Sentinel RX

User's Manual

SENTINEL
Smart and robust security professional

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Note : 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.

Modifications not expressly approved by the manufacturer could void the user's authority to operated the equipment under FCC rules.

3. Specification

Item		Specification
Panel	Screen Size	7" Screen with 15:9 aspect ration TFT LCD
	Display Format (pixels)	WVGA, 800 (H) x 480 (V), RGB pixels
	Brightness	400 cd/m2, LED Back-light unit
	View Angle (H/U/D)	±35°/25°/20°
System	OS	Window CE 5.0 Core
	Memory	RAM: 512 MB, Flash ROM: 128 MB
	Memory Card	SD/SDHC Card
	Users Control	TOUCH SCREEN, POWER, SCREEN, HOLD
	Indicator	Four LEDs (POWER/CHARGE, SCREEN, WIRELESS-LAN, EMERGENCY)
	Ear Phone	Phone jack (Ø3.5)
WLAN	FCC ID	NCI-VNT6656G6A4X
	Frequency	IEEE802.11 b/g Wireless LAN
		FCC Modular approved, not part of this application.
	Transmitter Sensitivity	16 dBm @ 11 Mbps , 13 dBm @ 54 Mbps
Application S/W	APP. S/W	CIRX Ver. 1.x
	Video CODEC.	MPEG4-SP
	Resolution	640 x 480 (D1), 320 x 240 (CIF)
Input Signal	Video	Video Format: 320 x 240, 640 x 480 (MPEG4-SP video stream)
	Audio	PCM Wave 18 bit, 48 kHz Sampling
Audio Output Signal		0.5 Watt Stereo.
Power Supply	Input Voltage	DC 12 V±10 %
	Current	4.3 Watts, Max at 5 VDC (without Battery)
		9.0 Watts, Max at 5 VDC (with Battery charging)
	Battery	LI-ION Polymer (6 000 mA/h)
	Battery Operating Time	4 Hours/6 Hours (Max/Min LCD Brightness)
	Recharging Time	4 Hours
Regulation		FCC Part15. Class B
Operating Temperature		-20 ℃ to +60 ℃
Storage Temperature		-40 ℃ to +80 ℃
Dimension		218 mm (W) x 157 mm (H) x 39 mm (D)
Weight		960 g (with Battery Pack)
Accessories		Battery Pack, LI-ION Polymer (6 000 mA/h)

SENTINEL

Contents

Safety Cautions

Be sure to understand contents of this user manual before using the product. You are hereby notified that we will not take any responsibility for physical, human or mental loss caused by accident due to not following the safety cautions described in this manual.

While using or storing the product, do not expose it to a product which is equipped with a magnet. It may cause data loss.

Charge the battery only under normal operation temperature without fail (0ºC ~ 50ºC)

Do not leave it in a car for a long time during summer or winder time. Store it under normal temperature (0ºC ~ 50ºC).

When turning off the power, wait until saving is completed. Otherwise, data may be deleted.

Safety Cautions

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Do not apply pressure for long time or apply excessive pressure or impact on LCD. It may cause stain on the screen or errors for touch operation.

Do not block the antenna part with a hand or an object. It may cause a problem in image receipt.

When removing the battery, turn off the power first and remove the battery in the condition with no moisture.

Do not use a damaged adapter. It may cause fire.

Safety Cautions

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Do not use it outdoor when there is lightning or thunder.

Do not touch the adapter with a wet hand. It may cause electric shock.

Refrain yourself from using the earphone for a long time or repeatedly as it may cause physical disability.

Do not disassemble or repair it. Disassembly or application of force or impact may cause failure of the product.

Safety Cautions

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Be careful when using the equipment in a place where temperature changes abruptly as it is designed to be used under appropriate temperature (0°C ~ 50°C). If it is stored in a hot or cold place for a long time without using, malfunction may occur.

If the surface of the product is stained, turn off the power and softly clean the surface of the product with a dry fabric after removing the battery. If benzene, thinner or acetone is used, it may cause discoloration of the product or badly affect the product.

Do not pull out SD card while data is saved or retrieved.
 - It may cause loss of data.

Before placing it on the mount, remove contaminant from the surface of the mount using a clean towel or fabric.

Safety Cautions

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Do not put a container filled with water or inflammable substance near the power cable.

Do not use it outdoor when it rains or snows.

If there is smoke or abnormal smell, immediately pull out the power plug and contact the service center.

Do not disassemble or repair the product at the discretion of the user. Disassembly or application of force or impact may cause failure of the product.

Safety Cautions

Be sure to understand contents of this user manual before using the product. You are hereby notified that we will not take any responsibility for physical, human or mental loss caused by accident due to not following the safety cautions described in this manual.

