Reference Manual

9500

Version 1.01

CIPHER LAB

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CIPHERLAB CO., LTD.
Website: http://www.cipherlab.com

FCC Regulations

This equipment has been tested and found to comply with the limits for a **Class B** digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one 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.

Safety Precautions

- RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE
- DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS
- The use of any batteries or charging devices, which are not originally sold or manufactured by CipherLab, will void your warranty and may cause damage to human body or the product itself.
- The charging and communication cradle uses an AC power adaptor. A socket outlet shall be installed near the equipment and shall be easily accessible. The power adaptor should comply with L.P.S test. Make sure there is stable power supply for the terminal or its peripherals to operate properly.
- DO NOT disassemble, incinerate or short circuit the battery pack.
- DO NOT expose the terminal or the battery pack to any flammable sources.
- Under no circumstances, internal components are self-serviceable.

Care & Maintenance

- This terminal is intended for industrial use. The terminal is rated IP 64, however, it may do damage to the terminal when being exposed to extreme temperatures or soaked wet.

- When the body of the terminal gets dirty, use a clean and wet cloth to wipe off the dust. DO NOT use/mix any bleach or cleaner. Always keep the LCD dry.

- For a liquid crystal display (LCD) or touch screen, use a clean, non-abrasive, lint-free cloth to wipe dust off the screen. DO NOT use any pointed or sharp object to move against the surface.

- Battery disposal – For green-environment issue, it is important that batteries should be recycled in a proper way.

- If you want to put away the terminal for a period of time, download the collected data to a host computer, and then take out the battery pack. Store the terminal and battery pack separately.

- When the terminal resumes its work, the main and backup batteries will take a certain time to become fully charged.

- If you shall find the terminal malfunctioning, write down the specific scenario and consult your local sales representative.

Power Management

For any portable device, power management is a critical issue especially when you are on the road. Below are some tips to help you save battery power.

- If you need to speed up charging the terminal, turn it off while being seated in the cradle.
- Bring a second battery pack on the road.
- Others include:

Go to Start > Settings > System tab > Backlight

Configure system settings to turn off the LCD backlight when the terminal is not in use for a period of time.

Start > Settings > System tab > Backlight Control

Configure system settings to dim the LCD backlight when in a well-lit working area, or configure to auto adjust by the battery's capacity.

Go to Start > Settings > System tab > Power > Wireless tab

Configure system settings to turn off the wireless signals when not in use (Flight mode).

Go to Start > Settings > System tab > Power > Advanced tab

Configure system settings to turn off the terminal when not in use for a period of time.

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Preface

The 9500 Portable Data Terminal is the first in the line of Syntech's Windows Mobile-based products that runs on Windows Mobile 2003 and integrates powerful utilities for data collection, processing, and transmission. Its large color transflective TFT display guarantees ease in reading in all lighting conditions. Built-in with a wireless combo module for Bluetooth and 802.11b technologies, the 9500 terminal delivers wireless connectivity seamlessly.

The 9500 terminal is robust in construction to meet industry grade requirements, and has been found durable and resistant to shock, water, and dust. It is specifically designed for all-day, everyday use as well as for data-intensive applications in harsh environments.

This manual serves to guide you through how to install, configure, and operate the terminal. The Care & Maintenance section is specifically prepared for those who are in charge of taking care of the terminal.

We recommend you to keep one copy of the manual at hand for quick reference or maintenance purposes. To avoid any improper disposal or operation, please read the manual thoroughly before use.

Thank you for choosing the CipherLab products!

Revision History

Version	Release Date	Notes
1.01	May 23, 2006	Company name changed to CIPHERLAB CO., LTD. since April 2006
		◆ Modified: section 1.2.3 Dimensions & Specifications
		◆ Modified: sections 1.3.4 & 1.3.5 – usage of [Func]
1.00	Mar. 22, 2006	Official release

CHAPTER 1

Introducing 9500

This chapter explains the hardware parts and features of the 9500 terminal.

In This Chapter

1.1 Product Highlights

- Microsoft Windows Mobile 2003 Second Edition software for operating system
- 400 MHz Intel XScale PXA255 processor
- A color transflective TFT display delivers excellent visibility in all lighting conditions
- 128 MB non-volatile NAND flash memory to store OS and software programs

  (part of the free space is used as a storage card called DiskOnChip)
- 64 MB SDRAM to store and run programs, as well as store program data
- Expansion slots for memory card and peripherals - one CompactFlash (CF) Type II slot and one Secure Digital (SD) slot
- Ergonomic design, ruggedized yet streamlined, with hand strap for secure hold
- Built tough to survive harsh environments - splash, dust & drop resistant
- Dual mode support - One scan engine (integrated barcode scanner/imager) plus one RFID reader
- Wireless connectivity includes Bluetooth and 802.11b in a combo module
- Programmable feedback includes speaker and vibrator
- Accessories and peripherals include pistol grip, international AC charging cradle, etc.

1.2 Nomenclature

1.2.1 9500

LCD
(also a touch screen)

Stylus

LED Status Light

ENTER keys

SCAN button

POWER key

Reset button

Contacts for charging

Pistol Grip, optional
to be screwed
after removal of this cover

Hand Strap
to be screwed (up)
and hooked (down)
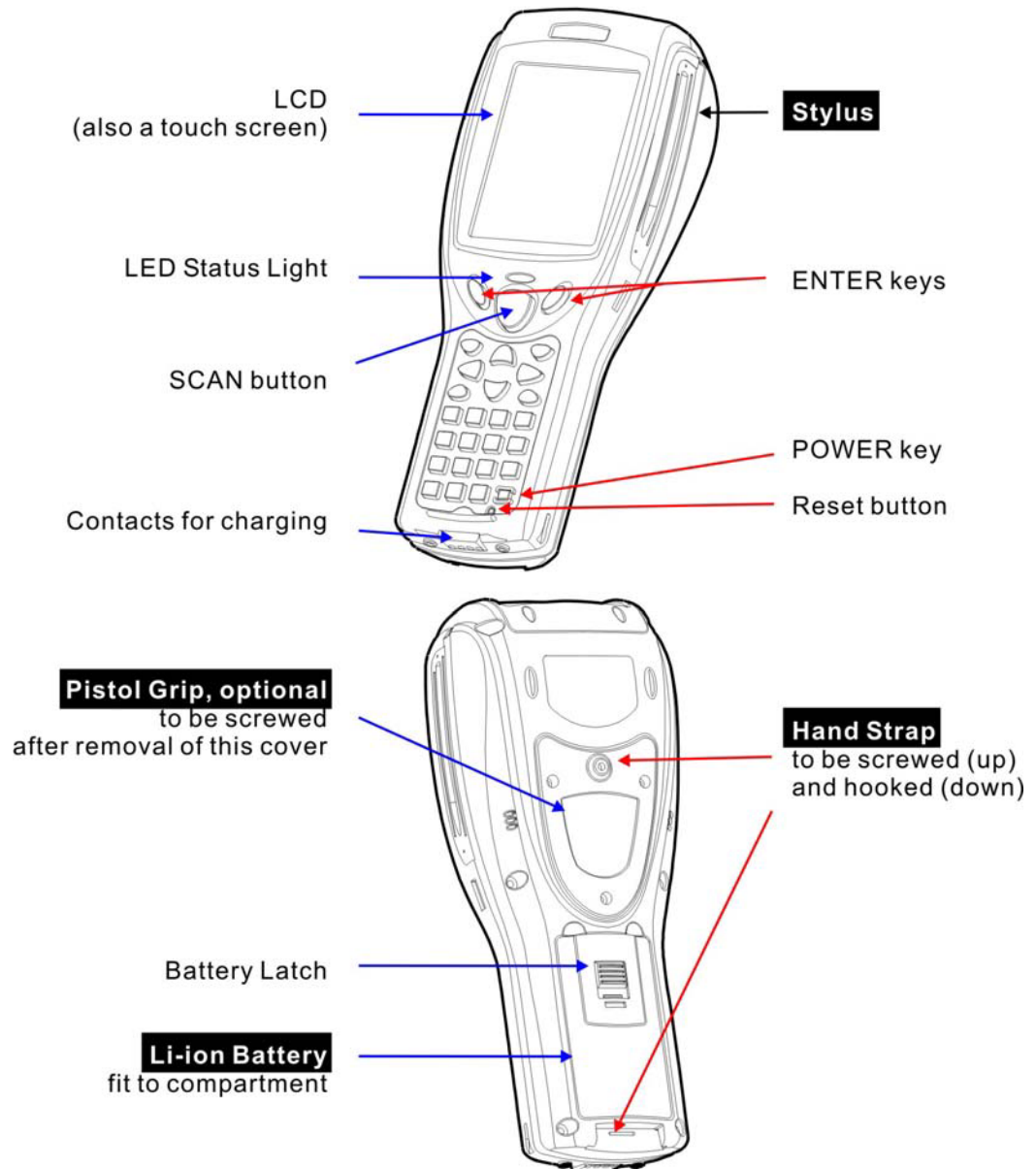
Battery Latch

Li-ion Battery
fit to compartment

Figure 1: Nomenclature (front & back)

