NLS-PT30

Portable (Barcode) Data Collector

User Guide

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Please carefully read the manual before use the product, and effectively to protect the safety of products operation. Please keep this manual after reading properly and save for the next reading.

Do not disassemble the terminal or tearing the seal label on the terminal. Otherwise, Fujian Newland Auto-ID Tech. Co., Ltd. does not assume responsibility for the warranty or replacement.

The pictures in this manual are for reference only. If the individual picture from the actual product was different with this manual, please refer to actual product. Regarding to the product modification and update, Newland Auto-ID Tech. Co., Ltd. reserves the right to make changes to any software or product to improve reliability, function, or design at any time without notice.

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Fujian Newland Auto-ID Tech. Co., Ltd
Newland Science & Technology Park, No.1 Rujiang West Rd., Mawei district, Fuzhou, Fujian, China
Web :http://www.nlscan.com

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Chapter 1 About This Guide

Introduction

This guide provides information about using the NLS-PT30.

Documentation Set

The documentation set for the NLS-PT30 provides information for specific user needs and includes:

- ***NLS-PT30 Series Quick Start Guide*** ： Describes how to get the NLS-PT30 Series up and running.
- ***NLS-PT30 Series User Guide*** ： This is the manual, Describes how to use the NLS-PT30 Series.
- ***API Software Development Manual*** ： Describes how to use API for application development.
- ***WinCE Software Utilities User Guide*** ： Describes how to use Newland's WinCE utilities software.

Specification

Performance		
Processor		Marvell XScale PXA310, 806MHz CPU
Operation System		Microsoft Windows CE.NET 6.0
Memory		256MB RAM
		128MB ROM for system area
		2GB flash memory for user storage
Interface		RS232, USB 2.0, support USB charge
Physical		
Dimensions (L x W x H)		189.5 x 76 x 45 mm (7.5 x 3 x 1.7 inch)
Weight		382g (Including battery)
Display		2.83” QVGA with backlight TFT Touch screen LCD, support sunlight readable
Keyboard		30 Keys Numeric with backlight
Notification		Vibrator, Speaker and LED
Battery	Main	3.7V, 3000mAh Rechargeable Li-Polymer battery
	Backup	3.7V, 150mAh Rechargeable Li-Polymer battery (support 50hours data backup)
Expansion		Micro SD memory slot
Power Adaptor		Output: DC 5V, ≥ 1.5A; Input: AC 100~240V, 50~60Hz 0.4A
Environmental		
Operation Temperature		-10℃ to 50℃
Storage Temperature		-20℃ to 60℃
Humidity		5% ~ 95% (non-condensing)
Drop		1.2 m drop to concrete
Environmental Sealing		IP54 sealing

Barcode /		
1D Barcode	**Laser (≥ 4 mil)**	Code128, EAN-13, EAN-8, Code-39, UPC-A, UPC-E, Codabar, Interleaved 2 of 5, ISBN/ISSN, Code 93, etc.
	CCD (≥ 4 mil)	
2D Barcode	**CMOS (≥ 5 mil)**	ALL 1D and PDF-417, QR Code, Data Matrix, Maxicode, Aztec, etc.
Wireless		
WLAN		Summit IEEE 802.11 b/g
Certificates		
FCC, CE, CCC		

Software Version

Firmware information query tool can detect and display terminal software and hardware version information and helpful future updates or maintenance.

The firmware information query tool can detect the information:

A. To determine the operation system version.

B. To determine the firmware version.

C. To determine the system configuration, production date and other information.

D. To determine the version of WIFI module, and WIFI MAC addresses.

E. To determine the type and version of barcode engine.

Tap "Start"→"Settings"→"Control Panel"→double clicks "Firmware Information".

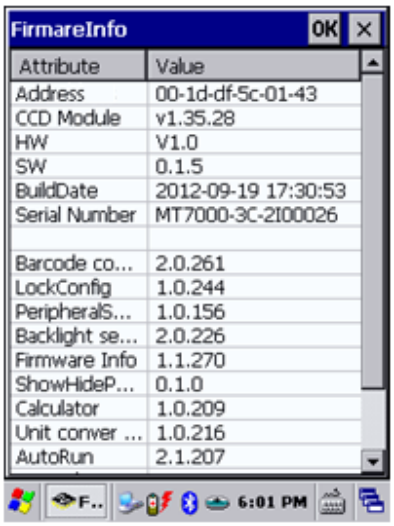


Figure 1.1: Firmware Information

Service Information

Newland China	
Phone	+86-400-608-0591
Email	sales@nlscan.com
Newland Europe	
Phone	+31(0)-345-870-033
Email	Info@newland-id.com
Newland Taiwan	
Phone	+886-2-7731-5388
Email	Info@newland-id.com.tw
Newland North America	
Phone	+1-510-490-3888
Email	Info@newlandna.com

Chapter 2 Getting Started

Introduction

This chapter lists the parts and accessories for the PT-30 Series and explains how to install and charge the batteries, and power on the PT-30 Series for the first time.

Unpacking

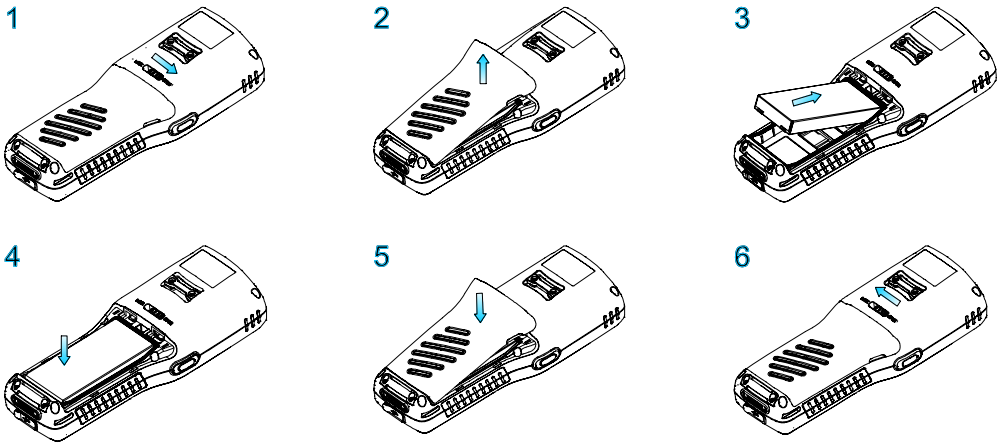
Carefully remove all protective material from the pack.

