

CipherLab Reference Manual

Windows Mobile 6.5 Computer

CP30

Version 1.12



Copyright © 2011 CIPHERLAB CO., LTD.
All rights reserved

The software is provided under a license agreement containing restrictions on use and disclosure and is also protected by copyright law. Reverse engineering of the software is prohibited.

Due to continued product development this information may change without notice. The information and intellectual property contained herein is confidential between CIPHERLAB and the client and remains the exclusive property of CIPHERLAB CO., LTD. If you find any problems in the documentation, please report them to us in writing. CIPHERLAB does not warrant that this document is error-free.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior written permission of CIPHERLAB CO., LTD.

For product consultancy and technical support, please contact your local sales representative. Also, you may visit our web site for more information.

The CipherLab logo is a registered trademark of CIPHERLAB CO., LTD.

All brand, product and service, and trademark names are the property of their registered owners.

The editorial use of these names is for identification as well as to the benefit of the owners, with no intention of infringement.

CIPHERLAB CO., LTD.

Website: <http://www.cipherlab.com>

IMPORTANT NOTICES

FOR USA

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.

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.

FOR CANADA

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of Industry Canada.

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.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par l'Industrie.

FOR PRODUCT WITH LASER



CAUTION

This laser component emits FDA / IEC Class 2 laser light at the exit port. Do not stare into beam.

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.
- ▶ DO NOT disassemble, incinerate or short circuit the battery.
- ▶ DO NOT expose the scanner or the battery to any flammable sources.
- ▶ For green-environment issue, it's important that batteries should be recycled in a proper way.
- ▶ Under no circumstances, internal components are self-serviceable.
- ▶ The charging and communication cradle uses an AC power adaptor. A socket outlet shall be installed near the equipment and shall be easily accessible. Make sure there is stable power supply for the mobile computer or its peripherals to operate properly.

CARE & MAINTENANCE

- ▶ This mobile computer is intended for industrial use. The mobile computer is rated IP 42, however, it may do damage to the mobile computer when being exposed to extreme temperatures or soaked wet.
- ▶ When the body of the mobile computer 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.
- ▶ If you want to put away the mobile computer for a period of time, download the collected data to a host computer, and then take out the battery pack. Store the mobile computer and battery pack separately.
- ▶ If you shall find the mobile computer malfunctioning, write down the specific scenario and consult your local sales representative.

RELEASE NOTES

Version	Date	Notes
1.12	Jan. 02, 2012	▶ Delete: Remove OS update.
1.11	Nov. 08, 2011	▶ Delete: Remove HSUPA Spec.
1.10	Oct. 12, 2011	▶ Modified: Update BT chapter, working time ▶ Delete: Remove Com Port Mapping, WAPI icon and car charger ▶ New: Add battery lock and Multiple adaptor information
1.00	Aug. 10, 2011	Initial release

CONTENTS

- IMPORTANT NOTICES - 3 -**
 - For USA - 3 -
 - For Canada - 3 -
 - For Product with Laser - 4 -
 - Safety Precautions - 4 -
 - Care & Maintenance - 4 -

- RELEASE NOTES - 5 -**

- INTRODUCTION 1**
 - Features 2
 - Inside the Package 3
 - Accessories 3

- QUICK START 5**
 - Overview 5
 - Installing Battery 6
 - Inserting SIM Card 7
 - Using Memory Card 8
 - Connecting Headset 8
 - Charging & Communications 9
 - Using Wireless Networks 10
 - Using Cable 10
 - Using Cradle 11

- USING THE CP30 MOBILE COMPUTER 13**
 - 1.1 Battery 13
 - 1.1.1 Battery sSTATUS INDICATIONS 14
 - 1.1.2 Power Management 15
 - 1.2 Memory 16
 - 1.2.1 Caution of Data Loss 16
 - 1.2.2 Check Storage Space 16
 - 1.3 Keypad 17
 - 1.3.1 Keypad Settings 18
 - 1.3.2 Alpha Key 19
 - 1.3.3 Shift Key 19
 - 1.3.4 Function Key 20
 - 1.3.5 Programmable Keys 20
 - 1.4 Touch Screen 21
 - 1.4.1 Adjust the LCD Backlight 21
 - 1.4.2 Screen Settings 22
 - 1.5 Notifications 23
 - 1.5.1 Status LED 23
 - 1.5.2 Audio 23

1.5.3 Vibrator	24
1.6 Data Capture.....	25
1.6.1 Barcode Reader	25
1.6.2 Digital Camera.....	25
1.7 Cradle	26
LEARNING WINDOWS MOBILE BASICS	27
2.1 Getting Started.....	28
2.1.1 Home Screen.....	28
2.1.2 Title Bar.....	29
2.1.3 Title Bar DROP-down List.....	30
2.1.4 Start Menu.....	32
2.1.5 Device Lock	33
2.2 Input Methods.....	34
2.3 Managing Programs	35
2.3.1 Add a Program to Start Menu.....	35
2.3.2 Create a new Folder	35
2.3.3 Switch Among Programs.....	35
2.3.4 End a Program.....	36
2.3.5 Find a File	37
2.4 Using ActiveSync.....	38
2.4.1 Synchronization with Your Computer.....	38
2.4.2 Add/Remove Programs.....	39
2.4.3 Explore Device	40
2.4.4 Backup/Restore	41
2.5 Reset	42
2.5.1 STANDBY Mode	42
2.5.2 Software Reset (Warm Boot).....	42
2.5.3 Hardware Reset (Cold Boot).....	43
CONFIGURING CP30 MOBILE COMPUTER.....	45
3.1 smart shell	46
3.2 Settings	48
3.2.1 Connections.....	50
3.2.2 Personal.....	51
3.2.3 System	52
3.3 Device Name & Configuration	55
3.3.1 Change Device Name	55
3.3.2 Understand Device Configuration	56
USING 802.11 RADIO.....	57
4.1 Wi-Fi Power.....	58
4.1.1 Power On via Wireless Manager.....	58
4.1.2 WLAN Connection.....	59
4.2 WLAN Configuration	62
4.2.1 WLAN Utility Settings.....	62
4.2.2 RSSI Level.....	63
USING BLUETOOTH.....	65
5.1 Bluetooth Power	66

5.1.1 Power On via Wireless Manager.....	66
5.1.2 Changing Bluetooth Settings.....	67
5.2 Search Devices	68
5.3 Pair Devices	70
5.3.1 pair	70
5.3.2 Unpair	72
5.4 Serial Port Service	73
5.5 Object Push via Beam	77
5.5.1 Send a File.....	77
5.5.2 Receive a File	78
5.6 Active Sync via Bluetooth.....	79
USING THE PHONE	81
6.1 Phone Power	82
6.1.1 Wireless Manager	82
6.1.2 SIM Card Missing	84
6.2 Phone Application.....	85
6.2.1 Phone Interface.....	85
6.2.2 Buttons	86
6.2.3 Volume	86
6.3 Phone Settings.....	87
6.4 Making Phone Calls.....	91
6.4.1 Dial a Number	91
6.4.2 Make a Call.....	92
6.4.3 Answer a Call.....	93
6.5 Configuring GPRS Network	95
USING READER CONFIGURATION UTILITY.....	99
7.1 Run ReaderConfig.exe.....	100
7.2 Barcode Reader Settings	101
7.3 Data Output.....	102
7.4 Notifications (for Good Read)	104
7.5 Symbology Settings	105
USING CAMERA.....	107
8.1 Camera Interface.....	108
8.2 Taking an Image	109
8.3 Shooting a Video.....	111
8.4 Pictures & Videos.....	112
8.4.1 View an Image	112
8.4.2 Playback a Video	114
8.4.3 Advanced Editing Settings.....	115
8.5 Camera Settings	118
MORE APPLICATIONS	121
9.1 Backup Utility	122
9.1.1 Managing the Registry	122

9.1.2 Preparing for Backup	123
9.1.3 Backing up Files	124
9.1.4 Using Backups for Restore	126
9.2 Button Assignment Utility	128
9.3 Signature Utility.....	130
9.3.1 Capturing a Signature	131
9.3.2 Viewing a Signature	132
9.3.3 Changing Signature Settings	133
9.4 GPS Viewer.....	135
9.4.1 Receiving GPS Information.....	137
9.4.2 Data of NMEA Format	138
SPECIFICATIONS	139
Platform, Processor & Memory.....	139
Communications & Data Capture	139
Electrical Characteristics	140
Physical Characteristics.....	140
Environmental Characteristics	141
Programming Support.....	141
Accessories.....	142
SCAN ENGINE SETTINGS	143
Symbologies Supported	143
LASER (SE955)	145
Reader Settings Table.....	145
Symbology Settings Table.....	146
Miscellaneous	149
AIM Code ID – Code Characters.....	150
AIM Code ID – Modifier Characters.....	150
2D IMAGER (SE4500)	155
Reader Settings Table.....	155
Symbology Settings Table	157
1D Symbologies	157
2D Symbologies	163
Miscellaneous	165
KEY REFERENCE TABLES	167
28-key Keypad.....	167
Use of Alpha (α) & Shift (⇧).....	168
Use of Function (Fn).....	169

INTRODUCTION

The CP30 Mobile Computer, running Windows Mobile 6.5 in palm size, is our new product line of PDA-style Mobile Computer. Light-weight, easy to use, it adds even more powerful and handy tools to delivering the flexibility in customization.

Specifically designed to work as an industrial PDA, the CP30 Mobile Computer provides rich options of data collection, voice and data communications, long-lasting working hours, and so on. Its large color transfective TFT display guarantees ease in reading in all lighting conditions. Integrated with Bluetooth and 802.11b/g technologies, you may choose to add the GSM/GPRS module to gain greater speeds and optimal mobility. In particular, an integrated GPS receiver is made available for use with third-party location-based applications.

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

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 CipherLab products!

FEATURES

- ▶ Built tough to survive drop test and sealed against moisture/dust to industrial standard IP 42.
- ▶ Microsoft Windows Mobile 6.5 operating system with a powerful Qualcomm MSM7225 528 MHz processor.
- ▶ 512 MB NAND flash memory to store OS and software programs.
- ▶ 256 MB DDRAM to store and run programs, as well as store program data.
- ▶ One microSD expansion slot for memory card up to 4GB, and SDHC is supported up to 16GB.
- ▶ Two reader options — 1D laser scanner or 2D imager.
- ▶ Built-in digital camera 3.2 CMOS sensor and auto focus.
- ▶ Ambidextrous side triggers.
- ▶ Total wireless solution — connectivity includes Bluetooth, 802.11b/g and GSM/EDGE/GPRS/UMTS.
- ▶ A 3.2" color transfective TFT display delivers excellent visibility in all lighting conditions and transmissive display.
- ▶ Programmable feedback includes speaker and vibrator.
- ▶ Built-in power tools include Reader Configuration Utility, Backup Utility, etc.
- ▶ Accessories and peripherals include international AC charging cradle, etc.
- ▶ Support Mirror Browser, Application Generator utility tools.

INSIDE THE PACKAGE

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

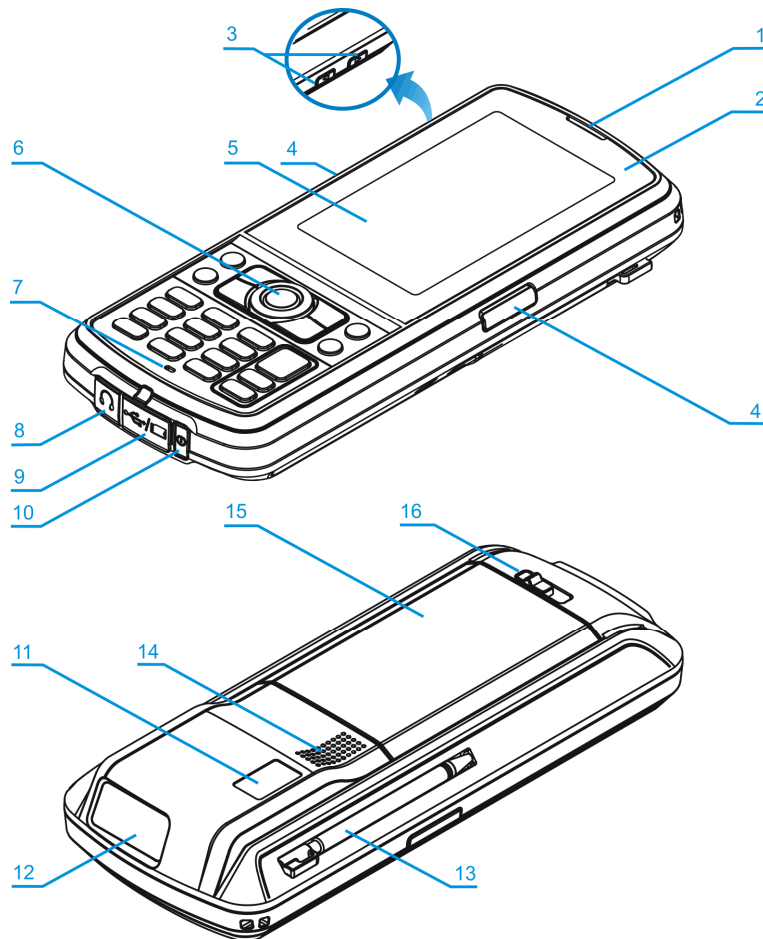
- ▶ CP30 Mobile Computer
- ▶ Rechargeable Li-ion battery pack
- ▶ Stylus
- ▶ USB & Micro USB cable
- ▶ AC Power Adaptor
- ▶ LCD Protective Film
- ▶ SIM Sticker Pack
- ▶ Product CD
- ▶ Quick Guide

ACCESSORIES

- ▶ Protective Cover
- ▶ Spare rechargeable battery pack
- ▶ Charging Cradle
- ▶ 3.5mm Earphone, 4rings

QUICK START

OVERVIEW



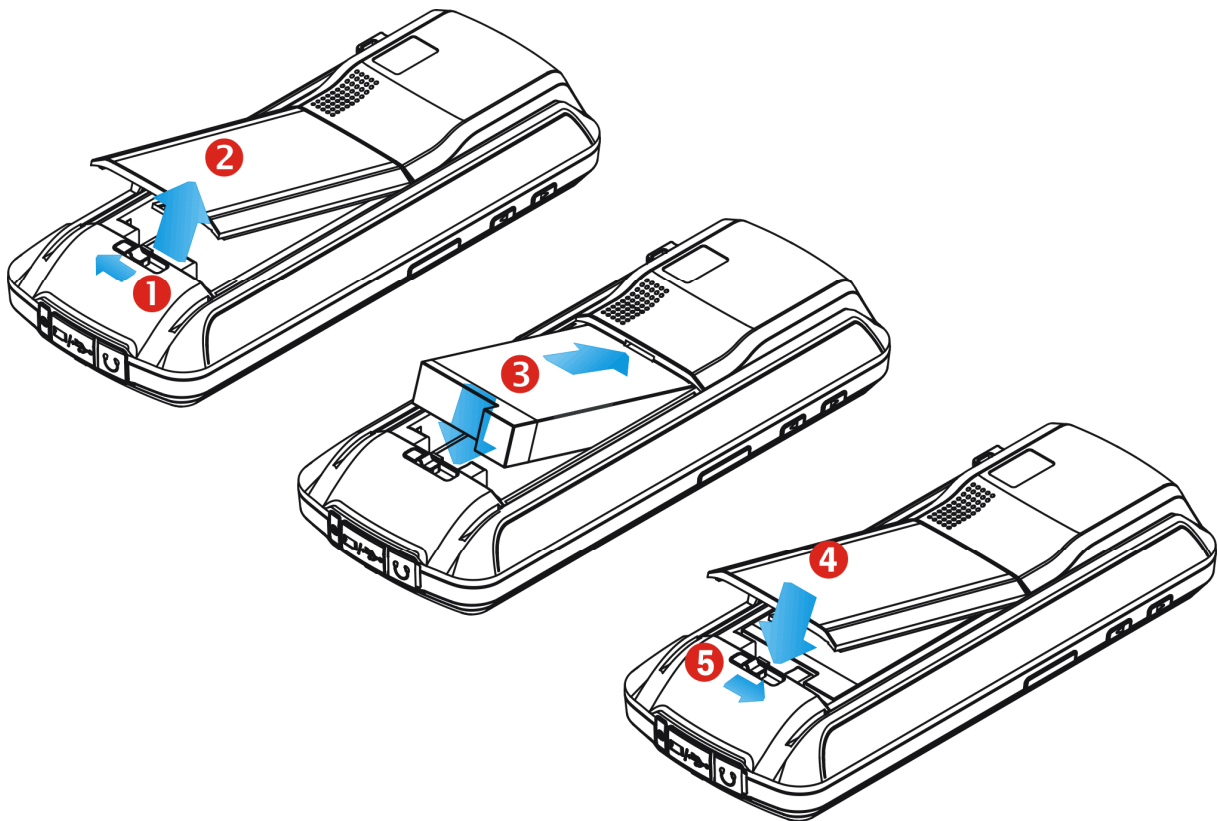
No.	Description	No.	Description
1	Receiver	2	Status LEDs for Battery Charging / Good Read (left) and Messaging (right)
3	Volume Buttons	4	Side Triggers, user-definable
5	Touch Screen	6	Scan Key, user-definable
7	Microphone	8	Headset Jack
9	I/O Connector & Memory Card Slot	10	Power Key
11	Digital Camera	12	Scanning Window
13	Stylus (to be tethered)	14	Speaker
15	Battery Compartment	16	Battery Cover Latch

INSTALLING BATTERY

For shipping and storage purposes, the mobile computer and the main battery are saved in separate packages.

Note: Any improper handling may reduce the battery life.

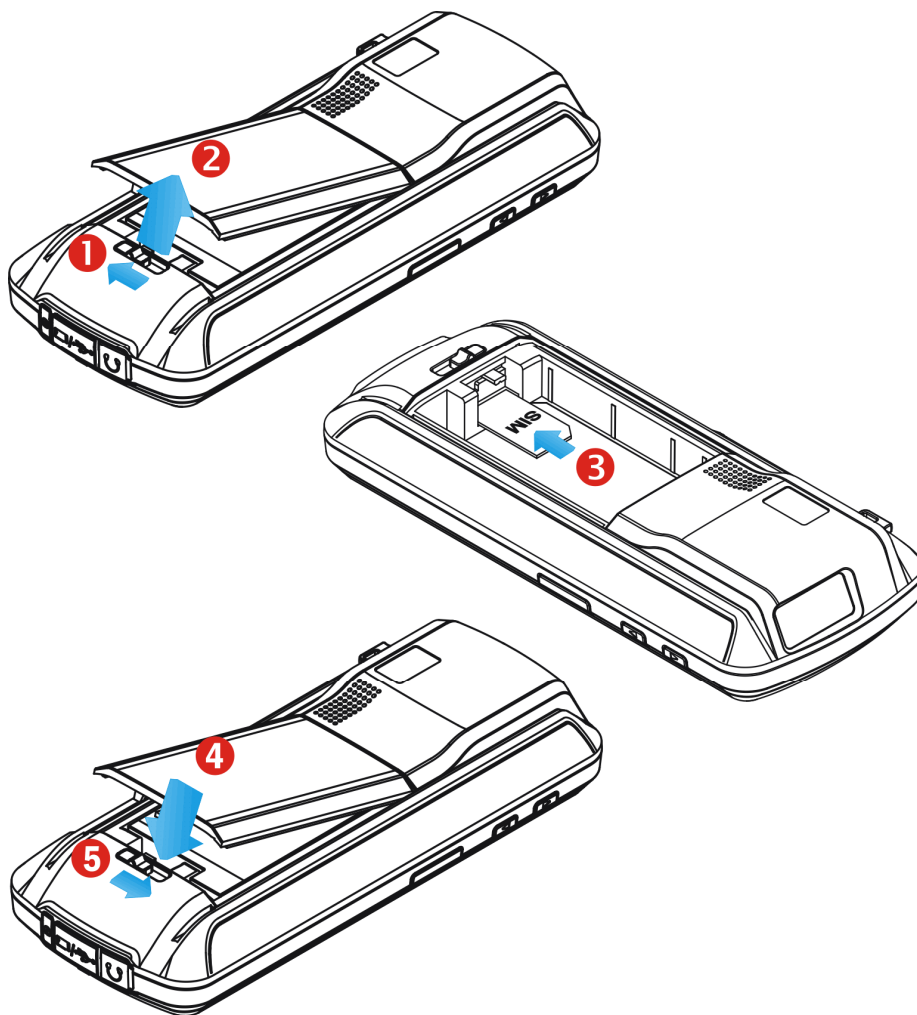
1. Slide the battery cover latch to unlock the battery cover.
2. Remove the battery cover.
3. Insert the battery pack into the battery compartment at a proper angle (30°~45°) so that the metal contacts of the battery are met with the protruding contacts inside the compartment. Make sure that the battery is snugly fit into the compartment.
4. Replace the battery cover.
5. Slide the battery cover latch to the end till you hear a “click” sound to make sure the cover is locked in.



Warning: (1) Please check the battery latch is at the “lock” position as indicated in Step 5 above before powering on the device.
(2) For initial use, insert a charged battery; press the Power key to enable the CP30.

INSERTING SIM CARD

1. Slide the battery cover latch to unlock the battery cover.
2. Remove the battery cover as well as the battery.
3. Insert the SIM card to the SIM card slot, following the card orientation as shown.
4. Replace the battery and battery cover.
5. Slide the battery cover latch to the end till you hear a “click” sound to make sure the cover is locked in.



USING MEMORY CARD

The SD card slot is at the bottom of the mobile computer, which allows microSD card.

Inserting Card

1. Flip up the rubber cover.
2. Insert the memory card to the SD card slot.
3. Replace the rubber cover.

Removing Card

1. Flip up the rubber cover.
2. Press the memory card. It will be rejected automatically for removal.
3. Replace the rubber cover.

Note: We suggest using Toshiba and SanDisk class 4 card types.



CONNECTING HEADSET

The headset jack is at the bottom of the mobile computer. You can use the headset for audio playback or communication via the phone application, Messenger, etc.

1. Flip up the rubber cover.
2. Connect the headset to the headset jack.
3. Replace the rubber cover.

Note: Bluetooth headset is supported, bringing you the freedom of cordless mobility.

CHARGING & COMMUNICATIONS

The main and backup batteries may not be charged to full for shipment. When you first receive the package, you will need to charge the main battery to full before using the mobile computer. Instead of direct charging, you may use a cradle or charger to charge the mobile computer or backup batteries.

You can also have both the main and backup batteries charged at the same time via a cradle or charger.

Charging Time

- ▶ Main battery: It takes approximately 4 hours to charge the main battery to full. The LED above the screen is red while charging and will turn green when charging is done.

Backup battery: Supports for RTC retention when main battery is not existent. It takes over 1 hour to charge the backup battery to full. A full backup battery is available for about 90days.

Charging Temperature

- ▶ It is recommended to charge the battery at room temperature (18°C to 25°C) for optimal performance.
- ▶ Battery charging stops when the temperature drops below 0°C or exceeds 35°C.

Operation on Battery Power

- ▶ When 802.11b/g, GSM/GPRS, and BT are all enabled on battery power, the main battery charge will drop down substantially.
- ▶ In order to prevent a cold boot after the battery is drained out, we suggest that you keep a fresh battery for replacement or connect the mobile computer to an external power.

USING WIRELESS NETWORKS

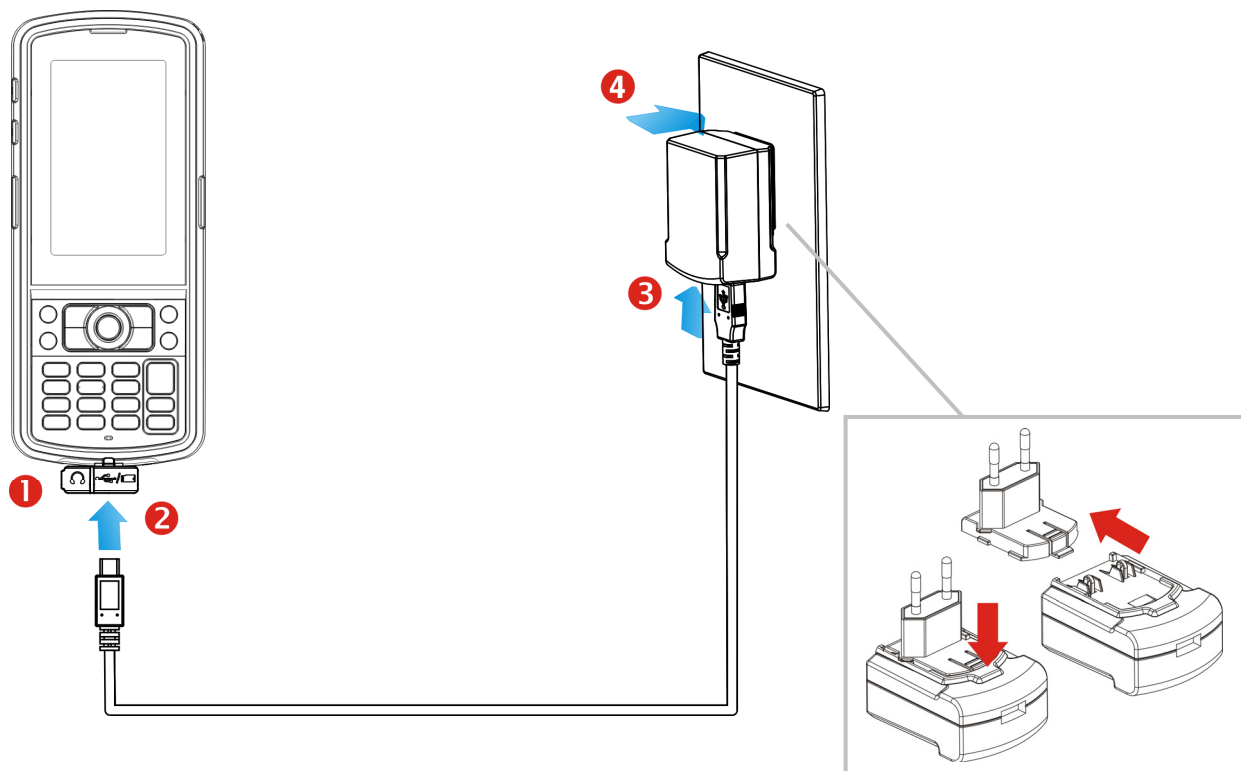
The mobile computer supports state-of-the-art wireless technologies, Bluetooth and 802.11b/g, so that it is able to send/receive data in real time in an efficient way. You may choose to have the GSM/GPRS module embedded for a total wireless solution for data and voice communications. Refer to the associated utilities.

USING CABLE

1. Flip up the rubber cover.
2. Connect the Micro USB end of the USB cable to the I/O connector.
3. For fast charging, connect the other end of the USB cable to the USB power adaptor.
4. Insert the USB power adaptor to a suitable power outlet.

The left LED lights red while charging. It will turn green when charging is done.

Note: (1) You may connect the USB cable to PC for data communications and charging.
 (2) CP30 supplied a Multiple Adaptor, please select suitable adaptor for using, the illustration as below is only for Europe Standard reference.



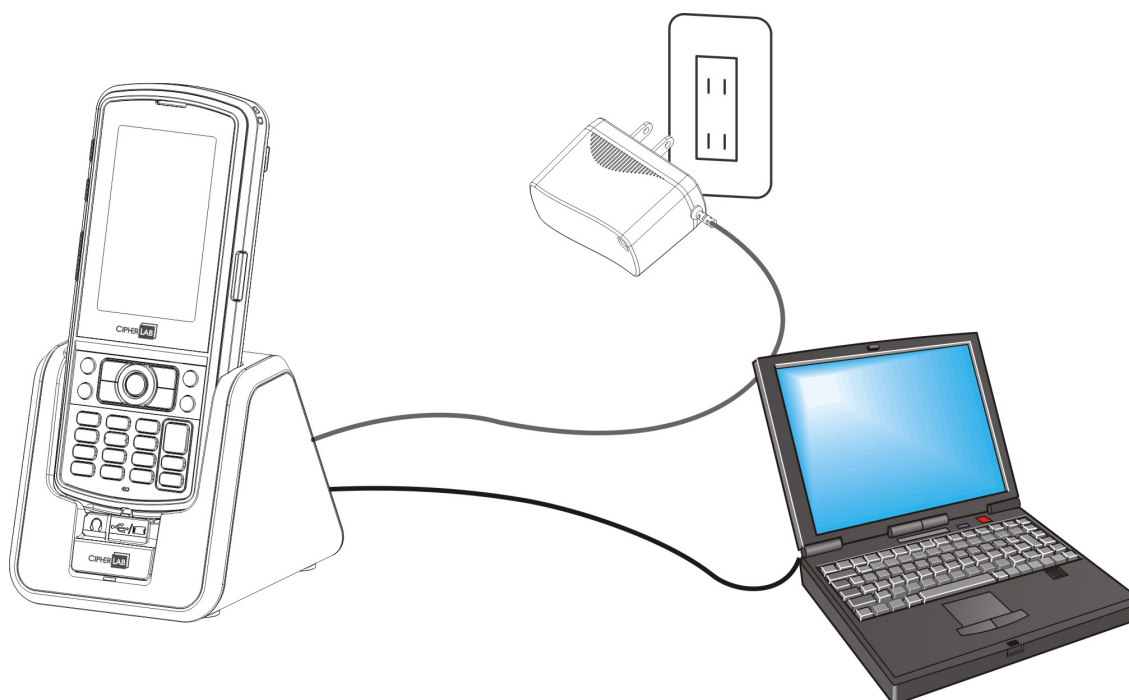
CP30 LED Indicator	Status	Description
Charging	Red, solid	Charging the mobile computer
	Green, solid	Charging done
	Red, flashing	Battery is abnormal

USING CRADLE

Charging via the Cradle

1. Seat the mobile computer in the cradle.
2. Connect the portable adaptor to the power receptacle on the cradle.
3. Connect the other end of the power adaptor to a suitable power outlet.
4. Connect the USB cable if data transmission is required. Refer to [Using ActiveSync](#).

Note: Make sure that you have Microsoft ActiveSync installed on your computer before you connect the cable from the cradle to your computer.



CP30 Indicator	Status	Description
Charging	Red, solid	Charging the mobile computer
	Green, solid	Charging done
	Red, flashing	Battery is abnormal
Cradle Indicator	Status	Description
Charging	Red, solid	Charging the spare battery
	Green, solid	Charging done
	Red, flashing	Error occurs

ActiveSync On Mode

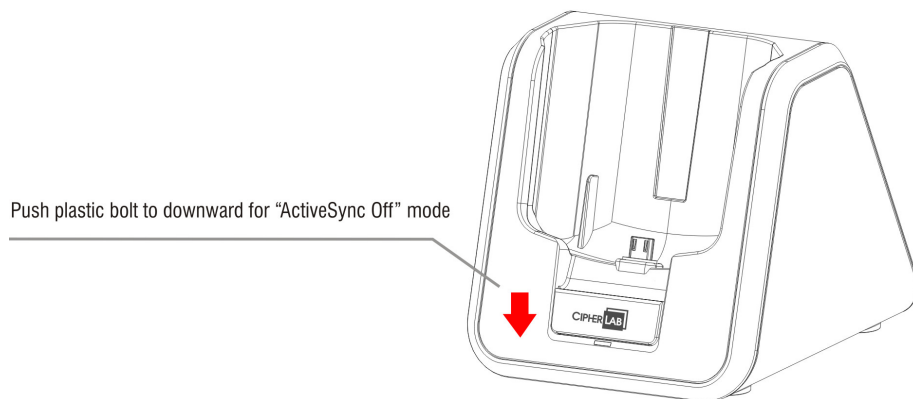
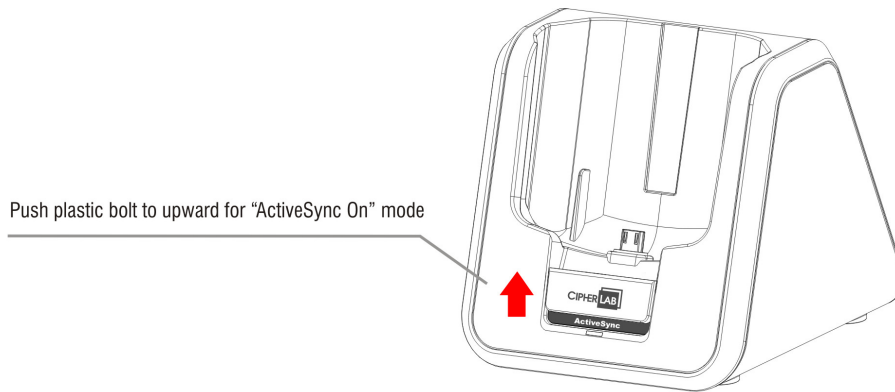
The mobile computer can transmit data via USB cable. The ActiveSync on your PC is enabled.