The battery should be charged only by using the charger supplied by the Company. If other product not supplied by the Company is used, it may cause reduction in the battery life time or explosion as well as bad influence on the product.
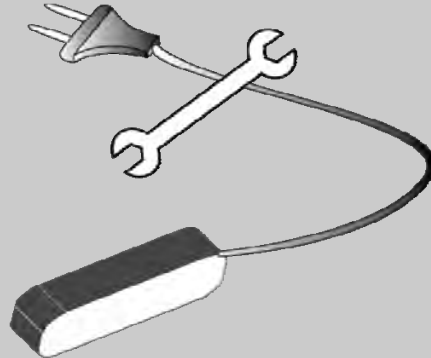
Do not tear off or change the adapter at the discretion of the user. When it is torn off or changed, it may explode, in which case service may be charged even during the warranty period.
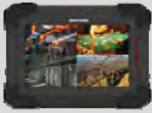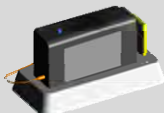
If the equipment is wet, do not put it into the place where it can be heated to dry it (stove, electric range, etc.). It may explode or cause deformation or failure. When it is wet with water or liquid, the color of the label will change. Be careful as, in such a case, free service is not guaranteed when the product breaks down.
(The label is attached inside the product.)

Do not use the product in a place where the temperature is high or with moisture.
If the product is wet with rain, stained by spilled beverage or used under environment of high temperature and much moisture such as in a sauna, it may cause explosion of the battery or failure of the product. Also, do not put the battery in a closed place of high temperature such as near the glass of a car exposed to direct sunlight. There is risk of appearance deformation, product failure or explosion.

1. Components

Components					
Sentinel RX	**Charger**	**Bag**	**Battery**	**Manual**	**Earphone**

Products sold separately		
SD card	**Mount**	

HOLD ►

LCD ON/OFF ►

◄ **POWER ON/OFF**

◄ **SD Card**

Earphone

2. Names

2.1. Front and Rear

Front

Rear

NO	Name	Function
ⓐ	Screen	Screen will be displayed in accordance with the function. As it is touch screen, it can be easily operated using a finger.
ⓑ	Power LED	Power On: Red Power Off : Off During Charging: Green
ⓒ	Screen LED	Power On & Screen Off: Red Screen Off: Off
ⓓ	Wireless LED	Connecting: Red Not connecting Off
ⓔ	Emergency LED	Emergency: Red No Emergency: Off
ⓕ	Antenna	It is an antenna for wireless communication.
ⓖ	Speaker	Sound will be output through the speaker.
ⓗ	Battery case	It is the place where battery will be mounted on.

2. Names

2.2. Left / Right Sides / Bottom Part
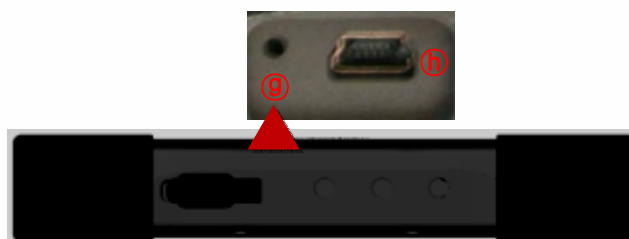
This product has water-proof and anti-vibration function complying to IP54.
When used outdoor, be sure to check if the levers attached to connectors are fully assembled.

Left Side

Right Side

Bottom Part

| NO	Name	Function
ⓐ	LCD On/Off	Though LCD power will turn off when this button is pressed, all other functions will continue being maintained.
ⓑ	Hold	It is the button used to stop the function of touch panel in order to prevent unintended operation of the equipment during movement or transportation. It will normally operate when pressed one more time.
ⓒ	Power In	It is the connector part through which DC power is input to operate or charge the equipment. Be sure to apply only the verified power to protect the equipment.
ⓓ	Power On	It is the button used to turn on and off the main power. It operates only when pressed for longer than 3 seconds.
ⓔ	SD card	It is the slot to insert SD card.
ⓕ	Earphone	It is the hope to connect the earphone.
ⓖ	Reset	
ⓗ	Mini USB	It is the port used for serial information.

