



Dolphin® 7600 Series
Microsoft® Windows® CE 5.0



User's Guide
-Second Draft
Preliminary

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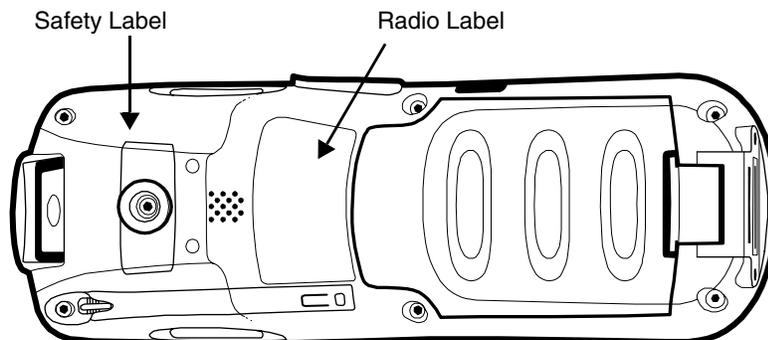
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Required Safety Labels

Dolphin 7600 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



Regulatory and Safety Approvals for all Dolphin 7600 Terminals

Parameter	Specification
U.S.A Canada European Community	

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 7600 Series WLAN (802.11b/g) or WPAN (Bluetooth) Radio

Dolphin 7600 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/g

Bluetooth

802.11b/g and Bluetooth



FCC Compliance

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

Dolphin 7600 Batch Terminal

Dolphin 7600 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 7600 RF Terminal with an 802.11b/g and/or Bluetooth 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.

RF, Regulatory, and Safety Agency Approvals for 802.11b/g and/or Bluetooth

Parameter	Specification
RF Approvals U.S.A Canada	

Dolphin 7600 802.11b/g and/or Bluetooth R&TTE Compliance Statement

Dolphin 7600 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	

This product is marked with _____ 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.

Canadian Compliance for Dolphin 7600 Terminals with an 802.11b/g and/or Bluetooth 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.

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.

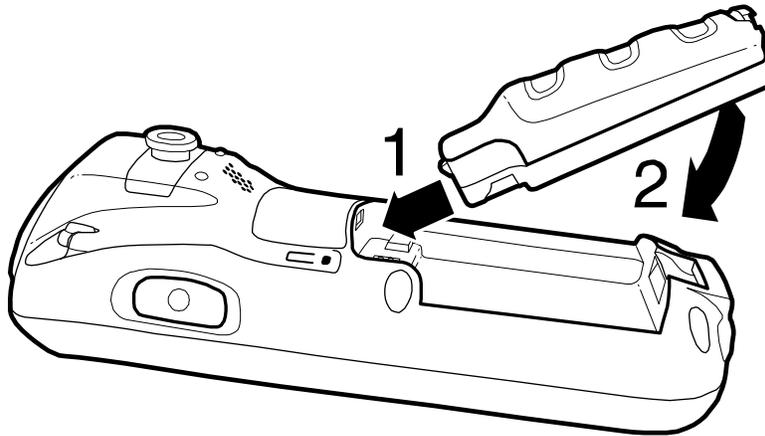
Out of the Box

Verify that your carton contains the following items:

- Dolphin 7600 mobile computer (the terminal)
- Main battery pack (3.7v, Li-ion)
- AC power supply
- Localized plug adapters
- User CD

Note: Be sure to keep the original packaging in case you need to return the Dolphin terminal for service; see [Product Service and Repair](#) on page 11-1.

Step 1. Install the Main Battery



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.

Step 2. Charge the Batteries

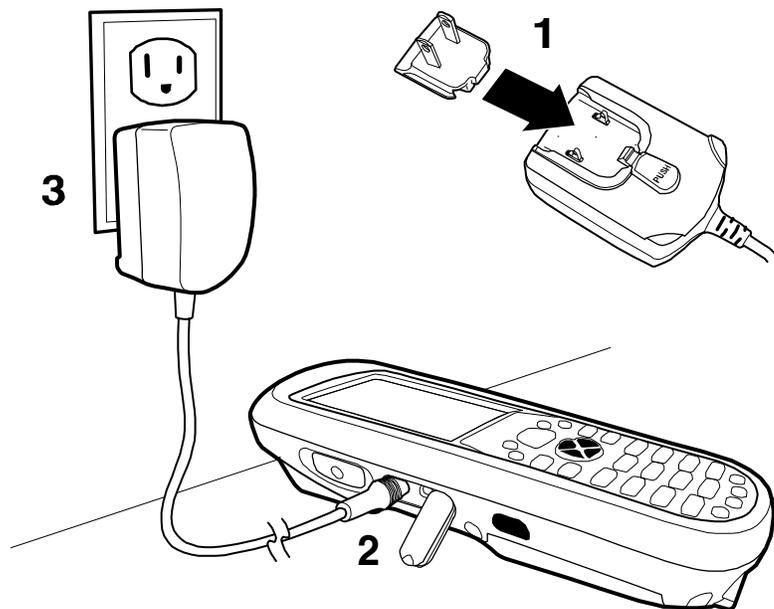
Dolphin terminals ship with both the main battery pack and internal backup battery significantly discharged of power. Charge the main battery pack with the Dolphin charging cable for a **minimum of four hours before initial use.**

1. Attach the appropriate plug adapter to the plug of the power cable.
2. Plug the *power cable into the [DC Power Jack](#) (see page 3-5) on the left side.
3. Insert the plug into the appropriate power source.



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

*This power cable can also be used to power the [Dolphin HomeBase](#) (see page 9-1).



Step 3. Boot the Terminal

Windows CE

The terminal begins booting as soon as power is applied and runs by itself. Do NOT press any keys or interrupt the boot process. When the boot process is complete, the Desktop appears and the terminal is ready for use.

Windows Mobile

The terminal begins booting as soon as power is applied and runs by itself. Do NOT press any keys or interrupt the boot process. Only tap the screen when prompted.

When the boot process is complete, the Desktop appears and the terminal is ready for use.

Using the Stylus

The terminal comes with a stylus inserted into the [Stylus Slot](#) (see page 3-4). Use this stylus (or your finger) to select or enter information on the touch screen. The stylus functions as a mouse; generally, a tap is the same as a click.

- | | |
|-----------------------|---|
| Tap | Tap the touch screen once to open menu items and select options. |
| Drag | Hold the stylus on the screen and drag across the screen to select text and images. |
| Tap & hold | Tap and hold the stylus on an item and a pop-up menu appears. On the pop-up menu, tap the action of the task you want to perform. |

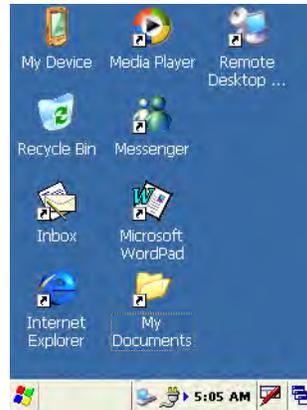


Use of other objects other than the stylus, such as paper clips, pencils, or ink pens can damage the touch screen and will void the warranty.

For more information about the touch screen see [Touch Screen Display](#) on page 3-2.

Desktop

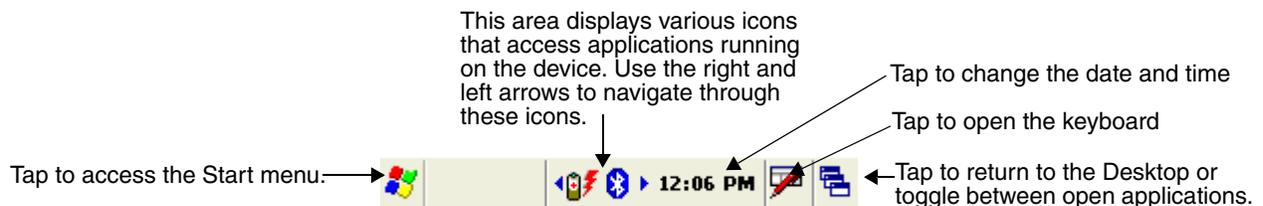
System resets (see [Resetting the Terminal](#) on page 3-14) end on the Desktop.



Note: You can access the Desktop any time by tapping the Desktop screen at any time by double-tapping the Desktop icon in the command bar .

Command Bar

Located at the bottom of application screens, the command bar includes application menus, buttons, and provides access to the Input Panel.



Icons in the Command Bar

The [Command Bar](#) (see page 2-3) contains a number of icons that indicate the status of various functions on the terminal.

Status Icon	Meaning
	
Icons Between the Arrows Because there may be more icons than the device can display, use the left and right arrows to scroll through the icons.	
	The Bluetooth radio is installed and enabled. Tap this icon to open the Bluetooth Radio Manager; for details, see Bluetooth Manager on page 7-1.
	The communication cable is connected. Tap to see the status of the cable or disconnect it.
	

	Indicates the status of battery power. This icon means that the battery is low. Tap this icon to open the Power control panel setting.
	Indicates that the device is running on external power. Tap this icon to open the Power control panel setting.
	HOW DO YOU TURN THE BEEPER ON AND OFF??
	WHAT ARE THE INDICATORS OF THESE BATTERY STATES?
	
	
	
	
	Tap this icon to open the soft input panel (SIP) manually.
	This icon appears when the SIP is open, whether the SIP was opened manually or automatically popped up on an application screen. Tap this button and select Hide Input Panel on the menu that pops up when you want to close the SIP.
	Synchronization is beginning or ending ????????????????????
	Notification that one or more e-mail messages were received ????????????????????

Selecting Programs

Tap **Start > Programs**. To open a program, double-tap the icon.

Pop-Up Menus

With pop-up menus, you can quickly choose an action for an item.

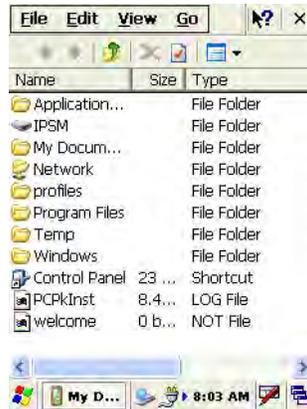
1. Tap and hold the stylus on the item name. The pop-up menu appears.
2. Lift the stylus, and tap the action you want to perform.

The contents of pop-up menus depend change according to the program you're in.

Using Windows Explorer

Use Windows Explorer to navigate through the files on your system.

The fastest way to open Windows Explorer is from the Desktop. Double-tap the My Device icon  and Windows Explorer opens to the root level,



Move files by tapping and holding on the file, then tapping **Cut**, **Copy** or **Paste** on the pop-up menus that appear.



The Dolphin 7600 includes a number of standard terminal configurations as well as charging and communication peripherals and accessories to maximize the efficiency of your application setting.

Standard Terminal Configurations

The standard Dolphin 7600 terminal configuration is:

- Microsoft Windows CE
- Samsung 2440 400 MHz
- 64MB RAM X 128 MB ROM (non-volatile) Memory
- 29-key numeric keyboard
- 2.8" 1/4 VGA TFT color display
- Li-ion battery 3.7V / 2200 mAh / 8.1 Wh
- 5300 or 5100 Standard Range (SR) image engine
- Bluetooth radio (WPAN)
- Dolphin power cable (each Dolphin 7600 device comes with a power cable)

Additional Configuration Options

The Dolphin 7600 offers you a number of configuration options to customize the Dolphin 7600 terminal to your business needs.

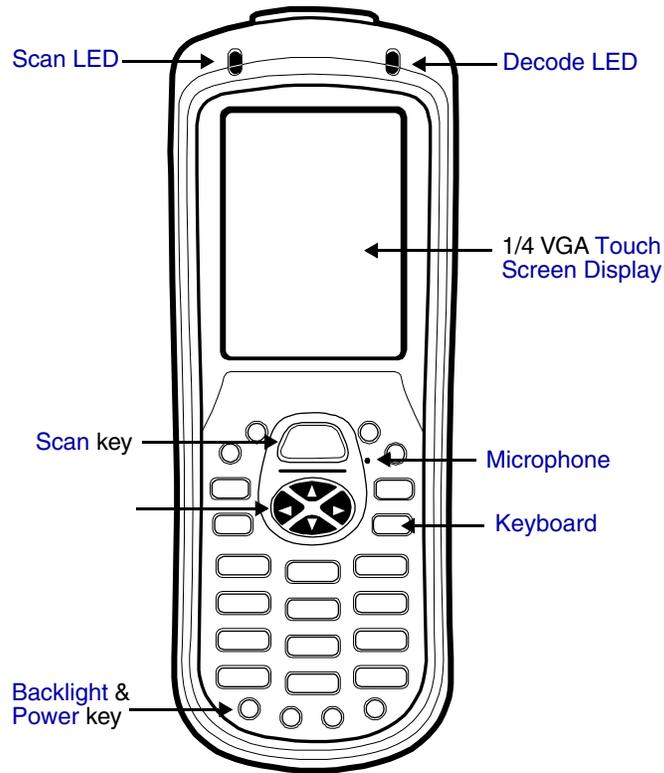
Radio Options You can add an 802.11b/g radio; see [WLAN Manager-802.11b/g](#) on page 8-1.

Battery Power You can use a more powerful Li-ion battery: 3.7V / 3240 mAh / 12.0 Wh.

Care and Cleaning of the Dolphin Terminal

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.

Front Panel Features



Scan LED

The Scan LED lights red when you press the Scan trigger in scanning applications.

Decode LED

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

Note: Both LEDs are user-programmable.

Microphone

The integrated microphone can be used for voice-recording only. (No voice communication function.)

Keyboard

The 29-key keyboard is recessed under the overlay to increase durability. For complete information about the keyboard as well as specific keys called out here, see [Using the Keyboard](#) on page 4-1.

Touch Screen Display

The display is a 65,536-color LCD (Liquid Crystal Display) covered by an industrial touch screen lens. The 2.8" (1/4) VGA (Video Graphic Array) is TFT (Thin Film Transistor) color, backlit, and the resolution is 240 x 320. For information about the backlight for the display, see [Backlight](#) on page 6-7.



