolphin 7900 touch screen displays a preview of the object. This is a live video image of what the imager is currently viewing and has a slightly degraded appearance compared to the captured image. This is normal.

File Formats

The terminal is capable of saving images in a number of industry-standard file formats such as *.bmp, *.jpg and *.png. The default file format for images is a grayscale *.jpg. To obtain the highest quality images, take grayscale images.

File Size

Digital images have a maximum image size of 640 x 480 pixels and may have up to a 256 grayscale image definition. The image quality and related file size are determined by the data compression method used by the software application used to take images. The average size of the image file is approximately 4-8K. However, the size of the image depends on the content of the image - the more complex the content, the larger the file size.

Taking an Image

1. Tap **Start > Demos > Image Demo**.
2. Point the Dolphin 7900 terminal at the object.
3. Activate the engine. The touch screen displays a preview of the object.
4. Adjust the terminal's position until the object appears on the screen the way you want it to appear in the image.
5. Hold the terminal still and release the SCAN key or side button. The touch screen flashes, and the captured image appears on the screen.



6. By default, the image is saved to the My Device folder (Start > Programs > File Explorer > My Device). To save the image to another location, tap **File > Save As**.

High-Vis Aiming Pattern

You can enable the red, high-vis aiming pattern for imaging in the Image Demo application.

Tap **Start > Demos > Imaging Demo > Options** menu > **Aimer**. The aiming pattern is now enabled for imaging.

Uploading Images

Image files can be transmitted to a host PC via

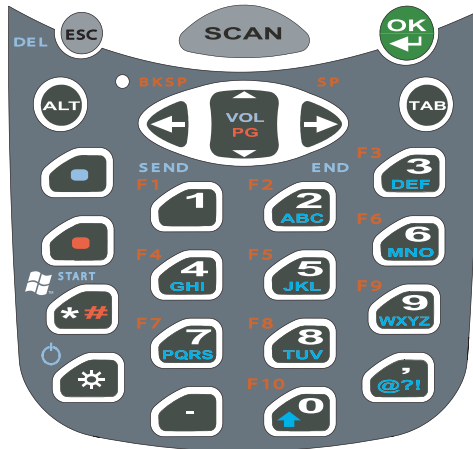
- Microsoft ActiveSync and a Dolphin communication peripheral, or
- Over your wireless radio network.

Using the Keyboards

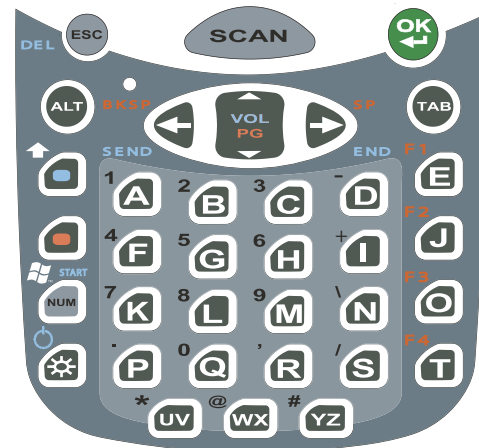
Overview

The Dolphin 7900 Series features two keyboard options:

25-key Numeric Keyboard



36-key Alpha Keyboard



Both keyboards are recessed under the overlay for maximum durability and backlit for maximum visibility in various lighting conditions. Keyboard overlays are color-coded to indicate the functions performed or characters typed when the color-coded key is pressed immediately after the Red or Blue Modifier key.

In addition to the standard number and letter keys, both keyboards contain three types of keys:

1. Function Keys
2. Navigation Keys
3. Modifier Keys

Using the Function Keys

Function keys are those keys that perform specific functions and usually have the name of the function they perform.

Name	Key	Function
Backlight		The Backlight key turns the keyboard backlight on and off.
Backspace (BKSP)		The Backspace function is performed by pressing the Red modifier key + the left arrow. Backspace moves the cursor back one space and deletes each time the key combination is pressed. If you are typing text, a character is deleted each time you backspace.
Delete (DEL)		The delete function is performed by tapping the Blue + ESC keys. This function deletes the next character forward each time the key combination is pressed.
Escape		The Escape key performs a cancel action.
OK		The OK key functions as an Enter key.
Power		The suspend/resume function is performed by pressing the Blue + Backlight keys. Pressing this key combination puts the terminal in suspend mode and wakes it from suspend mode.
SCAN		The SCAN key activates the scan and wakes the terminals from suspend mode. Its position allows convenient one-handed image-taking and/or bar code decoding.
Space (SP)		The Space function is performed by pressing the Red modifier key + right arrow. The Space key moves the cursor one space forward. If you are typing text, it moves the text one space forward as well.
Tab		The Tab key moves the cursor to the next tab stop or the next field (on a form). Blue + Tab acts as a backtab that allows you to move back one field.

Using the Navigation Keys

Located in the center of each keyboard for easy access with either hand, the navigation keys enable you to navigate the cursor through an application screen.



Press	To ...
	Move the cursor up one row or line.
	Move the cursor down one row or line.

Press	To ...
	Move the cursor one character to the right.
	Move the cursor one character to the left.

The up and down arrows can be used for

- Volume up and down commands when pressed in combination with the blue modifier key, or
- Page up and page down commands when pressed in combination with the red modifier key.

Other functionality varies according to the application in use.

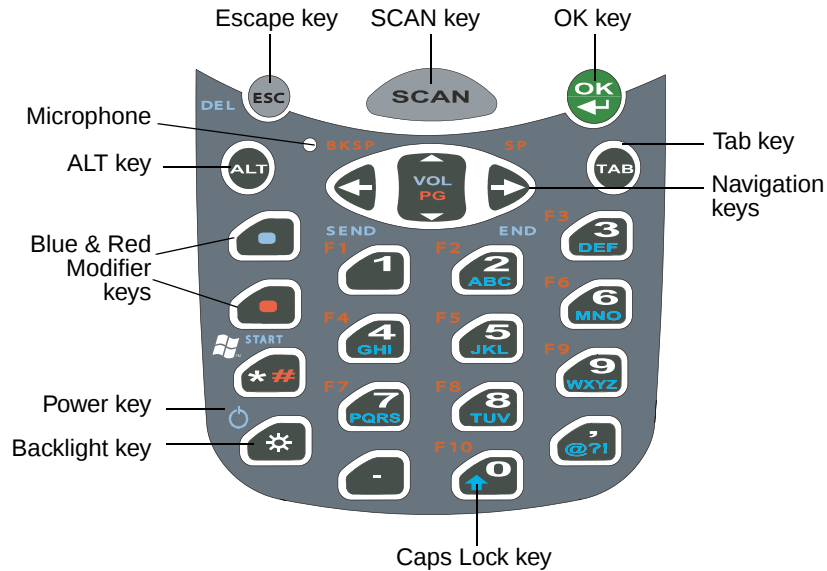
Using the Modifier Keys

Modifier keys are those keys that modify the next key pressed. They are used on combination with the keys that follow to perform functions or type special characters. In addition to the standard ALT key, the Dolphin 7900 terminal has Blue and Red modifier keys and a color-coded overlay.

Name	Key	Function
ALT		The functions performed by the ALT key depends on the software application in use and the key combination pressed.
Blue Red	 	The blue and red keys are used in combination with other keys to type special characters and perform system functions. Each key modifies only the next key pressed. The overlay of each keyboard is color-coded to indicate the character typed or function performed when specific keys are pressed immediately after the blue or red modifier key.

25-Key Numeric Keyboard

The following graphic displays the 25-key numeric keyboard.



Alpha Mode

The 25-key keyboard defaults to numeric mode. Numeric mode is when you type numbers with the number keys. Alpha mode is when you type letters or characters with the number keys.

To toggle between numeric and alpha modes, double-tap the Blue modifier key. There are alpha indicators on the number buttons that specify the letters or characters that will be typed when you press that key in alpha mode.

Please note that when typing in alpha mode, you must use the same multi-press method you would use when typing letters on a phone keypad. Each key press will type the next letter in the sequence as displayed by the alpha indicator.

You can still use the Blue modifier key for regular Blue key combinations; just press and hold Blue modifier key with the next key in the combination. For details, see [Blue Key Combinations](#) on page 6-8.



Caps Lock Key in Alpha Mode

After you double-tap the Blue modifier key to switch the alpha mode and begin typing, letters appear in upper case by default. To toggle between upper and lower cases in alpha mode, tap the Caps Lock key once.

Blue Key Combinations

Alpha Mode - Double-tap the Blue modifier key

Key	Character (lower case)	Character (upper case)	
1	_ = / \	_ = / \	
2	abc	ABC	
3	def	DEF	
4	ghi	GHI	
5	jkl	JKL	
6	mno	MNO	
7	pqrs	PQRS	
8	tuv	TUV	
9	wxyz	WXYZ	
*	*	*	
.	: ; - +	: ; - +	
,	@ ? !	@ ? !	

Functions - Press the Blue key once in combination with the next key.

Key Combination	Function
Blue + Backlight	Suspend/Resume
Blue + *	Start menu
Blue + Left Arrow	Send
Blue + Tab	Backtab
Blue + Right Arrow	End
Blue + Up Arrow	Volume up
Blue + Down Arrow	Volume down

Red Key Combinations

Key Combination	Function/Special Character
Red + Left Arrow	Backspace
Red + Right Arrow	Space
Red + Up Arrow	Page up
Red + Down Arrow	Page Down
Red + ESC (hold)	Soft reset (warm boot)
Red + TAB (hold)	Hard reset (cold boot)
Red + 1	F1
Red + 2	F2
Red + 3	F3
Red + 4	F4
Red + 5	F5

Key Combination	Function/Special Character
Red + 6	F6
Red + 7	F7
Red + 8	F8
Red + 9	F9
Red + 0	F10
Red + *	#

36-Key Alpha Keyboard

The following graphic displays the 36-key alpha keyboard.



NUM Lock Key

The 36-key keyboard defaults to alpha mode. Alpha mode is when you type letters with the letter keys. Numeric mode is when you type numbers or characters with the letter keys.

To toggle between alpha and numeric modes, tap the NUM key once. There are numeric indicators above and to the left of the alpha keys that specify the number or character that will be typed when that key is pressed in numeric mode.



Caps Lock Functionality

In alpha mode, the 36-key keyboard defaults to upper case. To toggle between upper and lower case, tap the Blue modifier key twice. You can still use the Blue modifier key for regular blue key combinations; just press and hold the Blue modifier key with the next key in the combination.

Blue Key Combinations

Key Combination	Function
Blue + Backlight	Power
Blue + Left Arrow	Send
Blue + Right Arrow	End
Blue + Up Arrow	Volume up
Blue + Down Arrow	Volume down

Red Key Combinations

Key Combination	Function
Red + Left Arrow	Backspace
Red + Right Arrow	Space
Red + ESC (hold)	Soft reset (warm boot)
Red + TAB (hold)	Hard reset (cold boot)
Red + E	F1
Red + J	F2
Red + O	F3
Red + T	F4

NUM Key Combinations

Pressing the Num key **once** switches the keyboard to numeric mode.

Key	Character
A	1
B	2
C	3
D	-
F	4
G	5
H	6
I	+
K	7
L	8
M	9
N	\
P	.
Q	0
R	,
S	/
UV	*

Key	Character
WX	@
YZ	#

Note: You do NOT need to press and hold the NUM key when pressing the next key.

Numeric Shift in Numeric Mode

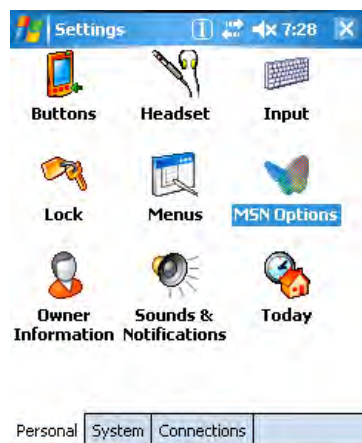
When typing in numeric mode, tapping the Blue modifier key acts like a Shift key that enables you to type special characters in addition to those indicated on the overlay.