1.2.2 Accessories & Peripherals

Scanning Window

SCAN Trigger

Pistol Grip, optional

Cradle, optional

Terminal Seat

Spare Battery Compartment
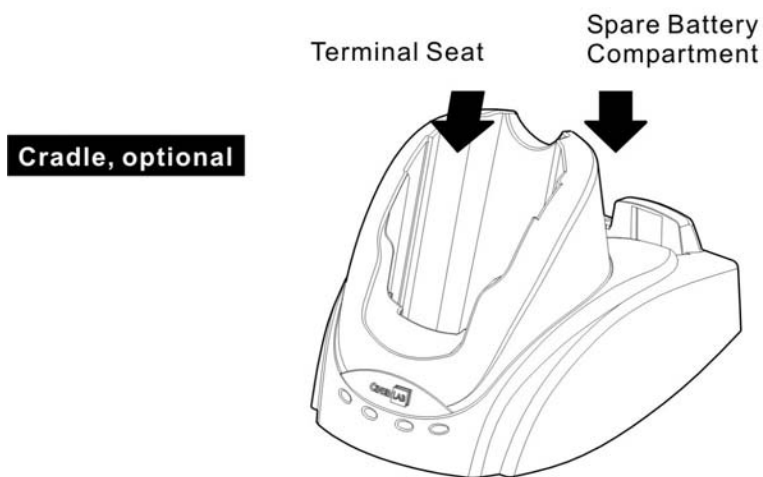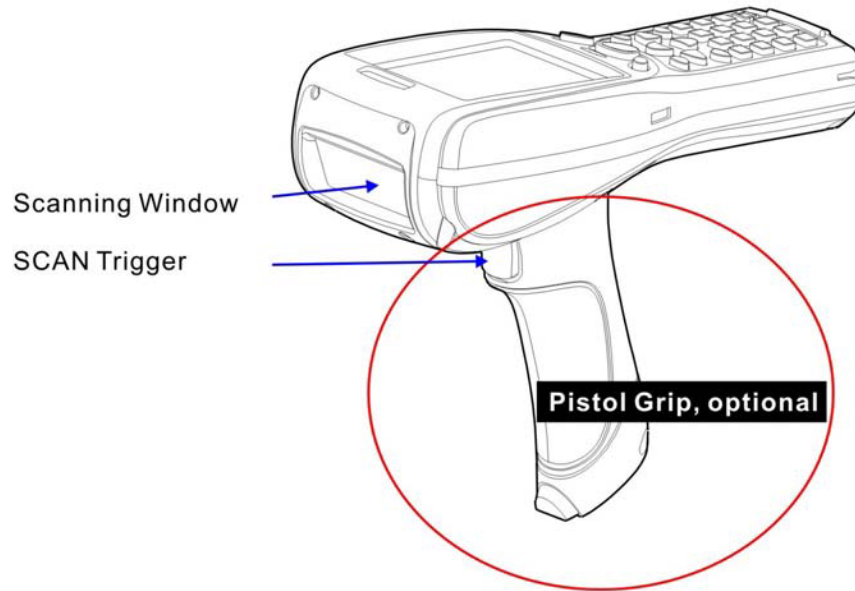
Figure 2: Nomenclature of accessories

1.2.3 Dimensions

91 mm

63 mm

230 mm

66 mm

40 mm
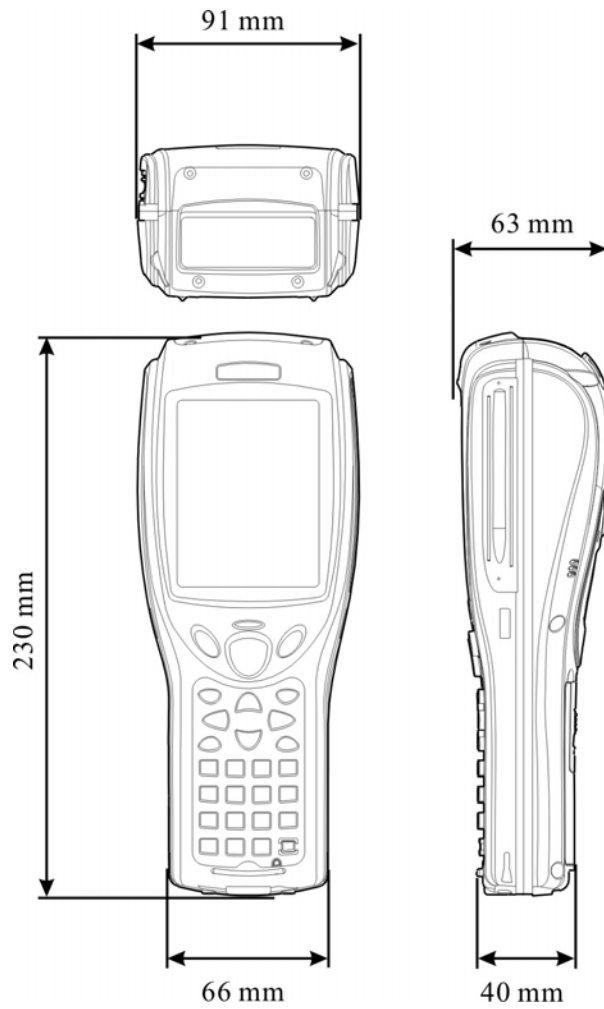
1.3 Features

1.3.1 Battery

Main Battery

The 9500 terminal is powered by a rechargeable 3.7 V/4000 mAh Li-ion battery pack. It takes approximately four hours to fully charge it. During normal operation, the terminal can work for up to 16 hours.

Warning: Using backlight, wireless connectivity, and peripherals while on battery power will substantially reduce battery life.

Backup Battery

A backup battery retains data in SDRAM and maintains the OS running in suspend mode for at least 30 minutes without the main battery.

Note: It takes approximately 8 hours to charge the backup battery to full.

Battery Charge

- Initial Charging

The main battery must be fully charged before using the terminal for the first time. Because the internal backup battery is constantly charged from the main battery, the initial charging requires installing the battery pack to the terminal and then seating the terminal in the cradle for charging. This will have main/backup batteries charged at the same time.

Note: For initial charging, we recommend that you install the main battery to the terminal and seat the terminal in the cradle to charge the main/backup batteries at the same time. It requires approximately 4 hours to fully charging the main battery.

- Caution of Low Battery Charge

The battery pack is the only power source for the terminal to work. It also charges the backup battery so that the data stored in SDRAM can be retained properly. Therefore, when the main battery charge goes low, replace the battery pack with a charged one or seat it in the cradle for charging as soon as possible. Always save data before it is too late.

Warning: Data loss may occur with SDRAM during low battery condition. Always save data before running out of power or keep a fresh battery for replacement.

▪ Warning of Low Battery & Very Low Battery
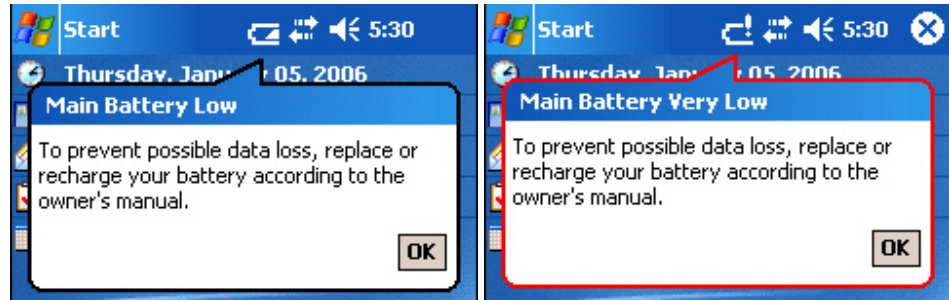
Battery Settings

Start > Settings > System tab > Power > Battery tab

◆ You can always monitor a low battery charge or discharged battery before you receive a warning message indicating a low battery condition.

◆ A battery bar will show the progress of charging.

Start > Settings > System tab > Power > Wireless tab

◆ The power to the wireless module is controlled by **Wireless Power Manager**.

◆ The wireless power settings below are provided only when the wireless power is turned on through **Wireless Power Manager**.

◆ You may need to configure these settings (Flight mode) to save battery power or avoid causing radio interference, especially when on an airplane or in a hospital. The wireless signals may come from Bluetooth, or 802.11b, or even both. Here you can select to turn off the wireless signals from either of them or both. If both the check boxes are selected, it results in the same behavior when you turn on/off the flight mode from the **Connectivity** button.

Start > Settings > System tab > Power > Advanced tab

◆ You may specify automatic turn-off times for the terminal to conserve power.

◆ When the terminal is turned off, it means the system is in Suspend mode, which is ready for use but not in use.
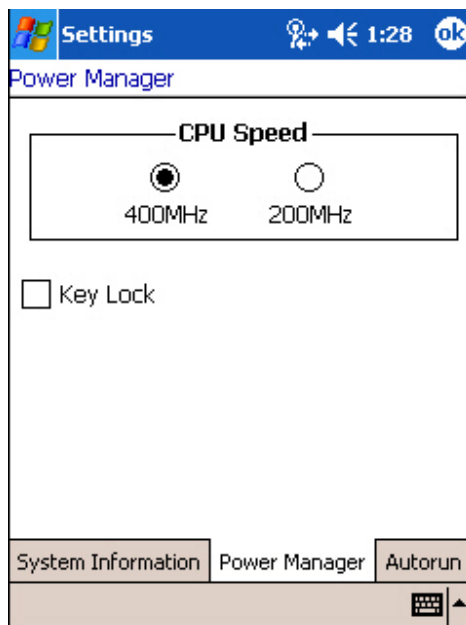
1.3.2 CPU

Built to run Windows Mobile 2003 Second Edition, the 9500 terminal is equipped with an Intel X-Scale 400 MHz RISC microprocessor that runs on a 200 MHz RAM BUS.