1. Connect the USB cable from the cradle to your computer.
Make sure the plastic bolt in front of the cradle has been pushed to upward for "ActiveSync On" mode.
2. Seat the mobile computer in the cradle.

ActiveSync Off Mode

Only charging is allowed in this mode. The mobile computer will only be charged via adaptor power. The ActiveSync on your PC is disabled.

1. Connect the power adaptor cable directly to the power supply outlet.
Make sure the plastic bolt in front of the cradle has been pushed to downward for "ActiveSync Off" mode.
2. Seat the mobile computer in the cradle.



USING THE CP30 MOBILE COMPUTER

This chapter explains the features and usage of the mobile computer.

IN THIS CHAPTER

1.1 Battery.....	13
1.2 Memory.....	16
1.3 Keypad.....	17
1.4 Touch Screen	21
1.5 Notifications.....	23
1.6 Data Capture	25
1.7 Cradle	26

1.1 BATTERY

▶ Main Battery

The mobile computer is powered by a rechargeable 3.7 V/2200mAh Li-ion battery pack, and it takes approx. 4 hours to charge it to full from the power adaptor or approx. 8 hours from the USB cable (at 500mA). However, the charging time may vary by working condition.

▶ Spare Battery

The spare battery for accessory takes charge when the main battery is removed or drained out. However, you have to replace the main battery as soon as possible.

▶ Backup Battery

Lithium Battery, RTC retention when main battery is not existent.







Warning: The battery cover must be in position. If not, the mobile computer cannot turn on by pressing [Power] or wake up by pressing [Scan], and the red LED indicator will flash twice to alert.
For a new battery, make sure it is fully charged before using. Always prepare a spare battery pack, especially when you are on the road.

1.1.1 BATTERY STATUS INDICATIONS

The battery pack is the only power source for the mobile computer to work. Therefore, when the main battery charge goes low, you need to replace the battery pack with a charged one or charge it as soon as possible. Most of all, you should backup important data on a regular basis.

By looking at the battery status icon, you can tell battery charge remaining in the main battery – the more the white bars, the more power in the main battery. Tap the top of the screen to invoke the title bar pull-down list, and then tap the battery icon to quickly access the Power Settings. Refer to [2.1.3 Title Bar DROP-down List](#).

Alternatively, you may go to **Start | Settings**, and tap **Power**.

Battery Icon	Description
	External power source is connected and main battery is charging.
	Main battery level 100% ~ 76%
	Main battery level 76% ~ 51%
	Main battery level 51% ~ 26%
	Main battery level 26% ~ 6% when main battery charge become low (10%) and needs charging
	Main battery charge become very low (5%) and needs charging immediately.

Warning:

- (1) Once the battery charge drops below 10%, the low battery notification will be displayed on the screen. It will keep supplying power to the real-time clock (RTC) for at least 168 hours after low battery shutdown.
- (2) Data loss may occur with RAM during low battery condition. Always save data before running out of power or keep a fresh battery for replacement.

1.1.2 POWER MANAGEMENT

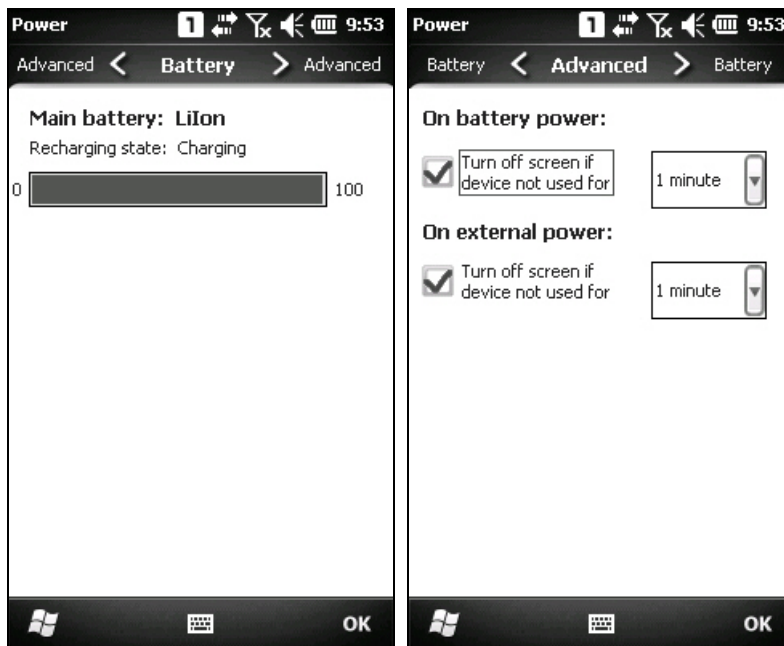
For any portable device, power management is a critical issue especially when you are on the road. Below are some tips to help you save battery power.

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

- ▶ Bring a second battery pack on the road.
- ▶ Stop wireless connectivity, Bluetooth, 802.11b/g or GSM/GPRS that is not in use.
- ▶ Shorten the turn off **Backlight** time, go to **Start | Settings | System**, and tap **Backlight**. Refer to [1.4.1 Adjust the LCD Backlight](#).
- ▶ Disable key light function, go to **Start | Settings | System**, and tap **Keypad** to select **Always off** item to disable keypad Backlight function.
- ▶ Go to **Start | Settings**, and tap **Power**.

In the Battery tab, you can always monitor the charging status.

In the Advanced tab, you may specify automatic turn-off times for the mobile computer to conserve power. When it is turned off, the system is in standby mode, which is ready for use but not in use.



1.2 MEMORY

- ▶ Flash Memory (ROM)

512 MB flash memory for storing OS (Windows Mobile 6.5) and custom application programs. Yet a portion of the memory is referred to as Flash Disk (folder), which can store data and programs that you wish to retain even after hardware reset.

- ▶ Random-access Memory (RAM)

256 MB RAM for storing and running programs, as well as storing program data.

- ▶ Expansion Slot

The mobile computer is equipped with one microSD card slot, which is user accessible. High capacity memory card (microSDHC) is supported.

1.2.1 CAUTION OF DATA LOSS

When the main battery is removed or drained, the backup battery on the main board is only to retain the contents of RTC on condition that the backup battery has sufficient power.

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

1.2.2 CHECK STORAGE SPACE

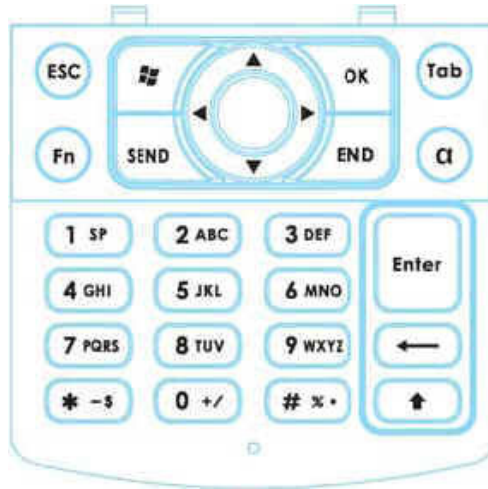
Go to **Start | Settings | System**, and tap **Memory**. It displays the current capacity and usage of the onboard RAM.

- ▶ Storage memory refers to the memory allocated for file and data storage.
- ▶ Program memory refers to the memory allocated for running programs.

Also, it provides information on the Flash Disk folder or storage card. The Flash Disk folder is part of the onboard 512 MB flash memory. Because the flash memory is non-volatile, data or programs stored in this folder will not be erased after hardware reset.

1.3 KEYPAD

The Alphanumeric keypad includes alphanumeric, navigation, function keys, and so on. This keypad is set to numeric mode by default.

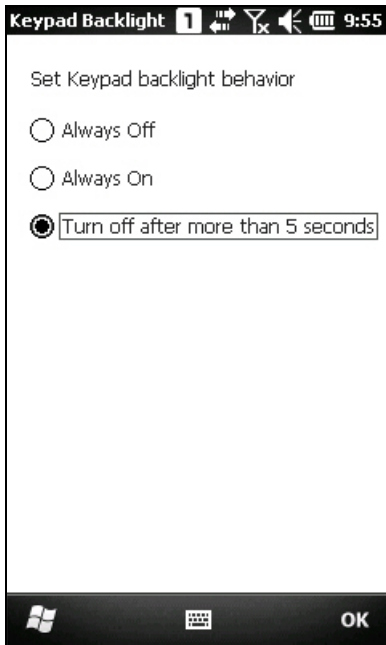


1.3.1 KEYPAD SETTINGS

Go to **Start | Settings | System**, and tap **Keypad** to configure related settings.

The LED backlight of keypad is turned off by default. It is suggested to turn on the keypad backlight while working in a dark area; however, using backlight while on battery power will substantially reduce battery power.

The keypad backlight is set to be automatically turned on for 5 seconds when any key is pressed. You may have it always turned off or turned on instead.



1.3.2 ALPHA KEY

This alphanumeric keypad is set to numeric mode by default. The Alpha key [a] serves as a switch key among numeric, alpha (lower-case alphabetic) input modes.

Note: Press [a] key to switch the numeric and lower-case alphabetic modes.

The alpha icon will appear on the status bar with a sequence as shown below.

Status Icon	Alpha Key	Input Mode
	---	Numbers
	Press [a] one time	Lower-case alphabetic

Note: (1) Under mode, use the Shift key [⇧] to enter ALPHA (upper-case alphabetic) character (or) mode.
 (2) If you are using the software keyboard via screen, tap CAP (Caps Lock) to switch upper-case and lower-case alphabetic modes.



1.3.3 SHIFT KEY

Status Icon	Shift Key	Input Mode
→	Press [⇧] one time	The Shift key [⇧] modifies the next key pressed. Depending on the input mode. (1) In numeric mode () , it will modify the next key pressed and is user-definable. (2) In alpha (lower-case alphabetic) mode () , it will show a single upper-case character after press Shift key [⇧] one time. For example, input "ABC", it will show "Abc. Refer to Use of Alpha (a) & Shift (⇧) .
→		
→	Press [⇧] two times (enter Shift Lock Mode)	If you press Shift key [⇧] two times will lock the present input mode. (1) In numeric mode () , it will lock numeric mode pressed and is user-definable. (2) In alpha (lower-case alphabetic) mode () , it will lock all upper-case characters (= Caps Lock). For example, input "ABC", it will show "ABC". Refer to Use of Alpha (a) & Shift (⇧) .
→		

Note: It is not necessary to long press the Shift key [⇧].

1.3.4 FUNCTION KEY

The Function key [Fn] serves as a specified key, and the functionality of each key combination is application-dependent.

- 1) To enable this special key, press [Fn] on the keypad. Its icon  will appear on the status bar.
- 2) Now press another key to get the value of key combination (say, press [1] to get the value of F1).
- 3) To get the value of another key combination specified by the function key, repeat the step 2.
- 4) To disable the special key function, press [Fn] again, and the icon  will go off.

Note: It is not necessary to long press the [Fn] key.

The default [Fn] key combinations are defined as below:

Key Combination	Action
[Fn], [1] = F1	Softkey 1
[Fn], [2] = F2	Softkey 2
[Fn], [3] = F3	Talk
[Fn], [4] = F4	End now active window and return to home screen
[Fn], [5] = F5	n/a
[Fn], [6] = F6	Volume Up
[Fn], [7] = F7	Volume Down
[Fn], [8] = F8	*
[Fn], [9] = F9	#
[Fn], [0] = F10	Record

Note: Press the [Fn] key first, and then press the second key for a specific function.

1.3.5 PROGRAMMABLE KEYS

The following keys are user-definable. They can be re-defined as another key or to serve as a shortcut key for launching a specific program. Refer to [9.2 Button Assignment Utility](#).

- ▶ [Scan]
- ▶ Two side triggers on each side of the touch screen
- ▶ [*] (Asterisk)
- ▶ [#] (Hash)

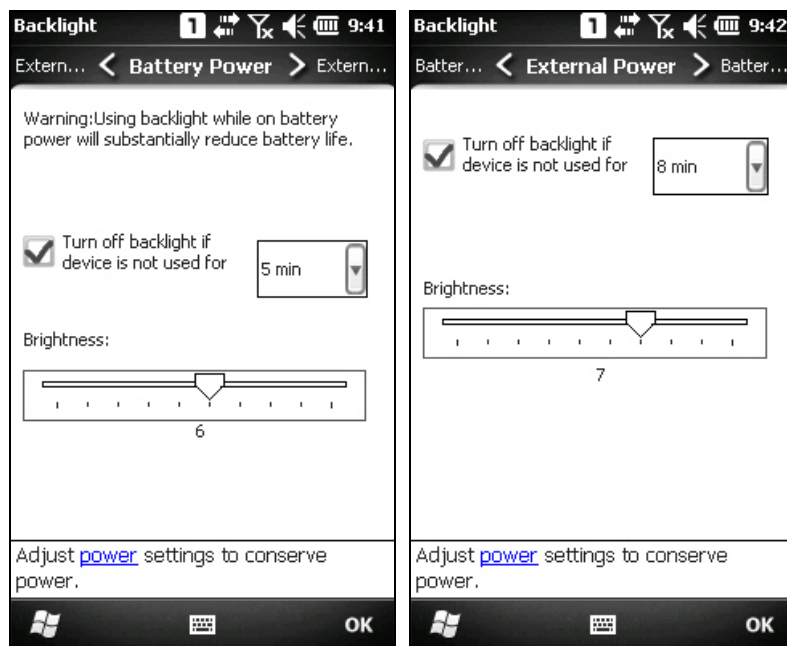
1.4 TOUCH SCREEN

The mobile computer comes with a 3.2" TFT graphic LCD, 240 by 400 pixels resolution (WQVGA). 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 power. It is suggested to dim the backlight while working in a well-lit area or automatically turn off the mobile computer when not in use.

1.4.1 ADJUST THE LCD BACKLIGHT

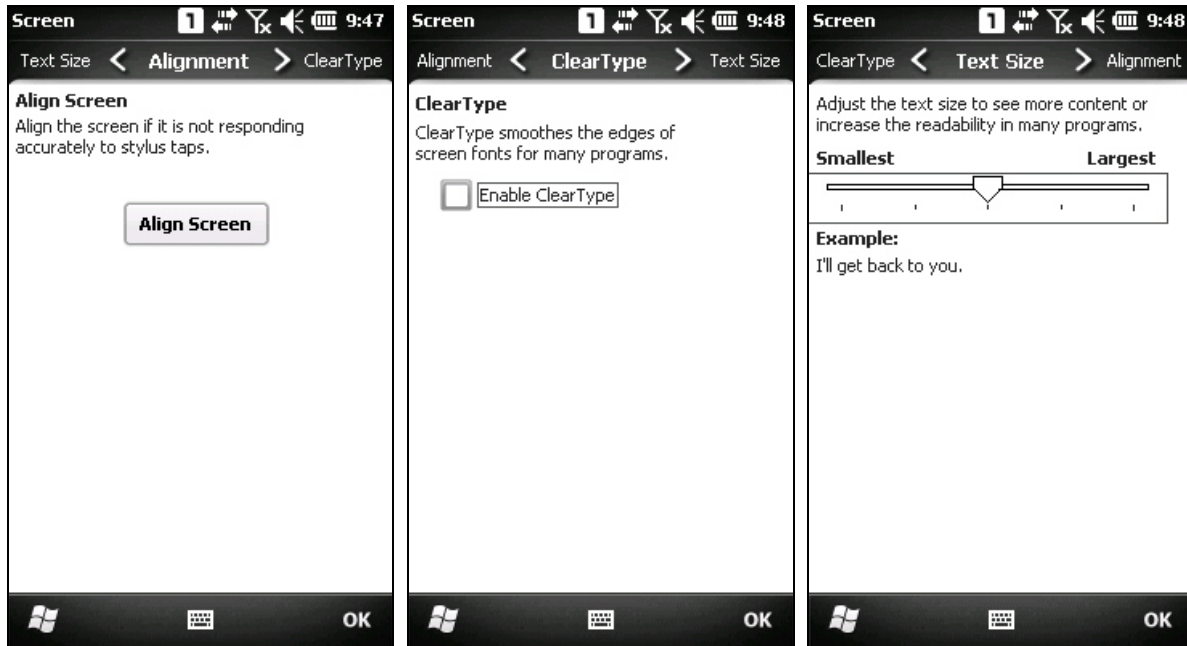
Go to **Start | Settings | System**, and tap **Backlight** to configure related settings. In the Backlight/External Power configuration screen, you can select the **Turn off backlight if device is not used for** check box to disable the backlight function, and select the time from the related drop-down list to control the backlight disabled time. You can also set the backlight brightness via tap, hold and drag the slider to the right for bright, left for dark.



1.4.2 SCREEN SETTINGS

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

Go to **Start | Settings | System**, and tap **Screen** to configure related settings. You may re-calibrate the touch screen, smooth the font edges or adjust the text size displayed on the screen if necessary.



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

1.5 NOTIFICATIONS

1.5.1 STATUS LED

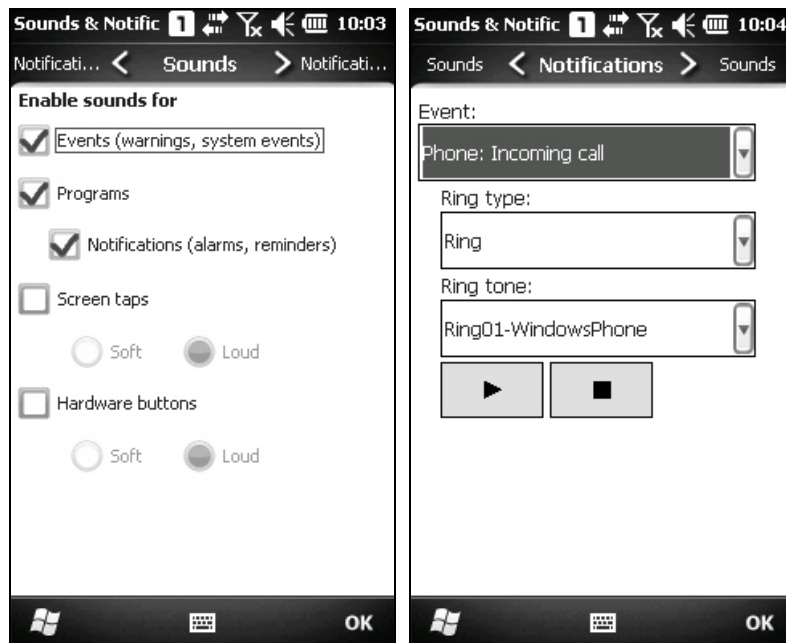
The two LED indicators on top are used to provide information on the charging status, scanner "Good Read" while collecting data, and messages.

LED Indicators		Status	Description
Top left	Charging	Red, solid	Charging the mobile computer
		Green, solid	Charging done
	Scanner	Green, on-off	Good Read
Top right	Messaging	Amber, flashing	Messages received, e.g. missed call, voicemail, new SMS/MMS message or e-mail

1.5.2 AUDIO

The speaker is used to play sounds for events in Windows and programs, or play audio files such as .WAV files. In addition, it can be programmed for status feedback. In noisy environments, you may consider connecting a headset instead. A headset jack is provided, which is a 3.5 mm DIA stereo earphone jack. Bluetooth headset is also supported.

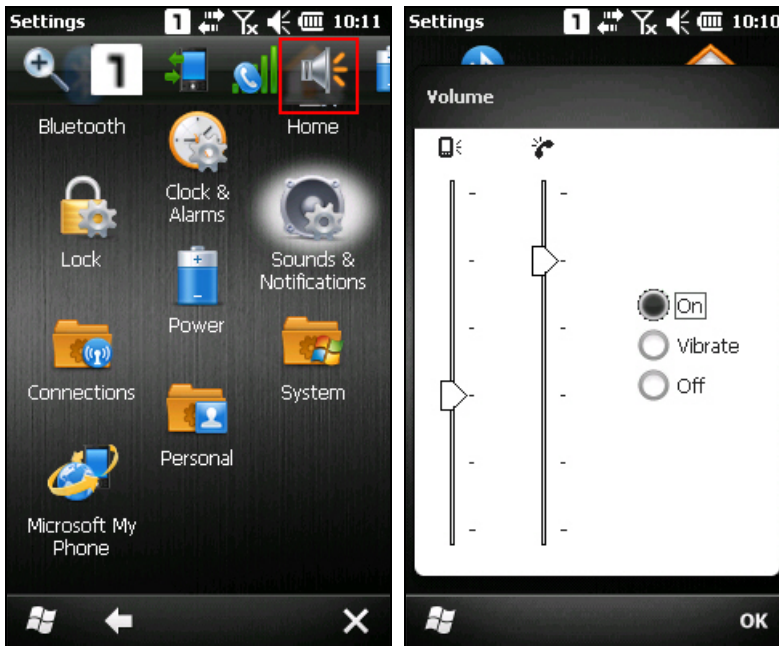
Go to **Start | Settings**, and tap **Sounds & Notifications** to configure related settings.



1.5.3 VIBRATOR

The mobile computer is integrated with a vibrator, which is software programmable for feedback. This can be helpful when working in noisy environments.

Tap the top of the screen to invoke the title bar drop-down list, and then tap the volume setting icon to change the system volume or phone ring. You may mute it or have it vibrate instead.



Note: You can switch the volume settings among On, Vibrate and Off items in the Volume control screen. Volume adjustment slider bar is only available in volume "On" mode.

1.6 DATA CAPTURE

1.6.1 BARCODE READER

A wide variety of scan engines is available for delivering flexibility to meet different requirements. Depending on the scan engine integrated, the mobile computer is capable of scanning barcodes of a number of symbologies that are enabled by default while running the ReaderConfig.exe utility. If you need to scan barcodes that are encoded in a different symbology, enable the symbology first.

Refer to [Appendix II - Laser \(SE955\)](#) (1D) and [Appendix III - 2D Imager](#) (2D) for using the barcode reader utility.

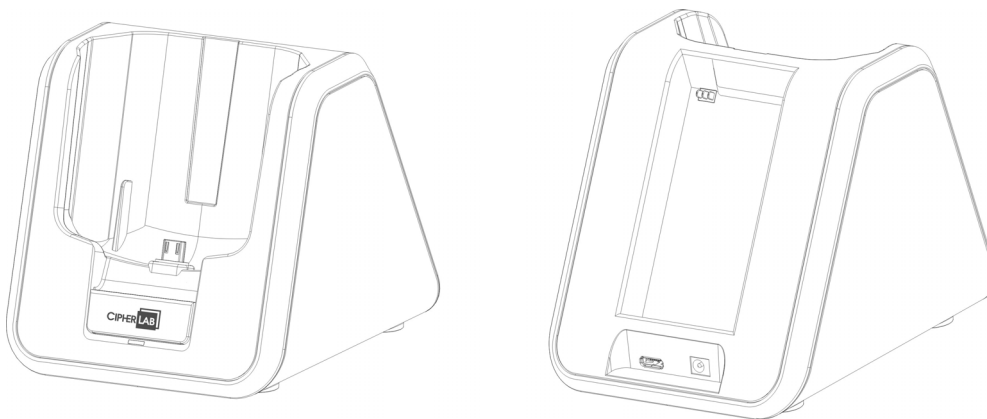
1.6.2 DIGITAL CAMERA

An integrated 3.2 mega-pixel CMOS camera in the mobile computer is specifically designed for collecting image data. We provide an image capture utility that is specifically designed to turn on the camera and capture image.

1.7 CRADLE

A specified cradle is supported for CP30; it can transfer data or charging via a Micro USB 2.0 cable. There is also a LED indicator in front of the cradle to indicate the charging status of battery. For plastic bolt switch that in front of the cradle information, please refer to [Using Cradle](#).

- ▶ Supports Micro USB 1.1 compatible.
- ▶ USB Synchronization between charging terminal and battery.
- ▶ LED indicator to show battery charging status.
- ▶ Supports 2 modes (ActiveSync On and Off) for charging and data transmission.
- ▶ Charging Time shall be less than 4 hours.
- ▶ DC Input 5V@2A, DC-Jack on the back of cradle.
- ▶ 100-240VAC 50/60Hz, 5VDC±5%2A with DC jack for AC adaptor.
- ▶ Due to the limitation of CP30 terminal charging circuit, it supports 1000mA charging current through ActiveSync disable or only under 500mA with ActiveSync enable.



Charging Time	Approx. 4 hours for spare battery via adaptor.
	Approx. 4 hours for terminal via adaptor (ActiveSync is disabled)
	Approx. 8 hours for terminal via adaptor (ActiveSync is enabled)

LEARNING WINDOWS MOBILE BASICS

This chapter mainly describes the basic skills to work with the CP30 Mobile Computer. The add-on utilities for applications regarding data collection, processing, and transmission, are introduced in the following chapters.

The mobile computer is specifically designed for real-time data collection in the Windows Mobile 6.5 environment. It won't take long for any Windows user to get familiarized with it. Keep these basic skills in mind and explore this Windows Mobile device at ease.

- ▶ Tap an item to select it.
- ▶ Tap and hold an item to see a menu that enables tasks, such as cut, copy, rename, delete, etc.
- ▶ Tap [**X**] at the bottom of the screen to close an active window, a dialog box, or a running application.
- ▶ Tap [**OK**] at the bottom of the screen to save the current settings and exit the application (or minimize the window in some applications).
- ▶ Tap [**←**] at the bottom of the screen to return the previous menu.

IN THIS CHAPTER

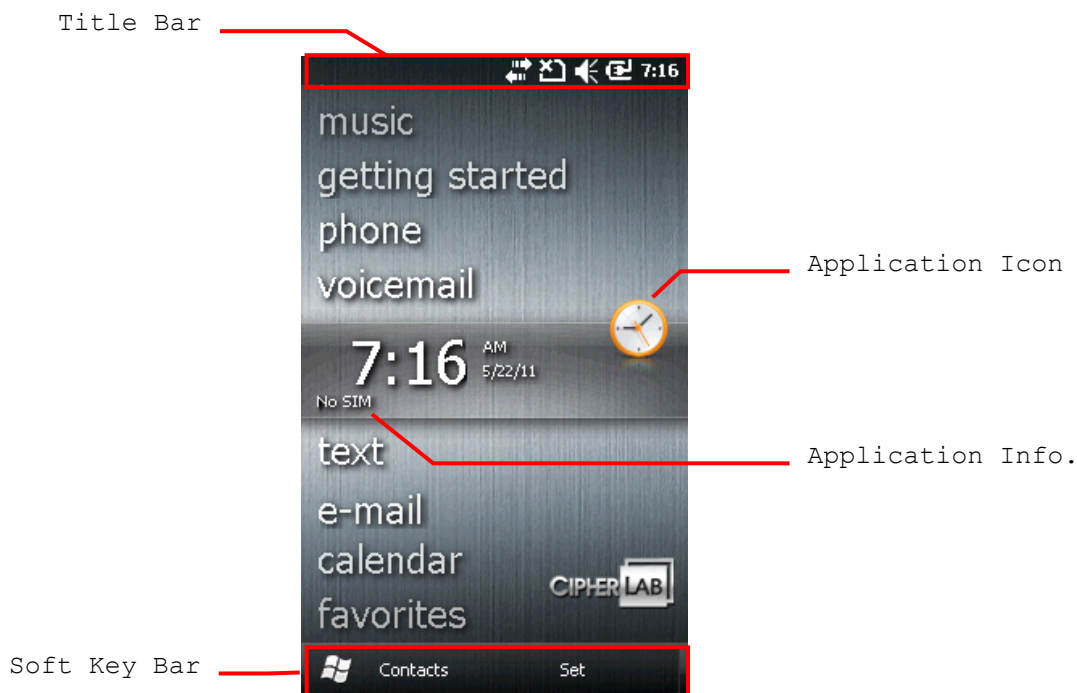
2.1 Getting Started	28
2.2 Input Methods	34
2.3 Managing Programs	35
2.4 Using ActiveSync	38
2.5 Reset	42

2.1 GETTING STARTED

2.1.1 HOME SCREEN

When the mobile computer is fully charged, press the Power key for three seconds to turn on the mobile computer and wait for the **Home Screen** to come up.

Tap and hold the **Home Screen** up and down to highlight a desired application. The additional information or items will appear sideways, and right soft key will be available at the bottom of the screen as well.




























If you are using the mobile computer for the first time, there are a couple of things to do after the **Home Screen** comes up. The Getting Started wizard that will walk you through e-mail setup, changing the background image, setting up Bluetooth headset connection, etc.

- ▶ Go to **Start | Settings**, and tap **Home** to change theme, background, and status items shown on the **Home Screen**, etc.
- ▶ Go to **Start | Settings**, and tap **Clock & Alarms** to select time zone, change local time, set alarms, etc.

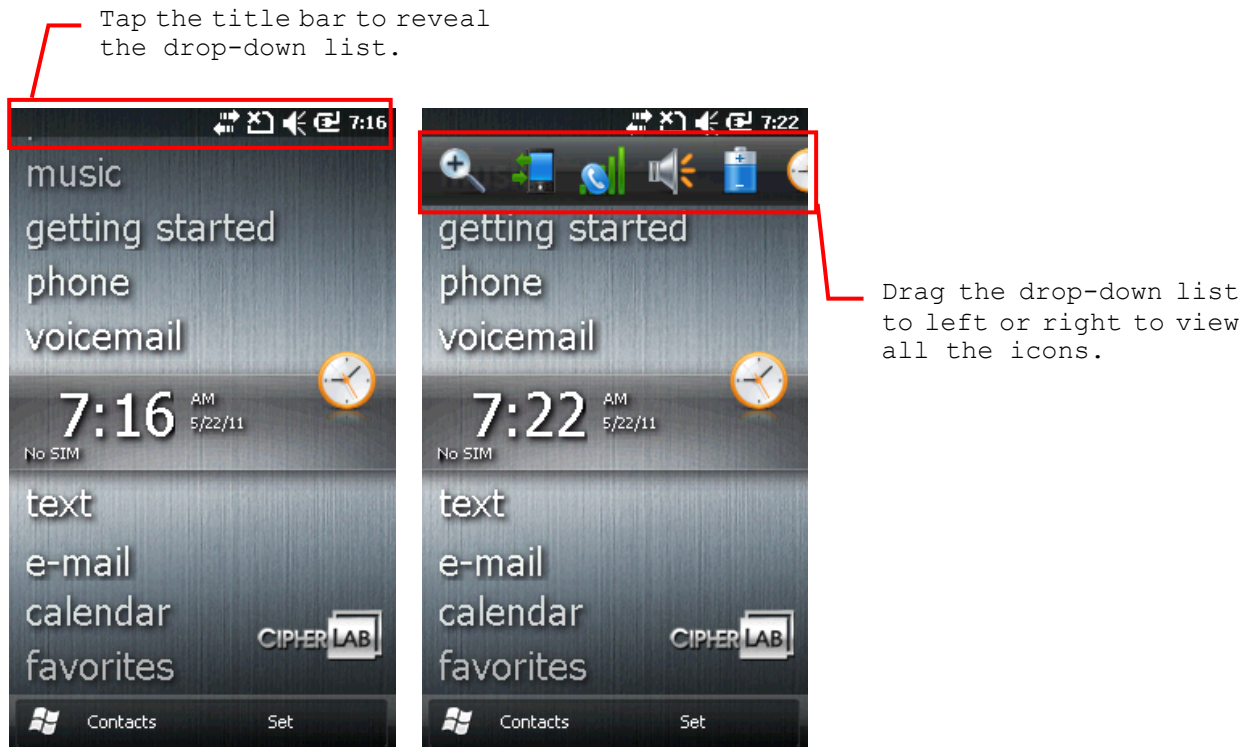
2.1.2 TITLE BAR

The icons at the top of the screen are explained below.