Key	Character
A	!
B	@
C	#
F	\$
G	%
H	^
K	&
L	*
M	(
P	>
Q	)
R	<

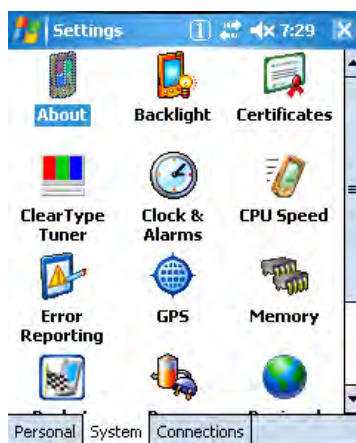
Overview

Customized settings are available on the Start menu. Go to **Start > Settings** and settings screen opens displaying the Personal tab. Settings consists of three tabs: Personal, System, and Connections.

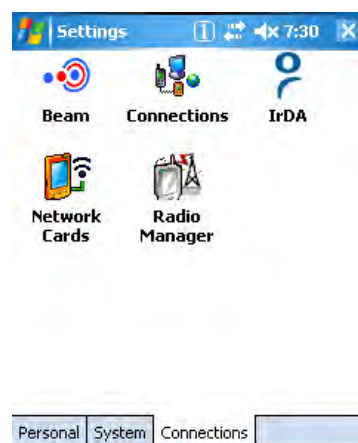
Personal Tab



System Tab



Connections Tab



Tab

Personal

System

Connections

Description

Customizes buttons, set SIP options, and adjust headset settings; see [Personal Tab](#) on page 7-2.

Adjusts system settings; see [System Tab](#) on page 7-7.

Establishes network connections settings; see [Connections Tab](#) on page 7-14.

Personal Tab

To access the Personal tab, go to **Start > Settings**. The screen opens displaying the Personal tab.



Icon	Description
Buttons	Program the side buttons to perform specific tasks. For more information, see Buttons on page 7-3.
Headset	Adjust audio settings for headset use; see Headset Control on page 7-4.
Input	Customizes the SIP. For details, see Input Panel Options on page 4-7.
Lock	Password protect the terminal to limit access to your device.
Menus	Customizes what appears on the Start and New menus; see Menus - Adding a Program to the Start Menu on page 7-5.
MSN Options	Sets MSN Options.
Owner Information	Enter your contact information. This information will appear on the Today screen.
Sounds & Notifications	Set the sound volume, enable and disable sounds for specific actions, and set sound parameters for system notifications.
Today	Customize the look and the information that is displayed on the Today screen.

Note: Personal settings are stored in RAM memory. They are replaced by system defaults after each hard reset. For more information about resets, see [Soft Reset \(Warm Boot\)](#) on page 2-9..

Buttons

Buttons programs both keyboard buttons and the side buttons to launch applications or execute commands. The default button assignments that appear on the Buttons window are inactive until you enable the HotKeys Power Tool.

To Enable HotKeys



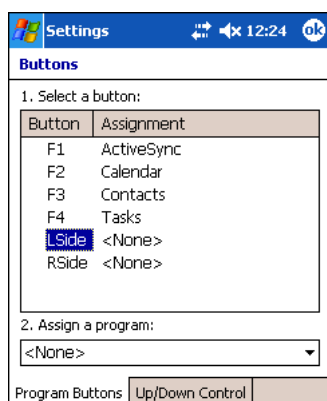
1. Tap **Start > Power Tools** and tap the HotKeys icon **once** HotKeys. HotKeys is enabled and the button assignments in the Buttons setting are active.
2. Verify the assignment by tapping the button on the keyboard.

For more information about the HotKeys Power Tool, refer to the Dolphin Power Tools User's Guide, which is available for download from the web at www.handheld.com.

Button Assignments

By default, the side buttons (for locations, see page 3-6) activate the image engine but can be programmed to launch applications or execute commands in the Buttons setting.

1. After HotKeys is enabled, tap **Start > Settings > Personal tab > Buttons**.



Note: The buttons that appear on this window are the only buttons that can be programmed via the Buttons setting. You cannot add buttons to this window.

2. To change button assignment, tap on the name of the application in the **Assignment** column and select a program or command in the **Assign a program** drop down list.
3. Tap **OK** to save.

Available Applications

The **Assign a program** list contains the applications installed on the terminal. If there is a program installed that you would like to see in this list, paste a Shortcut to the program in the **\\Windows\\Start Menu\\Programs** folder. For instructions about creating shortcuts, see [Using File Explorer](#) on page 7-5..

Additional Functions

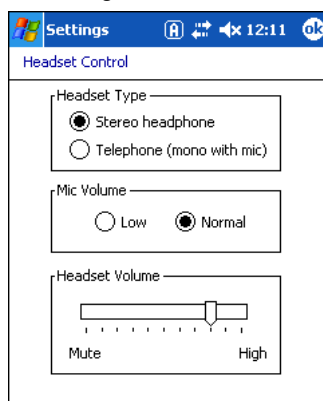
The **Assign a program** list also contains the following commands:

Command	Description
<Input Panel>	Opens the soft input panel.

Command	Description
<None>	Nothing happens when the button is pressed. This is the default setting for the LSide and RSide buttons and means that pressing either button activates the image engine.
<OK/Close>	Performs the same function as tapping OK on the screen.
<Scroll Down>	Scrolls down in the open application.
<Scroll Left>	Scrolls left in the open application.
<Scroll Right>	Scrolls right in the open application.
<Scroll Up>	Scrolls up in the open application.
<Start Menu>	Opens the Start menu.
<Today>	Opens the Today screen.

Headset Control

The Headset Control setting adjusts headset audio settings.



Stereo headphone

Select this option if you are using a headset for audio output only. If so, you need to use the microphone on the terminal ([Microphone](#), page 3-3) for audio input; i.e., listen via the headset and speak into the microphone. These types of headsets usually contain two earpieces for stereo sound. Tap **OK** to save your selection.

Telephone (mono with mic)

Select this option if you are using a headset that also contains a microphone. When this option is selected, you speak into the microphone on the headset and not the microphone on the terminal. These types of headsets usually have one earpiece for mono audio. Tap **OK** to save your selection.

Mic Volume

These options enable you to adjust the audio level of the microphone; Normal is the default setting. These settings apply to the selected Headset Type:

Stereo headphone Adjusts the volume on the terminal's microphone ([Microphone](#), page 3-3).
Telephone (mono with mic) Adjusts the volume on the headset's microphone.

Tap **OK** to save your selection. This setting does **not** work if you are using a GSM radio for two-way voice communication; see [Audio Modes](#) on page 11-2.

Headset Volume

The slider enables you to adjust the speaker volume (audio output) of the headset. Move the slider from Mute to High depending on your preference. The volume adjusts automatically as you move the slider. These headset volume settings apply to both Headset Types.

Menus - Adding a Program to the Start Menu

You can add existing programs you use often, such as File Explorer, to the Start menu for faster access. You are not installing the program, just allowing access to it from the Start menu.

Note: The Start menu can hold only seven applications total.

Using System Settings

1. Tap **Start > Settings > Personal tab > Menus > Start Menu** tab.



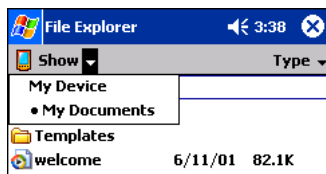
2. Tap the check box for the program you want to add and tap **OK** to save.
3. Tap the **Start** menu to verify that the program appears on it.

Using File Explorer

If you do not see the program listed, you can either use File Explorer to move the program or ActiveSync on the desktop computer to create a shortcut to the program and place the shortcut in the Start Menu folder.

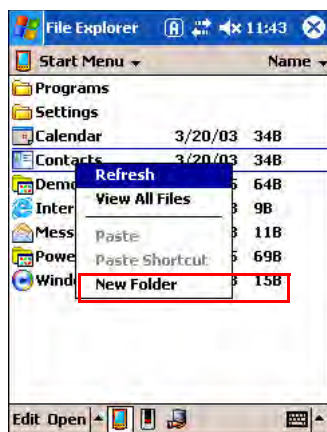
Note: We recommend that you Copy and Paste Shortcut so that you do not alter your program configurations by accident. Using Copy and Paste Shortcut (as opposed to Cut and Paste) ensures that the program files remain where they need to be for the system to find them to perform system functions.

1. Tap **Start > Programs > File Explorer**, and navigate to the program.
File Explorer opens to My Documents by default; to see a list of all folders, tap the folder name and then **My Device**.



2. Tap and hold on the program, then tap **Copy** on the pop-up menu.

-
3. Navigate to the Windows folder and open the Start Menu (My Device > Windows > Start Menu), tap and hold a blank area of the window, and tap **Paste Shortcut** on the pop-up menu.



4. Tap the **Start** menu to verify that the program now appears on it.

Using ActiveSync on the Desktop Computer

Here, you are performing the same basic process as on the terminal, except that you are using the Explore utility (Windows Explorer) to copy and paste the shortcut.

1. Open **ActiveSync > Explore** and navigate to the program.
2. Right-click on the program and select **Create Shortcut**.
3. Select the shortcut, right-click, and select **Cut**.
4. Navigate to the **Start Menu** folder (Windows > Start Menu).
5. Right-click on an empty area and select **Paste Shortcut**.
6. On the terminal, tap the **Start** menu.
7. Verify that program appears.

System Tab

The System tab enables you to verify and sometimes alter system parameters. To access the System tab, go to **Start > Settings > System** tab. Tap the appropriate icon to open that system setting.



About

The About system setting displays specific information about what is loaded on the terminal. It contains three tabs:

- | | |
|-----------------------|--|
| Version tab | Displays the information about the software, operating system, and processor of the terminal. |
| Device ID tab | Displays the information the terminal uses to identify itself to other devices. It can be important to know this information if the Dolphin terminal is going to be part of a networked system of devices. |
| | Device name: Displays the system's default name. This is the name used by ActiveSync. |
| | Description: Displays the description of the device ID. |
| Copyrights tab | Displays important copyright information. |

Backlight

The Backlight system setting enables you to customize backlight functionality for the display. For more information, see [Adjusting the Backlight](#) on page 4-3.

Certificates

This system setting is designed to manage certificates for 802.11b networks. However, on Dolphin terminals, you manage certificates through Meetinghouse; see [Wireless LAN \(WLAN\) Communications with 802.11b](#) on page 9-1.

ClearType Tuner

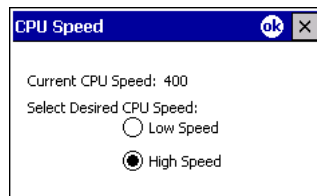
This system setting enables you to adjust the level ClearType font rendering by moving a slider. The sample text displays the setting results immediately. Of course, you must first enable ClearType font rendering to change the appearance of fonts on the screen; see [ClearType Tab](#) on page 7-13.

Clock & Alarms

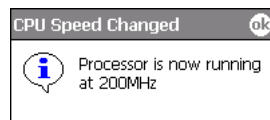
This setting sets the system clock. Appointments, scheduled events, and any function on a schedule runs off this setting. You need to set the time zone and time after each hard reset; see [Setting the Time and Date](#) on page 2-7.

CPU Speed

This system setting enables you to see and change the current speed of the Central Processing Unit (CPU).



The default is **High Speed** at 400MHz. **Low Speed** is 200MHz. To change the default, select Low Speed and tap **OK**. A message appears confirming the new CPU speed.



Tap **OK** to save the change.

Error Reporting

This setting enables and disables error reporting.

GPS

This setting establishes GPS functionality.

Memory

The Memory system setting displays capacity and usage statistics for both RAM (volatile) and IPSM/Storage Card (non-volatile) memory. Access this setting whenever you receive system messages about memory.

There are three tabs: Main, Storage Card, and Running Programs.

Main Tab This tab displays the usage statistics of the 64MB of on-board, volatile RAM memory.

