

Capsule Endoscope System

User's Manual

----- **Handheld Wireless Monitor**

SCIE-OM-01

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Handheld Wireless Monitor

Handheld Wireless Monitor is intended to be used by Medical Staff to control recorder and capsules, monitor corresponding working state in absence of Imaging Workstation. It can make monitor the collected images, save the data and so on.

You can set the system through Handheld Wireless Monitor such as downloading and reading the serial number, channel number of capsules, time correction and reading of image recorder. it can control parameters such as sleeping, waking up and exposure of capsules, complete all of the system settings before image analysis. Therefore, medical staff can collect pathological pictures of patients without Imaging Workstation.



: Handheld Wireless Monitor can complete normal work only with recorder and capsules.

1 Composition, technical specification and characteristics of Handheld Wireless Monitor

1.1 Composition of Handheld Wireless Monitor:

Handheld Wireless Monitor is composed of PDA and a wireless CF card. The OMOM software can be run on PDA Windows Mobile® 6 Classic operating system, the expansion slots include SDIO and CF card, minimum standards for normal memory: 128MB SDRAM main memory, 256MB flash ROM, video resolution is 640 x 480,65 K color, 16 bit. For example, HPiPAQ212 model of PDA complies with configuration requirements.



: PDA is not developed by our company.

Do not charge PDA during use of Handheld Wireless Monitor.

Figures:



Front Panel



Side Panel 1



Side Panel 2

- ① Power Switch: Open the power of Handheld Wireless Monitor.
- ② Bluetooth Indicator: Lights up means wireless functions like Bluetooth have been activated.
- ③ Charging indicator: Light is orange when charging, green for completion of charge.
- ④ Reset button: Marked as RESET; restart the system.
- ⑤ Shortcut key for E-mail: Press this key into management interface of E-mail.
- ⑥ “OK” key: The function of closing the current window.
- ⑦ Arrow keys and confirm key.
- ⑧ Shortcut key of start menu: Click the key to pop-up start menu;
- ⑨ Agenda management: Press this key to pop-up agenda management interface.
- ⑩ Wireless CF card: Connector between handheld monitor and recorder which is responsible for the functions to send and receive data.

Light sensors (not enabled).

External connectors: The operation detail of the connection with computers and charging rules handheld monitor is in section 2.1.3.

Charging and data interfaces: Transmit data through the interconnection with computer and other equipments by cable.

Earphone port: Audio port.

Stylus: Place stylus here.

i: The detail description and operation of PDA is presented in the user manual of PDA.

1.2 Technical specification:

Technical specification of PDA:

Operating system: Windows Mobile® 6 Classic

Ambient temperature:	5~40°C
Relative humidity:	≤85%(25°C)
Weight:	0.2kilograms

Mode of operation:	Touch Screen
Battery:	Li-ion battery

Storage conditions:

Ambient temperature:	0~50°C
Relative humidity:	≤85%(25°C)
Atmospheric pressure:	70~106Kpa

Technical specification of wireless CF card

Model:	JS-MEH-II
Rated voltage:	3.3V DC
Rated current:	0.03A
Operating temperature:	5~40°C

Storage conditions:

Ambient temperature:	0~50°C
Relative humidity:	75%(25°C)
Atmospheric pressure:	70~106Kpa

1.3 Characteristics

- **Easy operation:** The diagnosis includes three steps which are swallowing capsule, recording and observation.
- **Safe and healthy:** Intelligent capsule is provided sterilized and it is only for single use, which can avoid cross-infection. And the diagnosis is non-invasive and painless. Its shell is made of medical polymer materials, which can not be corroded by digestive juice, and it is non-toxic non-irritant to humans and can be safely eliminated from the body.
- **High-Resolution Image:** It can resolve the blind spot during the diagnosis of small intestine. The true color images for whole segment of small intestine are legible and direct (pixels can reach 300,000), which can greatly increase the diagnostic rate of gastrointestinal disease.
- **As convenient as desired:** Patients do not need anesthesia or hospitalization during use of the product, they can move freely, the normal work and life are not affected (Caution: it is unsuitable for engaging in manual labor or strenuous exercise during use of this product.).
- **Continuous visible monitoring.**
- **Real-time color images.**
- **On-site control the operating parameters of capsule.**
- **It can be used to monitor and control the capsule in more than one person (up to 10 people) at the same time in the same hospital. And do not conflict each other.**
 - Operate easily and display intuitively;
 - Real-time display of dashboard clock, battery, battery of capsules.