Icon	Description
	External power source is connected.
	Battery power remaining: The more the white bars, the more power in the main battery.
	Current input mode of keypad.
	Shift [⇧] is enabled in numeric mode.
	Shift [⇧] is enabled in alpha mode.
	Volume status: On, off, or vibrate.
	Insert SIM card: The SIM card is missing. You can still make emergency calls if your service provider supports it.
	EDGE service available.
	EDGE connection is established.
	GPRS service available.
	GPRS connection is established.
	Incoming call.
	Missed call.
	Antenna signal status: Phone power off.
	Antenna signal status: PIN Code required for powering on the Phone.
	Antenna signal status: Phone power on; the more bars, the stronger the signal.
	Connection is active.
	Wi-Fi Network is detected.
	Wi-Fi Network is connected.
	Reminder for an alarm or appointment is active.
	Receiving Bluetooth beams.
	Bluetooth stereo headset is in use.
	More notification icons can be displayed.
	E-mail/text message is received.
	Roaming.

2.1.3 TITLE BAR DROP-DOWN LIST


The title bar drop-down list is hidden at the top of the screen be showed below:



Icon	Description
	Tap it to zoom in or zoom out of current view.
	Tap it to check the connections status. You may configure the settings through Wireless Manager .
	Tap it to check the phone status. You may configure the settings through Wireless Manager .
	Tap it to show detected networks for Wireless local area networking (WLAN) connection, which is not available until Wi-Fi power is turned on through Wireless Manager . Alternatively, you may tap Notification on the left soft key bar.
	Tap it to change the system volume or phone ring. You may mute it or have it vibrate instead.
	Tap it to monitor the charging status and change the power scheme.
	Tap it to change the clock and alarms settings.
	Tap it to help leave customer feedback to Microsoft for improving Windows Mobile software.

Icon	Description
	Tap it to view the reminder for an alarm or appointment.
	Tap it to receive incoming Bluetooth beams.
	Bluetooth A2DP profile is in use. Tap it to access the Bluetooth devices list.
	Tap it to overlook a missed call.
	Tap it to check a new e-mail.
	Tap it to check a new voicemail.
	Tap it to send an SMS text message.
	Speakerphone is on.
	Tap it to access the Bluetooth configuration.
	Tap it to configure ActiveSync connection settings.
	Roaming is on.

2.1.4 START MENU


Tap  to open the **Start Menu**. You can tap to access application programs, find useful utilities developed by CipherLab, or configure system settings.



2.1.5 DEVICE LOCK

By default, the device is unlocked. You may lock the mobile computer to prevent unintended operation. When locked, it will not respond to screen touch or keypad input until it is unlocked again. However, on the Lock screen you can still monitor the device status on the title bar. If the Lock screen is enable, the Volume adjustment on the left side of CP30 will unavailable.

Lock CP30

Go to **Start Menu**, and tap the lock icon  on the soft key bar to protect your mobile computer.

Password Lock

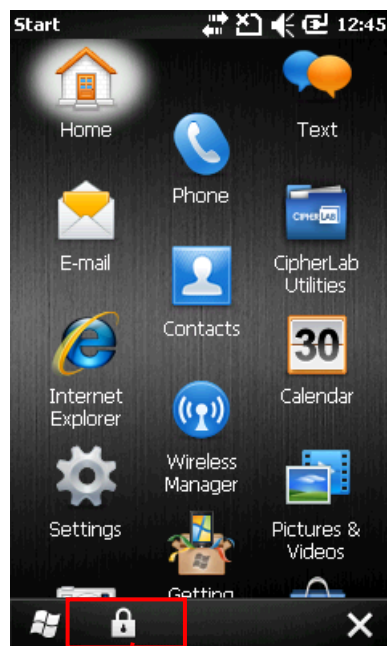
You may further apply password protection to block unauthorized access. Go to **Start | Settings**, and tap **Lock**.

- ▶ Simple PIN: Set up a password (4-digit at least)
- ▶ Strong alphanumeric: Set up a strong password (7-character at least)

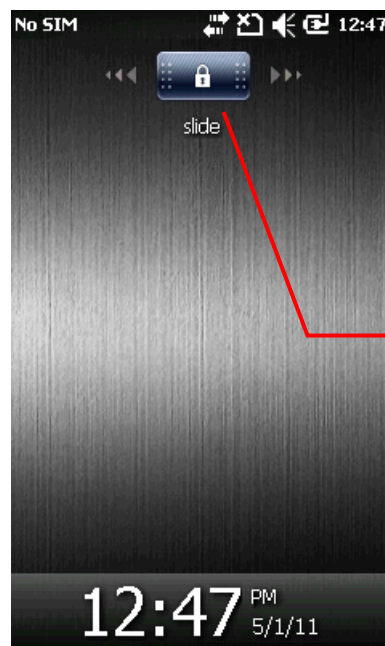
Unlock CP30

Drag the lock slide to left or right of the unlock screen.

Note: For the Simple PIN password to Lock screen, the password can not be a sequence numerals (e.g.111 or 1234). And also not be uppercase, lowercase letters or punctuations.




Tap to lock device.



It's locked now!

2.2 INPUT METHODS

The keyboard icon  at the middle bottom of the screen is for Software Input Panel (SIP). Tap the icon to show or hide the software keyboard.

Data entry can be performed by the following methods.

Physical Keypad

Type with the hardware keypad.

Data Capture

Scan barcode in applications, e.g. Notes, CipherLab's FORGE Application Generator, etc.

Software Keypad

Type or write using SIP (Soft Input Panel):

Tap the SIP button on middle soft key bar to show or hide the input panel.



2.3 MANAGING PROGRAMS

Tap the **Start** button to view the **Start Menu**. To quick launch a program, tap it. To add a new program or subfolder to the **Start Menu**, you can either use **File Explorer** or **ActiveSync**.

- ▶ 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].

2.3.1 ADD A PROGRAM TO START MENU

1. Tap **Start | File Explorer**.
2. Navigate through file folders to find the program you desire.
3. Tap and hold the program to select [Copy] from 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 to select [Paste Shortcut] from the pop-up menu. The new program will be added to the Programs folder.
6. Go to **Start Menu** and the new added program will appear now.

2.3.2 CREATE A NEW FOLDER

1. Tap **Start | File Explorer**.
2. Navigate through file folders to find where to create a new folder.
3. Tap **Menu | New Folder** and a subfolder will be created.

2.3.3 SWITCH AMONG PROGRAMS

1. Tap **Start | Task Manager**.
2. Select which running program to use.
3. Tap **Menu | Switch To** on the right soft key bar and the program will be launched.

2.3.4 END A PROGRAM

In general, the system manages memory automatically, and there is no need to exit a program in order to open another or to conserve memory. However, random access memory (RAM) may be used up when running too many programs. As a result, it will slow down the operation or cause program errors. In that case, you should stop one or more running programs to release memory. In order to use memory in a more efficient way, you are recommended to exit a program when it is not desired any longer.

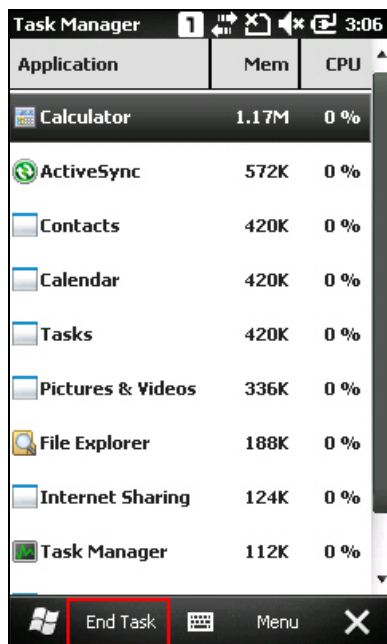
Warning: Always remember to save data or settings before you exit a program.

Tap [**X**] to close an active window, a dialog box, or a running application. If the button is not displayed on the soft key bar, press [ESC] on the physical keypad.

Tap [**OK**] to save the current settings and exit the application (or minimize the window in some applications). If the button is not displayed on the soft key bar, press [OK] on the physical keypad.

Note: Some programs, such as the ActiveSync, may create an associated icon on the taskbar. You may tap the icon and tap End Task to end the active program.

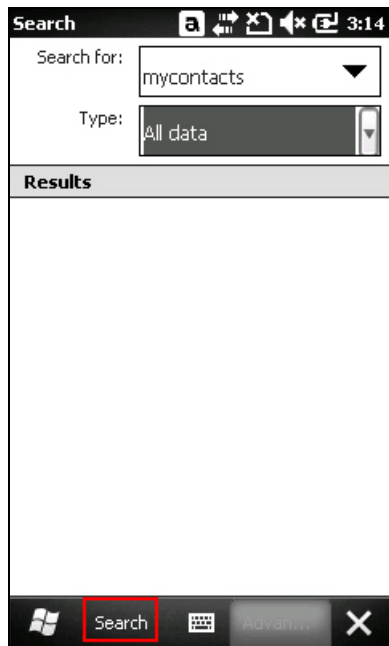
1. Tap **Start | Task Manager**.
2. Select which running program to stop.
3. Tap **End Task** on the left soft key bar and the program will be closed.



2.3.5 FIND A FILE

1. Tap **Start | Search Phone**.
2. In the "Search for" box, enter the file name, word, or other information you want to search for. If you have looked for this item before, tap the drop-down list and select it.

In the "Type" box, select a data type to help narrow your search. If the data type of your file is other than listed, you may try [Larger than 64 KB]. However, if such file is less than 64 KB, it will not be searchable.



3. Tap **Search**.
4. In the Results list, tap the item you want to open.

2.4 USING ACTIVESYNC

ActiveSync is used to synchronize information between the mobile computer and your desktop computer, to install programs on the mobile computer, and to backup and restore the mobile computer.

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/activesync/activesync45.msp>

- ▶ 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.

2.4.1 SYNCHRONIZATION WITH YOUR COMPUTER

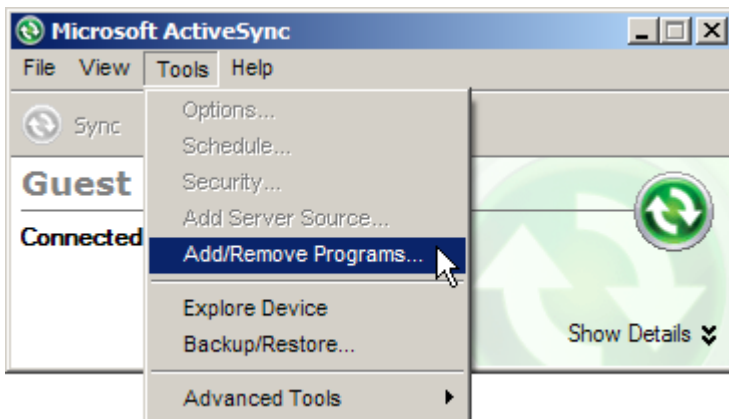
1. Follow these instructions for initial ActiveSync operation:
 - ▶ Connect the USB cable from the mobile computer or via a cradle to your computer.
 - ▶ Turn on the mobile computer or seat in the cradle.
2. Your computer will automatically detect the USB device.
3. Select which partnership to set up. If you want to synchronize data between the mobile computer and your personal computer, select Standard Partnership; otherwise, select Guest Partnership
4. Wait a few seconds for the mobile computer to get connected (and synchronized if a Standard Partnership is selected).

Note: For ActiveSync via Bluetooth, refer to [Using Bluetooth](#).

2.4.2 ADD/REMOVE PROGRAMS

Click [Add/Remove Programs] from the Tools Menu so that you can proceed to install a program that is designed to be used on a mobile device running Windows Mobile. If a user program is no longer desired, you may remove it from the system.

Click [Add/Remove Programs] from the Tools Menu so that you can un-install a program that is designed to be used on a mobile device running Windows Mobile.



Alternative to Install New Programs (Copy & Paste)

You may install a new program manually.

1. When connected, open the Microsoft ActiveSync window on your desktop computer.
2. Click the Explorer button from the toolbar.
3. Navigate to the target folder, e.g. the Programs folder (\\Windows\\Start Menu\\Programs), depending on where you wish to access the program.
4. Navigate through file folders on your computer to find the new program (.CAB, .EXE, etc.)
5. Right-click the program and select [copy] from the pop-up menu.
6. Back to the target folder in step 3. Right-click anywhere blank and select [Paste] from the pop-up menu.
7. On the mobile computer, go to **Start Menu** and the new program will appear.

Alternative to Remove Programs

You may un-install a new program manually.

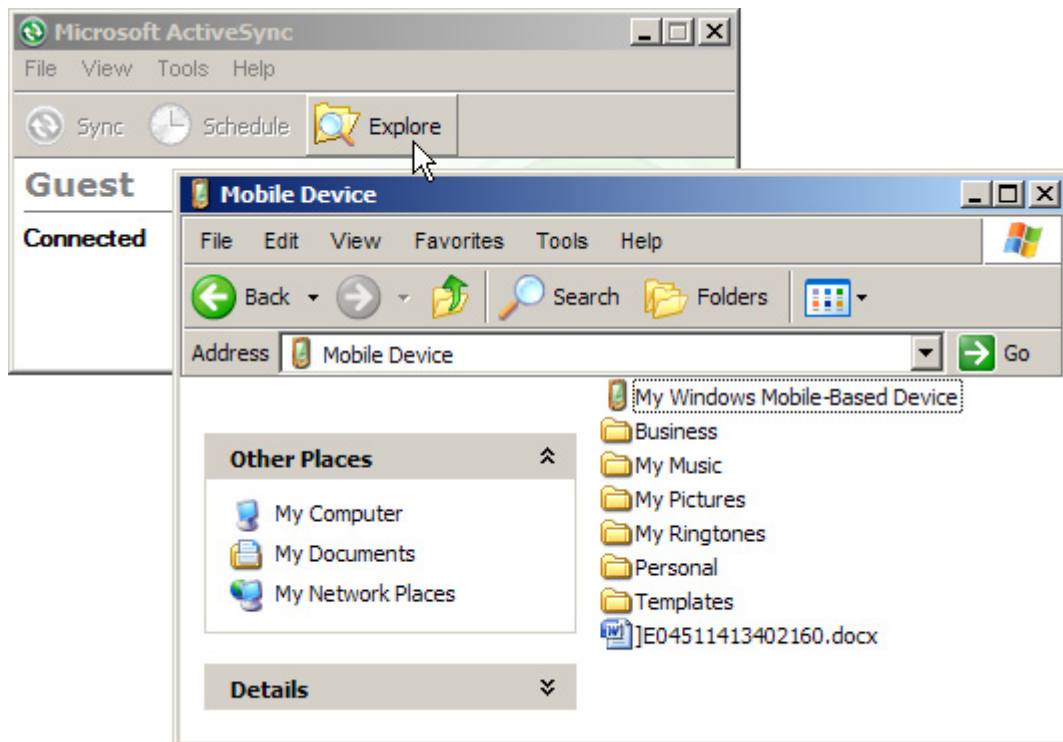
1. Go to **Start | Settings | System** and select **Remove Programs**.
2. Tap the name of the program that you want to delete.
3. Tap [Remove].
4. Tap [Yes] to un-install the program.

Note: If the program does not appear in the list of installed programs, you may use File Explorer to locate it. Tap and hold the program to select [Delete] from the pop-up menu.

2.4.3 EXPLORE DEVICE

Add a Program to Start Menu

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.
4. Right-click the program and select [Create Shortcut] from the pop-up menu.
5. Right-click the shortcut and select [Cut] from the pop-up menu.
6. Navigate to the Programs folder – \Windows\Start Menu\Programs.
7. Right-click anywhere blank on the window and select [Paste] from the pop-up menu. The new program will be added to the Programs folder.
8. On the mobile computer, go to **Start Menu** and the new program will appear now.

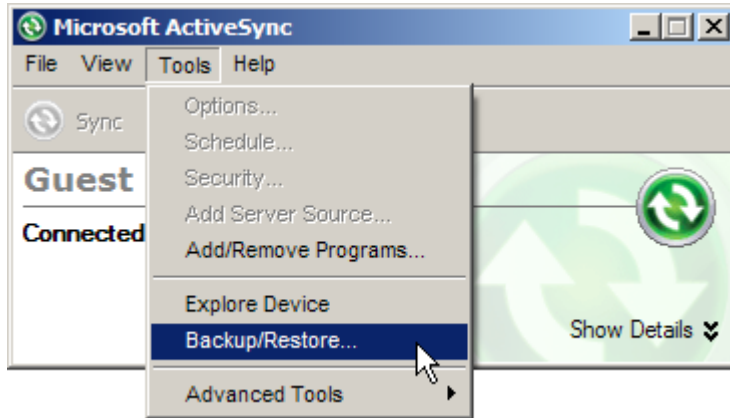
Note: [Create Shortcut], [Cut], and [Paste]: The same result can be performed by [Copy] and [Paste Shortcut].

Create a New Folder

1. When connected, open the Microsoft ActiveSync window on your desktop computer.
2. Click the Explorer button from the toolbar.
3. Navigate to the target folder where you wish to create a new folder.
4. Right-click anywhere blank on the window and select [New Folder] from the pop-up menu. A subfolder will be created.

2.4.4 BACKUP/RESTORE

To best protect your work, you should regularly back up information on your mobile computer. You can perform a backup by during the ActiveSync operation. The backup file is stored on your desktop computer.



2.5 RESET

Like your PDA, Pocket PC and most handheld devices, the CP30 Mobile Computer functions when it is turned on. This is because the Windows Mobile operating system eliminates the booting process and runs continuously.

You may reset the mobile computer when it stops responding to input with a warm or cold boot. Files not stored in RAM will be erased after a reset. But you can restore data that is previously synchronized with your computer by performing an ActiveSync operation, or backed up by using CipherLab Backup Utility.

After performing a reset, the recalibration and setup process is required to ensure touch screen accuracy and set up user settings for initial use. Follow the on-screen instruction to complete the process. You must manually adjust system date and time, as well as the time zone.

2.5.1 STANDBY MODE

When the mobile computer enters standby mode, the system is ready for use but not using. It means the system is in power-saving status and waiting for user start.

Enter Standby

Press the Power key for about 0.2 seconds to enter Standby mode.

Resume from Standby

Press the Power key for about 0.2 seconds to awake the mobile computer. Alternatively, you may press the Scan key.

Warning: To save battery power, it is suggested that the mobile computer is set to be automatically turned off when not in use. Refer to [1.1.2 Power Management](#) for more information about saving power.

2.5.2 SOFTWARE RESET (WARM BOOT)

Software reset, also known as a warm boot, will restart the mobile computer and keep all the saved files.

Software Reset (= Warm Boot)

1. Turn off the mobile computer by pressing the Power key for 3 seconds.
The Shut Down dialog is displayed asking "Are you sure you want to shut down? All unsaved data will be lost". Tap [Yes] to perform a warm boot.
 2. Turn on the mobile computer by pressing the Power key for 3 seconds.
-

Warning: Data loss may occur when files are not properly closed before software reset.

2.5.3 HARDWARE RESET (COLD BOOT)

Hardware reset, also known as a cold boot, will restart the mobile computer and initialize RAM. Perform a hardware reset if software reset cannot be properly operated.

Hardware Reset (= Cold Boot)

1. Remove the battery cover and the main battery.
 2. Replace the main battery and the battery cover.
 3. Turn on the mobile computer by pressing the Power key for 3 seconds.
-

Warning: Data loss may occur when files are not properly closed before hardware reset.

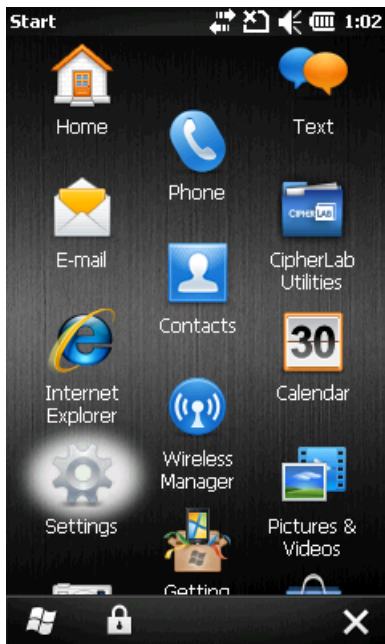
CONFIGURING CP30 MOBILE COMPUTER

In this chapter, a brief on the system settings is provided for your reference.

IN THIS CHAPTER

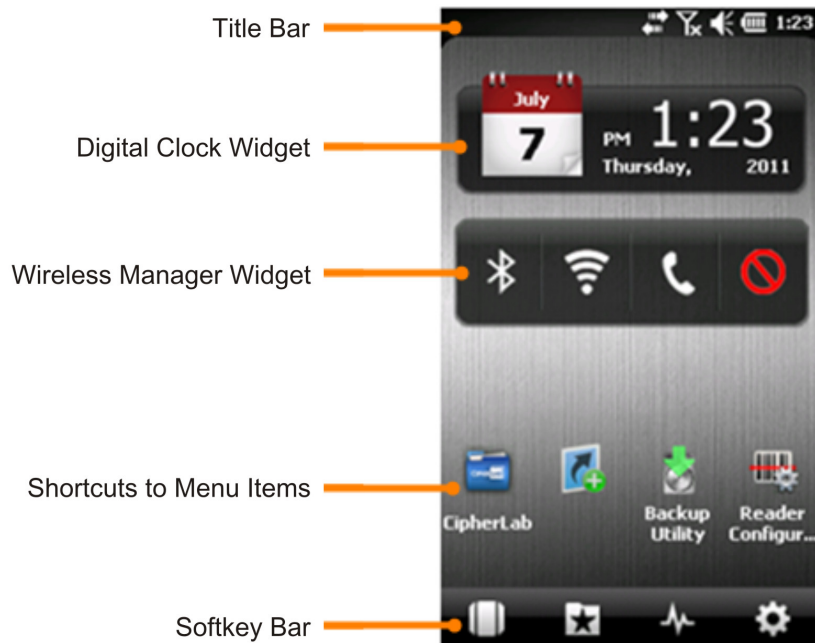
3.1 smart shell.....	46
3.2 Settings.....	48
3.3 Device Name & Configuration	55









Tap  to open the **Start Menu**, and tap **Settings** to configure related settings.



3.1 SMART SHELL

CipherLab Smart Shell is a utility allows you to customize some settings and behavior(s). You can easy to employ and control the programs installed via Smart Shell utility. For more information, please refer to the CipherLab Smart Shell User Guide.



Icon	Description
	Tap it for a 3D carousel View.
	Provide a fast and convenient way to access your favorite or recently used items and services.
	Tap it to activate or close any listed program or enable any running programs.
	According to active screen to support change settings.
	Tap it to enable Bluetooth.
	Tap it to enable Wi-Fi.
	Tap it to enable GSM/GPRS.
	Fight Mode: Tap it to disable all wireless signals. The color of Fight Mode icon will changed from white to red.

3.2 SETTINGS



Bluetooth



Refer to [Using Bluetooth](#).

Clock & Alarms



- ▶ Time tab: Change the date, time and time zone settings. By default, the time zone settings will be automatically synchronized and updated by notification.
- ▶ Alarms tab: You may set up at most three alarms to wake you up or as a reminder.

Home



Refer to [2.1.1 Home Screen](#).

- ▶ Appearance tab: Customize the theme and background of the Home Screen.
- ▶ Items tab: Select items that will appear on the Home Screen, and configure Home Screen timeout.

Lock



Tap it to apply password protection to limit access to the mobile computer, and any screen or keypad input will be blocked.

Refer to [2.1.5 Device Lock](#).

Power



- ▶ Battery tab: You may view the current charge of main battery.
- ▶ Advanced tab: You may configure to turn off the device when it is idle for a specific period of time, either on battery or external power.

Sounds & Notifications



Refer to [1.5.2 Audio](#).

- ▶ Sounds tab: Configure sounds for specific actions, events, programs, etc.
- ▶ Notifications tab: Select to play sounds as notifications for some events.

Connections



Refer to [3.2.1 Connections](#).

Personal



Refer to [3.2.2 Personal](#).

System



Refer to [3.2.3 System](#).

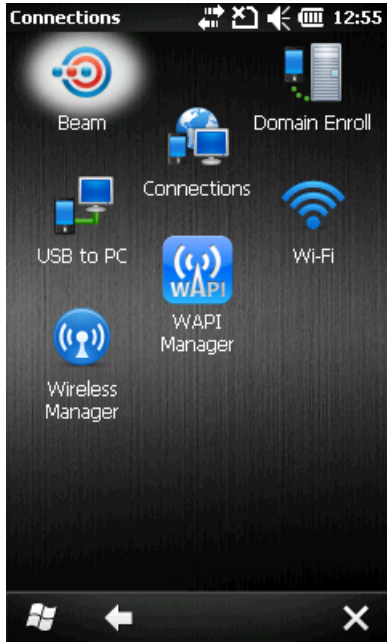
Microsoft My Phone



Tap it to synchronize contacts, calendars, tasks, and so on with a Microsoft My Phone account. You will be asked to sign in using your Windows Live ID.

3.2.1 CONNECTIONS

Go to **Start | Settings | Connections**.



Beam



Tap it to receive incoming Bluetooth beams.

Connections



Refer to [6.5 Configuring GPRS Network](#).

Domain Enroll



Tap it to connect to a SCMDM server with an enrollment ID and password, allowing company deployment on multiple mobile computers.

USB to PC



Tap it to change the USB connection type. By default, it will automatically establish the connection and start the ActiveSync operation when the mobile computer is connected to PC. When your PC connects to a local area network or the Internet, the USB connection may be disconnected for priority concern. In this case, try to disable advanced network functionality to troubleshoot ActiveSync connection problems.

Wi-Fi



Refer to [Using 802.11 Radio](#).

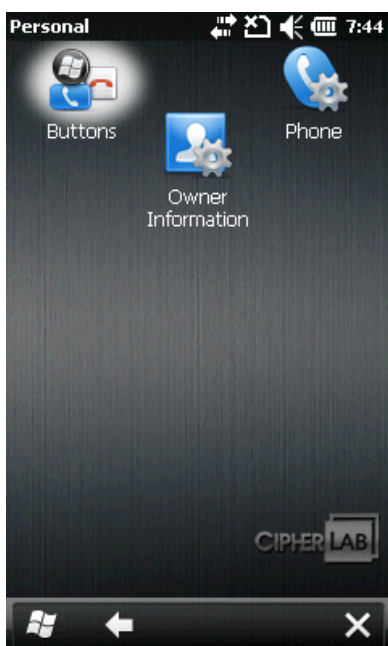
Wireless Manager



Tap it to enable/disable the Wi-Fi, Bluetooth or Phone Power, related information refer to [4.1.1 Power On via Wireless Manager](#) and [6.1.1 Wireless Manager](#) (Phone).

3.2.2 PERSONAL

Go to **Start | Settings | Personal**.



Buttons



Tap it to adjust the character input repeat delay and rate, move the slider to right or left for repeat speed.

Owner Information



- ▶ Identification tab: Enter your contact information.
- ▶ Notes tab: Enter your notes.

Phone



Refer to [6.2 Phone](#).

3.2.3 SYSTEM

Go to **Start | Settings | System**.



About



- ▶ Version tab: It displays information of OS software, processor, etc.
- ▶ Device ID tab: You may enter a name and description for identifying the mobile computer.
- ▶ Copyrights tab: It displays important statements on copyrights.

Backlight



- ▶ Battery Power tab: You may configure when to turn on/off the backlight the brightness of the LCD backlight when on battery power.
- ▶ External Power tab: You may configure when to turn on/off the backlight the brightness of the LCD backlight when on external power (the mobile computer being seated in the cradle for charging or connected for direct charging).

Certificates



You may view or modify digital certificates that some applications use to establish trust for secure connections.

Customer Feedback



You may send customer feedback to Microsoft for improving Windows Mobile software.

Device Information



It displays important device information in system, software and hardware.

Encryption



You may encrypt files stored in the SD card. The encrypted files are read only on the mobile computer.

Error Reporting



You may determine whether to enable error reporting to help Microsoft improve Windows Mobile software. By default, it will automatically collect errors and report to Microsoft.

External GPS



- ▶ Programs tab: You may specify a program port for multiple GPS-enabled programs to access GPS data.
- ▶ Hardware tab: For GPS program port to work, you must specify correct hardware port. If using the GPS receiver integrated on the mobile computer, select COM 7 and 4800 for baud rate.
- ▶ Access tab: By default, Windows Mobile manages access to your GPS receiver and allows multiple programs to obtain GPS data simultaneously. If you clear the check box, some programs may not be able to obtain GPS data.

GPS Manager



- ▶ AGPS tab: You may select to enable AGPS function to improve GPS performance.
- ▶ Ephemeris tab: You may configure how to download ephemeris data, or tap [Download] to update ephemeris at any time. The data is valid for seven days according to the system date and time. The date of last download will be displayed at the lower left of the screen.

Keypad



You may change the keypad backlight behavior. By default, the keypad backlight will be automatically turned off for five seconds when any key is pressed.

Managed Programs



You may manage programs that are installed in RAM.

Memory



- ▶ Main tab: You may view the current capacity and usage of the onboard RAM.
- ▶ Storage Card tab: You may view the memory occupation of the Flash Disk folder or any storage card.

Regional Settings



- ▶ Region tab: You may customize the appearance and formatting to your geographic region.
- ▶ Number tab: You may further customize the number formats.
- ▶ Currency tab: You may further customize the currency formats.
- ▶ Time tab: You may further customize the time format.
- ▶ Date tab: You may further customize the date format.

Remove Programs



You may remove programs that are stored in RAM.

Screen



- ▶ Alignment tab: You may align the screen for calibration.
- ▶ ClearType tab: You may apply Clear Type fonts.
- ▶ Text Size tab: You may use the slider to adjust the text size.

Task Manager

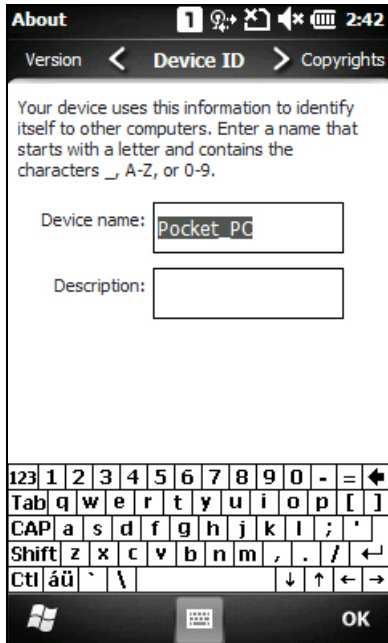


You may have a list of all applications which are currently running on the mobile computer. Tap and hold the application to switch to enable or end it if processing too many applications will waste a lot of memory or CPU resource.

3.3 DEVICE NAME & CONFIGURATION

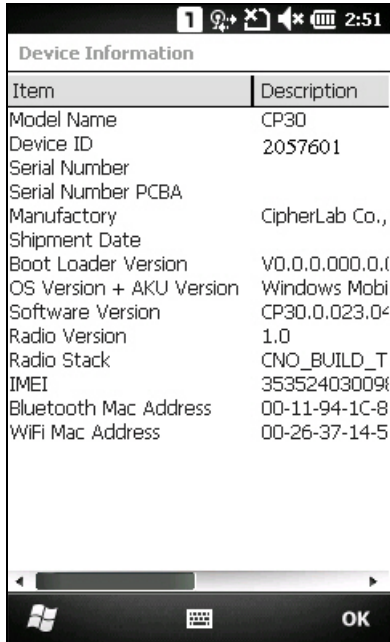
3.3.1 CHANGE DEVICE NAME

Go to **Start | Settings | System**, and tap **About** to change the device name on the Device ID tab if necessary.



3.3.2 UNDERSTAND DEVICE CONFIGURATION

Go to **Start | Settings | System**, and tap **Device Information** to view the device information. The device configuration of CP30 Mobile Computer is displayed in 7 digits: xxxxxxx



Take the screenshot for example. Its device ID is "2057601"; therefore, the mobile computer has the following features –

- ▶ 28-key, WQVGA screen
- ▶ A scan engine that employs Laser scan engine
- ▶ Integrated communications: Bluetooth, Wi-Fi and GSM/GPRS
- ▶ Integrated GPS receiver and camera

Device ID	Modular Component	Types
1 st digit	Reader module	0= none 2= Laser (SE955) 3= 2D Imager
2 nd digit	Reserved	0
3 rd digit	Bluetooth, GSM/GPRS	0= none 1= Bluetooth 4= GSM/GPRS 5= Bluetooth + GSM/GPRS
4 th digit	Wi-Fi, GPS	0= none 3= Wi-Fi 4= GPS 7= Wi-Fi + GPS
5 th digit	LCD, Camera	2= WQVGA 6= WQVGA + Camera
6 th digit	Keypad	0= 28-key
7 th digit	PCB main board	1= EVT1

USING 802.11 RADIO

The Wi-Fi module integrated on the mobile computer lets you configure and connect to network wirelessly.