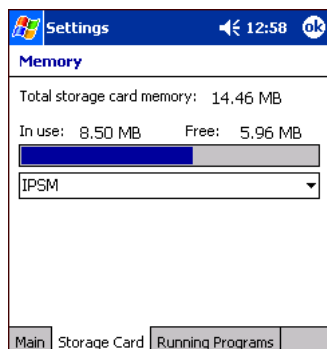
Storage	Program
Total: 31.41 MB	Total: 89.17 MB
In use: 10.17 MB	In use: 15.32 MB
Free: 21.24 MB	Free: 73.85 MB

Main	Storage Card	Running Programs
------	--------------	------------------

Field	Description
Storage	The RAM memory used for storing programs.
Program	The RAM memory used to run programs.
Fields Under Storage and Program	
Total	The total memory capacity.
In use	Displays the total MB of memory being used.
Free	Displays the total MB of memory available for use.

Storage Card Tab

This tab displays the current capacity and usage statistics of the selected memory type; IPSM or Storage Card. Select the memory type from the drop-down list. IPSM is selected by default.



Total storage card memory

The total MB of memory capacity of the selected memory.

In use

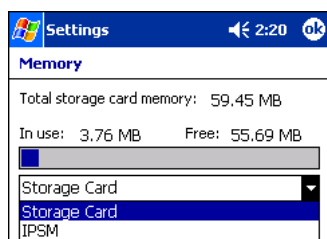
The MB currently being used.

Free

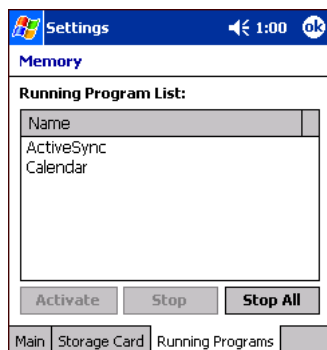
The MB that is still available for use.

IPSM—Short for Internal Persistent Storage Manager, this is 14MB of on-board Flash memory that is non-volatile. Because this memory is non-volatile, data or programs stored in IPSM are not affected when power is removed. Autoinstall programs, for example, are stored in IPSM so that they are always installed at cold-boot startup.

Storage Card—You can install one memory card in Dolphin terminals (see [Access Door](#) on page 3-6). If a storage card is installed in the terminal, you can select it in the drop-down list and see capacity and usage statistics for the card.



Running Programs Tab Displays the software programs currently using Storage memory.



Check this tab when you are receiving out of memory errors or when the mobile computer is running slowly. You can

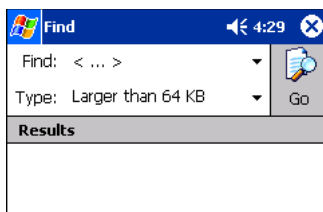
- Select a program in the list and tap **Stop** to stop it from running (and therefore from using memory), or
- Tap **Stop All** to automatically stop all running programs.



Anytime you stop a running program, it frees up RAM memory. Be advised that, when you stop a program here, any unsaved data in that program is lost. To free up memory without risking data loss, return to the running program, save your data, and close the application.

Find Link

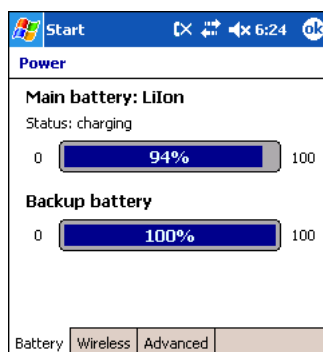
Underneath the three Memory tabs is a link to the Find window that enables you to search for large files using storage memory. Clicking this link opens the Find screen with **Larger than 64KB** already selected in the **Type** field.



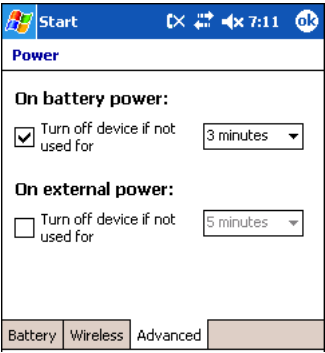
Enter the search criteria in the **Find** field and tap **Go** to perform the search.

Power

Power system settings contains three tabs: Battery, Wireless, and Advanced.



Tab	Description
Battery Tab	Checks the remaining charge of both the main and backup batteries. For more information about the terminal's batteries, see Battery Power on page 3-10.
Wireless Tab	Determines the power settings for your wireless connection. Select Wireless signals off... when you don't want to use system power to power up the radio(s). Select Wireless signals on when you want the radio to use system power to transmit. This is the default settings. The list contains the radio firmware installed in the terminal. The items in the list with a check in the checkbox are the items using system power.

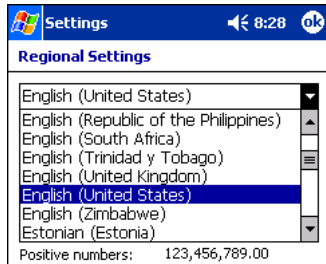
Tab	Description
Advanced Tab	Determines power time-outs.  For On battery power, select from the drop-down list, the number of minutes of inactivity you want to pass before the terminal powers off when running on battery power. For On external power, select from the drop-down list, the number of minutes of inactivity you want to pass before the terminal powers off when running on external power. Options below the tabs: Adjust backlight... opens the Backlight settings so that you can make adjustments to conserve power usage; see Backlight on page 7-7.. Change beam... opens beam settings so that you can make adjustments to conserve power usage; see Using Infrared on page 8-5.. (You would turn off receiving capabilities to conserve power.)

Note: You can also set automatic turn-off times for the terminal to conserve power. When the device is “turned off,” that means that it goes into suspend mode. For more information on suspend mode, see [Suspend Mode](#) on page 2-9.

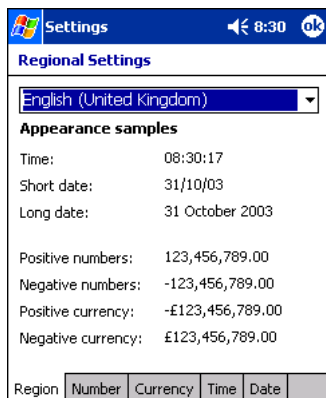
Regional Settings

Regional Settings enables you to customize the appearance and formatting to your geographic region. Specifically, you can customize numbers (i.e., number of decimal places allowed), currency (i.e., using the \$ or € symbol), time, and date. These specifications apply to all screens, including the Today screen. The Region tab displays an overview of the region selected in the drop-down list at the top.

The terminal is loaded with a number of pre-programmed regional settings. Select one from the list.



The results appear on the screen.



To see specific settings or change a specific setting, tap on one of the tabs, make the change and tap **OK** to save it.

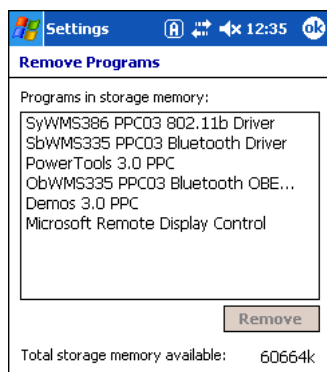
Remove Programs

The Remove Programs settings enables you to remove programs installed on the terminal. Use this setting to troubleshoot when you receive messages that the device is out of memory. The programs removed are removed from RAM memory. Any program (usually *.cab or *.dll files) stored in the Autoinstall folder (My Device > IPSM > Autoinstall) will re-install after the next hard reset.

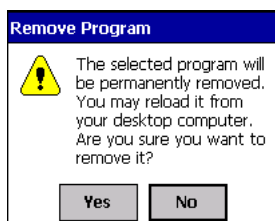
For information about the Autoinstall process, see [Let Autoinstall Run](#) on page 2-7.

For information about the hard reset process, see [Hard Reset \(Cold Boot\)](#) on page 2-9.

1. Tap **Remove Programs**. In the list, select the program you want to remove.



2. Tap **Remove**. The following message appears:



3. Tap **Yes**. Wait while the program is removed.
4. Verify that the program no longer appears in the list.

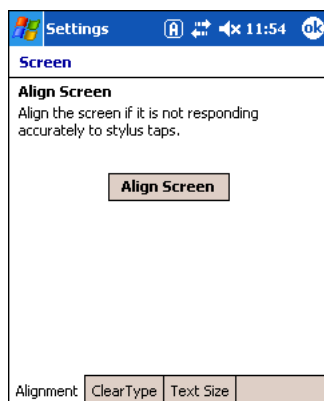
Screen

Note: By default, dynamic screen rotation (i.e., the ability to switch between landscape and portrait orientation) is disabled on Dolphin 7900 terminals.

The Screen system setting contains three tabs: Alignment, Clear Type, and Text Size.

Alignment tab

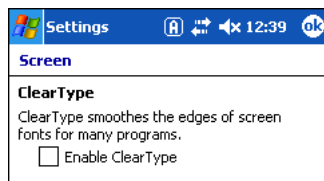
The Screen system setting opens to the Alignment tab.



On this tab, you can re-align the screen. Remember, you first align the screen at bootup. You would need to re-align the screen again if tapping buttons or icons with the stylus no longer seems to work appropriately. For more information, see [Align the Screen](#) on page 2-7..

ClearType Tab

The Dolphin 7900 displays support ClearType font rendering. ClearType is a Microsoft technology that dramatically increases the readability of text on LCD displays.



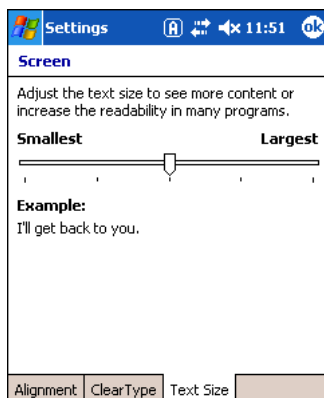
To enable ClearType font rendering, select **Enable ClearType** and tap **OK**.

To adjust the level of ClearType font rendering, use the ClearType Tuner; see [ClearType Tuner](#) on page 7-7.

For more information about ClearType font rendering, visit: www.microsoft.com/typography/cleartype/what.htm?fname=%20&fsize=

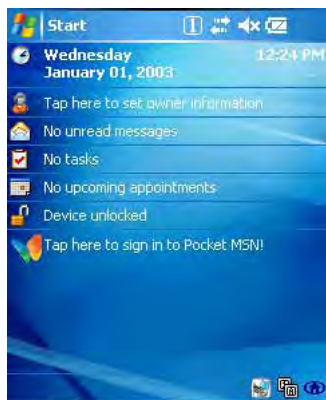
Text Size Tab

The Text Size tab enables you to perform font scaling within certain views of the Today screen, Contacts, Calendar, Messaging, and Tasks. This means that you can increase or decrease the point size of the font on application windows.

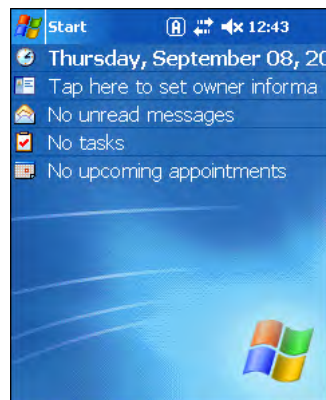


This is the default font size setting. To change the font size, move the slider toward Smallest or Largest. The Example text changes to reflect the font change. Tap **OK** to save the new font size setting.

Default Font Size

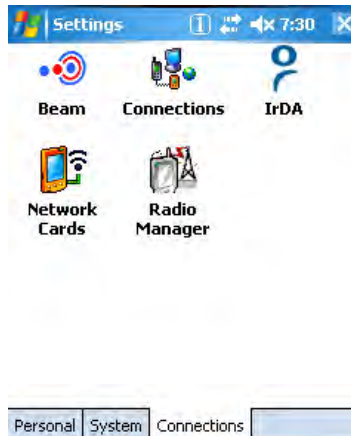


Largest Font Size



Connections Tab

The Connections tab enables you to manage your network connections.