3. To use the product

3.1. Turning on the power

1. Boot the system by pressing [⏻] button at the right side.

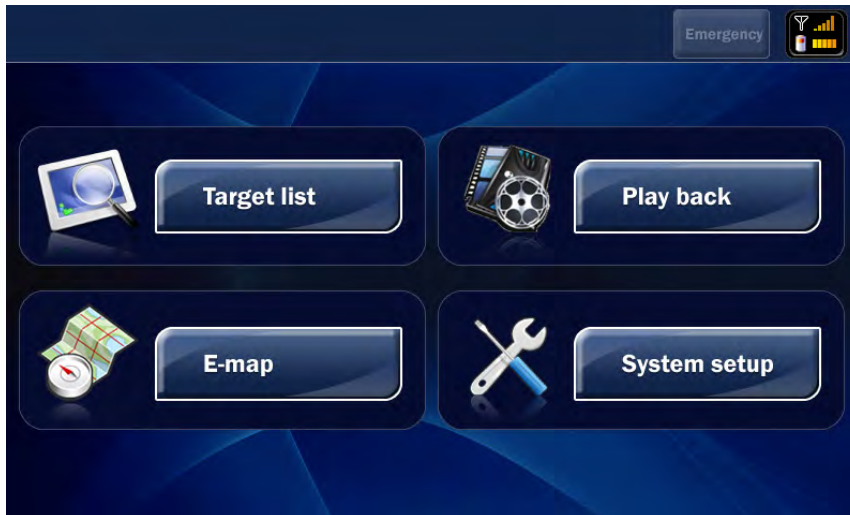2. After completion of loading, log in by filling ID and password.
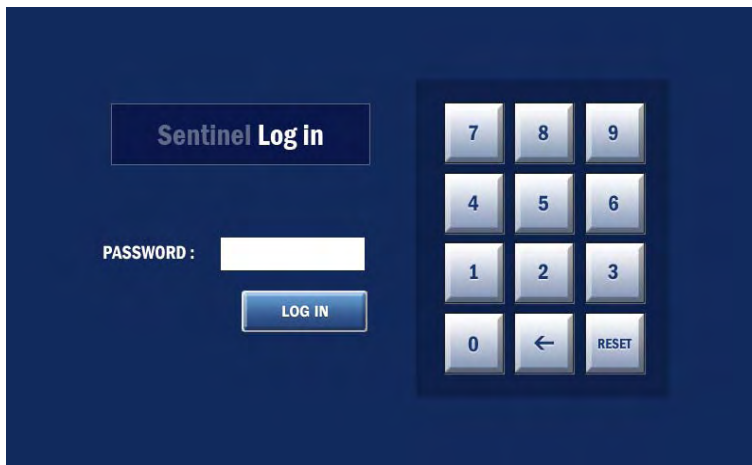
3. Sentinel main screen will be displayed as follows:
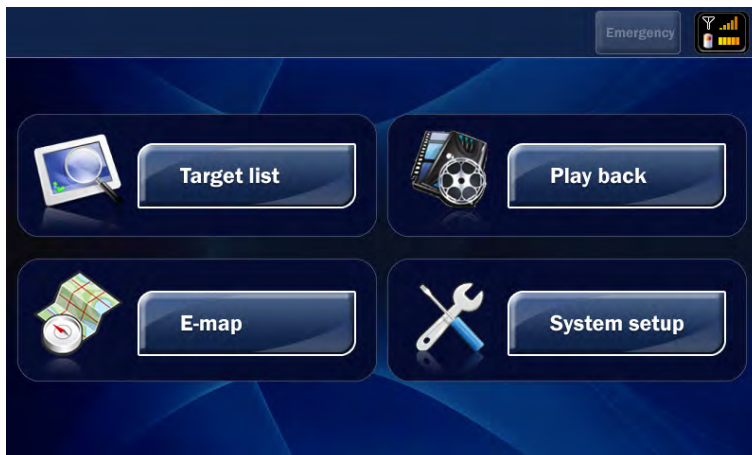
3. To use the product

3.2. Main Screen

1) Target list: It shows the list of cameras installed in the school by TX (DVR Server) and provides the list to enable connection.

2) E-map : It displays the list of cameras installed in the school by TX through Electronic Map.

3) Play back: It retrieves data stored in the SD card.

4) System setup: It performs system setup.

5) Emergency: If emergency occurs during monitoring, the school staff in charge of the system can send out emergency images, when the Emergency lamp will light up.

4. Target list

It is the function to connect after selecting the images which the user wants to monitor. There are two ways, to connect using the group list or to connect by Sentinel TX.

4.1 Group Connection

[Target List _ group connection]

ⓐ Group List: Select the group wanted from the group list registered in Network Manager.
ⓑ Connection: It will connect the group selected.
ⓒ Refresh: If will refresh if there is any problem with the Group List.
ⓓ Group: Change to the list by server.
ⓔ Emergency: In case emergency happens while Sentinel CMS is monitored, the school staff in
             charge of the system can send out emergency images to Sentinel RX and
             if emergency called images are transmitted, the relevant button will light up and
             also the emergency lamp on the terminal will light up.
ⓕ Group List Up/Down: In case there are more than 16 groups, Group will be selected using
             Up/Down buttons.
ⓖ Index Search: Select the group by the first letter of the group.
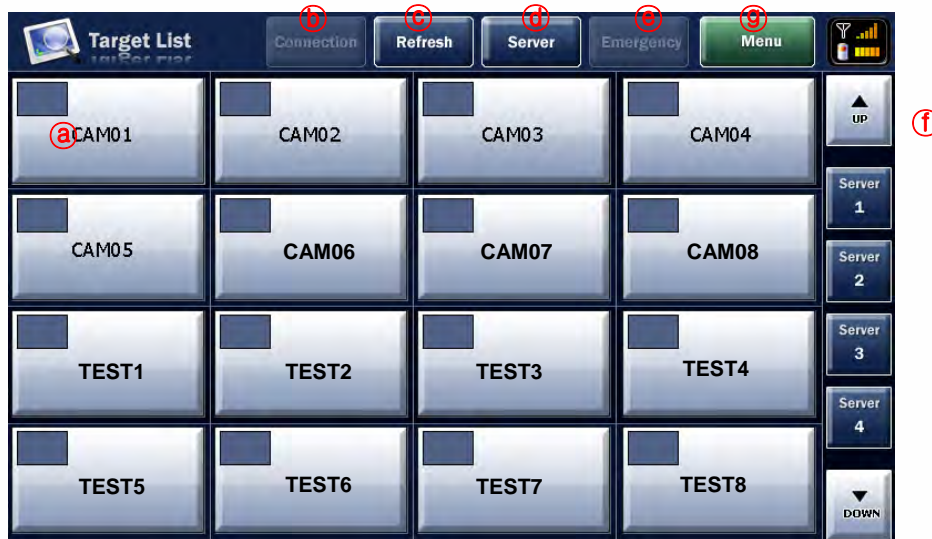ⓗ Menu: Short keys will be activated as follows:

Sequence to connect a camera

ⓐ Select group → ⓑ Connection

4. Target list

4.2 Connection by Sentinel TX

[Target List _ Connection by Sentinel TX]

ⓐ Camera List : It is the list of cameras connected by server. Select the camera which the user

wants to connect.