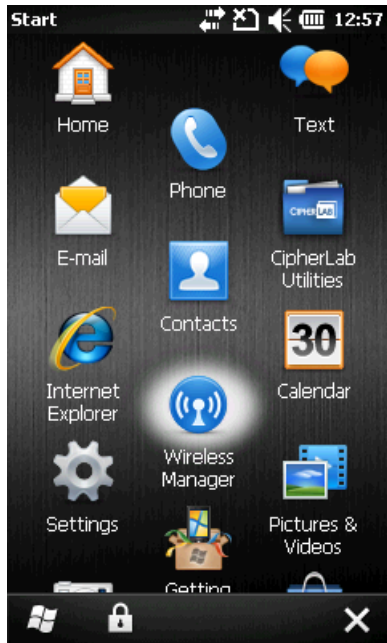
IN THIS CHAPTER

4.1 Wi-Fi Power	58
4.2 WLAN Configuration	62

4.1 WI-FI POWER

4.1.1 POWER ON VIA WIRELESS MANAGER

1. Go to **Start | Wireless Manager** as shown below.



2. Tap [All] or [Wi-Fi] to turn on the power.

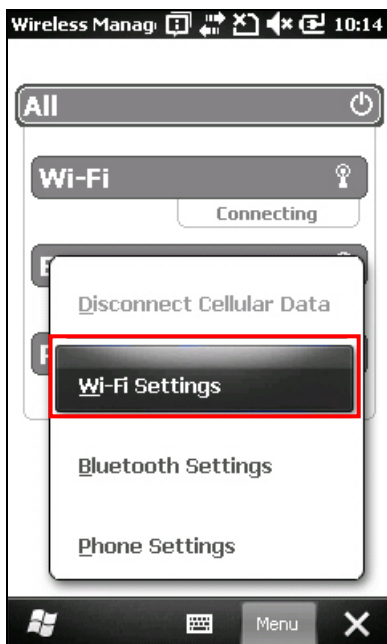


- When the Wi-Fi status is "Available", it means it is turned on and Wi-Fi networks are available.

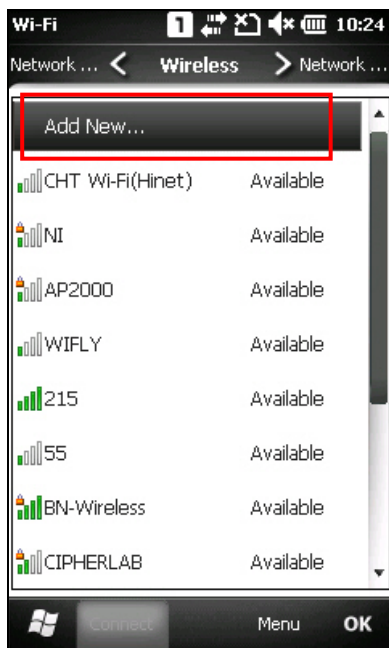


4.1.2 WLAN CONNECTION

- Tap **Menu | Wi-Fi Settings** to configure related settings.



- On the Wireless tab, you may have a list of available Wi-Fi networks. Select one or tap [Add New...] and follow the on-screen instructions to configure related settings, such as the network name, authentication and encryption type, etc.



The icon next to the network name provides a visual status for the radio. It is only available when all of the following is true:


Icon	Indication
(no-bar)	The signal strength (RSSI) for the current AP (to which the radio is associated) is -91 dBm or weaker.
(one-bar)	The RSSI for the current AP is -90 dBm or stronger but no more than -82 dBm.
(two-bar)	The RSSI for the current AP is -81 dBm or stronger but no more than -72 dBm.
(three-bar)	The RSSI for the current AP is -71 dBm or stronger but no more than -68 dBm.
(four-bar)	The RSSI for the current AP is -67 dBm or stronger.
(Encryption)	The RSSI for the current AP has a data encryption for connection.
(fail)	The signal for the current AP is unavailable.

A strong signal (four bars) usually means that the wireless network is close or there is no interference. For best performance, connect to the wireless network with the strongest signal. However, if an unsecured network has a stronger signal than a security-enabled one, it's safer for your data if you connect to the security-enabled/encryption network (but you must be an authorized user of that network).

To improve the signal strength, you can move your mobile computer closer to the wireless router or access point, or move the router or access point so it's not close to sources of interference such as brick walls or walls that contain metal support beams.

3. Wait a few seconds for the mobile computer to connect to the preferred network you have configured. Tap [OK] to close the current window.



4. Once connected successfully, the associated icon  will appear on the title bar and the connected network name will be displayed for Wi-Fi status in **Wireless Manager**.



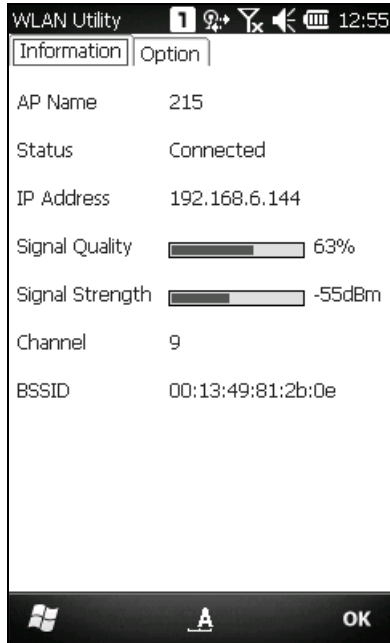
Note: If the Wi-Fi power item is disappeared during the Wi-Fi connection, please go to the ActiveSync configuration screen to enable "Allow wireless connection on device when connected to the desktop" check box that located in the **File | Connection Settings** of ActiveSync to appear Wi-Fi power item.

4.2 WLAN CONFIGURATION

4.2.1 WLAN UTILITY SETTINGS

Go to **Start | CipherLab Utilities | WLAN Configuration** to open the **WLAN Utility**.

On the Information tab, shows the status of the current wireless network connection about the transmitting data signals via connected AP and established information.



AP Name

Name of the connected Network

Status

Potential values are

- ▶ Associated
- ▶ Down
- ▶ Connected

IP Address

IP address of the mobile computer

Signal Quality, Signal Strength, Channel

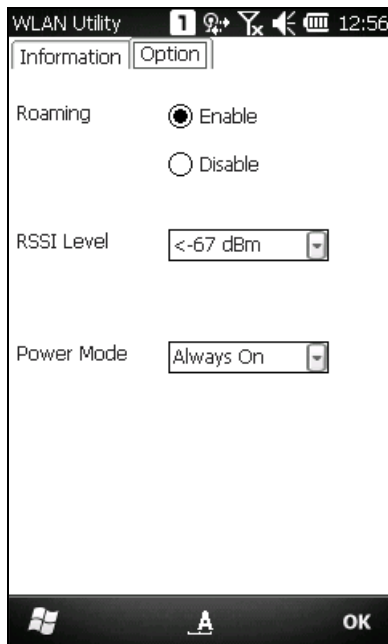
Information on the wireless connection between the CP30 and AP, including bar indication of signal quality and strength

BSSID

MAC address of the access point (AP)

4.2.2 RSSI LEVEL

You may change the roaming and power settings on the Option tab.



Roaming

Whether to trigger the mechanism of roaming

- ▶ Enable (default)
- ▶ Disable

RSSI Level

RSSI stands for Received Signal Strength Indication. Use an RSSI value to determine when it comes below a certain threshold at which point the mobile computer will seamlessly switch the network connection, for example, while moving in and out of range between different access points (AP).

- ▶ <-67 dBm (default) : Normal
- ▶ <-71 dBm : Weak signal
- ▶ <-81 dBm : Very weak signal

Power Mode

Power saving mode for radio

- ▶ Always On (default): Keeps the client adaptor powered up continuously so there is little lag in message response time. It consumes the most power but offers the highest throughput. It is recommended when AC power is in use.
- ▶ Max. Saving: Causes the access point to buffer incoming messages for the client adaptor, which wakes up periodically and polls the access point to see if any buffered messages are waiting for it. The client adaptor can request each message and then go back to sleep. It conserves the most power but offers the lowest throughput. It is recommended when battery power is in use.

- ▶ **Auto Mode:** Switches between the two modes described above, depending on network traffic. This mode switches to Always On mode when retrieving a large number of packets and switches back to Max. Saving mode after the packets have been retrieved. It is recommended when power consumption is a concern but you need greater throughput than that allowed by Max. Saving mode.

USING BLUETOOTH

The CP30 Mobile Computer lets you configure Bluetooth settings and manage Bluetooth services provided on the remote devices.

Bluetooth Profiles Supported

Serial Port Profile	(SPP)	supports Server/Client
Object Push Profile	(OPP)	supports Server/Client
Dial-Up Networking Profile	(DUN)	supports Client only
Personal Area Networking Profile	(PAN)	
Human Interface Device Profile	(HID)	supports keyboard and mouse without cursor
Headset Profile	(HSP)	
Hands-Free Profile	(HFP)	
Generic Access Profile	(GAP)	
Generic Object Exchange Profile	(GEOP)	
Advanced Audio Distribution Profile	(A2DP)	
Audio/Video Remote Control Profile	(AVRCP)	
Phone Book Access Profile	(PBAP)	
ActiveSync-Over-Bluetooth		

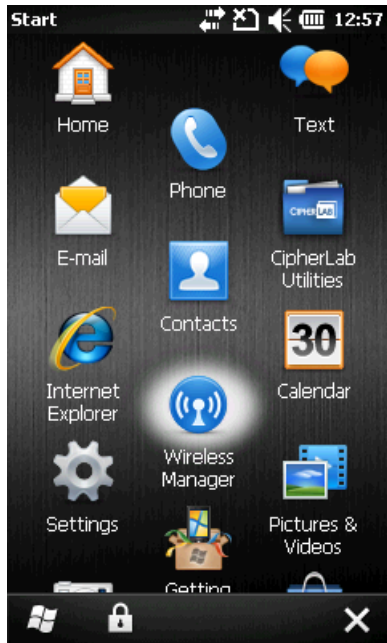
IN THIS CHAPTER

5.1 Bluetooth Power	66
5.2 Search Devices.....	68
5.3 Pair Devices	70
5.4 Serial Port Service	73
5.5 Object Push via Beam.....	77
5.6 Active Sync via Bluetooth.....	79

5.1 BLUETOOTH POWER

5.1.1 POWER ON VIA WIRELESS MANAGER

1. Go to **Start | Wireless Manager** as shown below.



2. Tap [All] or [Bluetooth] to turn on the power.

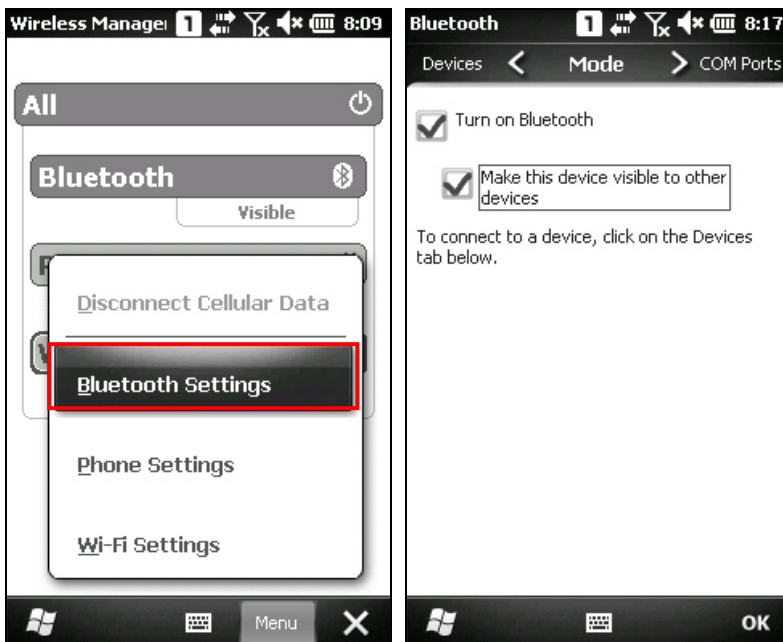


3. When the Bluetooth status is “Visible”, it means it is turned on and deployment is enabled.



5.1.2 CHANGING BLUETOOTH SETTINGS

Tap **Menu | Bluetooth Settings** to configure related settings. On the Mode tab, you may select to enable/disable Bluetooth function or whether hide the mobile computer from other Bluetooth devices.

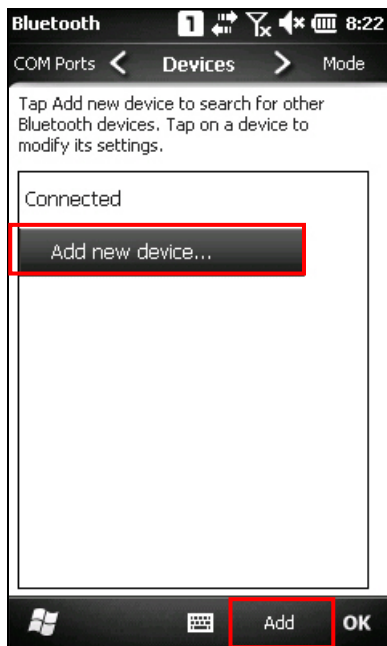


5.2 SEARCH DEVICES

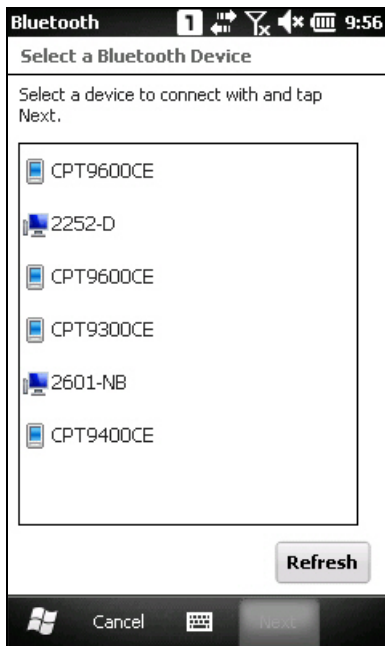
1. In the Bluetooth configurations screen, on the Devices mode tab you can search for other Bluetooth device or go to **Start | Settings | Bluetooth** for the same settings.



2. Tap [Add new device...] or **Add** on the soft key bar to search for other Bluetooth devices.



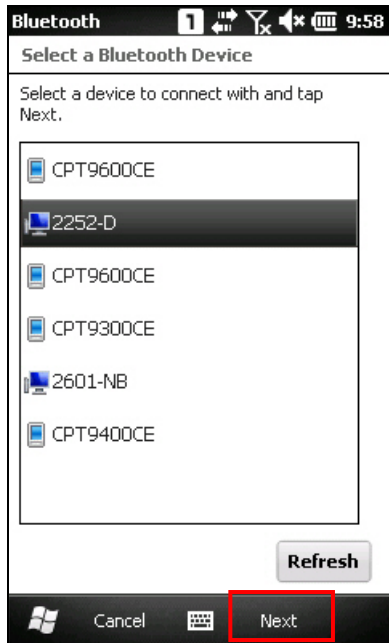
3. Wait for a few seconds, and it will list the discovered devices. If you do not see the devices that want to be connected, make sure it is set discoverable. Tap **Refresh** to search again.



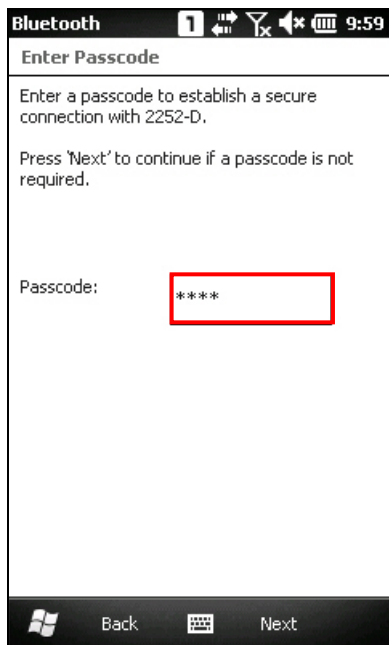
5.3 PAIR DEVICES

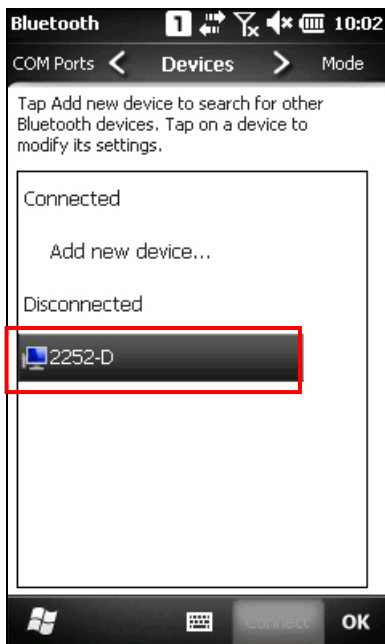
5.3.1 PAIR

1. Select a connected device and tap **Next**.



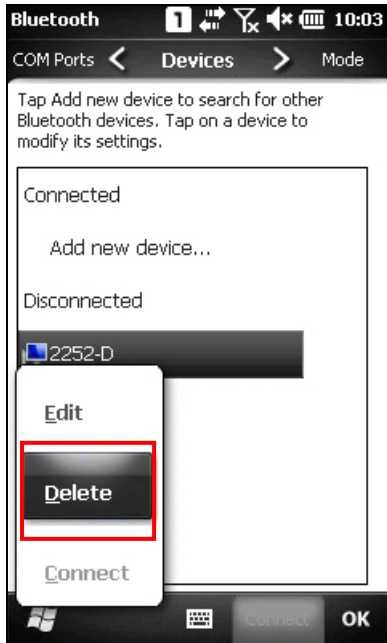
2. If necessary, please enter the password that is specified on the remote device. Tap **Next**.



3. Tap Done.**4. Once paired successfully, the device will appear in the device list. Tap it to view available Bluetooth services or modify its display name.**

5.3.2 UNPAIR

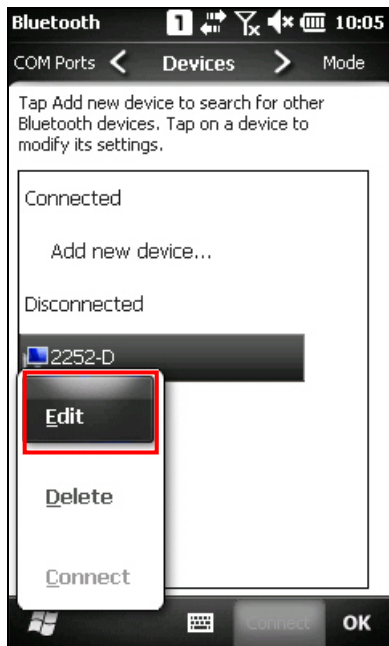
On the Devices tab, tap and hold the desired device to select [Delete] from the pop-up menu.



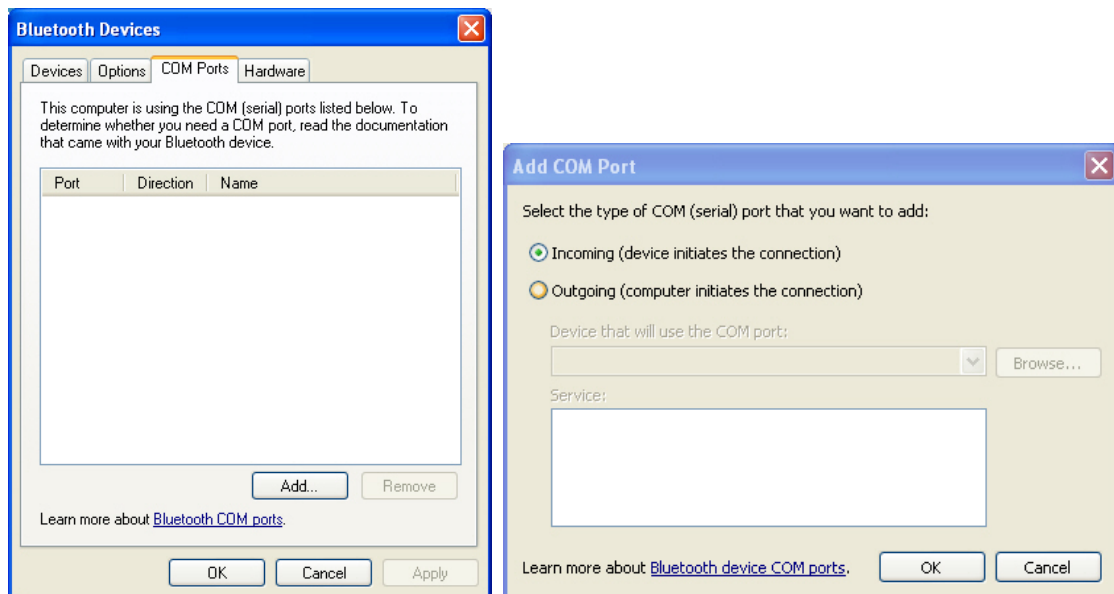
Note: The mobile computer must be unpaired on the remote device as well. For example, also remove it from the device list on the remote device. (Both devices must be unpaired and removed!)

5.4 SERIAL PORT SERVICE

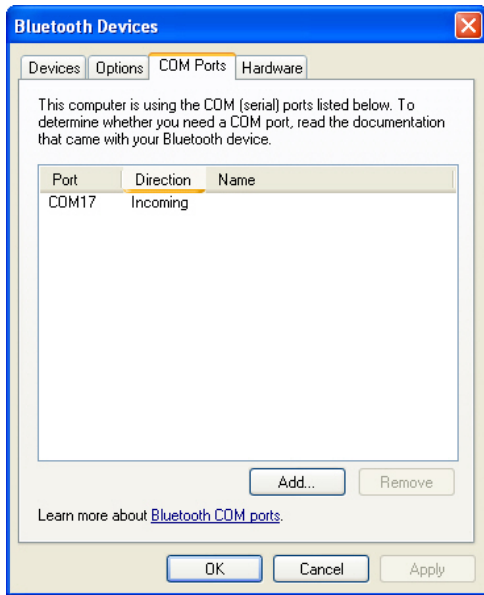
1. On the Devices tab, tap and hold the desired device to select [Edit] from the pop-up menu.



2. Make sure the Serial Port service is enabled for use on the remote Bluetooth device. For PC example, you can launch the Bluetooth Device configuration utility and in the Bluetooth Device configuration screen, tap COM Ports tab, tap [Add] as below. Select "Incoming (device initiates the connection)" item tap [OK].

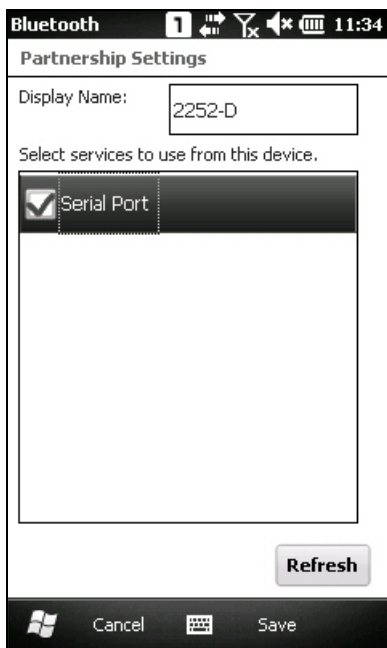


3. The searched COM port will be showed on the screen, select the connected COM port then tap [OK].

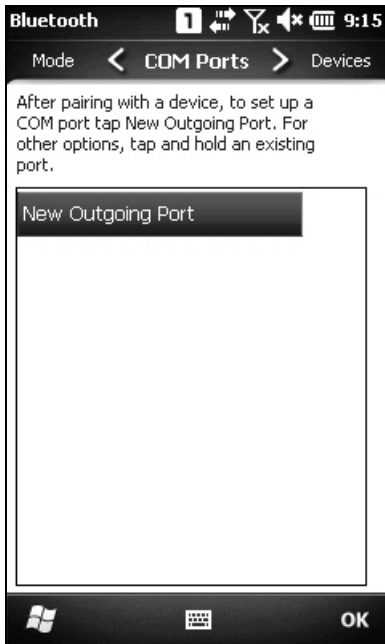


Note: For PC example, You can use just like Hyper Terminal application tool to confirm the connection between your PC and mobile computer. By the way, the Hyper Terminal COM port No. has to set as same as the incoming port No. of your PC.

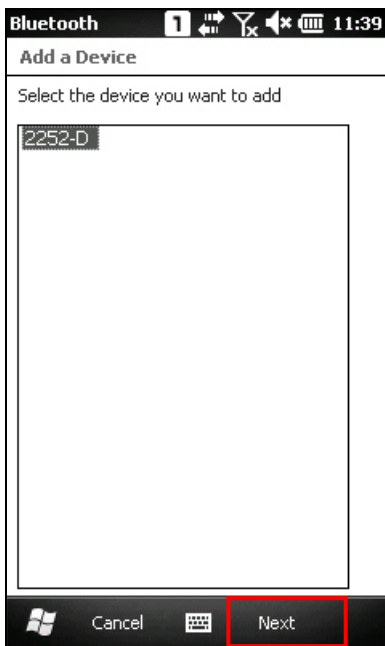
4. On the Bluetooth configuration screen of mobile computer, tap [Refresh] to select Serial Port check box, click [Save].



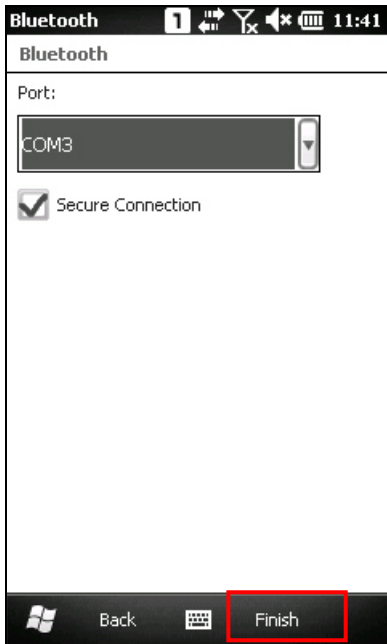
5. On the COM Ports tab, tap [New Outgoing Port].



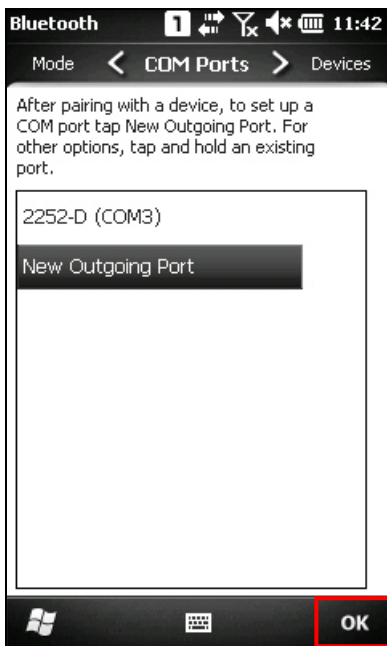
6. Select the remote device, and then tap **Next**.



7. Select a COM port, and then tap **Finish**. (For Bluetooth, please select COM0 or COM3 for connection.)



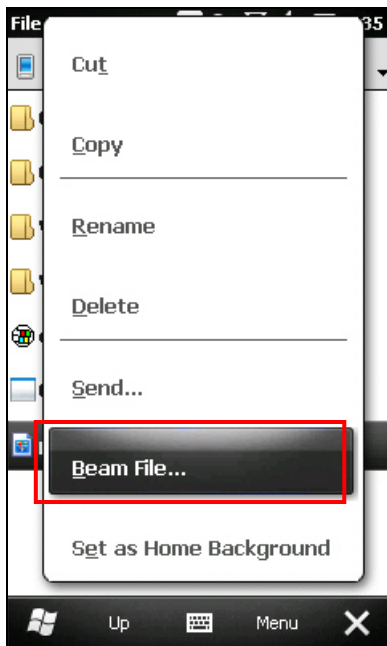
8. Tap **OK**.



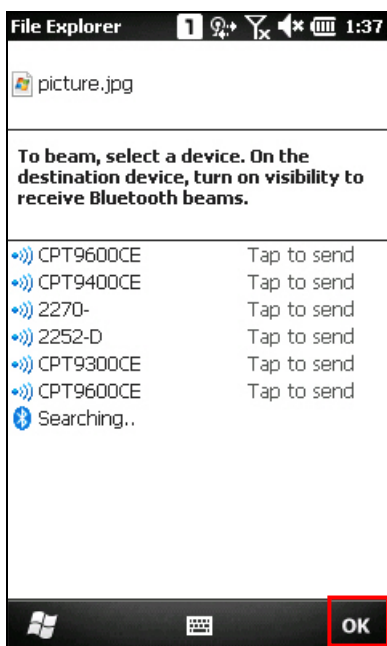
5.5 OBJECT PUSH VIA BEAM

5.5.1 SEND A FILE

1. Tap **Start | File Explorer**.
2. Navigate through file folders to find the file you wish to send to the remote device.
3. Tap and hold the file to select [Beam File] from the pop-up menu.



4. Tap the required remote device to send the file via Bluetooth. The mobile computer will start uploading the file. Wait a few seconds for the remote device to receive the file. When it is done, tap **OK** to return.

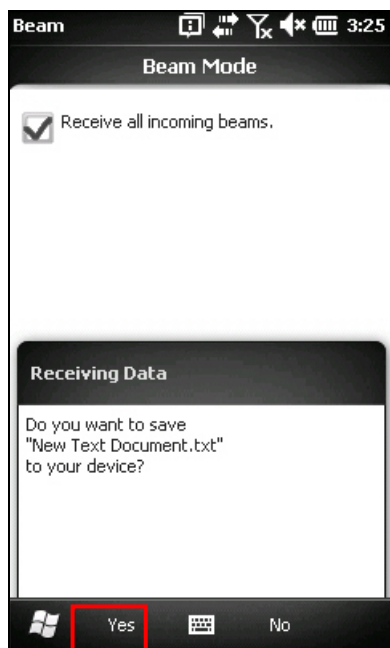


5.5.2 RECEIVE A FILE

1. Tap **Start | Settings | Connections | Beam**, and make sure the Beam Mode is enabled in order to receive all incoming beams.



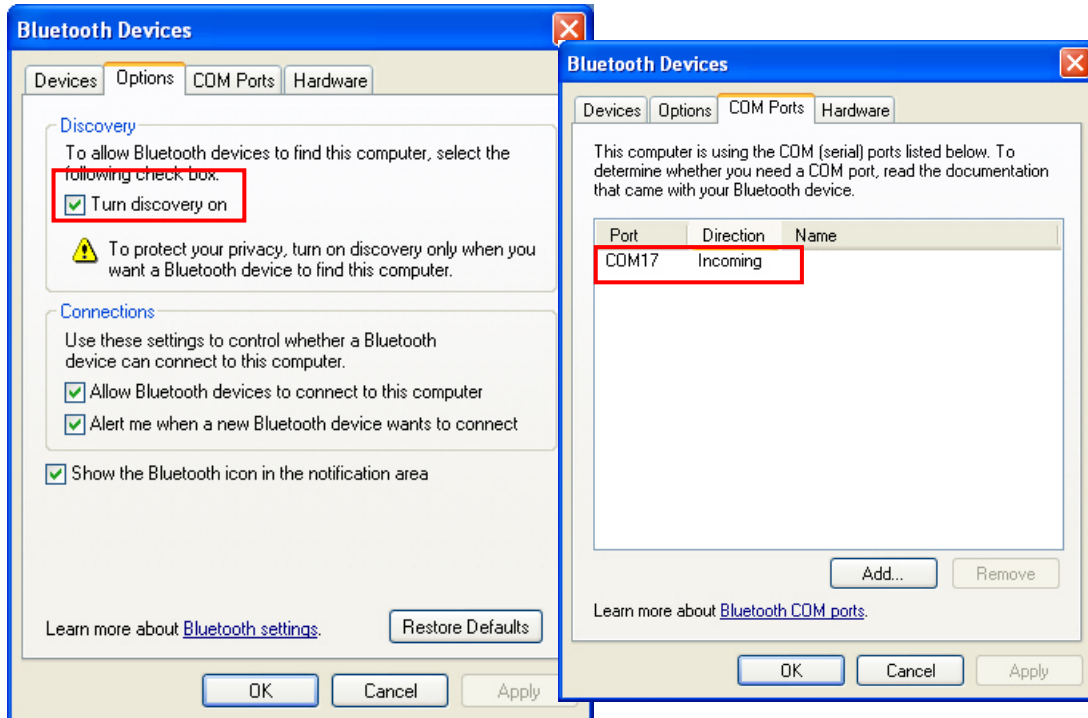
2. On the remote device, send a desired file to the mobile computer via Bluetooth.
3. When the "Receiving Data" dialog appears on the screen, tap **Yes**. The received data will be saved to \My Device\My Documents.