CPU Settings

Start > Settings > System tab > System Console > Power Manager tab

◆ You may select to set the CPU speed at either 400 MHz or 200 MHz.

1.3.3 Memory & Calendar

The terminal is equipped with two card slots, one SD and one CompactFlash Type II. You may upgrade memory by inserting an optional SD or CF memory card.

Warning:	If not factory-installed, the Ingress Protection rating of enclosures may not be the same as claimed.

Read-only Memory (ROM)

- A total of 128 megabytes flash memory.
- Mostly, it is for storing OS (Windows Mobile 2003) and custom application programs.
- Yet a small portion of the memory is referred to as DiskOnChip, which can store data and programs that you wish to retain even after a hard reset.

Random-access Memory (RAM)

- A total of 64 megabytes SDRAM.
- It is used for storing and running programs, as well as storing program data.
- Its contents will be retained by the backup battery.

Calendar

- Equipped with a calendar chip for accurate time/date logging.
- Non-stop operation is provided through the backup battery.

Caution of Data Loss

When the main battery is removed or drained, the backup battery is to retain the contents of SDRAM and maintain the OS in suspend mode for at least thirty minutes, on condition that the backup battery has already been fully charged.

If the terminal is to be put away for a couple of days, you should be aware that data loss occurs when both the main and backup batteries discharge completely. Therefore, it is necessary to backup data and files before putting away the terminal.

Memory Settings

Start > Settings > System tab > Memory > Main tab

◆ In this tab, it displays the current capacity and usage of the 64 MB onboard SDRAM.

◆ You may tap, hold, and drag the slider to re-allocate the memory.

SDRAM	Storage memory (left)	Program memory (right)
64 MB onboard	It refers to the memory allocated for file and data storage.	It refers to the memory allocated for running programs.

Start > Settings > System tab > Memory > Storage Card tab

◆ In this tab, it displays the current capacity and usage of the selected memory type, DiskOnChip, SD or CF card.

◆ The DiskOnChip is part of the onboard 64 MB flash memory. Because the flash memory is non-volatile, data or programs stored in DiskOnChip will not be erased after a hard reset.

Start > Settings > System tab > Memory > Running Programs tab

◆ In this tab, it displays the programs that are currently using the Program memory as indicated in the Main tab.

◆ If you receive program errors or find the terminal running slowly, you may need to free memory. Select from the list and stop any or all of the running programs.

Warning: Always remember to save data before you stop a running program.

Start > Settings > System tab > System Console > Autorun tab

◆ When a SD/MMC card is installed, you may select whether to enable the autorun feature or not. When enabled, executable files stored on the memory card will be executed automatically once the card is installed.

◆ SD refers to Secure Digital, memory card format based on MMC.

◆ MMC refers to Multi-Media Card, older memory card format.

1.3.4 Keyboard

The terminal is equipped with a physical keypad that consists of 27 keys. Silicon rubber has been chosen for their durability and prompt feedback.

The layout of the 27-key keypad includes alphanumeric, assorted characters, etc. This keypad is set to numeric mode by default.
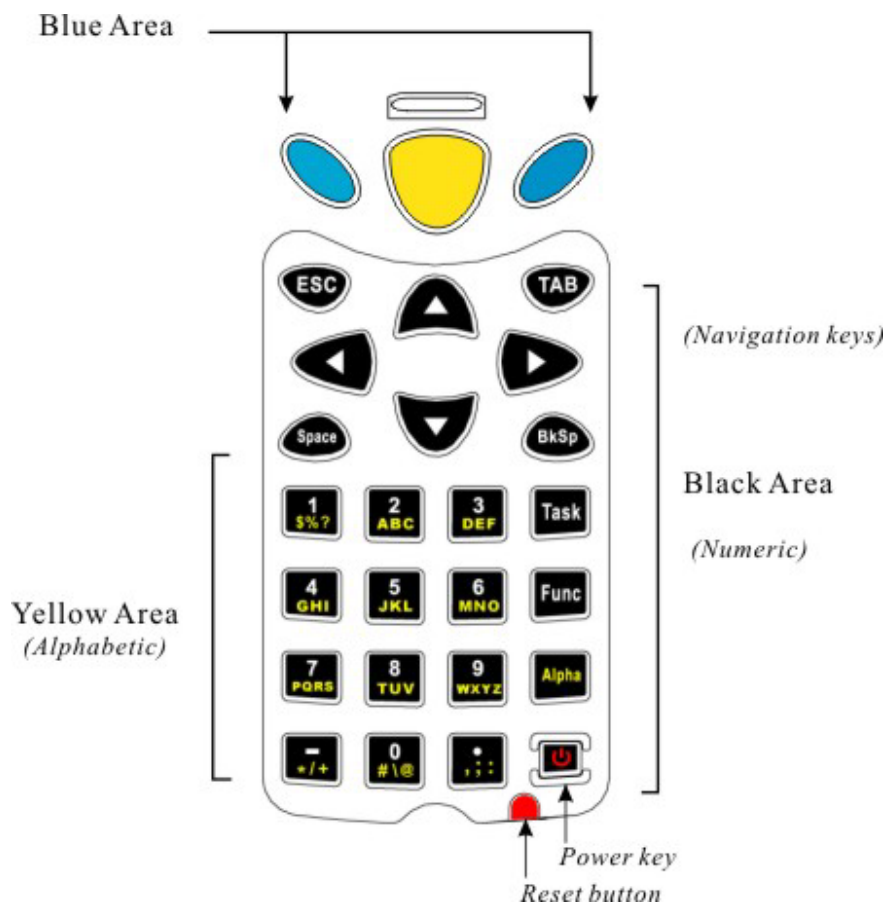
Figure 3: 27-key layout

Note: Functionality of keys is application-dependent.

Task Key

The [Task] key (indicated as Button 1) on the keypad can be configured as a shortcut key for a specific program or action. It is set to trigger File Explorer by default.

To launch File Explorer, press Task on the keypad.

1. Tap **Start** > **Settings** > **Personal** tab, and then select **Buttons** > **Program Buttons** tab.

2. You may select Button 1 and then assign it to trigger a different program, action, or <None>.
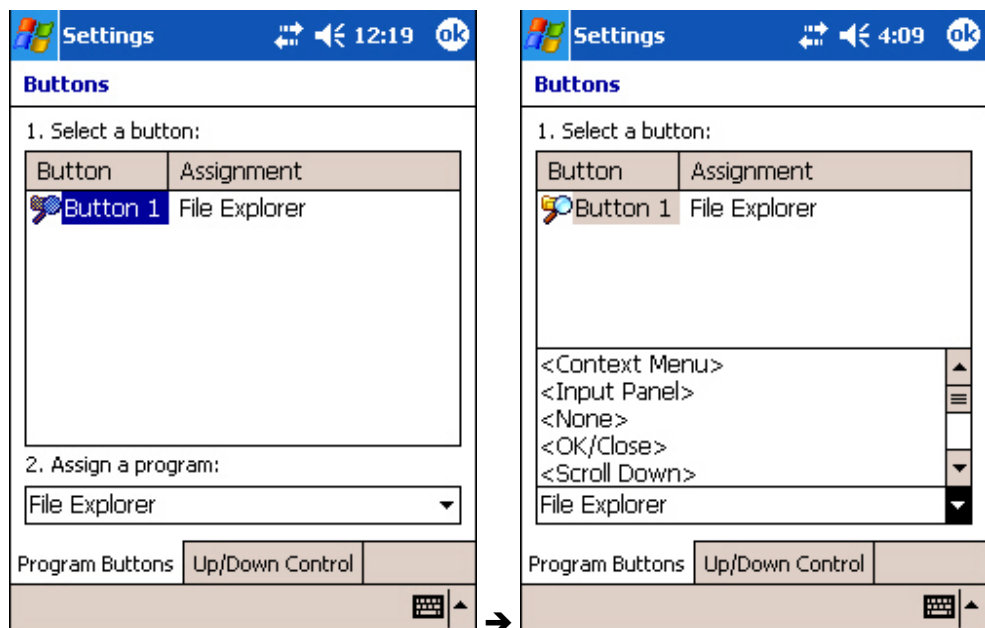
Func Key

The [Func] (function) key serves as a modifier key.

1. To enable this modifier key, press **Func** on the keypad.

   A yellow icon of the letter "F" will appear on the navigation bar. This modifier key is hold down as long as the icon is displayed.

2. Now press another key to get the value of key combination (say, press [1] to get the value of F1). The icon will go off now.

3. To get the value of another key combination modified by the [Func] key, repeat the above steps.

4. To abort the key modification, press **Func** again, and the icon will go off.

Note: It is not necessary to hold down the [Func] key.

The functionality of each key combination is application-dependent.

Here is a list of the factory setting for a variety of key combinations.

Key Combination	Action
Func + ▲	PgUp (red-coded): move text up one screenful
Func + ▼	PgDn (red-coded): move text down one screenful
Func + ◀	Home (red-coded): move to the beginning of screen or document
Func + ▶	End (red-coded): move to the end of screen or document
Func + TAB	Toggle ON/OFF the backlight of LCD and keypad
Func + 0 #\@	Toggle ON/OFF the backlight of keypad only
Func + − */+	Turn ON the backlight of LCD and decrease intensity
Func + . ,;:	Turn ON the backlight of LCD and increase intensity
Func + 6 MNO	Increase volume

	Decrease volume
Func + 7 PQRS	

Alpha Key

This alphanumeric keypad is set to numeric mode by default. The Alpha key serves as a toggle among numeric, alpha (lower case alphabetic), and ALPHA (upper case alphabetic) modes.