ⓑ Connection: It will connect the camera selected.

ⓒ Refresh: It will refresh if there is any problem with Server List / Camera List.

ⓓ Emergency: In case emergency happens while Sentinel CMS is monitored, the school staff

in charge of the system can send out emergency images to Sentinel RX and

if emergency called images are transmitted, the relevant button will light up and

also the emergency lamp on the terminal will light up.

ⓔ Server List Up/Down: In case there are multiple servers, the server and the camera will be

selected using Up/Down buttons.

ⓕ Menu: Short keys will be activated as follows:

Sequence to connect a camera

1) Select server → 2) Select camera → 3) Connection

5. E-map

Function to connect the image the user wants to monitor after selecting it watching the Map.

1. E-map shall be created and stored in the computer using E-map tool provided.
2. If the number of Sentinel TX is big or if the map to be displayed is wide, all camera information cannot be displayed on a map. In such a case, Map index which shows the locations of maps at a glance can be made for easy recognition.
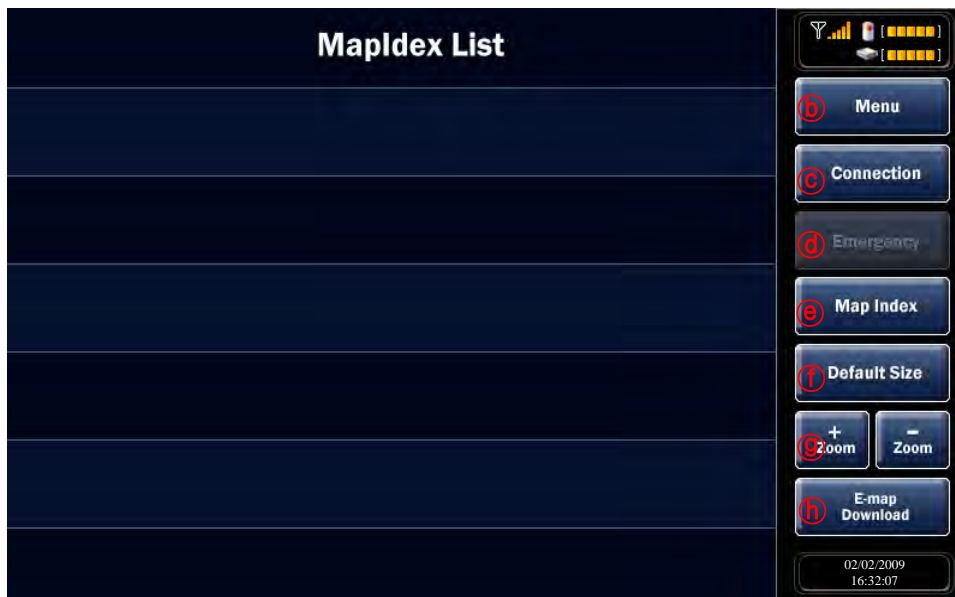
ⓐ E-map: Map and camera information is displayed and zoom-in or zoom-out can be done.

ⓑ Menu: Shortcut buttons of Main, Target List, Playback and System Setup will be displayed.

   By pressing one of the button, screen will shift to the relevant menu.

ⓒ Connection: It will connect the camera selected.

ⓓ Emergency: It will flicker when image of emergency situation is transmitted.

ⓔ Map Index: It should be selected when the user wants to view the map index which shows locations of the number of maps in a big map. In the map index, detailed maps are displayed in rectangular boxes of red color.

ⓕ Default size: It recovers the map moved up/down and left/right, and zoomed-out or zoomed-in into the original size.

ⓖ Zoom In / Out: It zoom-in or zoom-out the map.

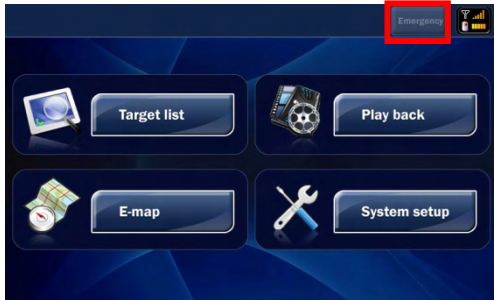ⓗ E-map Download: It downloads E-map wirelessly if there is E-map in the server but not in RX.