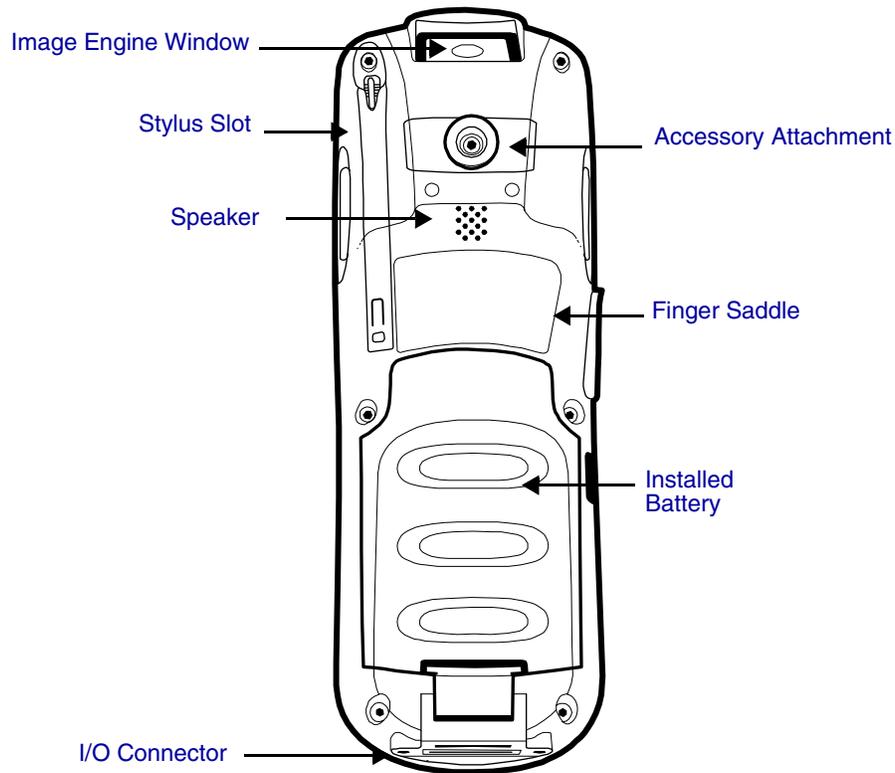
Dolphin 7600 devices ship with a screen protector already installed over the touch screen lens to help prevent damage to the touch screen. Do NOT remove this screen protector before initial use. Hand Held Products recommends using screen protectors, especially for applications that require high-volume interfacing with the touch screen.

For touch screen input, use the stylus included with the terminal or your finger. The method you choose depends on which one is most 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; see [Using the Stylus](#) on page 2-2.



Use of objects, such as paper clips, pencils, or ink pens on the touch screen can damage the input panel and will void the warranty.

Back Panel Features



Accessory Attachment

This button protruding from the back panel can you used with various accessories; see [Using the Accessory Attachment](#) on page 3-9.

Finger Saddle

This is a slightly depressed and angled area of the back panel that is designed to cradle or “saddle” your pointer finger while holding the terminal. This unique ergonomic design makes the terminal comfortable to hold and helps prevent you from accidentally dropping the terminal.

Installed Battery

The back of the battery pack conforms to the back panel.
For information about installing the battery, see [Changing the Main Battery Pack](#) on page 3-11.
For information about battery power, see [Battery Power](#) on page 3-11.

Speaker

The integrated speaker sounds audio signals as you scan bar code labels and enter data but is muted on system activity (i.e. processor, memory access, radio traffic, etc.). The speaker can also be used for playing sounds (e.g., WAV or MP3 files). By default, the speaker volume is set to Max.

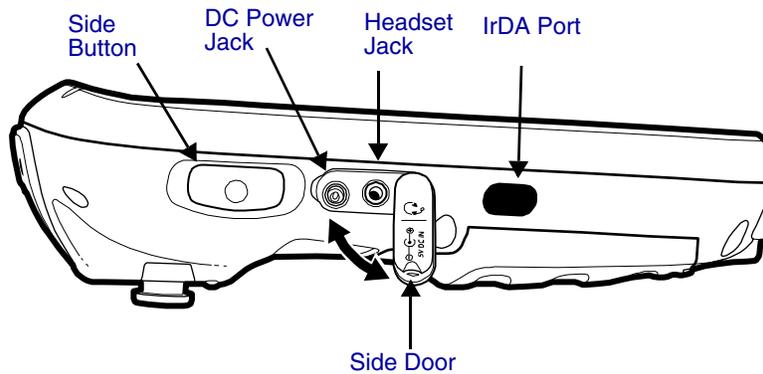
The speaker meets the following operating frequency range is 500Hz at 71 dB up to 80 dB and meets the following SPL levels at 40 centimeters:

- 500Hz - 67db
- 1KHz - 72db
- 4KHz - 72db

Stylus Slot

Dolphin 7600 terminals ship with a stylus inserted. Stores the stylus in this slot when you’re not using it; see [Using the Stylus](#) on page 2-2.

Side Panel Features



Note: This graphic shows the left side of the Dolphin 7600 terminal.

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.

THIS IS HOW THE 7900 BUTTON FUNCTIONS. TRUE FOR THE 7600? WILL THERE BE A BUTTONS SETTING?

Headset Jack

This is a 2.5mm audio jack that supports both speaker (stereo) and microphone (mono) headsets.

WILL THERE BE A HEADSET JACK CONTROL PANEL APPLET??

DC Power Jack

The DC power jack receives external power from the Dolphin power cable that comes in the box with the terminal. When connected to the Dolphin Power Cable, the terminal is powered and the main battery pack is charging.

For more information, about the Dolphin power cable, see [Charge the Batteries](#) on page 2-2.

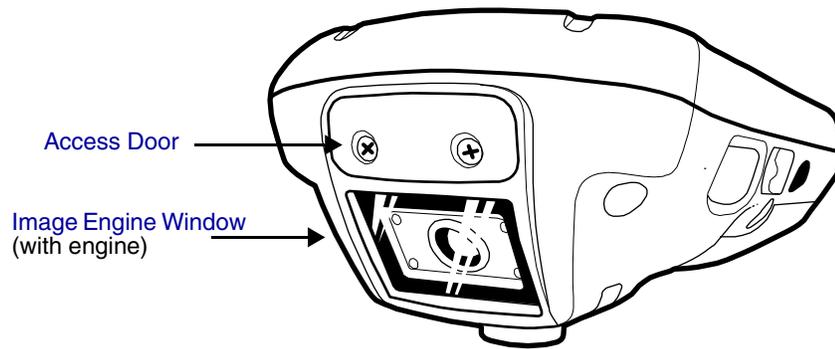
IrDA Port

The IrDA (Infrared Data Association) port communicates with IrDA-enabled devices such as PCs, printers, modems, or other Dolphin 7600 terminals. Maximum data transfer speed is 115 Kbps. For more information, see [Using Infrared????](#) on page 6-10.

Side Door

WHAT DO WE WANT TO SAY ABOUT THE SIDE DOOR? IF ANYTHING?

Top Panel Features



*Pull the plastic tab to remove the plastic film cover over the image engine window before activating the image engine.

Access Door

The terminal comes loaded with 64MB of on-board RAM (volatile) memory and 128MB ROM (non-volatile) memory for persistent storage. For more memory, you can install memory cards by removing this door. For details, see [Dolphin 7600 Peripherals](#) on page 3-10.

Image Engine Window

The angled image engine reads and decodes most popular bar code symbologies and takes images like a digital camera. For more information, see [Using the Image Engine](#) on page 5-1.

Installing Memory Cards

The Dolphin 7600 supports Secure Digital (SD) memory cards of the following capacities:

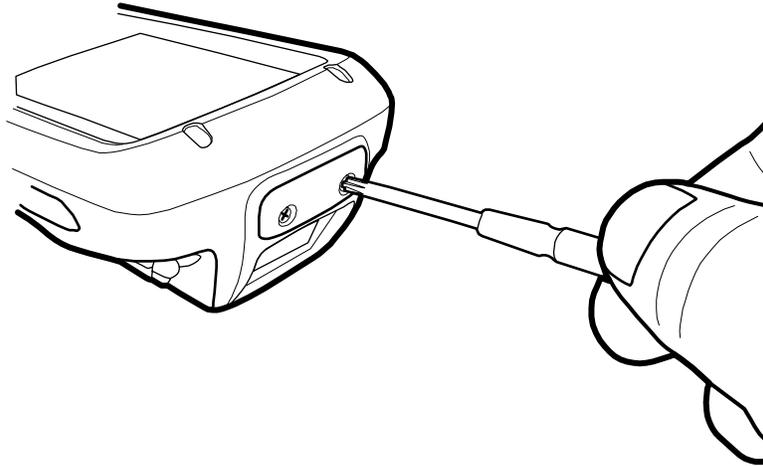
- 16 MB
- 32 MB
- 64 MB
- 128 MB
- 512 MB
- 1 GB
- 2 GB

To install an SD card, you must open the access door on the top panel ([Top Panel Features](#), page 3-6).

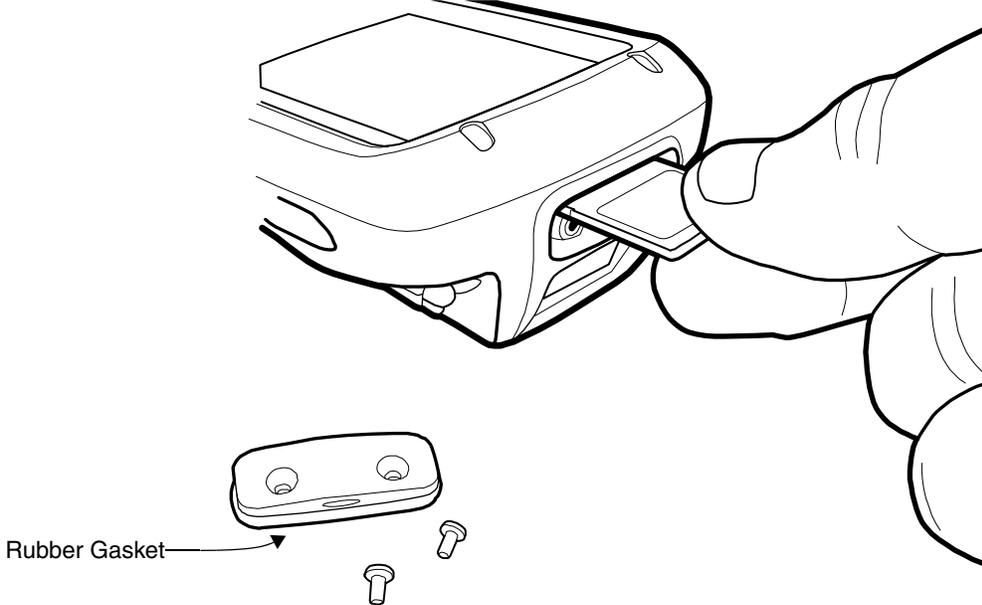
Note: The screws Access door removal **requires** a phillips screwdriver.

1. Press Blue + Backlight key to put the terminal in suspend mode; see [Suspend Mode](#) on page 3-14.
2. Place the terminal on a flat, secure surface with the keyboard face-up.

3. Unscrew both screws on the access door.



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



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.

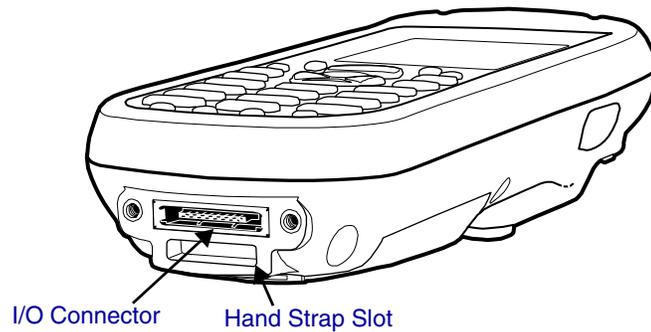
5. Replace the access door and tighten the screws.
There is a rubber gasket on the inside of access door that **must** be in place when you seal the door. This gasket performs the sealing action for the door.
6. Tap the Blue + Backlight keys to resume operation.



Do NOT resume terminal operation while the access door is open! Operating the terminal while the access door is open will void the warranty. 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.

7. To verify that the operating system recognizes the new memory card, tap **Start > Settings > Control Panel > System > Memory** tab.

Bottom Panel Features



I/O Connector

This custom mechanical connector is designed to work exclusively with Dolphin 7600 peripherals and cables. This connector powers the terminal, charges the main battery, and facilitates communication. This connector supports full speed USB 1.1 communication (up to 12 Mbps) and RS-232 communications with a maximum speed of 115Kbps and seven baud rate settings.

Through this connector, you can communicate with a host workstation via Microsoft ActiveSync; see [ActiveSync Communication](#) on page 6-4.

Pin Table

The pins on the I/O connector are as follows:

Pin	Description
1	Data Carrier Detect
2	Received Data
3	Transmitted Data
4	Data Terminal Ready
5	Signal GND
6	Data Set Ready
7	Request To Send
8	Clear To Send
9	Ring Indicator

Note: Signals referenced are for a DTE device.

Hand Strap Slot

There is an adjustable, elastic hand strap available for purchase with the Dolphin 7600 terminal. When installing the hand strap, you loop the elastic strip through this slot. For instructions, see [Attaching the Hand Strap](#) on page 3-9.

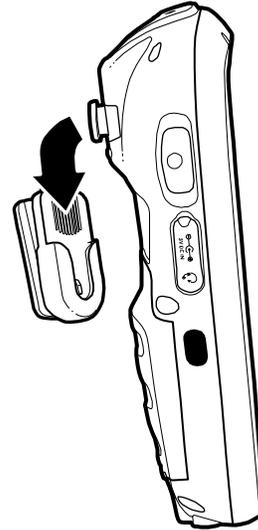
Using the Accessory Attachment

The accessory attachment is a standard tab designed to fit universal accessories available for most cell phones.