The alpha icon will appear on the navigation bar in a sequence as shown below.

Alpha Key	Input Mode	Result
N/A	Numeric mode	Pocket Word ⇄ ◀€ 2:52 ok
Press [Alpha] one time	Lower alpha mode	Pocket Word a ⇄ ◀€ 2:53 ok
Press [Alpha] two times	Upper alpha mode	Pocket Word A ⇄ ◀€ 2:53 ok

Note: It is not necessary to hold down the [Alpha] key.

However, the Alpha mode may not behave normally if the Caps lock of the software keypad is enabled.

Hardware Keypad	Software keypad	Example of resulted input mode
Alpha mode (A)	CAP on	abc
Alpha mode (a)	CAP on	ABC
Alpha mode (A)	CAP off	ABC
Alpha mode (a)	CAP off	abc

Note: Only when the Caps lock of the software keypad is disabled, the Alpha mode of hardware keypad will behave normally.

<u>Keypad Settings</u>

Func + 0 #\@

- The LED backlight of keypad is turned off by default. It can be controlled by using the key combination: [Func] + [0].

Start > Settings > Personal tab > Sounds & Notifications > Sound tab

- To configure the key click, go to **Start** > **Settings** > **Personal** tab > **Sounds & Notifications** > **Sound** tab, and select the **Hardware buttons** option.

Warning:	Using backlight while on battery power will substantially reduce battery life. It is suggested to turn on the keypad backlight while working in a dark area.

1.3.5 LCD

The terminal comes with a 3.5" TFT graphic LCD, 240 by 320 pixels resolutions. The LED backlight of screen, which helps ease reading under dim environments, can be controlled manually and automatically.

Warning:	Using backlight while on battery power will substantially reduce battery life. It is suggested to dim the backlight while working in a well-lit area or automatically turn off the terminal when not in use.

This LCD is also a touch screen that can be calibrated through screen alignment.

Warning:	DO NOT use any pointed or sharp objects to move against the surface of the screen.

LCD Settings

[Func] + [TAB]

◆ The LED backlight of screen is turned on by default. It can be manually controlled by using the key combination: [Func] + [TAB].

Start > Settings > System tab > Backlight

◆ Configure the LED backlight of screen. The backlight can be toggled on and off automatically, either on battery or AC power.

◆ To conserve more power, you may go to **Start** > **Settings** > **System** tab > **Power** to configure the auto turn-off setting.

Start > Settings > System tab > Backlight Control

◆ To configure the luminosity of backlight, tap, hold, and drag the slider.

◆ You may select to auto adjust backlight by the battery's capacity.

Start > Settings > System tab > Screen > Alignment tab

◆ Tap [Align Screen] to start with screen alignment if necessary.

Start > Settings > System tab > Screen > Clear Type tab

◆ You may select Clear Type for fonts.

Start > Settings > System tab > Screen > Text Size tab

◆ Tap, hold, and drag the slider to configure text size.

1.3.6 Status LED

The dual-color LED on top of the [Scan] button is used to provide information on status of wireless signal search or battery charging.

Tasks	Green LED	Red LED	Green & Red
Low battery	---	Flashing	---
Charging	---	On	---
Charge Done	On	---	---
Charging Error	---	---	Flashing
Wireless Signal Search	Flashing	---	---

1.3.7 Speaker

The speaker, a low power transducer type, can be used for playing audio files (WAV or MP3) or programmed for status feedback.

1.3.8 Vibrator

Like a modern mobile phone, the terminal is integrated with a vibrator. It is software programmable and especially useful when working in a noisy environment.

1.3.9 Barcode Reader

A wide variety of scan engine is available for delivering flexibility to meet different requirements.

Types of Scan Engine	Remarks
CCD scan engine	1D
Laser scan engine	1D
Long Range Laser scan engine	1D
Extra Long Range Laser scan engine	1D (with aiming beam)
2D scan engine	2D
RFID reader	13.56 MHz Multi-tag Reader

Note: The supported RFID tags include: ISO 15693, Icode®, Tagit®, SR176, ISO 14443A, and ISO 14443B.

Dual Mode Support

The terminal allows the co-existence of one integrated scan engine as well as the RFID reader.

1.3.10 Wireless Support

The 9500 terminal supports state-of-the-art wireless technologies so that it is able to send/receive data in real time in an efficient way. It comes with a combo wireless module supporting Bluetooth and 802.11b technologies.

Bluetooth Class 2

Bluetooth technology is for cable replacement & data exchange. With built-in Bluetooth technology, the terminal can directly communicate with any Bluetooth enabled device, not necessarily line-of-sight.

The terminal is capable of communicating with any Bluetooth-enabled devices within short range. The applications include synchronizing with a computer via ActiveSync, exchanging Personal Information Management (PIM) items and files, etc.

- Bluetooth is an industrial standard for Wireless Personal Area Networking (WPAN), which enables wireless communications within a short range.

- Generic Object Exchange Profile (GOEP) provides a basis for other data transfer profiles. It uses the OBEX protocol.

- Serial Port Profile (SPP) provides a wireless replacement for existing serial communications applications. It uses the RFCOMM protocol.

- Synchronization Profile (SYNCH) allows synchronization of Personal Information Manager (PIM) items. (GOEP based)

- Object Push Profile (OPP) allows exchange of objects such as pictures, virtual business cards, appointment details, etc. (GOEP based)

- File Transfer Profile (FTP) provides access to the file system on another device. (GOEP based)

802.11b

IEEE 802.11b is an industrial standard for Wireless Local Area Networking (WLAN), which enables wireless communications over a long distance.

The speed of connection between two wireless devices will vary with range and signal quality. To maintain a reliable connection, the 802.11b system automatically fallback from 11 Mbps to 5.5, 2 or 1 Mbps as range increases or signal quality decreases.

802.11b Specification

Frequency Range:	2.4 ~ 2.5 GHz
Data rate:	11, 5.5, 2, 1 Mbps auto-fallback
Connected devices:	1 for ad-hoc mode (No AP)
	Multiple for infrastructure mode (AP required)
Protocols:	IP/TCP/UDP
Coverage:	250 meters line-of-sight
Maximum Output Power:	100 mW
Spread Spectrum:	DSSS
Modulation:	DBPSK (1 Mbps), DQPSK (2 Mbps), CCK (11 Mbps)
Standard:	IEEE 802.11b, interoperable with Wi-Fi devices

(**Note: this device will be set to 2412-2462MHz with 11 channels by firmware before placing on USA market.**)

Maximum Output Power:	100 mW
Spread Spectrum:	DSSS
Modulation:	DBPSK (1 Mbps), DQPSK (2 Mbps), CCK (11 Mbps)
Standard:	IEEE 802.11b, interoperable with Wi-Fi devices

1.3.11 Resistance

Shock

The terminal is designed for harsh industrial environments, and is proved to survive drop test by the following criteria:

- Surface type: concrete

- Distance to surface: 1.5 meters

- Drop times: multiple

Splash & Dust

The terminal is sealed against moisture and dust to industry standard IP 64.

- 6 = Totally protected against dust

- 4 = Protection against water sprayed from all directions. That is, limited ingress is permitted.

Warning: If additional memory card or peripheral is not factory-installed, the Ingress Protection rating of enclosures may not be the same as claimed.

1.4 Unpacking the package

The following items are included in the package. Save the box and packaging material for future use when you need to store or ship the terminal.

Items	Quantity
9500 terminal	1
Rechargeable Li-ion battery pack	1
Stylus	1
Hand strap	1
Software CD & Reference Manual	1

Note: For battery charging, you will need to purchase a charging cradle separately.

1.5 Options

There are a number of optional accessories to enhance the total performance of the terminal. Refer to relevant sections for details on installation.

> Warning: The use of any batteries or charging cradle, which are not originally sold or manufactured by Syntech for its CipherLab product lines, will void your warranty and may cause damage to human body or the product itself.

Accessories	Features...
Memory Card	SD or CF card
Reader	One scan engine:
	◆ 1D - CCD, Laser, Long Range Laser, Extra Long Range Laser
	◆ 2D
	And/or the RFID reader
Rechargeable Battery Pack	Rechargeable Li battery for non-stop operation
Pistol Grip, Detachable	Facilitating scanning with one hand
Charging & Communication Cradle	Charging of the terminal and one spare battery at the same time while transmitting/receiving data.

C H A P T E R 2

Installing 9500

The terminal is designed for portable use, and it almost requires no installation except installing the battery pack and necessary auxiliary parts.

Here are some tips and suggestions that ensure safe and comfortable experience with the terminal.

- Battery Pack

    - Spare battery pack is convenient and necessary when on the road.

    - Be cautious of low battery conditions.

    - Turn off the backlight in a bright work area to save battery power.

    - Always use proprietary CipherLab batteries for safety concern.

    - Do not expose the battery to temperature in excess of 140°F (60°C).

    - Do not disassemble, incinerate or short circuit the battery pack.

- Hand Strap

    - The hand strap is ideal for one-handed operation, which requires safe and convenient hold of the portable terminal.

    - Always make sure the hand strap is well hooked and screwed to the back of the terminal.

- Pistol Grip

    - This contoured pistol grip enables intuitive trigger-and-scan operation, which is very helpful in scan intensive applications.

- Cradle

    - Capable of charging and communications at the same time.

    - One terminal seat for terminal with battery pack installed.

    - One spare battery compartment for a spare battery pack.

- Communications

    - Wired, making use of ActiveSync via the USB cradle.