Verify that you received the following:

- ✧ PT30 Portable (Barcode) Data Collector
- ✧ USB cable
- ✧ AC adaptor
- ✧ Li-Polymer battery
- ✧ Tethered stylus
- ✧ Hand strap
- ✧ Quick Start Guide

Getting Started

Installing the Main Battery



1. Figure 1 indicates the direction to unlock the latch.
2. Figure 2 indicates the direction to take out the battery cover.
3. Follow the instructions of figure 3 and 4 to insert the battery.
4. Follow the instructions of figure 5 to close down the battery cover.
5. Push the latch to the lock position.

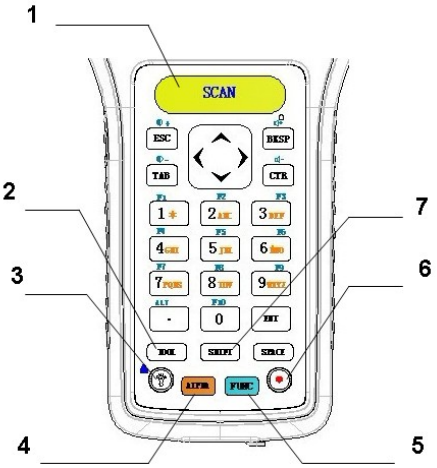
Charging the Battery

There are two ways to charge the battery:

- ✧ Charge the terminal battery via USB connection to PC. Charging time: around 8-10 hours.
- ✧ Charge the terminal battery via AC adaptor. Charging time: around 4 hours.
- ✧ Charge the terminal battery at least 8 hours before its first use.

  Charging indication: Charging: red LED; Fully Charged: green LED.

Keypads



1	SCAN key	Barcode reading button.
2	TOOL key	Pop-up shortcut menu, or perform shortcuts.
3	Backlight key	Open or close screen backlight
4	ALPHA key	Alpha or numeric input switching.
5	FUNC key	User defined application function keys.
6	Power key	To power on, sleep or wake up the terminal.
7	SHIFT key	To switching upper or lower case letters.

Power On, Suspend and Wake Up

- ✧ **Power On:**

  Long press the power button for 2-3 seconds to start the terminal.

- ✧ **Suspend:**

During terminal in power on status, long press the power button for 2 seconds to turn terminal into suspend mode immediately.

Terminal no operation in a period of time will go into suspend mode, when you turn on the auto suspend function.

The timer for automatically into suspend mode can be set by:

Tap "Start"→"Settings"→"ControlPanel"→double clicks "Power"→"schemes".

✧ **Wake Up:**

During terminal in suspended status, press power button to wake up the terminal.

Calibrating the Screen

The touch screen calibration tool is for setting accuracy of the touch screen.

Tap "Start"→"Settings"→"Control Panel"→ double clicks "Stylus"→"Calibration".

Click "Recalibrate" button then the screen becomes as shown in Figure 2.2.Carefully press and briefly hold the tip of stylus on the center of each target that appears on the screen. Repeat as the target moves around the screen then tap the screen to continue.

Figure 2.1: Calibration

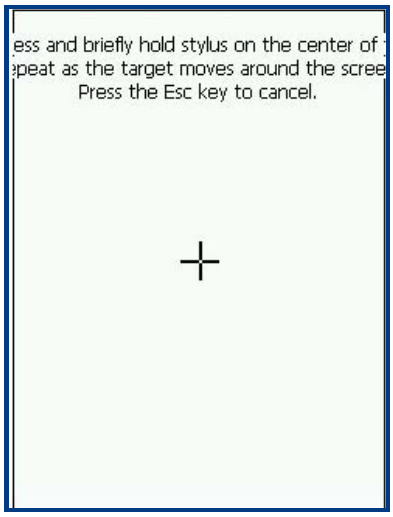


Figure 2.2: Recalibrate

Checking Battery Statues

To check the charge status of the main battery in the terminal.

Tap **"Start"→"Settings"→"System"→double clicks"Power"**.

