

PORTABLE DIGITAL WIRELESS PAN/TILT CAMERA AND LCD MONITOR SYSTEM

INSTRUCTION MANUAL



MODEL: CMD5237M

CAMERA MODEL: CA520M

MONITOR MODEL: M370M

Welcome!

Thank you for purchasing the wireless video monitor. Before you start, make sure you have the contents listed below.

Contents

The system comes with the following components:

- Camera X1
- Video Monitor X1
- Charging cradle for video monitor X1
- Driver CD X1
- Power adapter for camera X1
- Power adapter for video monitor X1
- Mini USB cable X1
- User's manual X1
- Hardware kit X1



Camera



Video Monitor with Charging Cradle



Driver CD



Power Adaptor for Camera*



Power Adaptor for Video Monitor*



Mini USB Cable

* The shape of power adaptor may not be exactly as shown

Check your package to confirm that you have received the complete system, including all components shown above.

Features

- Digital wireless technology provides excellent image quality and clarity
- Interference free, secure and private signal
- Up to 450ft wireless transmission range ^①
- Listen in with exceptional sound clarity
- Two-way audio communication
- Safety warning feature notifies you when out of range
- System expandable up to 4 cameras ^②
- Micro SD card recording
- Timer Function
- USB output for monitoring on PC

^① Maximum open space transmission range. The actual range is dependent upon building materials and other obstructions in path of wireless signal.

^② Additional cameras sold separately.

Camera Features

- Pan & tilt camera for wider viewing angle.
- Night vision allows for low light viewing up to 15 feet / 4.5 meters ^③
- Built-in microphone and speaker
- Two-way controlled lullabies
- Adjustable audio alarm volume for sound trigger.
- Adjustable sensitivity for audio alarm

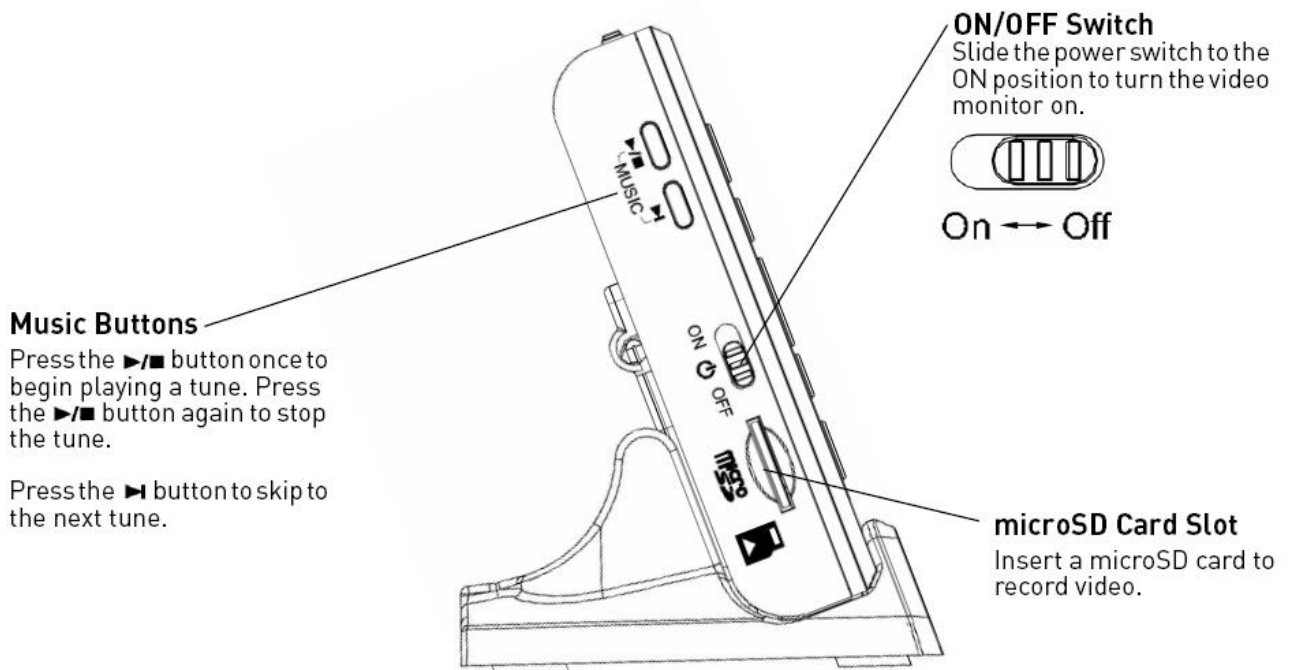
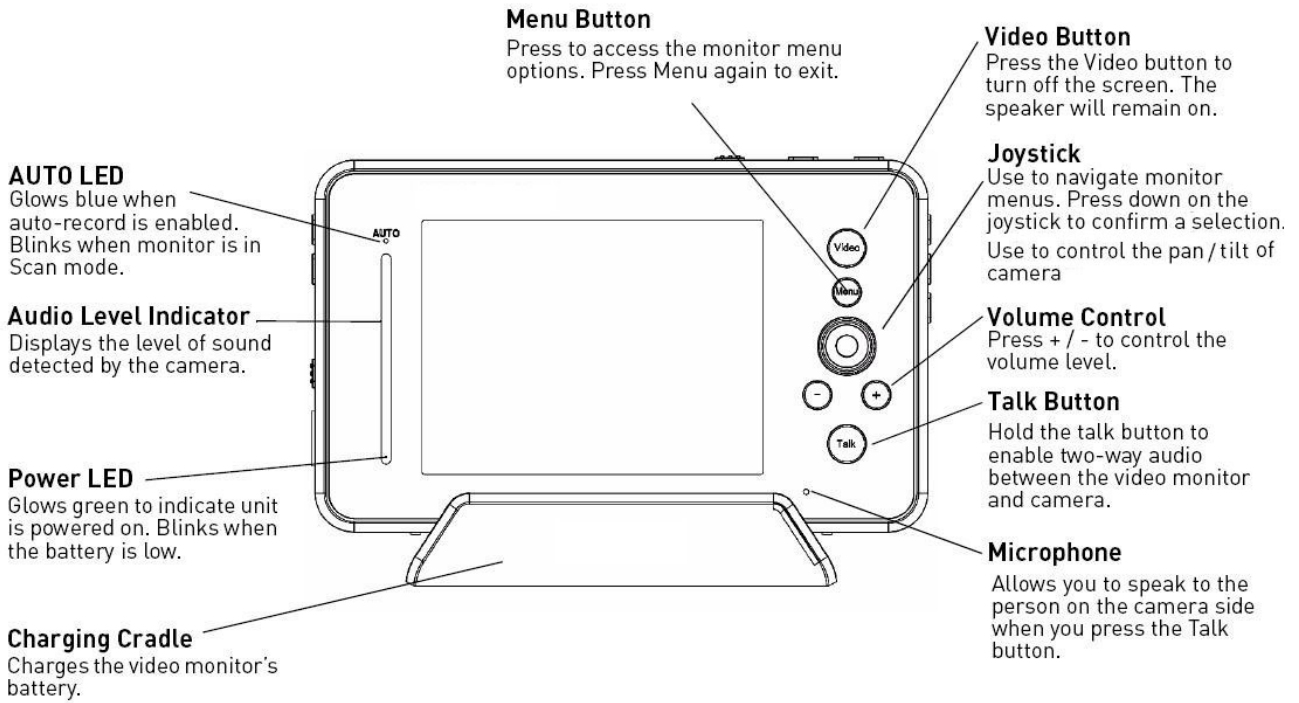
^③ IR illumination range of 15ft./4.5m under ideal conditions. Objects at or beyond this range may be partially or completely obscured, depending on the camera application.

