



J2 Wave Hand Held Computer

Hardware Manual



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System Overview



System Overview table -1

	Location	Description
1	LED Indicator	Show the Status of Wi-Fi connection and battery.
2	Power & 4 Programmable Keys	Hold 5 seconds to power on/off the system.
3	Speaker	At rear side
4	Hand Strap Screw Hole	Mounted for hand strap
5	Reset Hole	For system reset to the default setting
6	Battery locker	Secure the Main Battery door
7	Strap Holes	Mount for neck strap and wrist strap.
8	Charging Slot	Charger Slot for recharging the battery.

Standard Components



Items

1	Hand Held Computer
2	Charger Base (Note: Only for power charge use, not for data transfer use)
3	Main Battery
4	Holster
5	Power Adapter (AC-USB connector)
6	Hand Strap
7	Wrist Strap
8	Neck Strap

Optional Accessory



Items	
1	Standard Battery Charger
2	Power Brick of Standard Battery Charger
3	Power Cord of Standard Battery Charger Note: Power cord are various according to the shipping country.
4	MSR Module
5	2-in-1 MSR & Scanner Module
6	USB Cable for synchronization & programming

Hardware Description

Item	Features	Descriptions
1	Main Processor	<ul style="list-style-type: none"> ● Marvell PXA270 416MHz (Xscale Core)
2	System Memory	<ul style="list-style-type: none"> ● 128Mbytes SDRAM ● Around 115MB use for system operation, otherwise for storing system loader and system data
3	System Storage	<ul style="list-style-type: none"> ● 1Gbytes Flash (ROM file system) ● More than 300MB for storing WindowCE image and OEM application programs ● Around 600MB leaved for system and user storage, emulated as folders in all system directories ● Around 100MB leaved for storing OEM data and configurations This device provides a specific mechanism to let system integrator easily to integrate the OEM applications and device configurations into device as factory default mode without merging OEM applications into WindowCE image It can help system integrator doesn't have to maintain the device after end user crashed the device by reset device to factory default mode or on-line updated the OS image from internet
4	Display	<ul style="list-style-type: none"> ● PXA270 Display controller ● Share System Memory as Video Frame Buffer ● Resolution : 272x480 pixels, 16 bit color ● 4 way rotator for direction detection
5	LCD	<ul style="list-style-type: none"> ● 4.3 inches TFT LCD – WQVGA (480x272 pixels resolution) ● Transmissive display mode ● Digital RGB 8bit color depth , 10 LEDs backlight

Item	Features	Descriptions
6	Touch Panel	<ul style="list-style-type: none"> ● LCD panel with touch panel design ● Resistor 80% Transparency (Film to Glass type)
7	Audio	<ul style="list-style-type: none"> ● Stereo audio system with mono speaker design ● 05W speaker amplifier ● Headphone stereo output (Optional)
8	Secure Digital Socket	<ul style="list-style-type: none"> ● SD memory card (Support up to: 2Gbytes)
9	WiFi IEEE 80211b/g	<ul style="list-style-type: none"> ● Auto fallback mode : 6M~54M(80211g), 1M~11M(80211b) ● Complying with Wireless Ethernet Compatibility Alliance ● Support hardware signaling BT WiFi co-existence ● Link LED indicator ● Maximum Output Power : +12dBm
10	Bluetooth	<ul style="list-style-type: none"> ● Compliant with Bluetooth Specification V2.0 ● Maximum Output Power : +4dBm (Class 2) ● Receive Sensitivity : Typical -78dBm
11	USB Client	<ul style="list-style-type: none"> ● USB Specification - 11 compliant ● Full-Speed operation on half-duplex at 12Mbps baud rate
12	USB Host	<ul style="list-style-type: none"> ● Compliant with USB Specification 11 and OHCI Spec ● Support both low-speed and full-speed USB devices ● Expansion slot for optional device (either one of the MSR reader, IC card reader, Barcode scanner, and so on)
13	FFUART port	<ul style="list-style-type: none"> ● Expansion slot for optional device (either one of the MSR reader, IC card reader, Barcode scanner, and so on) ● Maximum baud rate 921600bps ● Full function UART
14	Buttons	<ul style="list-style-type: none"> ● Keypad – 4 programmable buttons