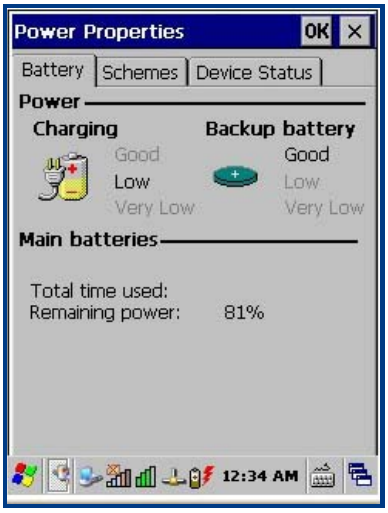


Figure 2.3: Power Properties

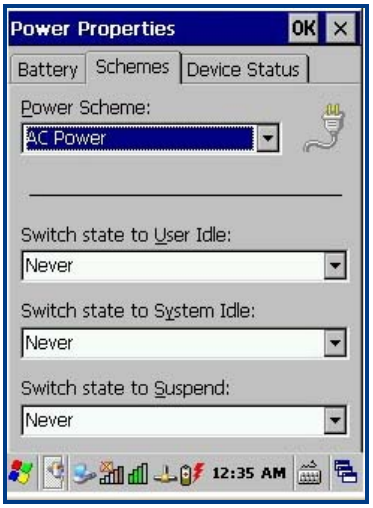


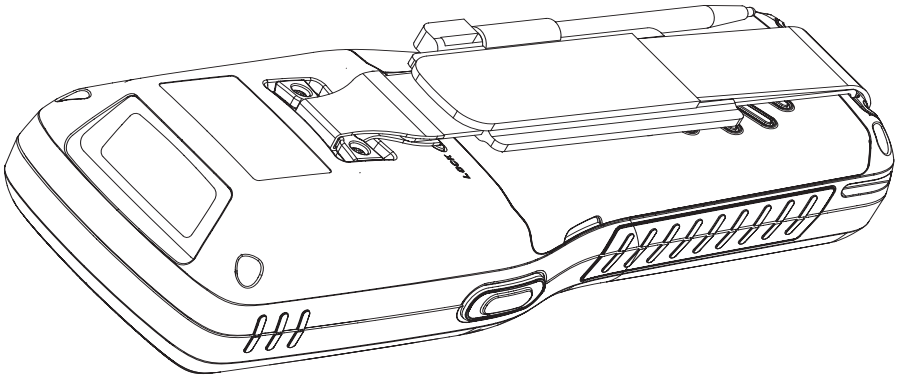
Figure 2.4: Power Properties - Schemes

Power schemes has four status; “Running”, “User Idle”, “System Idle” and “Suspend”:

- ✧ When user operates on the keypad or taps the touch screen, system is in the running state.
- ✧ In running state, within the time set in the operating conditions no any operation, system turn to the user idle state.
- ✧ In user idle state, within the time set in the operating conditions no any operation, system turn to the system idle state.
- ✧ In system idle state, within the time set in the operating conditions no any operation, system turn to suspend state.

Adjusting the Hand Strip

The PT-30 Series handstrap is attached to the bottom of the terminal. Adjust the hand strap to increase comfort when holding the terminal for extended periods of time.



Chapter 3 Using the PT-30 Series

Introduction

This chapter provides the detailed instructions for using and setting the PT-30 Series.

Figure 3.1: Desktop Icons

Status Icons

The status bar at the bottom of the screen can contain the status icons listed in Table 3.1

Table 3.1 Status Icons.

Icon	Description
	Lowercase input. In state of digital input, pressed ALPHA key.
	Uppercase input. In lowercase input state, pressed SHIFT key.
	Uppercase lock. In lowercase input state, double pressed SHIFT key.
	FUNC key pressed.
	IP information.
	USB connection status.

	Indicates battery charging.
	WiFi signal status.
20:04	Displays current time.
	Keyboard panel.
	Background running program selection window.

Programs Icon

Table 3.2 Software utilities icons.

Icon	Program Name	Description
Stylus	Stylus	For the touch screen calibration settings.
Light Setting	Light Setting	For the screen and keyboard backlight settings.
Peripheral Switch	Peripheral Switch	Used to offer power control function for peripheral module.
Calculator	Calculator	For numeric calculation.
UnitConver	UnitConver	Unit conversion tool.
Microsoft WordPad	Microsoft WordPad	Mocrosoft WordPad text editing tool.
LockConfig	LockConfig	To keyboard and touch screen lock or unlock tool.

Wi-Fi	Wi-Fi	WiFi communication management and configuration tool.
Barcode Setting	Barcode Setting	Barcode engine configuration tool.
Autorun	Autorun	Setting the programs and parameters which need to boot automatically.
SysBackup...	SysBackupRestore	Backup/Restore system registry, configuration and data in storage memory.
Firmware Information	Firmware Information	For checking the system firmware information and version.
Putty	Putty	For Telnet terminal emulation tool.
RegEdit	RegEdit	System registry editing tool.
uEasyFileCE	uEasyFileCE	Bluetooth file transfer utility.

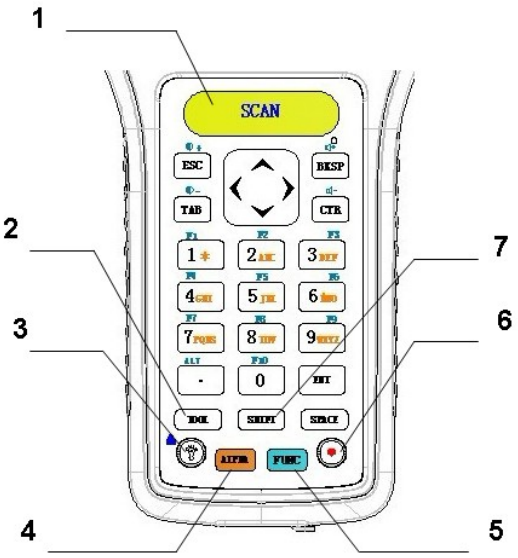
Setting Programs Icon

Icon	Description
Volume & Sounds	System volume adjuster.

Internet Options	Internet options setting tool.
PC Connection	Enable/Disable connects with host PC.
Storage Manager	Memory storage management and configuration.
Power	Battery and devices power status and system power schemes settings.
Password	Password attributes (power on password and screen saver password) settings.
Date/Time	System date, time and time zone settings.
Regional Settings	Region, language and input method settings.
Dialing	Dialing configuration.
Remove Programs	To remove programs that installed on the terminal.
Input Panel	Input panel setting.
Owner	Owner properties setting.

Network and Dial-up Co...	Network connects configuration.
System	System information.
Display	Screen display interface and backlight configuration.
Certificates	View the information about certificates installed on the terminal.

Keypads



1	SCAN key	Barcode reading button.
2	TOOL key	Pop-up shortcut menu, or perform shortcuts.
3	Backlight key	Open or close screen backlight
4	ALPHA key	Alpha or numeric input switching.

5	FUNC key	User defined application function keys.
6	Power key	To power on, sleep or wake up the terminal.
7	SHIFT key	To switching upper or lower case letters.