    - Wireless, making use of wireless technologies, embedded Bluetooth or 802.11b.

2.1 Battery Pack

1. Place the terminal face down on a flat and clean surface.

2. Slide the battery pack into the battery compartment at a proper angle (30°~45°) so that the tabs on the bottom of the battery are hooked in the grooves of the compartment. Make sure that the battery is snugly fit into the compartment.

3. Hold the terminal still and slide the battery latch to lock the battery in the compartment.

Note: For a new battery, make sure it is fully charged before use.
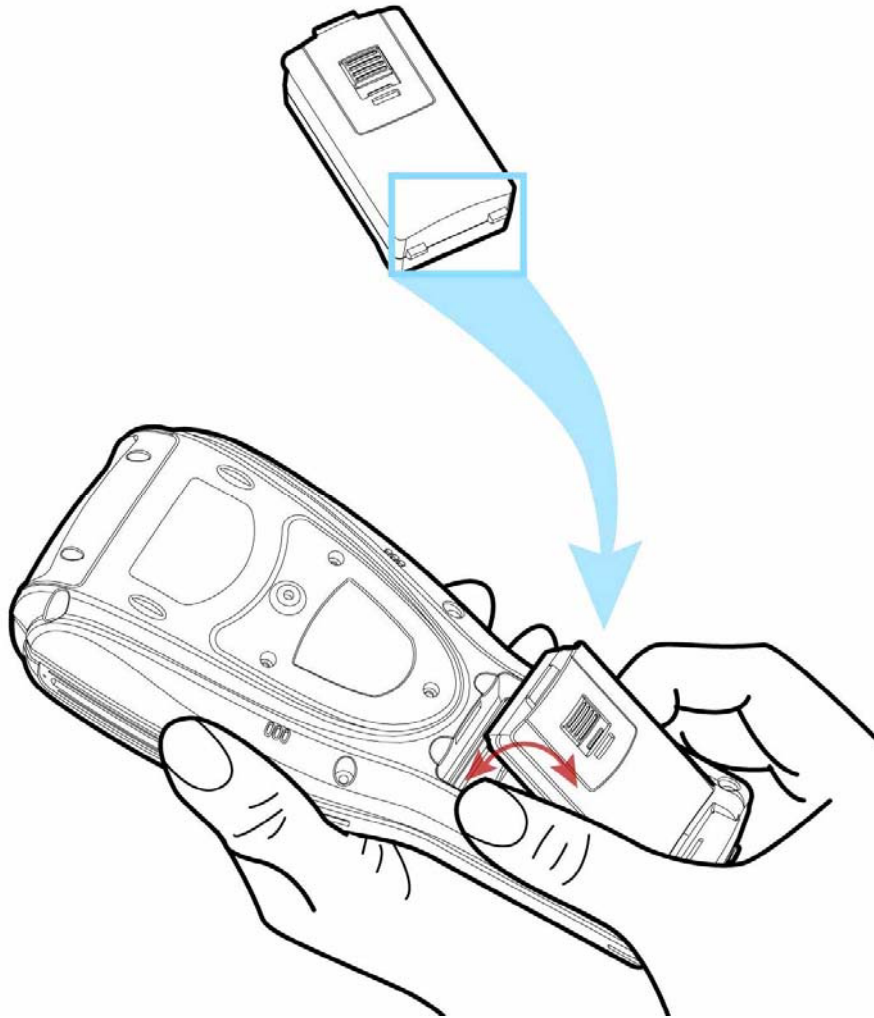
Figure 4: Installing battery pack

2.2 Hand Strap

When a hand strap is necessary, install it to the terminal by following the steps:

1. Place the terminal face down on a flat and clean surface.

2. Screw one end of the hand strap to the shield-like cover on the back of the terminal.

3. Insert and hook the other end of the hand strap to the bottom of the terminal.

4. Make sure the hand strap is securely attached to the terminal.

5. Adjust the length of the hand strap to suit your handbreadth.
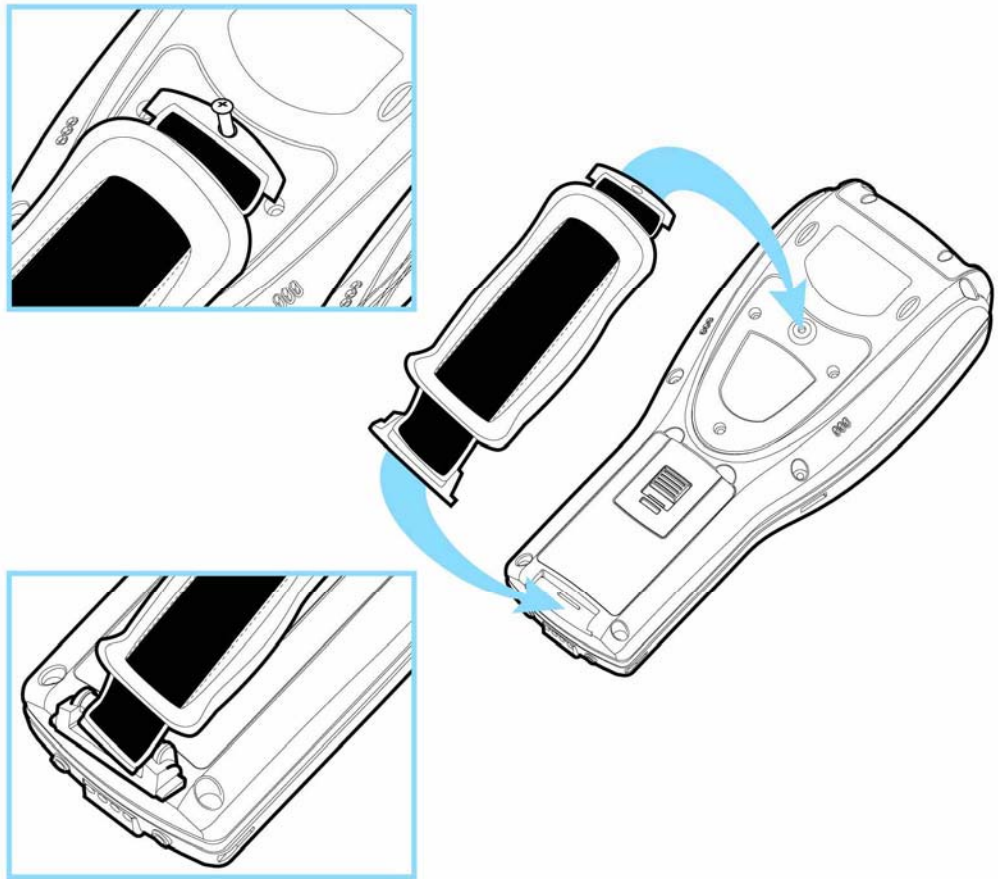
Figure 5: Installing hand strap

2.3 Pistol Grip

When a pistol grip is necessary, install it to the terminal by following the steps:

1. Place the terminal face down on a flat and clean surface.

2. Remove the shield-like cover on the back of the terminal by unscrewing.

   If there is a hand strap installed, remove it first. Keep the cover and screws for future use when the pistol grip is not desired.

3. Connect the power connector from the pistol grip to the receptacle on the terminal.

4. Screw the pistol grip to the shield-like cover.

5. Make sure all screws are tightened up but not over-tightened to damage the threads.

6. Turn on the terminal and test the trigger.

Figure 6: Installing pistol grip

2.4 Cradle

The cradle is designed for charging and communications at the same time.
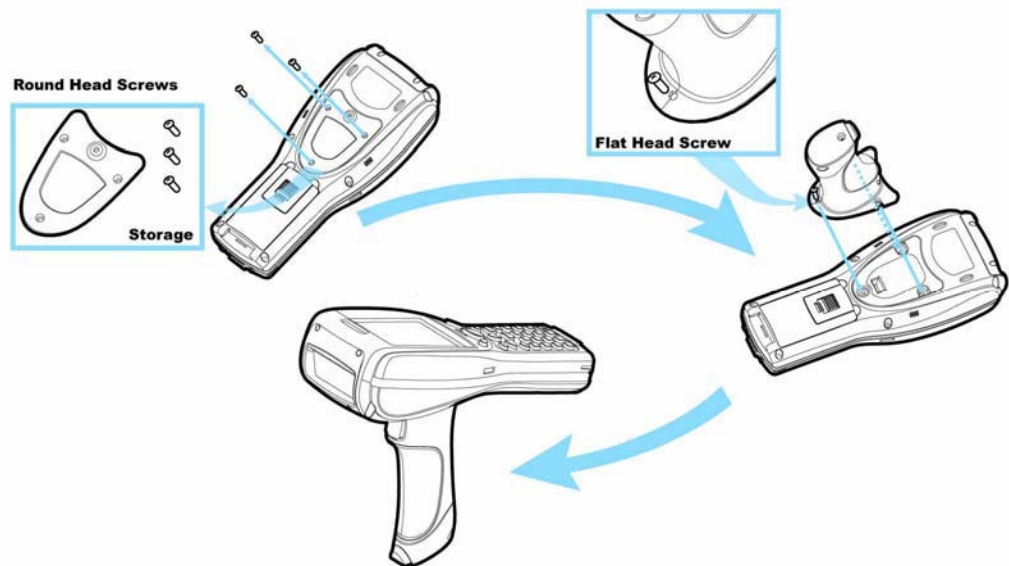
1. Place the cradle in a flat and clean surface.