Icon	Tapping this icon...
Beam	Enables you to verify and adjust the infrared settings of the IrDA port; see Using Infrared on page 8-5.
Connections	Enables you to configure network connections. This is the connections manager; see Connections Tab on page 7-14.
Network Cards	Enables you to access the Wireless and Network Adapters tabs; see Network Cards on page 7-23.
Radio Manager	Enables you to power up and power down the radios installed on the terminal; see Radio Manager on page 4-5.

Other Icons on the Connections Tab

Other icons appear on this window if your terminal is configured with specific network software, protocols, and/or radios.

802.11b Settings	This icon appears only if an 802.11b radio and driver is installed on the terminal. Tapping this icon enables you to configure your 802.11b radio; see Wireless LAN (WLAN) Communications with 802.11b on page 9-1.
IrDA	This icon appears only if a Bluetooth radio and driver is installed on the terminal. Tapping this icon enables you to disable or enable the IrDA port; see Verify That the IrDA Port is Enabled on page 8-5.
uPhone GPRS	This icon appears only if a GSM/GPRS radio and driver are installed on the terminal. Tapping this icon opens the GPRS settings; see GPRS Settings on page 11-18.

Server-Assigned IP Addresses

All server-assigned IP addresses use Dynamic Host Configuration Protocol (DHCP).

Zero-Config Wi-Fi

The zero-config Wi-Fi feature of Windows Mobile is **disabled** on Dolphin 7900 terminals.

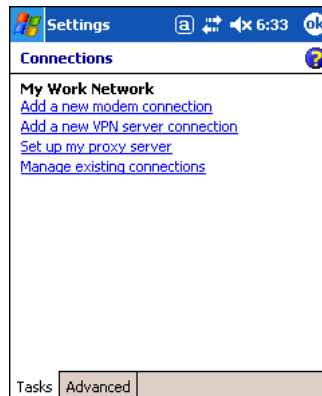
Com Port Assignment Table

The Dolphin 7900 terminal ships with the com ports assigned as follows:

Com Port	Assignment
1	Serial port; this is the 17-pin connector on the bottom panel. See Mechanical Connector on page 3-9.
2	Bluetooth Module If there is no Bluetooth hardware installed on the terminal, this com port is unassigned.
3	Raw Infrared
4	Unassigned
5	USB virtual serial port
6	IrDA, if IrDA is enabled. If IrDA is disabled, this com port becomes available. See Verify That the IrDA Port is Enabled on page 8-5.
7, 8, 9	Unassigned; these are virtual com ports that are available for selection only when connecting to devices that use virtual com ports, such as Bluetooth.

Opening the Connections Manager

To open the connections manager, tap **Connections**. The connection manager opens displaying the Tasks tab.



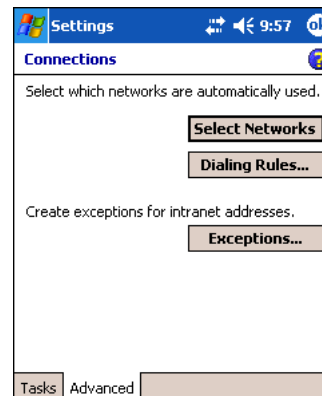
The connections manager consists of two tabs: Tasks and Advanced.

Task Tab

The Task tab enables you to configure and manage your My Work Network settings. Click on the link to setup or manage existing network accounts.

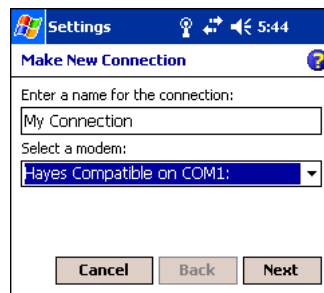
Advanced Tab

The Advanced tab enables you to configure and manage network parameters and network cards.

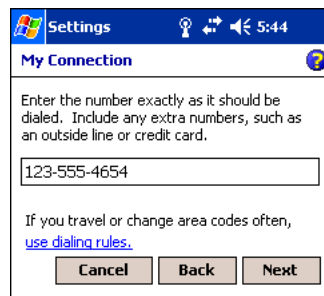


Creating an External Modem Connection to an ISP

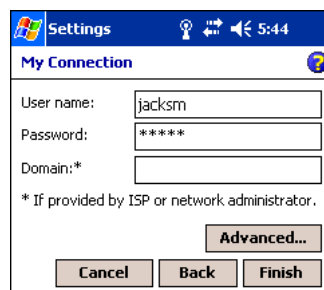
1. Obtain the following information from your ISP:
 - ISP dial-up access telephone number,
 - user name,
 - password, and
 - TCP/IP settings.
2. Use a NULL modem cable to connect to an external modem.
3. Tap **Start > Settings > Connections** tab > **Connections > Task** tab.
4. Tap **Add a new modem connection**. The Make New Connection screen appears.



5. Enter a name for the connection, such as "My Connection."
6. In the **Select a modem** list, select the external modem by selecting **Hayes Compatible on COM1**.
7. Tap **Next**. The My Connection screen appears.



8. Enter the number that should be dialed when connecting to your ISP. Include any special digits such as "*" or "#" (see [Establishing Dialing Rules](#) on page 7-22.). Tap **Next**.



9. Now enter any authentication information your ISP requests.
10. You should not need to change any settings in **Advanced** because most ISPs now use a dynamically-assigned addresses.
11. Tap **Finish**.

Advanced Settings

Tap the Advanced button to open the Advanced settings.

General Tab

Use the General tab to change the connection speed. Wait for dial tone, dial, then wait for credit card, add dial-string modem commands, or cancel call after a set number of seconds.

The screenshot shows the 'Advanced' settings window with the 'General' tab selected. The settings include: Baud rate set to 19200; 'Wait for dial tone before dialing' checked; 'Wait for credit card' set to 0 seconds; 'Extra dial-string modem commands' set to *gg; and 'Cancel if not connected in' set to 120 seconds. At the bottom, there are tabs for General, Port Settings, TCP/IP, and Servers.

Port Settings Tab

The Port Settings tab has options that should be left alone unless indicated otherwise by your ISP.

The screenshot shows the 'Advanced' settings window with the 'Port Settings' tab selected. Under 'Connection preferences', Data bits are 8, Parity is None, Stop bits are 1, and Flow control is Hardware. Under 'Terminal', the options 'Use terminal before connecting', 'Use terminal after connecting', and 'Enter dialing commands manually' are all unchecked. At the bottom, there are tabs for General, Port Settings, TCP/IP, and Servers.

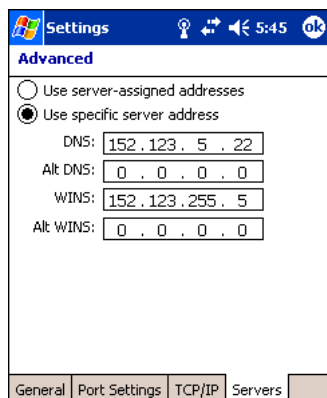
TCP/IP Tab

If your ISP does not use a dynamically-assigned address, enter that information into the TCP/IP tab.

The screenshot shows the 'Advanced' settings window with the 'TCP/IP' tab selected. The 'Use specific IP address' option is selected with a radio button. Below it, the IP address 152.2.33.2 is entered. The 'Use slip' option is unchecked, while 'Use software compression' and 'Use IP header compression' are checked. At the bottom, there are tabs for General, Port Settings, TCP/IP, and Servers.

Servers Tab

Finally, if your ISP requires special DNS or WINS information, enter it into the Servers tab.



Connecting to Your ISP

1. Tap **Start** > **Settings** > **Connections** tab > **Connections** to open the connections manager.
2. Tap **Manage existing connections**.



3. Tap and hold on the applicable dial-up settings and select **Connect**.
(You can delete the connection by selecting Delete.)
4. Your modem will dial-out and attempt to create the connection.

Creating an External Modem Connection to Your Work

Follow the instructions for [Connecting to Your ISP](#), but select **Add a new modem connection** under **My Work Network**.

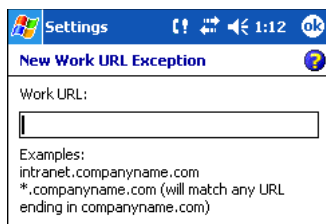
Establishing Exceptions for Work URLs

Some companies use periods in their intranet URLs (for example, intranet.companyname.com). If you attempt to connect to one of these URLs, Pocket Internet Explorer will search for the website on the Internet rather than the company's intranet.

To connect to such intranet URLs, they need to be entered as Work URL exceptions in the connections manager.

1. Go to **Start** > **Settings** > **Connections** tab > **Connections** > **Advanced** tab (see page 7-15).
2. Tap **Select Networks**.

3. Tap **Exceptions**. The Work URL Exceptions screen opens.

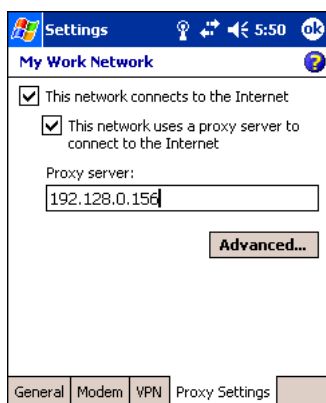


4. Enter the **Work URL** and tap **OK**.

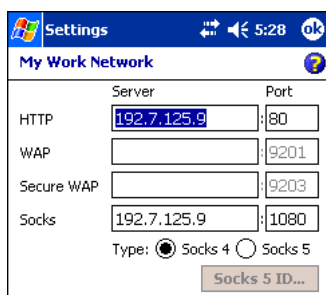
Setting up a Proxy Server Connection for Work Connections

If you are connected to your ISP or private network during synchronization, the terminal should download proper proxy settings during synchronization from your PC. If these settings are not on your PC or need to be changed, ask your ISP or network administrator for the proxy sever name, server type, port, type of Socks protocol used, and your user name and password.

1. Go to **Start > Settings > Connections** tab > **Connections**.
2. Under the My Work Network heading, tap **Set up my proxy server**.



3. Select **This network connects to the Internet** and **This network uses a proxy server...**
4. In the **Proxy server** field, enter the proxy server name.
 - Tap **Advanced** for advanced settings. This information can be provided only by your network administrator.



5. To change existing settings, under My Work Network, tap **Manage existing connections** and tap the **Proxy** tab.

Setting Up a VPN Connection for Work Connections

A VPN connection helps you securely connect to servers, such as a corporate network, via the Internet. Ask your network administrator for your user name, password, domain name, TCP/IP settings, and host name or IP address of the VPN server.

1. Go to **Start > Settings > Connections** tab > **Connections**.

2. Under the My Work Network heading, tap **Add a new VPN server connection**.

Settings 5:48

Make New Connection

Name: My VPN

Host name/ IP: corp.software.corp **complete**

VPN type: ☒ IPSec/L2TP ☐ PPTP

Cancel Back Next

3. Enter the requested information including VPN type and tap **Next**.

Settings 5:48

My VPN

Authenticate IPSec/L2TP connections using:

☒ A certificate on this device

☐ A pre-shared key

Cancel Back Next

4. Indicate whether a pre-installed certificate should be used or rather a pre-shared key and tap **Next**.

Settings 5:48

My VPN

User name: jacksm

Password: *****

Domain: *

* If provided by ISP or network administrator.

Advanced...

Cancel Back Finish

5. Enter your login details. If finished, tap **Finish** to complete VPN setup.
6. Otherwise, tap **Advanced** to access more options.
 - Enter **TCP/IP** settings in the TCP/IP tab; server-assigned IP addresses use DHCP.