Numeric Keypad input mode

	On ALPHA key locked state				On ALPHA + SHIFT keylocked state			
Numeric Key	1st	2nd	3rd	4th	1st	2nd	3rd	4th
1	*							
2	a	b	c		A	B	C	
3	d	e	f		D	E	F	
4	g	h	i		G	H	I	
5	j	k	l		J	K	L	
6	m	n	o		M	N	O	
7	p	q	r	s	P	Q	R	S
8	t	u	v		T	U	V	
9	w	x	y	Z	W	X	Y	Z

Function Keys Introduction

- ✧ FUNN key + Backlight key: Lock/ Unlock function.
  This locking function only work for one time then turn to unlock state automatically.
- ✧ ALPHA and FUNC key is an independent processing, operation will not overwrite each other.
- ✧ The SHIFT key is only works on the ALPHA key be pressed.
- ✧ ALPHA and SHIFT key combination types:
  - The keyboard is in lowercase input state when the SHIFT key is not pressed. The status bar display lowercase icon.
  - The SHIFT key pressed once. Status bar display uppercase icon and turn back to lowercase icon after pressed any alpha key.If the pressed key is not an alpha key, to give up the SHIFT operation back to lowercase state.
  - Double pressed the SHIFT key (within 0.5 seconds) turn to uppercase input state, statues bar display uppercase icon. Pressed the SHIFT key again would turn back to lowercase state.
- ✧ Long pressed or double pressed the TOOL key could popup the shortcut window.
- ✧ Pressed the TOOL key + a number key, run the corresponding program.

Stylus

Use the PT30 Series stylus to select items and enter information. The stylus functions as a mouse.

- ✧ Tap : Touch the screen once with the stylus to select the menu item.
- ✧ Tap and Hold : Tap and hold the stylus on an item to see a list of actions available for that item.
- ✧ Drag : Hold the stylus on the screen and drag across the screen to select text. Drag in a list to select multiple items.

CAUTION: To prevent damage to the screen, do not use any device other than the Newlandprovided stylus.

Adjust Volume

Adjust the system volume using the tool program

:ontrol panel

Tap "Start"→"Setting"→"ControlPanel"→double click "Volume & Sounds"

Click and move the slider to adjust the volume on "Volume and Sounds" dialog box.

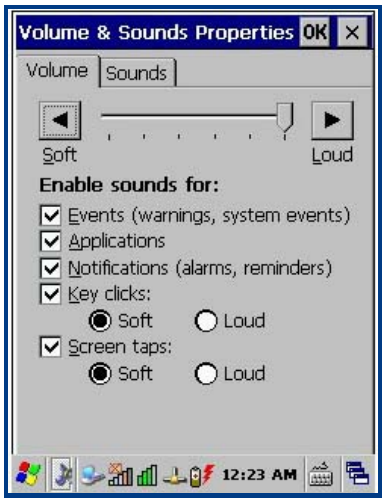


Figure 3.2: Volume

Figure 3.3: Sounds

Change Backlight Settings

Use Light Setting program you can set the screen and keyboard backlight. Screen backlight has normal mode and low-power mode. Use this tool can also be set according to the different needs of the backlight brightness and auto-off timer.

Tap "Start"→"Settings"→"ControlPanel"→double click "Light Setting" as

icon.

- ✧ **Screen backlight setting:**
  - **Normal Mode:**
    The backlight brightness can be set from 0-10 grade. You can drag the selected bar or click the up or down arrow to set the grade. Touch the screen or press any key will activate the backlight.
  - **Low-power Mode:**
    Low-power mode backlight brightness level can be set from 0 to the grade of normal mode.
  - **Switch Timer**

Set after how many seconds if there is no touch the screen or keyboard press, the backlight automatically turn into low-power mode.

✧ **Keyboard backlight setting:**

Set after how many seconds if there is no keyboard press, the backlight turn off automatically

When you no press any key in a period of time, the keyboard backlight will turn off automatically.

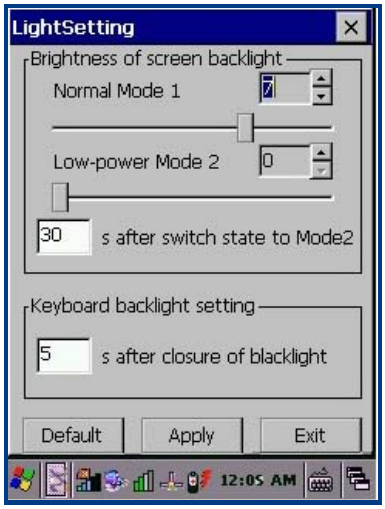


Figure 3.6: Backlight setting

Memory storage management

"Storage Manager" is a tool for manage the memory.

Actions mode:

✧ Format : Format the selected memory, the data in memory will be destroyed after memory formatted.

✧ Dismount : Dismount the selected memory.

✧ New Partitions : Create a new partition in selected memory.

✧ Delete Partitions : Delete a exist partition in selected memory.

Caution: The memory configuration changes will destroy all the data in memory, please contact with technical staff before change.

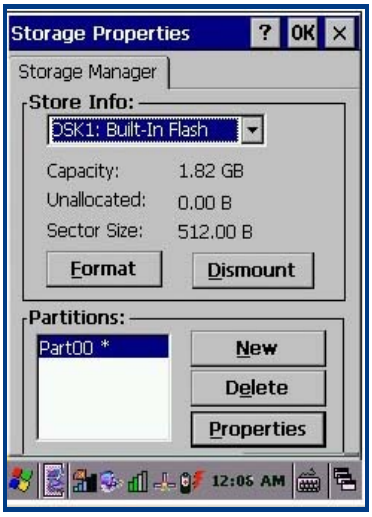


Figure 3.7: Memory Configuration

Resetting the PT30

Warm reset:

Press the reset button to warm reset the terminal. It will take around 6-10 seconds to restart the system. User data in memory will not to destroy.