Attaching to a Belt Clip

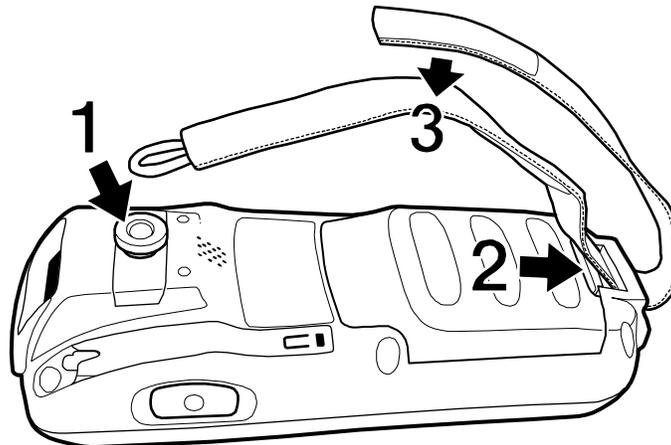
The accessory attachment on the back panel fits universal swivel clips designed for belts or even pedestal mounts (not available from Hand Held Products).

Simply insert the tab into the slot until you hear a click or follow the instructions that came with the clip or accessory



Attaching the Hand Strap

The accessory attachment can also be used to attach the Dolphin 7600 hand strap available from Hand Held Products.



Keep in mind that the hand strap covers the battery. When you want to replace the battery, you will need to adjust the hand strap accordingly.

Dolphin 7600 Peripherals

The following items are sold separately and enhance your Dolphin 7600 terminal's capabilities.

Dolphin HomeBase™

The Dolphin HomeBase charging and communication cradle supports both RS-232 and USB communication, enabling your terminal 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.

For more information, see [Dolphin HomeBase](#) on page 9-1.

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 10-1.

Dolphin 7600 Accessories

Each of the following items is sold separately to enhance your Dolphin 7600 terminal's capabilities.

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.

Li-ion Battery Packs

The available Li-ion battery packs provide the main power supply for the terminal. For more information, see [Battery Power](#) on page 3-11.

Battery Power

The Dolphin 7600 features intelligent battery technology with two types of battery power:

- The main battery pack on the back panel (see [Installed Battery](#) on page 3-4)
- 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 be charged to full capacity before using the Dolphin 7600 for the first time! Initial charge time for the main battery pack is four hours. Initial charge time for the internal backup battery is eight hours.

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.

There are two Li-ion battery packs available for the Dolphin 7600:

Standard Li-ion 3.7V/2200mAh/8.1Wh

Optional Li-ion 3.7V/3240mAh/12.0Wh

The Li-ion battery packs are the primary power source for the Dolphin terminal as well as the internal backup battery. The Li-ion battery is designed to operate in a temperature range of -10 to 50° C (14 to 122° F).

Changing the Main Battery Pack

Before installing a battery pack, press and hold the Blue + Backlight keys to put the terminal in [Suspend Mode](#) (see page 3-14) so that operations are suspended before removing the main power source. Always put the terminal in suspend mode prior to changing the battery.

Charging Options

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

- [Dolphin HomeBase](#) (see page 9-1)
- [Dolphin Charge/Comm Cable](#) (see page 13-1)
- [Dolphin Power Cable](#) (see page 13-1)

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

- [Dolphin QuadCharger](#) (see page 10-1)

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 3.6V nickel metal hydride (NiMH) battery.

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

Note: Even if the internal backup battery fails, data and programs stored in Flash memory are not totally lost. However, the terminal automatically cold boots when you install a fully charged battery pack and you need to reset the real-time clock.

Charging

The internal backup battery is powered by the main battery pack and must be fully charged before using the terminal for the first time. It takes approximately eight hours to fully charge the internal backup battery the first time. After that, if the internal backup battery is ever fully discharged, it takes 10 hours to recharge.

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.
- Keep the Dolphin terminal connected to a power source when the terminal is not in use.

Managing Battery Power

Data and files saved on the Dolphin terminal may be stored in RAM memory; therefore, maintain a continuous power supply to the terminal to help prevent data loss. When you remove a battery pack, insert another charged battery pack in the Dolphin. If the main battery pack is low, insert the terminal into a charging peripheral to power the terminal and begin recharging the battery.

*Note: If the main battery is low and the terminal is in suspend mode, pressing the SCAN button does **not** wake the Dolphin terminal; you must replace the discharged battery with a fully charged battery.*

Default Low and Critical Battery Points

The command bar at the bottom of the each screen displays battery warning icons when the main battery reaches low and critical battery points.

The Dolphin terminal ships with default low and critical battery points already programmed in the registry:

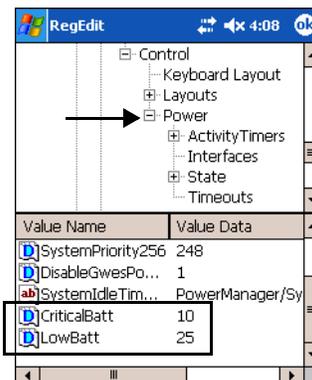
[HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Power]

Note: Battery power warnings do not appear when the terminal is running 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 CriticalBatt and LowBatt values 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 warn whenever the charge drops below 99%).
4. Tap **OK** to save changes.

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

Checking Battery Power

Power icons appear in the command bar at the bottom of the window. Double tap on this icon at any time to open the Power system setting. For example,  indicates a low battery.

You can also tap **Start > Settings > Control Panel tab > Power**.

In either case, the Battery tab opens displaying the charge status of both the main and backup batteries.



For more information, see [Power](#) on page 6-11.

Storage Guidelines

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.

Resetting the Terminal

There are two ways to reset the Dolphin terminal: a soft reset 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 1) when the terminal fails to respond, 2) after installing software applications that require a reboot, or 3) after making changes to certain system settings.

1. Press and hold RED  + ESC  for approximately 5 seconds. The screen turns white and the decode and scan LEDs flash for approximately three seconds.
2. When the reset is complete, the Desktop appears.

Hard Reset (Cold Boot)



A hard reset erases all of the data and applications stored in RAM memory and launches Autoinstall, which re-initializes the terminal.

1. Press and hold RED  + TAB  for approximately 5 seconds. The screen turns white and the decode and scan LEDs light for approximately three seconds.
2. The terminal re-initializes. This includes running Autoinstall, which re-installs all programs stored in the \IPSM\Autoinstall folder.

Note: Hard resets automatically launches a soft reset as part of the boot process.

Note: Set the time and date after each hard reset to ensure that the system clock is real-time. Tap the date on the command bar to open the Clock setting and set the time and date.



Suspend Mode

Suspend mode suspends terminal operation. The terminal appears to be “off” when in suspend mode.

The terminal is programmed to go into suspend mode automatically when inactive for a specified period of time. You can set this time period in the Power setting. For details, see the **Advanced Tab** section of the [Power](#) (see page 6-11) setting.

To Put the Terminal in Suspend Mode

Press and hold the Blue  + Backlight  keys.

Note: You should always put the terminal in suspend mode when you change the battery pack; see [Changing the Main Battery Pack](#) on page 3-11.

To Resume Terminal Operation

To resume terminal operation (or “wake” the terminal),

- Press and hold the Blue  + Backlight  keys.

- Press the Scan key .

Troubleshooting Suspend/Resume

If the terminal does not wake when you press the scan trigger,

-
- The battery door may not be fully closed. The mechanical switch in the battery door prevents the terminal from resuming operations unless the door is closed.
 - The main battery might be too low to resume operations. Remove the battery and install a fully charged battery or connect the terminal to a Dolphin charging peripheral.

Dolphin 7600 Technical Specifications

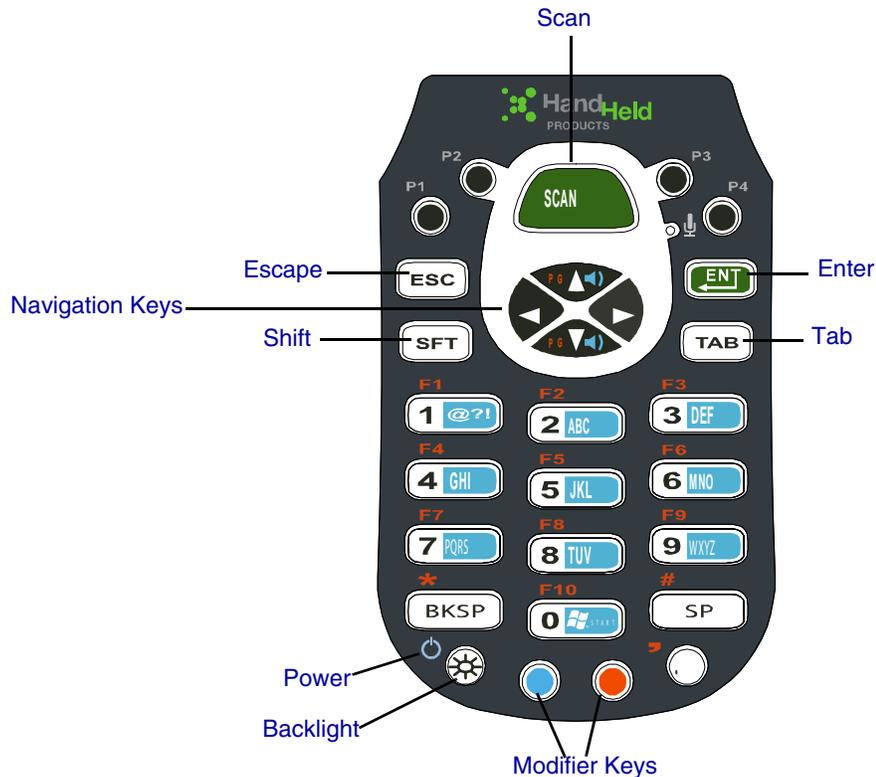
Operating System	Microsoft Windows CE 5.0
CPU	Samsung 2440 400 MHz
Memory	64MB RAM X 128MB Flash; 128MB RAM option
Mass Storage	SD Flash memory expansion slot – user accessible
Display	2.8" 1/4 VGA 240x320 TFT color display
Image Engine	5300 VGA Area Imager with High-Vis bracket aimer
Keypad	29-key numeric–shifted alpha
Sound/ Voice	Speaker, microphone and headset compatible
Communications	RS232/USB connector, IrDA port
Power	Li-ion battery 3.7V / 2200 mAh / 8.1 Wh (standard) Li-ion battery 3.7V / 3240 mAh / 12.0 Wh (optional) Full Shift operation
Charging	5.0V DC input through side access or USB/Serial connector
Charging Peripherals	AC wall adapter, Charge/Communication Cable, single bay HomeBase, battery Quad Charger
WPAN (standard)	Bluetooth Class 2, version 1.2
WLAN (optional)	802.11b/g WiFi compliant
WLAN Security	WEP, 802.1x, WPA, WPA-PSK, TKIP, PEAP, TLS, others TBD before product release
Co-Located/Operational	Two radios: WLAN / WPAN
Operating Temperature	Standard configuration: 14–122°F / -10–50° C
Construction	High impact resistant PC/ABS housings Magnesium alloy internal chassis with component shock mounts
Structural	4' (1.2m) multiple drops to concrete, all axis, across operating temperature range
ESD	Air +/- 12k Vdc Direct +/- 8k Vdc
Environmental	IP54 rating
Dimensions	7.0" L x 2.7" W x 1.8" D (178 x 69 x 45 mm)
Weight	Approximately 11.7 oz / 332 g

Using the Keyboard

Overview

The 29-key numeric-shifted-alpha keyboard buttons are recessed under the overlay for maximum durability. The keyboard panel is backlit for maximum viewability in various lighting conditions.

29-key Keyboard



Color-Coding

Keyboard overlays are color-coded to indicate the functions performed or characters typed when the color-coded key is pressed with the red or blue modifier key; see [Modifier Keys](#) on page 4-3.

Key Types

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

1. [Programmable Keys](#) (see page 4-1)
2. [Function Keys](#) (see page 4-2)
3. [Navigation Keys](#) (see page 4-3)
4. [Modifier Keys](#) (see page 4-3)

Programmable Keys

DO WE HAVE ANY INFORMATION ABOUT THESE? HOW TO PROGRAM THEM? (BUTTONS SETTING?)WHAT WE'RE CALLING THEM? WHAT ARE THE DEFAULTS?

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		Toggles the keyboard backlight on and off.
Backspace (BKSP)		To backspace, press Red + 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.
Backtab (BKTAB)	 	To backtab, press the Red + TAB. Backtab moves the cursor back to the previous tab stop or field (on a form or application window).
Delete (DEL)	?????	To delete, press Blue + ESC. Deletes the next character forward. One character is deleted each time the key combination is pressed.
Escape		Cancels an action.
Enter (ENT)		Functions as an Enter key.
Power	 	Suspends or resumes terminal operation.
Scan		Activates the image engine to scan a bar code or take an image.
Shift (SFT)		Provides shift functionality for application windows. Tap once to modify the next letter pressed. Tap twice for caps lock.
Space (SP)		To space, press Red + right arrow. Space moves the cursor one space forward. If you are typing text, it moves the text one space forward as well.
Tab		Moves the cursor to the next tab stop or field (on a form or application window).

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.

Key	Description		
	Move the cursor up one row or line. Move the cursor down one row or line.	Volume up or down.	Scroll page up or down.
	Move the cursor one character to the right.		
	Move the cursor one character to the left.		

Note: Other functionality varies according to the application in use.

Modifier Keys

Modifier keys modify the next key pressed to perform functions or type special characters. The Dolphin 7600 has blue and red modifier keys with a color-coded overlay so you can see what the key combination does.

Name	Key	Function
Blue and Red	 	Modifies the next key pressed. The overlay of each keyboard is color-coded to indicate the character typed or function performed with both keys. See Blue Key Combinations on page 4-5. See Red Key Combinations on page 4-6.

toggling Between Alpha and Numeric Modes????????????????????

The 29-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. There are blue alpha indicators on the number buttons that specify the letters or characters typed when you press that key in alpha mode.

- Double-tap the Blue modifier key to toggle between alpha and numeric modes.
- Single-tap the Blue modifier key to toggle to alpha or numeric mode only for the next key pressed. The keyboard returns to the previous state before the next key pressed.
- Press and hold the Blue modifier key to toggle to alpha or numeric mode for all keys pressed until the Blue modifier key is released.