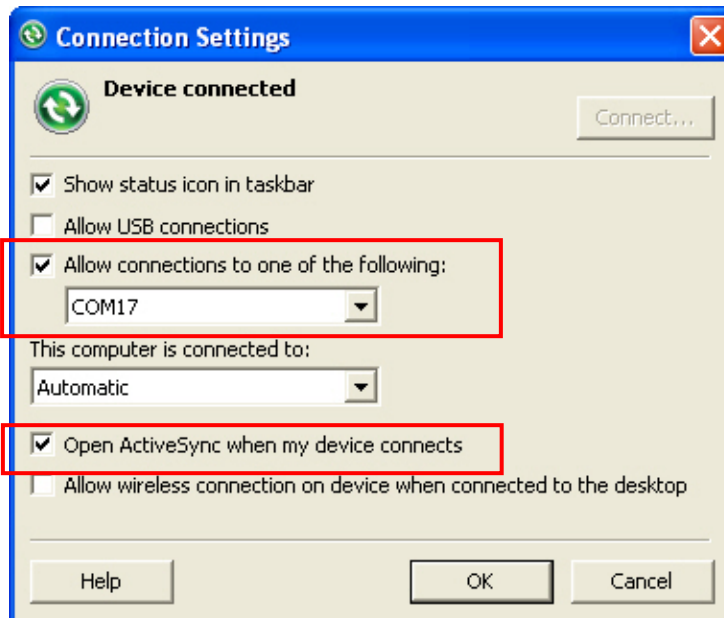
5.6 ACTIVE SYNC VIA BLUETOOTH

You must configure Bluetooth settings correctly on your computer first.

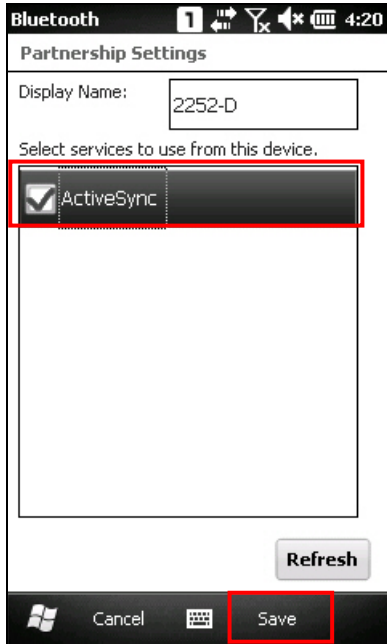
1. Configure Bluetooth settings for your computer, such as “Turn discovery on”, adding a COM port (Incoming), the COM port value depend on your computer active etc.



2. Allow connections to the specified COM port in ActiveSync.



3. Deploy the mobile computer to your computer. Make sure the ActiveSync service is enabled for use on the remote computer. For the Bluetooth connection via ActiveSync, you have to take off the USB cable between mobile computer and remote computer so that it can release the ActiveSync check box as below for connection. Select ActiveSync check box, then click Save to continue.



USING THE PHONE

The CP30 Mobile Computer allows making phone calls and connecting to network over General Packet Radio Service (GPRS). Insert the SIM card before turning on the power. Refer to [Inserting SIM Card](#).

Note: If the SIM card is not in position, you may make emergency calls if the service is supported.

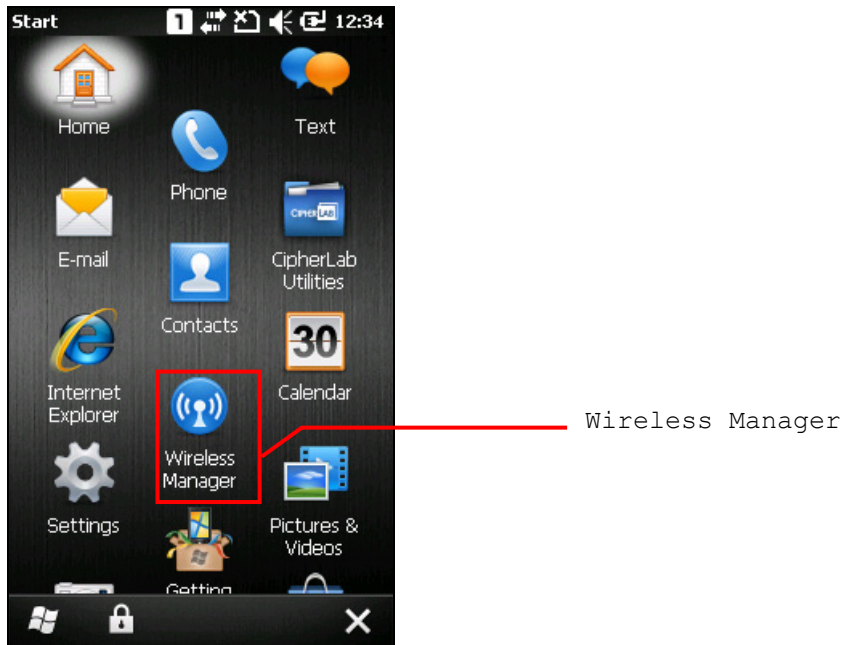
IN THIS CHAPTER

6.1 Phone Power	82
6.2 Phone Application	85
6.3 Phone Settings	87
6.4 Making Phone Calls	91
6.5 Configuring GPRS Network	95

6.1 PHONE POWER


6.1.1 WIRELESS MANAGER

1. Phone power is turned on by default. If not, go to **Start | Wireless Manager** to access **Wireless Manager**.



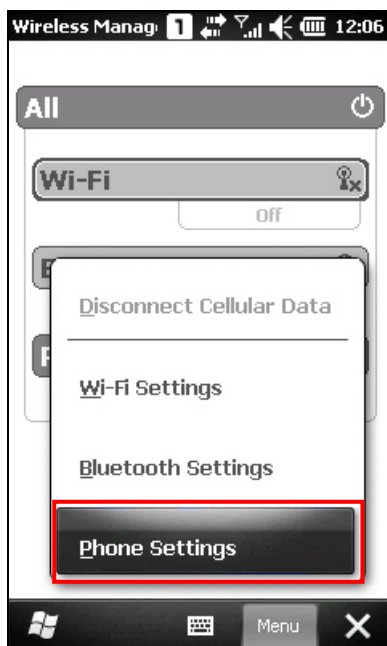
2. Tap [All] or [Phone] to turn on the power.



- When the power is turned on, the Phone status appears "On", and an antenna signal icon  will be displayed on the title bar.



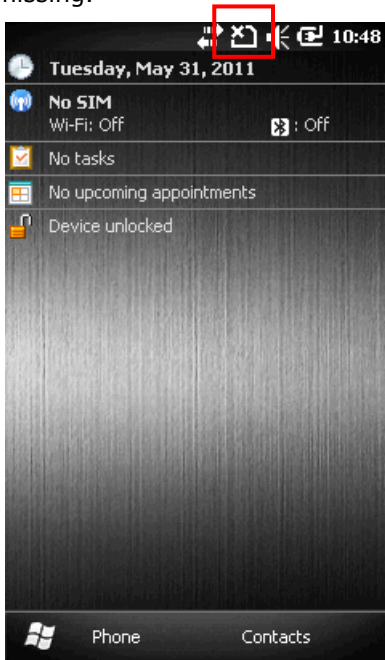
- Tap **Menu | Phone Settings** to configure related settings if necessary.



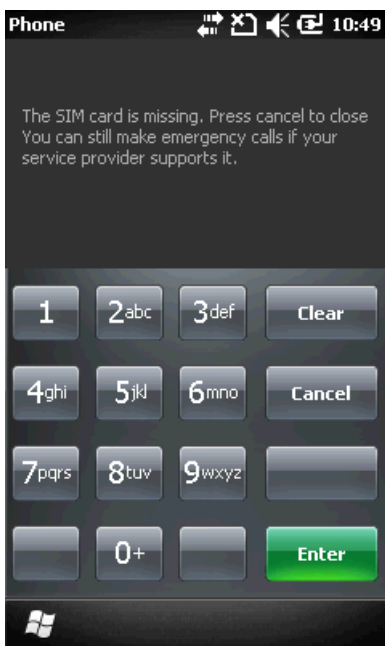
Note: Phone Settings is only available when the phone power has been turned on. You can find out the security setting, change PIN code on your SIM card and so on, if necessary. Refer to [6.3 Phone Settings](#).

6.1.2 SIM CARD MISSING

1. On the **Home Screen**, the notification icon  on the title bar show that the SIM card is missing.




2. Tap **Phone** or press the [SEND] button on the physical keypad to access the phone application. Depending on your service provider, only emergency calls are allowed.




6.2 PHONE APPLICATION

6.2.1 PHONE INTERFACE



After the phone application is launched, the antenna signal icon  on the title bar indicates whether you are connected to your service provider's network. As the strength of the signal diminishes, so will the number of bars be in the icon, ranging from no signal to excellence (four-bars).

The display panel on the top half of the screen is used to show your service provider's name and the contact name and/or phone number when making or receiving a call.

- ▶ Tap the scroll bar next to the display panel to browse call history, which keeps a record of the phone number that called in or out or you missed.
- ▶ Tap a contact name to view, edit the contact details, send or beam contact, or add to speed dial list.
- ▶ Tap the **Menu** button  on the soft key bar to switch the view options.






The phone keypad is displayed for telephone number input or speed dial.



- ▶ Tap the button  (Hide keypad) on the soft key bar to hide the keypad.
- ▶ Tap the button  (Show keypad) on the soft key bar to show the keypad.

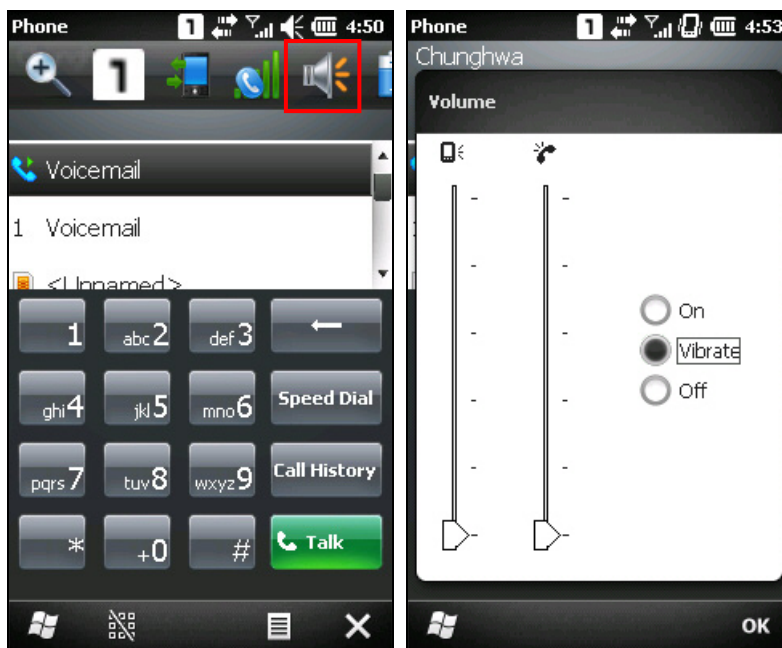
6.2.2 BUTTONS

Buttons on the phone keypads are described as below:

Button	Description
	[Backspace] button allows you to delete the last input.
	[Speed Dial] button allows you to view, edit the speed dial list and pick the number you want to call.
	[Call History] button allows you to browse, edit call history and pick the number you want to call.
	[Talk] button allows you to make or receive a call. <ul style="list-style-type: none"> ▶ Alternatively, you may press [SEND] from the keypad.
	[End] button allows you to hang up a call. <ul style="list-style-type: none"> ▶ Alternatively, you may press [END] from the keypad.


6.2.3 VOLUME

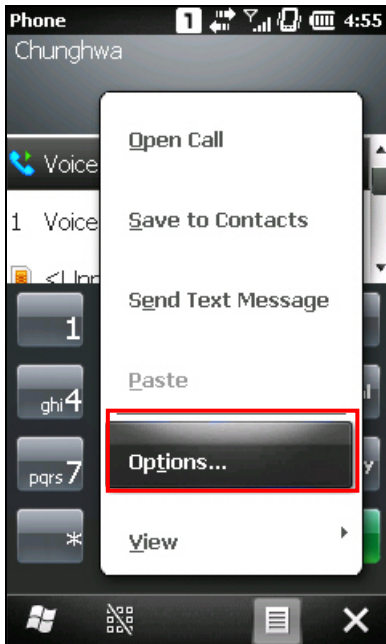
Tap the title bar and then the speaker icon on the title bar drop-down list to change the system volume or phone ring. You may mute it or have it vibrate instead.



Note: Alternatively, you may press volume buttons at the left side of the CP30 touch screen.

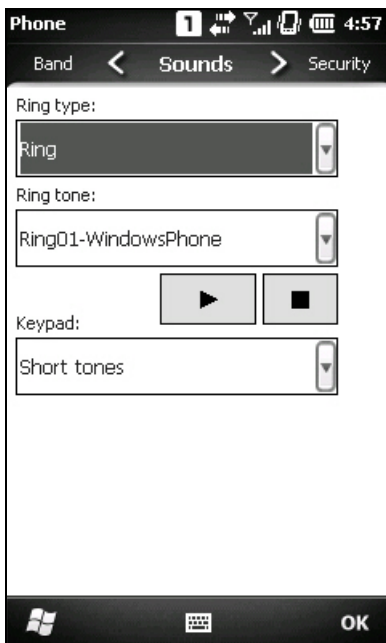
6.3 PHONE SETTINGS

Tap  **Menu | Options** to configure phone settings if necessary.



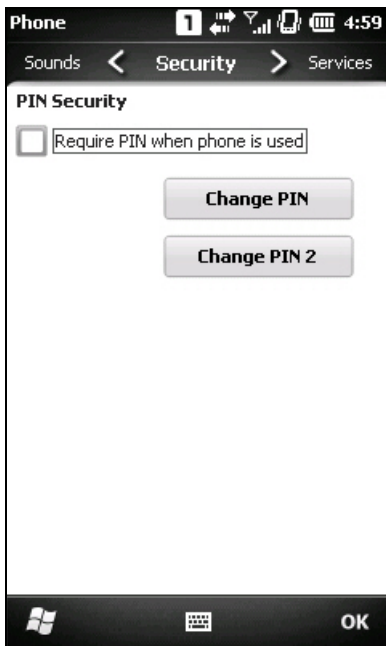
Sounds tab

Tap the Sounds tab to adjust the ring type, ring tone, and the keypad sound.



Security tab

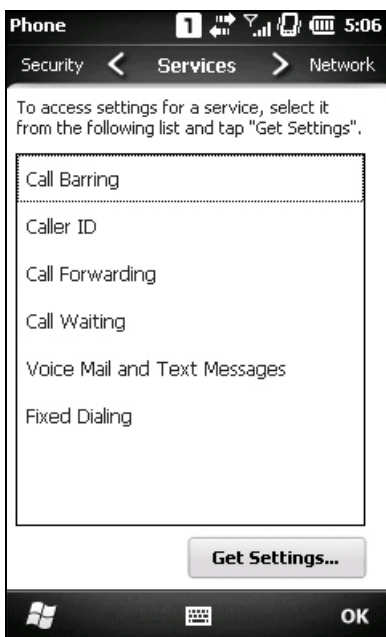
Tap the Security tab to change SIM card security and PIN code setting.



Note: The PIN verification on the mobile computer allows three chances to input the correct PIN code. If input fails three times, the PIN will be blocked, and you will need to obtain the PUK code from your network operator and unblock the SIM card on your cellular phone/mobile computer.

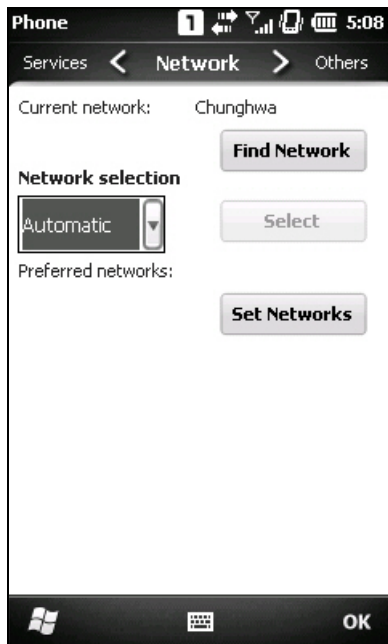
Services tab

Tap the Services tab to get the phone service settings from your network operator.



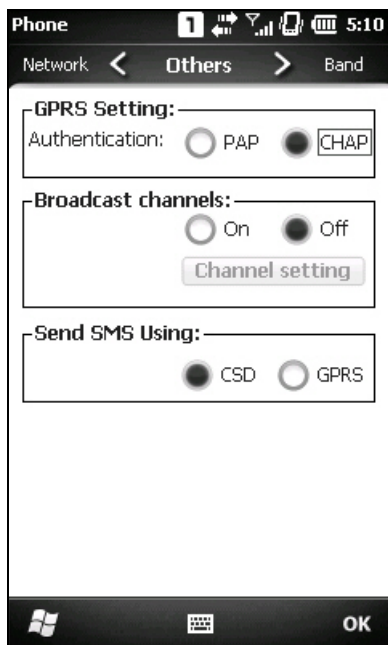
Network tab

Tap the Network tab to change phone network settings and edit your preferred networks.



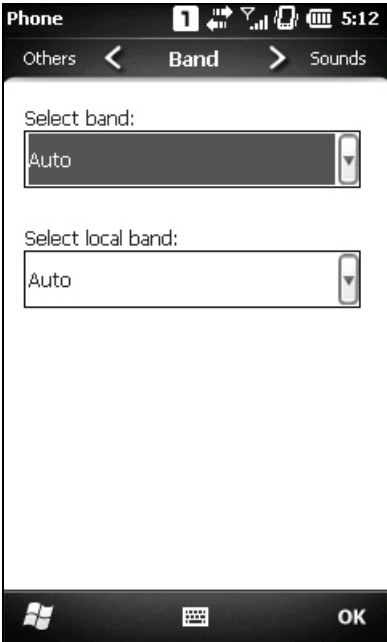
Others tab

Tap the Others tab to configure GPRS authentication type, broadcast channels, and SMS transmission settings.



Band tab

Tap the Band tab to change the band type and the local band in your geographic region.



6.4 MAKING PHONE CALLS

The phone features allow you to make or receive phone calls and assign a Speed Dial number to a contact.



1 means reserved Speed Dial number for Voicemail

6.4.1 DIAL A NUMBER

You can dial a number in one of the following ways:

Dialling

Using the dial pad on the screen or the physical keypad – simply enter the number you want to call.

From Contacts

Browse the contact list via the display panel to find the contact or number you want to call.

Using Speed Dial

Enter the speed dial number of the desired contact.

From Call History

Browse call history via the display panel to pick the number you want to call.

6.4.2 MAKE A CALL

Dialling Out

Tap the green [Talk] button on the phone keypad, or press [SEND] from the physical keypad.




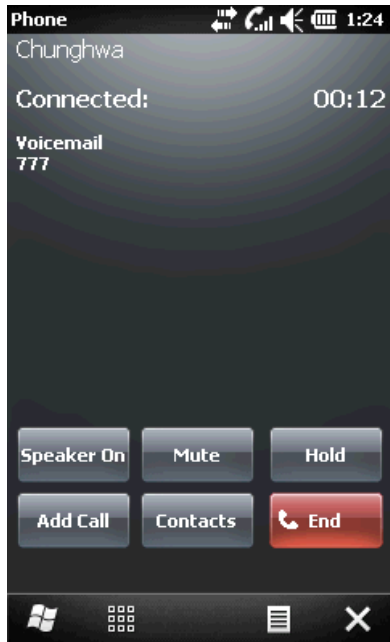
Hanging up

Tap the red [End] button on the phone keypad, or press [END] from the physical keypad.



During a Call

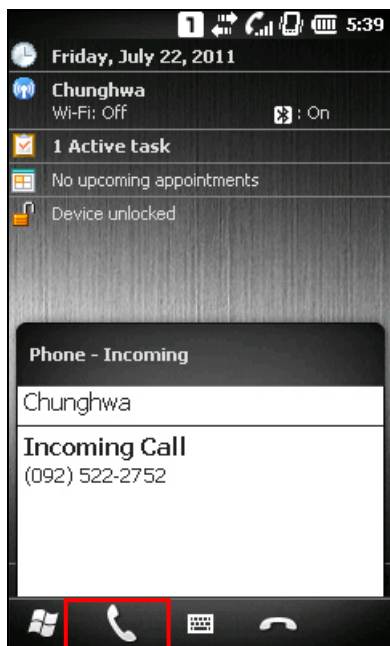
Tap the call status button  on the soft key bar, and you may select to turn on the speaker, mute the receiver, or hold the line.




6.4.3 ANSWER A CALL

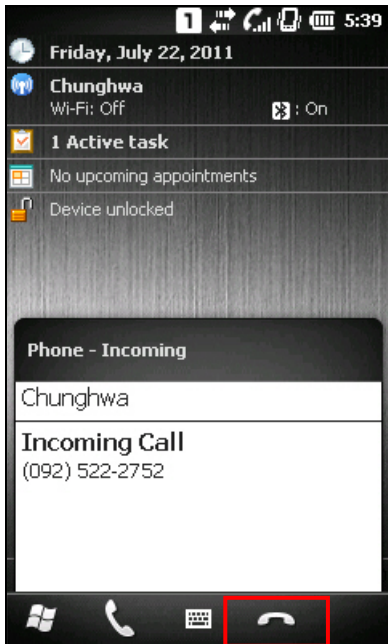
Answering a Call

Tap the **Answer** button  or press [SEND] from the physical keypad.





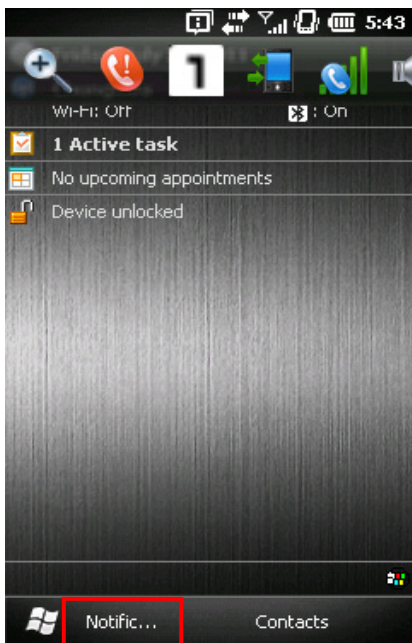
Ignoring a Call

Tap **Ignore** button  or press [END] from the physical keypad.



Viewing a Missing Call

When the status icon  is displayed on the title bar and tap it will see a missing call icon  appears. By the way, the top right LED will also flash amber, tap the **Notification** on the soft key bar to view missing messages.



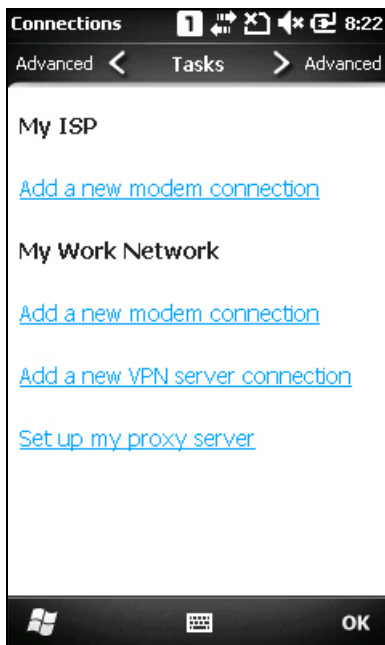
6.5 CONFIGURING GPRS NETWORK

1. Tap **Start | Settings | Connections** and select **Connections**.

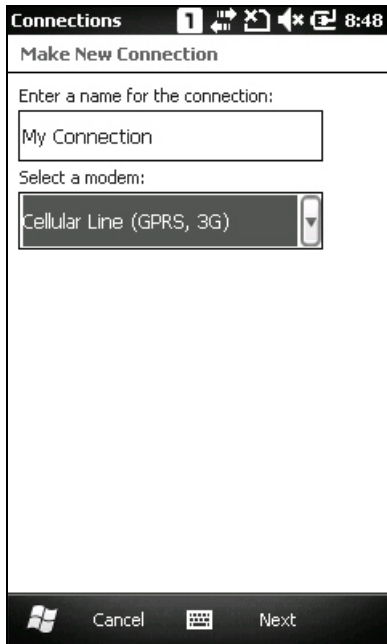


2. Initially, you have to configure the GPRS settings.

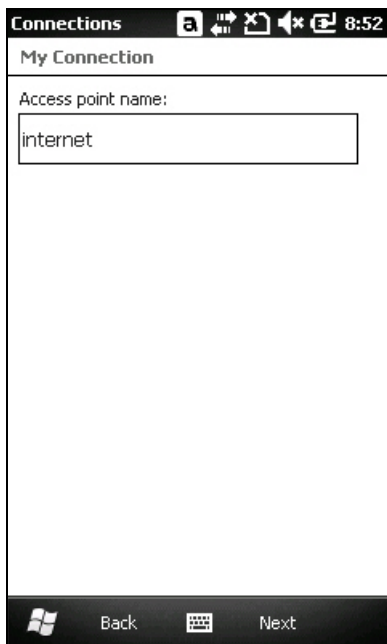
Tap [Add a new modem connection] and follow the on-screen instructions to enter the connection name and modem types.



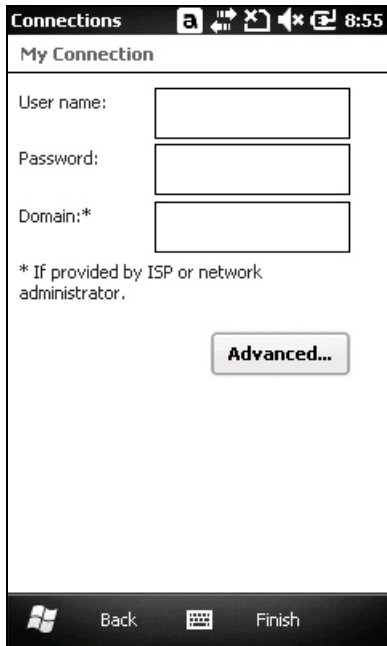
3. Enter the connection name and select [Cellular Line (GPRS, 3G)] from the drop-down list. Tap **Next**.



4. Specify the GPRS AP name for the mobile computer to connect to, for example, "internet". Tap **Next**.



5. Tap **Finish**.



Note: You must connect to the GPRS modem specified by the mobile phone operator.

USING READER CONFIGURATION UTILITY

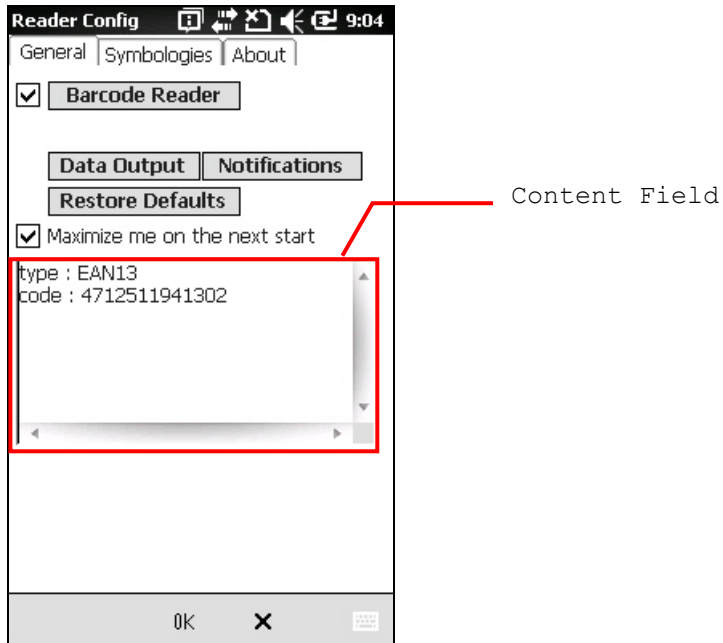
Reader Configuration Utility is the tool that lets you manage the barcode reader integrated on the mobile computer.

IN THIS CHAPTER

7.1 Run ReaderConfig.exe	100
7.2 Barcode Reader Settings.....	101
7.3 Data Output.....	102
7.4 Notifications (for Good Read).....	104
7.5 Symbology Settings	105

7.1 RUN READERCONFIG.EXE

1. Go to **Start | CipherLab Utilities| Reader Configuration** to open the **Reader Configuration Utility**.
2. Test the reader if necessary. You can view the barcode type and decoded data in the content field.

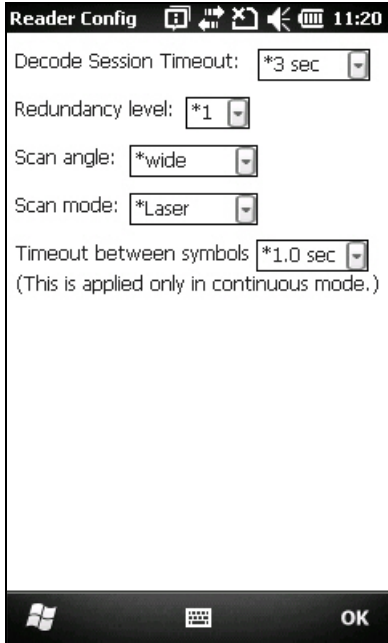


To meet your application requirements, proceed to configure associated reader settings as well as barcode settings.

- Note: (1) The ReaderConfig.exe utility will automatically detect the reader module that is currently installed in the mobile computer.
- (2) If you wish to reload the default settings, delete the ReaderCfgINI.txt file in the Flash Storage before enabling the program, or tap [Restore Defaults] on the General tab after enabling the program.

7.2 BARCODE READER SETTINGS

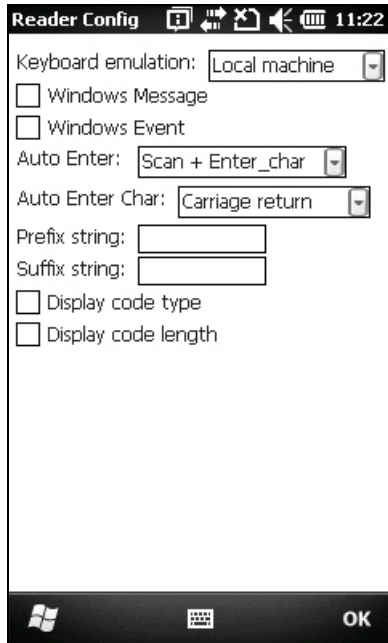
The barcode reader configurations depend on the scan engine(s) installed. You can detect which barcode type for scan currently in use and make necessary settings on the General tab.



Barcode Reader	Description
Laser Reader	If installed, tap the [Barcode Reader] button to configure the reader settings for CCD or Laser scan engine. ▶ Refer to the Reader Settings Table in Appendix II - Laser (SE955) .
2D Reader	The 2D scan engine is capable of reading linear and 2D barcodes. If installed, tap the [Barcode Reader] button to configure the reader settings for 2D scan engine. ▶ Refer to the Reader Settings Table in Appendix III - 2D Imager .
Decode Session Timeout	The value (from 1 to 9 sec) sets the maximum time decode processing continues during a decode attempt. The default value is 3 sec.
Redundancy Level	Refer to Appendix II - Laser (SE955) .
Scan Angle	Select the scan angle for Long Range Laser scan engine.
Scan mode	Supports Continuous and Laser Modes for selection.
Timeout between symbols	Only available for Continuous mode. The default value is 1 sec.