2. Connect the line of the power adaptor to the power jack on the back of the cradle.

3. Connect the power adaptor to a suitable power outlet.

4. The cradle is ready for charging the terminal (loaded with main battery) and one spare battery pack.

    Seat the terminal and/or the spare battery pack then.

5. If data communications are desired at the same time, a USB connection must be established as well.

    Connect the USB cable from the back of the cradle to a computer.

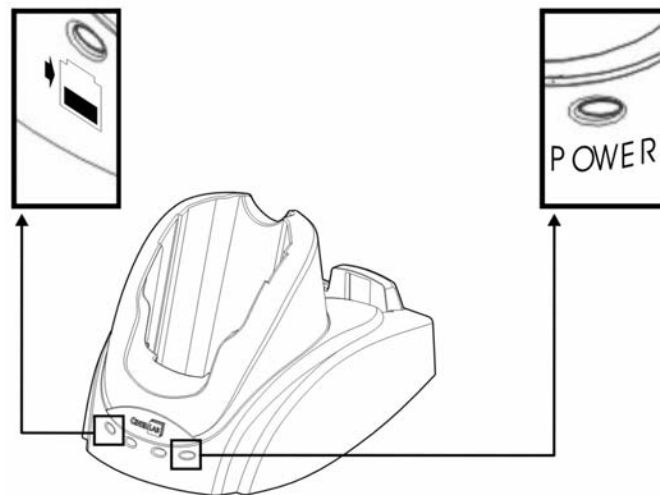Note: Make sure the connection is made secured.

2.4.1 Status Indicators

Figure 7: Cradle LEDs

Tasks		Green LED	Red LED	Green & Red
Power	Cradle Power	On	---	---
	Charging	---	On	---
	Charge Done	On	---	---
	Charging Error	---	---	Flashing

Warning: Charging error may occur due to a power failure or defected battery contacts.

2.4.2 Communications

When the cradle is set up,

1. Connect one end of the USB cable to the back of the cradle.

2. Connect the other end of the cable to a host computer.

The terminal is capable of wireless communications via the following technologies:

▪ Bluetooth
▪ IEEE 802.11b

Refer to relevant sections for more information: Set up Bluetooth Connection or Set up Wi-Fi Connection.

CHAPTER 3

Basics

This chapter mainly describes the basic skills to work with the 9500 terminal. The add-on utilities for applications regarding data collection, processing, and transmission, are introduced in the following chapters.

The 9500 terminal is specifically designed for real-time data collection in the Windows Mobile environment. It won't take long for any Windows user to get familiarized with it. Keep these two basic skills in mind and explore this Windows Mobile device at ease.

- Single-tap an item to select it.
- Tap and hold an item to see a menu.

To learn more about 9500, go to **Start** > **Help**.

To obtain essential system information, go to **Start** > **Settings** > **System** tab > **System Console**.

Note: Not all the Bluetooth services listed in the system information are supported currently.

In This Chapter

3.1 General

When the 9500 terminal is fully charged, you may remove it from the cradle. Then turn on the terminal and wait for the **Today** screen to come up.

However, if you are using the terminal for the first time, there are a couple of things to do before the **Today** screen comes up.

- To select your time zone and set the local time
- To align the touch screen

Note: With a focus on delivering data collection and industrial requirements on a portable device, the 9500 terminal is currently not equipped with an internal microphone and the IrDA port. Therefore, voice recording and file transfer via infrared (Start > Settings > Connections tab > Beam) are not supported.

3.1.1 Turn On/Off

Like your PDA, Pocket PC and most handheld devices, the 9500 terminal functions when it is turned on. This is because the Windows Mobile operating system eliminates the booting process and runs continuously.

Turn On

To turn on the terminal, simply press the [Power] key.

Turn Off

To turn off the terminal, press and hold the [Power] key for approximately 2 seconds. The system is now ready for use but not in use. This is referred to as Suspend mode or Standby mode. It means the system is in power-saving status and waiting for user interference.

Warning: To save battery power, it is suggested that the terminal is set to automatically turn off when not in use.
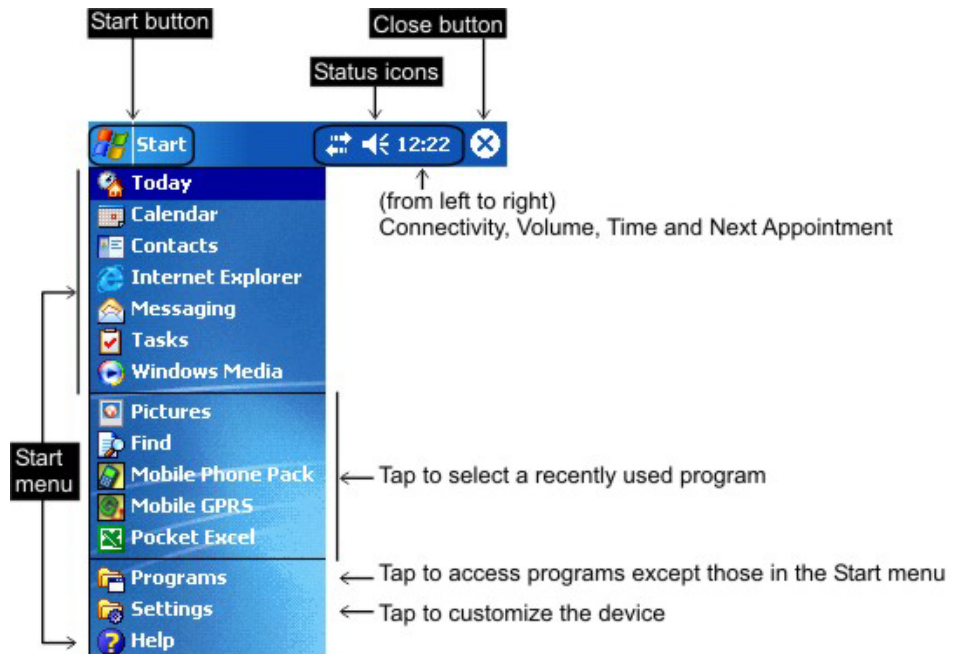
3.1.2 Today Screen

This Today screen appears when the terminal is turned on. Alternatively, you may tap on the Windows logo or the **Start** button on the top-left corner of the screen, and then select **Today**.

Note: To customize the Today screen, go to Start > Settings > Personal tab > Today. In the Items tab, [Today timeout] refers to the amount of hours of inactivity for the Today screen to show up automatically.

Navigation Bar

The navigation bar is at the top of the Today screen, which consists of the **Start** button and a number of status icons.


Options (from left to right)		
Start button	Tap to run a program or configure settings. ◆ Start menu: list up to 7 programs ◆ Recent programs: list up to 5 programs ◆ Access to Programs folder ◆ Access to Settings folder	
Status Icons	◆ Connectivity	Tap to access settings of connections. Turn on flight mode/Turn off flight mode when wireless power is enabled
	◆ Volume	Tap to adjust volume or mute the terminal.
	◆ Time and Next Appointment	Tap to view next appointment and battery status.
Close button	Tap to close an active window.	

Note: To configure the Start menu, go to Start > Settings > Personal tab, and select Menus.

Taskbar

The taskbar is at the bottom of the screen, where the **New** button allows the creation of different jobs.
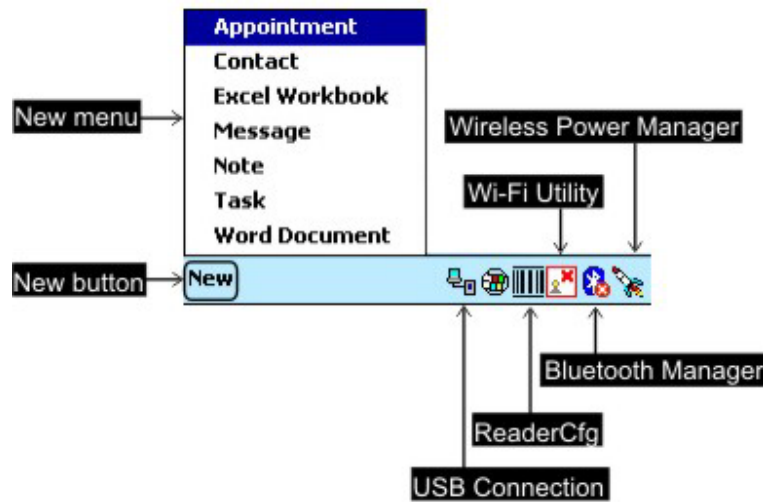
Note: To configure the New menu, go to Start > Settings > Personal tab, and select Menus.

From the **Today** screen, the taskbar also displays shortcuts to the following items.

Button	Shortcut to	Meaning
NEW	**New menu**	Tap to create a job
	Wireless Power Manager	Tap to run Wireless Power Manager. Options include WLAN Power and Bluetooth Power.
	Bluetooth Manager	Bluetooth Power is turned off.
		Bluetooth Power is turned on. Tap to run Bluetooth Manager.
	Wi-Fi Utility	WLAN Power is turned off (driver not loaded).
		WLAN Power is turned on. Tap to run Wi-Fi Utility.
		WLAN connected.
	Reader Cfg	Tap to configure the barcode reader. Options include BC Reader and RFID Reader (if installed).
	Connected to USB	The terminal is connected to a computer via its USB cradle. Tap to configure USB connection.

Note: If no Wi-Fi icon, go to Start > Programs and run the program Swluce. If no barcode icon, go to Start > Programs and run the program ReaderCfg.