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 types 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 in alpha mode; just press and hold Blue modifier key with the next key in the combination. For combinations, see [Blue Key Combinations](#) on page 4-5.

Shift Functionality in Alpha Mode

The SFT key performs all the normal windows shift key functions alpha mode, including capitalizing one letter. On the 25-key keyboard, the SFT key also toggles caps lock on and off.

- Single-tap the SFT key to modify the next key pressed; if this is a letter, that letter is capitalized.
- Double-tap the SFT key to toggle caps lock on and off in alpha mode.

Blue Key Combinations

Alpha Mode

Double-tap the Blue modifier key to switch to Alpha mode.

Key	Character Lower case	Character Upper case: SFT once for the next key SFT twice for caps lock
1	@?!	
2	abc	
3	def	
4	ghi	
5	jkl	
6	mno	
7	pqrs	
8	tuv	
9	wxyz	
0	Start menu	

Functions

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

Key Combination	Function
Blue + Backlight 	Suspend/Resume
Blue + ESC	Delete
Blue + Tab	Backtab
Blue + Up Arrow	Volume up
Blue + Down Arrow	Volume down
Blue + Right Arrow	Insert

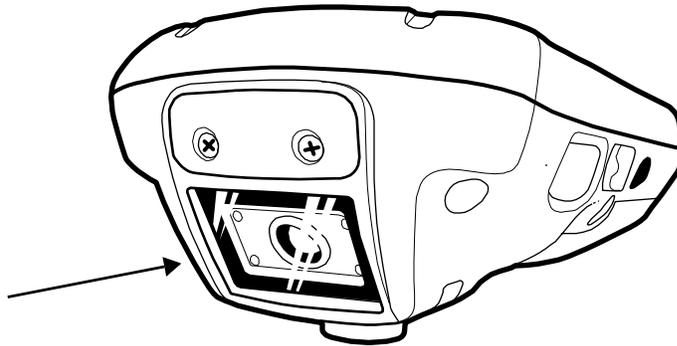
Red Key Combinations

Key Combination	Function/Special Character
Red + Left Arrow	
Red + Right Arrow	
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
Red + 6	F6
Red + 7	F7
Red + 8	F8
Red + 9	F9
Red + BKSP	*
Red + 0	F10
Red + SP	#
Red + .	,

Using the Image Engine

Overview

The Dolphin 7600 terminal houses a compact image engine using Adaptus Imaging Technology™ that instantly reads all popular 1D and 2D bar codes and supports omni-directional aiming and decoding. The image engine can also capture digital images, such as signatures and pictures of damaged inventory.



The image engine is angled downward.

Available Image Engines

Dolphin 7600 terminals may be equipped with one of the following image engines:

- 5100 Standard Range (5100SR)
- 5300 Standard Range (5300SR)

Depth of Field

The depth of field specifications for the available image engines are as follows:

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)

Supported Bar Code Symbologies

The Dolphin 7600 image engines support the following bar code symbologies:

Symbology Type	Symbology Name
1D Symbologies	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 Symbologies	Aztec Code 16K Composite Data Matrix MaxiCode OCR PDF417 QR Code RSS
Composite Codes	Aztec Mesa Codablock F EAN-UCC RSS-14
OCR	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

To activate the image engine, press the **Scan key** (see page 3-2) . You can also press one of the side buttons (see [Side Button](#) on page 3-5), which are programmed to activate the image engine by default.

Using Demos

Dolphin Demos are software utilities loaded on all Dolphin terminals that demonstrate the advanced features of the terminal. There are two Demos feature the image engine: Image Demo and Scan Demo.

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

- Select **Image Demo** to verify imaging, or
- Select **Scan Demo** to verify decoding.

For more information about Demos, refer to the Dolphin Demos User's Guide, which is available for download from www.handheld.com.

LEDs

The LEDs in the center of both keyboards (for location, see [LEDs](#) on page 4-1) light when using the image engine.

Scan LED The LED on the left lights red when you press the scan trigger in scanning applications.
Decode LED The LED on the right lights green when a scanned bar code is successfully decoded.

Decoding

The Dolphin terminal supports two types of image decoding: full-area imaging and Advanced Linear Decoding (ALD).

Full-area Imaging

Full-area imaging means that the Dolphin terminal support omni-directional aiming, which means that a positive read can be obtained from many positions. For details, see [Omni-Directional Scanning Positions](#) on page 5-4.

ALD

ALD provides fast reading of linear (1D) and stacked linear bar codes (PDF417). For the best read, the aiming pattern 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 terminal over one of the sample bar codes on page 5-4. 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 trigger. The Scan LED lights red.
4. Center the aiming beam over the bar code. The aiming beam should be oriented in line with the bar code to achieve optimal decoding; [Omni-Directional Scanning Positions](#), page 5-4
5. Release the Scan trigger.
6. When the bar code is successfully decoded, the decode LED lights green and the terminal beeps.

Sample Bar Codes

You can use the following bar codes to verify decoding:

Sample 128



Code 128

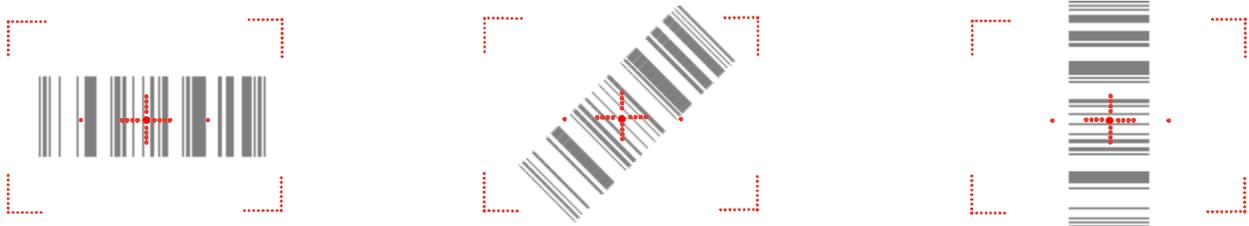
Sample PDF417



PDF417 Test Message

Omni-Directional Scanning Positions

The high-vis aiming pattern frames the bar code to provide you with the best scanning performance.



Note: To achieve the best read, the aiming beam should be centered horizontally across the bar code.

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

Laser Engines

Laser engines do **not** support omni-directional scanning. To achieve an optimal scan, center the red aiming beam across the bar code horizontally as shown.



Capturing Images

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

Image Preview

When the imaging process is initiated, the 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; the captured image has a higher resolution.

File Formats

The Dolphin 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 the image. The average size of the image file is approximately 4–8K. However, the size of the image depends on image content, the more complex the content, the larger the file size.

Taking an Image

1. Tap **Start > Demos > Image Demo**.
2. Point the Dolphin 7600 terminal at the object.
3. Press the scan trigger to activate the engine. The touch screen displays a preview of the object.
4. Adjust the terminal's position until the preview on the screen appears as you want it to appear in the image.
5. Hold the terminal still and release the Scan trigger. 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

If your Dolphin terminal is configured with the 5300SF/SR/HD imager, you can enable the aiming pattern for imaging in the Image Demo application.

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

Uploading Images

Image files can be transmitted to a host workstation via

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



Communication Options

Dolphin terminals offer several communication options including Microsoft ActiveSync, infrared, and wireless radios.

I/O Connector

The mechanical connector on the bottom panel (see [I/O Connector](#) on page 3-8) connects the terminal to various Dolphin communication peripherals that connect to a host workstation via USB (1.1 or higher), thus enabling ActiveSync communication. For more information about communicating with ActiveSync, see [ActiveSync Communication](#) on page 6-4.

Wireless Radios

Dolphin 7600 terminals can be equipped with an 802.11b/g or Bluetooth radio or a combination of these radios. When the terminal's radios are enabled, you can connect the terminal to a wireless network for communication.

IrDA Port

The IrDA port enables the Dolphin 7600 to transmit data via pulses of infrared light to and from other IrDA-compliant devices, such as printers, workstations, and even other Dolphin terminals.

For more information about communicating via the IrDA port, see [Using Infrared????](#) on page 6-10.

Software Communication Programs

Dolphin terminals are shipped with the following communication software programs installed.

Microsoft ActiveSync v3.7 or Higher

Microsoft ActiveSync is a tool that enables mobile computing devices to exchange and synchronize application data with a desktop computer. For more information, see [ActiveSync Communication](#) on page 6-4.

Remote Access Services (RAS)

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 Point-to-Point Protocol (PPP) or Serial Line IP (SLIP) connections for network connectivity.

To establish a RAS connection, set the terminal up on a wireless network, then activate the RASMan Power Tool by tapping **Start > Power Tools > RASMan**.

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

Default Com Port Assignments

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

Com Port	Assignment
1	Serial port; this is the 17-pin mechanical connector on the bottom panel. See I/O Connector on page 3-8.
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 6-10.
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.

Installing Additional Software

Dolphin terminals ship with the operating system, radio drivers, and custom Hand Held Products software loaded onto the device. These are the default programs that install when your terminal first boots up. You can install additional software programs to the terminal provided that the following parameters are met:

- the software program was created for a Windows Mobile device.
- The terminal has enough memory to store and run the program.
- 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/



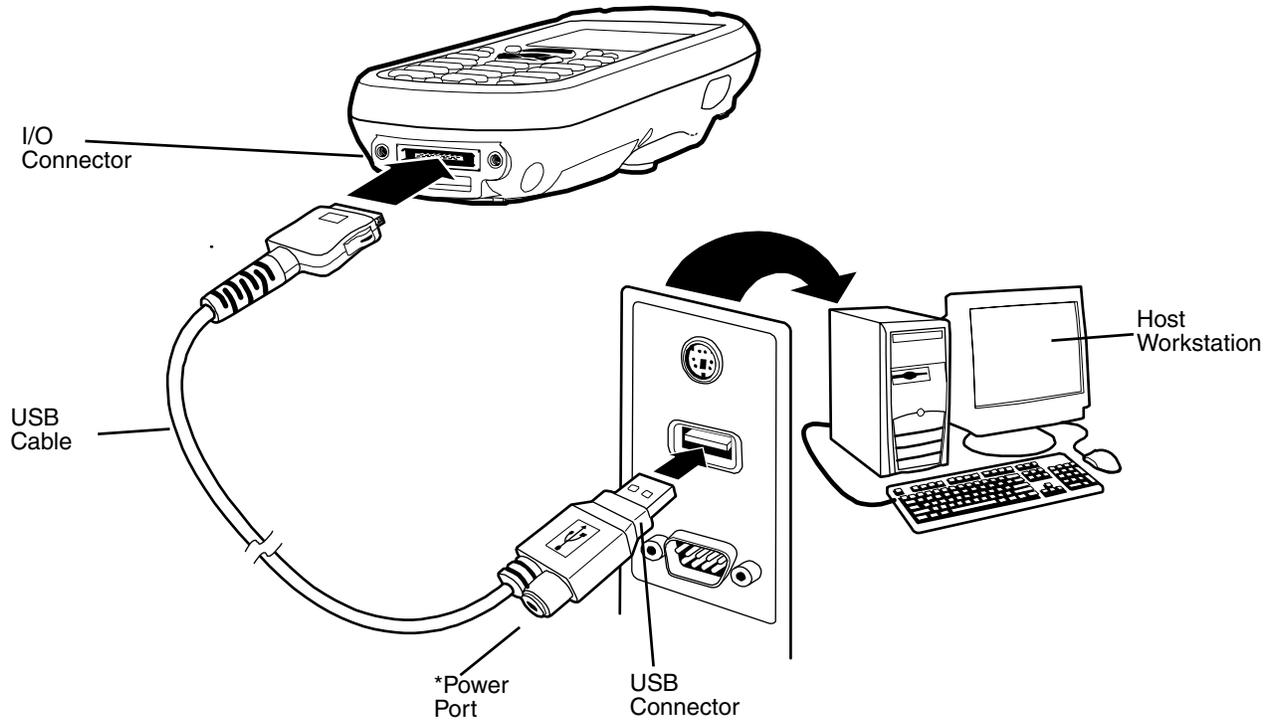
When selecting programs, verify that the program and version of the program are designed for the Windows Mobile 2003 Second Edition and the terminal's processor. You can verify your processor by tapping Start > Settings > System tab > About > Version tab. Make a note of the information in the Processor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

To install additional software, you can use the communication options described in this chapter.

- [Adding Programs via ActiveSync](#), page 6-7.
- [Adding Programs via the Internet](#), page 6-9.
- [Adding Programs via Infrared](#), page 6-11

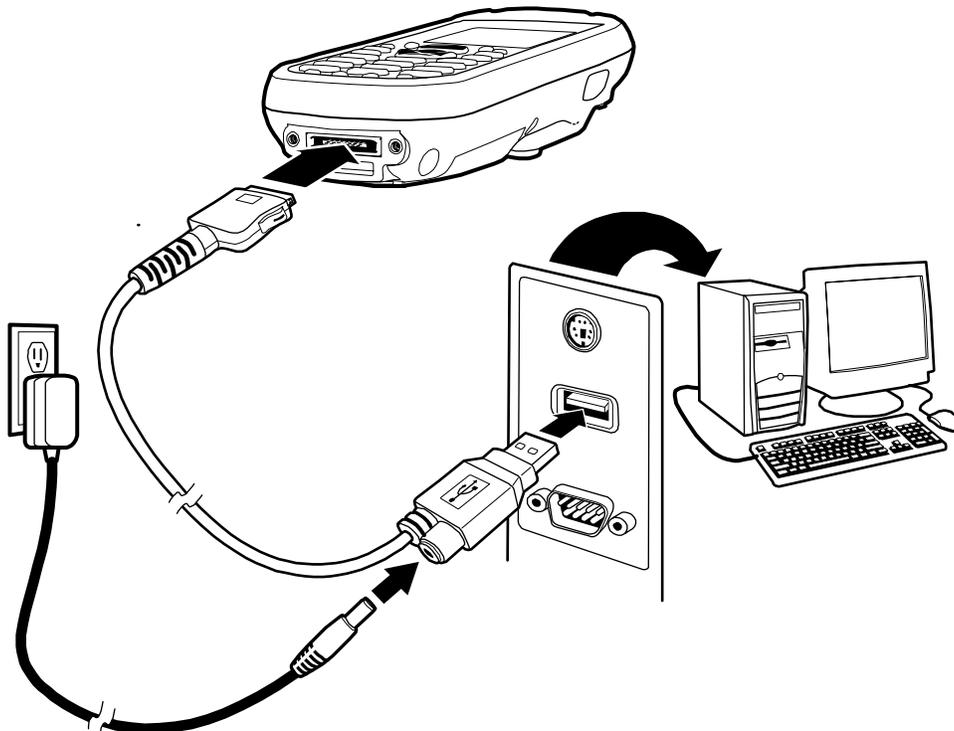
Connecting the USB Cable

Connect the USB cable to the I/O connector to facilitate USB communication between the Dolphin device and host workstation.