Sequence to select the camera

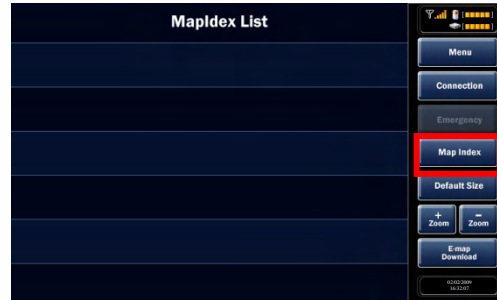1) Select the map wanted from the map list → 2) Select camera → 3) Connection
 * If there is no Map, it can be used after downloading it by pressing E-map download button.
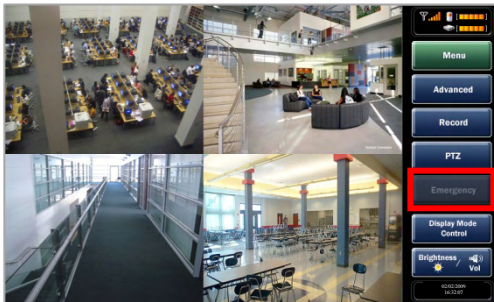
6. Emergency
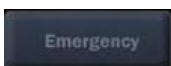
6.1. Main Screen

[Main Screen]

[E-map]

[Playback]

In every screen of Sentinel, there is an 'emergency' button inactivated at normal times. If image is transmitted by the Central Monitoring System in emergency, Emergency button will flicker.
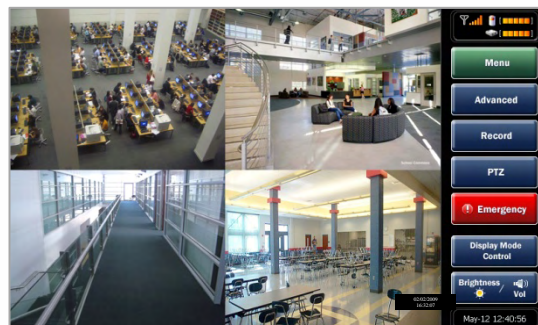
   Emergency button at normal times

During Emergency occurrence / CMS transmits image.
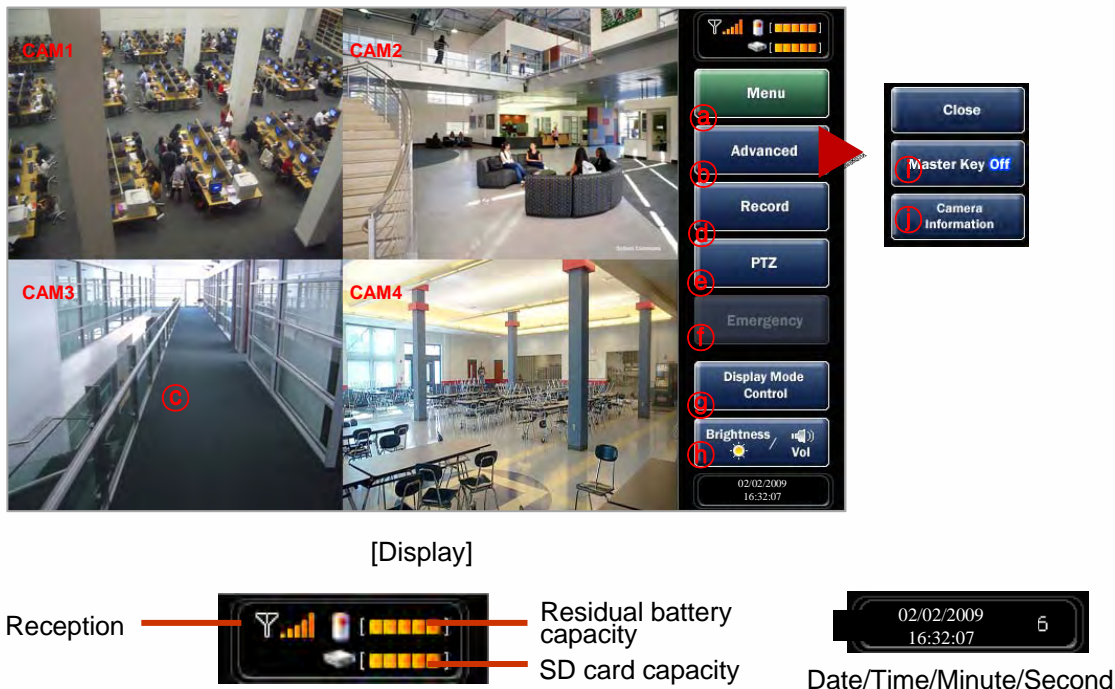
   Emergency lamp will flicker.

Click to receive the image.


[Emergency screen]

7. Live display

7.1. Main Screen

[Display]

Reception ——— Residual battery capacity

SD card capacity

Date/Time/Minute/Second

ⓐ Menu: Main, Back, Play Back and System Setup shortcuts will be shown.

ⓑ Advanced: It will activate buttons of special functions.

ⓒ Main Screen: It is the screen where the file selected is displayed. It will be zoomed in when the relevant screen is selected.

ⓓ Record: It saves necessary screens during monitoring. When the button is pressed one more time, recording will be stopped.

ⓔ PTZ: In case PTZ camera is selected, it will adjust PAN/TILT and zoom (provided that the master key is on.)

ⓕ Emergency: It flickers when image of emergency is transmitted.

ⓖ Display Mode Control: It is used to select the image to be displayed among maximum 16 images. As to detailed usage, refer to the next page. .

ⓗ Brightness / Vol: It adjust brightness of LCD and volume.