Settings 5:49

Advanced

☒ Use server-assigned IP address

☐ Use specific IP address

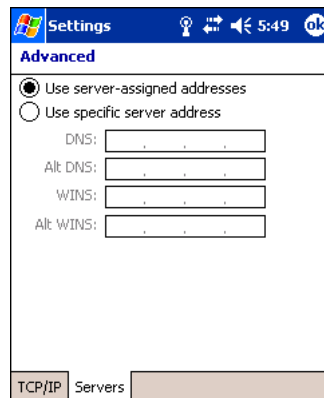
☐ Use slip

☒ Use software compression

☐ Use IP header compression

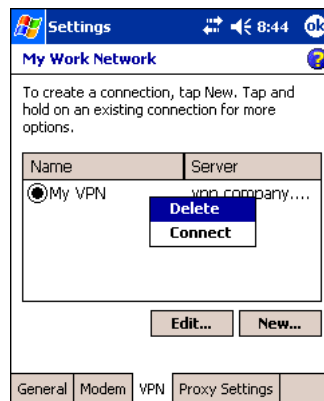
TCP/IP Servers

- Enter Server DNS/WINS information in the **Servers** tab.

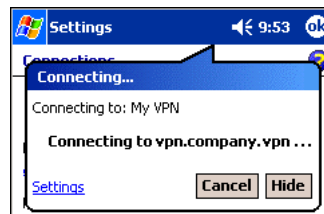


Connecting to a VPN Server

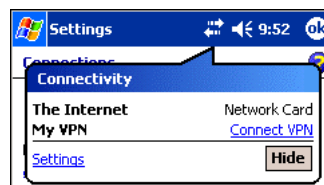
1. Go to **Start > Settings > Connections** tab > **Connections**.
2. Select **Edit my VPN servers**.



3. Tap and hold on the server, then select **Connect** on the popup menu.
(Note that through this screen you can delete your VPN server connection.)

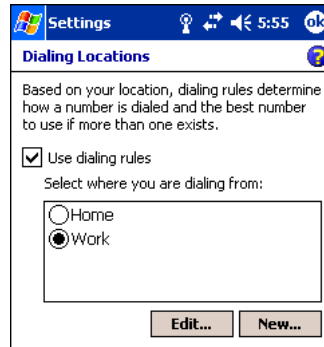


4. Your VPN Server is accessed. When connected, tapping on the  icon displays the following bubble:



Establishing Dialing Rules

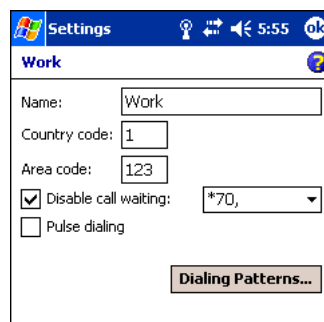
1. Tap **Start** > **System** > **Connections** tab > **Connections** > **Advanced** tab (see page 7-15).
2. Tap **Select Location**.



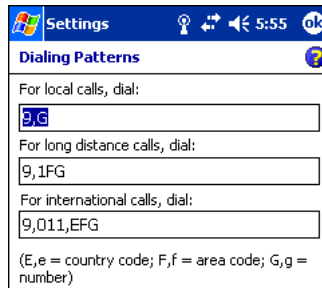
3. Select **Use dialing rules**. By default two dialing rules profiles exist: Home and Work.
4. Tap **Edit** to configure either profile.
(You can define your own dialing profile by tapping **New**. A warning appears that your existing modem connections must include the correct country and region area code settings.)



5. Tap **OK** to confirm. Enter the appropriate information on the next screen.



6. Tap **Dialing Patterns** to change how dialing occurs.



7. Following the format of "e" represents country code, "f" represents area code, and "g" represents the number, enter how local, long distance, and international calls should be dialed. Tap **OK** to save your changes.

Creating a Wireless Network Connection

In the Connections Manager, you can access the Wireless tab from **Start > Settings > Connections tab > Network Cards > Wireless** tab. However, on the Dolphin 7900 terminal, wireless networks need to be configured according to the radio installed in the terminal.

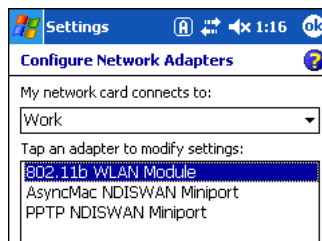
For more information about 802.11b radios, see [Wireless LAN \(WLAN\) Communications with 802.11b](#) on page 9-1..

For more information about Bluetooth radios, see [Wireless PAN \(WPAN\) Communications with Bluetooth](#) on page 10-1..

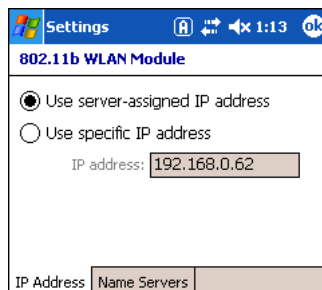
Network Cards

To see the network cards installed on the terminal,

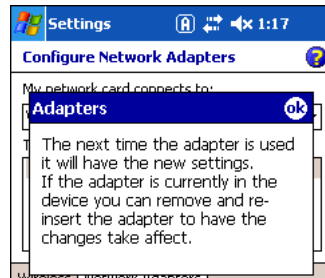
1. Tap **Start > Settings > Connections > Network Cards > Network Adapters** tab.



2. In the list, tap on an adapter to review its settings. (Server-assigned IP addresses use DHCP.)



-
3. If you make a change on one of these tabs, tap **OK**. The following message appears:



4. You must perform a soft reset to update the registry; see [Soft Reset \(Warm Boot\)](#) on page 2-9.. During the soft reset, the new registry entries created by the changes can be read by the applications that need them.



Do NOT perform a hard reset (see [Hard Reset \(Cold Boot\)](#) on page 2-9) after modifying an adapter here. Hard resets return the terminal to factory defaults, which means that any network adapter modifications are lost.

Overview

You can exchange information between your Dolphin terminal and other mobile devices, a desktop computer, a network, or the Internet using the following connection options:

- Connect to a desktop computer and synchronize via Microsoft ActiveSync v3.7 or higher; see page 8-3.
- Use the infrared (IrDA) port to send and receive files between two devices; - see page 8-3.
- Connect to an ISP via wireless radio; see page 8-8.

General Help on Connecting

More information on the procedures described here, as well as information on additional procedures, can be found in the following locations:

- ActiveSync Help on the desktop computer. In ActiveSync, click **Help** > **Microsoft ActiveSync Help**.
- Online Help. Tap **Start** > **Help** > **View** menu > **All Installed Help** > **Inbox** or **Connections**.

For more information, go to the Windows Mobile software website at: www.microsoft.com/windowsmobile/products/pocketpc/

Installing Additional Software

In addition to the default programs installed on your terminal when it is first booted up, you can install any program (created for a Windows Mobile device), as long as the terminal has enough memory to store the program and the program has an *.exe, *.cab, or *.dll extension.

The most popular place to find software on the Windows Mobile website: www.microsoft.com/windowsmobile/products/pocketpc/



When selecting programs, verify that the program and version of the program are designed for the Windows Mobile 2003 Second Edition and the terminal's processor. You can verify your processor by tapping Start > Settings > System tab > About > Version tab. Make a note of the information in the Processor field.

You can install additional software via:

- ActiveSync - see page 8-3.
- Infrared - see page 8-5.
- Internet (via wireless radio) - see page 8-8.

Using ActiveSync

Using Microsoft ActiveSync, you can synchronize and transfer information between your desktop computer and Dolphin terminal. The most current version of ActiveSync can be downloaded from www.microsoft.com.

Additional Capabilities

With ActiveSync, you can also:

- Back up and restore your device data.
- Copy (rather than synchronize) files between your device and desktop computer.
- Control when synchronization occurs by selecting a synchronization mode. For example, you can synchronize continually while connected to your desktop computer or only when you choose the synchronize command.
- Select which information types are synchronized and control how much data is synchronized. For example, you can choose how many weeks of past appointments you want synchronized.

Requirements

To synchronize, ActiveSync version 3.7 or higher *must* be installed on both your desktop computer and the Dolphin terminal. Dolphin 7900 terminals ship with ActiveSync 3.7 already installed. Therefore, you must install ActiveSync 3.7 on your desktop computer from the Microsoft Companion CD that came with your terminal.

To install ActiveSync on your desktop computer, insert the Microsoft Companion CD into the CD-ROM drive of your desktop computer. Click the **yellow arrow**, then **Start Here**, and follow the directions on your screen.



When communicating via ActiveSync, your terminal must be connected to the host PC with a peripheral device sold/manufactured by Hand Held Products, such as the Dolphin HomeBase, Dolphin Mobile Base, Dolphin Net Base, Dolphin Mobile Charger or other Dolphin 7900 Series charging/communication cable. Use of any peripheral not sold/manufactured by Hand Held Products may damage your terminal and will void the warranty.

For more information about communication peripherals, see [Dolphin HomeBase](#), page 13-1, [Dolphin Mobile Base](#), page 14-1, or [Dolphin ChargeBase](#), page 15-1.

Setting Up Your Desktop Computer

When installation of ActiveSync is complete on your desktop computer, the ActiveSync Setup Wizard helps you

- connect your terminal to your desktop computer,
- set up a partnership so you can synchronize information, and
- customize your synchronization settings.

Synchronizing from Your Desktop Computer

Because ActiveSync is already installed on the Dolphin terminal, your first synchronization process begins automatically when you finish setting up your desktop computer in the wizard and your terminal is connected to the host PC.

After your first synchronization, look at Calendar, Contacts, and Tasks on the terminal. Notice that the same information from Microsoft Outlook on your desktop computer is now on the terminal. Simply remove the Dolphin from the communication peripheral and you're ready to use it.

By default, ActiveSync does **not** automatically synchronize all types of information. Use **ActiveSync Options** to specify the types of information you want to synchronize. The synchronization process makes the data (in the information types you select) identical on both your desktop computer and your device.

For more information about using ActiveSync on your desktop computer, open **ActiveSync**, then open **ActiveSync Help**.

Synchronizing from the Terminal

ActiveSync **must** be setup on your desktop computer and the first synchronization process completed *before* you initiate synchronization from the terminal for the first time.

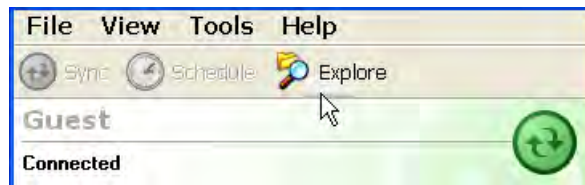
To initiate synchronization the first time, tap **Start > Programs > ActiveSync**. The synchronization process begins.

Note: If you have a wireless LAN card, you can synchronize remotely.

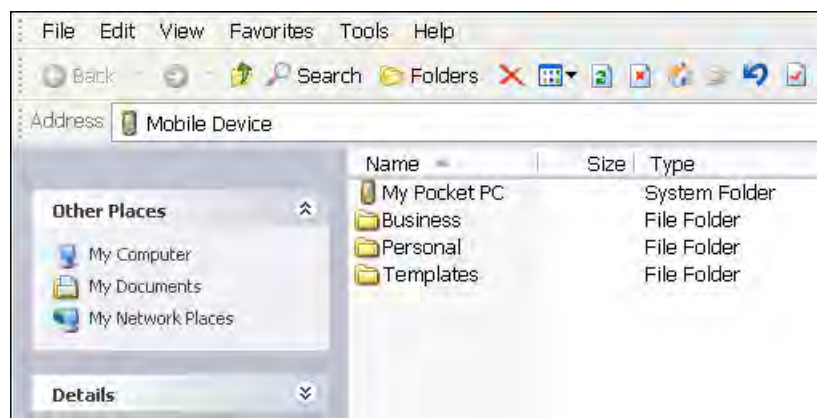
After the first synchronization, when using Dolphin peripherals such as the HomeBase or Mobile Base, synchronization begins automatically whenever a terminal is properly seated in the terminal well. For more information, see [Dolphin HomeBase](#) on page 13-1 or [Dolphin Mobile Base](#) on page 14-1.

Exploring the Terminal from the Desktop Computer

When the terminal and desktop computer are connected, open the main ActiveSync window (on the desktop), and click **Explore**.



The Mobile Device folder opens in Windows Explorer.