Command Bar

When in an application, part of the taskbar will become the Command Bar which contains buttons and menus for performing tasks in the program.
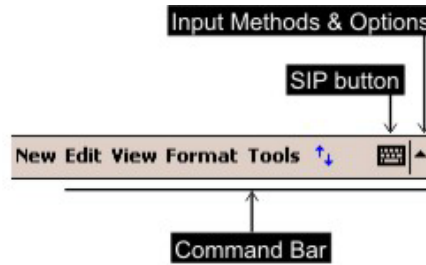
3.1.3 Input Methods

Data entry can be performed by the following methods:

- Type with the 27-key physical keypad
- Scan barcode or RFID tag in an application, e.g. Pocket Excel and Pocket Word
- Tap or write on SIP (Soft Input Panel) virtual keypad
- Draw in some applications, e.g. Note and Pocket Word

Soft Input Panel (SIP)

To show or hide the Soft Input Panel (SIP), tap the SIP button from the Command Bar.

To select a SIP mode, tap the arrow next to the SIP button.
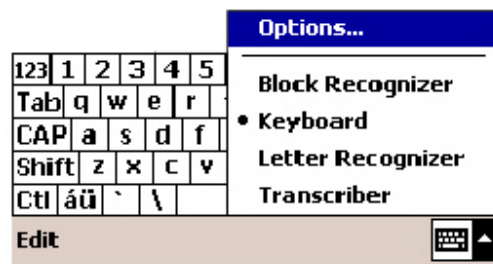
In each mode, the characters appear as typed text on the screen.

SIP Options	Action
Block Recognizer	To write in the input box.
Keyboard	To type using the soft keyboard.
Letter Recognizer	To write in the input box.
Transcriber	To write freely on the screen.

3.1.4 Reset

Reset the 9500 terminal when it stops responding to input.

- Soft reset: Simply press the [Reset] button.
- Hard reset: Press the [Reset] button and the [Power] key at the same time.

Power key
Reset button
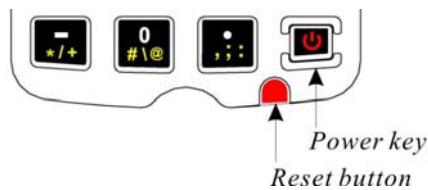
| Warning: | Never perform a hard reset unless a soft reset cannot solve your problems. |

Soft Reset

A soft reset, also known as a warm boot, will restart the terminal and keep all the saved files. To perform a soft reset, use the stylus to press the [Reset] button.

During operation, the removal of battery pack will start a soft reset too.

| Warning: | Data loss may occur when files are not properly closed before a soft reset. |

Hard Reset

A hard reset, also known as a cold boot, will restart the terminal too. However, it performs a full restore of the terminal to its factory settings and initializes SDRAM. To perform a hard reset, press the [Power] key and [Reset] button at the same time.

Data and program files stored in SDRAM will be erased after a hard reset. But you can restore data that is previously synchronized with your computer by performing an **ActiveSync** operation. Alternatively, you can restore data using the program **Backup Utility** if a backup job is carried out periodically.

| Warning: | Only the files stored in the Flash File System are retained during a hard reset. |

3.2 ActiveSync with a Computer

ActiveSync is used to synchronize information between the terminal and PC, to install programs on the terminal, and to backup and restore the terminal.

The Microsoft ActiveSync program has to be installed on your desktop computer first.

▪ To download the up-to-date version of the program, you may need to go to Microsoft's official web site for Windows Mobile devices as shown below.

http://www.microsoft.com/windowsmobile/default.mspx

▪ After downloading and installation, run the program.

For detailed information on the program, you may click the Help menu, and then select the Microsoft ActiveSync Help.

Note: For ActiveSync via Bluetooth, refer to the Set up Bluetooth Connection section.

3.2.1 Connect for the First Time

1. Run the Microsoft ActiveSync program on your desktop computer.

2. On the File menu, click Connection Settings. If you want to skip settings, click Get Connected instead.
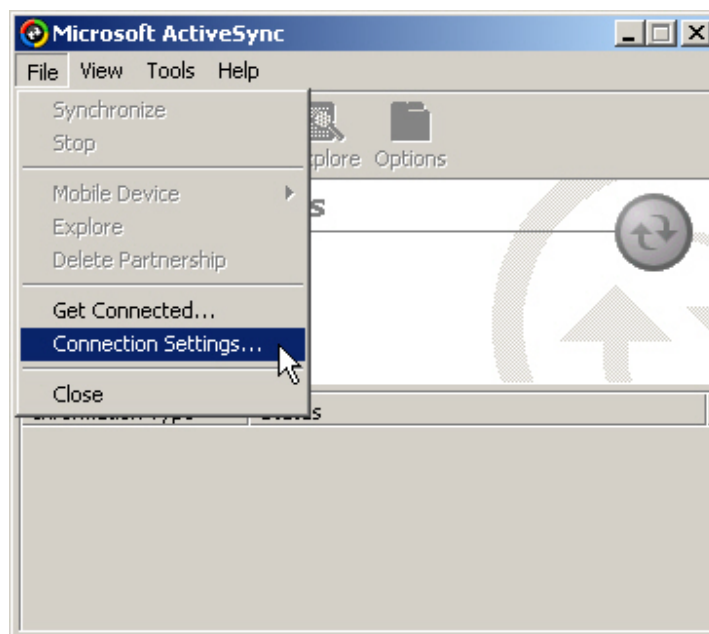
3. Click to select the USB connection check box, and then click the Get Connected button.
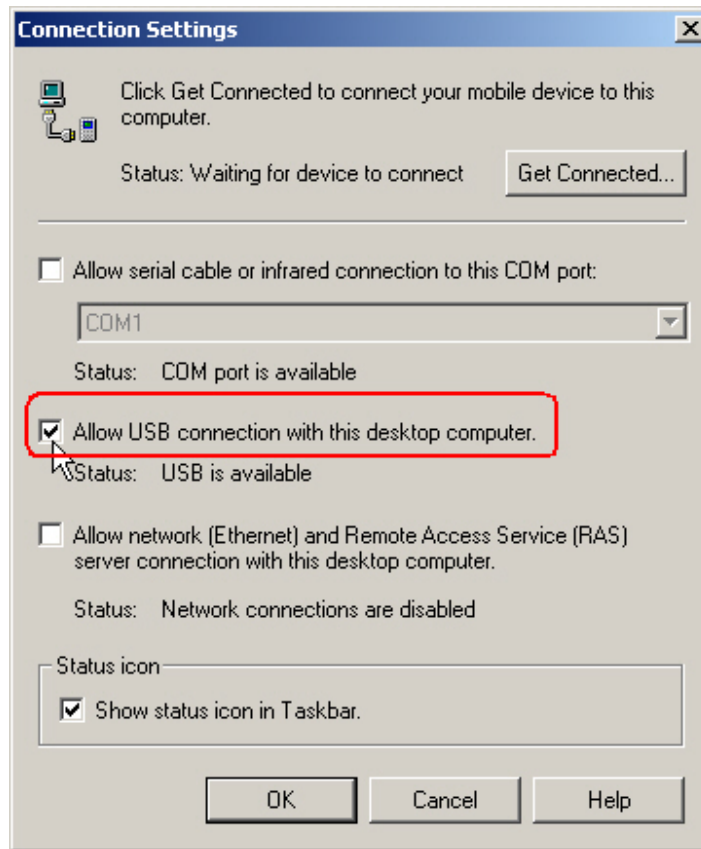

4. Follow these instructions:
   - Connect the USB cable from the cradle to your computer.
   - Connect the power cable from the cradle to a proper outlet.
   - Turn on the terminal and place it in the cradle.
5. Click OK when the connection is established.
6. Click to select which partnership to set up.

   If you want to synchronize data between the terminal and your computer, click to select Standard Partnership; otherwise, click to select Guest Partnership.
7. Wait a few seconds for the terminal to get connected (and synchronized if a Standard Partnership is selected).

3.2.2 Disconnect

If a synchronization job is completed and such connection is no longer desired, you may disconnect the terminal with your computer.

Note:　To disconnect temporarily, simply remove the terminal from the cradle.