2 Status indication of Handheld Wireless Monitor

PDA charging indicator: Green light for state-of-charge.

Wireless CF card indicator: PWR is green when antenna switch is in the ON state, PWR is in

extinguished state when antenna switch is in the OFF state.


3 Main interface of Handheld Wireless Monitor OMOM software system


Main interface of Handheld Wireless Monitor OMOM software system is divided into two parts, shown in figure:



① Area of status display

The area of status display is in the upper part of the display screen that shows the name of system software, connected logo of wireless devices, key of volume controlling and time of handheld monitor sequential from left to right.

: Key for start menu;

: Key for closing the current interface.


② Area of main display

The area of main display is used to operate handheld monitor, display the setting of

handheld monitor and the images of capsule.

4 Usage of Handheld Wireless Monitor

4.1 Power on/off Handheld Wireless Monitor

Insert wireless CF card, press the open key  of Handheld Wireless Monitor after on/off the power switch of wireless CF card to power on/off Handheld Wireless Monitor.



: Handheld Wireless Monitor with a low power auto-off function will automatically shut down to stop working when the electricity is too low. So pay attention to charge Handheld Wireless Monitor in time.

4.2 Reset Handheld Wireless Monitor

Touch the key in reset hole by stylus with 1 second to complete reset.



: Do not use the operation unless special circumstances.

4.3 Communication setting

Handheld Wireless Monitor and image recorder can communicate normally only after right communication setting. Concrete operation as follows:

Boot into "Setting..." interface, select "Use wizard", correctly enter the serial number, channel number of the recorder, click "Settings" to complete communication setting, open the image recorder. Handheld Wireless Monitor should normally communicate with image recorder at this time.




: The space distance without blocking between Handheld Wireless Monitor and image recorder should be less than 10 meters.


4.4 PDA charge


- 1) Power off PDA power.
- 2) Connect the power output of the charger to the charging port of PDA .

3) Connect the power input of the charger to matching socket (input range: 100~240VAC,50~60HZ) .

It's charging when the charging indicator shows orange and it has completed charging when the charging indicator shows green. It means charging abnormally if charging indicator without above symptoms. Please check whether the battery is in place, or there is a problem of charging setting, etc. It takes about 4 hours \pm 30 minutes to charge PDA with the device off.


: Please turn off the power of PDA and wireless CF card while charging PDA before or after using. Do not charge PDA in working condition of Handheld Wireless Monitor.

: Be sure to use dedicated charger provided by PDA in order to ensure the safe use of battery and extend the battery life.

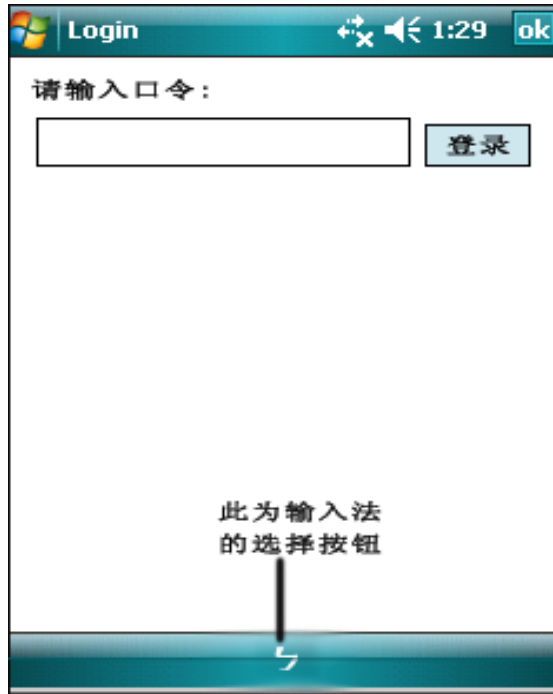
: Handheld Monitor should be charged once a month regularly (no discharge) when it's not in use.