ⓘ Master Key ON/Off: Master has the authority to select the screen to be displayed. Master's authority is acquired by pressing the button.

ⓙ Camera Information: It turns on or off the display of camera name and site name.

7. Live display

7.2. Display mode control

Sentinel ITX is connected with maximum 16 cameras and can make and display combination of 4 screens wanted.
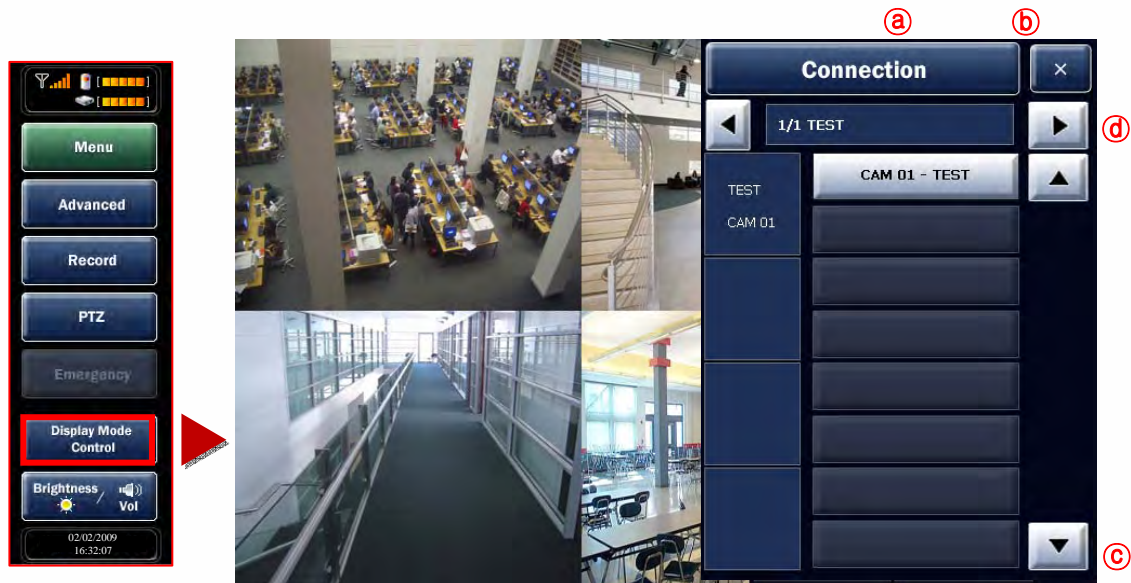
[Display Mode Control]

1. Select "Display Mode Control".
2. Select the group or camera the user wants to connect. If ⓐ is pressed, the image of the camera selected will be displayed.
   In case of manual mode, one to four cameras can be selected out of no. 1 to 16 cameras.
3. Select the group or camera of manual wanted by pressing ⓒ or ⓓ.
4. As to cancellation of selection, when ⓑ or the image screen is pressed, the window will be closed.

### 7.3. Control LCD brightness / Volume
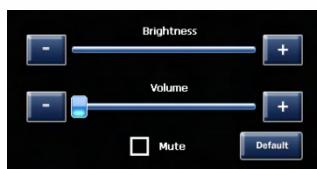
If [Brightness / Vol] button is pressed while being connected to the server, control screen as shown at the left side will be displayed. Set up brightness of LCD and volume to fit to the use environment using "+" and "-" buttons. Default button will initialize setup.
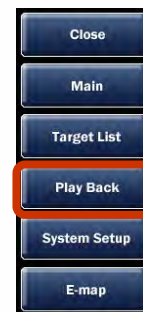
8. Play back

8.1. Main Screen

- RX stores the data wirelessly transmitted by RX using SD card.
- Data stored in SD card can be easily retrieved in various methods using the Play Back menu
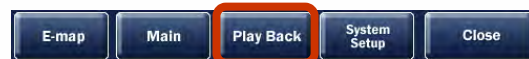
1. Select "Play back" by pressing "Play Back" on the main screen or Menu button of each screen.
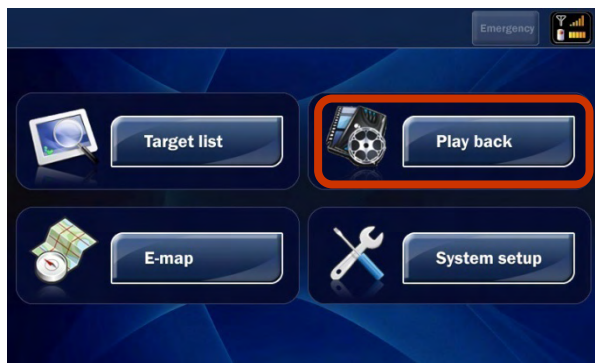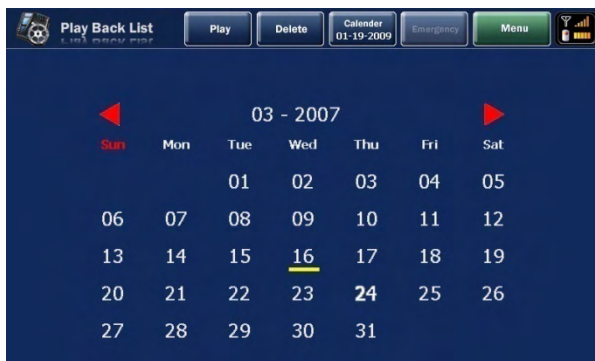

[Main Screen]

[When Menu screen is at the right side.]

