

User's Manual

Handheld Terminal



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Preface

About This Manual

Thank you for your purchase of the ZEBEX Z-217X Plus Handheld Terminal. ZEBEX Z-217X Plus is at the forefront of handheld terminal technology, and this manual will provide the necessary information on the many and varied options available to you.

The Z-217X Plus is a compact, ergonomic, modular and durable handheld terminal. It is designed for easy upgrade with an integrated WiFi wireless communication, 1D barcode scanner and 2D Imager, solution. The design is complies with IP54 regulations and ideal for the mobile worker as it simple and easy to use anywhere along a supply chain.

Symbols used in this manual



A triangular shape indicates you should exercise caution.



A circle shape indicates something you should not to do.



A black circle indicates something you must to do.



A note symbol indicates the information is important and you should observe.

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Safety Information

Your safety is of the utmost importance so please observe and follow the following guidelines that allow you to use the scanner in a safe and responsible way.

Laser Safety

The Z-217X Plus handheld terminal complies with safety standard IEC825-1(1993) for a Class 2 laser product. It also complies with U.S.21CFR1040 as applicable to a Class II laser product. Avoid staring at direct laser light as the laser beam may hurt your eyes.



LASER BEAM

Never look directly into the laser beam. Doing so can cause eye damage.

Safety Operation

WARNING



Disassembly and Modification

Never try to disassemble or modify the device in any way. All servicing should be carried out by qualified Zebex personnel or Zebex- approved engineers.



Interior Parts and Components

Never touch interior high voltage parts or components. Doing so creates the danger of electrical shock.



Drop and Knock the Device

Be careful when using the device; do not drop or knock the device as irreversible damage to the unit may occur.



Extreme temperature

Do not operate the device under extreme temperature.



Battery and Charger

The use of third-party battery or charger may either damage the device or shorten the life of the device.

CAUTION



Dropping and Damage

Should the device be dropped and damaged, immediately turn off the power and contact your original dealer or an authorized ZEBEX service provider. Continued use creates the danger of fire and electrical shock.



Abnormal Conditions

Should the device become hot or start to emit smoke or an original dealer or an authorized ZEBEX service provider. Continued use creates the danger of fire and electrical shock.



Foreign Objects

Should any foreign matter ever get into the device, immediately turn off the power and contact your original dealer or an authorized ZEBEX service provider. Continued use creates the danger of fire and electrical shock.

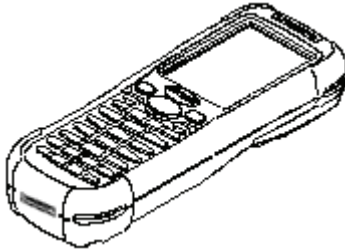


Moisture

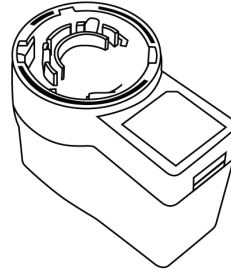
Keep the device away from vases, planters, cups, glasses and other containers of liquid. Also keep it away from metal. Water and metal getting into the device creates the danger of fire and electrical shock.

Unpacking

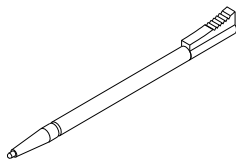
Package Contents



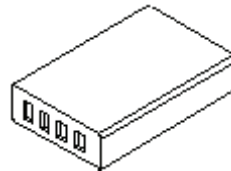
Handheld Terminal



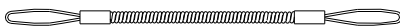
Power Adapter
Selection Type: North
America/Japan/Taiwan/Europe



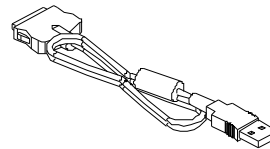
Stylus Pen



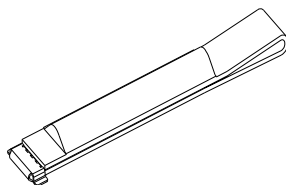
Battery Pack



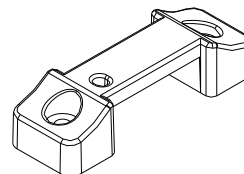
Sling (for stylus Pen)



USB Cable
(Device to PC)



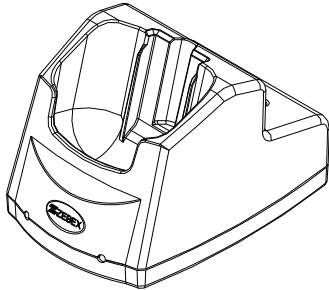
Hand Strip



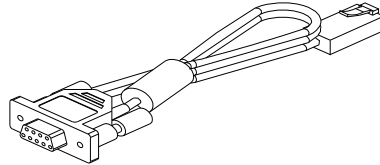
Hand strip Holder

Optional Parts

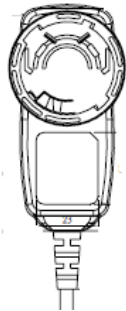
Cradle package



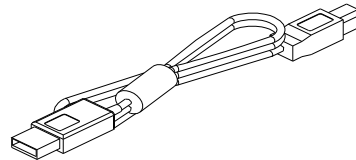
Docking Cradle
(Connect from cradle to PC)



RS232 Cable

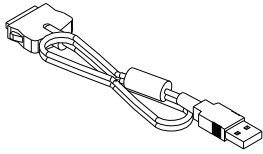


Power Adapter
Selection Type: North
America/Japan/Taiwan/Europe

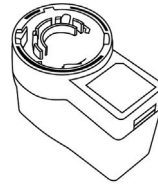


USB cable
(From Cradle to PC USB port)

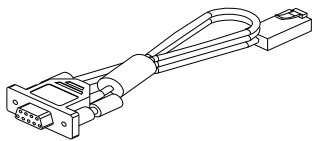
Purchaseable accessories



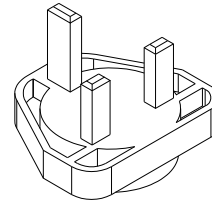
USB Cable
(Terminal connect to PC USB port)



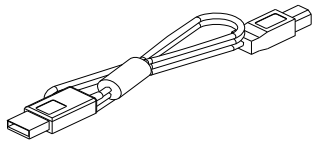
Power Adapter



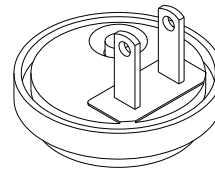
RS232 Cable



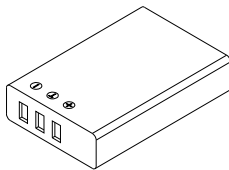
Britain Plug head



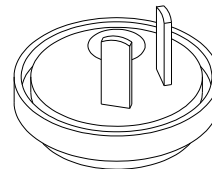
USB cable
(From Cradle to PC USB port)



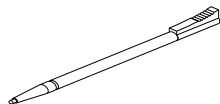
U.S. Plug head



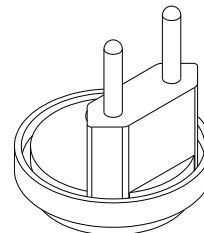
Main Battery



Australia Plug head

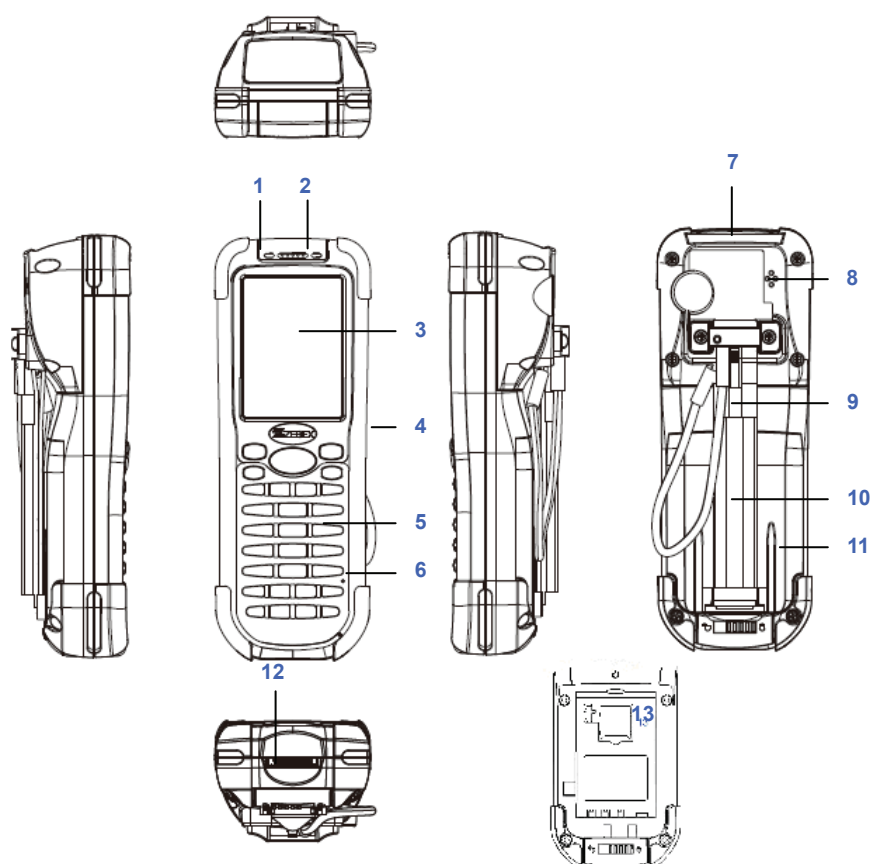


Stylus Pen

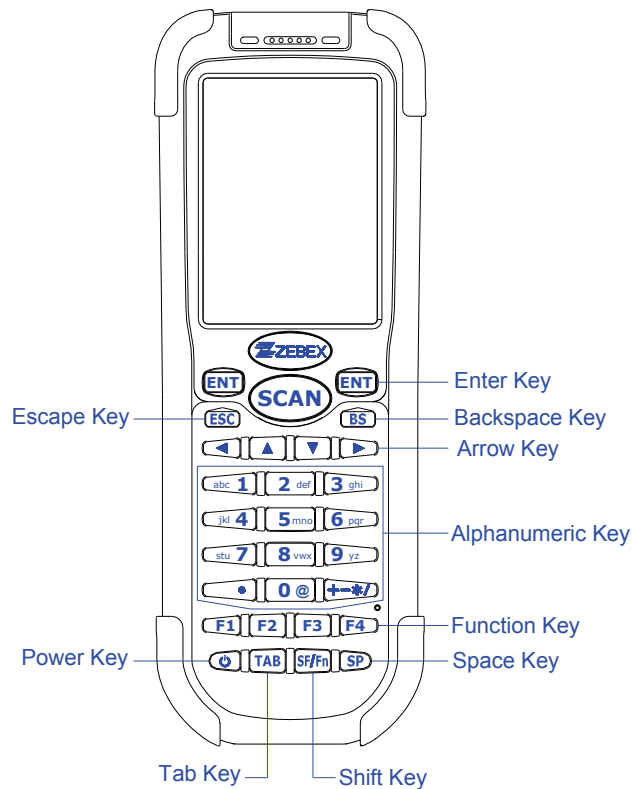


Europe Plug head


General Guide



1	LED indicator	Indicates the status of battery charge : Red for battery charging and Green for full.
2	LED indicator	Indicates the status of read barcode : Green for successful read.
3	LCD screen	Display various data when a program is being run.
4	Scan button	The trigger of barcode reading.
5	Keypad	A total of 29 keys are provided to the power and other function keys.
6	Reset switch (inside the hole)	Use reset needle (take off the other side of stylus pen cover) to press the RESET switch located inside the
7	Scan windows	Emits a laser for barcode reading.
8	Buzzer	Outputs operation confirmation tones.
9	Stylus pen	For touch screen operation and needle for press RESET switch.
10	Hand strip	Protects the Handheld Terminal from dropping.
11	Battery	Main battery
12	Communication port	Connect to cradle for communication or charging
13	Memory Expansion Slot	MicroSD expansion slot



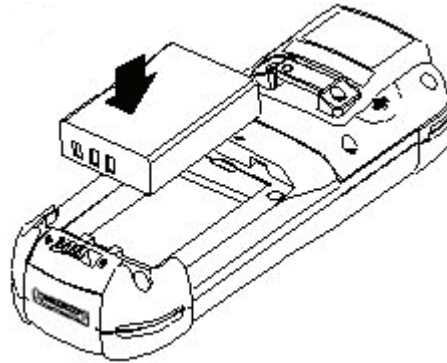
Using the Keypad

ENT	Enter key	Press to confirm entries or commands.
BS	Backspace key	Press to move cursor and deletes the previous character each time.
Arrow	Arrow keys	Press these to move around the screen.
0-9	Alphanumeric keypad	Press to enter numerical or alphabetical data.
F1-F4	Function keys	Press to access function keys 1-4.
SP	Space key	Press to add a space character.
SF/Fn	Shift key	<p>The key is used in combination with other keys to type special characters or perform other function keys.</p> <ol style="list-style-type: none"> 1. Press after SF/Fn key and press Up key to turn the input method into upper alphabetical. 2. Press after SF/Fn key and press Down key to turn the input method into lower alphabetical. 3. Press after SF/Fn key and press Left or Right key to turn the input method into numerical. 4. Press after SF/Fn key and press F1-F4 key to
TAB	Tab key	Press to add a tab indention.
	Power	<ol style="list-style-type: none"> 1. Press to turn the power on 2. Press to turn the power off and go into the suspend mode.
ESC	Escape key	Press to perform a cancel action.