1. Go to **Start** > **Programs**, and select **ActiveSync**.

2. Tap Stop on the ActiveSync window. Then, it will display "Not Connected" on the terminal.
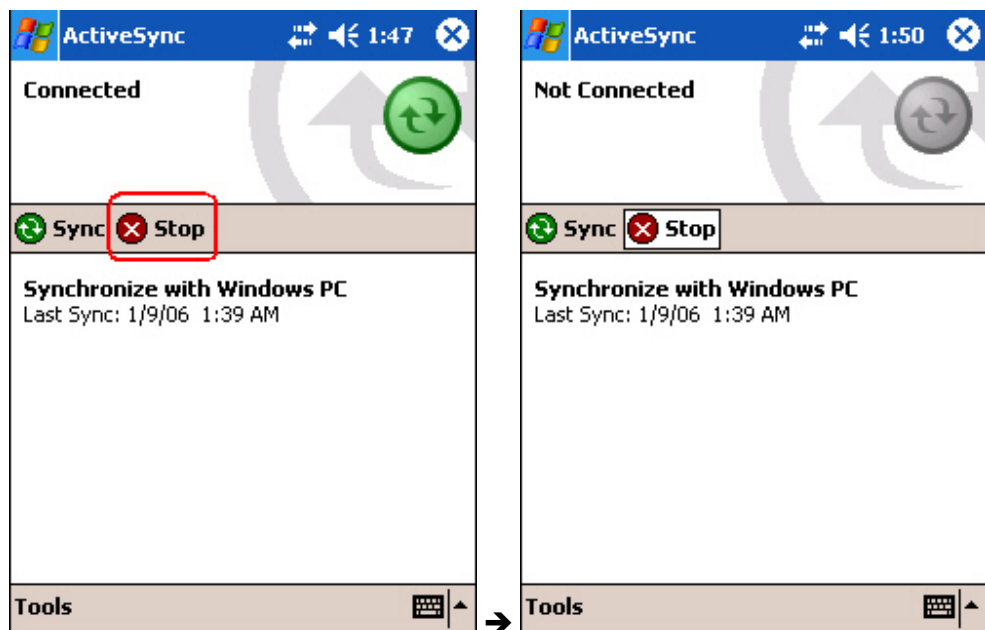
3. On the computer, it will also display "Not Connected" on the Microsoft ActiveSync window.
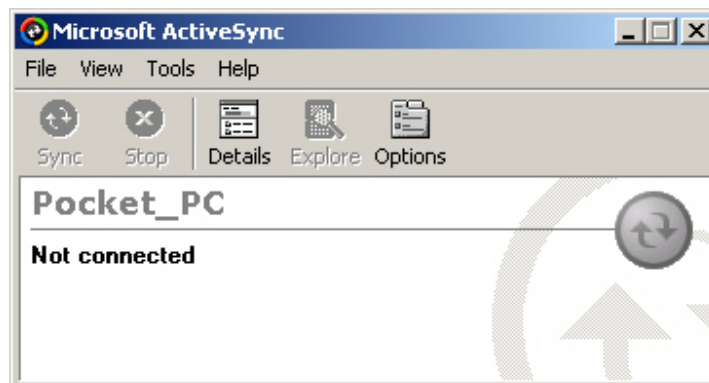
4. You may exit the Microsoft ActiveSync program.

5. You may disconnect the USB cable.

3.2.3 Re-connect

If you want to re-establish a connection after it is stopped, follow these instructions.

Note: To disconnect temporarily, re-seat the terminal in the cradle.

1. Run the Microsoft ActiveSync program.

2. Re-connect the USB cable from the cradle to your computer.

   Also make sure that

   ▪ The power cable from the cradle is connected to a proper outlet.

   ▪ The terminal is turned on and seated in the cradle.

3. Your computer will auto detect the USB device.

3.3 Quick Launch a Program

Press the **Start** button to view the Start menu. To quick launch a program, tap it.

If you wish to quick launch a new program, add it to the Start menu.

Note: The Start menu can list seven programs at most.

3.3.1 Configure the Start Menu

1. Go to **Start** > **Settings** > **Personal** tab, and select **Menus**. In the **Start Menu** tab, select from the program list to add any desired program to the Start menu.

Because the Start menu allows seven programs at maximum, you may need to clear some check boxes before you can select new programs.

2. Tap OK to save new settings. The rest on the list will appear in **Start** > **Programs**.

3. Tap the **Start** button to verify if the program appears in the Start menu.

3.3.2 Add a Program or Subfolder

If your program is not on the program list, you can either use **File Explorer** or **ActiveSync** to add new program.

- File Explorer: to move the program by Copy and Paste Shortcut.
- ActiveSync on the desktop computer: to create a shortcut to the program, and place the shortcut in the Programs folder.

Warning:	To avoid making any changes to the program configurations by accident, we recommend you to use Copy and Paste Shortcut rather than Cut and Paste.

Using File Explorer

1. Go to **Start** > **Programs**, and select **File Explorer**.

   Alternatively, you can press the Task key on the keypad to quick launch File Explorer.
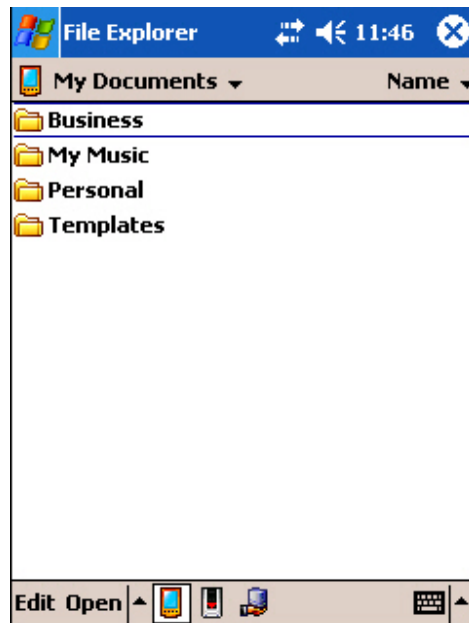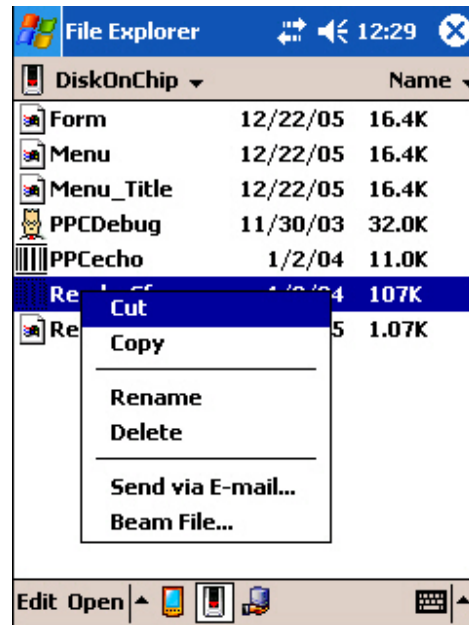

2. Navigate through file folders to find the program you desire.

   - To create subfolders under the Programs folder (or the Start menu):

     - Navigate to the target folder, e.g. **My Pocket PC\Windows\Start Menu\Programs** (or **My Pocket PC\Windows\Start Menu**).

     - Then right-click anywhere blank on the window, and select [New Folder] from the pop-up menu. A subfolder will be created.

- Go to **Start** > **Programs** (or simply tap the **Start** button). The new subfolder will appear.

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

4. Navigate to the Programs folder (**My Device** > **Windows** > **Start Menu** > **Programs**).

5. Tap and hold anywhere blank on the screen. Then tap [Paste Shortcut] on the pop-up menu. The new program will be added to the Programs folder.
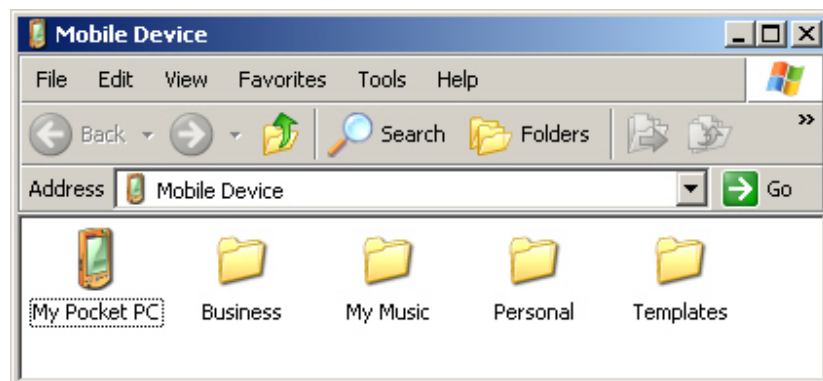
6. Go to **Start** > **Settings** > **Personal** tab, and select **Menus**. The program will appear on the program list now.

Using ActiveSync on PC

1. When connected, open the Microsoft ActiveSync window on your desktop computer.

2. Click the Explorer button from the toolbar.
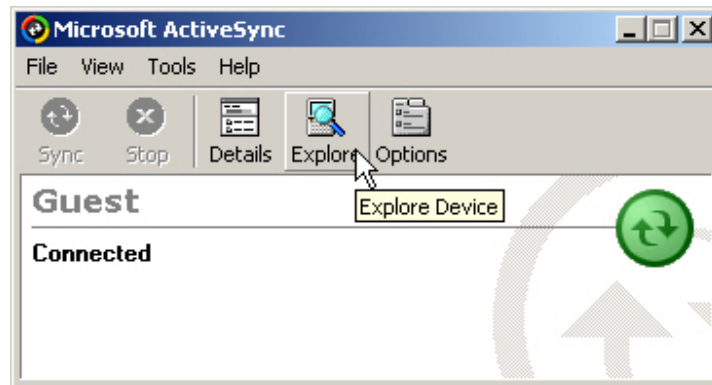
3. Navigate through file folders to find the program you desire.

- To create subfolders under the Programs folder (or the Start menu):

  - Navigate to the target folder, e.g. **My Pocket PC\Windows\Start Menu\Programs** (or **My Pocket PC\Windows\Start Menu**).

  - Then right-click anywhere blank on the window, and select [New Folder] from the pop-up menu. A subfolder will be created.

  - On the terminal, go to **Start** > **Programs** (or simply tap the **Start** button). The new subfolder will appear.

4. Right-click to select the program, and then select [Create Shortcut] on the pop-up menu.

5. Right-click to select the shortcut, and then select [Cut] on the pop-up menu.

6. Navigate to the Programs folder (**My Pocket PC\Windows\Start Menu\Programs**).

7. Right-click anywhere blank on the window. Then select [Paste] on the pop-up menu. The new program will be added to the Programs folder.

8. On the terminal, go to **Start** > **Settings** > **Personal** tab, and select **Menus**. The program will appear on the program list now.

Note: [Create Shortcut], [Cut], and [Paste]: The same result can be performed by [Copy] and [Paste Shortcut].