Item	Features	Descriptions
15	Power / Reset buttons	<ul style="list-style-type: none"> ● Power Button : Suspend/ Resume Device and “Enter” Key ● Reset Button : Warm Reset ● Press Power and Reset buttons simultaneously: Cold Reset
16	LED indicators	<ul style="list-style-type: none"> ● Green: ON – device power on , OFF – device off / suspend ● Blue: Link Status of WiFi manager ● Red: Flash – Battery low, ON –Charging battery
17	Vibrator	<ul style="list-style-type: none"> ● Vibrational indicator
18	Smart Battery	<ul style="list-style-type: none"> ● 37V Li-Ion battery pack : 2200mA/h ● Charging time : maximum 3.5 ~ 4Hours ● Thermal / Over Charging Protections ● Auto mode of Low / High speed charging mechanism
19	Charger Base	<ul style="list-style-type: none"> ● Mini-USB type connector
20	Adapter	<ul style="list-style-type: none"> ● AC110V ~ 240V / DC5V (10W) 50~60Hz

System Feature Description

Item	Features	Descriptions
1	Application	<ul style="list-style-type: none"> ● File Explorer ● Internet Explorer 6.0 for Windows CE ● Windows Media Player ● Windows CE standard shell (Windows XP-like skin)
2	File System	<ul style="list-style-type: none"> ● ROM File system with hive registry
3	Graphic / Display	<ul style="list-style-type: none"> ● 480x272x16 (Landscape mode) as panel default mode 272x480x16 (Portrait mode) as system default mode ● Compliant with Graphics, Windowing and Event Subsystems of Window CE embedded. ● Still Image Codec Support ● DirectShow ● Support screen rotation feature
4	User Input Interface	<ul style="list-style-type: none"> ● Stylus input rather than mouse input capability ● USB Keyboard / Mouse (optional) – USB Host Interface ● Buttons: 4 programmable keys (without system wakeup feature)
5	Audio	<ul style="list-style-type: none"> ● Audio playback feature only ● Support waveform audio Input/Output device APIs ● Configurable sound enable/disable feature of system event, message notification, screen taps. ● MP3 Codec ● MPEG-1 Layer 1 and 2 audio codec ● Waveform audio renderer ● WMA Codec

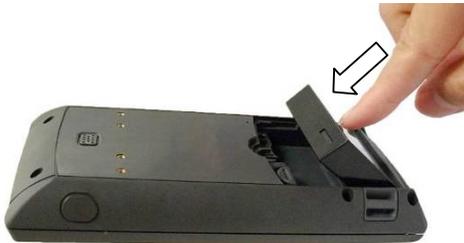
Item	Features	Descriptions
6	Storage	<ul style="list-style-type: none"> ● Removable storage : SD memory (up to 2GB) : USB storage (optional) ● Persistent storage: NAND flash memory (On Board)
7	Data Communication WLAN	<ul style="list-style-type: none"> ● Support seamless roaming in IEEE802.11b/g WLAN authentication infrastructure ● Support single SSID ● Support fast Wi-Fi roaming ● Support always on Wi-Fi ● WPA and 802.11i security standard (AES/CCMP and WEP with TKIP security mechanism) ● Support Window Wireless Zero Configuration service
8	Data Communication Bluetooth	<ul style="list-style-type: none"> ● Compliant Bluetooth software specification ● Window CE Bluetooth communication software stack ● “SPP” “FTP” “Activesync” profile supports ● Support Winsock Bluetooth programming interface
9	Data Synchronization	<ul style="list-style-type: none"> ● Bluetooth Window CE Active-sync ● USB SD card reader
10	Vibration Notification	<ul style="list-style-type: none"> ● Support Programming API of Window CE device manager
11	System Power State	<ul style="list-style-type: none"> ● Support Remote Application Interface (RAPI) for retrieves the power state of system: Battery Status / AC status
12	Backlight	<ul style="list-style-type: none"> ● Support Programming API of Window CE device manager ● Support 10 backlight scales