Cold reset:

Cold reset the terminal by hold the power key and pressed reset button and release the power key when screen redisplay. It will take around 16-20 seconds system reloading and start again.

Terminal will restart in factory default setting. User data in memory will destroy. You can use backup/restore tool to process your data.

Notice：The battery cover must be closed before execute reset function, otherwise the terminal will turn into suspend mode.

Locking the PT30

Use the device lock feature to prevent use of the device.

Tap“Start”→“Settings”→“ControlPanel”→double click “LockConfig”

con.

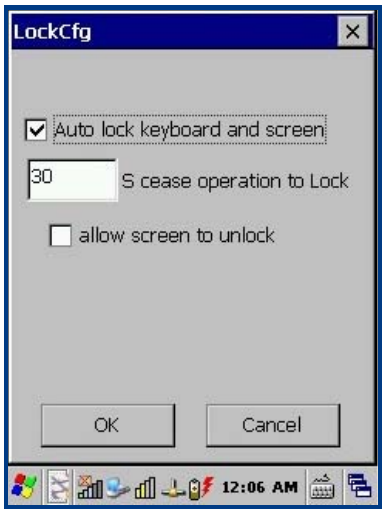


图 3.8: Lock configuration

Below status you can lock the keyboard and touch screen.

A. Terminal not operation in a period of time or by FUNC key + backlight button.

B. Pressed screen unlock button to unlock your terminal.

Figure 3.9: Lock state

Figure 3.10: Unlock state

Barcode Settings

Barcode engine parameter configuration

Tap“Start”→“Settings”→“ControlPanel”→double click “Barcode Settings”

con.

Barcode Setting program include Normal setting, Barcode setting and Test three select pages.

A. Normal Setting:

- ✧ Output Setting:
  - Output via API : Use program API libraries control to get the barcode data.
  - Output via keyboard : Output the barcode data to keyboard buffer to simulate keyboard input.
  - Output via clipboard : Output the barcode data to clipboard.
- ✧ Decode Mode Setting:
  - Decode Mode:
    - ➢ One time read mode : Press key start to scanning barcode, and released key to stop scanning.
    - ➢ Start scan by key press : Press key start to scanning barcode until read success or time out to stop scanning.
    - ➢ Continue read mode : Continue scanning barcode until change the reading mode.
    - ➢ Read control by API : Start or stop scanning barcode by API software control.
  - Time Out:

    Setting the timer of time out for scanning barcode, default value is 4000ms.
- ✧ Prefix and Suffix Setting:
  - Provided the barcode reading result plus prefix or suffix function.
- ✧ Trigger button Config:
  - Enable/Disable the trigger key.
  - Press “start set” button to disable the trigger key or press a trigger key to set a new one.
- ✧ Decode Tips:
  - Select the indicate method for reading success.

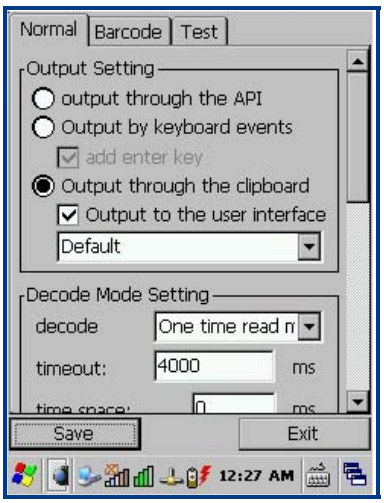


Figure 3.11: Normal setting 1

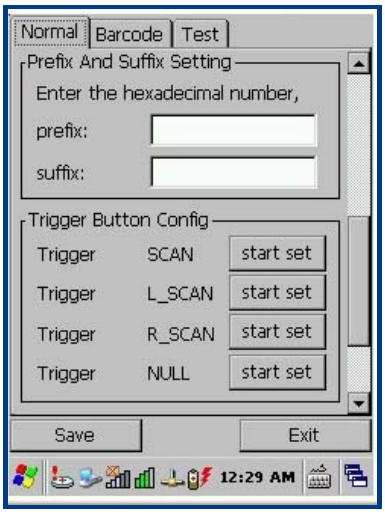


Figure 3.12: Normal setting 2

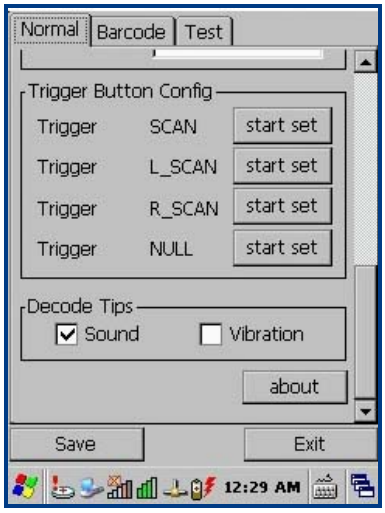


Figure 3.13: Norma setting 3

B. Barcode Setting:

Depend on the mode of your terminal, barcode setting page will display difference setting item.

✧ 1D Barcode configuration:（Laser/CCD）

- Each type of 1D barcode enables or disables.
- Each type of 1D barcode detail configuration.

✧ 2D Barcode configuration:（CMOS）

- Each type of 2D barcode enables or disables.
- Each type of 2D barcode detail configuration.

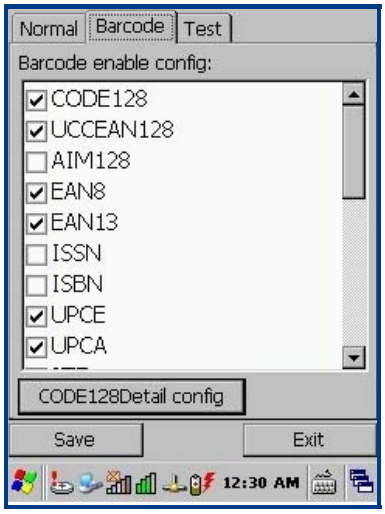


Figure 3.14: Barcode configuration

Figure 3.15: Barcode detail setting

C. Barcode Testing

Tap “Test” selection to display the below figure to test the barcode reading.