Receiver Features

- 3.5" color LCD monitor/receiver with superior image quality
- Rechargeable lithium polymer battery for true portability
- Convenient receiver cradle included
- Audio level indicator and alarm
- Temperature display on LCD screen

Overview

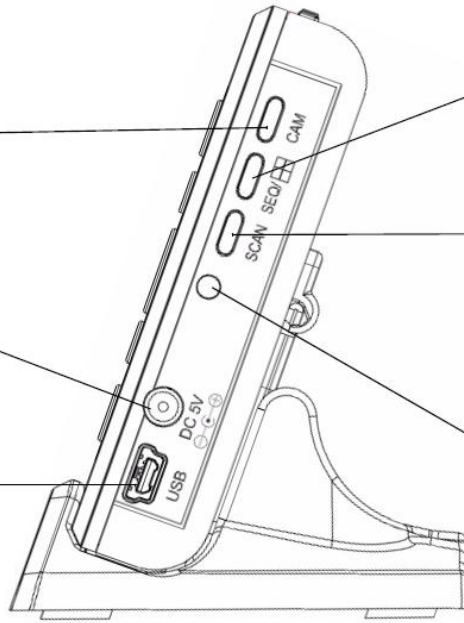
Video Monitor Overview



Cam Button
Press the Cam button to switch between channels 1-4.

Power Port
Connect the power adapter into the power port.

Mini USB
Connect a mini USB cable (included) between the video monitor and a computer to view video from your PC or remotely (setup required)

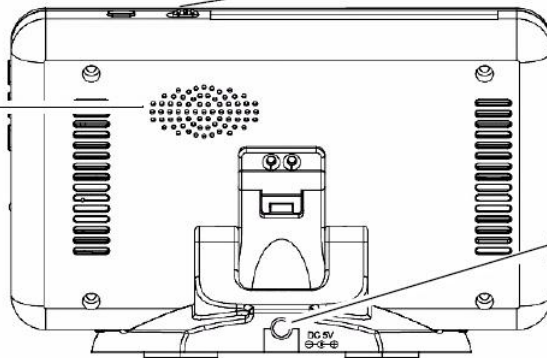


Sequence/ Quad Button
Press the Sequence/Quad button to view video in quad mode (4 screen split view), or in sequence view.

Scan Button
Turns off the video monitor, and waits for a camera to detect a sound to trigger the monitor to turn back on.

Charging LED Indicator
Glow red to indicate video monitor is charging.
Glow green to indicate video monitor is finished charging.

Speaker
Outputs sound received from the camera.

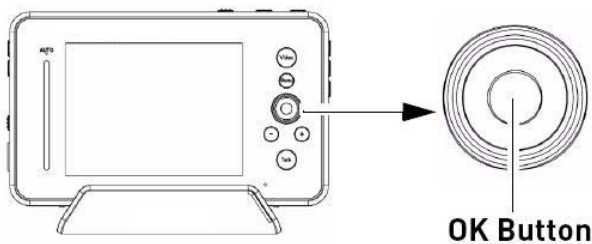


Antenna Switch
Slide the Antenna Switch towards the unlock position to reveal the antenna.