Getting Started

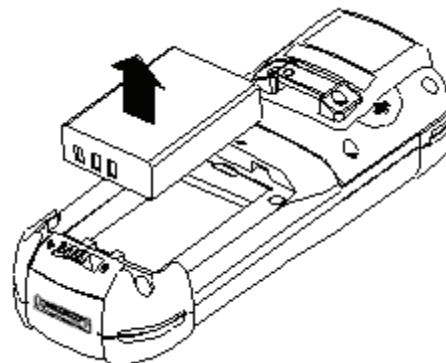
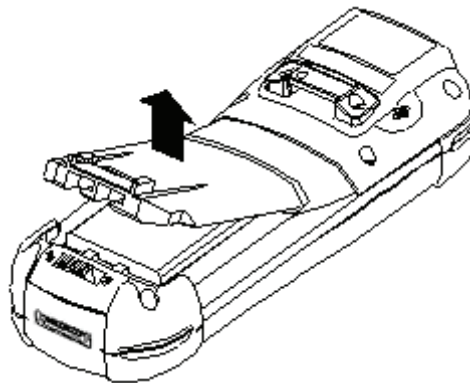
Inserting the Battery

Insert the battery pack as shown and make sure it is aligned correctly.



Remove the Battery

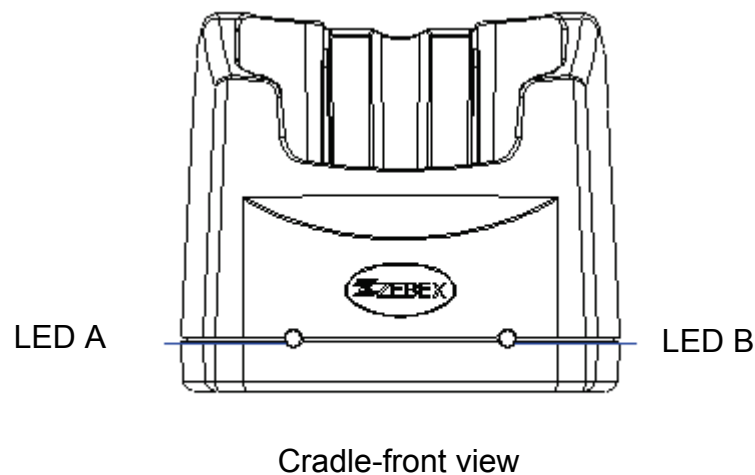
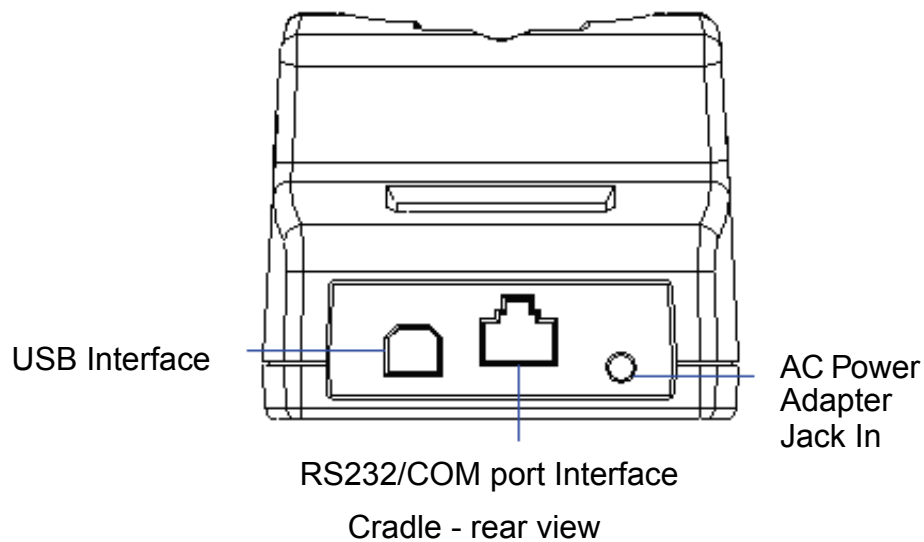
Push the side lock to unlock the lid and remove the battery pack.



Charging the Battery

The Li-ion rechargeable battery can be charged while inserted in the recharging slot of the cradle.

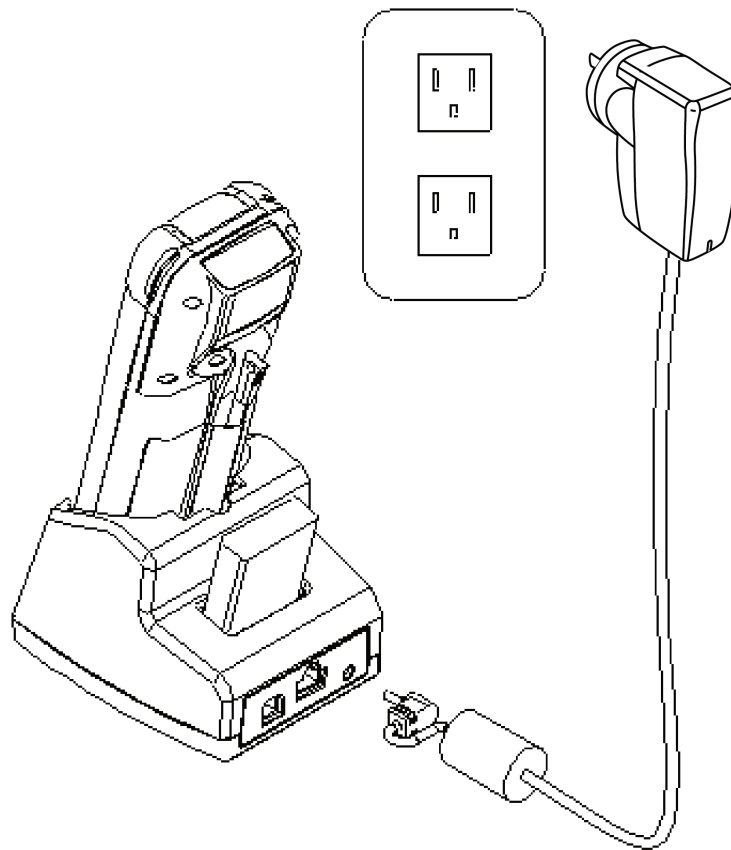
Charging by cradle



Cradle LEDs

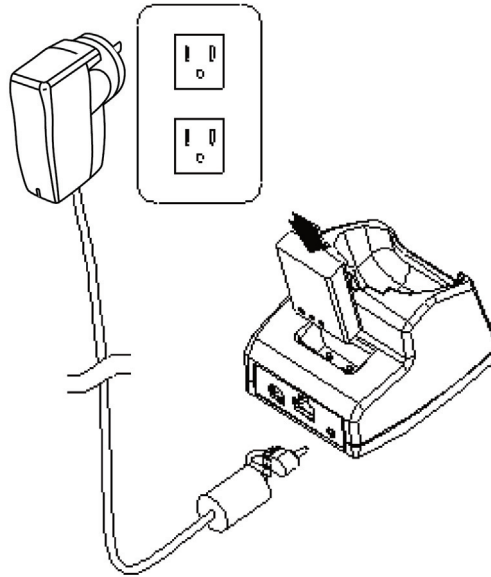
LED A - The LED lit when the cradle is connected to AC power.

LED B - The LED lit when a battery is inserted into the rear battery slot of the cradle for recharge. It remains lit until the charge is complete.



Charging the battery in the cradle

Insert the battery into the compartment at the rear of the cradle.

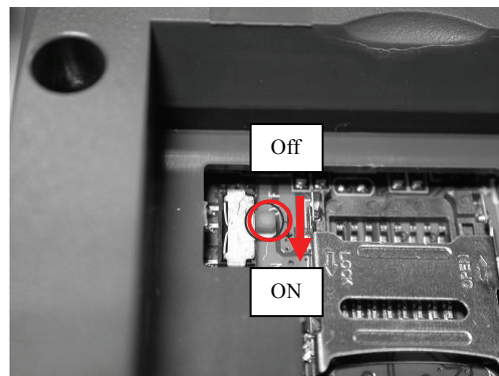


Connect the power jack to the cradle and plug AC adapter into the socket.



NOTES

- When charging the battery for the first time, charge for at least 12 hours prior to use.
- When charging the battery for the first time, be sure to turn the switch to the ON position as illustrated below to turn on the backup battery and avoid the low battery message on the screen.

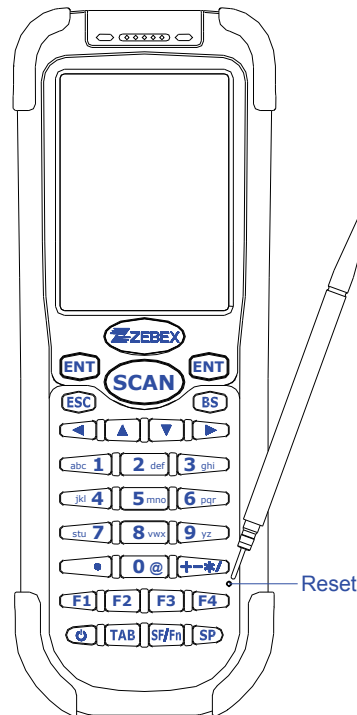


System Reset

Using the Warm reset function

Warm reset function allows you to return the device to the default settings, while not wiping all data from the memory.

Insert the needle into the reset hole as shown and press down gently, to reset the device.



Using the Cold reset function

Cool reset function allows you to return the device to the factory settings, while wiping all data from the memory.

Press down and hold the power key for 8 seconds to cold reset the device.



WARNING

Cold reset will erase ALL pre-configured data on the scanner. Check carefully to make sure you have uploaded all important files to your PC before proceeding with the reset.

PC System Requirements

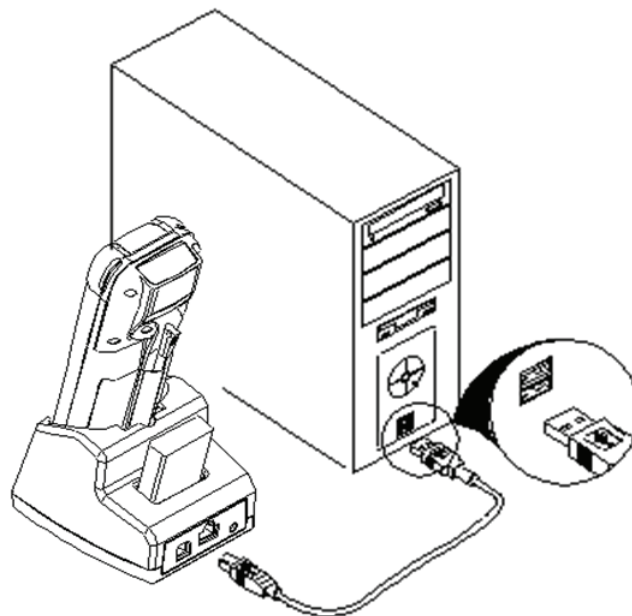
Windows XP Operating System
256 MB RAM
2 GB free HDD space
USB ports communication Interface
WLAN transmitter (optional)
Bluetooth transmitter/receiver (optional)

Connecting To PC

In order to use the software supplied with the Terminal, the mobile data terminal must be connected to a PC.