[When "Menu" button is at the top side.

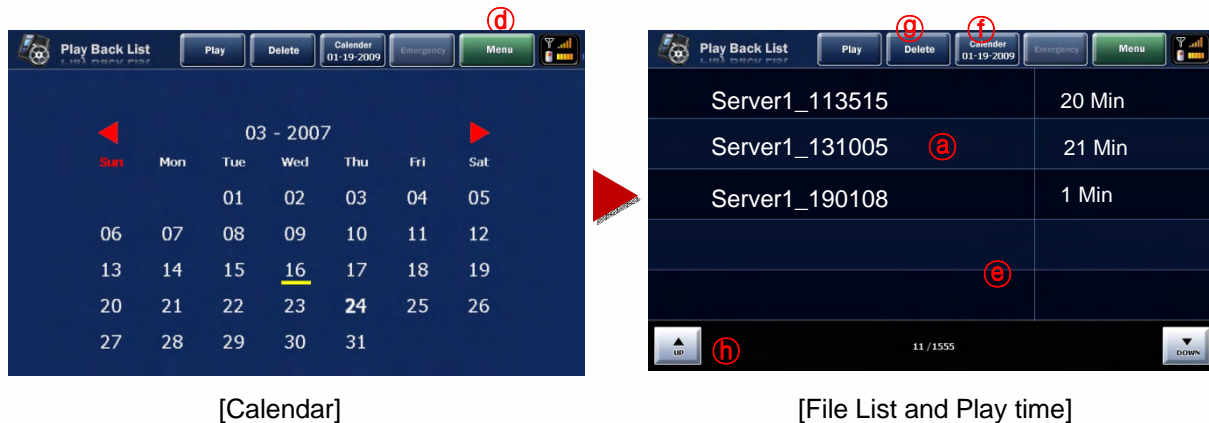2. The data stored in SD card will be shown as follows:

[Calendar]

3. Stored list can be searched after selecting the date wanted from the calendar at the right
   side and the data selected from the list can be played back.
   (If there is data stored, the date will be displayed in red color.

8. Play back

8.2. File selection

[Calendar]   [File List and Play time]

ⓐ The list of data stored in SD card will be shown.

ⓒ Calendar: Select a date the data was stored from the calendar. The arrow buttons at the left side and right side can be used to move to the previous/next month.

ⓓ Menu: It is the shortcut function to shift to other functions.

ⓔ Data List : The stored data can be selected and then played back or deleted.
   The file name represents "Site Name_storage time/minute/second" .

ⓕ Delete: It will delete the data selected.

ⓖ Play: It will play back the data selected.

ⓗ Page Up/Down: If there is many file list, data will be searched by moving up and down using page Up/Down button.

Search sequence

1. Select the data the user wants to search from ⓒ of A screen.

2. When B screen appears, select the file wanted while checking the time of the data wanted at ⓔ. If the file wanted is not shown, search for the file using Page up/down button at ⓑ and select it.

3. The file selected can be played back by pressing the play button at ⓖ and, when playing back, a new screen will be activated.

8. Play back

8.3. Play back

When play button is pressed after selecting the file wanted, stored screen and control buttons will be Shown as follows:

[Playback]

ⓐ Main Screen: It is the screen where the file selected is displayed.

When the relevant screen is selected it will be zoomed in.

ⓑ Close: It is the button used to close the session.

ⓒ Pause: It temporarily stops play back of the file.

ⓓ Fast Play: It will increase the speed of play back.

ⓔ Camera Information: It shows/hides the information about the data being played back.

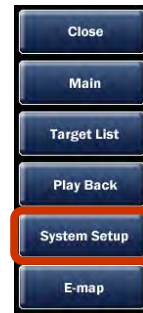ⓕ Brightness / Vol: It will open LCD brightness and volume control screen.

9. System setup

9.1. Main screen

1. Select "System Setup" by pressing "System Setup" button on the main screen or Menu button of each screen.
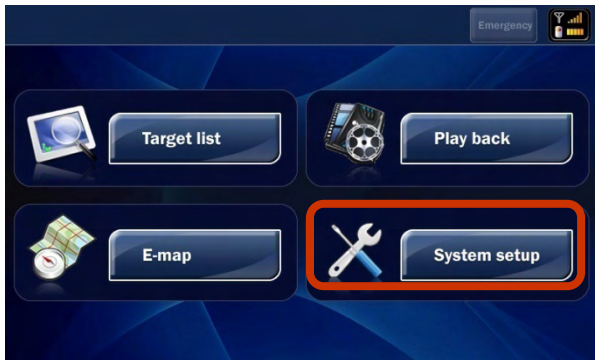
[Main Screen]

[When Menu button is at the right side]

[When "Menu" button is at the top side]

2. "System Setup" main screen will be shown as follows:

[System Setup]

ⓐ Network Information: Connection information related to various networks will be shown.

ⓑ System Update: It will update Firmware installed in RX.