Power Port (DC5V)
Connect the power adapter to the charging cradle.

Using the joystick to navigate menus

The joystick allows you to navigate through the video monitor menus.

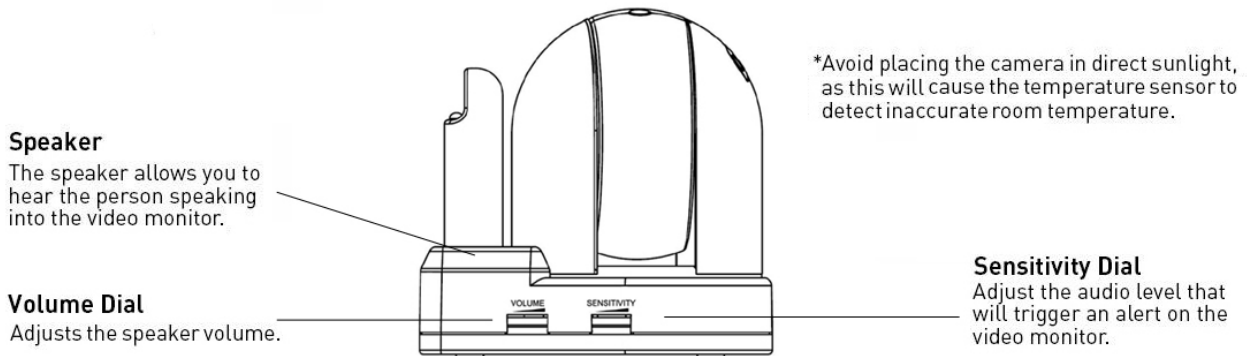
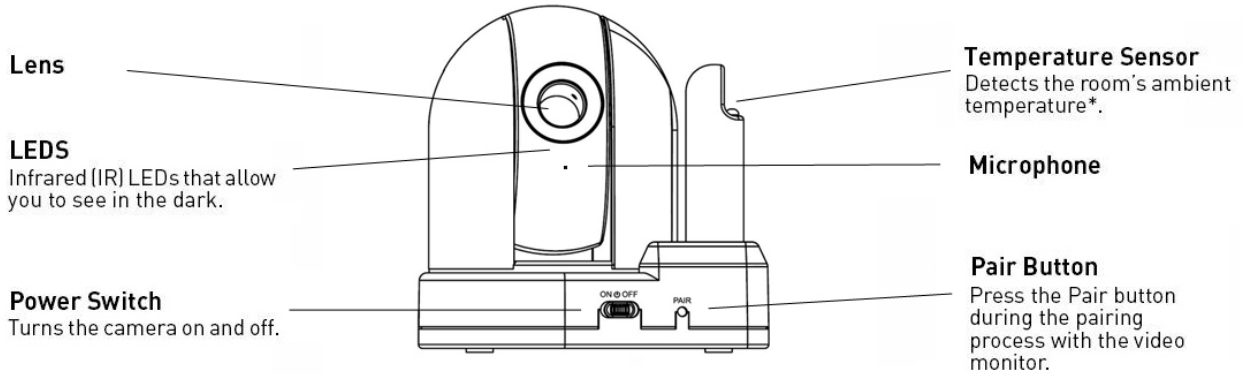


Menu Navigation

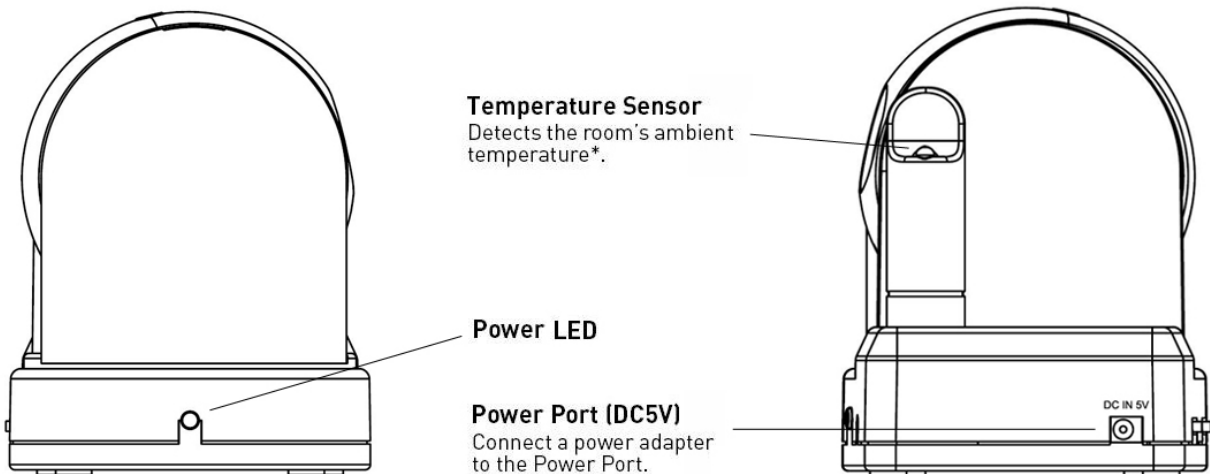
- Step 1:** Press the **Menu** button on the video monitor.
- Step 2:** Move the joystick up, down, left, or right to navigate through the menus.
- Step 3:** Press down on the **OK** button to confirm a selection.