Item	Features	Descriptions
13	Network Features	<ul style="list-style-type: none"> ● NDIS network driver architecture ● TCP/IP ● Windows Networking API /Redirector [SMB] ● WinSock Support
14	Security	<ul style="list-style-type: none"> ● Authentication Services (SSPI) ● Credential Manager ● CryptoAPI 1.0
15	Applications and Service Development	<ul style="list-style-type: none"> ● .NET compact framework 2.0 ● Active Template Library (ATL) ● C Libraries and Runtimes ● COM and DCOM ● Microsoft Foundation Classes (MFC) ● Object Exchange Protocol ● Standard SDK for Windows CE ● MSXML 3.0
16	Fonts	<ul style="list-style-type: none"> ● Courier New (Subset 1_30) ● Tahoma (Subset 1_07) ● Wingding
17	Multilingual	<ul style="list-style-type: none"> ● English (English software Input Panel) ● Traditional Chinese (Bopomofo/ Chan Jei software Input Panel, Handwriting) ● Simplified Chinese (Shuang Pin software Input Panel)

Installing the Main Battery



- 1: Rotate the lock screw counter-clockwise with a flat-head screw driver or a coin to release the lock.
- 2: Slide the battery door outwards as direction of the arrow and open the battery door.



- 3: Push down the main battery into the battery bay until you hear a clip sound.
- 4: Put back the battery door and fasten the lock screw in clockwise way.

Removing the Main Battery



- 1: Open the battery door first.
- 2: Please use your finger nail to pull the fillister on the battery latch (the circle marked) toward the front as the direction of the arrow shows.
- 3: Flip up and remove the battery to replace another.

Installing / Uninstalling SD Card

SD Card Slot locates in the inner side of the battery bay which is a push-push type.

Installing the SD Card



- 1: To open the battery door and remove the main battery first.
- 2: To push the SD card into the Slot until it clicks.
- 3: To remove the SD Card, please push again the SD card and slide outwards.

Uninstalling the SD Card



- 1: To remove the SD Card, please push again the SD card and slide outwards.

Neck Strap Installation

To installing the Neck Strap, please unthread the Neck Strap first then follow the below steps.

- 1: Start threading the Neck Strap through the Strap Hole as arrow direction.
- 2: Thread through the plastic ring to make it secured with the Neck strap.
- 3: Repeat step one and two at the other side.



- 4: Finished.

Wrist Strap Installation



- 1: Start threading the Wrist Strap through the Strap Ring.
- 2: Thread through as the arrow direction point.



- 3: Finished.

Hand Strap Installation



p screw holes

- 1: Start threading the Hand Strap through the strap hole at the either side of the system.
- 2: Thread through as the arrows direction show.



- 2: Finish the Hand Strap threading through the strap hole at the side of the system.



1: Fasten the Hand Strap Plastic Ring with the screws (2) to the screw holes at rear side of the system.

2: Thread the Hand Strap through the plastic ring as the direction of the arrows show.



3: Finished.

Charging the Main Battery



- 1: Connect the Charger Base and USB-AC power Adaptor as above arrow instruction.
- 2: Plug the USB-AC Adapter to the electrical outlet.
- 3: The LED light on the charge base will light up if power is applied.
- 4: Drop the unit into the charger base.
- 5: The units LED will turn Orange while recharging.
- 6: When recharging is complete, the units LED light turn Green.

Backup Battery

The internal Backup Battery can last for 5 minutes. The screen will be powered on with the last status when you replaced the Main Battery within 5 minutes.

When the Main Battery is out of system over 5 minutes, the boot-up screen will pop up as above figure shows after pressing the Power Button for **1** second.