7.3 DATA OUTPUT

Tap the [Data Output] button in the General tab configuration to choose from the three options for data output after decoding as well as configure associated settings.



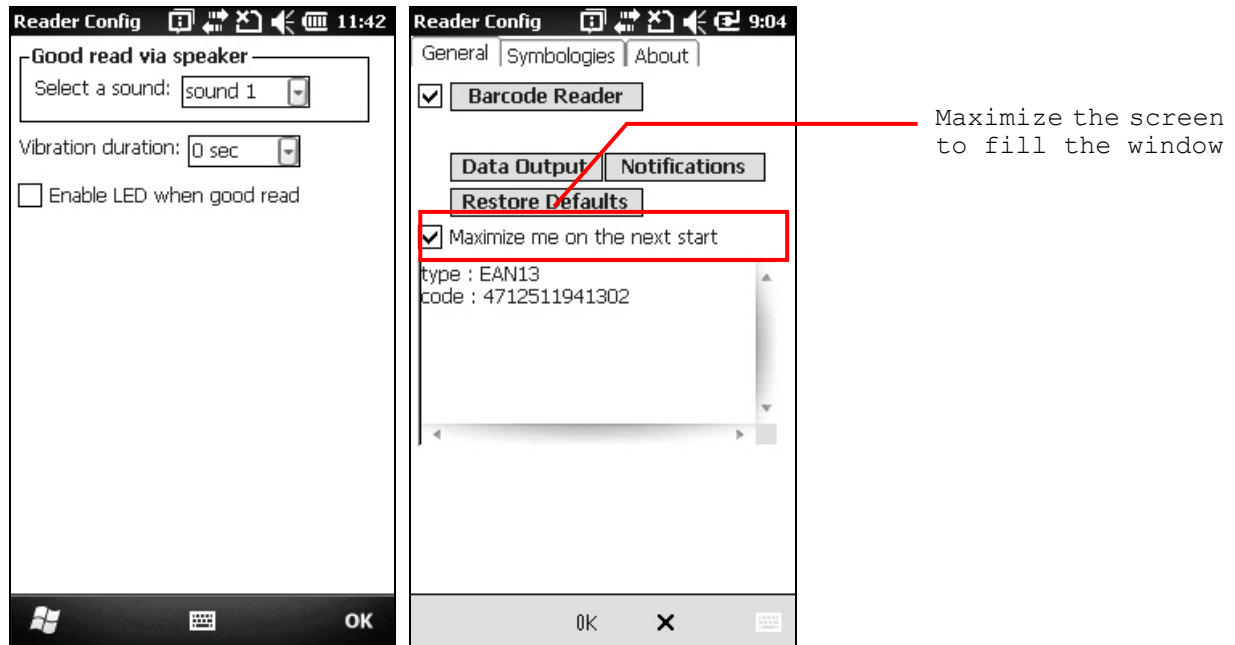
Data Output		Default
Keyboard Emulation	<p>Data is emulated as typed text and sent to the active Window.</p> <ul style="list-style-type: none"> ▶ When "Local machine" is selected, simply run your application or built-in program, such as WordPad, to start with data collection. ▶ When "RDP server" is selected, run the Remote Desktop Connection program to connect to a remote computer. <p>Note that this option is unable to emulate double bytes, such as Big-5 or Unicode characters on the remote PC.</p>	Local machine
Windows Message	<p>When selected, a Windows message will be broadcasted after decoding.</p> <ul style="list-style-type: none"> ▶ Intercept the decode message in your application. ▶ Call Windows API (ReadMsgQueue) in your application to retrieve the decoded data. 	Disable
Windows Event	<p>When selected, a Windows event will be broadcasted after decoding.</p> <ul style="list-style-type: none"> ▶ Intercept the decode event in your application. ▶ Call Windows API (ReadMsgQueue) in your application to retrieve the decoded data. 	Disable

Note: (1) Refer to CP30 .NET or C/C++ Programming Guide for details on Windows Message and Windows Event. Sample programs are provided by request.
 (2) For the use of a different program rather than ReaderConfig.exe, a dynamic-link library (DLL) file is provided.

Auto Enter	This function can spare you the trouble of pressing the [Enter] key on the mobile computer to confirm each scan. It will automatically add an ENTER character in front or to the end of one scan. <ul style="list-style-type: none"> ▶ None ▶ Scan + Enter_char ▶ Enter_char+Scan 	Scan + ENTER
Auto Enter Character	*Auto ENTER must be enabled. <ul style="list-style-type: none"> ▶ None ▶ Carriage return ▶ Tab ▶ Space ▶ Comma ▶ Semicolon 	Carriage Return
Prefix String	0~10 characters	NULL
Suffix String	0~10 characters	NULL
Display Code Type	Select the check box to prefix the code type to barcode data after decoding a barcode.	Disabled
Display Code Length	Select the check box to suffix the code length to barcode data after decoding a barcode.	Disabled

7.4 NOTIFICATIONS (FOR GOOD READ)

Tap the [Notifications] button in the General tab configuration to configure how you want to be notified of a successful decoding.



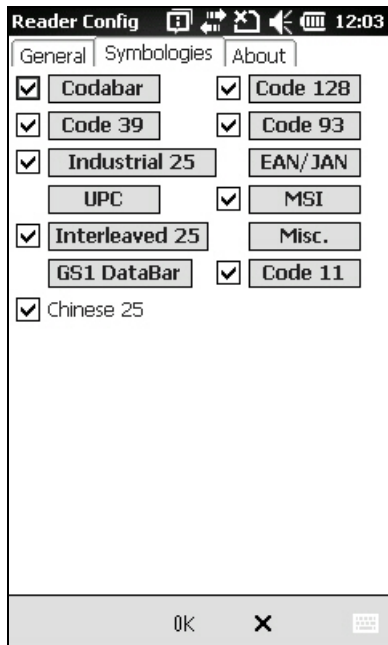
Sound / Vibration		Default
Good Read via speaker	Mute, or Sound 1~9	Sound 1
Good Read via vibrator	0~5.0 (sec.) ▶ 0 = Disable the vibrator	0 (= Disable)
Good Read LED	Select the check box to enable Good Read LED. The top left LED will become green to indicate a successful decoding.	Disable

Note: If you want to maximize the Reader Configuration window to fill the screen for next using, please select "Maximize me on the next start" check box.

7.5 SYMBOLOGY SETTINGS

On the Symbologies tab, determine whether to enable or disable a specific symbology.

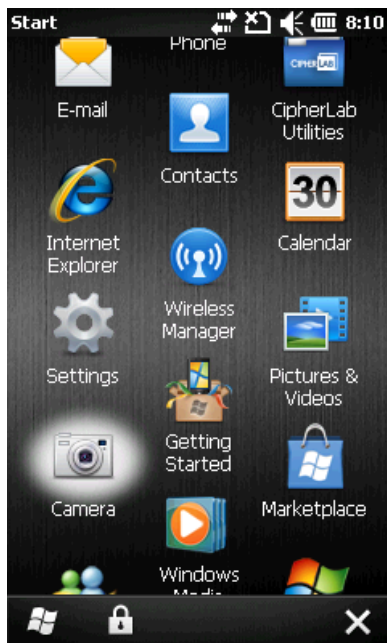
Note: The symbology settings vary by the scan engine installed.



- ▶ Refer to [Appendix I - Scan Engine Settings](#) for the symbologies supported by a scan engine.
- ▶ Refer to the Symbology Settings Table in [Appendix II - Laser \(SE955\)](#).
- ▶ Refer to the Symbology Settings Table in [Appendix III - 2D Imager](#).

USING CAMERA

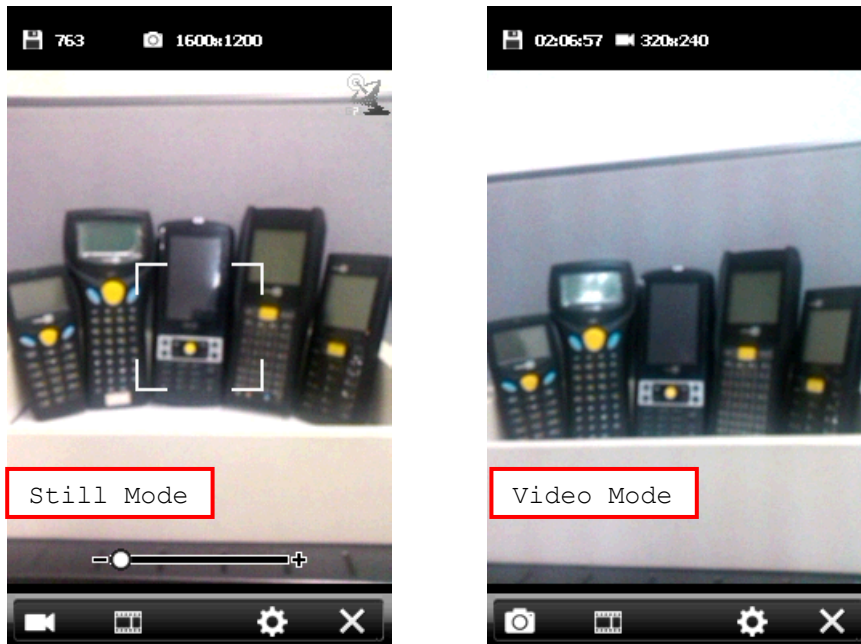
The **Camera** utility allows acquiring still or continuous images from the built-in camera. Go to **Start** and tap **Camera** to open the image capture program.



IN THIS CHAPTER

8.1 Camera Interface.....	108
8.2 Taking an Image.....	109
8.3 Shooting a Video	111
8.4 Pictures & Videos.....	112
8.5 Camera Settings.....	118

8.1 CAMERA INTERFACE



The icons on top of the screen are for camera status and image properties.

Icon	Description
	In Still mode: number of pictures can be taken In Video mode: available recording time
	Camera status and information of image resolution <ul style="list-style-type: none"> ▶ indicates the camera is in Still mode ▶ indicates the camera is in Video mode

The buttons on bottom of the screen, from left to right, are described as below.

Button	Description
	Tap to switch between Still and Video modes.
	Tap to open Pictures & Videos folder to view images and playback videos. Refer to 8.4 Pictures & Videos .
	Tap to configure camera settings if necessary. Refer to 8.5 Camera Settings .
	Exit and turn off the camera.

8.2 TAKING AN IMAGE

By default, the camera is set to Still mode for taking pictures, and a preview screen is displayed.

1. Hold still and take aim at the object you want to take a still picture. You may drag the slider to zoom in (+) or zoom out (-) an image.



Drag the slider to adjust the focus.




2. Press [Scan] or [Enter] on the physical keypad to take a picture.

Each will be automatically saved under the directory "\\My Device\My documents\My Pictures\YYMMDD" in the format of imgXXXXX.jpg ("XXXXX" stands for 5-digit serial number starting from "00000") by default.



3. Before the camera utility is back to the preview screen, you may tap the advanced buttons at bottom of the review screen, which will be retained for five seconds by default.



- ▶ Tap  to return to the preview screen.
- ▶ Tap  to send this picture via text message or e-mail.
- ▶ Tap  to delete this image file.

8.3 SHOOTING A VIDEO

Switching to the Video mode, a preview screen will be displayed.

1. Hold still and take aim at the object you want to take a moving picture.



Available recording time



2. Press [Scan] or [Enter] on the physical keypad to record a video.

Each recording will be automatically saved under the directory "\\My Device\My documents\My Videos\YYMMDD" in the format of VideoXXX.3gp ("XXX" stands for 3-digit serial number starting from "000") by default.



Continuous recording time



3. Press [Scan] or [Enter] on the physical keypad to end recording. Otherwise, it will stop itself after reaching the time limit. Refer to [8.4.3 Advanced Editing Settings](#).

8.4 PICTURES & VIDEOS

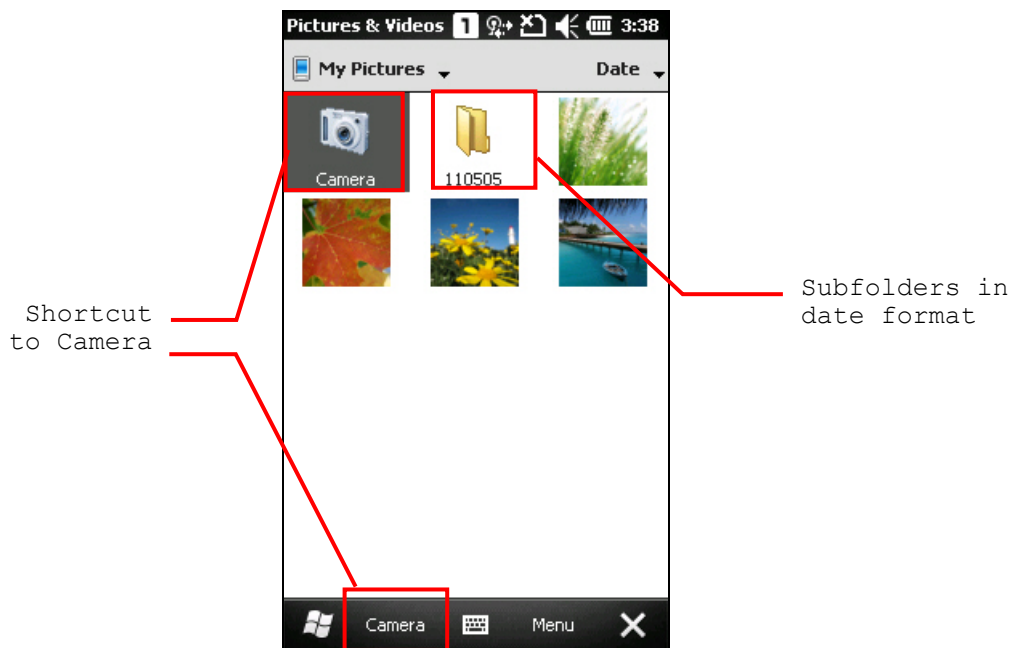
Go to **Start** and tap **Pictures & Videos** to open the default image folder “\My Device\My Documents\My Pictures”.



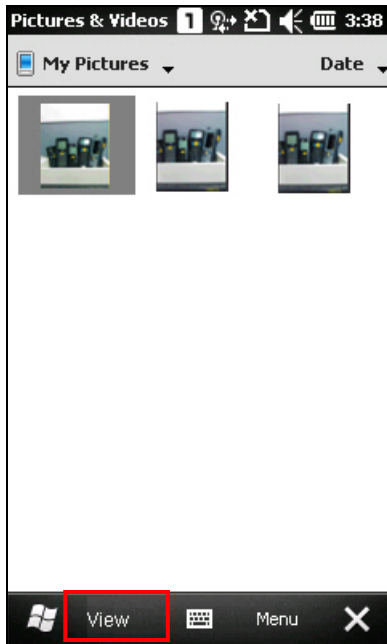
8.4.1 VIEW AN IMAGE

1. Locate the target folder and the desired picture.

The subfolders are named with the date YYMMDD (2-digit year, 2-digit month and 2-digit date) when images were taken.



2. Select a desired picture and tap [View] on bottom of the screen.



3. Tap **Menu** on the soft key bar right, you may adjust the zoom, start a slide show, beam pictures, edit or rotate pictures, etc. Refer to [8.4.3 Advanced Editing Settings](#).

Tap **Send** on the soft key bar left, you may send the picture via text message or e-mail.



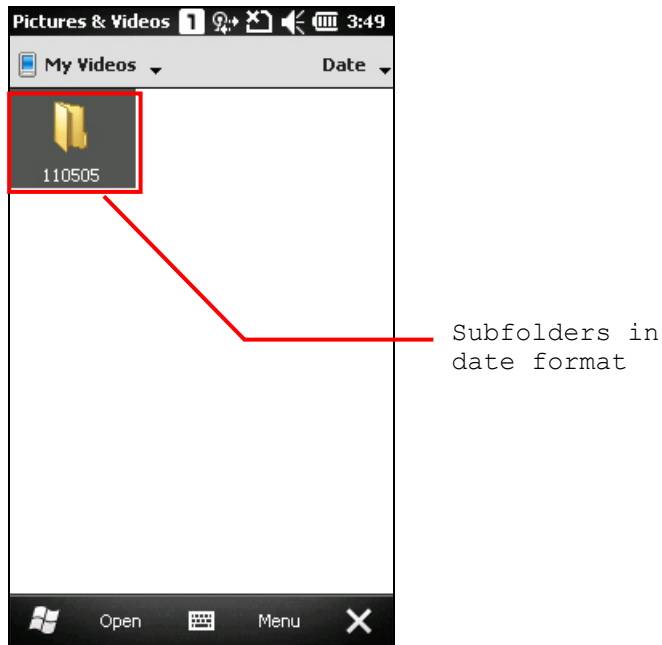
Time Stamp is displayed on the lower right of each picture

4. Tap [**OK**] to close the current window.

8.4.2 PLAYBACK A VIDEO

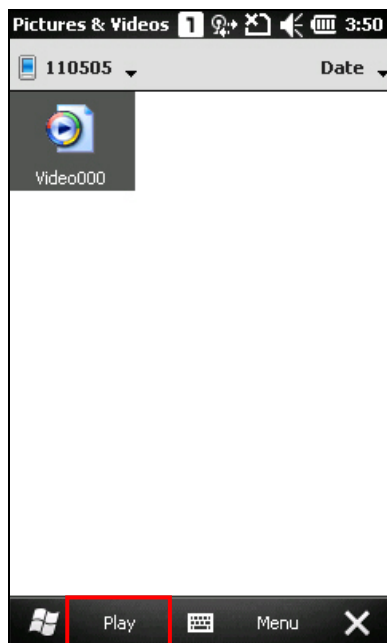
1. Locate the target folder and the desired videos.

The subfolders are named with the date YYMMDD (2-digit year, 2-digit month and 2-digit date) when videos were recorded.



2. Select a desired video and tap [Play] on bottom of the screen.

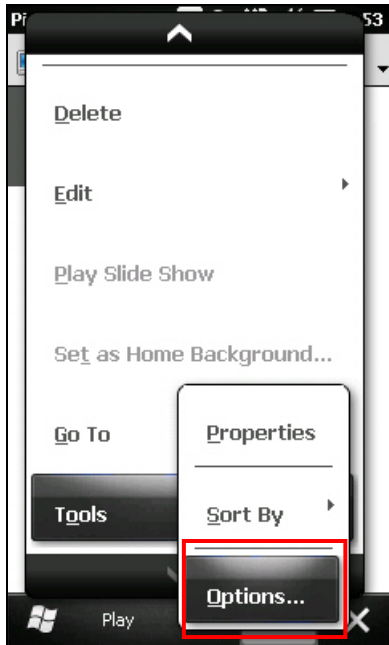
Tap **Menu** on the soft key bar right, you may edit, send or beam videos, etc. Refer to [8.4.3 Advanced Editing Settings](#).



3. The video will be played in Windows Media player. Tap [X] to end the application.

8.4.3 ADVANCED EDITING SETTINGS

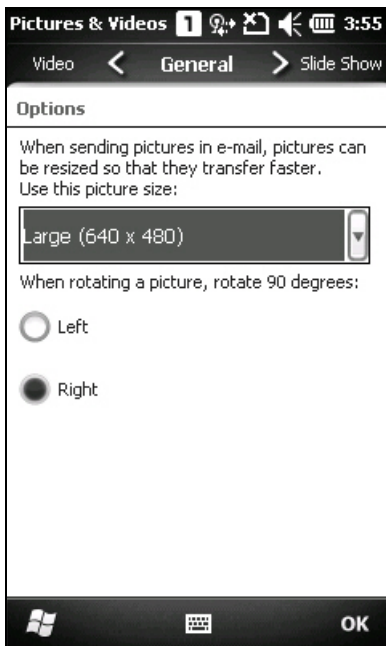
In My Video Configuration screen, tap **Menu | Tools | Options**; you may have more editing options.



General tab

When sending a picture by e-mail, it can be resized in favor of the transfer speed. You may tap the drop-down list to select a desired picture size if necessary.

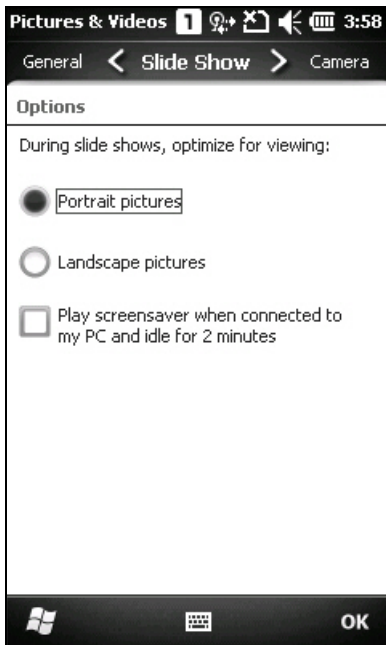
You may also change the rotation direction of the picture in the General tab configuration screen.



Slide Show tab

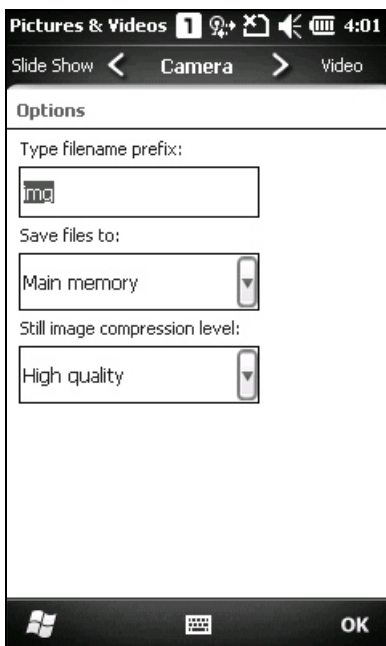
By default, slide shows are played in a Portrait view. You may change to use landscape view instead to make pictures properly fit the screen.

If you select "Play screensaver when connected to my PC and idle for 2minutes", pictures stored in the default image folder "\My Device\My Documents\My Pictures" can be used in a slideshow screensaver on the mobile computer.



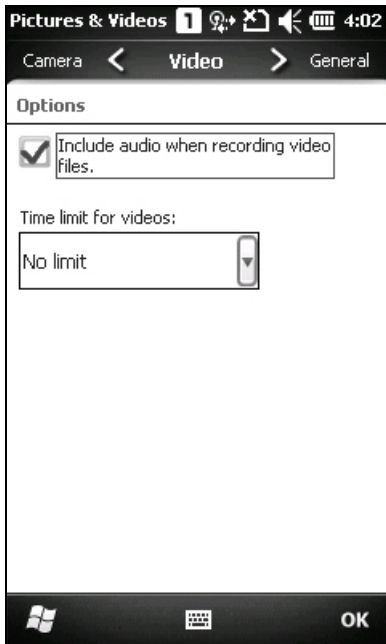
Camera tab

All captured still images are prefixed "img" saving to main memory at high compression level by default. You may change the prefix, save files to your memory card, or adjust the compression.



Video tab

While recording a video, audio will be included. You may disable the check box or set time limit for videos so that the file size can be reduced.



Tap [**OK**] to save the current settings and return to the previous window.




8.5 CAMERA SETTINGS

On the soft key bar, tap the button  to configure camera settings if necessary.

Mode



By default, no special mode is applied.

Icon	Description
	Night mode
	Low light
	Backlight
	Outdoor
	Stabilize

Effect







By default, no special effect is applied.

- ▶ Monochrome, Negative, and Sepia are supported.

White Balance



By default, the camera is set to adjust automatically. Tap to select a specific scenario for setting white balance.

Icon	Description
	Bright light
	Indoor light
	Sunny light
	Cloudy light

Brightness, Contrast, Sharpness



Tap it to adjust brightness, contrast, and sharpness.

ISO Speed



ISO is the level of sensitivity of your camera to available light. You can adjust the ISO speed by this icon. The larger value you set, the faster the shutter speed. By default, it is set to adjust automatically.

- ▶ 100, 200, 400, and 800 are supported.

Timer



By default, timer is disabled. You have to manually press [Scan] or [Enter] to take one picture at a time.

- ▶ "3 seconds" and "10 seconds" are supported to activate the timer and take one picture.
- ▶ This is only applicable in Still mode.

Resolution



By default, "1600 x 1200" pixels resolution is in use. Tap to select a proper resolution that suits your application.

- ▶ "320 x 240", "640 x 480", "1280 x 960", and "2048 x 1536" pixels resolutions are also supported.
- ▶ This is only applicable in Still mode; Video mode supports "320 x 240" only.

Review Screen



By default, the review screen will appear for 5 seconds after each capture. You may extend the review time to 10 seconds or disable the time limit.

- ▶ This is only applicable in Still mode.

Storage





By default, the captured pictures are stored on the mobile computer's main memory.

Camera Mode	Store Folder	File Format
Still Mode	\My Device\My Documents\ \My Pictures\YYMMDD	imgXXXXX.jpg ("XXXXX" stands for 5-digit serial number starting from "00000")
Video Mode	\My Device\My Documents\ \My Videos\YYMMDD	VideoXXX.3gp ("XXX" stands for 3-digit serial number starting from "000")

For example:

Five pictures taken on July 3rd, 2011 will be saved as "img00000.jpg" ~ "img00004.jpg" under the folder of "\My Device\My Documents\My Pictures\110703".

Two pictures taken on October 14th, 2011 will be saved as "Video000.3gp" ~ "Video001.3gp" under the folder of "\My Device\My Documents\My Videos\111014".

- ▶ If you move the store folder to SD Card, the icon  on upper left of the preview screen will change to .

Audio



By default, the audio is included when recording a video. You may select not to record the audio.

- ▶ This is only applicable in Video mode.

MORE APPLICATIONS

The CP30 Mobile Computer provides more utilities and applications which are made accessible from **Start | CipherLab Utilities**.



- ▶ **Backup Utility** lets you manipulate the way to backup programs and data.
- ▶ **Button Assignment Utility** lets you assign a specific button as a hot key for launching a program or performing a certain action.
- ▶ **Signature Utility** allows you to capture signatures with the touch screen.
- ▶ **GPS Viewer** allows you to use the integrated GPS receiver with third-party location-based applications.

IN THIS CHAPTER

9.1 Backup Utility.....	122
9.2 Button Assignment Utility.....	128
9.3 Signature Utility	130
9.4 GPS Viewer.....	135

9.1 BACKUP UTILITY

The **Backup Utility** is provided to help you easily make copies of data and restore your mobile computer's specific registry settings, install applications, user data, etc. You may use the backups (.bkp) for these purposes:

- ▶ Full Restore Operation

Backup all necessary files here (you don't have to select "Registry") so that you can restore your mobile computer to an operational state following a disaster.

- ▶ Partial Restore Operation

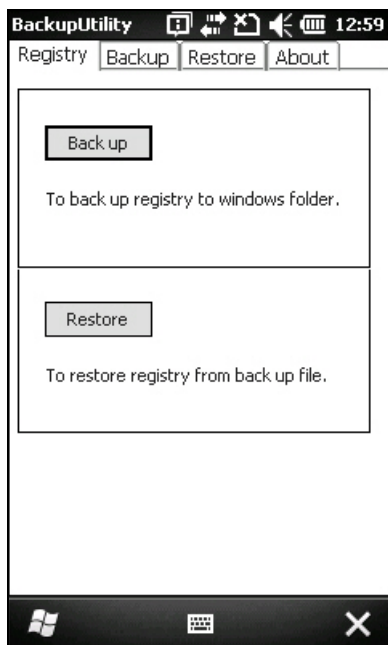
Backup a few specific files here so that you can restore small numbers of files after you have deleted them by accident or found them corrupted.

- ▶ Easy Cloning

Backup everything (including "Registry") necessary for cloning settings to other CP30 Mobile Computers.

9.1.1 MANAGING THE REGISTRY

Go to **Start | CipherLab Utilities | BackupUtility** to open the **Backup Utility**. If you are using this backup utility for the first time, you must manually save the system registry to the Windows folder first! Tap [Back up] now to save the current system registry to "\My Device\Windows\".

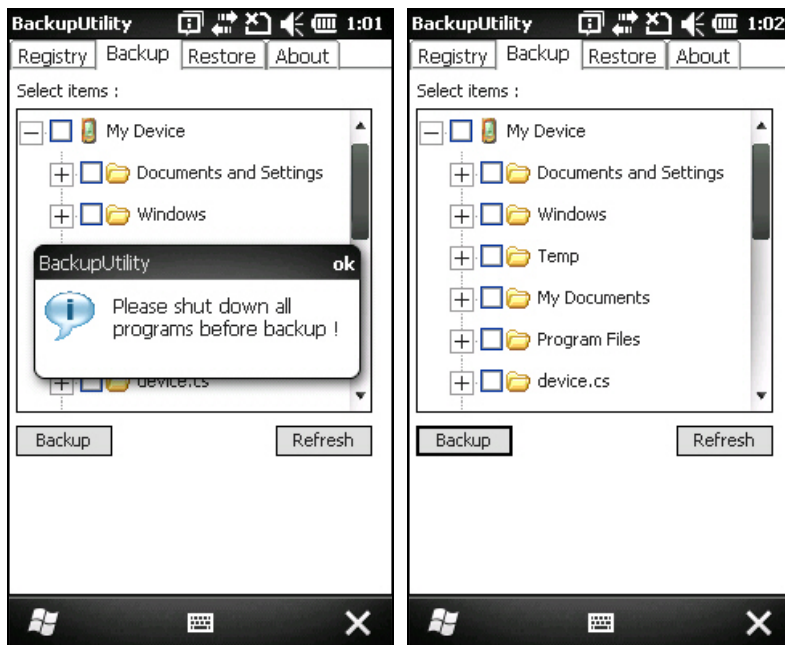


Warning: As long as you make any changes to the system configurations and settings, you must tap [Back up] to update the system registry here. Otherwise, it will reload the old registry values in use after a cold boot.

If you wish to reset the current system configurations and settings to defaults, tap [Restore] to delete the current system registry "\My Device\Windows\". It will then reload the default registry values after a warm boot.

9.1.2 PREPARING FOR BACKUP

Tap the Backup tab and it will automatically start scanning the file system. Within a few minutes, it will generate a list for the backup operation.




If the items "Machine Registry" and "User Registry" are not listed, it means no RegMachine.reg and RegUser.reg are found in "\My Device\Windows\". Take necessary steps before you tap [Refresh] to refresh the list of available items.

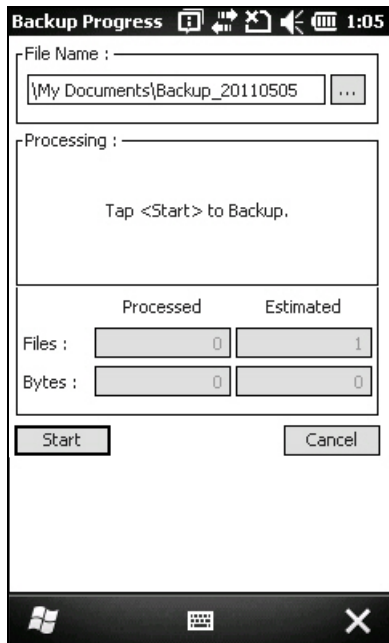
- ▶ Go to the Registry tab and tap [Back up].

Warning: You may not be able to backup all data when programs are still running! It is suggested that you disable all the applications before backup.

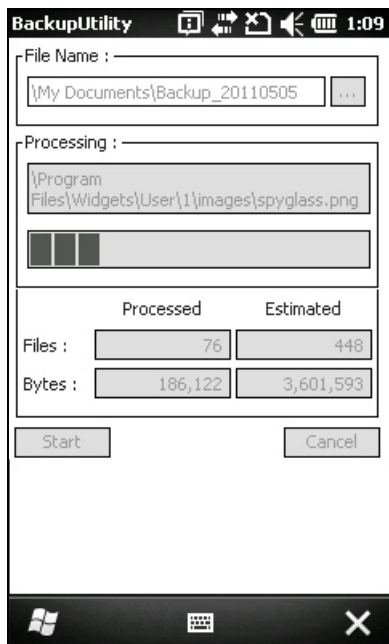
9.1.3 BACKING UP FILES

- 1) Select the items you wish to backup, and tap [Backup].
- 2) Tap  if you need to save the backup to a different root or file name (.bkp).