Camera Overview

Side controls












Front / Back Controls



OSD Overview

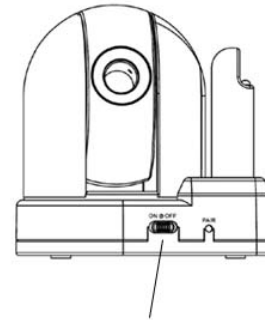
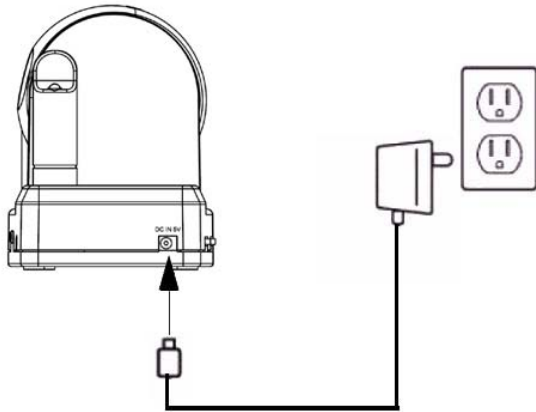
The video monitor displays the following icons during normal use. The table below summarizes the video monitor icons, and what they mean.

Icon	Meaning
	No signal between the camera and video monitor.
	Full signal between the camera and video monitor.
	Timer is enabled.
	The video monitor audio is muted.
	The camera night light is currently on.
	Two-way talk is enabled. You can now speak into the video monitor. Release the Talk button on the video monitor to listen to the camera side.
	An SD card is inserted in the video monitor.
	A new file has been recorded onto the microSD card. Note that this icon is yellow.
	The memory card is full. Note that this icon is red.
cam1	Indicates what channel the video monitor is on.
REC	Indicates that the video monitor is recording video. The file name appears beside the REC icon.
OW	Overwrite is enabled. This means the video monitor will overwrite old video files once the card is full. For details, see "Configuring the Overwrite feature" on page 18.
Charge Battery	The video monitor battery is low.
Charge Camera	The camera batteries are low.
OUT OF RANGE	The camera is out of range. Move the camera closer to the video monitor.

Basic Setup

Step 1 of 2: Powering on the camera

1. Connect the power adapter to a power outlet and to the camera.
2. Slide the power switch to the **ON** position.



Slide the power switch to the ON position

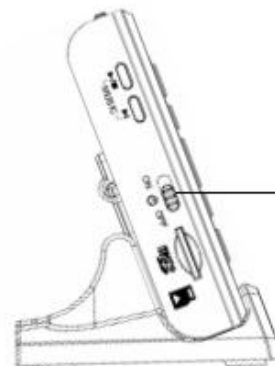
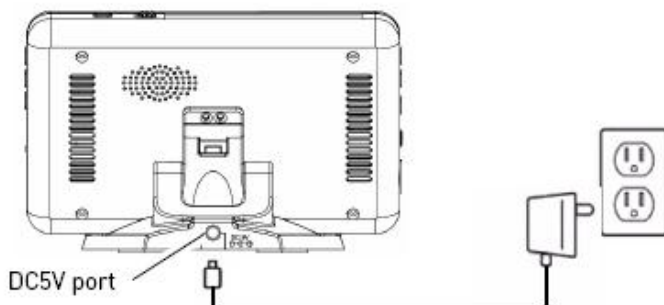
Step 2 of 2: Powering on the Video Monitor

1. Connect the power adapter to a power outlet, and to the video monitor directly or charging cradle (ensure the video monitor firmly rests on the cradle). The video monitor's charging LED indicator glows red to indicate charging is in progress.

NOTE: It requires 6 hours to fully charge the rechargeable batteries.

2. Slide the power switch to **ON** position. The video monitor will automatically scan for cameras in range.

Using the charging cradle



Slide the power switch to the ON position

Testing your setup

It is recommended that you test your camera setup before permanent installation so that you get the best picture and sound quality from your video monitor.

Test the camera and video monitor reception:

1. Place the camera and video monitor in two different rooms.
2. Have one person monitor the signal strength on the video monitor.
3. If the signal strength is low, have a second person move the camera to different locations of the room to find the optimal placement location.

Test the camera volume level:

1. Have a person with the video monitor press and hold the **TALK** button to confirm the volume level from the camera. Have the other person adjust the volume dial on the camera as required.
2. The person holding the video monitor can determine if the camera needs to move to a different location of the room for better sound clarity.

Positioning your camera

1. Determine the camera position that will give you the best view. Ensure the power cable is long enough to power the camera.

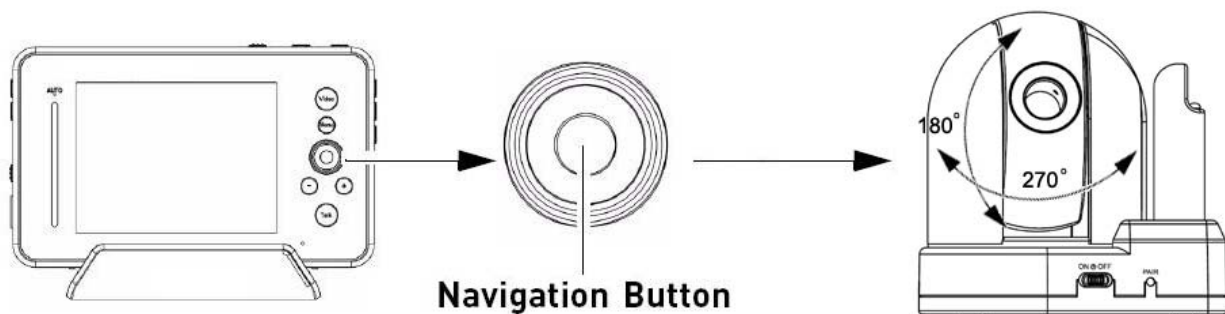
NOTE: Keep cables and wires at least 3 feet (1 meter) away from infants or young children.