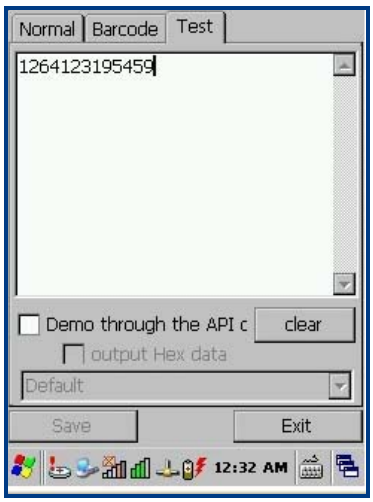
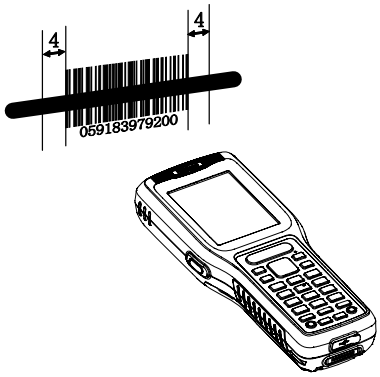


Figure 3.16: Barcode test

Reading 1D barcode

Adjust the terminal barcode reading angle or the distance between barcode with terminal.Let the width of the scan line appropriately larger than the width of the barcode (about 4mm), in order to get the best reading.



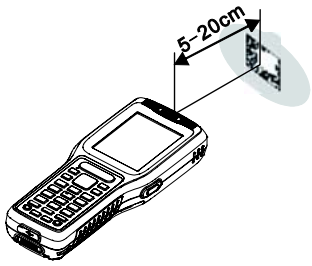
Right and wrong way of reading:

Reading 2D barcode

The best reading distance and angle:

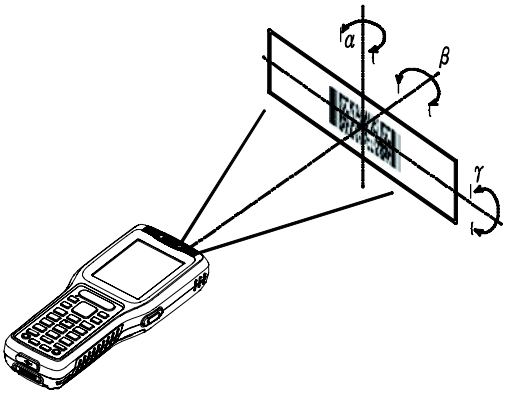
A. Adjust the terminal focus lights aiming to the center of 2D barcode.

B. Adjust the reading distance between the terminal with barcode around 5-20 cm.



C. Adjust the reading angle:

- The relative pitch angle (the α) with barcode and terminal is less than 45 degrees (0 is the best)
- The relative skew angle (the γ) with barcode and terminal is less than 45 degrees (5~20 is the best)
- The relative roll angle (the β) with barcode and terminal can be any angles (0~360 degrees).



Chapter 4 Using WiFi Communication

A. Main Window

The Main window provides an overview of the current wireless network connection configuration (Active Profile)

The following image (in Figure 5.1) is the SCU Main windows for Windows CE.

Figure 5.1: SCU Main Window

Enable Radio/Disable Radio

When the radio is enabled, select this button (which displays Disable Radio) to disable it. When the radio is disabled, select the same button (which now displays Enable Radio) to enable it. When disabled, the radio does not attempt to make a connection to an access point.

Active Profile

To displays the name of the active profile. Use the drop-down menu to select a different profile.

Note: If ThirdPartyConfig is selected (and after the device goes through a power cycle), WZC (Windows Zero Configuration) or another application is used to configure the SSID, Auth Type, EAP Type, and Encryption settings.

Status

To indicates the current status of the Summit radio. Connection statuses include:

- ✧ Down - The radio is not recognized by Summit software and therefore is not associated and nor authenticated.
- ✧ Disabled - The radio is disabled. To enable the radio, tap Enable Radio located on the SCU Main window. When the radio is disabled, it does not attempt to make a connection to an access point.
- ✧ Not Associated - The radio has not established a connection to an access point.
- ✧ Associated - The radio has established a connection to an access point.

If the radio Encryption type is set to WEP or a pre-shared key (WPA-PSK or WPA2-PSK), it should now be capable of obtaining an IP address (either statically assigned or through DHCP) and passing traffic.

If the radio Encryption type requires EAP authentication then an EAP Type must be properly configured in order for the device to obtain an IP address and be capable of passing traffic.

<EAP type> Authenticated - The radio has established a connection to an access point and has completed EAP authentication successfully.

Radio Type

Indicates the type of radio installed in the device. For example:

✧ BG - Indicates a Summit 802.11g radio which supports 802.11b and 802.11g.

B. Profile Window

Profile settings are radio and security settings that are stored for each configuration profile. When a profile is selected as the active profile on the Main window, the settings for that profile become active.

Notes: When the ThirdPartyConfig profile is selected, a power cycle must be performed.

The following image (in Figure 5.2)is the SCU Profile windows for Windows CE

Figure 5.2: SCU Profile Window

Profile changes are not saved to the profile until you tap Commit.

Using Scan to Create a Profile

When you tap Scan on the Profile window, SCU displays a list of that are broadcasting their SSIDs. Figure 5.3 below is an example of a Scan window.