Note: Normal procedure of system power-on is holding down the Power Button for 5 seconds but can be overrode to be instant on.

Power on/off the System



Turn on the System

Press and hold the Power Button (as the arrow marked) for 5 seconds to turn on the system.

Note: There is a option for the off/on button to work as a instant on switch.

Turn off the System

To press the Power Button for 5 seconds or press “Start Menu” > “Suspend” to turn off the system.

LED Indicator Description

The LED indicator is located in the front of the Hand Held Computer which indicates the status of Power on/off, the Main Battery and WiFi Link. The Description as follows:



Green color LED:
Battery power charging state(S/W)

LED ON: Battery power charging finished
(100%)



Orange color LED:
Battery power charging state(S/W)

LED ON: Battery power charging



Blue color LED:
Link status of WiFi manager (H/W)

LED ON: WiFi link active



Red color LED:
Battery power state(S/W)

LED Flash: Battery low
LED ON: Critical battery low

Cold Boot



- 1: Use a tool to gently press the “Reset Hole” on the rear of the Hand Held Computer while keep holding the “Power Button” throughout.
- 2: Release the press of “Reset Hole” and the “Power Button” at the same time after system vibration occurs.



- 1: System reboot to Desktop Screen as shown above.
- Note:** Desktop Screen slightly varies according to the OS version and options installed.

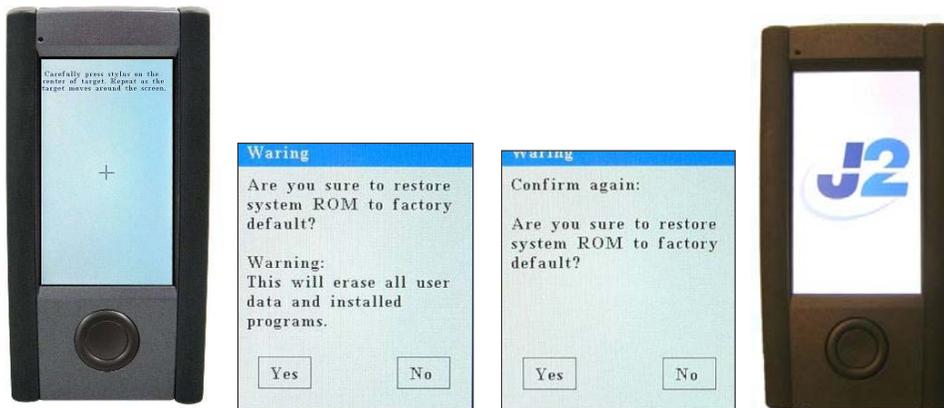
Resetting to Factory Defaults

The Hand Held Computer provides functions of “Reset to the factory default settings” and “cold boot”. The detail procedures as bellows:

Reset to the Factory Default Settings



- 1: Use a tool to gently press the “Reset Hole” on the rear of the Hand Held Computer while keep holding down the “Power Button” throughout until the system vibration occurs.
- 2: Release the “Reset Hole” and press the “Power Button” the second time after the system vibration occurs.
- 3: The calibration instruction window will pop up to lead you to the “Reset to the factory default settings”.



- 1: Completing the “Calibration window” instructions.
- 2: Press “Yes” to accept the “reset”.
- 3: Click “Yes” to confirm again.
- 4: System rest window appears as above far right picture.

USB Cable

There is only USB port with WindowsCE® ActiveSync® function to be exposed to software developer to develop and debug their software application.

A specific application program located in “Application” Folder and named as “USB.EXE” to provide manual USB ActiveSync connection.

A specific USB cable would be required.

USB Cable Snapshot



To PC

To Mobile

Optional USB Cable is for functioning Synchronization with PC and Software uploading or Debug.

Synchronization via USB Cable

To synchronize the Hand Held Computer with PC, please install the “Microsoft Active Sync” program on each PC first.

The set-up of a “Partnership” will be requested once after connecting the USB Cable to the Hand Held Computer and PC.