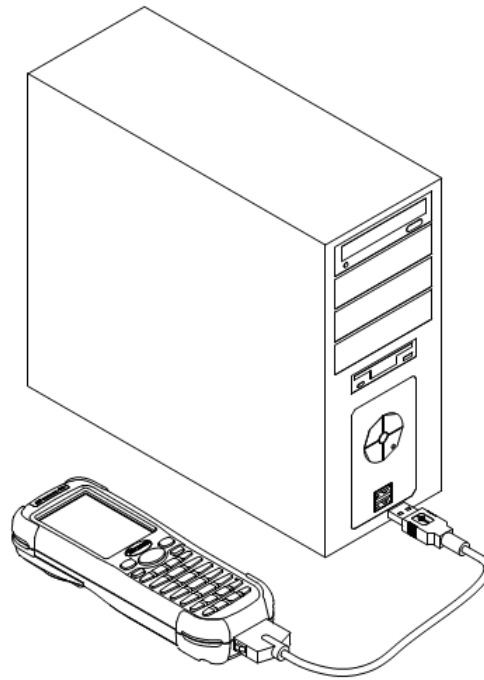
Connecting via Cradle

The cradle must also be connected via one of your PC's USB or RS-232 ports. Attach one end of the cable to the USB interface or RS-232 on the cradle and the other to your PC then plug in the power adapter to the cradle.



Connecting To PC directly via USB cable

You can connect the device directly to your PC, without the need for the cradle, using the Mini USB cable, attaching it to the port on the left hand side of the device.



About The Product

The Z-217X Plus is a compact, ergonomic and durable portable data terminal. It is designed with an integrated wireless communication and 1D laser barcode scanner, touch screen and 29-keys keypad. The design is ideal for the mobile worker as it simple and easy to use anywhere along a supply chain. It complies with IP54 regulations.

The Z-217X Plus features a Ti AM3715 ARM Cortex-A8 (1GHz) with Windows CE.NET version 6.0 operation system. This combination delivers high performance, low power consumption and the diversity of a wireless networking platform. Compared with other systems currently available on the market, Z-217X Plus is the most cost-effective to offering optimum performance.

Features

- Pocket size design
- Microsoft Windows CE.NET 6.0 operating system
- 2.4" TFT color display with touch pane
- Micro SD I/O Slot for extra storage or Wireless solution with IEEE802.11b/g
- Easy system control tools – PowerPack, saving time and cost for software development

Prerequisites

Skills Required

The following skills are required by developers aiming to develop application software for the ZEBEX Z-217X Plus.

- Windows programming
- Good knowledge of one or more of the following:
 - * Visual C++
 - * Visual Basic .NET
 - * Visual studio .NET
 - * Visual C#
 - * Active Server Pages and web programming

The following skills or experiences are also desirable.

- Windows CE devices
- IE 6.0 ActiveSync
- Some networking experience

Specifications

Model	Z-217X Plus
System	Windows CE 6.0
CPU	Ti AM3715 ARM Cortex-A8 1GHz
Memory	512 MB flash ROM/512 MB flash RAM
LCD Display	2.4" QVGA, TFT (240 x 320)
Audio	One speaker output, AC97 Codec with speaker output and touch panel control Internal Microphone input
Operating System	
Main Battery	3.7V 2,200mAH Li-ion rechargeable battery
Backup Battery	One rechargeable Li-ion backup battery
Vibrator	Only Barcode Scan OK
Scan Engine	1D engine or 2D Imager
Light Source	650 nm visible Laser Diode
Scan Rate	100 scans per second
Print Contrast	30% @ UPC/EAN 100%
Decoding Capability	
Barcode Symbolologies	UPC/ EAN/ JAN, Code 128/EAN 128, Code 39, Code 93, Interleaved 2 of 5, Discrete 2 of 5, Codabar, MSI/Plessey
Card Slots	1 x Micro SD I/O card
Communications / Interfaces	RS-232, USB 2.0
WLAN	802.11 b/g/n
Bluetooth	BT 2.1+EDR
Dimensions	(L) 162 mm x (W) 60.0 mmx (H) 37.3 mm
Weight	Approx. 280 g (battery included)
Environmental	
Operating Temp.	0°C ~ 50°C
Storage Temp	-20°C ~ 60°C
Operating Humidity	5% ~ 95% (non-condensing)
Drop Durability	Withstand 1.5M drop to concrete
Environmental Sealing	IP54 rated sealing
Regulatory Approvals	CE & FCC Part 15B
Cradle	Single slot USB / RS-232 charging cradle with spare battery slot
Software &Development	IE6.0 / Active sync / Update from Micro-SD card / PowerPack Utility / Support Software SDK

Using Barcode Scanner

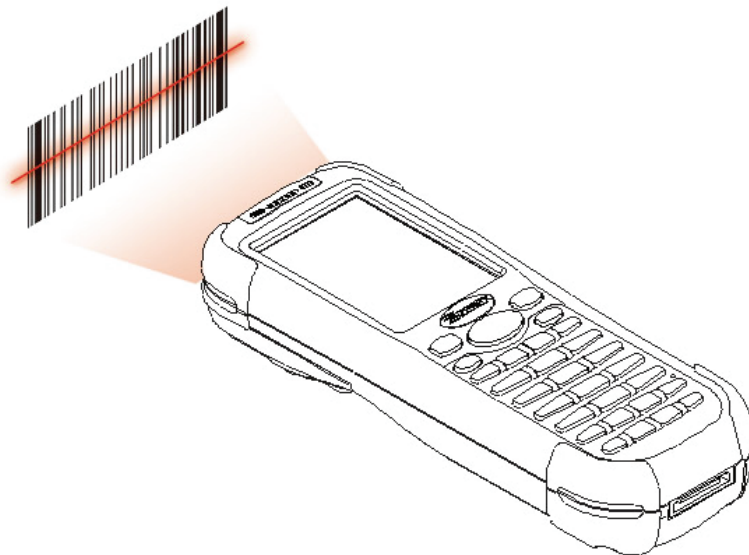
Scanning Barcodes

The Z-217X Plus is a highly versatile tool that can scan a wide range of barcodes but it is imperative that it is used in the correct manner.

To scan a barcode:

1. Hold the Z-217X Plus horizontally and point it directly at the barcode you wish to scan.
2. Once in the correct position, press the **SCAN** button.

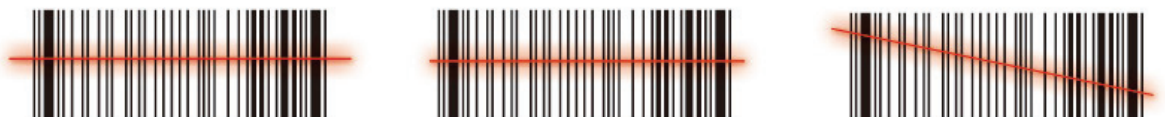
An audible alarm is heard and the barcode digits will appear on the LCD screen if the scan is successful.



Barcode Scanning Position

This device can read from 30 to 180mm distance.

1. Position the laser scanner close to the barcode when scanning small barcodes. And position it is a distance from the barcode when scanning large barcodes
2. The reader can be detected by a red beam.



Band Scanning Position

Make sure that the bars enter the laser beam when scanning large barcodes.

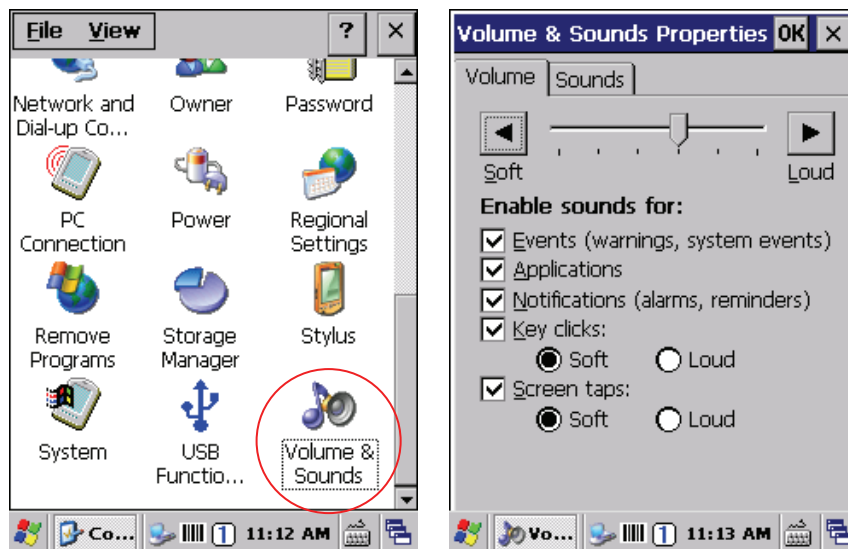
Scanning operations may fail if the laser beam are positioned incorrectly as below.



Caution: Never look directly into the laser or shine the laser into the eyes.

Volume Control

To set the volume, go to Control Panel and click on Volume and Sound.



Or press [SF/Fn] on the keypad; press F1 for volume up or F2 for volume down.



Using the Zebex PowerPack

“PowerPack” designed by Zebex provides an easy to use system management tool. It saves users time and effort in developing applications.

The PowerPack management tool is included in each of our WinCE product. It is free of charge and offers useful functions without any programming skills from the users.

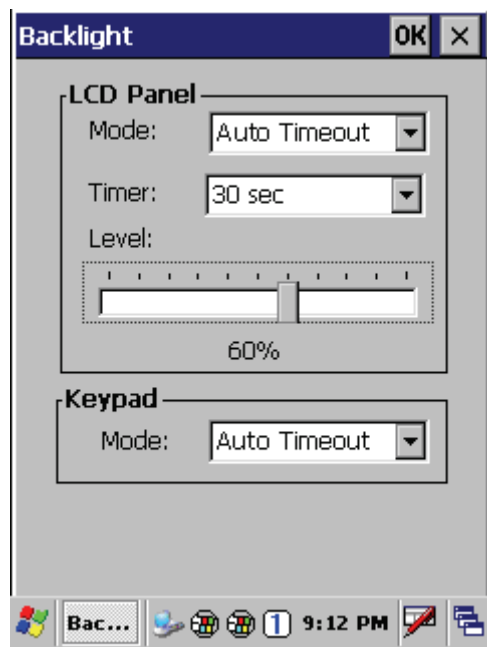
To access PowerPack, follow below path from the home screen:
Start >> Programs and choose “PowerPack”

Backlight

This application is for setting the LCD panel and key pad backlight. It allows operators to set the duration or to turn it on or off.

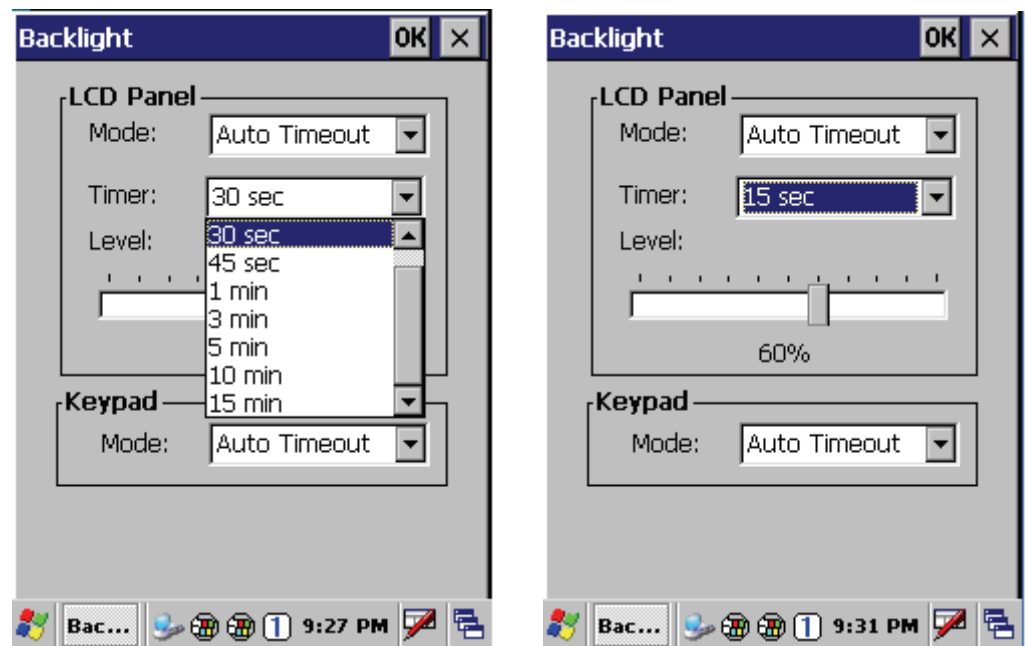
The Backlight settings screen include 2 parts:

- LCD Panel
- Keypad



The LCD Panel setting:

- Auto Timeout: This function is used to turn off the LCD backlight automatically after certain period of inactivity. You can set the Auto off time from 15 sec to 15 min using the Timer setup as illustrated below.
- Always ON: This function is used to set the backlight to always on until the system goes into suspend mode.
- Always OFF: This function is used to set the backlight to always off.