4.5 Proper use of touch pen

PDA is sophisticated touch screen operated instrument whose corresponding operation realizes through clicking the corresponding area of touch screen. All of the operations are effective after releasing the click. The accuracy of PDA touch screen is high. So the touch pen should click the center of corresponding area to ensure the accuracy of the corresponding operation.

: Please give special attention to the protection of Handheld Wireless Monitor and not click touch screen by sharp objects in order to ensure the safe use of touch screen and extend the life of Handheld Wireless Monitor.

4.6 Use of input keyboard and input method



Example plan to choose the input method

The system will automatically pop up a selecting button of input keyboard and input method when user clicks input box. The button will be on the underneath of screen like the plan. Click the button by touch pen to pop up input interface in which user can select input method.

4.7 Set up the operating condition of PDA

- (1) Setting of backlight energy-saving: Click light icon in the main interface of operating system, select page of “battery power ” in the setting page, then select “Turn off the backlight when the device is not in use” and set up the time of backlight.
- (2) Adjustment of backlight brightness: Click light icon in the main interface of operating system, select “Brightness” page in the setting page, then adjust sliding block marked with “battery in use” to regulate brightness.

i: Backlight is divided into five grades, the one is most dark and the five is the brightest. It is recommended to set to grade two when use OMOM

software to oversee images.

- (3) Power energy-saving setting of Handheld Wireless Monitor: Click “Power” icon in the main interface of operating system, select “Advanced” page, then select “Please turn off when the device is not in use ” in the page to close time setting.
- (4) Power energy-saving setting of CF card: Click “Power” icon in the main interface of operating system, select “CF card power” page in the setting page, then select the "off" option of setting up CF card power under sleep mode in the page.
- (5) Other energy-saving setting: Close wireless equipment out of use like WLAN and Bluetooth device.

5 System care and maintenance

5.1 Care and maintenance of intelligent capsules

- (1) Intelligent capsules should be stored in the environment with temperature of 0 ~ 50 °C, humidity not higher than 90% and non-radiation.
- (2) Intelligent capsules should be far away from the magnetic field and the packaging can not be damaged during storage.
- (3) Intelligent capsules should be stored in places where children can not be touched.
- (4) Intelligent capsules should be used immediately after opening and sterilized next time before using if they are not .
- (5) The validity of intelligent capsules is fourteen months. You should stop use if they exceed the term of validity.

5.2 Maintenance of image recorder

- (1) Image recorder should be stored in the dry environment with temperature of -40 ~ 50 °C, humidity not higher than 90% .
- (2) Make sure that the power is off before storage.
- (3) Should be far away from the fire source while use or storage.
- (4) Avoid infiltration of water or other liquids when they in use or storage.
- (5) Charge the image recorder once a month if it’s not in use long time. Each charging

time should be not less than 2 hours.

(6) The image recorder vest should be sterilized regularly because of frequent contact with the human body.

5.3 Care and maintenance of Handheld Wireless Monitor

(1) Handheld Wireless Monitor should be stored in the dry environment with temperature of 0 ~ 50 °C, humidity not higher than 90% .

(2) Make sure that the power is off before storage.

(3) Should be far away from the fire source in use.

(4) Avoid infiltration of water or other liquids in use .

(5) Charge Handheld Wireless Monitor once a month if it's not in use long time. Each charging time shouldn't be less than 4 hours.



·Do not disassemble or repair the system without the permission of relevant staff.

Please contact our after-sales service engineers in time for assistance after a system failure.

·System should be avoided by extrusion, collision or fall. Image recorder should not be placed close to high-temperature objects or in fire.



FCC WARNING STATEMENT

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the 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