By default, it will save the selected items to the Storage folder \My Documents\Backup_20090110 with the current date - the format of filename is "Backup_(4-digit year)(2-digit month)(2-digit date)".

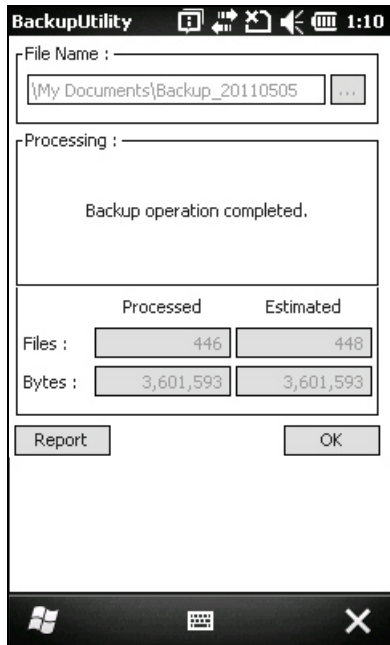


- 3) Tap [Start] to pack all the selected items into one .bkp file.



- 4) Once the backup process is completed, tap [Report] to view the log file if necessary.

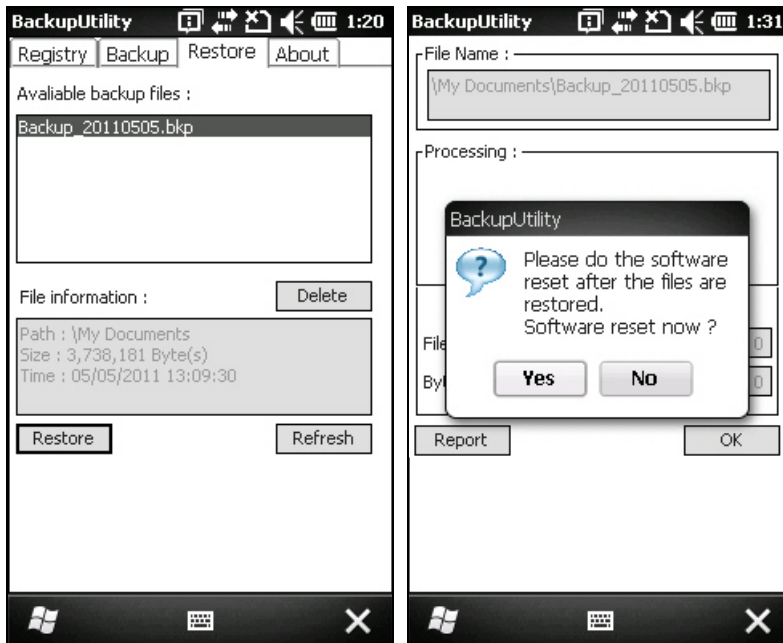
- 5) Tap [OK] to close the current window.



Note: If you sure to backup files to this new root or file name in future runs, you must tap [OK] on the soft key bar to save the current settings and exit the application.

9.1.4 USING BACKUPS FOR RESTORE

After the backup operation, tap the Restore tab and it will automatically start scanning for any .bkp files. Specify how to use these backups for automatic or manual restore operation.



▶ File Manipulation

Tap [Refresh] to refresh the list of available backups. If a backup file is not desired any more, select it and tap [Delete].

▶ Restore

Select a desired backup file from the list and tap [Restore]. The specific file will be used in the restore process that starts automatically right after a cold boot.

Warning: For the Restore setting to take effect, you must tap [OK] on the pop-up screen to allow restore the file selected after software resetting.

▶ Manual Restore

Depending on specific requirements, you may perform a full or partial restore manually.

Full Restore Operation

1. Select a desired backup file from the list.
2. Tap [Restore].
3. Tap [Start] to run the restore process.
4. Once the restore process is completed, you will be asked to perform a warm boot. Tap [No] if you wish to warm boot later. You may tap [Report] to view the log file if necessary.

Partial Restore Operation

1. Double-tap a desired backup file from the list.
2. Select the desired items.
3. Tap [Restore].
4. Tap [Start] to run the restore process.
5. Once the restore process is completed, you will be asked to perform a warm boot. Tap [No] if you wish to warm boot later. You may tap [Report] to view the log file if necessary.

Warning: (1) You must perform a warm boot after the restore operation!
(2) You may encounter insufficient memory for the restore operation and be asked to check memory space on the system (RAM), Flash Storage or microSD card. If you insist on restoring it without deleting files, data loss or incomplete restore may occur.

9.2 BUTTON ASSIGNMENT UTILITY

The **Button Assignment Utility** allows the following keys to be re-defined to another key or serve as a shortcut key for launching a specific program.

- ▶ [Scan]
- ▶ Two side triggers on each side of the touch screen
- ▶ [*] (Asterisk)
- ▶ [#] (Hash)

Note: By default, the two side triggers are programmed to serve as Scan keys.

Go to **Start | CipherLab Utilities** to open the **Button Assignment Utility**.

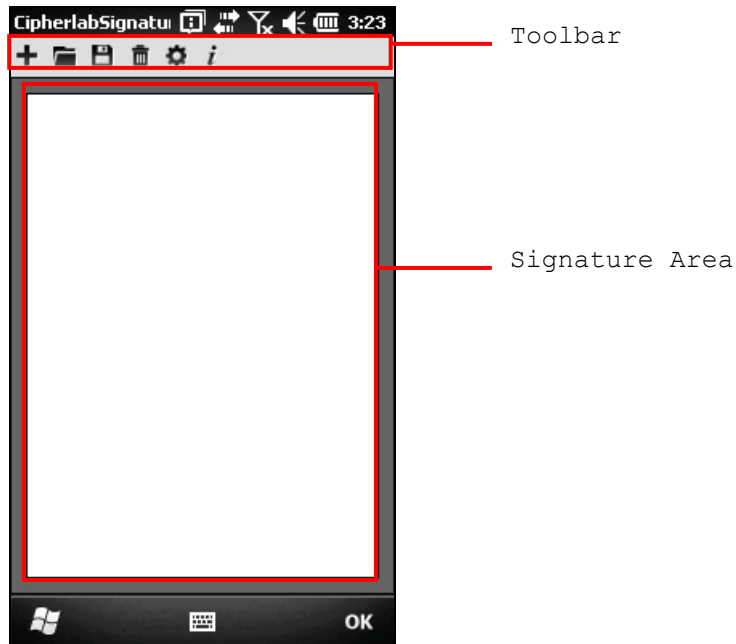


- 1) Tap the label of one of these keys.
For example, tap [L. Key] to configure the side trigger on the left.
- 2) You may input a hex value or assign one of the following key values to the left side trigger or have it serve as a shortcut key to launch a specific program.
 - ▶ Enter
 - ▶ Scan
 - ▶ Esc
 - ▶ Delete
 - ▶ Backspace
 - ▶ Space
 - ▶ Tab







- ▶ F1 ~ F12
 - ▶ Start Menu
 - ▶ Alt
 - ▶ OEM_Key1 (0xE9)
 - ▶ OEM_Key2 (0xEA)
 - ▶ OEM_Key3 (0xEB)
 - ▶ OEM_Key4 (0xEC)
 - ▶ OEM_Key5 (0xED)
 - ▶ OEM_Key6 (0xEE)
 - ▶ OEM_Key7 (0xEF)
 - ▶ OEM_Key8 (0xF0)
 - ▶ OEM_Key9 (0xF1)
 - ▶ OEM_Key10 (0x2A)
 - ▶ *
 - ▶ #
- 3) Tap [OK] on the soft key bar for the change to take effect and save the current settings. You may tap [Reset] to restore defaults.
 - 4) Tap [**OK**] to exit the application.

9.3 SIGNATURE UTILITY

The **Signature** utility allows acquiring signatures and viewing signatures stored on the mobile computer. Go to **Start | CipherLab Utilities | CipherlabSignature** to open the signature capture program.

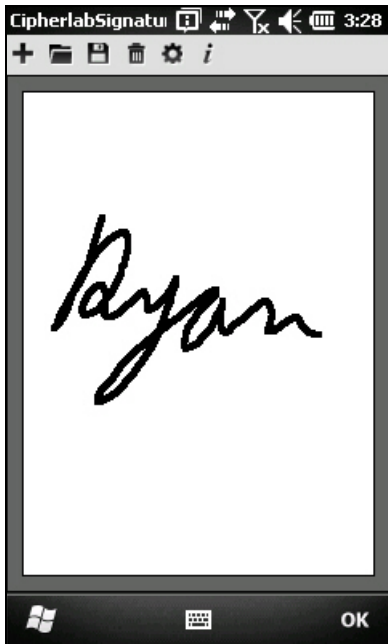




The icons on the toolbar, from left to right, are for these functions —

Button	Description
	Create a new file.
	Load a signature image.
	Save the signature image to a file.
	Clear the entire signature on the screen.
	Configure signature settings if necessary.
	Version information about the program.


9.3.1 CAPTURING A SIGNATURE

- 1) In the signature area, use the stylus to write a signature.



- 2) Tap  to clear the entire signature and write a new one if necessary.
- 3) Tap  to save the signature as an image file in BMP or JPEG format.
- 4) Tap [OK] to exit the program.

9.3.2 VIEWING A SIGNATURE


- 5) Tap  to load a signature image and it will be displayed along with a message asking whether you want to modify the signature.



- 6) Tap [Yes] to change the signature image if necessary.

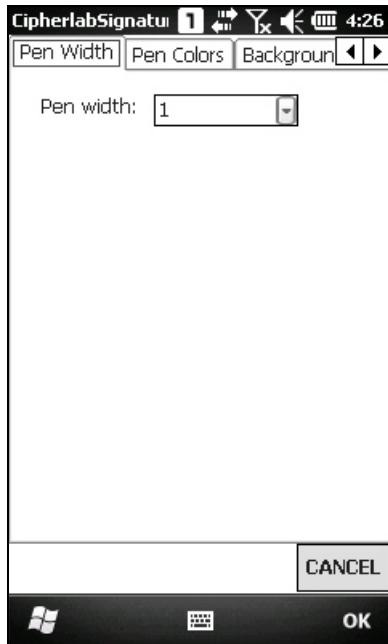
Note: The maximum resolution of an image is 640 x 480 pixels. Therefore, if you load an image at a pixel resolution greater than the limit, it will then be trimmed to fit the size of current signature area.

9.3.3 CHANGING SIGNATURE SETTINGS

Tap  to configure signature settings if necessary.

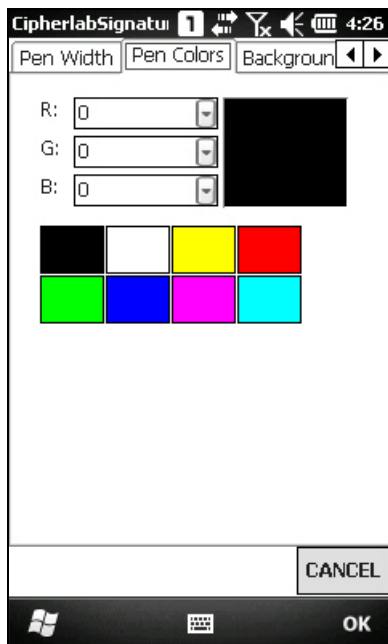
Pen Width tab

Set the pen width (1~5) in pixels for the signature writing.



Pen Colors tab

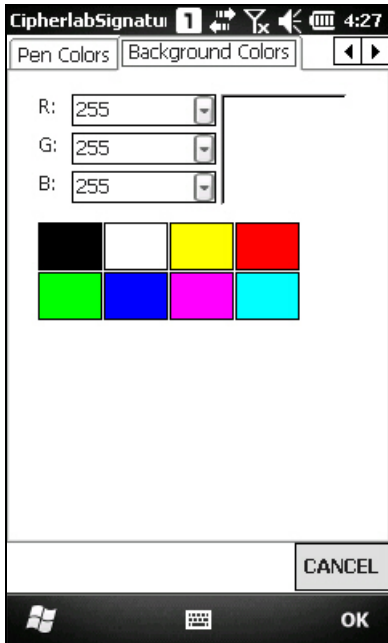
Set the pen color from the available samples or entering the RGB values (0~255) for your color.



Background Colors tab

Set the background color from the available samples or entering the RGB values (0~255) for your color.

- ▶ Changing the background color will erase the signature you have captured in this file.



9.4 GPS VIEWER

The CP30 Mobile Computer is equipped with a GPS receiver for obtaining location and time information from the Global Positioning System (GPS). Since the mobile computer does not come with any preinstalled navigation software, you may need to purchase third-party navigation software separately.

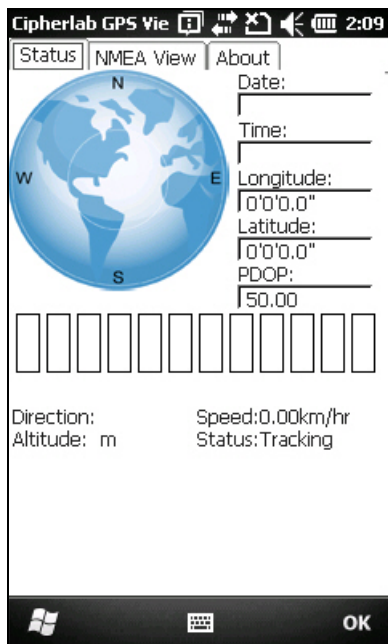
Go to **Start | CipherLab Utilities | GPS Viewer** to open the **Cipherlab GPS Viewer**. The GPS receiver hosted on the mobile computer uses COM 7 to output NMEA messages, as long as the COM port is opened. In your application, open the COM port with the correct configuration.

The table below lists the configuration of the integrated GPS receiver:

Serial Configuration	COM Port Settings
Baud Rate	4800
Data Bits	8
Parity	None
Stop bits	1

Note: For multiple GPS-enabled programs to access GPS data, tap **Start | Settings | System** and select **External GPS**. Specify a program port and the correct hardware port.

In order to speed up start-up times, we suggest you to download the ephemeris information for initial setup. Go to **Start | Settings | System** and select **GPS Manager** to update ephemeris.

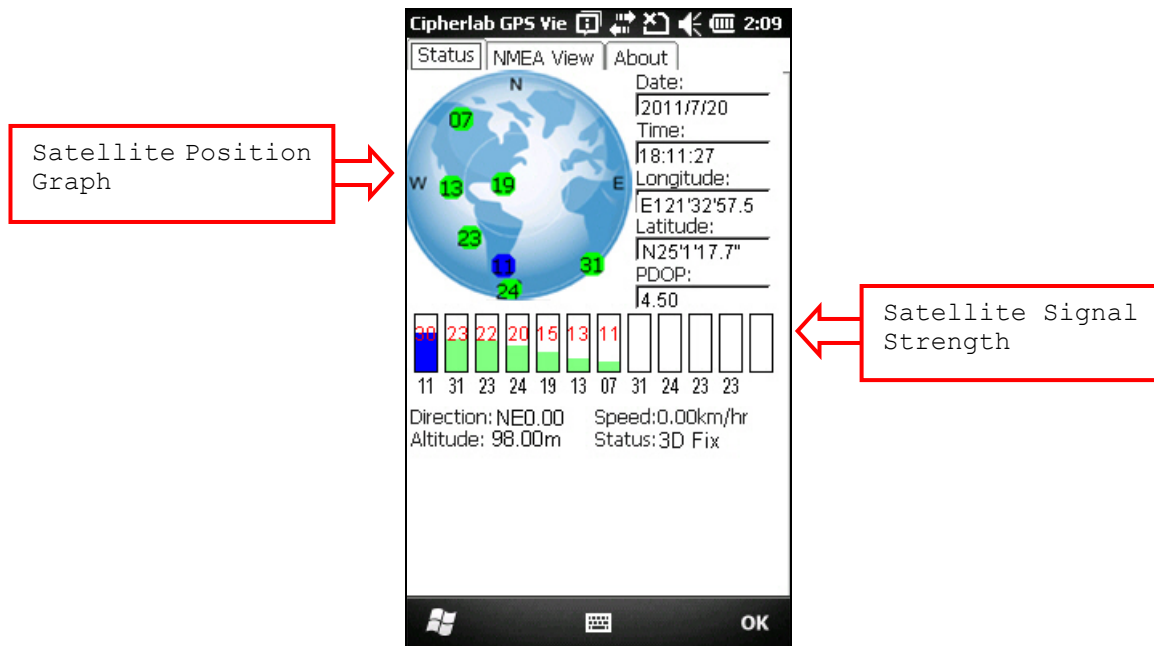


Note: Time To First Fix (TTFF) relies on environmental factors. Normally, it takes approximately 40 seconds for the receiver to locate the first satellite. However, it may take longer when satellite signals are blocked by tall vertical objects, such as buildings or trees.

9.4.1 RECEIVING GPS INFORMATION

The receiver will automatically start to scan available satellites, synchronize time, and get the current location. Information on time, location, the quality of the signal, and so on, will be displayed if available. On the satellite position graph (= the earth marked with N, E, S, W indicators for North, East, South and West), satellites in view are displayed in red and flash to get signal. Below the satellite position graph is the signal strength chart for each satellite in view. It provides visual indication and a numeric reading for reference.

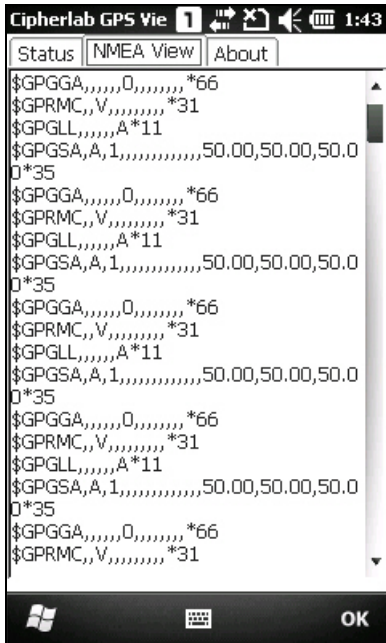
- ▶ Red for no signal (< 9 dB)
- ▶ Green for fair signal strength (10 ~ 29 dB)
- ▶ Blue for strong signal strength (30 ~ 50 dB)



Item	Description
Date, Time	Information of the current date and time
Longitude, Latitude, Altitude	Your location on earth by latitude and longitude coordinates, plus altitude
PDOP	Position (3-D) Dilution of Precision, a separate measurement of DOP
Direction	Your direction when heading toward a target
Speed	Your speed when heading toward a target (relative speed)
Status	The progress of the receiver acquiring and tracking signals from above three satellites to compute its three dimensional position (X, Y, Z). When the Status message "Tracking" is changed to "2D Fixed" or "3D Fixed", your latitude, longitude and altitude can then be calculated by comparing receiver's distance from satellites.

9.4.2 DATA OF NMEA FORMAT

The serial interface protocol is based on the national Marine Electronics Association's NMEA 0183 ASCII interface specification. For details, please refer to NMEA 0183 Version 3.01, which may be obtained from NMEA, www.nmea.org. You may save the NMEA codes as a text file and import it in a third-party application.



SPECIFICATIONS

PLATFORM, PROCESSOR & MEMORY

Operating System & CPU

Windows Version	Microsoft Windows Mobile 6.5 Professional
CPU	Qualcomm MSM7225 at 528 MHz

Memory

ROM	512 MB NAND flash memory
RAM	256 MB DDR
Expansion Slot	One microSD card slot <ul style="list-style-type: none">▶ SDHC supported

COMMUNICATIONS & DATA CAPTURE

Communications

USB Client	USB Client 2.0 Specification
WPAN	Built-in module for Bluetooth version 2.0 + EDR Class 2 connectivity
WLAN	Built-in module for 802.11b/g networking <ul style="list-style-type: none">▶ Certified for Cisco Compatible Extensions (CCX) version 4▶ WPAI support for only China area
WWAN	Ordering Option - built-in module for GSM/GPRS/EDGE/UMTS <ul style="list-style-type: none">▶ GSM Bands: 850/900/1800/1900▶ WCDMA Band: 2100▶ GPRS: GRPS class 12▶ EGPRS/EDGE: Multi-Slot Class 12▶ UMTS:DL/UL, HSDPA 7.2Mbps
GPS	GPS/AGPS, ephemeris downloadable

Data & Image Capture

Digital Camera	3.2 COMS sensor, auto focus
Barcode Reader	Ordering options include <ul style="list-style-type: none">▶ 1D Laser▶ 2D Imager

ELECTRICAL CHARACTERISTICS

Batteries

Main Battery Pack	Rechargeable Li-ion battery – 3.7 V, 2200 mAh
-------------------	---

Power Adaptor

Power Supply Cord with Universal Power Adaptor	Input	AC 100~240 V, 50/60 Hz
	Output	DC 5 V, 1 A
Charging & Communication Cradle	Input	AC 100~240 V, 50/60 Hz
	Output	DC 5 V, 2 A

Working Time (Laser, one testing cycle is 20 seconds)

One second of testing cycle is for scanning with backlight on. All behaviors including scan, computing and transfer data will be finished within 20 seconds upon GSM and WiFi on. In this test mode, the battery power will support the working time up to 10 hours.

PHYSICAL CHARACTERISTICS

Color Touch Screen Display

Display	3.2" TFT-LCD, 65k colors
Resolution	WQVGA (240 × 400 pixels)

Keypad

Layout	Alphanumeric keypad, LED backlight programmable
--------	---

Notifications

Status LED	One for charging (Red / Green) One for scanner Good Read and message (Red/Green/Amber)
Audio	Integrated with one speaker (back), microphone and receiver (front) Headset jack – 3.5 mm DIA stereo earphone jack ▶ Bluetooth headset supported
Vibrator	For phone ring and scanner Good Read

Dimensions & Weight

Dimensions	161.5 mm (L) 68.5 mm (W) 27.1 mm (H)
Weight	Approx. 300 g (including battery, but configuration-dependent)

ENVIRONMENTAL CHARACTERISTICS

Temperature

Operating	-10 °C to 55 °C (Only for single use)
Storage	-20 °C to 70 °C (Without battery)

Humidity

Operating	10% to 90%, non-condensing
Storage	5% to 95%, non-condensing

Resistance

Impact Resistance	1.2 m, 5 drops per 6 sides
Tumble Test	300 times at 50 cm
Splash/Dust Resistance	IP 42
Electrostatic Discharge	± 8 kV air discharge, ± 4 kV contact discharge

PROGRAMMING SUPPORT

Development Environment & Tools

Integrated Development Environment	Visual Studio 2008
	Visual Studio 2005
Software Development Kit	Microsoft SDK
	System API (DLL) for system configuration
	Reader API (DLL) for reader configuration

Software & Utilities

Cipherlab software package	▶ Reader Configuration Utility
	▶ FORGE Application Generator
	▶ MIRROR Browser for web application
Third-party software	▶ Navigation software
	▶ SOTI MobiControl for remote device control
	▶ SOTI MobiScan
	▶ Naurtech CETerm – Terminal emulator (3270, 5250, VT) and industrial web browser

ACCESSORIES

Accessory Options

- ▶ Protective Cover
- ▶ LCD Protective Film
- ▶ Spare rechargeable battery pack
- ▶ Charging Cradle

SCAN ENGINE SETTINGS

The **Reader Configuration Utility** (ReaderConfig.exe) allows configuring the following reader types, depending on the module equipped on your mobile computer:

- ▶ 1D Laser (SE955)
- ▶ 2D Imager (SE4500)

Note: (1) You cannot have 1D+2D scan engines installed on the mobile computer because they are both barcode readers!
 (2) You can run only one utility or application at a time to control the reader. For example, while running ReaderConfig.exe, you should not run FORGE Application Generator, STREAM Wireless Studio, MIRROR Browser, or any other application that uses ReaderDLL.

SYMBOLOGIES SUPPORTED

Varying by the scan engine installed, the supported symbologies are listed below. For details on configuring associated settings, please refer to each Appendix separately.

		Laser	2D
Codabar		✓	✓
Code 11		✓	✓
Code 93		✓	✓
Composite Code		x	✓
MSI		✓	✓
Postal Codes		x	✓
Industrial 25		✓	✓
Misc.		✓	✓
Interleaved 25	Convert to EAN-13	✓	✓
Matrix 25		x	✓
Macro PDF		x	✓
Code 128	Code 128	✓	✓
	GS1-128 (EAN-128)	✓	✓
	ISBT 128	✓	✓
Code 2 of 5	Industrial 25 (Discrete 25)	✓	✓
	Interleaved 25	✓	✓
	Matrix 25	x	✓

	Chinese 25	✓	✓
Code 3 of 9	Code 39	✓	✓
	Trioptic Code 39	✓	✓
	Italian Pharmacode (Code 32)	✓	✓
EAN/UPC	EAN-8	✓	✓
	EAN-13	✓	✓
	Bookland EAN (ISBN)	✓	✓
	UPC-E0	✓	✓
	UPC-E1	✓	✓
	UPC-A	✓	✓
GS1 DataBar (RSS)	GS1 DataBar Omnidirectional (RSS-14)	✓	✓
	GS1 DataBar Truncated	✓	✓
	GS1 DataBar Stacked	✓	✓
	GS1 DataBar Stacked Omnidirectional	✓	✓
	GS1 DataBar Limited (RSS Limited)	✓	✓
	GS1 DataBar Expanded (RSS Expanded)	✓	✓
	GS1 DataBar Expanded Stacked	✓	✓
2D Symbologies	PDF417	✗	✓
	MicroPDF417	✗	✓
	Data Matrix	✗	✓
	Maxicode	✗	✓
	QR Code	✗	✓
	MicroQR	✗	✓
	Aztec	✗	✓

LASER (SE955)

The tables below list reader settings as well as symbology settings for the Laser (SE955) scan engine.

READER SETTINGS TABLE

Laser Engine	Description	Default										
Decode Time-out	Set the maximum time for decoding to continue during a scan attempt. ▶ 1~9 (second)	3 sec.										
Redundancy Level		Level 1										
Level 1	Following barcodes must be successfully read twice before being decoded: <table border="1" data-bbox="491 891 1150 1144"> <thead> <tr> <th>Barcode Types</th> <th>Code Length</th> </tr> </thead> <tbody> <tr> <td>Codabar</td> <td>All</td> </tr> <tr> <td>MSI</td> <td>4 characters or less</td> </tr> <tr> <td>Industrial 25 (Discrete 25)</td> <td>8 characters or less</td> </tr> <tr> <td>Interleaved 25</td> <td>8 characters or less</td> </tr> </tbody> </table>	Barcode Types	Code Length	Codabar	All	MSI	4 characters or less	Industrial 25 (Discrete 25)	8 characters or less	Interleaved 25	8 characters or less	
Barcode Types	Code Length											
Codabar	All											
MSI	4 characters or less											
Industrial 25 (Discrete 25)	8 characters or less											
Interleaved 25	8 characters or less											
Level 2	All barcodes must be successfully read twice before being decoded.											
Level 3	All barcodes except for the following barcodes must be successfully read twice before being decoded. Following barcodes must be read three times: <table border="1" data-bbox="491 1267 1150 1473"> <thead> <tr> <th>Barcode Types "Excluded"</th> <th>Code Length</th> </tr> </thead> <tbody> <tr> <td>MSI</td> <td>4 characters or less</td> </tr> <tr> <td>Industrial 25 (Discrete 25)</td> <td>8 characters or less</td> </tr> <tr> <td>Interleaved 25</td> <td>8 characters or less</td> </tr> </tbody> </table>	Barcode Types "Excluded"	Code Length	MSI	4 characters or less	Industrial 25 (Discrete 25)	8 characters or less	Interleaved 25	8 characters or less			
Barcode Types "Excluded"	Code Length											
MSI	4 characters or less											
Industrial 25 (Discrete 25)	8 characters or less											
Interleaved 25	8 characters or less											
Level 4	All barcodes must be successfully read three times before being decoded.											
Scan Angle	Select the scan angle for Long Range Laser scan engine. ▶ "narrow" for 35° ▶ "wide" for 47°	Wide										
Scan Mode		Laser mode										
Continuous Mode	Non-stop scanning ▶ To decode the same barcode repeatedly, move away the scan beam and target it at the barcode for each scanning.											
Laser Mode	Hold down the scan trigger to start with scanning. ▶ The scanning won't stop until (a) a barcode is read, (b) the preset timeout expires, or (c) you release the trigger.											

Timeout between same symbols	When in Continuous mode, set the minimum time that must stop detect before the scan engine decodes a second same barcode. This reduces the risk of accidentally scanning the same barcode twice. ▶ 0.0~9.9 (second)	1.0 sec.
------------------------------	--	-----------------

SYMBOLGY SETTINGS TABLE

Laser Engine	Description	Default
Code 11		Enable
Check digit verification	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted. ▶ Disable ▶ One Check Digit ▶ Two Check Digits	Disable
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted. ▶ "Check digit verification" must be enabled.	No
Select Length	▶ One or two fixed lengths ▶ Range (1~55)	4~55
Codabar		Enable
CLSI editing	When applied, the CLSI editing strips the start/stop characters and inserts a space after the first, fifth, and tenth characters of a 14-character Codabar barcode. ▶ The 14-character barcode length does not include start/stop characters.	No
NOTIS editing	Decide whether to include the start/stop characters in the data being transmitted. ▶ NOTIS Editing is to strip the start/stop characters, i.e. to disable "Transmit Start/Stop Characters".	No
Select Length (min/max)	▶ One or two fixed lengths ▶ Range (1~55)	4~55
Code 128		Enable
GS1-128 (UCC/EAN-128)	Read GS1-128 barcodes with leading FNC1 character.	Enable
ISBT 128	Read ISBT 128 barcodes.	Enable
Industrial 25 (Discrete 25)		Enable
Select Length (min/max)	▶ One or two fixed lengths ▶ Range (1~55)	4~55

Interleaved 25		Enable
Convert to EAN-13	Convert a 14-character barcode into EAN-13 if the following requirements are met: <ul style="list-style-type: none"> ▶ The barcode must have a leading 0 and a valid EAN-13 check digit. ▶ "Check digit verification" must be disabled. 	No
Check digit verification	Decide whether to verify the check digit. If desired, select one of the algorithms below. If the check digit is incorrect, the barcode will not be accepted. <ul style="list-style-type: none"> ▶ Disable ▶ USS check digit ▶ OPCC check digit 	Disable
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	No
Select Length (min/max)	<ul style="list-style-type: none"> ▶ One or two fixed lengths ▶ Range (1~55) 	4~55
Chinese 25		Enable
Code 39		Enable
Convert to Code 32	Convert to Italian Pharmacode.	No
Code 32 Prefix	Prefix character "A" to Code 32 barcodes.	No
Check digit verification	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted. <ul style="list-style-type: none"> ▶ "Check digit verification" must be enabled. 	No
Code 39 Full ASCII	Code 39 Full ASCII includes all the alphanumeric and special characters.	No
Trioptic Code 39	Decide whether to decode Trioptic Code 39. <ul style="list-style-type: none"> ▶ Trioptic Code 39 is a variant of Code 39 used in the marking of computer tape cartridges. It always contains six characters. 	No
Select Length (min/max)	<ul style="list-style-type: none"> ▶ One or two fixed lengths ▶ Range (1~55) 	4~55
Code 93		Enable
Select Length (min/max)	<ul style="list-style-type: none"> ▶ One or two fixed lengths ▶ Range (1~55) 	4~55

MSI		Enable				
Check digit verification	<p>If Two Check Digits option is selected, an additional verification is required to ensure integrity. Select one of the algorithms below. If the check digit is incorrect, the barcode will not be accepted.</p> <p>Check digit algorithm:</p> <table border="1"> <tr> <td>One Check Digit</td> <td>Single Modulo 10</td> </tr> <tr> <td>Two Check Digits</td> <td> <ul style="list-style-type: none"> ▶ Mod 10/Mod 11 ▶ Mod 10/Mod 10 </td> </tr> </table>	One Check Digit	Single Modulo 10	Two Check Digits	<ul style="list-style-type: none"> ▶ Mod 10/Mod 11 ▶ Mod 10/Mod 10 	Single Modulo 10
One Check Digit	Single Modulo 10					
Two Check Digits	<ul style="list-style-type: none"> ▶ Mod 10/Mod 11 ▶ Mod 10/Mod 10 					
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	No				
Select Length (min/max)	<ul style="list-style-type: none"> ▶ One or two fixed lengths ▶ Range (1~55) 	4~55				
GS1 DataBar (RSS)		---				
GS1 Databar-14	GS1 DataBar-14 is short for GS1 DataBar Omnidirectional. This group consists of (1) GS1 DataBar Omnidirectional, (2) GS1 DataBar Truncated, (3) GS1 DataBar Stacked, and (4) GS1 DataBar Stacked Omnidirectional.	Enable				
GS1 Databar Limited		Enable				
GS1 Databar Expanded	This group consists of (1) GS1 DataBar Expanded, and (2) GS1 DataBar Expanded Stacked.	Enable				
Convert RSS to UPC/EAN	<p>"Convert to UPC/EAN" only applies to GS1 Databar-14 and GS1 Databar Limited barcodes not decoded as part of a Composite barcode.</p> <table border="1"> <tr> <td> <p>Convert to EAN-13</p> <p>Strip the leading "010" from barcodes.</p> <ul style="list-style-type: none"> ▶ "01" is the Application ID and must be followed by a single zero (the first digit encoded) </td> </tr> <tr> <td> <p>Convert to UPC-A</p> <p>Strip the leading "0100" from barcodes.</p> <ul style="list-style-type: none"> ▶ "01" is the Application ID and must be followed by two or more zeros (but not six zeros) </td> </tr> </table>	<p>Convert to EAN-13</p> <p>Strip the leading "010" from barcodes.</p> <ul style="list-style-type: none"> ▶ "01" is the Application ID and must be followed by a single zero (the first digit encoded) 	<p>Convert to UPC-A</p> <p>Strip the leading "0100" from barcodes.</p> <ul style="list-style-type: none"> ▶ "01" is the Application ID and must be followed by two or more zeros (but not six zeros) 	No		
<p>Convert to EAN-13</p> <p>Strip the leading "010" from barcodes.</p> <ul style="list-style-type: none"> ▶ "01" is the Application ID and must be followed by a single zero (the first digit encoded) 						
<p>Convert to UPC-A</p> <p>Strip the leading "0100" from barcodes.</p> <ul style="list-style-type: none"> ▶ "01" is the Application ID and must be followed by two or more zeros (but not six zeros) 						
EAN/JAN		---				
Enable EAN-8		Enable				
Enable EAN-13		Enable				
Bookland EAN (ISBN)	The EAN-13 barcode starting with 978 will be converted to ISBN.	Enable				
Enable Addons	<p>Decide whether to decode EAN-8, EAN-13, UPC-E0, UPC-E1, UPC-A with addons.</p> <ul style="list-style-type: none"> ▶ Ignore Addons ▶ Decode Only With Addons ▶ Auto-discriminate 	Ignore...				