This is a communication-only cable.

*The power port on the back end of the USB connector fits the power cable that comes with each Dolphin 7600 device. To charge the device while communicating, connect the power cable to the power port.



ActiveSync Communication

To synchronize, ActiveSync 3.7 or higher must be installed and configured for the appropriate communication type on the host workstation and the Dolphin terminal. Dolphin terminals ship with ActiveSync already installed. Therefore, if ActiveSync is already installed on the host workstation, you just need to connect the Dolphin terminal to the host workstation (via Dolphin peripheral) to initiate communication.

If ActiveSync 3.7 or higher is not installed on the host workstation, install it from the Microsoft Companion CD that came with the Dolphin terminal. Insert the CD into the CD-ROM drive of the host workstation and click the **yellow arrow**, then **Start Here**, and follow the directions on your screen.

Note: You can also download the most current version of ActiveSync from www.microsoft.com and install.



When communicating via ActiveSync, your terminal must be connected to the host workstation with a communication peripheral sold/manufactured by Hand Held Products, such as the Dolphin HomeBase or Dolphin Charge/Communication cable. Use of any peripheral not sold/manufactured by Hand Held Products may damage your terminal and will void the warranty.

Communication Types

The Dolphin 7600 supports the following types of communication via ActiveSync through its **I/O Connector** (see page 3-8) on the bottom panel:

- USB** The USB cable and hardware peripherals allow the Dolphin terminal to communicate with a workstation or to networked through a USB hub. The Dolphin terminal supports full-speed USB communication (USB 1.1); maximum data transfer rate is 12 Mbps. The Dolphin terminal defaults to USB communication out of the box.
- RS-232** The RS-232 cable allows the Dolphin terminal to communicate with a workstation, modem, or any RS-232 device. Maximum data transfer rate is 115 Kbps.

Required Equipment for Setup

- Dolphin HomeBase or Dolphin communication cable
- Power Adapter Cable from Hand Held Products
- USB Cable
- Serial Cable (for RS-232)
- ActiveSync v3.7 or higher installed on the host workstation
- Windows® 98 Second Edition*, Windows® Me, Windows® 2000, or Windows® XP computer.

*Note: The Dolphin HomeBase does not support Windows NT® when using a USB connection. This is because Windows NT does not support USB. *Windows® 98 second edition provides full USB support.*

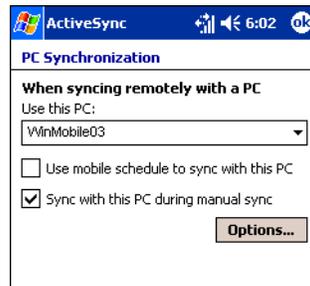
USB Communication

The Dolphin terminal defaults to USB communication out of the box. To sync successfully, ActiveSync must be configured for same communication type on both the host workstation and the Dolphin terminal. ActiveSync must be setup on your desktop computer *before* you initiate synchronization from the terminal for the first time.

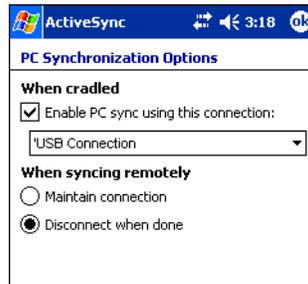
Setting up the Terminal for USB Communication

1. On the terminal, tap **Start > ActiveSync > Tools > Options**. ActiveSync opens displaying the PC tab.
2. In the **Use this PC** drop-down list, select the name of the host workstation.

3. Select **Sync with this PC during manual sync** to indicate that the terminal syncs with the selected host workstation when synchronization is run from the terminal.



4. Tap **Options**.



5. Select **Enable PC sync using this connection**, and select **'USB Connection'** from the drop-down list. The default workstation synchronization value for USB communication is **'USB Connection'**.
6. Tap **OK** and place the Dolphin in the HomeBase. The Dolphin terminal attempts to start an ActiveSync connection with the workstation automatically.

Setting up the Host Workstation for USB Communication

Verify that ActiveSync on the workstation has selected the appropriate communication type by clicking **File > Connection Settings**.



The **Allow USB connections** box must be checked.

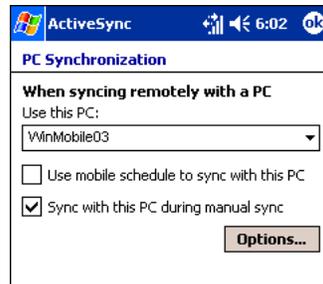
RS-232 Communication

ActiveSync must be installed and configured for RS-232 on the desktop computer to sync successfully with a Dolphin terminal that is configured for RS-232 communication.

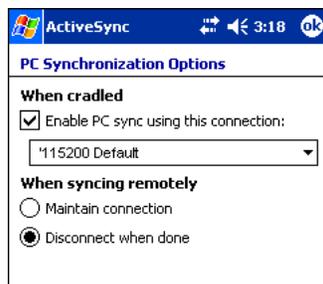
Setting up the Terminal for RS-232 Communication

1. On the terminal, tap **Start > ActiveSync > Tools > Options**. ActiveSync opens displaying the PC tab.

2. In the **Use this PC** drop-down list, select the name of the host workstation.
3. Select **Sync with this PC during manual sync** to indicate that the terminal syncs with the selected host workstation when synchronization is run from the terminal.



4. Tap **Options**.



5. Select **Enable PC sync using this connection**, and select **'115200 Default** from the drop-down list. '115200 baud is the default and what's recommended for RS-232 communication.
6. Tap **OK** and place the Dolphin in the HomeBase. The Dolphin terminal attempts to start an ActiveSync connection with the workstation automatically.

Setting up the Workstation for RS-232 Communication

Open ActiveSync and click **File > Connection Settings**.



Note: You can have the USB connection box checked in addition to the serial cable box without affecting processing. However, you should use RS-232 or USB.

Communicating with the Dolphin Terminal

After setting up both the workstation and the terminal, ActiveSync connection should be automatic.

1. Connect the Dolphin terminal to the a communication peripheral, such as the Dolphin HomeBase.
2. The Dolphin terminal automatically opens ActiveSync to establish a connection.

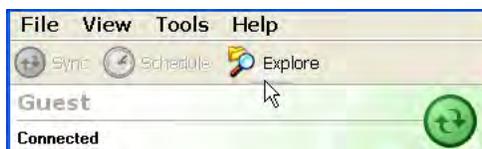
Synchronizing with the Host Workstation

After setup, synchronization begins automatically whenever the terminal's mechanical connector connects to a Dolphin peripheral that is connected to a host workstation with ActiveSync installed.

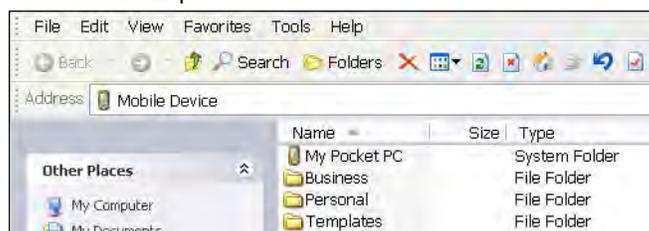
Note: If you have a wireless LAN card, you can also synchronize remotely.

Exploring the Terminal from the Workstation

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 Dolphin 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 via 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.

Generally, software for Windows Mobile devices must be installed to the host workstation first, then transferred to the Dolphin terminal.

1. Download the program to the workstation from either the Internet or the install CD. 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 workstation via Hand Held Products communication peripheral.

If the File is an Installer

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

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

If the File is Not an Installer

Some programs cannot be installed on workstations because they are designed exclusively for Windows Mobile devices. In these cases, the appropriate files must be stored on the host workstation and transferred to the terminal via ActiveSync Explore.

Note: You know that the program is not an installer because an error message stating that the program is valid but designed for a different type of computer appears when you try to install the program on the workstation.

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** workstation 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. On the terminal, tap **Start > Programs > File Explorer** and navigate to the folder where the program is located.
 4. Tap on the program file to install it.
If you copied the file to the **Autoinstall** folder, you can choose to install the program by performing a hard reset. The program installs as part of initialization.
 5. After installation is complete, access the program by tapping **Start > Programs** and the program appears on the Programs screen. Tap the icon to open the program.

For Additional Help

You can find more information on the host workstation by clicking **Help > Microsoft ActiveSync Help**.

You can find more information on the terminal by tapping **Start > Programs > Help > ActiveSync**.

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

Connecting the Terminal to a Wireless Network

Establishing the terminal on a wireless network depends heavily on your network infrastructure. You will need specific information from your network administrator.

Whatever your network specifics, some general steps apply:

1. The on-board radio drivers must be enabled for the terminal to transmit a signal.
2. Enter the appropriate configuration settings for each radio installed. Each radio has its own configuration program.
 - For details about 802.11b/g configuration, see [WLAN Manager–802.11b/g](#) on page 8-1.
 - For details about Bluetooth configuration, see [Bluetooth Manager](#) on page 7-1.

Adding Programs via the Internet

When you have established a network connection (whether via modem or wireless radio), you can access the Internet and download additional software programs.



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.

1. Verify the terminal's processor by tapping **Start > Settings > System** tab > **About > Version** tab. Make a note of the information in the **Processor** field.
2. Open Pocket Internet Explorer and navigate to the program's location. You may see a single *.exe or setup.exe file, or several versions of files for different device types and processors.
3. Select the program version that matches your Dolphin terminal and processor.
4. Read any installation instructions, Read Me files, or documentation that comes with the program. Many programs provide special installation instructions.
5. Download the program to the terminal straight from the Internet.
You would normally store the program in the **\Program Files** folder unless another location is required by the program.
6. On the terminal, tap the installer file, such as an *.exe file.
7. The installation wizard for the program begins.
8. Follow the directions on the screen to complete installation.

Server-Assigned IP Addresses

Please note that all server-assigned IP addresses use Dynamic Host Configuration Protocol (DHCP).

Zero-Config Wi-Fi

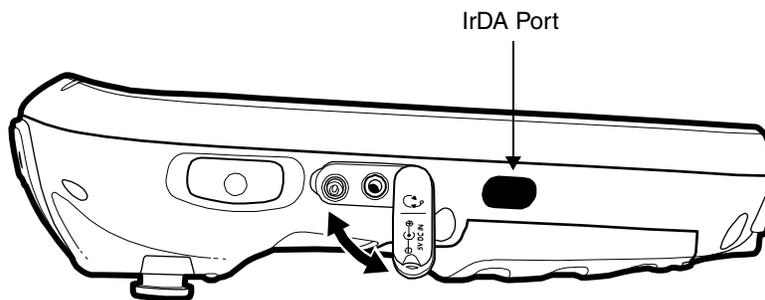
Please note that the zero-config Wi-Fi feature of Windows Mobile is **disabled** on Dolphin terminals.

Using Infrared????

CAN'T FIND SCREENS

The IrDA port sends and receives data between the terminal and other devices equipped with infrared. The maximum data transfer speed is 115 Kbps.

IrDA Port Location



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, however, you have the option of disabling the IrDA port.

Note: If you do not have a Bluetooth radio installed, your IrDA port is always enabled.

Tap **Start > Settings > Connections** tab > **IrDA**.

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

Select **Disable IrDA ports** to disable the IrDA port (com port 6).

Verify Beam Settings

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**.

Receive all incoming beams... must be checked for the terminal to receive infrared data from another device.

Sending Data

You can send and receive information via infrared, including software programs (.exe files).

To send or receive, the IrDA ports of both devices must be aligned with each other and within a close range. The maximum data-transfer speed is 115 Kbps.

1. Align the IrDA ports of both devices.
When sending data from one Dolphin terminal to another, position both terminals so that the IrDA ports are facing each other directly.
2. Open the program where you created the item you want to send and locate the item in the list.
You can 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 infrared device.

Receiving Data

1. Verify that the terminal is set to receive all incoming beams; see [Verify Beam Settings](#) on page 6-10.
2. Align the IrDA ports.
3. Have the owner of the other device send the information to you via infrared.

4. Your terminal automatically begins receiving it.

Adding Programs via Infrared

Use send and receive to load additional software programs in terminals.

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:



Overview

Each Dolphin 7600 contains a Bluetooth radio whose driver installs each time the device boots up.

Configuring the Bluetooth Radio

Tap the Bluetooth icon in the command bar  or Tap **Start > Programs > Bluetooth Manager**.



Complete the tab windows to set up the radio. Use the left and right arrows on the upper right corner to scroll through the tab windows.

Setting Tab



Field	Description
Power	This setting enables and disabled the radio. By default, the Bluetooth radio is enabled after each hard reset.
BT Device ID	
Address	The MAC address from the radio driver.
Name	The first time you open the Bluetooth manager, the default name of the Dolphin device appears. You can change the name here.
Rename	Click this button to clear the Name field and type in a unique name for the Dolphin device.

Pair Tab

The Pair tab enables you to find and pair with a local Bluetooth device.



Field	Description
Field	This box displays found Bluetooth devices.
Delete Device	Deletes a selected device in the field above.
Search Device	Searches for Bluetooth devices in the area.

Searching for Bluetooth Devices

1. On the Pair tab, tap **Search Device**. The Dolphin begins searching for compatible Bluetooth devices.



2. When the search is finished the found devices appear.



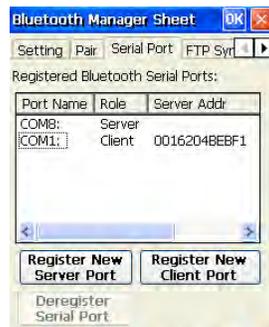
- To pair with one of the found devices, double-tap on the device. The device may ask you to authenticate by entering a password.