The Keypad Backlight setting:

- Auto Mode: This function is used to set the keypad backlight to auto off after certain period of inactivity. The interval of the time for auto off is fixed on 5 seconds.
- Always ON: This function is used to set the keypad backlight to always on until the system into suspend mode.
- Always OFF: This function is used to set the backlight to always off.

Calculator

This calculator function allows operators to add, subtract, multiply, and divide that simply provide basic logistic function in our daily basis.

The upper zone of the display area displays the memory content, and the lower zone is key pad.



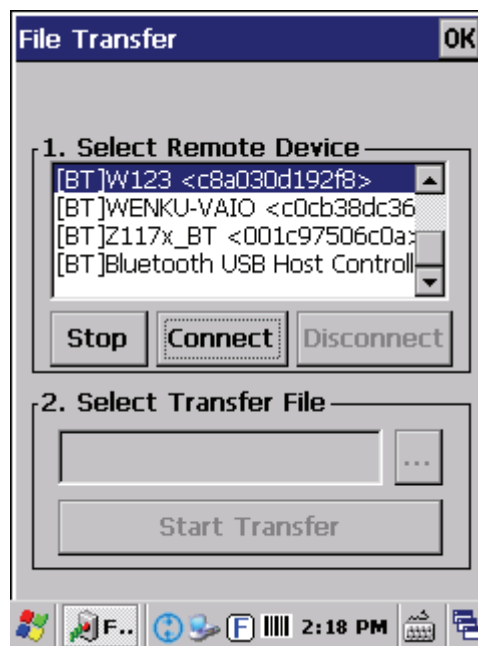
Button description:

- MC : Clear buffer of memory.
- MR : Got the value of buffer.
- MS : Storage the value to buffer.
- M+ : Append the value to the buffer.
- CE : Clear the display area to "0", but keep the value in buffer.
- C : Clear the display and the buffer of memory.
- +/- : Change the value sign form Plus to Minus or Minus to Plus.
- 0~9 : Numeric key.
- / : Division function.
- * : Multiplication function.
- : Subtraction function.
- + : Addition function.
- . : A decimal point of dot.
- = : To be equal to, The amount.

File Transfer

File Transfer is a simple file transferring tool. It lets users transfer files to another device via Bluetooth. OBEX agreement which is used by cell phone and Notebook PC is also used here so you can transfer files to cell phone or Notebook PC, or perform file transfer between two terminals using this application.

File Transfer is capable to auto-search devices with Bluetooth communication, so all devices within valid range will be listed in window of "1. Select Remote Device".




Function Instructions:

Select Remote Device

All devices with Bluetooth Communication functions are listed on the display.

- Query: For searching usable devices.
- Stop: Stop searching.
- Connect: For connecting with one device.
- Disconnect: For disconnecting with current devices.

Select Transfer File

Select file need to be transferred, press  button for selecting file.

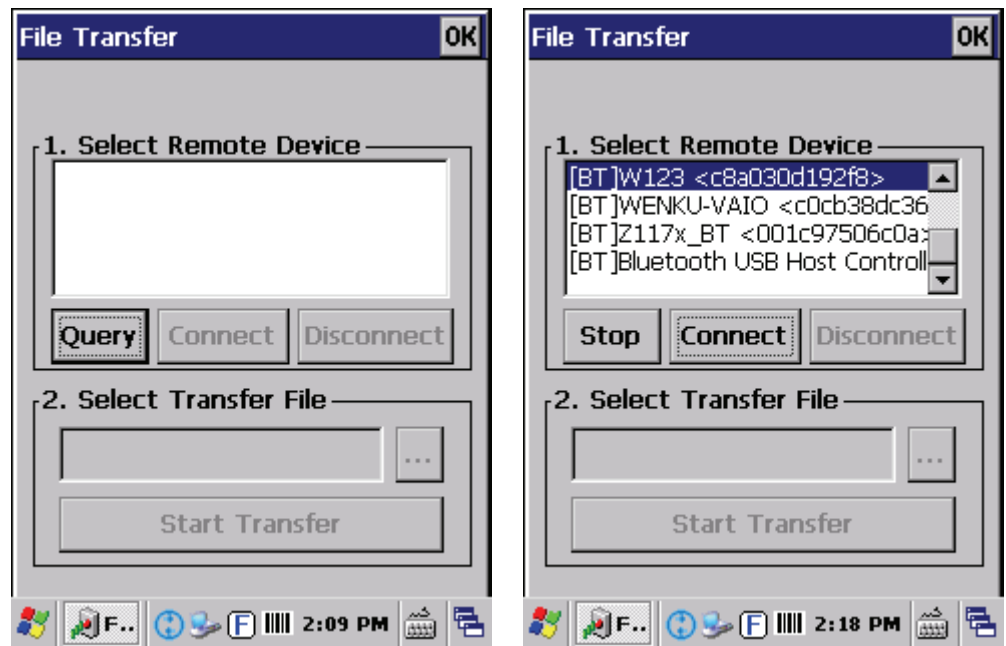
Start Transfer: Start transferring file to targeted devices.

Ex. File Transfer By Using Bluetooth

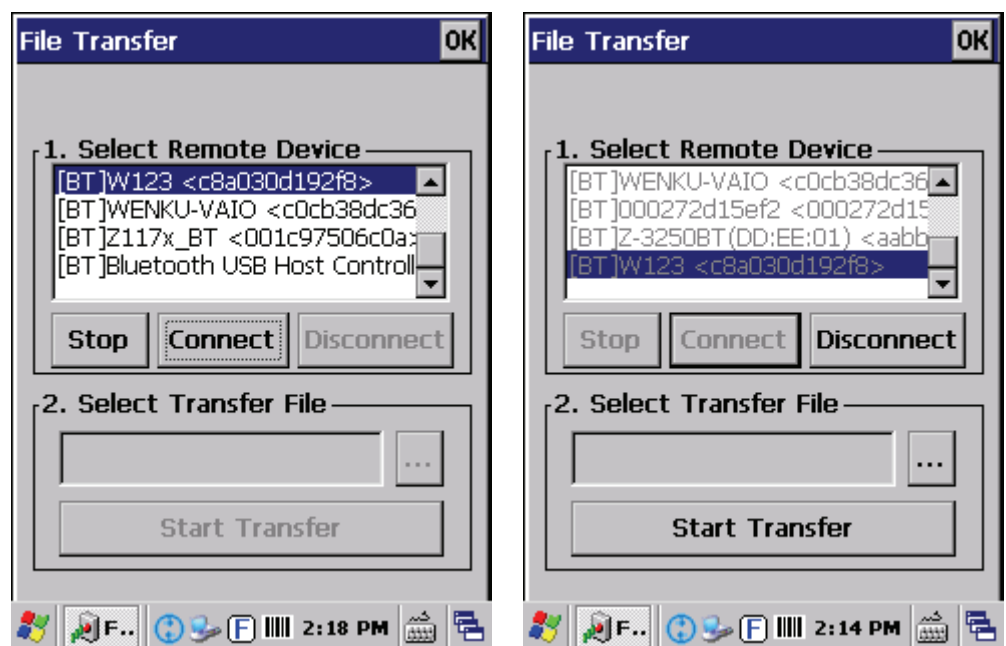
File Transfer by Bluetooth:

Make sure Bluetooth devices are activated, Bluetooth Communication Devices can be activated under Switch Function within PowerPack software utilities.

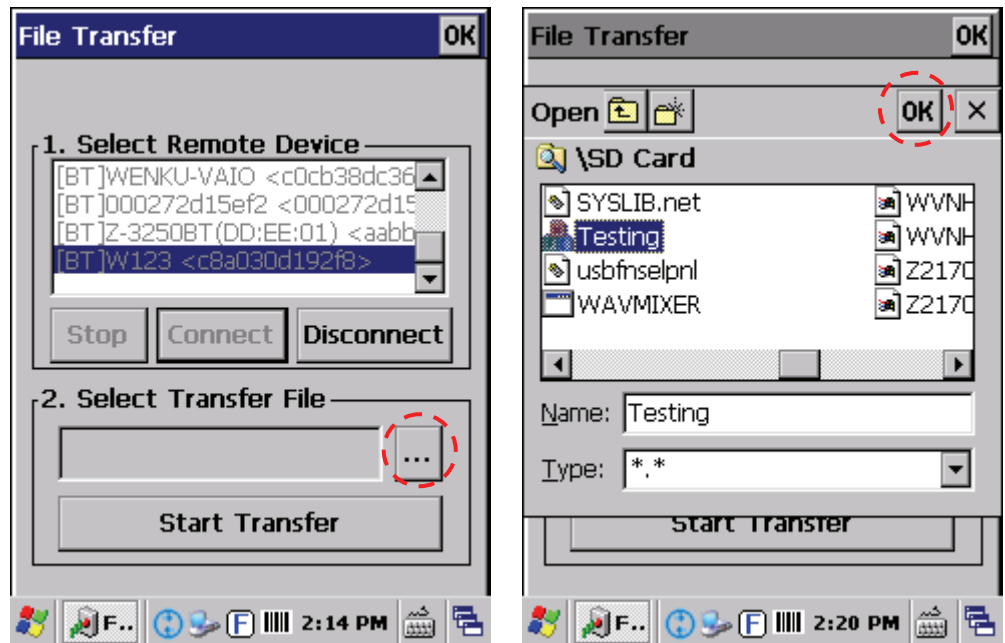
Select “Query” for searching Bluetooth devices, below window will pop up on display.



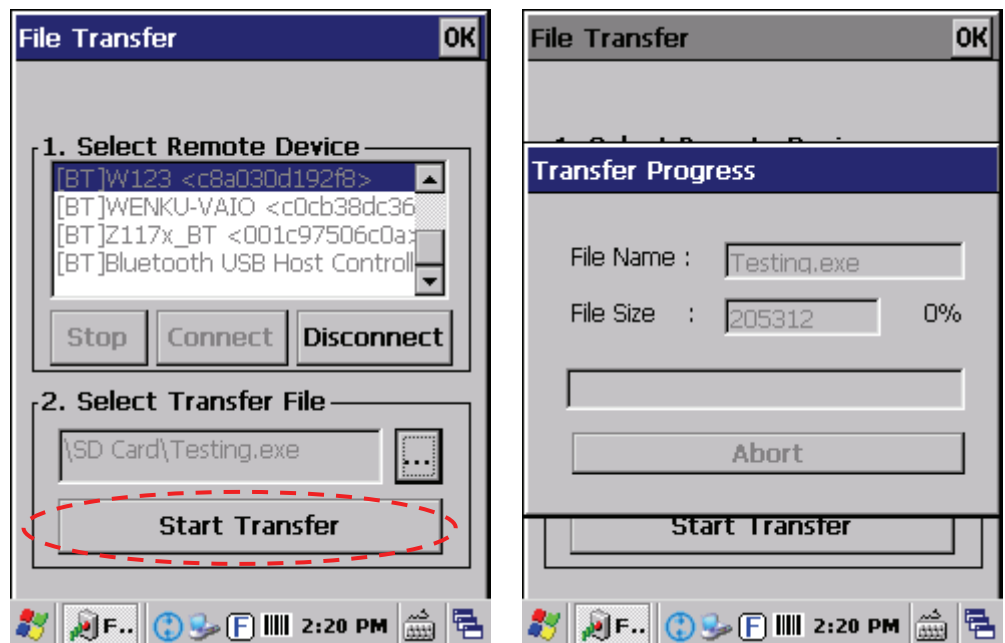
1. Select Bluetooth devices for receiving file, select “Connect” for connecting with devices, or select “Disconnect” to disconnect with current devices.