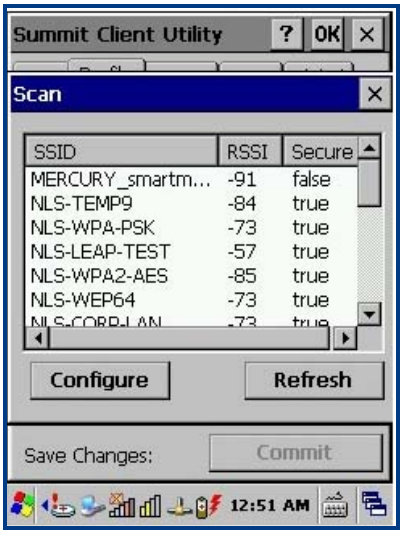


Figure 5.3: Scan Window

Each row shows an AP's SSID, its received signal strength indication (RSSI), and whether or not data encryption is in use (true or false). You can sort the list by tapping on the column headers. If the scan finds more than one AP with the same SSID, the list displays the AP with the strongest RSSI and the least security. Every five seconds, the Scan window updates the RSSI value for each of the APs in the list. To scan for new APs and view an updated list, tap Refresh.

If you are authorized as an administrator in SCU, you can create a profile for any SSID in the list. To create a profile, double-tap the row for the SSID; or tap the row and then tap Configure

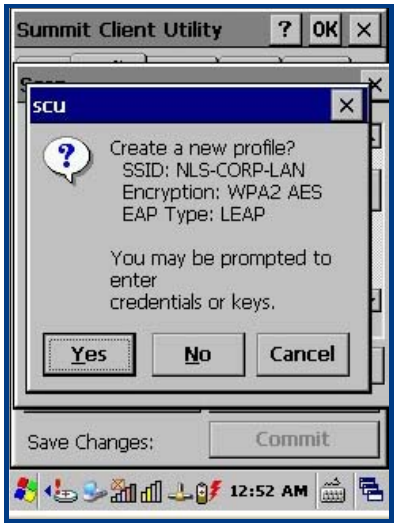


Figure 5.4: Scan Window

If you tap Yes on the dialog box, then SCU creates a profile for that SSID, with the profile name being the same as the SSID (or the SSID with a suffix such as "_1" if a profile with the SSID as its name exists already). If the AP is using WEP, then SCU opens a dialog box in which you can specify WEP keys. If the AP is using EAP, then SCU opens a dialog box in which you can specify login credentials for the EAP type (which SCU assumes is LEAP). After you enter information on a dialog box, you return to the SCU Profile window, where you can view and edit profile settings. If you make any changes, then you must tap Commit to save the changes.

C. Status Window

The Status window provides status information on the radio connection between the client device and the access point to which it's associated.

The following image is the SCU Status windows for Windows CE.

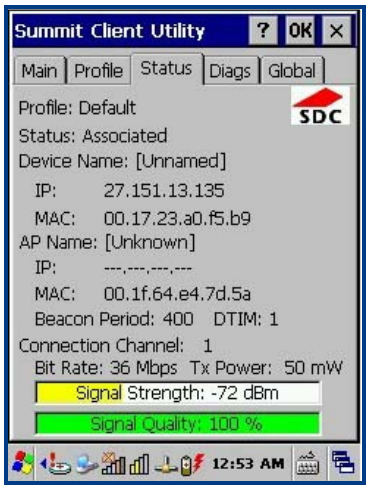


Figure 5.5: Status Window

D. Diags Windows

The Diagswindows enables you to troubleshoot connection issues with SCU. The following image is the SCU Diags windows for Windows CE.

Figure 5.6:Diags window

(Re)connect

Initiate a reconnect of the radio: Disable and enable the radio, apply (or reapply) the current profile, attempt to associate to the wireless LAN, and attempt to authenticate to the wireless LAN.

Release/Renew

Obtain a new IP address through DHCP release/renew.

Start Ping/Stop Ping

Start a continuous ping to the address in the edit box next to the button. Once the button is tapped, its name and function changes to Stop Ping. Pings continue until you tap Stop Ping, move to a different SCU window (other than Diags or Status), exit SCU, or

remove the radio.

E. Global Window

Global settings include radio and security settings that apply to all profiles and settings that apply to SCU itself. An administrator can define and change most global settings on the Global window in SCU.

The following image is the SCU Global windows for Windows CE

Figure 5.7: Global window

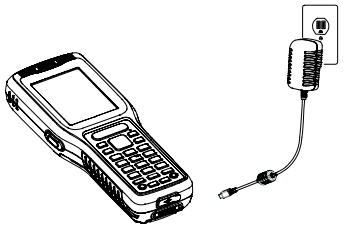
Chapter 5 Accessories

Battery

Terminal battery capacity too low will cause the terminal malfunction. Please charge the battery at less than 8 hours for sure the main battery and backup battery capacity was in full charge states.

Charging

Use AC adaptor charging



LED charging indicator

Red light long bright : During charge.

Green light long bright : Charge complete.

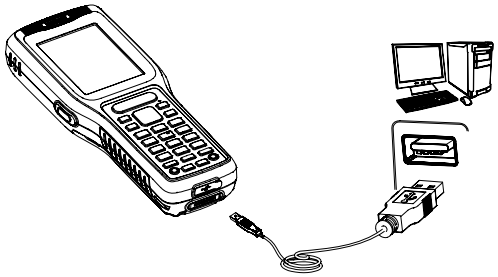
LED indicator for Scanning/Decoding/Communication

Red light bright : During scan barcode.

Green light bright : Success decoded barcode.

Blue light flash : Communication module (BT/WIFI/GPRS/3G)during communication.

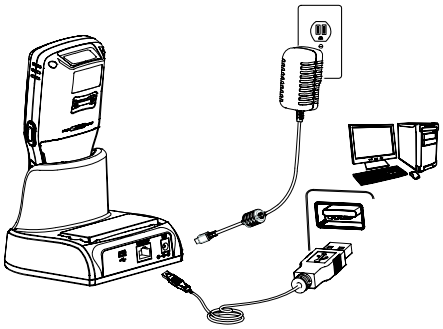
Connect Host PC via USB cable



1. Open the USB port cover which is located in bottom of PT30.
2. Plug in USB cable connector to PT30 USB port and the other sides of cable connect to host PC.