- Enter a PIN number and tap OK.
- On the found device, accept the Authentication Request.
- The new item appears on the window displaying the MAC address.

Serial Port Tab

On the Serial Port tab, you can register paired devices as a client of the Dolphin or register the Dolphin as client of a Bluetooth device designated as a server.



Field	Description
Registered Bluetooth Serial Ports	
This list contains the current COM ports in use.	
Port Name	Displays the name of the port (e.g., COM1–COM9).
Role	Identifies the COM port as a server or client COM port.
Server Address	For client ports, this field displays the server address.
Register New Server Port	Tap this button to register the Dolphin device as a client of a Bluetooth server device.
Register New Client Port	Tap this button to register a paired device as a client port. The new port appears in the list.
Deregister Serial Port	Select a port in the list and tap this button to deregister the port. This frees up a COM port.

FTP Sync Tab

The FTP Sync tab transfers files between the Dolphin and its paired devices and establish ActiveSync settings.



Transferring Files

1. On the FTP Sync tab, tap Beam File.



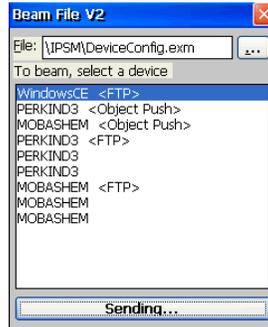
2. Tap the  button to browse for a file to transfer.



3. Navigate to the file location, select the file, and tap OK.



4. Select the device in the list and tap Tab to Send. The file begins sending.



5. When the file is sent, the FTP Sync window appears again.

ActiveSync Settings

The ActiveSync Settings section of the FTP Sync tab window enables you to setup ActiveSync communication with Bluetooth.



Tap **Options** to see the ActiveSync settings.



The Bluetooth ActiveSync settings default to the current Microsoft ActiveSync settings. To change the connection settings, tap **Change Connection**, and select new parameters.



To manually sync via ActiveSync, tap **Sync**.

Overview

The Dolphin 7600 has an optional 2.4 GHz 802.11b/g WLAN (Wireless Local Area Network) radio that uses Direct Sequence Spread Spectrum (DSSS) technology. The radio is interoperable with other 802.11b Wi-Fi-compliant products including Access Points (APs), PCs via PC card adapters and other wireless portable devices.

Speeds???

If,

802.11b - 11 Mbps, 2.4 GHz

802.11g - 54 Mbps, 2.4 GHz

How do we describe the speed of transmission on a b/g radio?

http://en.wikipedia.org/wiki/IEEE_802.11#802.11g

802.11b

Release Date Op. Frequency Data Rate (Typ) Data Rate (Max) Range (Indoor)

1999 2.4 GHz 6.5 Mbit/s **11 Mbit/s** 30 Metres

802.11g

Release Date Op. Frequency Data Rate (Typ) Data Rate (Max) Range (Indoor)

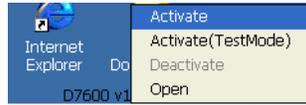
2003 June 2.4 GHz 25 Mbit/s **54 Mbit/s** 30~ m

In June 2003, a third modulation standard was ratified: 802.11g. This flavour works in the 2.4 GHz band (like 802.11b) but operates at a maximum raw data rate of **54 Mbit/s**, or about 24.7 Mbit/s net throughput like 802.11a. **802.11g hardware will work with 802.11b hardware.** Details of making b and g work well together occupied much of the lingering technical process. In older networks, however, the presence of an 802.11b participant significantly reduces the speed of an 802.11g network. **The modulation scheme used in 802.11g is orthogonal frequency-division multiplexing (OFDM) for the data rates of 6, 9, 12, 18, 24, 36, 48, and 54 Mbit/s, and reverts to (like the 802.11b standard) CCK for 5.5 and 11 Mbit/s and DBPSK/DQPSK+DSSS for 1 and 2 Mbit/s.** Even though 802.11g operates in the same frequency band as 802.11b, it can achieve higher data rates because of its similarities to 802.11a. The maximum range of 802.11g devices is slightly greater than that of 802.11b devices, but the range in which a client can achieve full (54 Mbit/s) data rate speed is much shorter than that of 802.11b.

WLAN Manager

The WLAN Manager configures the 802.11b/g radio.

In the command bar at the bottom of the window, double-tap the **WLAN Manager** icon . (The “X” appears over the icon when



the radio is not configured.) The menu appears . Select **Open**. The WLAN Manager opens displaying the Status tab.

Status Icons

The WLAN Manager used several icons to indicate radio states.

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

The Status tab displays the current operating parameters of the 802.111b radio.



Field	Description
Current Channel	Shows the RF channel currently used by the radio.
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: <ul style="list-style-type: none"> • 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. <div data-bbox="776 1507 1084 1873" data-label="Image"> </div>

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 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. This opens the The Network Profile tab establishes the basic parameters of the network profile. Access the Network Profile tab by double-tapping on a network profile in the list on the Config tab or by tapping the New button on the Config tab. (see page 8-6).
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.

Column	This column displays...
Mode	The mode of operation  =AP  =Peer station
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.

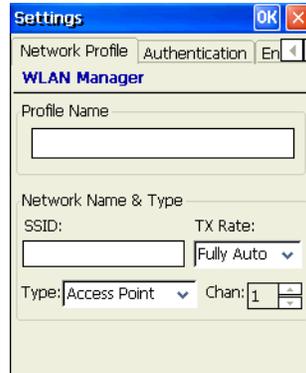
1. Select an SSID in the Active SSID list and tap **Add**. The SSID moves to the Preferred Profile list.
If the SSID has the WEP Key turned on, the Settings window displays and prompts you to enter the WEP Method, Encryption Key, and Key ID.
2. In the Preferred Profile list, select the SSID and tap **Edit** .
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

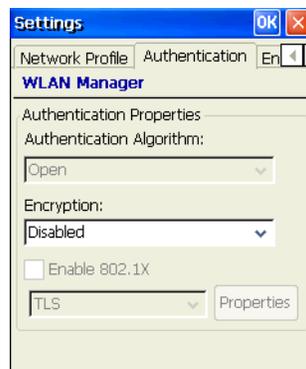
The Network Profile tab establishes the basic parameters of the network profile. Access the Network Profile tab by double-tapping on a network profile in the list on the Config tab or by tapping the New button  on the Config tab.



Field	Description
Profile Name	Enter the profile name.
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.
<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 authentication and encryption.



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 8-5.

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: Open (This is the default selection.) Shared
Encryption	Select the encryption type: Disabled for no encryption WEP to use WEP encryption
Enable 802.1X	This option and drop-down list is active only when the WEP Key is enabled.
Properties	Tap to choose the certificate that applies. Accessing 802.1x networks require personal certificates for authentication.

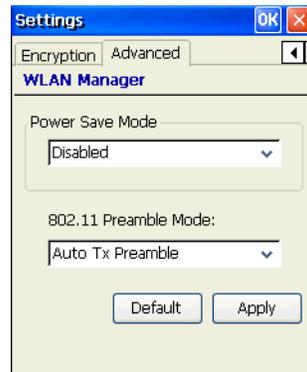
Encryption Tab

The Encryption tab configures the WEP Parameters.



Field	Description
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: <ul style="list-style-type: none"> • 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 <p>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.</p>
Key 1–4	Enter the WEP keys.

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.
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: <ul style="list-style-type: none"> • 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.

Overview

As the hub of your Dolphin 7600 system, the Dolphin HomeBase charging and communication cradle supports full-speed USB 1.1 communication with a workstation.

Battery Charging

The HomeBase completes a full charge of the main battery pack in less than four hours.

In addition to charging, the HomeBase powers the intelligent battery charging system in the terminal that protects the battery from being damaged by overcharging. The terminal senses when a battery pack is fully charged and automatically switches to a trickle charge that maintains the battery at full capacity.

As a result, Dolphin terminals may be stored in the HomeBase indefinitely without damage to the terminals, battery packs, or peripherals.

Communication

With USB port, the data transmission rate goes up to 12 Mbps.

HomeBases cannot be physically connected to each other—sometimes referred to as “daisy-chaining”—but can be networked together via serial or USB hubs.

Convenient Storage

The battery charging system makes the HomeBase a safe and convenient storage receptacle for your Dolphin terminal.

Capacity

The HomeBase holds one Dolphin 7600 terminal and charges its battery pack.

Power Supply

The power cable that ships with each unit (see [Charge the Batteries](#) on page 2-2) also powers the Dolphin HomeBase.

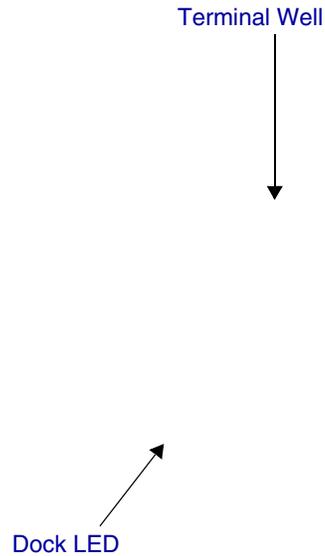


Use only the peripherals, power cables, and power adapters from Hand Held Products. Use of peripherals, cables, or power adapters not sold/manufactured by Hand Held Products will void the warranty and may damage the terminal.



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.

Front Panel



Terminal Well

Place the Dolphin terminal in this well to communicate with a host device, power the terminal, and charge its battery pack. The back of the terminal well features a saddle that fits the integrated pistol-grip handle of the Dolphin 7600 terminal.

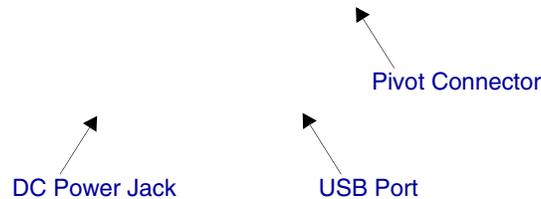
Dock LED

Turns solid green when the Dolphin terminal is properly seated in the Dolphin HomeBase. When this light is on, the terminal is connected to the Dolphin HomeBase.

Rubber Feet

The bottom panel has four rubber feet—one at each corner—to stabilize the unit on a flat surface. Set the Dolphin HomeBase on a dry, stable surface, such as a desktop or workbench near an electrical outlet.

Back Panel



Pivot Connector

This pivoting connector swivels 90 degrees. The default position is horizontal, with the connectors facing straight out from the back panel. The pivoting stops in this position and again in the vertical position, with the connectors facing out the bottom panel.

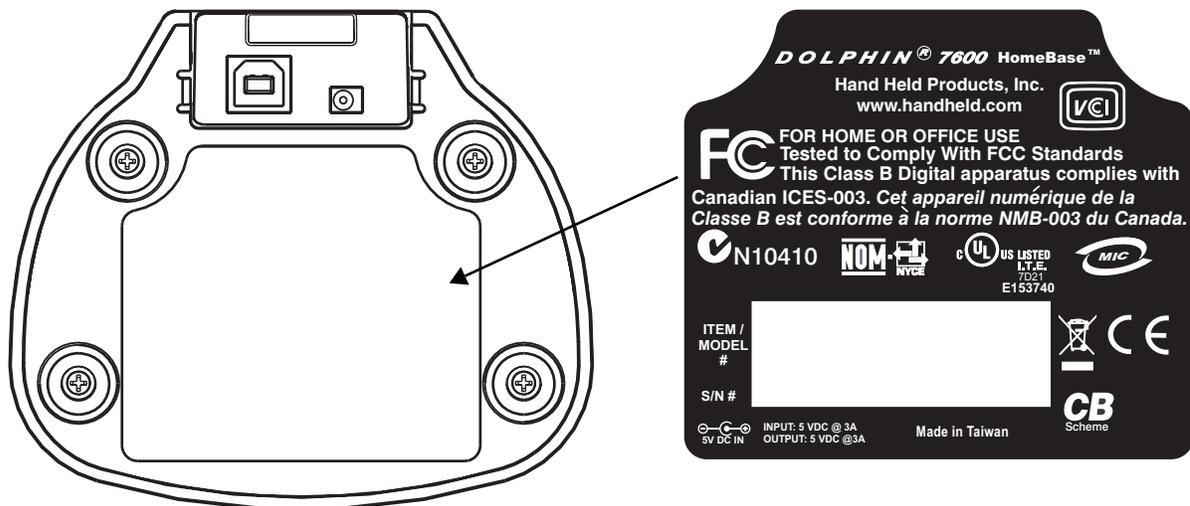
DC Power Jack

Connect the power cable to this power jack; see [Powering the Dolphin HomeBase](#) on page 9-3.

USB Port

This USB port is full-speed (v1.1). Using the USB cable, you can connect the HomeBase to a USB-compliant device to facilitate USB communication to and from the terminal. USB communication occurs through Microsoft ActiveSync (v.3.7 or higher). For more information about ActiveSync setup, see [ActiveSync Communication](#) on page 6-4.

Bottom Panel

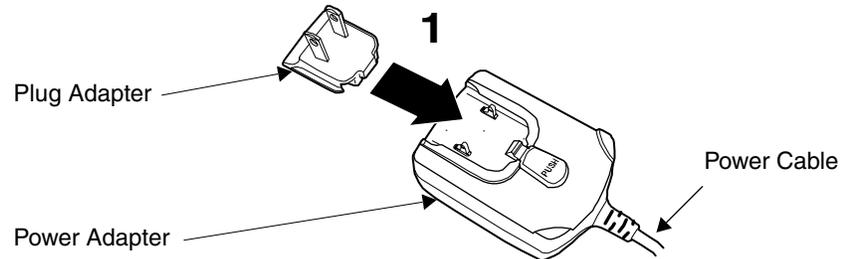


Powering the Dolphin HomeBase

The terminal requires 5 volts DC input for communication and battery charging; the power adapter on the power cable converts the voltage from the power source to 5 volts DC. Only power adapter cables from Hand Held Products convert the voltage appropriately.