The terminal is now treated as a mass storage device, and transferring files is as simple as dragging and dropping or copying and pasting as you would for moving files between folders on your hard drive.

Adding Programs to the Terminal Using ActiveSync



When selecting programs, verify that the program and version of the program are designed for Windows Mobile 2003 Second Edition and your processor. You can verify your processor by tapping Start > Settings > System tab > About > Version tab. Make a note of the information in the Processor field.

Depending on the application, the software must be stored or installed on the host PC.

1. Download the program to your desktop computer from either the Internet or the CD or disk that contains the program. You may see a single *.exe or setup.exe file, a *.cab file, or *.dll. There may also be several versions of files for different device types and processors.
2. Read any installation instructions, Read Me files, or documentation that comes with the program. Many programs provide special installation instructions.
3. Connect the terminal to the desktop computer via a Hand Held Products communication peripheral.

If the File is an Installer:

An installer program is one that installs on the PC and the terminal simultaneously; one process installs to both devices.

1. On the PC, double-click the *.exe or *.setup.exe file. The installation wizard begins.
2. Follow the directions on the PC screen. The installation process includes transferring the software to the terminal.

If the File is Not an Installer:

Some programs cannot be installed on PCs because they are designed for terminals. In these cases, the appropriate files must be stored on the host PC, transferred via ActiveSync, and installed on the terminal. You will know the program cannot be installed on the PC if an error message appears when you try to install it stating that the program is valid but designed for a different type of computer.

-
1. If you cannot find any installation instructions for the program in the Read Me file or documentation, open **ActiveSync** and click **Explore**.*

2. Navigate to the **My Pocket PC** folder and copy the program file or files to the **Program Files** folder on the terminal.

If you want the program to be part of the Autoinstall that occurs after every hard reset, place the program file in the **Autoinstall** folder (\\IPSM\\AutoInstall).

3. Depending on the program, you may need to open **File Explorer** on the terminal, navigate to the folder where the program is located, and tap on the program file to install it.

If you copied the file to the **Autoinstall** folder, you can either tap on the program inside the Autoinstall folder or perform a hard reset and the program will install as part of the Autoinstall process (page 2-7). Remember! A hard reset erases RAM data (page 2-9).

4. After installation on the terminal is complete, tap **Start > Programs** and the program and its icon appears on the Programs screen. Tap it to open the program.

Using Infrared

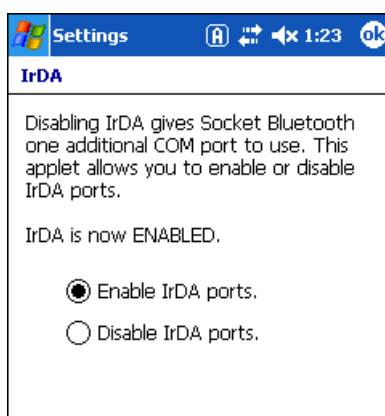
Dolphin 7900 terminals contain an IrDA port on the top panel (see [IrDa Port](#) on page 3-2). Using the IrDA port, you can send and receive data between the terminal and other devices equipped with infrared. This can include, but is not limited to, Windows Mobile information such as Contacts and Tasks, as well as software upgrades.

Verify That the IrDA Port is Enabled

The IrDA port must be enabled to transmit data. By default, the IrDA port is assigned to Com port 6 and is enabled. When a Bluetooth radio is installed, the IrDA port can be disabled to free up a Com port for Bluetooth devices.



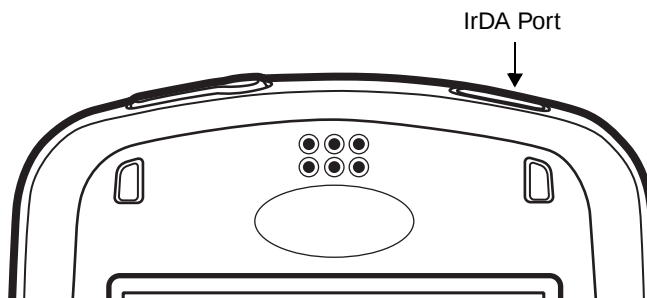
To verify that the IrDA port is enabled, tap **Start > Settings > Connections** tab > **IrDA IrDA**.



If **Enable IrDA ports** is selected, then the IrDA port is active.

*Note: The IrDA icon appears on the Connections tab **only** if there is a Bluetooth radio installed on the terminal.*

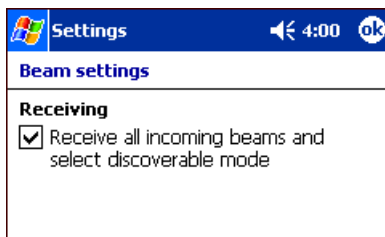
IrDA Port Location on the Terminal



For more information, see [IrDA Port](#) on page 3-3.

Verify That Beam Settings Are Set to Receive

The Beam Settings must be set to receive for the terminal to receive data from other infrared devices. To verify, tap **Start > Settings > Connections** tab > **Beam**. The Beam Settings window should appear as follows:

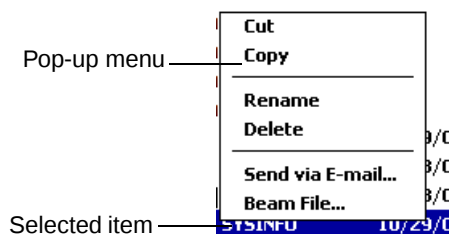


Sending and Receiving

To send or receive, the IrDA ports of both devices - whether it's two terminals, or a terminal and a host device - must be aligned with each other and within a close range. The maximum data-transfer speed is 115 Kbps.

Sending

1. Align the IrDA ports.
2. Open the program where you created the item you want to send and locate the item in the list. You can also beam files, but not folders, from File Explorer.
3. Tap and hold the item. A pop-up menu appears.



4. Select **Beam File**. The information begins transmitting to the other device.

Receiving

1. Align the IrDA ports.
2. Have the owner of the other device send the information to you.
3. Your terminal automatically begins receiving it.

To initiate a receive manually, tap the **Receive an incoming beam** link.

Troubleshooting

If the Beam Settings are not set to receive or you've aligned two IrDA ports and the terminal is still not receiving, go to **Start > Programs > Infrared Receive**. The terminal searches for the sending device.



If the terminal cannot find the sending device, the following message appears:



Using an ISP

The communication software for creating an ISP connection is already installed on your device. Your service provider should provide the software needed to install other services, such as paging and fax services.

After you are connected, you can send and receive e-mail messages by using Inbox and view web pages using Pocket Internet Explorer. For more information, see [Messaging](#) on page 12-7. You can also download software applications from the web.

Adding Programs Directly from the Internet



When selecting programs, verify that the program and version of the program are designed for the Windows Mobile 2003 Second Edition and your processor. You can verify your processor by tapping Start > Settings > System tab > About > Version tab. Make a note of the information in the Processor field.

1. Determine your device and processor type so that you know which version of the software to install. Go to **Start > Settings > System tab > About**. On the **Version** tab, make a note of the information in the **Processor** field.
2. Download the program to your device straight from the Internet using Pocket Internet Explorer. You may see a single *.exe or setup.exe file, or several versions of files for different device types and processors.
3. Read any installation instructions, Read Me files, or documentation that comes with the program. Many programs provide special installation instructions.
4. Tap the file, such as an *.exe file. The installation wizard begins. Follow the directions on the screen.

For more information about working with Pocket Internet Explorer, see [Pocket Internet Explorer](#) on page 12-11.

Overview

Dolphin terminals are available with an on-board 2.4 GHz 802.11b WLAN (Wireless Local Area Network) radio that uses Direct Sequence Spread Spectrum (DSSS) technology to spread the signal continuously over a wide frequency band at a data rate of up to 11 Mbps. In addition, the open software architecture makes the Dolphin terminal a complete solution for a variety of wireless mobile data collection applications.

Dolphin terminals are interoperable with other 802.11b Wi-Fi-compliant products including Access Points (APs), printers, PCs via PC card adapters and other wireless portable terminals.

Enabling the 802.11b Radio Driver

When the Dolphin terminal initializes, the radio driver for 802.11b is installed. The terminal defaults to the 802.11b radio during initialization unless a GSM radio is installed, in which case, the terminal defaults to the GSM radio. The 802.11b radio must be enabled before you can configure the radio on a network. Verify the radio's status before configuring.

Note: Radios are enabled manually in the Radio Manager; tap Start > Settings > Connections tab > Radio Manager.

Configuration Utilities

There are two configuration utilities for the 802.11b radio:

802.11b Settings Use this configuration utility to configure the radio without Wired Equivalent Privacy (WEP) or with standard WEP (64/128 bit) and no authentication. For more details, see 802.11b Settings later in this chapter.

802.11b Wireless Security Supplement Use this configuration utility to configure the radio using WEP (beyond the standard), Wi-Fi Protected Access (WPA), and authentication. For details, see 802.11b Wireless Security Supplement later in this chapter.

802.11b Settings

You can access the configuration utility two ways:

1. Tap **Start > Settings > Connections** tab > **802.11b Settings**. The icon appears on the Connections tab only if there is an 802.11b radio installed on the terminal.
2. Tap the **Status** icon  in the command bar; see [Using the Status Icon](#).

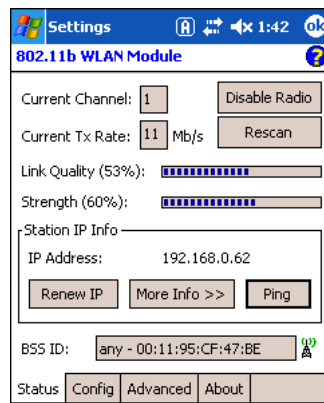
The 802.11b Settings utility consists of four tabs: Status, Config, Advanced, and About. You configure the radio on the Status, Config and Advanced tabs.

Status Icons

The status icon in the command bar indicates the status of the network.

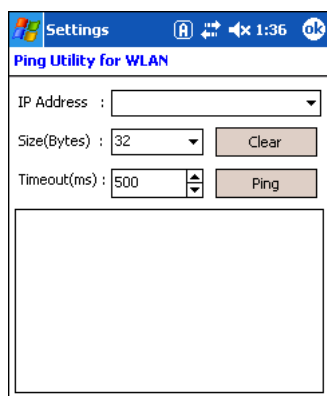
Icon	Description
	Excellent signal strength. Excellent connection.
	Poor signal strength. Poor connection.
	Radio disabled. No radio connection.
	(Access Point) AP Mode.
	Peer Station, Peer-to-Peer Mode.
	WEP enabled. Network needs a WEP Key to connect.
	WEP disabled. Network does not need a WEP Key to connect.
	Mismatched WEP Key configuration with your network.
	Online help button.

Status Tab



Field	Description
Current Channel	Shows the RF channel currently used by the radio.

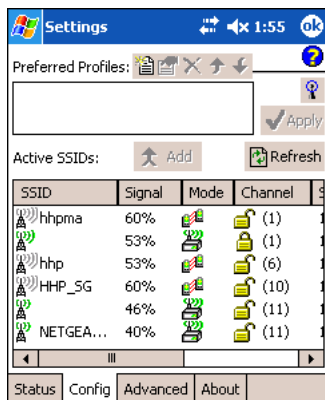
Field	Description
Current TX Rate	Shows the current transmit rate. This can be 1 Mbps, 2 Mbps, 5.5 Mbps, or 11 Mbps.
Disable/Enable Radio	Tap this button to disable/enable the radio.
Rescan	Tap this button to start a rescan process to search for an AP with a stronger signal in the network.
Link Quality	Displays the signal to noise ratio.
Strength	Displays the signal strength at the receiver.
IP Address	Displays the IP address of the radio. Verify configuration information with your network administrator.
Renew IP	Tap this button to reapply the IP address from the DHCP server when automatic DHCP is enabled.
State	Displays the Network Name and the MAC address of the: • AP the radio is associated with in AP mode, or • Creator of IBSS into which the radio is joined in peer-to-peer (Ad-Hoc) mode. After an SSID is chosen, this field name changes to "BSS ID."
More Info	Tap this button to display detailed TCP/IP information as shown in the following screen.
Ping	Tap this button to open the Ping Utility window where you can ping IP addresses.