2. Connect the power adapter to the camera.
3. Connect the power adaptor to the power outlet.
4. Adjust the camera head with the monitor as shown on *Adjusting camera view (page 8)*.

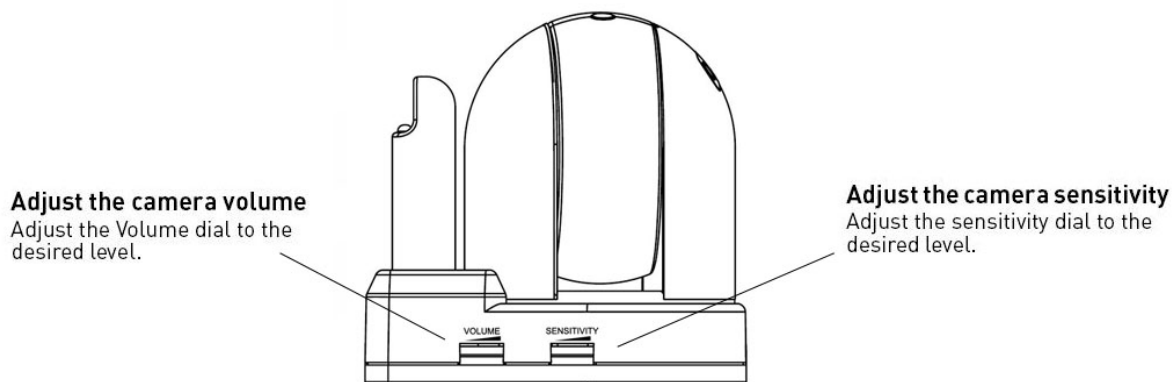
Adjusting camera view

When the monitor is in **LIVE VIEW** mode, adjust the camera head with the monitor to achieve the optimal viewing position.

The maximum vertical rotating angle is 150° , and the maximum horizontal rotating angle is 270° .



Camera Setup



Adjusting the camera sensitivity

The camera's sensitivity dial allows you to adjust the sensitivity level for triggering an alert on the video monitor.

To adjust the camera's sensitivity level:

- Scroll the sensitivity dial on the side of the camera towards the maximum position for increased sensitivity (i.e. softer noises trigger the camera).
- Scroll the sensitivity dial on the side of the camera towards the minimum position for reduced sensitivity (i.e. louder noises trigger the camera).

Adjusting the camera volume

The camera's speaker volume can be adjusted to the desired level.

- Scroll the volume dial on the side of camera towards the maximum position to increase the volume.
- Scroll the volume dial towards the minimum position to reduce the volume.

Adjusting the camera view

The camera's viewing angle can be adjusted on the monitor side. To adjust the camera view, refer to the part *Adjusting camera view (page 8)*.

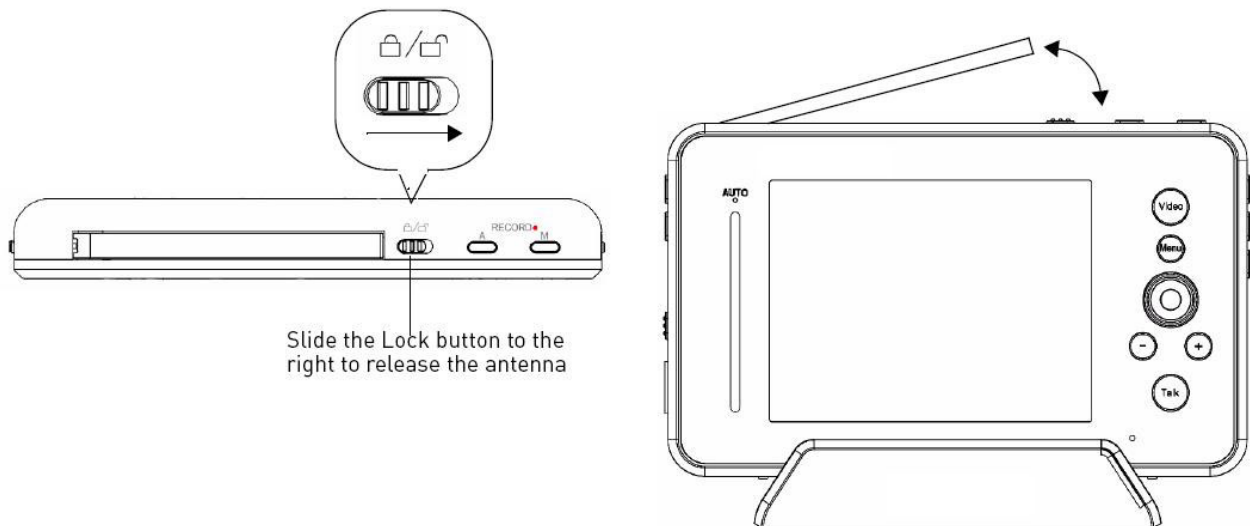
Video Monitor Setup

Unlocking the video monitor antenna

The video monitor has a built-in antenna that improves signal range. It is recommended that you extend antenna for optimal performance.