- Click "..." button to select the file need to be transferred, then click "OK" button to confirm.



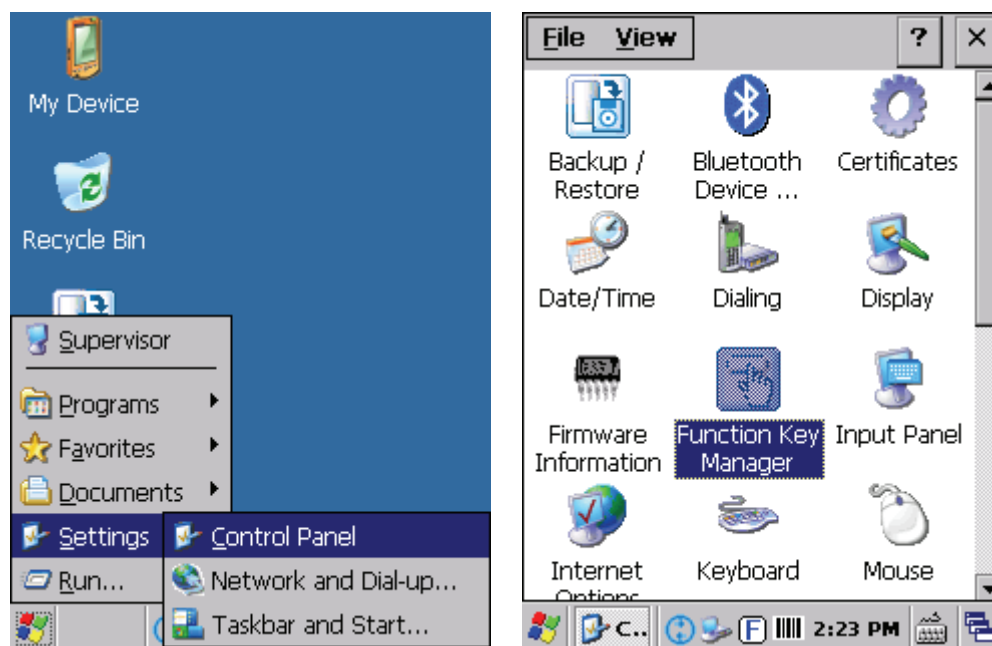
- Select "Start Transfer" button to start file transferring.



Function Key Manager

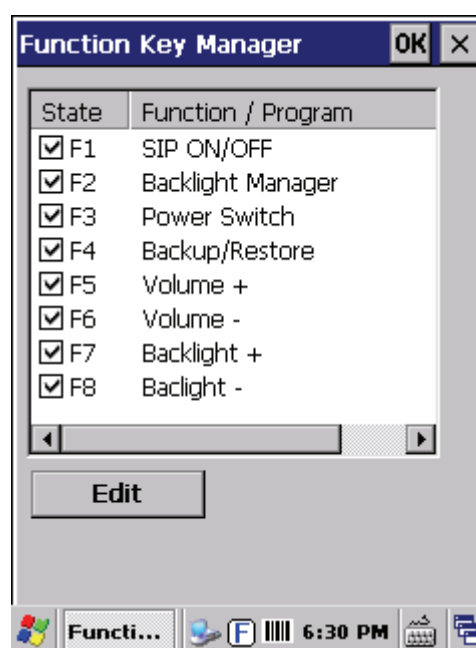
This application utility provides an easier way to configure the function keys for your device. Through this application you can set the keys to instantly start programs like Window Media Player, Calculator, or any application program you wish including windows system function such as increasing or decreasing the volume or adjusting the brightness of your LCD panel.

You can find this application from “\settings\control Panel”.

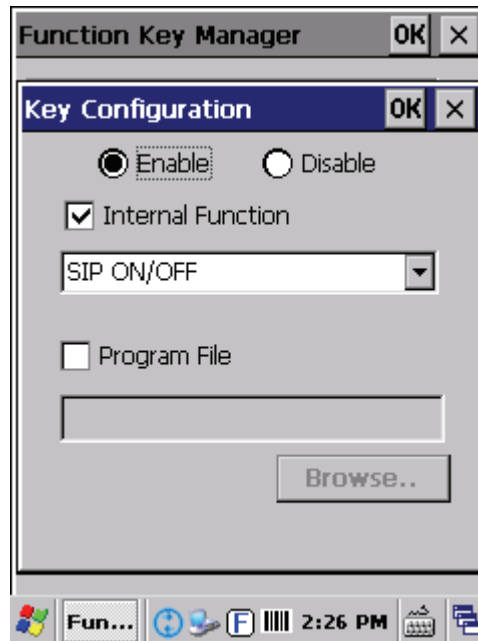


Program provides eight different function keys (F1~F8) for the setting. Default settings are shown as below:

- F1: SIP ON/OFF
- F2: Backlight Manager
- F3: Power Switch
- F4: Backup/Restore
- F5: Volume +
- F6: Volume -
- F7: Backlight +
- F8: Backlight -



Function Key Manager Set Up Instruction



Enable/ Disable : Enable or Disable Function Key.

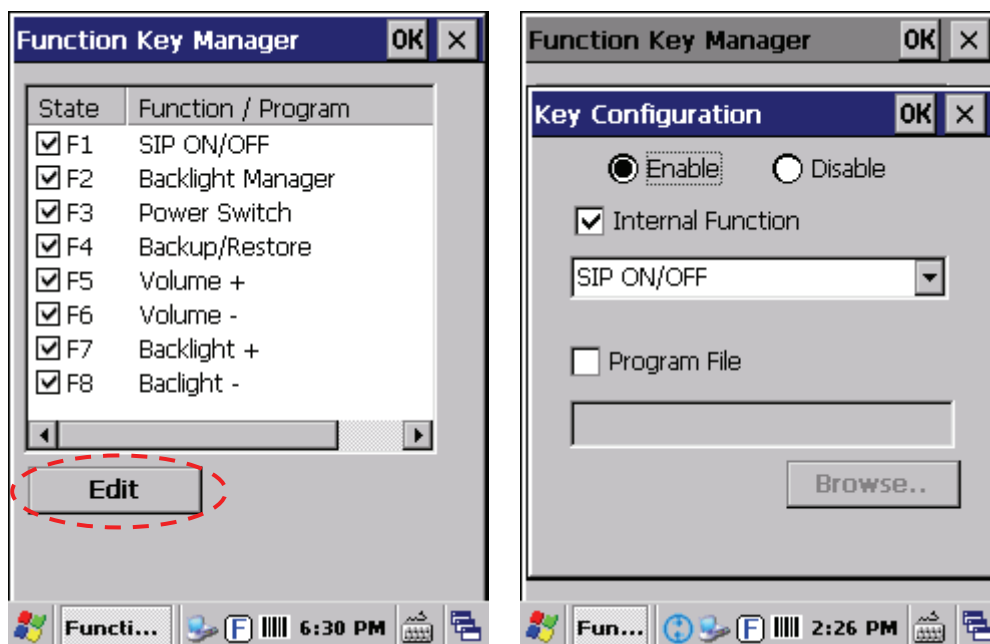
Internal Function :

- SIP ON/OFF
- Backlight Manager
- Power Switch
- Stylus Calibration
- Wi-Fi ON/OFF
- Bluetooth ON/OFF
- Backup/Restore
- Volume +
- Volume –
- Backlight +
- Backlight –
- Cut
- Copy
- Paste

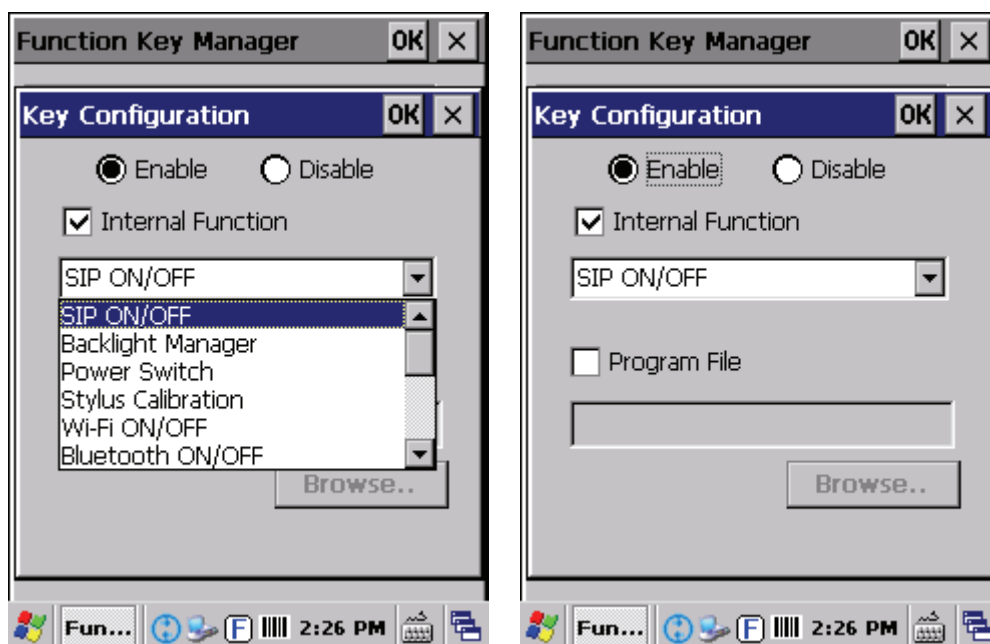
Program File : Install application program according to demand, this function can be used for setting up auto-execution.

Edit Internal Function items:

1. Select the item to be modified by clicking the "Edit" button to enter the configuration window as below:

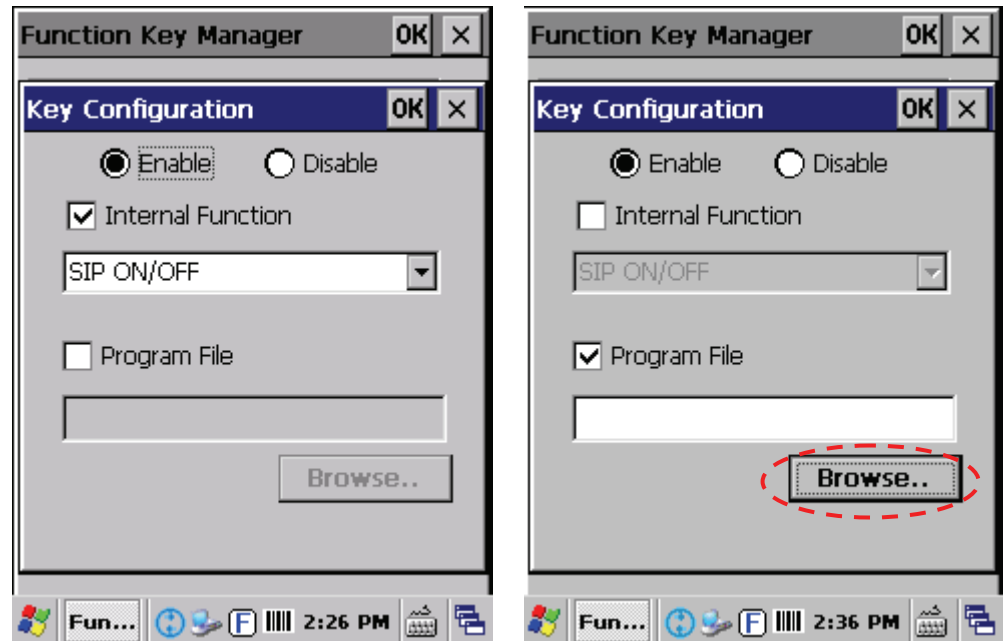


2. Select a new functional item and select "OK" to complete setting.

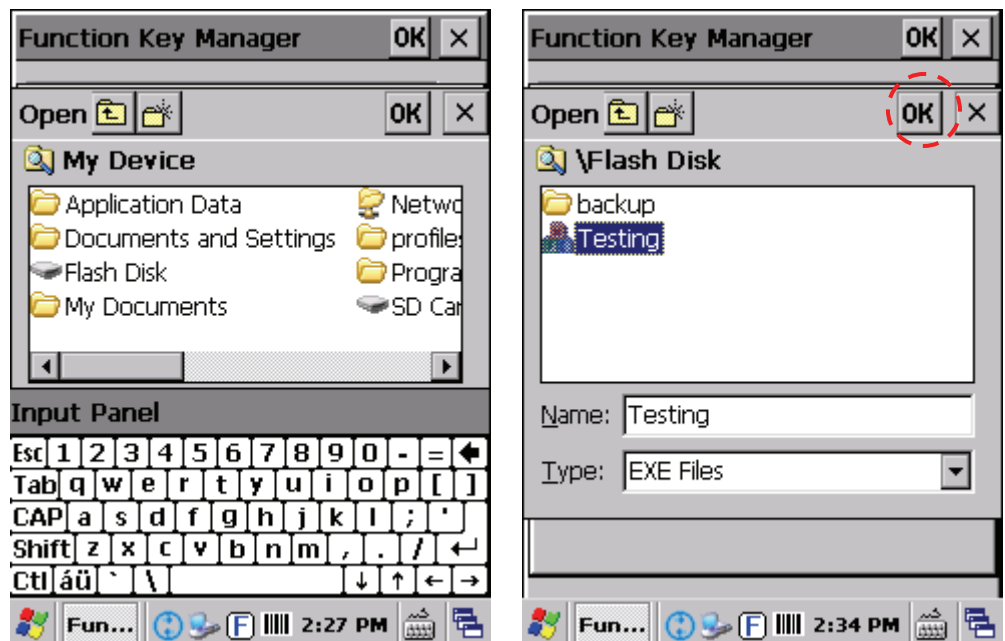


Edit application software for auto-execution:

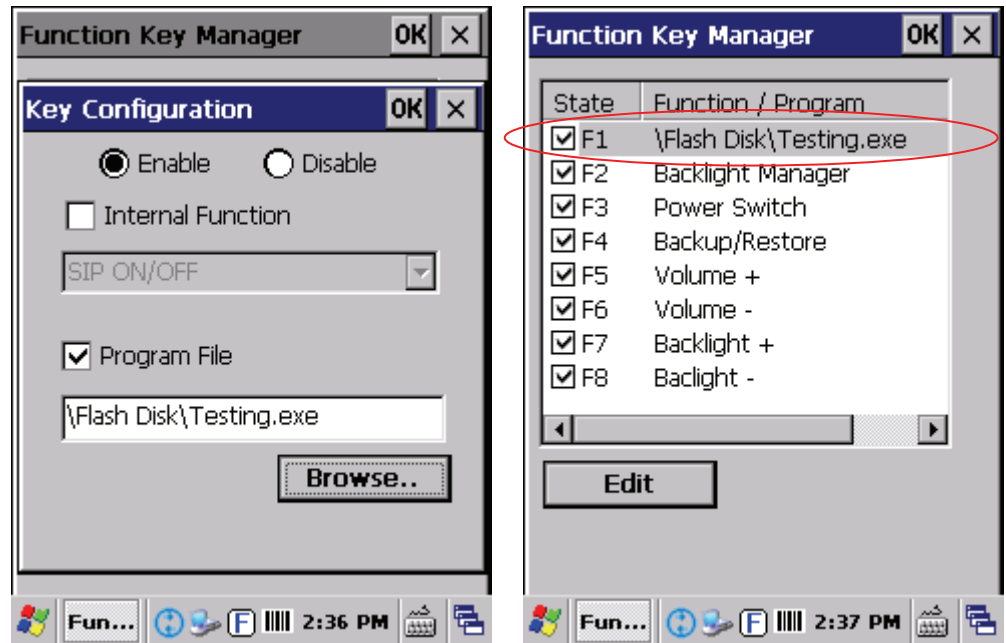
1. Select Program File checkbox and click “Browse” to browse files.



2. Select the software required for auto-execution, then select “OK” to complete the selecting process.

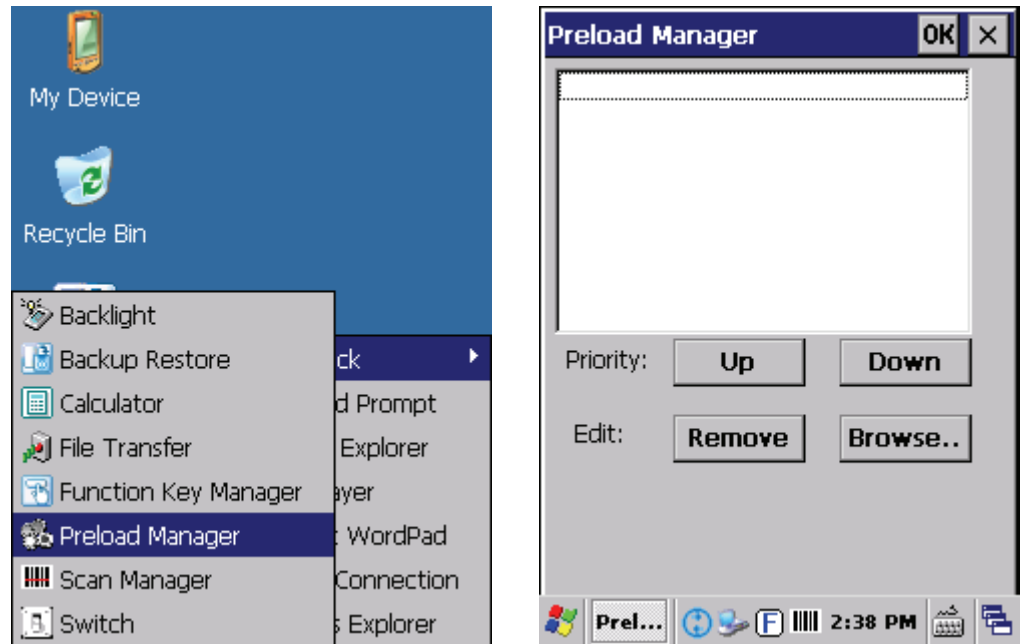


3. The selected program will appear in the column. Select "OK" to complete the editing process. When Function Key Manager reappears on the display, the function key is updated with the new program.



Preload Manager

The Preload Manager is an auto execution program for starting programs at system boot.



Preload Manager has 2 main functions: Priority and Edit.

Priority: Providing "UP" and "DOWN" two selections for adjusting priority on the lists.

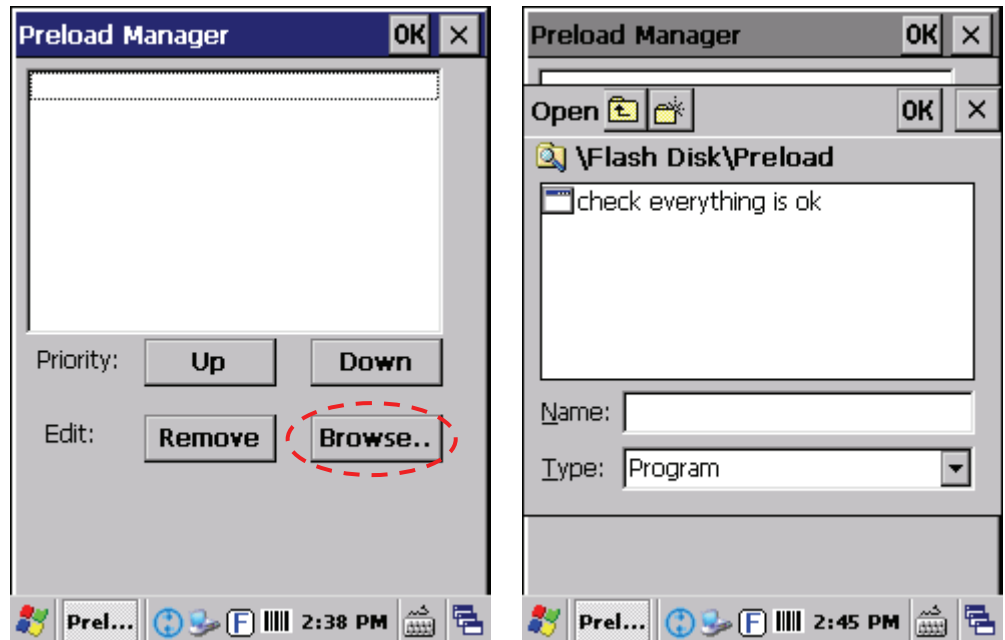
Edit: Providing "Remove" and "Browse.." two functionalities, below are instructions:

- Remove: Deleting selected functionalities.
- Browse: Selecting program for preloading, files can be selected from window by clicking Browse buttons.

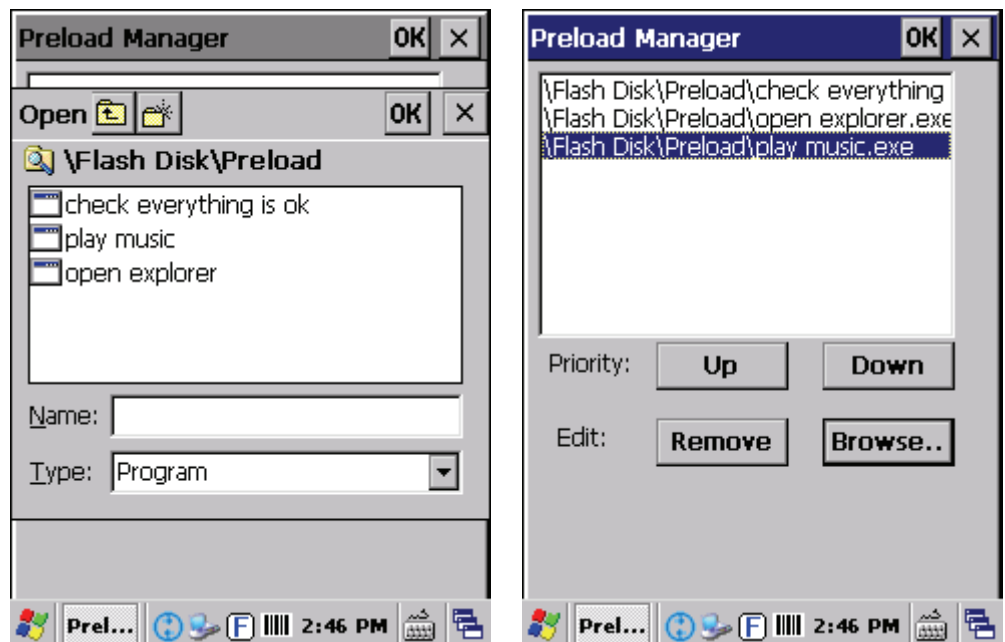
Preload Operation

Selected Program:

1. By clicking "Browse..", below menu will appear, select preload program by using folder. Programs can be selected more than once.



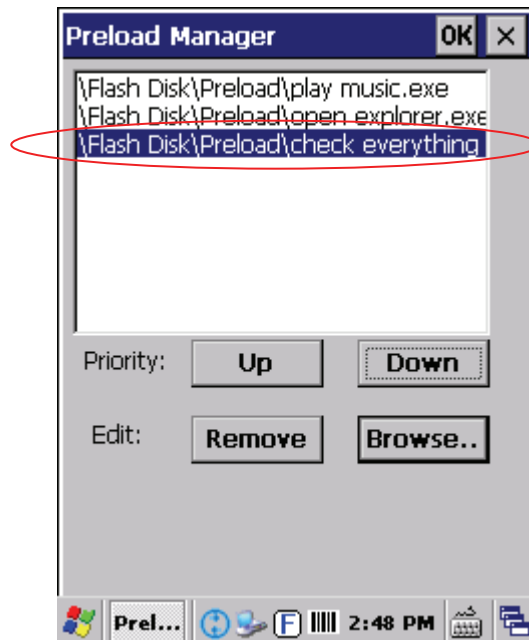
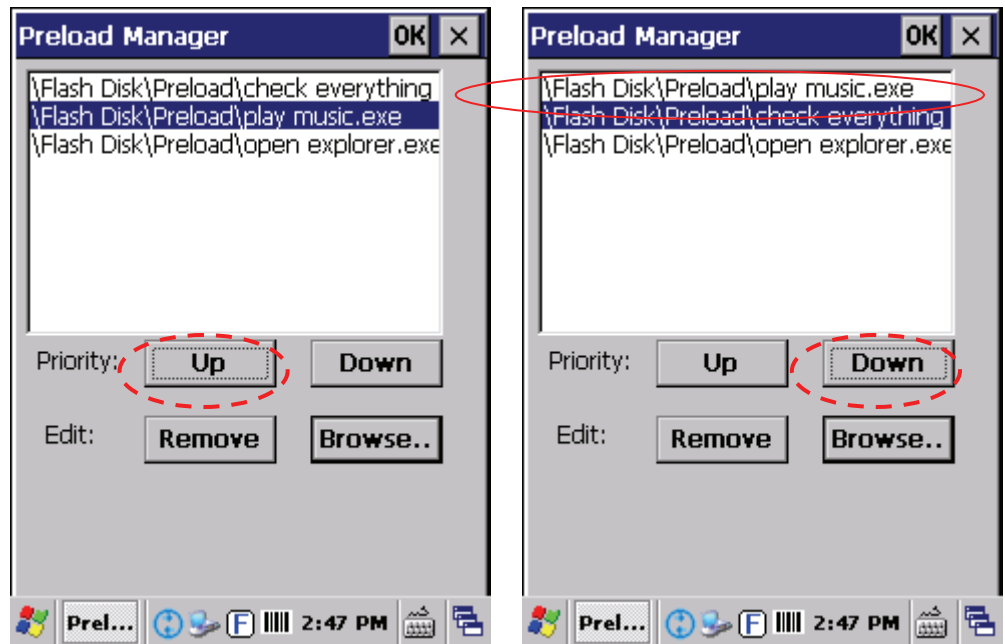
2. Confirming file by clicking "OK" will get back to Preload Manager main page. Then complete its process.