ⓒ System Information Update: It will update various set values.

ⓓ Calibration : Calibration Setting.

ⓔ Change password: It will change the password and , if checked, booting can be done after entering log-in password when rebooting the system.

9. System setup

9.2. Network information

[Network information]

ⓐ SSID : Name of AP to be connected / Name of AP connected

ⓑ Signal Strength : Reception of Sentinel RX

ⓒ Associated AP : Mac Address of Connected AP

ⓓ Manager Server IP : Port registered in the computer which manages DVR server

ⓔ Manager Server Port : Port registered in the computer which manages DVR server

ⓕ Command Port : Command port registered in Manager Server

ⓖ E-map download IP : E-Map Download IP registered in Manager Server

ⓗ Local IP : IP of the current receiver

ⓘ Mac Address : Mac Address of Sentinel RX

ⓙ Reset WLAN : : It initializes the LAN card.

ⓚ Refresh : It will retrieve again the AP information currently in vicinity

ⓛ Connect : : It will connect to an AP at random.

9. System setup

1. Press "Connect" button after selecting AP the user wants to connect to.
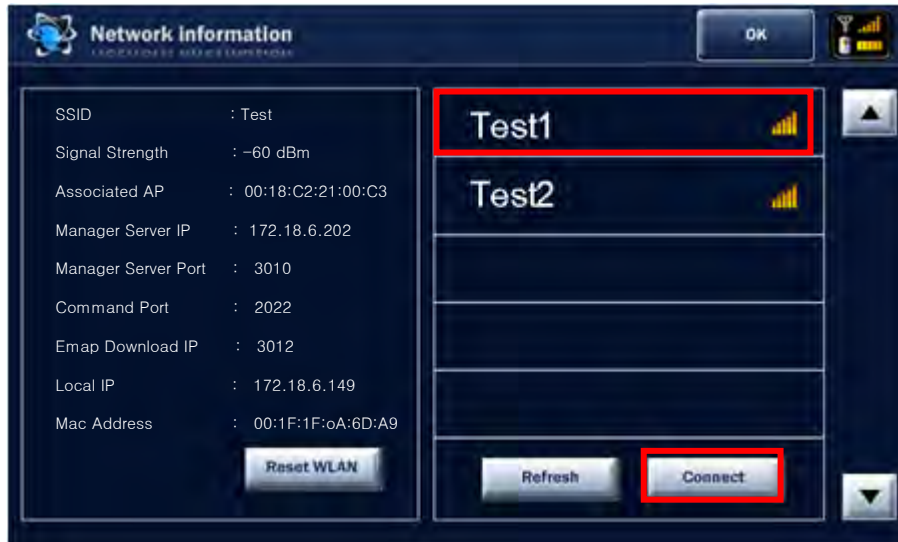
2. Press "Connect" button after preparing the screen in accordance with the setup status of the AP to be connected.
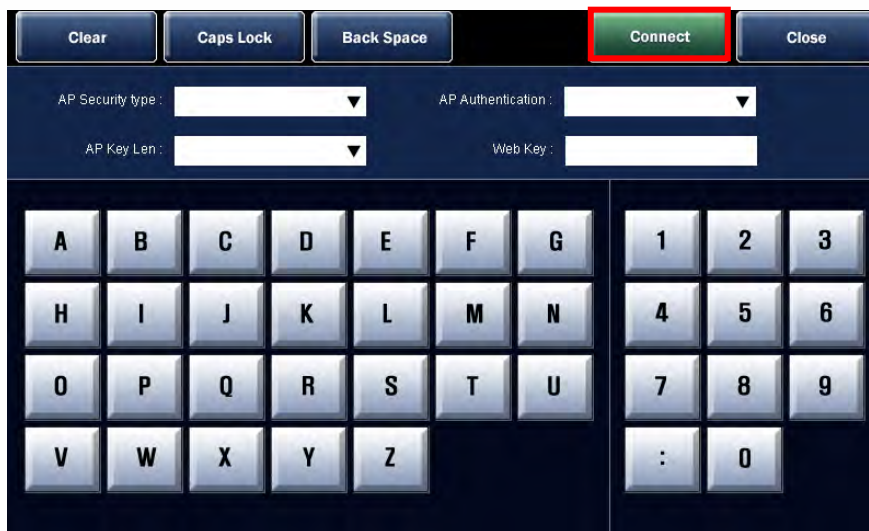
Caution!!

Be sure to setup the same value as that of the relevant AP. If the setup values are different,

connection will not be made with the AP.

9. System setup

9.3. System update
- It is used for update of software function and for update after error correction.
- Update will be automatically performed when the button is pressed after cirx.exe and skin.dll file are downloaded and saved in the root folder of SD card.

9.4. System information update
It is used to apply the relevant information to the receiver after TX information change, AP information change and system addition/deletion.
When export button is pressed after executing Network Manager software, netconfig.dat will be stored and when update button of the receiver is pressed after storing the relevant file in the root folder of SD card, it will be applied.

9.5. Change password

- It is used to change the existing password.
- Password can be changed by entering the existing password, new password to be used and new password once again to confirm and then by storing it.

9.6. Calibration
You should setup calibration again if touch screen pointing position is not correct as you are desired.