Addons redundancy	When "Auto-discriminate" is applied, decide the number of times (2~30) of supplementary decoding the same barcode that makes a valid reading.	10 times
EAN-8 extend		No
UCC coupon extended code	Read UPC-A barcodes starting with digit "5", EAN-13 barcodes starting with digits "99", and UPC-A/GS1-128 Coupon Codes. <ul style="list-style-type: none"> ▶ UPC-A, EAN-13, and GS1-128 must be enabled first! ▶ Use "Addon Redundancy" to control auto-discrimination of the GS1-128 (right half) of a coupon code. 	No
UPC		---
UPC-A/UPC-E/UPC-E1	For the default value, the UPC-A and UPC-E are enabled.	
Enable Addons	Decide whether to decode EAN-8, EAN-13, UPC-E0, UPC-E1, UPC-A with addons. <ul style="list-style-type: none"> ▶ Ignore Addons ▶ Decode Only With Addons ▶ Auto-discriminate 	Ignore...
Addons redundancy	When "Auto-discriminate" is applied, decide the number of times (2~30) of supplementary decoding the same barcode that makes a valid reading.	10 times
Transmit Check Digit	Decide whether to include the UPC-A/UPC-E/UPC-E1 check digit in the data being transmitted.	Yes
Convert to UPC-A	The UPC-E0/UPC-E1 barcode will be expanded into UPC-A, and the next processing will follow the settings configured for UPC-A.	No
UCC coupon extended code	Read UPC-A barcodes starting with digit "5", EAN-13 barcodes starting with digits "99", and UPC-A/GS1-128 Coupon Codes. <ul style="list-style-type: none"> ▶ UPC-A, EAN-13, and GS1-128 must be enabled first! ▶ Use "Addon Redundancy" to control auto-discrimination of the GS1-128 (right half) of a coupon code. 	No
Transmit Preamble	Decide whether to include the UPC-A/UPC-E/UPC-E1 preamble System Character (and Country Code) in the data being transmitted.	System Character

MISCELLANEOUS

Laser Engine	Description	Default
Miscellaneous Options		---

Transmit Code ID	<p>Decide whether to include AIM Code ID in the beginning of data.</p> <ul style="list-style-type: none"> ▶ none ▶ AIM code ID character <p>Each AIM Code ID contains the three-character string "Jcm" –</p> <ul style="list-style-type: none"> ▶] = Flag Character (ASCII 93) ▶ c = Code Character (see below) ▶ m = Modifier Character (see below) 	none
------------------	---	------

AIM CODE ID – CODE CHARACTERS

Code Character	Code Type
A	Code 39, Code 39 Full ASCII, Code 32
C	Code 128, Coupon (Code 128 portion)
d	Data Matrix
E	UPC/EAN, Coupon (UPC portion)
e	GS1 DataBar (RSS)
F	Codabar
G	Code 93
H	Code 11
I	Interleaved 25
L	PDF417, Macro PDF417, Micro PDF417
M	MSI
Q	QR Code
S	Industrial 25 (Discrete 25), IATA 2 of 5
U	Maxicode
X	Code 39 Trioptic, Bookland EAN, US Postnet, US Planet, UK Postal, Japan Postal, Australian Postal, Dutch Postal

AIM CODE ID – MODIFIER CHARACTERS

Code Type	Option Value	Option
Code 39	0	No check character or Full ASCII processing.
	1	Check digit has been verified.
	3	Check digit has been verified and stripped.
	4	Full ASCII conversion has been performed.
	5	Result of option values 1 and 4.
	7	Result of option values 3 and 4.

Code 128	0	Standard data packet. No Function Code 1“FNC1” in the first character position.
	1	Function Code 1“FNC1” in the first character position.
	2	Function Code 1“FNC1” in the second character position.
Interleaved 25	0	No check digit processing.
	1	Check digit has been verified.
	3	Check digit has been verified and stripped.
Codabar	0	No check digit processing.
Code 93	0	Always transmit 0.
MSI	0	Modulo 10 check digit verified and transmitted.
	1	Modulo 10 check digit verified but not transmitted.
Industrial 25 (Discrete 25)	0	Always transmit 0.
UPC/EAN	0	Standard data packet in full EAN country code format, which is 13 digits for UPC-A and UPC-E (not including addons).
	3	Standard data packet with two-digit or five-digit addons.
	4	EAN-8 data packet.
	A UPC-A with Addon 2 barcode, 012345678905-10, is transmitted to the host as a 18-character string, 1E3001234567890510.	
Bookland EAN	0	Always transmit 0.
Trioptic Code 39	0	Always transmit 0.
Code 11	0	Single check digit (has been verified.)
	1	Two check digits (has been verified.)
	3	Check digit has been verified but not transmitted.
GS1 DataBar (RSS)	0	Always transmit 0.
	RSS-14 and RSS Limited will be transmitted with an Application Identifier “01”. For example, an RSS-14 barcode, 10012345678902, is transmitted as 1E00110012345678902.	

Note: In GS1-128 emulation mode, RSS is transmitted using Code 128 rules (= “]c1”).

EAN.UCC Composites (RSS, GS1-128, 2D portion of UPC composite)	Native mode transmission	
	0	Standard data packet
	1	Data packet containing the data following an encoded symbol separator character.
	2	Data packet containing the data following an escape mechanism character. The data packet does not support the ECI protocol.
	3	Data packet containing the data following an escape mechanism character. The data packet supports the ECI protocol.
GS1-128 emulation		

	1	Data packet is a GS1-128 barcode (= data is preceded with "]JC1").
--	---	--

Note: UPC portion of composite is transmitted using UPC rules.

PDF417, Micro PDF417	0	Scan engine is set to conform to protocol defined in 1994 PDF417 symbology specifications. ▶ When this option is transmitted, the receiver cannot reliably determine whether ECIs have been invoked or whether data byte 92 _{DEC} has been doubled in transmission.
	1	Scan engine is set to follow the ECI protocol (Extended Channel Interpretation). All data characters 92 _{DEC} are doubled.
	2	Scan engine is set for Basic Channel operation (no escape character transmission protocol). Data characters 92 _{DEC} are not doubled. ▶ When decoders are set to this mode, unbuffered Macro symbols and symbols requiring the decoder to convey ECI escape sequences cannot be transmitted.
	3	The barcode contains a GS1-128 symbol, and the first codeword is 903-907, 912, 914, 915.
	4	The barcode contains a GS1-128 symbol, and the first codeword is in the range 908-909.
	5	The barcode contains a GS1-128 symbol, and the first codeword is in the range 910-911.
	A PDF417 barcode, ABCD, with no transmission protocol enabled, is transmitted as]L2ABCD.	
Data Matrix	0	ECC 000-140, not supported.
	1	ECC 200.
	2	ECC 200, FNC1 in first or fifth position.
	3	ECC 200, FNC1 in second or sixth position.
	4	ECC 200, ECI protocol implemented.
	5	ECC 200, FNC1 in first or fifth position, ECI protocol implemented.
	6	ECC 200, FNC1 in second or sixth position, ECI protocol implemented.

Maxicode	0	Mode 4 or 5
	1	Mode 2 or 3
	2	Mode 4 or 5, ECI protocol implemented.
	3	Mode 2 or 3, ECI protocol implemented in secondary message.

QR Code	0	Model 1
	1	Model 2, ECI protocol not implemented.
	2	Model 2, ECI protocol implemented.
	3	Model 2, ECI protocol not implemented, <small>FNC1</small> implied in first position.
	4	Model 2, ECI protocol implemented, <small>FNC1</small> implied in first position.
	5	Model 2, ECI protocol not implemented, <small>FNC1</small> implied in second position.
	6	Model 2, ECI protocol implemented, <small>FNC1</small> implied in second position

Note: For JPEG files, these BPP settings are ignored for it always uses 8 bits per pixel!

2D IMAGER (SE4500)

READER SETTINGS TABLE

The tables below list reader settings as well as symbology settings for the 2D scan engine.

2D Engine	Description	Default										
Decode Time-out	Set the maximum time for decoding to continue during a scan attempt. ▶ 1~9 (second)	3 sec.										
Decode Illumination	Decide whether to flash illumination on every barcode capture to aid decoding. ▶ Turn On (Internal LED) ▶ Turn Off	On										
Aiming Pattern	Decide whether to project the aiming pattern during barcode capture. ▶ Turn On ▶ Turn Off	On										
Redundancy Level		Level 1										
Level 1	<p>The following barcodes must be successfully read twice before being decoded:</p> <table border="1"> <thead> <tr> <th>Barcode Types</th> <th>Code Length</th> </tr> </thead> <tbody> <tr> <td>Codabar</td> <td>8 characters or less</td> </tr> <tr> <td>MSI</td> <td>4 characters or less</td> </tr> <tr> <td>Industrial 25 (Discrete 25)</td> <td>8 characters or less</td> </tr> <tr> <td>Interleaved 25</td> <td>8 characters or less</td> </tr> </tbody> </table>		Barcode Types	Code Length	Codabar	8 characters or less	MSI	4 characters or less	Industrial 25 (Discrete 25)	8 characters or less	Interleaved 25	8 characters or less
Barcode Types	Code Length											
Codabar	8 characters or less											
MSI	4 characters or less											
Industrial 25 (Discrete 25)	8 characters or less											
Interleaved 25	8 characters or less											
Level 2	All barcodes must be successfully read twice before being decoded.											
Level 3	<p>All barcodes except for the following barcodes must be successfully read twice before being decoded.</p> <p>The following barcodes must be read three times:</p> <table border="1"> <thead> <tr> <th>Barcode Types "Excluded"</th> <th>Code Length</th> </tr> </thead> <tbody> <tr> <td>Codabar</td> <td>8 characters or less</td> </tr> <tr> <td>MSI</td> <td>4 characters or less</td> </tr> <tr> <td>Industrial 25 (Discrete 25)</td> <td>8 characters or less</td> </tr> <tr> <td>Interleaved 25</td> <td>8 characters or less</td> </tr> </tbody> </table>		Barcode Types "Excluded"	Code Length	Codabar	8 characters or less	MSI	4 characters or less	Industrial 25 (Discrete 25)	8 characters or less	Interleaved 25	8 characters or less
Barcode Types "Excluded"	Code Length											
Codabar	8 characters or less											
MSI	4 characters or less											
Industrial 25 (Discrete 25)	8 characters or less											
Interleaved 25	8 characters or less											

Level 4	All barcodes must be successfully read three times before being decoded.	
Security Level	<p>Select a decode security level appropriate for the barcode quality when reading delta barcodes such as Code 128, Code 93, UPC/EAN.</p> <ul style="list-style-type: none"> ▶ Security Level 0 – This default setting allows the scan engine to operate in its most aggressive state, providing sufficient security in decoding most “in-spec” barcodes. ▶ Security Level 1 – Select this option if misdecodes occur. This level should eliminate most misdecodes. ▶ Security Level 2 – Select this option if Security Level 1 fails to eliminate misdecodes. ▶ Security Level 3 – Select this option if Security Level 2 also fails to eliminate misdecodes. However, selecting this option impairs the decoding ability of the scan engine. If this level of security is necessary, try to improve the barcode quality. 	Level 0

SYMBOLGY SETTINGS TABLE

1D SYMBOLOGIES

2D Engine	Description	Default
Codabar		Enable
CLSI Editing	When applied, the CLSI editing strips the start/stop characters and inserts a space after the first, fifth, and tenth characters of a 14-character Codabar barcode. <ul style="list-style-type: none"> ▶ The 14-character barcode length does not include start/stop characters. 	No
NOTIS Editing	Decide whether to include the start/stop characters in the data being transmitted. <ul style="list-style-type: none"> ▶ NOTIS Editing is to strip the start/stop characters, which equals to "Disable Transmit Start/Stop Characters". 	No
Select Length (min/max)	<ul style="list-style-type: none"> ▶ One or two fixed lengths ▶ Range (1~55) 	4~55
Intercharacter Gap Size	The Code 39 and Codabar symbologies have an intercharacter gap that is typically quite small. Due to various barcode printing technologies, this gap can grow larger than the maximum size allowed, preventing the scan engine from decoding a barcode. If this problem occurs, set it to "Large Intercharacter Gaps" to tolerate these out-of-specification barcodes. <ul style="list-style-type: none"> ▶ Normal intercharacter gaps ▶ Large intercharacter gaps 	Normal
Code 128		Enable
GS1-128 (UCC/EAN-128)	Read GS1-128 barcodes with leading FNC1 character.	Enable
GS1-128 (UCC/EAN-128)	Read GS1-128 barcodes with leading FNC1 character.	Enable
ISBT 128	Read ISBT 128 barcodes.	Enable
ISBT Concatenation	Decide whether to decode and concatenate pairs of ISBT barcodes. <ul style="list-style-type: none"> ▶ Disable ▶ Enable – When this option is selected, there must be two ISBT barcodes for the scanner to decode and perform concatenation. ▶ Auto-discriminate – When this option is selected, the scanner decodes and concatenates pairs of ISBT barcodes immediately. If only a single ISBT barcode is present, the scanner must decode 10 times before transmitting its data to confirm that there is no additional ISBT barcode. 	Disable

ISBT Concatenation Redundancy	When "Auto-discriminate" is applied, decide the concatenation redundancy (2~20 times).	10 times
Industrial 25 (Discrete 25)		Enable
Select Length (min/max)	<ul style="list-style-type: none"> ▶ One or two fixed lengths ▶ Range (1~55) 	4~55
Interleaved 25		Enable
Convert to EAN-13	<p>Convert a 14-character barcode into EAN-13 if the following requirements are met:</p> <ul style="list-style-type: none"> ▶ The barcode must have a leading 0 and a valid EAN-13 check digit. ▶ "Check digit verification" must be disabled. 	No
Check digit verification	<p>Decide whether to verify the check digit. If desired, select one of the algorithms below. If the check digit is incorrect, the barcode will not be accepted.</p> <ul style="list-style-type: none"> ▶ Disable ▶ USS check digit ▶ OPCC check digit 	Disable
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	No
Select Length (min/max)	<ul style="list-style-type: none"> ▶ One or two fixed lengths ▶ Range (1~55) 	4~55
Matrix 25		Enable
Redundancy	Decide whether to enable decode redundancy.	No
Check digit verification	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	No
Select Length (min/max)	<ul style="list-style-type: none"> ▶ One or two fixed lengths ▶ Range (1~55) 	4~55
Chinese 25		Enable
Code 39		Enable
Convert to Code 32	Convert to Italian Pharmacode.	No
Code 32 Prefix	Prefix character "A" to Code 32 barcodes.	No
Check digit verification	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	<p>Decide whether to include the check digit in the data being transmitted.</p> <ul style="list-style-type: none"> ▶ "Check digit verification" must be enabled. 	No
Code 39 Full ASCII	Code 39 Full ASCII includes all the alphanumeric and special characters.	No

Trioptic Code 39	Decide whether to decode Trioptic Code 39. <ul style="list-style-type: none"> ▶ Trioptic Code 39 is a variant of Code 39 used in the marking of computer tape cartridges. It always contains six characters. 	No				
Select Length (min/max)	<ul style="list-style-type: none"> ▶ One or two fixed lengths ▶ Range (1~55) 	4~55				
Intercharacter Gap Size	The Code 39 and Codabar symbologies have an intercharacter gap that is typically quite small. Due to various barcode printing technologies, this gap can grow larger than the maximum size allowed, preventing the scan engine from decoding a barcode. If this problem occurs, set it to "Large Intercharacter Gaps" to tolerate these out-of-specification barcodes. <ul style="list-style-type: none"> ▶ Normal intercharacter gaps ▶ Large intercharacter gaps 	Normal				
Code 93		Enable				
Select Length (min/max)	<ul style="list-style-type: none"> ▶ One or two fixed lengths ▶ Range (1~55) 	4~55				
MSI		Enable				
Check digit verification	If Two Check Digits option is selected, an additional verification is required to ensure integrity. Select one of the algorithms below. If the check digit is incorrect, the barcode will not be accepted. Check digit algorithm: <table border="1" style="margin-left: 20px; width: 100%;"> <tr> <td>One Check Digit</td> <td>Single Modulo 10</td> </tr> <tr> <td>Two Check Digits</td> <td> <ul style="list-style-type: none"> ▶ Mod 10/Mod 11 ▶ Mod 10/Mod 10 </td> </tr> </table>	One Check Digit	Single Modulo 10	Two Check Digits	<ul style="list-style-type: none"> ▶ Mod 10/Mod 11 ▶ Mod 10/Mod 10 	Single Modulo 10
One Check Digit	Single Modulo 10					
Two Check Digits	<ul style="list-style-type: none"> ▶ Mod 10/Mod 11 ▶ Mod 10/Mod 10 					
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	No				
Select Length (min/max)	<ul style="list-style-type: none"> ▶ One or two fixed lengths ▶ Range (1~55) 	4~55				
GS1 DataBar (RSS)		---				
GS1 Databar-14	GS1 DataBar-14 is short for GS1 DataBar Omnidirectional. This group consists of (1) GS1 DataBar Omnidirectional, (2) GS1 DataBar Truncated, (3) GS1 DataBar Stacked, and (4) GS1 DataBar Stacked Omnidirectional.	Enable				
GS1 Databar Limited		Enable				
GS1 Databar Expanded	This group consists of (1) GS1 DataBar Expanded, and (2) GS1 DataBar Expanded Stacked.	Enable				

Convert RSS to UPC/EAN	<p>"Convert to UPC/EAN" only applies to GS1 Databar-14 and GS1 Databar Limited barcodes not decoded as part of a Composite barcode.</p> <hr/> <p>Convert to EAN-13</p> <p>Strip the leading "010" from barcodes.</p> <ul style="list-style-type: none"> ▶ "01" is the Application ID and must be followed by a single zero (the first digit encoded) <hr/> <p>Convert to UPC-A</p> <p>Strip the leading "0100" from barcodes.</p> <ul style="list-style-type: none"> ▶ "01" is the Application ID and must be followed by two or more zeros (but not six zeros) 	No
EAN/JAN		---
Enable EAN-8		Enable
Enable EAN-13		Enable
Bookland EAN (ISBN)	The EAN-13 barcode starting with 978 will be converted to ISBN.	Enable
Enable Addons	<p>Decide whether to decode EAN-8, EAN-13, UPC-E0, UPC-E1, UPC-A with addons.</p> <ul style="list-style-type: none"> ▶ Ignore Addons ▶ Decode Only With Addons ▶ Auto-discriminate 	Ignore...
Addons redundancy	When "Auto-discriminate" is applied, decide the number of times (2~30) of supplementary decoding the same barcode that makes a valid reading.	10 times
EAN-8 extend		No
UCC coupon extended code	<p>Read UPC-A barcodes starting with digit "5", EAN-13 barcodes starting with digits "99", and UPC-A/GS1-128 Coupon Codes.</p> <ul style="list-style-type: none"> ▶ UPC-A, EAN-13, and GS1-128 must be enabled first! ▶ Use "Addon Redundancy" to control auto-discrimination of the GS1-128 (right half) of a coupon code. 	No
UPC		---
UPC-A/UPC-E/UPC-E1	For the default value, the UPC-A and UPC-E are enabled.	Enable
Enable Addons	<p>Decide whether to decode EAN-8, EAN-13, UPC-E0, UPC-E1, UPC-A with addons.</p> <ul style="list-style-type: none"> ▶ Ignore Addons ▶ Decode Only With Addons ▶ Auto-discriminate 	Ignore...
Addons redundancy	When "Auto-discriminate" is applied, decide the number of times (2~30) of supplementary decoding the same barcode that makes a valid reading.	10 times

Transmit Check Digit	Decide whether to include the UPC-A/UPC-E/UPC-E1 check digit in the data being transmitted.	Yes
Convert to UPC-A	The UPC-E0/UPC-E1 barcode will be expanded into UPC-A, and the next processing will follow the settings configured for UPC-A.	No
UCC coupon extended code	Read UPC-A barcodes starting with digit "5", EAN-13 barcodes starting with digits "99", and UPC-A/GS1-128 Coupon Codes. <ul style="list-style-type: none"> ▶ UPC-A, EAN-13, and GS1-128 must be enabled first! ▶ Use "Addon Redundancy" to control auto-discrimination of the GS1-128 (right half) of a coupon code. 	No
Transmit Preamble	Decide whether to include the UPC-A/UPC-E/UPC-E1 preamble System Character (and Country Code) in the data being transmitted.	System Character
Code 11		Enable
Check digit verification	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted. <ul style="list-style-type: none"> ▶ Disable ▶ One Check Digit ▶ Two Check Digits 	Disable
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted. <ul style="list-style-type: none"> ▶ "Check digit verification" must be enabled. 	No
Select Length (min/max)	<ul style="list-style-type: none"> ▶ One or two fixed lengths ▶ Range (1~55) 	4~55
Postal Codes		---
US Postnet		Enable
US Planet		Enable
Transmit US Postal Check Digit	US Postnet or US Planet must be enabled first!	Enable
UK Postal		Enable
Transmit UK Postal Check Digit	UK Postal must be enabled first!	Enable
Japan Postal		Enable
Australian Postal		Enable
Dutch Postal		Enable

Composite Codes		---
Composite CC-C		Enable
Composite CC-A/B		Disable
Composite TLC-39		Disable
GS1-128 Emulation Mode for UCC/EAN Composite Codes	Transmit UCC/EAN Composite Code data as if it was encoded in GS1-128 barcodes.	Disable
UPC Composite Mode	<p>UPC barcodes can be "linked" with a 2D barcode during transmission as if they were one barcode.</p> <hr/> <p>UPC Never Linked</p> <p>Transmit UPC barcodes regardless of whether a 2D barcode is detected.</p> <hr/> <p>UPC Always Linked</p> <p>Transmit UPC barcodes and the 2D portion. If the 2D portion is not detected, the UPC barcode will not be transmitted.</p> <ul style="list-style-type: none"> ▶ CC-A/B or CC-C must be enabled! <hr/> <p>Auto-discriminate UPC Composites</p> <p>Transmit UPC barcodes as well as the 2D portion if present.</p>	UPC Always Linked

2D SYMBOLOGIES

2D Engine	Description	Default						
2D Symbologies		---						
PDF417	Decide whether to use PDF417 barcode symbol format.	Enable						
MicroPDF417	Decide whether to use MicroPDF417 barcode symbol format.	Disable						
MicroPDF417 Code 128 Emulation	<p>Transmit data from certain MicroPDF417 barcodes as if it was encoded in Code 128 barcodes.</p> <p>▶ Transmit AIM Code Identifier in Miscellaneous Options must be enabled first!</p> <p>When applied, the MicroPDF417 barcodes are transmitted with one of these prefixes:</p> <table border="1"> <tr> <td>The first codeword of MicroPDF417 is 903-907, 912, 914, 915:</td> </tr> <tr> <td>The original Code ID "]L3" will be changed to "]C1".</td> </tr> <tr> <td>The first codeword of MicroPDF417 is 908 or 909:</td> </tr> <tr> <td>The original Code ID "]L4" will be changed to "]C2".</td> </tr> <tr> <td>The first codeword of MicroPDF417 is 910 or 911:</td> </tr> <tr> <td>The original Code ID "]L5" will be changed to "]C0".</td> </tr> </table>	The first codeword of MicroPDF417 is 903-907, 912, 914, 915:	The original Code ID "]L3" will be changed to "]C1".	The first codeword of MicroPDF417 is 908 or 909:	The original Code ID "]L4" will be changed to "]C2".	The first codeword of MicroPDF417 is 910 or 911:	The original Code ID "]L5" will be changed to "]C0".	Disable
The first codeword of MicroPDF417 is 903-907, 912, 914, 915:								
The original Code ID "]L3" will be changed to "]C1".								
The first codeword of MicroPDF417 is 908 or 909:								
The original Code ID "]L4" will be changed to "]C2".								
The first codeword of MicroPDF417 is 910 or 911:								
The original Code ID "]L5" will be changed to "]C0".								
Data Matrix	Decide whether to use Data Matrix barcode symbol format.	Enable						
Data Matrix Inverse	<p>Decide whether to decode Data Matrix Inverse.</p> <table border="1"> <tr> <td>Regular Only</td> </tr> <tr> <td>Decode regular Data Matrix barcodes only.</td> </tr> <tr> <td>Inverse Only</td> </tr> <tr> <td>Decode inverse Data Matrix barcodes only.</td> </tr> <tr> <td>Autodetect</td> </tr> <tr> <td>Decode both regular and inverse Data Matrix barcodes.</td> </tr> </table>	Regular Only	Decode regular Data Matrix barcodes only.	Inverse Only	Decode inverse Data Matrix barcodes only.	Autodetect	Decode both regular and inverse Data Matrix barcodes.	Regular Only
Regular Only								
Decode regular Data Matrix barcodes only.								
Inverse Only								
Decode inverse Data Matrix barcodes only.								
Autodetect								
Decode both regular and inverse Data Matrix barcodes.								
Maxicode	Decide whether to use Maxicode barcode symbol format.	Enable						
QR Code	Decide whether to use QR code symbol format.	Enable						
QR Code Inverse	<p>Decide whether to decode QR Code Inverse.</p> <table border="1"> <tr> <td>Regular Only</td> </tr> <tr> <td>Decode regular QR Code only.</td> </tr> <tr> <td>Inverse Only</td> </tr> <tr> <td>Decode inverse QR Code only.</td> </tr> </table>	Regular Only	Decode regular QR Code only.	Inverse Only	Decode inverse QR Code only.	Regular Only		
Regular Only								
Decode regular QR Code only.								
Inverse Only								
Decode inverse QR Code only.								

	<p>Autodetect</p> <p>Decode both regular and inverse QR Code.</p>	
MicroQR	Decide whether to use MicroQR symbol format.	Enable
Aztec	Decide whether to use Aztec symbol format.	Enable
Aztec Inverse	<p>Decide whether to decode Aztec Inverse.</p> <p>Regular Only</p> <p>Decode regular Aztec barcodes only.</p> <p>Inverse Only</p> <p>Decode inverse Aztec barcodes only.</p> <p>Autodetect</p> <p>Decode both regular and inverse Aztec barcodes.</p>	Regular Only
Macro PDF		---
<p>Macro PDF is a special feature for concatenating multiple PDF barcodes into one file, known as Macro PDF417 or Macro MicroPDF417.</p>		
Transmit/Decode Mode	<p>Decide how to handle Macro PDF decoding.</p> <p>Buffer All Symbols / Transmit Macro PDF When Complete</p> <p>Transmit all decoded data from an entire Macro PDF sequence only when the entire sequence is scanned and decoded. If the decoded data exceeds the limit of 50 symbols, no transmission because the entire sequence was not scanned!</p> <p>Transmit Any Symbol in Set / No Particular Order</p> <p>Transmit data from each Macro PDF symbol as decoded, regardless of the sequence.</p> <p>Passthrough All Symbols</p> <p>Transmit and decode all Macro PDF symbols and perform no processing. In this mode, the host is responsible for detecting and parsing the Macro PDF sequences.</p>	Passthrough All Symbols
Escape Characters	<p>When enabled, it uses the backslash "\" as an Escape character for systems that can process transmissions containing special data sequences. It will format special data according to the Global Label Identifier (GLI) protocol, which only affects the data portion of a Macro PDF symbol transmission. The Control Header, if enabled, is always sent with GLI formatting.</p>	None

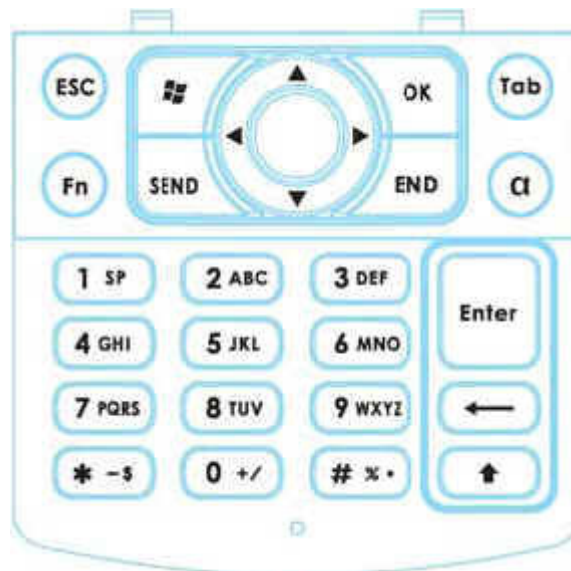
Note: When printing barcodes, keep each Macro PDF sequence separate, as each has a unique identifier. Do not mix barcodes from several Macro PDF sequences, even if they encode the same data. When you scan Macro PDF sequences, scan the entire Macro PDF sequence without interruption!

MISCELLANEOUS

2D Engine	Description	Default
Miscellaneous Options		---
Transmit Code ID character	Decide whether to include AIM Code ID in the beginning of data. <ul style="list-style-type: none"> ▶ None ▶ AIM code ID character (Refer to AIM Code ID - Code Characters) 	none

KEY REFERENCE TABLES

28-KEY KEYPAD



USE OF ALPHA (α) & SHIFT (↑)

Alpha Mode

Key	Alpha key pressed once	Alpha key pressed twice	Key	Shift key pressed once	Shift key pressed twice
1	sp	1	1	SP	SP
2	abc	2	2	Abc	ABC
3	def	3	3	Def	DEF
4	ghi	4	4	Ghi	GHI
5	jkl	5	5	Jkl	JKL
6	mno	6	6	Mno	MNO
7	pqrs	7	7	Pqrs	PQRS
8	tuv	8	8	Tuv	TUV
9	wxyz	9	9	Wxyz	WXYZ
0	+/	0	0	+/	+/
*	-\$	*	*	-\$	-\$
#	%.	#	#	%.	%.

USE OF FUNCTION (Fn)

Key	Function key pressed once
1	F1
2	F2
3	F3
4	F4
5	F5
6	F6
7	F7
8	F8
9	F9
0	F10