Field	Description
IP Address	Displays the current IP address. Enter another IP address to ping.
Size (Bytes)	Displays the current data packet size in bytes; 32 is the default. You can select up to 8192 from the drop-down list.
Timeout (ms)	Displays the current timeout; 500 is the default. Increase or decrease it by tapping the up and down arrow buttons.
Clear	Tap this button to clear IP Address input and the ping statistics field.
Ping	Tap this button to ping the IP address entered in the input field.
Ping Statistics	This section lists the pinging IP address and the pinging results.

Config Tab

The Config tab provides a list of all APs and peer stations in range. Use the list to create and edit SSID profiles for APs that you want the terminal to associate with.



Preferred Profiles

The Preferred Profiles section displays a list of your preferred profiles, the profiles you create or add from the list of Active SSIDs below. When applied, the 802.11b radio searches for the APs in the exact order shown in the list of profiles. This section is blank after the initial installation and each hard reset. This section remains blank if no automatic association preference is selected.

This section contains several icons that enable you to add and configure APs.

Icon	Name	Description
	New	Always active, tap this button to create a new profile.
The following buttons activate only when an Active SSID in the Preferred Profile list is selected.		
	Edit	Opens the configuration screens for a selected SSID in the Preferred Profiles list.
	Delete	Deletes the selected SSID from the Preferred Profile list.
	Up	Moves the selected SSID up one place in the Preferred Profile list so that the terminal hits it prior to the next SSID.
	Down	Move the selected SSID down one place in the Preferred Profile list so that the terminal hits it after the prior SSID.
<i>Note: Remember that the terminal accesses the SSIDs in this list in the exact order that they appear; moving an SSID up or down in the list determines the order of contact.</i>		

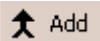
Active SSIDs

This table shows all APs or peer stations (creator of IBSS) in the vicinity of the terminal that accept broadcast associations.

Each record displays information in the following six columns (Scroll right to see all the columns.):

Column	This column displays...
SSID	The Network Name of the AP or peer station and shows the signal strength icon
Signal	Strength in percentage for the selected SSID.
Mode	The mode of operation =AP =Peer station

Column	This column displays...
Channel	The channel and applied WEP method, if any.  =WEP Key-On  =WEP Key-Off
SupRate	Supported data rate of the AP or the peer station.
BSSID (MAC Addr)	BSSID or MAC Address of the AP or the peer station.

Add 

Tap this button to add an Active SSID to the Preferred Profiles list. Select and active SSID in the list, tap **Add**, and the profile moves to the Preferred Profiles list.

Apply

Tap **Apply** to associate your station with a selected SSID. The SSID selected can be in the Preferred Profile or Active SSIDs lists. When applied, the Status tab opens displaying the status of the wireless connection. If the association fails, a search for another AP in the Preferred Profile list automatically takes place, and the radio attempts to associate with the station, in order of preference.

Refresh

Tap **Refresh** to start a new search for all available APs or peer stations in the vicinity.

To Add an Active SSID to the Preferred Profile Table

An SSID needs to be in the Preferred Profile list to be edited.

1. Select an SSID in the Active SSID list and tap **Add**. The SSID moves to the Preferred Profile list. If the SSID has the WEP Key turned on, the Settings window displays and prompts you to enter the WEP Method, Encryption Key, and Key ID.
2. In the Preferred Profile list, select the SSID and tap **Edit** .
3. Follow the same process for creating a profile.
4. When configuration is complete, tap **OK**.
5. The SSID and its profile are added into the Preferred Profiles list. If you're adding an SSID with the WEP Key turned off, the Settings window does not display and the SSID is added directly to the Preferred Profile table.

To Create a New Profile

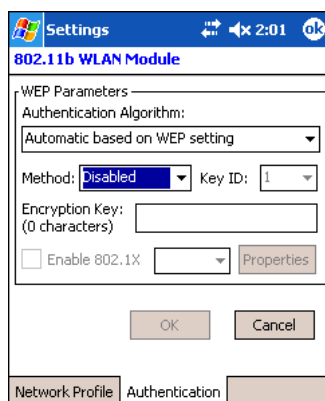
In the Preferred Profiles section, tap the **New** button . Complete the Network Profile and Authentication tab windows.

Network Profile Tab

Field	Description
Network Name & Type	
SSID	Enter an SSID, which is the Network Name. Check with your network administrator for Network Name (SSID).
TX Rate	Choose the transmit rate from the drop-down list - 1 MB, 2 MB, Auto 1/2 MB, 5.5 MB, 11 MB, or Fully Auto. The transmit rate is set to Fully Auto by default.
Type	From the drop-down list, select Peer-to-Peer – This mode used for communication between two (or more) radio stations (cards) without an AP. Access Point (AP) – This mode is also called “Infrastructure” mode.
Chan	Scroll to select a channel for communication.
AP Search Threshold	Select Low Density (default), Medium Density , or High Density from the drop-down list and tap OK . AP search thresholds are used for wireless client roaming between APs. In general, the higher the density selected here, the easier your WLAN card roams between APs with the same SSID in the same network. Roaming also depends on the relative signal strength of the AP.
OK	Tap this button to save the profile or changes to the profile.
Cancel	Tap this button to close the window without saving or modifying the profile.
<i>Note: The SSID, Type, TX Rate, and Channel fields are unchangeable in AP mode, whereas TX Rate and Channel fields can be changed in Peer-to-Peer mode.</i>	

Authentication Tab

On the Authentication tab, you configure the WEP encryption key for secure wireless communication.



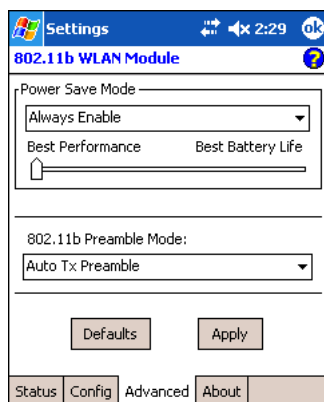
To use WEP, the encryption key **must** be configured as part of the profile before connecting. For more information about configuring a profile, see [To Create a New Profile](#) on page 9-5.

Field	Description
*Authentication Algorithm	This drop-down list is active and configurable only when the WEP Key is enabled for the selected SSID profile. If this drop-down list is active, select one of the following options: Automatic based on WEP setting – The algorithm automatically matches the AP's setting. This is the default selection. WECA Compliant (always use Open) – The algorithm should match the AP's setting for "Open." Must use Shared with WEP – The algorithm should match the AP's setting for "Shared."
Method	The options in this drop-down list determine what characters can be used to create the WEP encryption key in the Encryption Key field. Select one of the following five: Disabled – WEP Key is off 64 bit (HEX) uses 10 characters in Hexadecimal 64 bit (ASCII) uses 5 characters in ASCII 128 bit (HEX) uses 26 characters in Hexadecimal 128 bit (ASCII) uses 13 characters in ASCII HEX – Hexadecimal is a set of 16 characters from 0-9 and from A(a)-F(f). ASCII – Any printable ASCII character can be typed.
Key ID	Choose from the available Key IDs: 1 (Default), 2 , 3 , or 4 . Check with your network administrator for the WEP Key and Key ID you need to use for your network.
Encryption Key	Type in the encryption key for your wireless connection. The format allowed in this field depends on the character set and format selected in the Method field.
*Enable 802.1X	This option and drop-down list is active only when the WEP Key is enabled. Select this option if access to the network needs group authentication, then select the 802.1X security standard— PEAP or TLS —from the drop-down list.
*Properties	Tap the Properties button to choose the certificate that applies. Accessing 802.1x networks require personal certificates for authentication.
*Please note that 802.11b Settings does not support authentication; therefore, these fields are not active. If you are using authentication in your wireless 802.11b connection, you must configure that connection in the 802.11b Wireless Security Supplement. For more information, see 802.11b Wireless Security Supplement on page 9-10.	
OK	Tap this button to save the profile or changes to the profile.
Cancel	Tap this button to close the window without saving or modifying the profile.

To Delete a Profile

Profiles may be deleted either from the Preferred List or from the Preferred List and Registry. To delete a profile, select (highlight) a profile and tap the **Delete** button. On the pop-up window select the option of your choice and tap **Yes** to confirm or **No** to cancel.

Advanced Tab



Field	Description
Power Save Mode	This drop-down list determines the settings for Power Save Mode. Disable – Disables the Power Save mode. Always Enable – Enables Power Save mode. This is the default setting. Auto Enable – Automatically enables the Power Save mode when the terminal is running on battery power and automatically disables Power Save mode when the terminal is running on external power.
Slider	The slider is active only if Power Save Mode is enabled. Move the slider between Best Performance and Best Battery Life. The setting here modulates Power Save Mode to achieve maximum performance and maximum battery life.
Preamble Mode	A preamble consists of a Synchronization (Sync) field and a 16-bit Start Frame Delimiter (SFD) field. Long TX Preamble – Where Sync field consists of 128 bits. Short TX Preamble – Where Sync field consists of 56 bits. Auto TX Preamble – Automatically changes between long and short preamble mode transmission based on AP configurations. This is the default Preamble Mode.
Defaults	Resets all the settings to default values, which are: • Always Enable for Power Save Mode, • Automatic based on WEP setting for Authentication Algorithm, and • Auto TX Preamble (for Preamble Mode).
Apply	Applies changes. This button is active only when a change has been made on the tab.

About Tab

The About tab displays Version Number and time of build for Network Driver, Configuration Utility, and NIC Firmware.

Using the Status Icon

You access the 801.11b Settings by tapping the **Status** icon once on the Today screen . The following menu pops up:



Menu Option	Description
Wireless Radio On	Turns on the radio. LED is on and the Link Icon displays with signal strength.
Wireless Radio Off	Turns off the radio. A pop-up window will ask for your confirmation. If confirmed, the LED will be off and the Status icon will change color from green to red on the top without signal strength displayed. The WLAN card/module will stop functioning.
Remove Status Icon	Settings  If you remove the WLAN status icon, you must then use the Program/or Control panel to configure your WLAN. Do you want to remove the WLAN status icon from the Windows System Tray? Yes No Removes the Status Icon from the bottom tray. A pop-up window asks you to confirm. Click Yes to confirm, or No to cancel. If confirmed, the Status icon does not display in the task tray, and you will need to go to Start > Settings > Connections tab > 802.11b Settings in the future.
Wireless Network Status	Opens the Status tab.
Configuration	Opens the Config tab.
Advanced Configuration	Opens the Advanced tab.
Version Information	Opens the About tab.

Note: The Status Icon changes to a crossed lock  as a warning that you may have entered a wrong key (WEP Key mismatch) for the WEP-On AP or a station.

802.11b Wireless Security Supplement

AEGIS Client® offers the most comprehensive IEEE 802.1X supplicant for securing wired and wireless networks. The Client is a standards-based implementation of IEEE 802.1X and can be configured to work with almost any network equipment—wired or wireless—that supports the 802.1X authentication standard. The Client is interoperable with 802.1X-capable wireless APs and authentication servers including Microsoft's IAS and Cisco's ACS.

The Client solves the problem of key distribution in wireless LANs by using public key authentication and encryption between Wireless APs (WAP) and roaming stations to exchange dynamic Wired Equivalent Privacy (WEP) keys. In addition, network managers can control 802.1X user profiles from a centralized RADIUS server or, in the case of TTLS, from a RADIUS Diameter or other AAA servers. The Client supports both wireless (802.11a/b/g) and Ethernet interfaces.