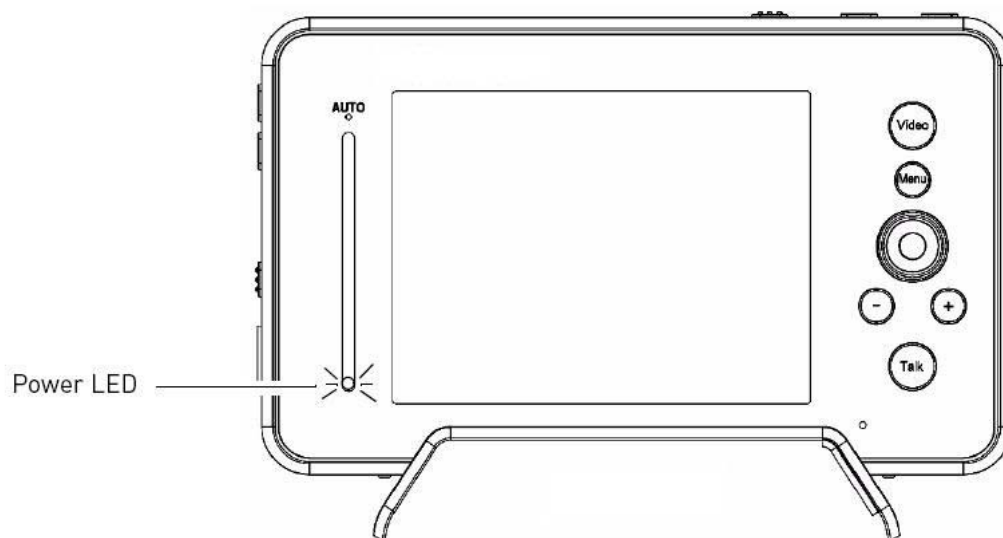
To unlock the monitor antenna:

- Slide the lock button to the right.



Reading the power indicator LED

The power indicator LED glows green when the monitor is powered on. When the battery is low, the power LED blinks.



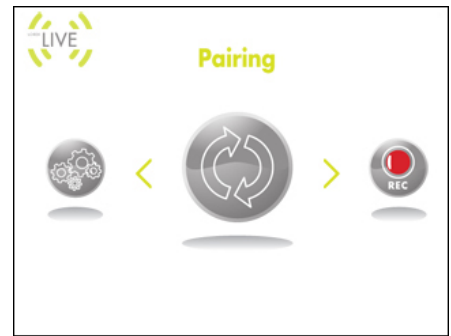
Pairing Cameras

The camera included with the video monitor has already been paired up with the video monitor. If for any reason your monitor and camera are not paired up, or you wish to add additional cameras, follow the directions below.

To pair a camera to the video monitor:

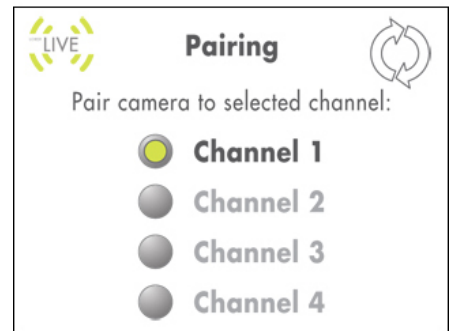
1. Place the camera and video monitor 12 inches apart. Turn on the camera first and then the video monitor.

2. Press the **Menu** button on the monitor, then select **Pairing** and press the **OK** button.



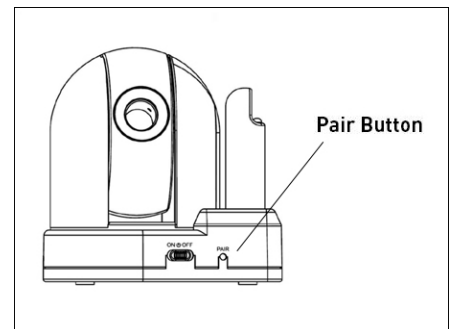
3. Select an available channel, and press the **OK** button.

NOTE: By default, the camera included with the system is paired to channel 1.



4. Press the **Pair** button with supplied stick on the camera within 30 seconds.

• You should immediately see video from the camera on the video monitor.



5. **OPTIONAL:** To pair multiple cameras, repeat steps 2~4, selecting a different channel in the pairing menu.

NOTE: You can add a maximum of 4 wireless cameras to the video monitor.