Reset preload priority:

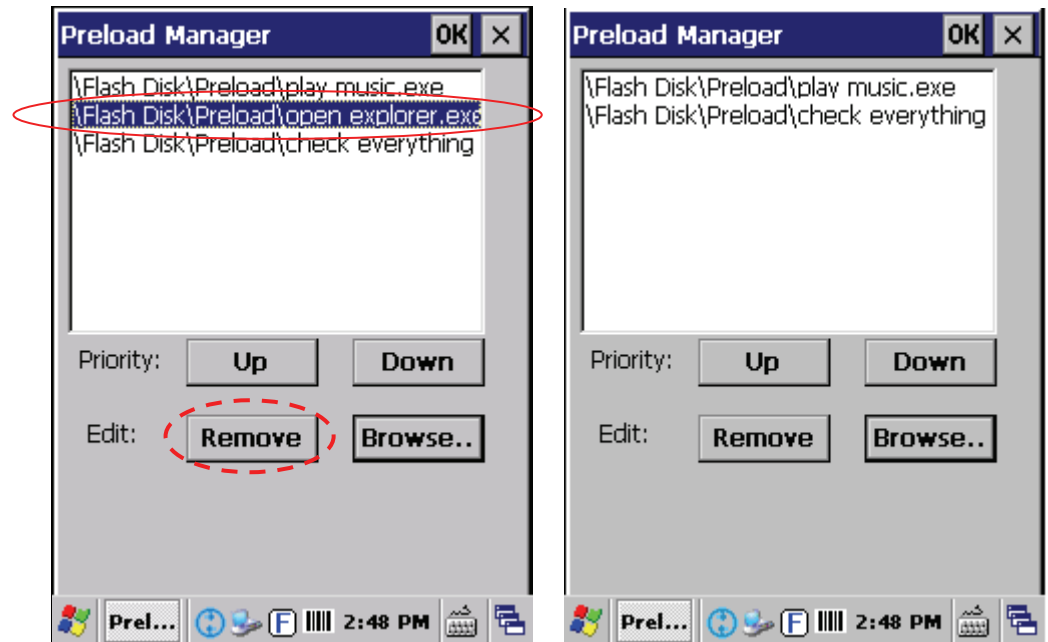
If the preload priority need to be set up to (1)play music -> (2)open explorer -> (3)check everything, please follow steps listed below:

1. Select by clicking play music.exe program and click "Up" button to move up the music.exe.
2. Then select by clicking check everything program and click "Down" button to move down check everything program.



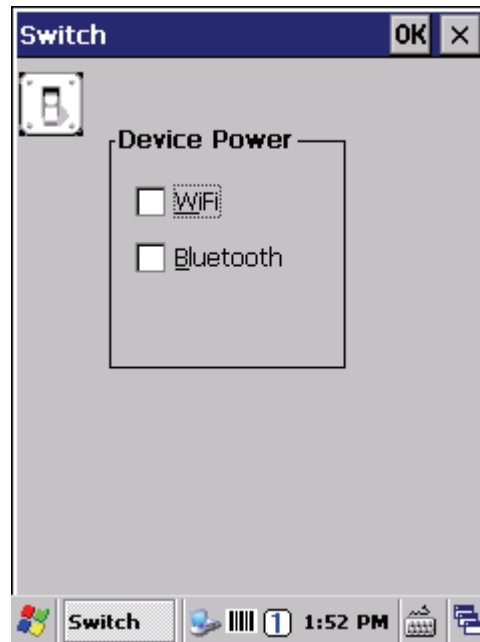
Remove a program:

In order to remove “open explorer” program, select by clicking program, then select “Remove” by clicking on button to finish command.

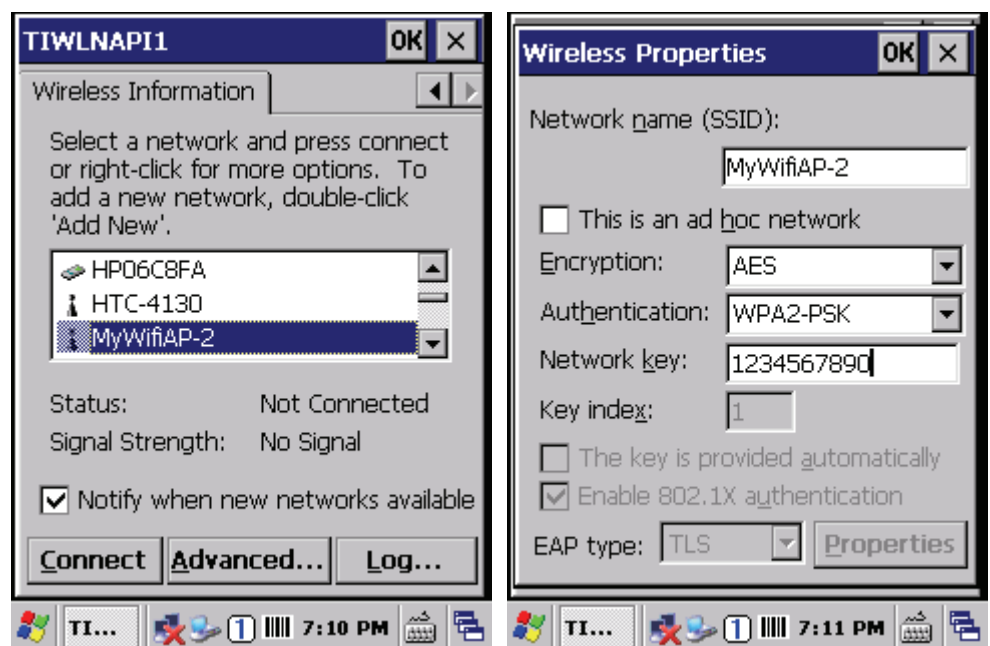


Switch

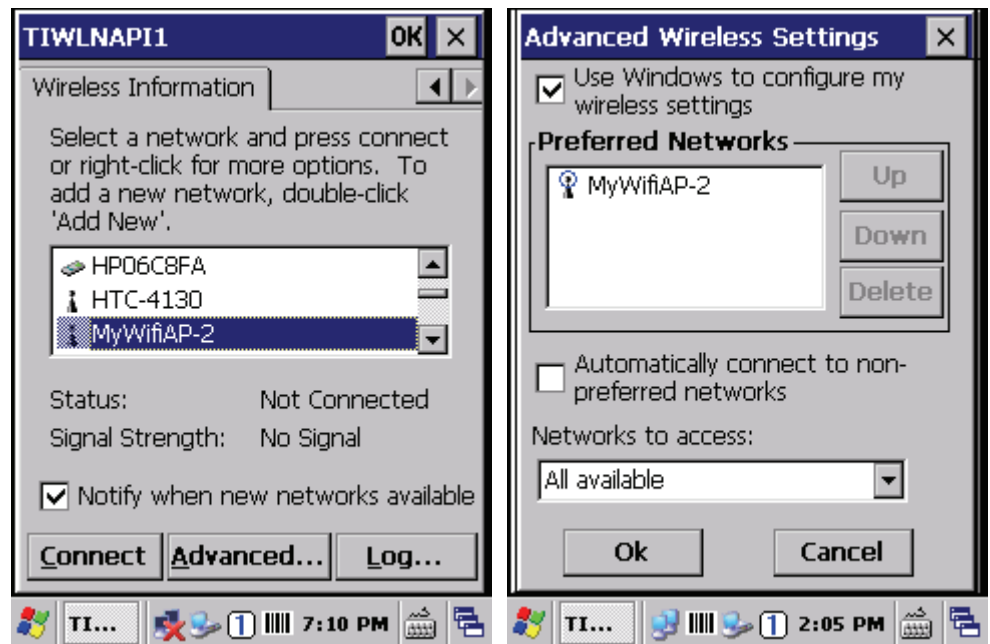
The WiFi and Bluetooth switch utility. To turn these functions on or off, simply tick the check box of the functions.



Wireless configuration window appears when the WiFi selection is ticked. A list of SSID will appear automatically after scanning. Select a SSID from the list and hit "Connect" to enter the Wireless Properties screen. Select the network type and enter the passkey then select "OK" to connect to the network.

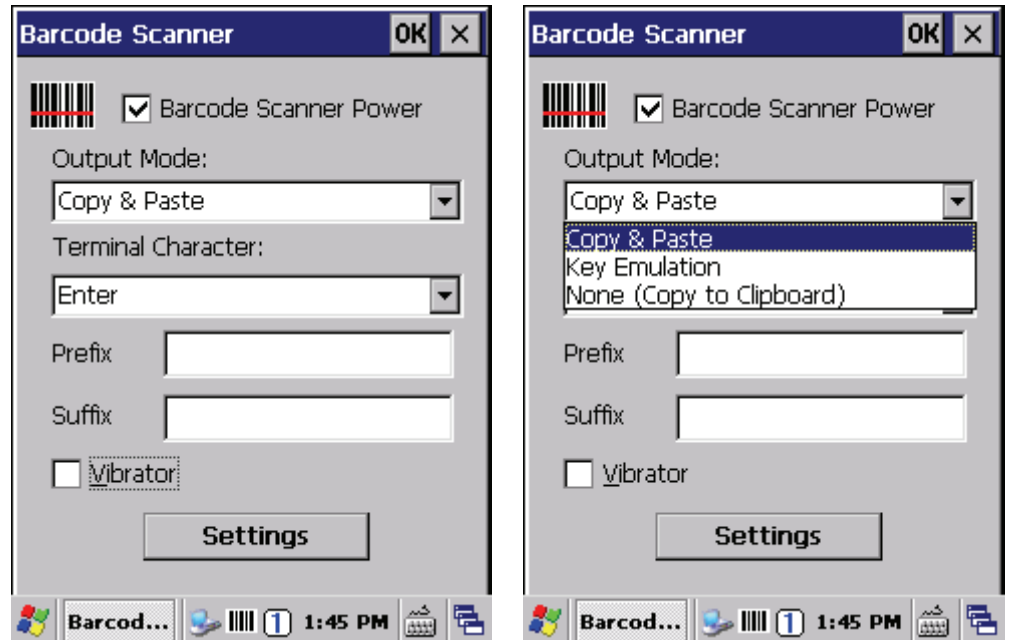


You may also select “Advanced” tab to setup your preferred networks. To manage your preferred networks, select Up or Down to change their priorities or select delete to delete the network.



Scan Manager

The Scan Manager program is a barcode reader set up program, it offers you an easy way to enable or disable the barcode scanner, and also offer you to set up each barcode symbolic properties.