The Synchronization will be running automatically after “Microsoft Active Sync” and “Partnership Set-up” being installed successfully and the USB Cable is connected.

Please refer the detail installation procedure of ActiveSync program to the Microsoft official website.

Installing the USB Cable



1: Unscrew the screws (2) on the back cover of the Hand Held Computer to access the Connector Slot.



2: Connect the white connector to the Hand Held Computer.



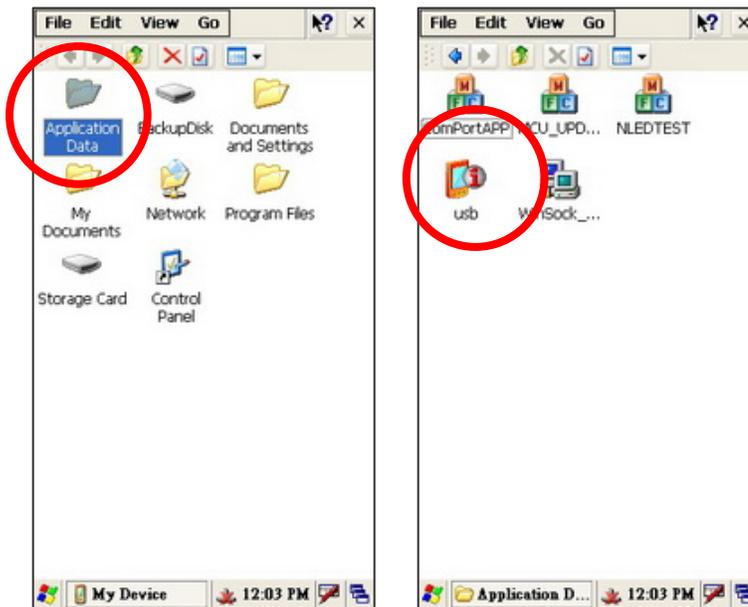
1: Connect the USB Connector to the PC device to communicate the Hand Held Computer and the PC.

Using ActiveSync

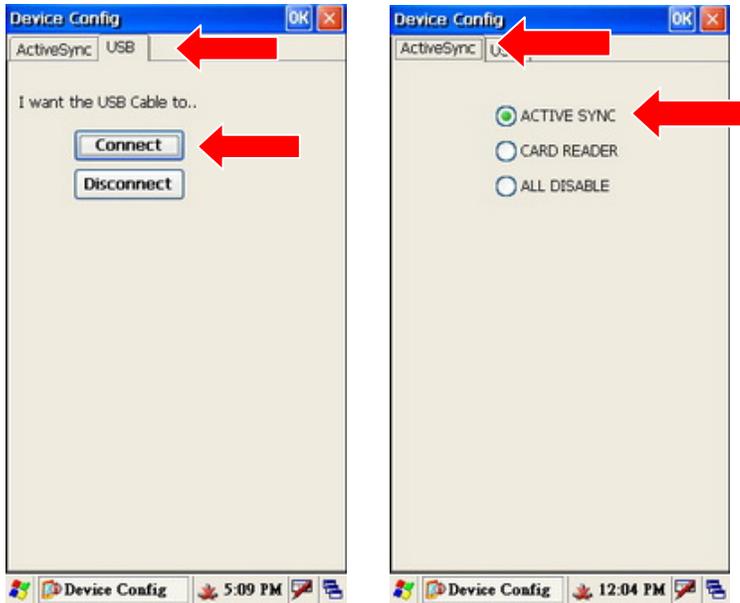
By default the hand held's USB port is disabled to save power. It must be enabled to use ActiveSync. Follow the steps below to enable the hand held's USB port.



1: Double-click on the “My Device” icon on Today screen.



- 1: Double-click on the “Application Data” folder.
- 2: Double-click on the “usb” icon.