The same power cable that ships with each terminal can be used to power the HomeBase. This cable contains a plug adapter for each geography (US, UK, EU, etc.).

1. Attach the appropriate plug adapter to the power adapter.



2. Plug the power cable into the power source.
3. Plug the connector into the DC power jack on the back panel. The Dolphin HomeBase is now powered.

When a terminal is properly seated in the terminal well, the Dolphin HomeBase powers the terminal, charges the terminal's main battery pack, and launches ActiveSync (see [ActiveSync Communication](#) on page 6-4).

Hand Held Products recommends that you leave the Dolphin HomeBase connected to its power source at all times, so that it is always ready to use.

Charging the Main Battery

The Dolphin HomeBase powers the terminal and fully charges its main battery pack in less than four hours. To check battery power, see [Power](#) on page 6-11.

As battery packs charge, the charging circuitry follows the two-step charging process (CC-CV) that is recommended for Li-Ion batteries. The process monitors changes in temperature, current, and voltage.

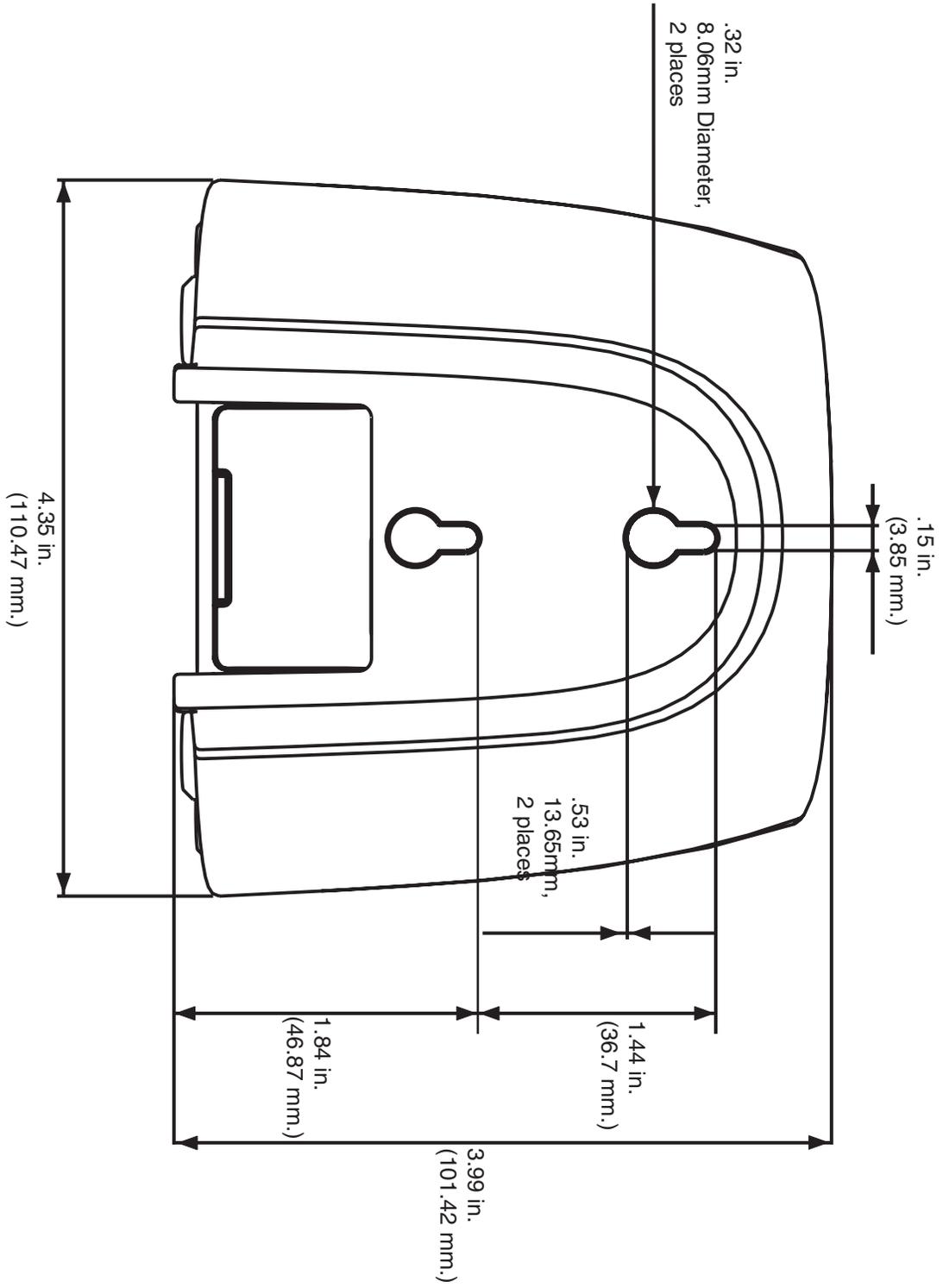
Inserting a Terminal

1. Install the battery pack in the terminal; see [Install the Main Battery](#) on page 2-1.
2. Power the Dolphin HomeBase; see [Powering the Dolphin HomeBase](#) on page 9-3.
3. Slide the terminal into the terminal well until the Dock LED lights green to indicate that the terminal is properly seated.
4. The battery pack begins charging.

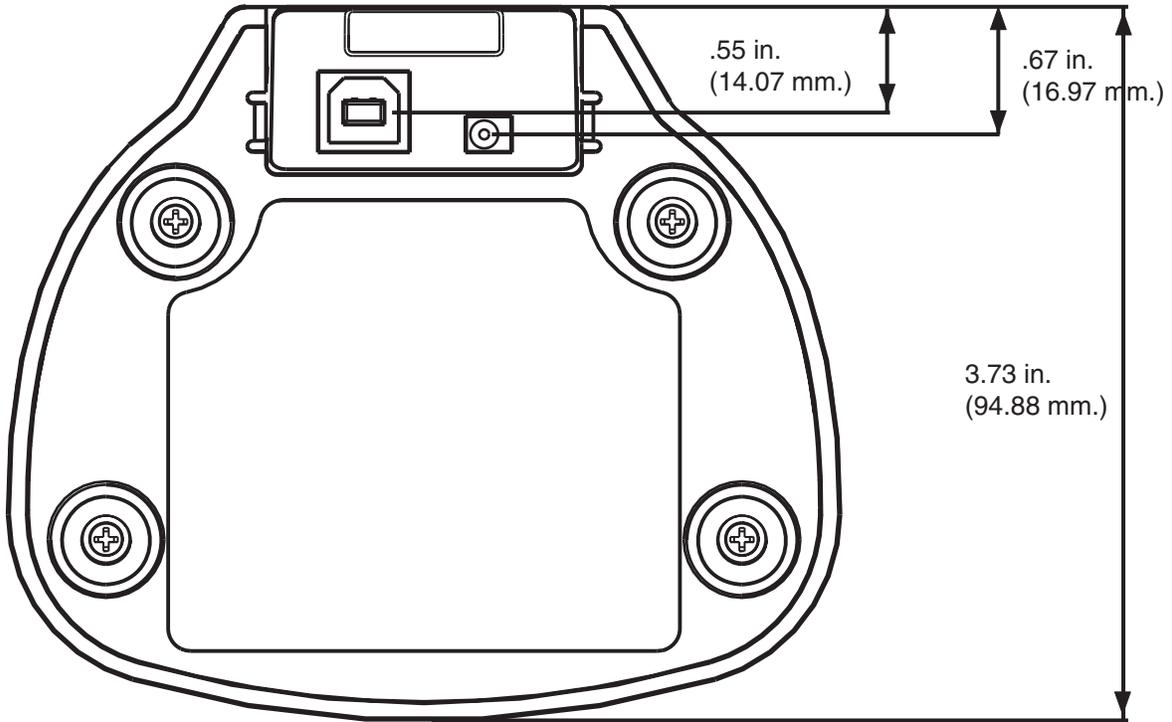
Mounting the Dolphin HomeBase

If you want to mount the HomeBase to a vertical surface, be sure to provide enough workspace with good lighting for the user to view and operate the Dolphin terminal while it is in the HomeBase. Use the screws appropriate to the vertical surface you are mounting to.

Back Panel Dimensions



Bottom Panel Dimensions



Note: The pivot connector should be facing straight out the bottom panel (as shown) when mounting the HomeBase to a vertical surface.

Dolphin HomeBase Technical Specifications

Structural	
Dimensions	? " high X ? " wide X ? " deep (? X ? X ? cm)
Weight	???
Material	Case: Polycarbonate ABS blend
Color	Gray
Environmental	
Operating Temperature	32° to 122°F (0° to 50°C)
Storage Temperature	-4° to 158°F (-20° to 70°C)
Electrical Static Discharge	8 KVA immunity on all surfaces
Humidity	Up to 95% non-condensing humidity
Power Supply	
Input (Universal) (from the power source)	100–250 Volts, 1.0 A, 50–60Hz Power adapter converts the input voltage to the appropriate voltage for the HomeBase. (p/n 41206341-01)
Output (to the HomeBase)	5 Volts DC, 4.0 A
Input Connection	3 Position IEC-320-C14
Charging	
Standard Charge	Completes 100% charge of Li-ion battery packs in four hours or less
Max Charging Current	2A Max
Standby Current	<100mA
DOCK LED	See Dock LED on page 9-2.
Communication	
Interface	<ul style="list-style-type: none"> • USB B Male connector supports 12 Mbps communication • RS-232 DB-9 Female connector supports up to 115 Kbps communication
Agency Approvals	
Power Supply:	UL listed, TUV licensed Power Supply compliant to FCC part 15 Class B
Charging:	CE Marking (EMC)
Fire Retardant:	UL 94-VO

Overview

The Dolphin QuadCharger is a four-slot charging station that charges both 2200mAh or 3240mAh Li-ion battery packs in less than four hours.

Battery Charging

Each slot works independently of the other three. As battery packs charge, the charging circuitry follows the two-step charging process (CC-CV) that is recommended for Li-ion batteries. The process monitors changes in temperature, current, and voltage. The charger also resets and calibrates battery pack data to accurately show battery status on the Dolphin display.

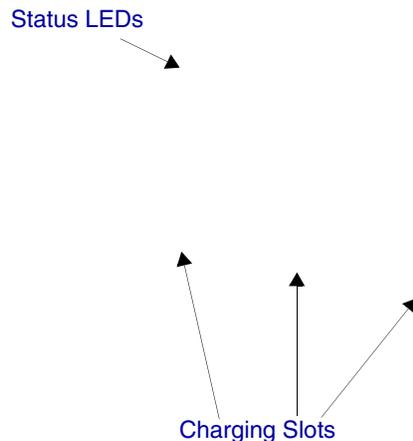


Use only the peripherals, power cables, and power adapters from Hand Held Products. Use of peripherals, cables, or power adapters not sold/manufactured by Hand Held Products will void the warranty and may damage the terminal.



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 bat

Front Panel



Charging Slots

The QuadCharger contains four charging slots. Each slot holds one battery. When a battery is placed in a slot, it immediately begins charging.

Status LEDs

A status LED is located above each of the four battery slots. The color of the LED indicates the charge status of the batteries in its slot.

Status LED color	Description
Green (solid)	The battery has completed its charge cycle and is ready for use.
Orange (solid)	The battery is charging.
Red (flashing)	The QuadCharger encountered an error during the most recent charge cycle.

Back Panel



Power Switch

Toggle the power switch to turn the QuadCharger on and off.

Power Supply Connector

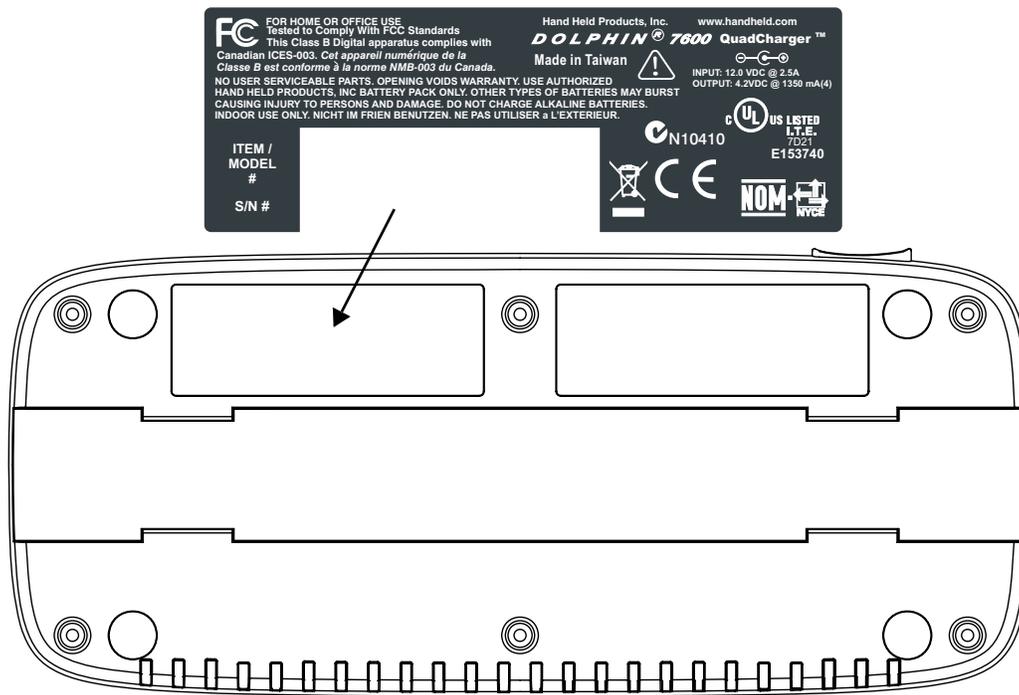
Use this connector to attach the power supply to the QuadCharger. The universal power supply accepts input voltages between 90-265 volts.

Supplying Power to the QuadCharger

Use the power adapter cable that comes with the Dolphin QuadCharger so that the input voltage is adjusted appropriately.