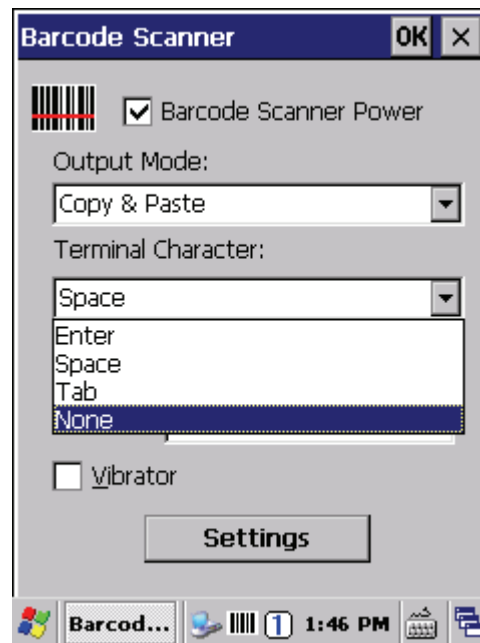


Below are instructions of functions on main page:

Output Mode: provides three output methods such as Copy & Paste / Key Emulation / None (Copy to Clipboard).

- Copy & Paste: Copy and paste the barcode information into application that need to execute data as input. (ex. WordPad)
- Key Emulation: Transfer barcode information via Key Emulation to executed software's edit window. Key Emulation function can also be used for barcode scanning under conditions of Terminal Emulation, Command Prompt and some other program without touch panel. Read data will be transferred to application program.
- None (copy to clipboard): Function provide required barcode information to application program, after this function was activated, scanner will read barcode information and save data into clipboard.

Terminal Character: Set the terminator control code with barcode data. It offers “Enter”, “Space”, “Tab”, and “None” for selections. Terminator control code will be sent every time when barcode was read.

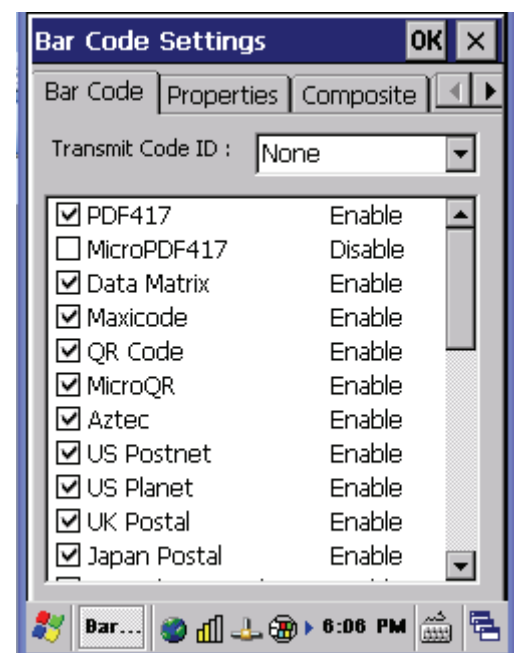
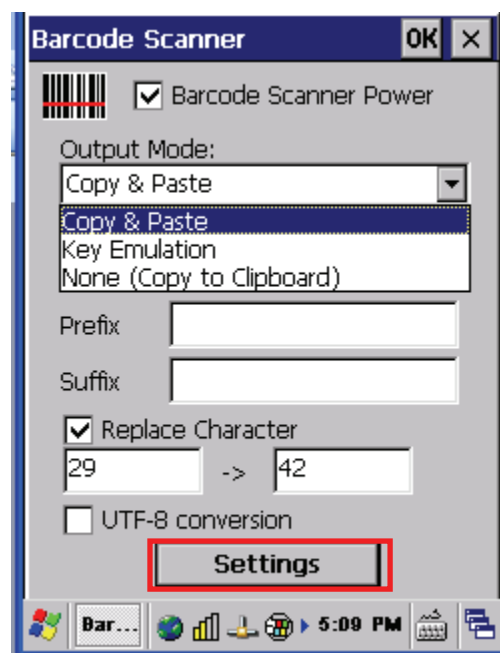


Suffix: Set the suffix character with barcode data.

Prefix: Set the preamble character with barcode data.

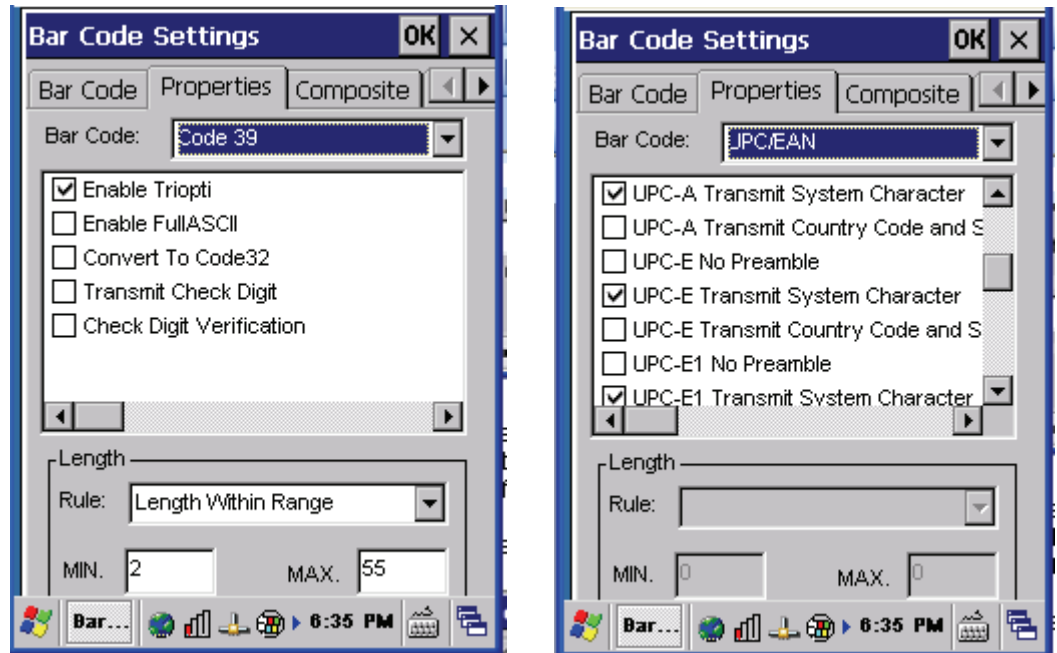
Vibrator: Select to switch to the vibrator mode.

Settings: To set the barcode parameter value of each kind of barcode for barcode scanner. Press the "Setting" button in the application to start the barcode setting.



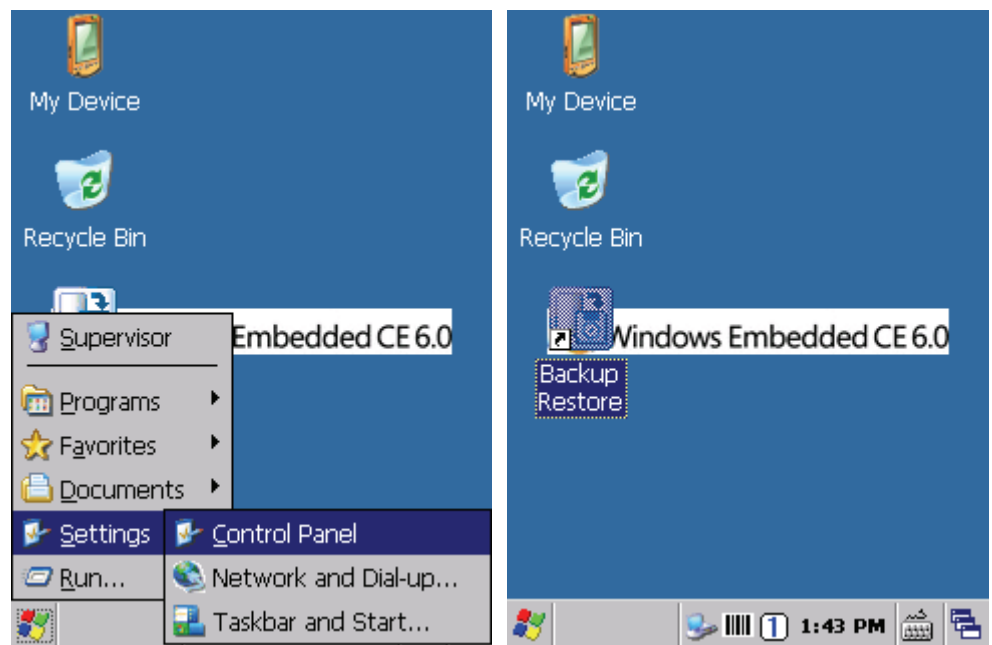
To check the barcode type selection for enable the type of barcode for read, press the "Properties" tab on top to see the barcode parameter value of each kind of barcode.

The default values of EAN/UPC code and Code39:

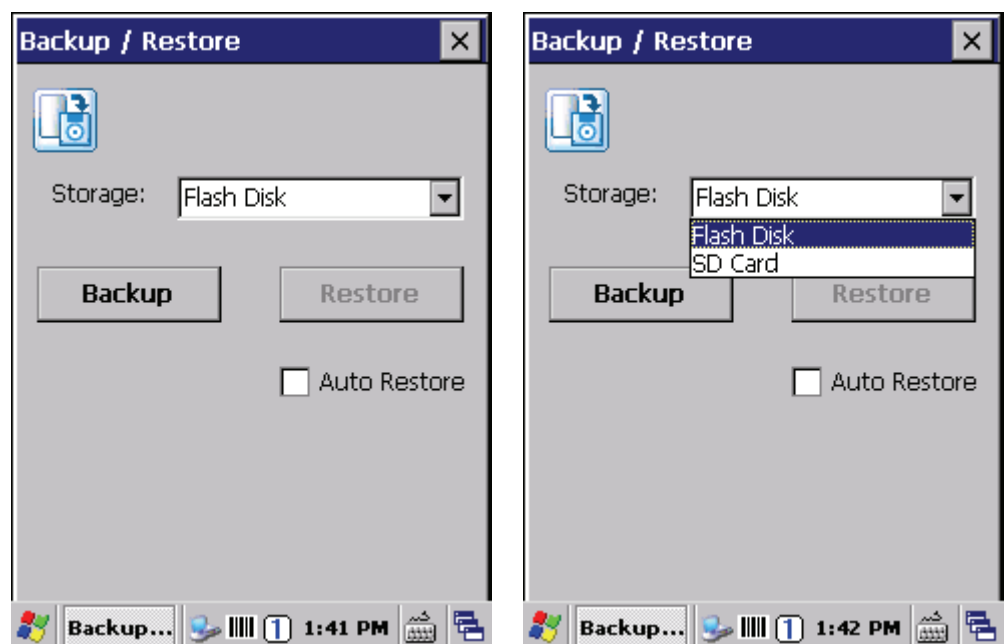


Backup/Restore

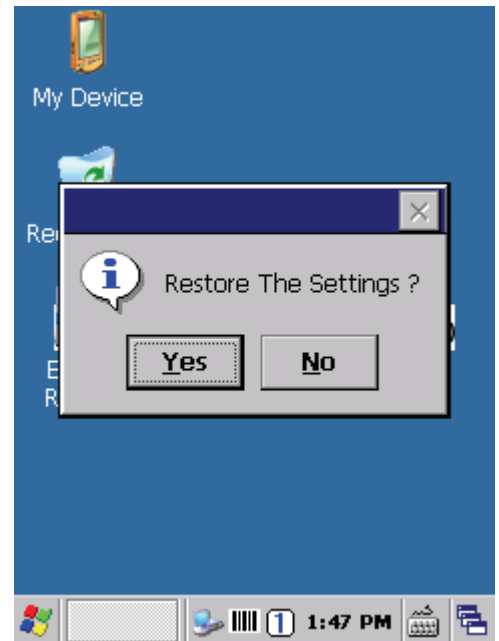
You can find this application at the desktop or from Control Panel, Backup/Restore.



This application provides you an easy way to backup or restore the device setting using Flash Disk and storage card. Flash Disk can be used when there is no storage card. When a SD Card is installed into the device, the program will detect it automatically and make the SD Card selection available.



- Backup: Select the storage for saving the data then select "Backup" to proceed with the backup. Display will restore when backup is finished.
- Restore: To restore your settings, press the "Restore" button.



NOTES

- ◆ Barcode settings are not backed up by this function. To back up your barcode settings please use barcode setting->Export/Import Setting.
- ◆ Backup time may vary depending on the size of data you have on the device.
- ◆ When restoring system, you must select "Yes" to warm boot the device to complete the process.