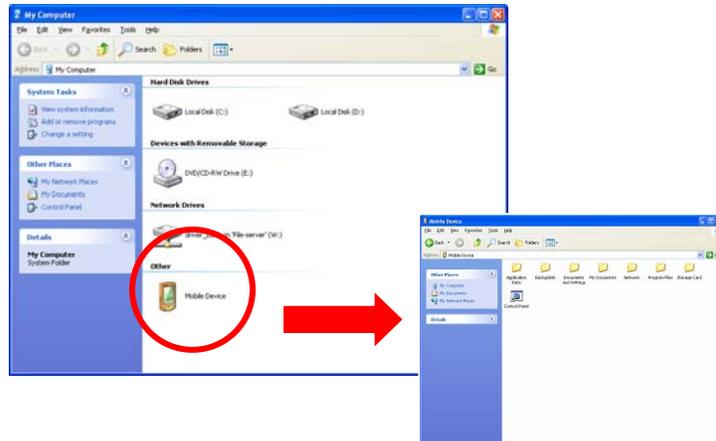


- 1: Select “USB” tab
- 2: Press “Connect” button.
- 3: Select “ActiveSync” tab.
- 4: Select “ACTIVE SYNC” button.
- 5: Press “OK” button.

After installing the “Microsoft® ActiveSync®” program at your PC, please enable it. You will see the “Connecting” is running automatically after USB Cable is connected the Hand Held Computer and PC.



- 1: The “Microsoft ActiveSync” window will show “Connected” after USB Cable is successfully connected.



1: Double click the “Mobile Device” icon by opening “My Computer” to access the documents or files saved in the Hand Held Computer.

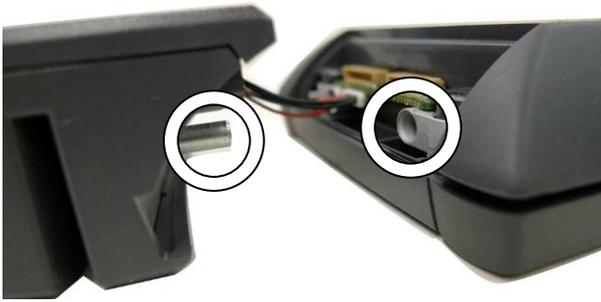
MSR Module Installation



- 1: Unscrew the screws (2) on the rear side of the Hand Held Computer.
- 2: Slide upward to open the Connector Cover to access the connector slot.



- 3: Connect MSR cable to the respective connector on the connector slot of the Hand Held Computer.



4: To make sure the metal juts are entered to the right position of the system.

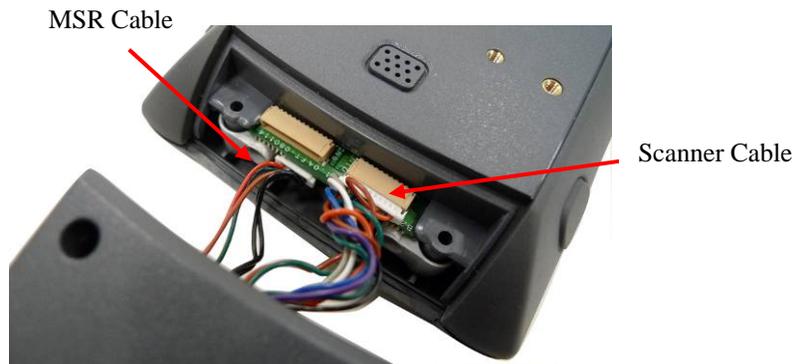


5: Use the attached screws (2) to fix the MSR module to the Hand Held Computer as above photo shows.



6: Finished.
Front view of the MSR module and the Hand Held Computer.

2-in-1 MSR and Scanner Module Installation



1: To open the connector cover on the Hand Held Computer first.

2: Connect cables (2) to the respective connectors on the connector slot of the Hand Held Computer.



3: To make sure the metal juts are entered into the right position of the Hand Held Computer.



4: To use the attached screws (2) to fix the 2-in-1 MSR module to the Hand Held Computer.



5: Finished.
The front view of the 2-in-1 MSR and Scanner Module with the Hand Held Computer.