Sequence View

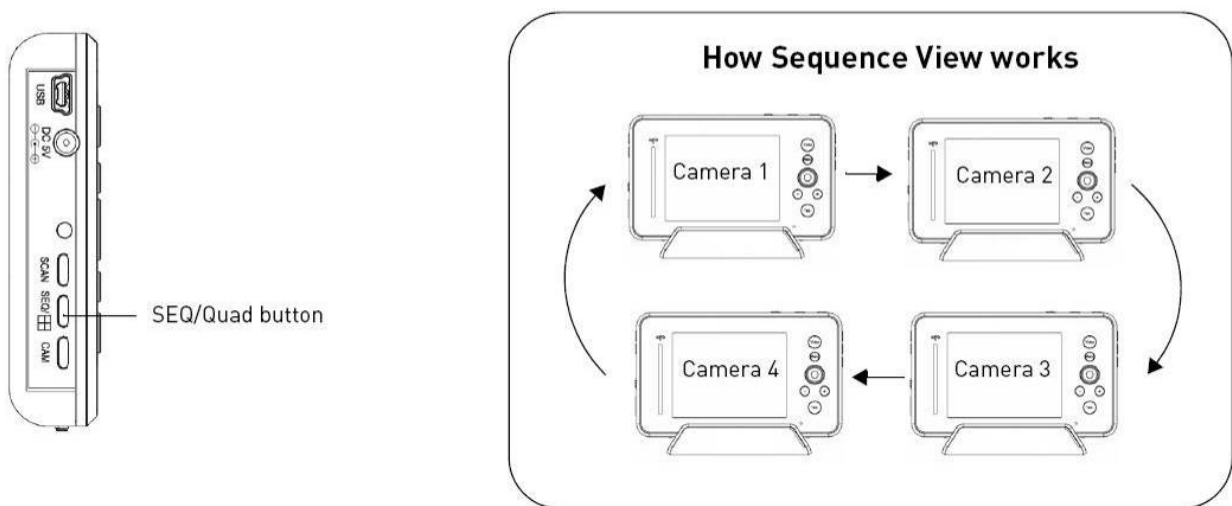
In sequence view, the monitor switches between up to four cameras every 6 seconds. For example, the monitor displays channel 1 for 6 seconds, then channel 2 for 6 seconds and so on. The monitor only switches to the channels that are paired with a camera.

To enable Sequence view:

- Press the **SEQ/Quad** button once to enter sequence mode.

To exit Sequence view:

- Press the **SEQ/Quad** button.



Quad View

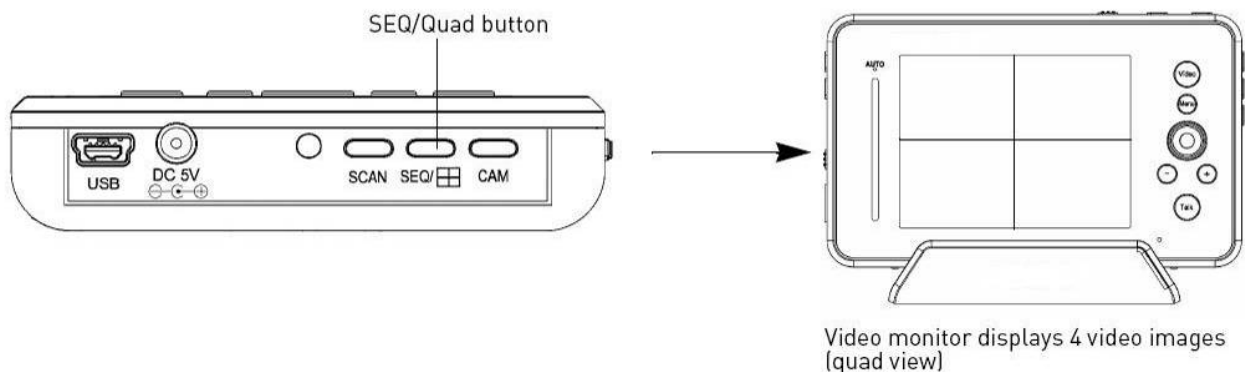
You can view all of the paired cameras in quad view. The video monitor supports a maximum of four cameras.

To view multiple cameras in quad view:

- Press the **SEQ/Quad** button twice on the video monitor.

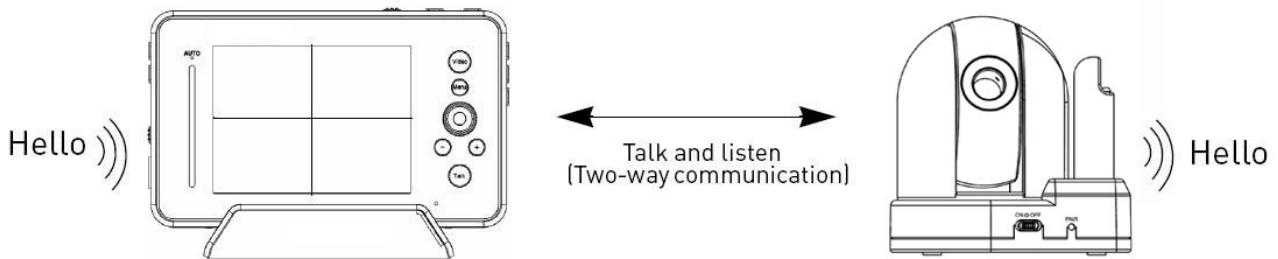
To exit quad view:

- Press the **SEQ/Quad** button repeatedly to exit quad mode.



Using the talk function

This system has the feature of two-way audio communication. The talk function allows you to speak into the video monitor, while the camera outputs your voice. The camera also has a built-in microphone, which allows the person to speak into the camera.



To use the talk function:

- 1 Adjust the volume on the camera and video monitor to the desired level.
- 2 Press and hold the **Talk** button on the video monitor and begin speaking. Release the **Talk** button when you are finished.

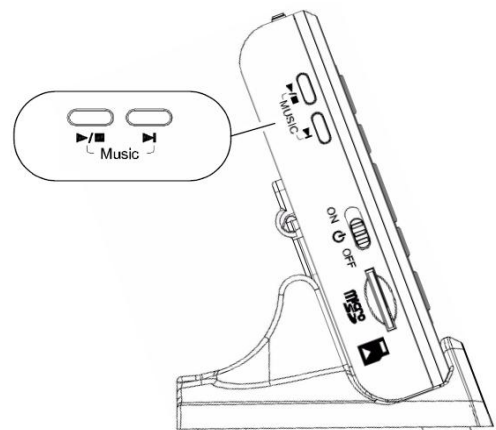
NOTE: You must release the **Talk** button on the video monitor in order to listen to the audio from the camera.