Notice: Please make sure the host PC already installed Microsoft ActiveSync before connection.

Connect Host PC via Cradle



1. Put the PT30 into cradle.
2. Plug in USB cable connector to cradle USB port and the other sides of cable connect to host PC.

Notice: Please make sure the host PC already installed Microsoft ActiveSync before connection.

Chapter 6 Maintenance& Troubleshooting

Introduction

This chapter includes considerations on operation and battery charging, and provides troubleshooting solutions for potential problems during the terminal operation.

Considerations on using PT30

Disassembly and modification

Please do not attempt to disassemble or modify the terminal, if cause the damage to the terminal, Newland does not assume warranty responsibility.

Connect power source

Please use the terminal original power adapter otherwise there is a risk of damage to the terminal.

Abnormal situation

Leave far away from fire source during battery charging. Turn off the power when you found abnormal odor, overheating or smoke situation and contact Newland service center, there is a risk of fire if continue charge.

Drop Damage

If the terminal caused the damage because drop down. Please turn off the power and contact with Newland service center for help.

LCD Display

Do not stress or impact LCD screen, it may cause the broken glass of the LCD panel. If the glass of the LCD panel is broken, please do not touch the liquid, for fear to cause skin burns or infection.

Stacking heavy objects

Do not place heavy objects stacked on the terminal in order to avoid heavy objects lose balance and fall over cause injury.

Placed location

Do not placed the terminal in unstable, too moisture or dust places. It may cause to fire or electric shock, and also do not placed in direct sunlight for a long time.

Use occasion

Due to the terminal wireless module electromagnetic waves radiation will affect some instruments, so in the particular occasion that prohibited to use the wireless devices, such as aircraft, gas stations. Please do not use the wireless terminal in these occasions.

Caution

- ✧ If the terminal lost power or abnormal cause can not boot up, try a hardware reset to start it, the method is to press the reset button with needles. The location of reset button, please refer to the related chapter.
- ✧ Please do not throw or drop the terminal to avoid the LCD screen is damaged or cause the program interrupt execution to make the memory data loss, or other consequences of affecting the normal operation.
- ✧ Clean the reading window periodically. Do not touch the transparent glass of the scanning window to avoid scratch or stain glass affecting reading performance.
- ✧ Please do not use sharp objects to touch the screen, it may cause the screen is damaged or the internal short circuit.
- ✧ Please use a soft and dry cloth to wipe the terminal, and do not use a damp cloth, benzene, thinner or other volatile chemicals to avoid the terminal keyboard and shell variant of aging.
- ✧ Do not let the terminal face down in order to avoid the keyboard disoperation.
- ✧ The environment temperature great change will lead to the terminal surface condensation, please dry the terminal before use.
- ✧ Adapter shall be installed near the equipment and shall be easily accessible. The plug considered as disconnect device of adapter. The power adapter shall be considered as safety approval by CE(Adapter AC input: 100-240V~, 50/60Hz 0.4A; Output: 5Vdc/1.5A
  Manufacturer of Adapter: Guande Technology Co., Ltd. Model No.: KSAS0100500150D5)
- ✧ The antenna(WIFI) is installed with 20 cm maintained between the antenna and users.
- ✧ Extreme Temperature: -20~+45

Battery safety guidelines

- ✧ Battery in fire will cause an explosion.
- ✧ Battery can charge and discharge at least more than 500 times. Please renew the battery when the battery noticeably in shorter battery life.
- ✧ Using the battery only provided from Newland, and also use the power adapter only provided from Newland to charge the battery.
- ✧ Please unplugged the adapter when battery was fully charged, and do not continue to charge the battery. Since overcharging may shorten battery life. A fully charged battery is left unused, the battery will gradually discharge. It will not cause any abnormal states.
- ✧ Do not use the damage or abnormal battery or adaptor already.
- ✧ Please correctly collect and dispose of the battery and do not dispose the battery as general garbage.

Troubleshooting

Problem		Cause & Solution
Type	Description	
Keyboard	Keyboard malfunction or wrong character display.	May be the keyboard components damage or cable loose contact between with mainboard socket. Please contact Newland maintenance or after service center.
Battery	Battery indicator doesn't light when charging.	Check the adapter plugged in power outlet or contact with the terminal is well or not.
	Battery noticeably in short battery life.	● Check the battery whether is fully charged or malfunction. ● Replace a battery if the battery is malfunction.
	Battery is depleted.	Replace the battery.
USB	USB cannot communication.	● Make sure the communication cable is plugged in well. ● Make sure the connector or port whether is obstruction. If there is no above situation, it may be the components failure, please contact the maintenance or after service center.
LCD Screen	Cannot see characters on display.	● Check the terminal whether is powered on. ● Check the terminal whether is in suspended mode. Wake up the terminal first if yes. ● Check the battery whether is in low states. Recharging the battery if yes. ● Check the battery whether is poor contact. Reload the battery if yes. ● Check the battery whether is depleted. Replace the battery if yes. If there is no above situation, it may be the components failure, please contact the maintenance or after service center.
System	Does not power on.	● Battery is in too low states may cause cannot turn on. Charging the battery over 8 hours then try again. ● Replaced a battery if the battery was damage. If there is no above situation, it may be the components failure, please contact the maintenance or after service center.
	System crash.	● Possible the user application to cause the terminal crashes, please check your application whether is safe. ● May be the terminal accidental power down, please use the needles to reset the terminal. ● If reset does not work, try use cold reset to reboot the system.

FCC Warning:

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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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.

Hereby, Fujian Newland Auto-ID Tech Co., Ltd., declares that this Radio-Frequency peripheral is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.