802.1X Supplicant Protocol Support

Authentication

The Client supports the following authentication methods according to the 802.1X protocols:

- MD5
- EAP TLS
- EAP TTLS
- Cisco LEAP and PEAP
- Microsoft PEAP

Encryption

The Client supports the following encryptions methods:

- WEP
- TKIP

AP Search Threshold



If you are using one of these authentication methodologies, you need to configure your 802.11b connection here, NOT through 802.11b Settings. However, if you want to set the AP Search Threshold above the default setting of Low Density, you do need to change that setting in 802.11b Settings; for details, see [Network Profile Tab](#) on page 9-6.

Required Network Configuration Information

Because the Client accesses a network that is protected by the IEEE 802.1X protocol, you must configure EAP data communication to match your network server parameters. If the EAP configuration doesn't match your network configuration, you can't access the network. Therefore, make sure you have the correct network server parameters on hand when you configure the client.

Opening the Client

To access the client the first time, tap **Start > Programs > Meetinghouse AEGIS Client**.

After the Client has been activated, you can tap the icon in the lower left corner of the command bar.



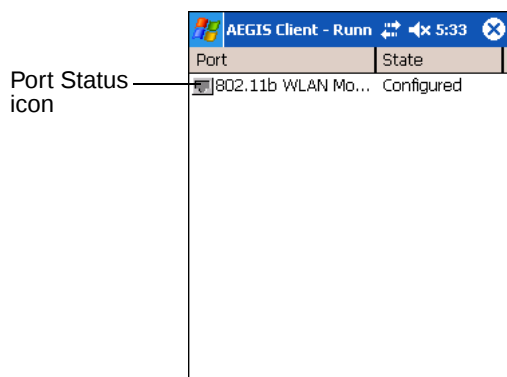
Color Indicators

The color of the icon indicates the status of the controlled ports.

Icon	Color	This color icon indicates that ...
	Green	Authentication succeeded.
	Yellow	Authentication is in process.
	Red	Authentication failed.
If there is no yellow, red or green in the icon then either the ports are not being controlled by 802.1X, or there is no authentication activity on the controlled ports. The absence of yellow, red or green may also indicate that the network access server is not an 802.1X aware device.		
	Gray	The port is not in use or is disabled. Either the Client isn't running, or the port is not bound to the 802.1X protocol.
	Orange	The port is associated, but there is no response to 802.11b packets. If using WEP without 802.1x authentication, this will be the final state when the connection is complete. If using 802.1x authentication, it is either a transient condition or can indicate that attempts to authenticate have timed out as there was no response to 802.1X packets.
	Blue	There is no 802.11b activity. The port may not be connected to an 802.1X-aware entity.

Main Screen

On the terminal, open the Client. The main screen opens displaying a list of ports on the system's network interface cards. You manage ports on this screen.

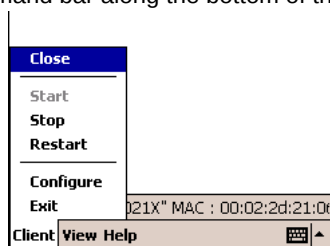


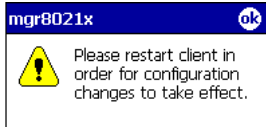
Port Status Icon

The main screen contains a port status icon to the left of each port listed. The color of this icon indicates the status of the port. The color of the icon changes as the port starts authentication, negotiates with the AP and/or authentication server, and then joins the network. As the network interface starts or stops, the color of the port icon and the status field in the Interface List updates to reflect the current state of the interface. For details about what each color means, see [Color Indicators](#) on page 9-11.

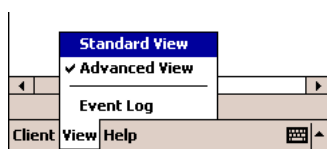
Client Menu

To open the client menu, tap **Client** in the command bar along the bottom of the window.



Menu Item	Description
Close	Closes the Client's interface, while leaving the client running.
Start/Stop	Starts or stops 802.1X authentication. After you finish the initial configuration, tap the network interface and tap Start . If the port is already active, tap Stop first, then Start to force the program to read the new configuration file.
Restart	Same as a Stop followed by Start. Tap this when you receive a notice such as the following: 
Configure	Opens the Configuration screen displaying the User tab.
Install Protocol	Selecting this option binds the 802.1X protocol to the WLAN adapter currently installed on the device. The WLAN adapter then appears in the port list. For more information about network adapters, see Network Cards on page 7-24.
Exit	Terminates the client, which stops the 802.1X protocol.

View Menu



The Standard and Advanced Views control the number of columns displayed in the main menu.

Menu Item	Description
Standard View	Displays the Port (adapter name) and State columns. This is the default view.
Advanced View	Displays the Port (adapter name), State , Primary Wireless Network , Wireless Network , and MAC Address of AP columns. Scroll right to see all columns.
Event Log	The Event Log is a text file that contains status information from the logging function.

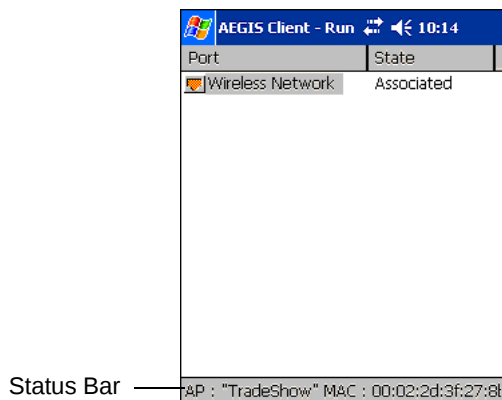
Menu Item	Description
	Each entry is listed sequentially with a time stamp and a text message. Tap Refresh to query the log again. Tap Close to return to the main screen. 

Help Menu

Tapping Help opens the help menu. Select **Online Help** to access online help. Select **About** to review software version information.

Status Bar

The status bar at the bottom of the main screen indicates the connection status between the network card and the AP.

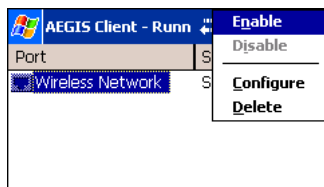


The status bar displays one of the following depending on the status of connectivity:

- “Not Associated”
- “AP : [Name of the SSID] MAC : [MAC address].”

Port Menu

On the main screen, tapping on a port opens a popup menu that allows the port to be enabled or disabled, configured, or deleted.



Port Menu Options

The port menu enables you to use 802.1X authentication, change the port configuration, or remove it from the port list. If there are no entries in the Port list, follow the advice in the troubleshooting section to resolve the problem.

Menu Item	Description
Enable and Disable	These commands enable or disable 802.1X authentication on the port. The port should be enabled before the protocol is started. Enabling a port is not the same as starting it (see Client Menu on page 9-12); however, both actions are required for the Client to work.
Configure	Opens the port configuration screen; see Accessing the Client Configuration Area on page 9-15.
Delete	Selecting Delete has no effect on the Dolphin device because you cannot remove the radio driver from the device.

Configuring the Client

Each user account needs to define the protocol and the credentials the Client will use to authenticate a user. The Client will need to be reconfigured if the device is used on multiple networks, or if different users share the computer.

Note: Fields are be grayed out if not relevant to the selected protocol.

On the main screen, tap **Client** > **Configure**. The Client Configuration screen opens displaying the User tab.

The screenshot shows the AEGIS Client configuration interface. At the top, there's a status bar with 'AEGIS Client', signal strength, and time '5:20'. Below that, the 'Profile' is set to 'default' with 'Add' and 'Delete' buttons. The 'Identity' field contains 'myname' and the 'Password' field contains '****'. The 'Authentication type' is set to 'MD5-Challenge'. There is a checkbox for 'Use certificate' which is unchecked, and a 'Change...' button next to it. Below this is a section for 'Tunneled authentication' with 'Identity' and 'Password' fields, and a 'Protocol' dropdown menu. At the bottom, there are four tabs: 'User' (selected), 'System', 'Server', and an unlabeled tab.

On this tab,

User Settings Tab

System Settings Tab

Server Identity Tab

You...

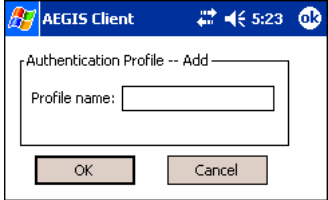
Configure authentication credentials and profiles.

Set the level of detail that the Client will provide in the system log and zero-config options.

Control how the Client authenticates the server that handles the 802.1X protocol on the network side. This applies only to the TLS, TTLS, and PEAP authentication methods and is used to tell the Client what server credentials to accept from the authentication server to verify the server.

User Tab

The User settings tab defines the protocol and the credentials used to authenticate a user.

Field	Description
Profile	Multiple user credential profiles can be created for use when the user roams from one network to another. The drop-down list contains existing authentication credential profiles. Select a profile from the list to edit it in the fields that follow.  Tapping Add permits new profiles to be added to the list. A screen appears where you can enter a name for the new profile. Enter a Profile name and tap OK. The name entered appears in the Profile drop-down list. Tapping Delete deletes authentication profiles. To be deleted, a profile cannot be assigned to a configured network.
Identity	This is the 802.1X identity supplied to the authenticator. The identity value can be up to 63 ASCII characters and is case-sensitive. For tunneled authentication protocols such as TTLS and PEAP, this identity (called the Phase 1 identity) is sent outside the protection of the encrypted tunnel. Therefore, it is recommended that this field not contain a true identity, but instead the identity "anonymous" and any desired realm (e.g. anonymous@myrealm.com). For TTLS and PEAP, true user credentials (Phase 2 identity) are entered in the Tunneled authentication section. When used with PEAP and the .NET Enterprise Server Version 5.2, this field must contain the identity used in both Phase I and Phase II. The Phase II identity field is ignored.
Password	This is the password used for MD5-Challenge or LEAP authentication. It may contain up to 63 ASCII characters and is case-sensitive. Asterisks appear instead of characters for enhanced security.
Authentication type	This is the authentication method to be used - MD5-Challenge, LEAP, PEAP, TLS, or TTLS. Your network administrator should let you know the protocols supported by the RADIUS server. The RADIUS server sits on the network and acts as a central credential repository for Access Servers that receive the radio signals and ultimately block or allow users to attach to the network.

Field	Description
Use certificate	This is the certificate to be used during authentication. A certificate is required for TLS, optional for TTLS and PEAP, and unused by MD5 and LEAP. Therefore, this option becomes active only when TLS, TTLS, or PEAP is selected as the Authentication type. If Use certificate is enabled, the client certificate displayed in the field is the one that is passed to the server for verification. To select a client certificate, tap Change and select the certificate from the list that appears.  To appear in this list, certificates must be installed in the system. The Issued to column should match the Identity field and the user ID on the authentication server used by the authenticator. Your certificate must be valid with respect to the authentication server. This generally means that the authentication server must accept the issuer of your certificate as a Certificate Authority. When obtaining a client certificate, do not enable strong private key protection. If you enable strong private key protection for a certificate, you will need to enter an access password for the certificate each time this certificate is used.
Tunneled authentication area Tunneled authentication parameters are used by only by TLS, TTLS and PEAP protocols, in Phase 2 of authentication, and after the secure tunnel has been established. The fields in this section are active only if the TLS, TTLS, or PEAP is selected as the Authentication type.	
Identity	The user identity used in Phase 2 authentication. The identity specified may contain up to 63 ASCII characters, is case-sensitive and takes the form of a Network Access Identifier, consisting of <name of the user>@<user's home realm>. The user's home realm is optional and indicates the domain to which the tunneled transaction is to be routed. Because Microsoft .NET Enterprise Server Version 5.2 does not use this parameter for PEAP, This field will have no effect for PEAP at this time. Phase 1 identity is used instead.
Password	The password used for the tunneled authentication protocol specified. It may contain up to 63 ASCII characters and is case-sensitive. Asterisks appear instead of characters for enhanced security.
Protocol	This parameter specifies the authentication protocol operating within the secure tunnel. The following protocols are currently supported for TTLS: EAP-MD5, CHAP, PAP, MS-CHAP and MS-CHAP-V2. The following protocols are currently supported for PEAP: EAP-MS-CHAP-V2, TLS/SmartCard, and Generic Token Card (EAP-GTC).