1. Locate the AC power adapter cable and plug it into the power source.
2. Connect the power cable to the power adapter.
3. Connect the power cable to the power supply connector on the back of the QuadCharger.
4. Press the power switch to the ON position.
5. The device performs the following power-up diagnostic routine for each bay indicated by the Status LEDs.:
 - All ON Orange
 - delay (500ms)
 - All ON Red
 - delay (500ms)
 - All ON Green
 - delay (500ms)
 - All OFF

Bottom Panel



Inserting and Removing Battery Packs

To insert a battery pack, place the end of the battery without the locking tab into the bottom of the charging pocket and snap the battery into place with a hinging motion. The Status LED for that particular slot illuminates orange when the battery has been properly inserted. To remove a battery pack, push the locking tab down and pull the battery out from the charging slot with a hinging motion.

Charging Batteries in the QuadCharger

For best results, battery packs should be at room temperature before recharging them; temperature has a marked effect on charging. The recommended temperature range is 50° to 95° F (10° to 35° C).

1. Supply the QuadCharger with power and turn the power switch on.
2. Insert batteries into the appropriate slots. The Status LED for each slot turns orange to indicate that the battery has begun a charge cycle.
3. When the Status LED turns green, the battery in the slot has completed charging.

Recommendations for Storing Batteries

To maintain top performance from batteries, follow these storage guidelines:

- Avoid storing batteries outside of the specified temperature 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.

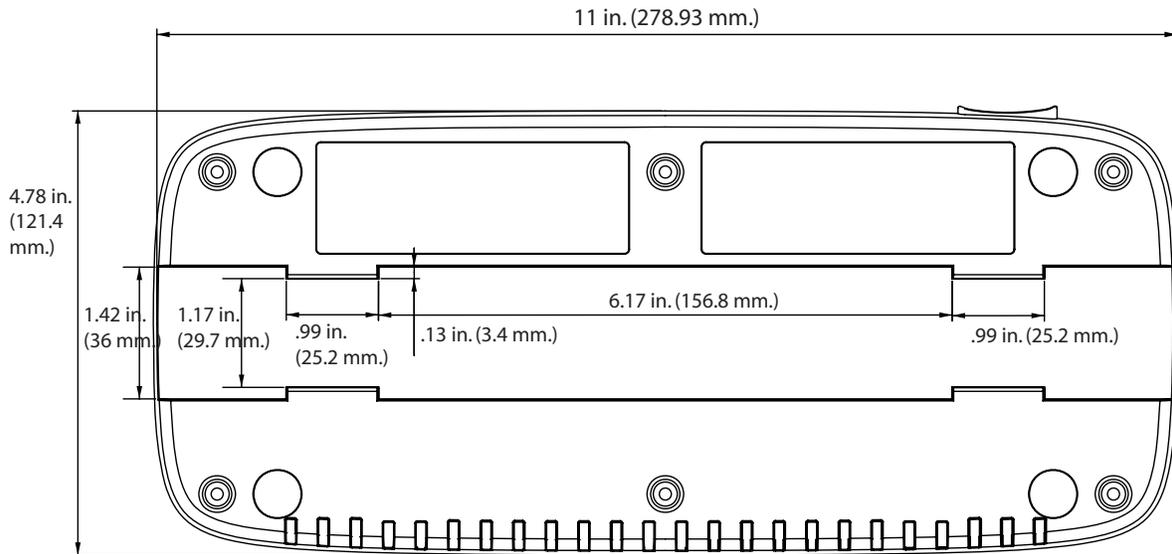
Mounting the QuadCharger

The Dolphin QuadCharger should be on a dry, stable surface. To easily adapt the QuadCharger to your environment, it can be mounted on a flat, horizontal surface such as a desktop or workbench, or a flat, vertical surface such as a wall using a DIN rail on the bottom panel.

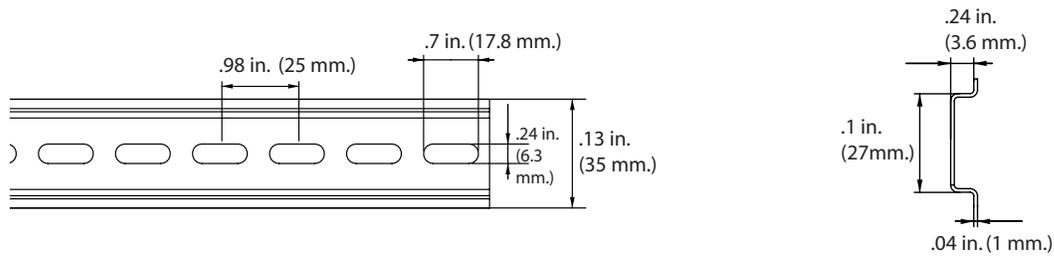
Note: When choosing a location, always bear in mind that the mounting location must allow users easy access to power switch and power connector.

To mount the Dolphin QuadCharger, you slide the DIN Rail into the slot on the bottom panel. Then, using the appropriate nuts and bolts, secure the DIN rail to the desk or wall.

Bottom Panel



DIN Rail



Troubleshooting

If you encounter problems with your Dolphin QuadCharger, refer to chart below for possible solutions. If problems persist, please contact [Technical Assistance](#) (see page 11-2).

Problem	Issue
The Status LED does not come on when I insert a battery pack into the Dolphin QuadCharger	Check the power connections on the Dolphin QuadCharger; make sure the POWER switch is ON and the battery pack is properly seated.
The Status LED lights red during charging.	Try to charge the battery in one of the other charging slots. If the red Status LED comes on again, then the problem is associated with the battery pack. If the red status stays with the charging slot, the problem is associated with the charging circuitry.
The Status LED lights red and stays on without a battery in the charging slot.	An error occurred during the self-diagnostic test for that particular charging pocket. Call Hand Held Products Product Service and Repair (see page 11-1) to request an RMA.

Dolphin QuadCharger Technical Specifications

Structural	
Dimensions	11in. long X 4.78 in. wide X ?? in. high (27.9 cm X 12.1 cm X ?? cm.)
Weight	18 oz. (510g)
Material	Case: Polycarbonate ABS blend
Color	Blue/Gray
Mounting	Use DIN rail slide to mount to a desktop or wall; see DIN Rail on page 10-4.
Capacity	Supports 1 to 4 batteries
Environmental	
Operating Temperature	14° to 122°F (-10° to 50°C)
Storage Temperature	-4° to 140°F (-20° to 60°C)
Electrical Static Discharge	8 KVA immunity on all surfaces
Humidity	90% relative humidity (non-condensing)
Power Supply	
Input (Universal)	100V-240V (+/- 10%), 50-60Hz
Output	12Volts DC, 2.5 A
Input Connection	2 Position IEC 320-C8
Charging	
Standard Charge	Completes 100% charge in four hours
Status LED	See Status LEDs on page 10-1.
Agency Approvals	
Power Supply	UL listed (UL 1950), TUV licensed (EN60 950STD) Power Supply compliant to FCC part 15 Class B
Charging	CE Marking (EMC); CISPR Pub 22, FCC Part 15 Class B
Fire Retardant	UL94 V-0

Product Service and Repair

Hand Held Products provides service for all its products through service centers throughout the world. To obtain warranty or non-warranty service, return the unit to Hand Held Products (postage paid) with a copy of the dated purchase record attached. Contact the appropriate location below to obtain a Return Material Authorization number (RMA #) before returning the product.

North America

Hand Held Products Corporate Offices
Telephone: (800) 782-4263, option 3
Fax: (704) 566-6015
E-mail: naservice@handheld.com

América Latina

Hand Held Products América Latina
Teléfono: (800) 782-4263, opción 8, opción 4
Teléfono: (704) 998-3998, opción 8, opción 4
Fax: (239) 263-9689
E-mail: laservice@handheld.com

Brasil

Hand Held Products São Paulo
Teléfono: Int+55 (11) 2178-0500
Fax: Int+55 (11) 2178-0502

Hand Held Products Rio de Janeiro
Teléfono: Int+55 (21) 2178-0500
Fax: Int+55 (21) 2178-0505

São Paulo and Rio de Janeiro
E-mail: brservice@handheld.com

México

Hand Held Products México
Teléfono: Intl+52 (55) 5203-2100
Fax: Intl+52 (55) 5531-3672
E-mail: mxservice@handheld.com

Europe, Middle East, and Africa

Hand Held Products Europe
Telephone: +31 (0) 40 29 01 633
Fax: +31 (0) 40 2901631
E-mail: euservice@handheld.com

Asia Pacific

Hand Held Products Asia/Pacific
Telephone: +852-2511-3050
Fax: +852-2511-3557
E-mail: apservice@handheld.com

Japan

Hand Held Products Japan
Telephone: +81-3-5770-6312
Fax: +81-3-5770-6313
E-mail: apservice@handheld.com

Online Product Service and Repair Assistance

You can also access product service and repair assistance online at www.handheld.com.

Technical Assistance

If you need assistance installing or troubleshooting, please call your Distributor or the nearest Hand Held Products technical support office:

North America/Canada:

Telephone: (800) 782-4263, option 4 (8 a.m. to 6 p.m. EST)
Fax number: (315) 685-4960
E-mail: natechsupport@handheld.com

América Latina:

Teléfono: (800) 782-4263, opción 8, opción 3
Teléfono: (704) 998-3998, opción 8, opción 3
E-mail: latechsupport@handheld.com

Brasil

São Paulo

Teléfono: Int+55 (11) 2178-0500
Fax: Int+55 (11) 2178-0502

Rio de Janeiro

Teléfono: Int+55 (21) 2178-0500
Fax: Int+55 (21) 2178-0505

São Paulo and Rio de Janeiro

E-mail: brtechsupport@handheld.com

México

Teléfono: (800) 782-4263, opción 8, opción 3
Teléfono: (704) 998-3998, opción 8, opción 3
E-mail: latechsupport@handheld.com

Europe, Middle East, and Africa:

Telephone-
European Ofc: Int+31 (0) 40 79 99 393
U.K. Ofc: Int+44 1925 240055
E-mail: eutechsupport@handheld.com

Asia Pacific:

Telephone: Int+852-3188-3485 or 2511-3050
E-mail: aptechsupport@handheld.com

Online Technical Assistance

You can also access technical assistance online at www.handheld.com.

Limited Warranty

Hand Held Products, Inc. ("Hand Held Products") warrants its products to be free from defects in materials and workmanship and to conform to Hand Held Products' published specifications applicable to the products purchased at the time of shipment. This warranty does not cover any Hand Held Products product which is (i) improperly installed or used; (ii) damaged by accident or negligence, including failure to follow the proper maintenance, service, and cleaning schedule; or (iii) damaged as a result of (A) modification or alteration by the purchaser or other party, (B) excessive voltage or current supplied to or drawn from the interface connections, (C) static electricity or electro-static discharge, (D) operation under conditions beyond the specified operating parameters, or (E) repair or service of the product by anyone other than Hand Held Products or its authorized representatives.

This warranty shall extend from the time of shipment for the duration published by Hand Held Products for the product at the time of purchase ("Warranty Period"). Any defective product must be returned (at purchaser's expense) during the Warranty Period to Hand Held Products' factory or authorized service center for inspection. No product will be accepted by Hand Held Products without a Return Materials Authorization, which may be obtained by contacting Hand Held Products. In the event that the product is returned to Hand Held Products or its authorized service center within the Warranty Period and Hand Held Products determines to its satisfaction that the product is defective due to defects in materials or workmanship, Hand Held Products, at its sole option, will either repair or replace the product without charge, except for return shipping to Hand Held Products.

EXCEPT AS MAY BE OTHERWISE PROVIDED BY APPLICABLE LAW, THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER COVENANTS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, ORAL OR WRITTEN, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

HAND HELD PRODUCTS' RESPONSIBILITY AND PURCHASER'S EXCLUSIVE REMEDY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT. IN NO EVENT SHALL HAND HELD PRODUCTS BE LIABLE FOR INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, AND, IN NO EVENT, SHALL ANY LIABILITY OF HAND HELD PRODUCTS ARISING IN CONNECTION WITH ANY PRODUCT SOLD HEREUNDER (WHETHER SUCH LIABILITY ARISES FROM A CLAIM BASED ON CONTRACT, WARRANTY, TORT, OR OTHERWISE) EXCEED THE ACTUAL AMOUNT PAID TO HAND HELD PRODUCTS FOR THE PRODUCT. THESE LIMITATIONS ON LIABILITY SHALL REMAIN IN FULL FORCE AND EFFECT EVEN WHEN HAND HELD PRODUCTS MAY HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH INJURIES, LOSSES, OR DAMAGES. SOME STATES, PROVINCES, OR COUNTRIES DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

All provisions of this Limited Warranty are separate and severable, which means that if any provision is held invalid and unenforceable, such determination shall not affect the validity of enforceability of the other provisions hereof.

Hand Held Products extends these warranties only to the first end-users of the products. These warranties are non-transferable.

The limited duration of the warranty for the Dolphin 7600 is as follows:

- Terminals with an integrated imager are covered by a two-year limited warranty.
- Terminals with an integrated laser engine are covered by a one-year limited warranty.
- Touch screens are covered by a one-year limited warranty.
- Dolphin HomeBase, Dolphin Mobile Mount, Dolphin ChargeBase, Dolphin Mobile Charger, and Dolphin QuadCharger are covered by a one-year limited warranty.
- Use of any peripheral not manufactured/sold by Hand Held Products will void the warranty. This includes but is not limited to: cables, power supplies, cradles, and docking stations.
- Use only power adapters approved for use by Hand Held Products. Failure to do so may result in improper operation or damage to the unit and will void the warranty.
- Batteries are covered by a one-year limited warranty. Use of any battery not sold/manufactured by Hand Held Products may damage the terminal and/or the battery and will void the warranty. Batteries returned to Hand Held Products in a reduced state may or may not be replaced under this warranty. Battery life will be greatly increased when following the battery instructions in the Dolphin 7600 User's Guide.

How to Extend Your Warranty

Hand Held Products offers a variety of service plans on our hardware products. These agreements offer continued coverage for your equipment after the initial warranty expires. For more information, contact your Sales Representative, Customer Account Representative, or Product Service Marketing Manager from Hand Held Products, or your Authorized Reseller.



Hand Held Products, Inc.

700 Visions Drive

P.O. Box 208

Skaneateles Falls, NY 13153-0208