Music

The Music feature allows the camera to play preloaded tunes.

To use the tune feature:

- Press the ►/■ button to begin playing a tune on the camera and video monitor.
- Press the ►/■ button again to stop the tune.
- Press the ►| button to skip to the next tune. The song title appears on-screen.



Using the Scan feature

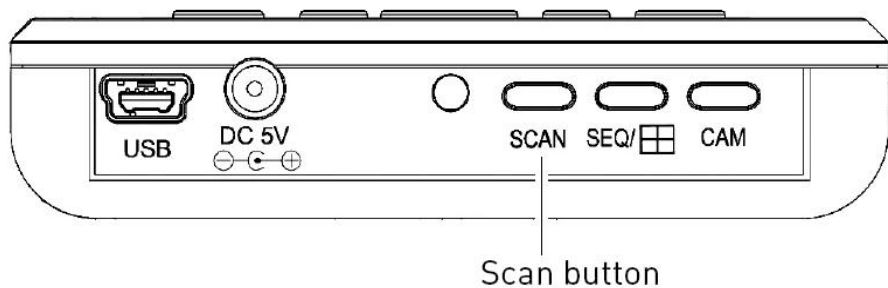
The Scan feature temporarily turns off the video monitor, and waits for a camera to detect a noise. Once one of the cameras detects sounds, the video monitor automatically turns on, and beeps to notify you. This feature is especially useful if you have multiple cameras, and only want to view the camera that detects a sound (i.e. infant crying).

To enable the Scan feature:

- Press the **Scan** button.

To disable the Scan feature:

- Press the **Scan** button to turn off the Scan feature.



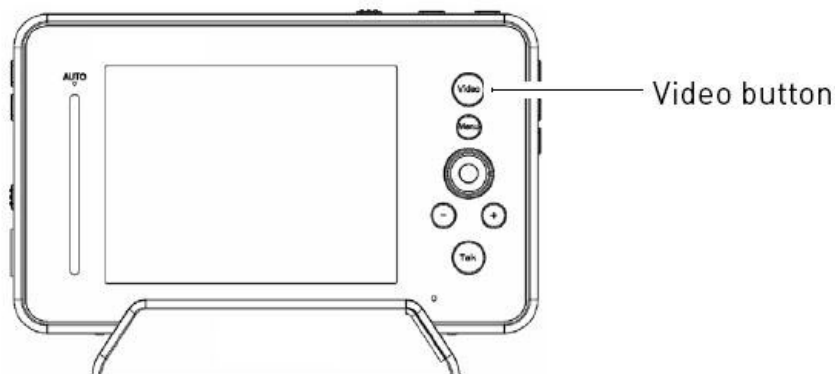
NOTE: The first camera to detect a sound will trigger the video monitor to turn on. After several seconds, the monitor turns off, and begins monitoring the cameras again.

Turning the video monitor screen on/off

Turning off the video monitor screen allows you to listen to audio from the camera, while the video monitor screen is off. For example, if you want to monitor a baby's room at night while you sleep, you can turn off the video monitor screen to conserve power, and at the same time listen to the camera audio.

To turn the video monitor screen on/off:

- Press the **Video** button to turn the screen off.
- Press the **Video** button again to turn the screen on.



Recording

This system is capable of recording video on a microSD card (not included). The video monitor supports microSD cards up to 32GB (gigabytes).

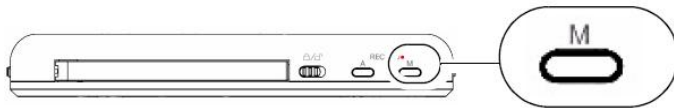
Manual Recording


Manual recording allows you to record video by pressing the record button on the video monitor. Manual recording may be useful if you want to quickly record an event to your video monitor while you are watching it.

NOTE: It is recommended to set the date and time before using the recording function (page 19)

To start manual recording:

1. Press the **M** button on top of the video monitor. The **REC** icon, followed by the file name (i.e. **113711-1.AVI**) appears on the screen to indicate recording is in progress.



2. Press the **M** button again to stop recording. The yellow file icon  appears to indicate a new recording is ready for viewing.

Auto Recording


Auto Recording allows the video monitor to record only when the camera detects a sound. For example, if you are monitoring a sleeping baby, the video monitor will not record until the baby cries (ensure you set the appropriate sensitivity level).

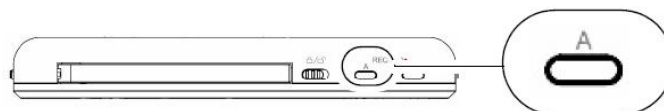
Prerequisites:

- Adjust the sensitivity level on the camera to the desired level.

The greater the sensitivity, the more sensitive the camera is to noise. This means that the slightest sound will cause the video monitor to record.

To enable Auto Recording:

- Press the **A** button on top of the video monitor. The AUTO LED glows blue. When the camera detects a sound, the video monitor begins to record. The **REC** icon, followed by the file name (i.e. **113711-1.AVI**) appears on screen to indicate a new recording. The yellow file icon  appears to indicate a new recording is ready for viewing.



NOTE: The recording time after the camera triggers the video monitor, is between 5~30 seconds. The duration of the recording can be set in the Trigger menu (Main Menu→Record→Trigger Record, page 18).

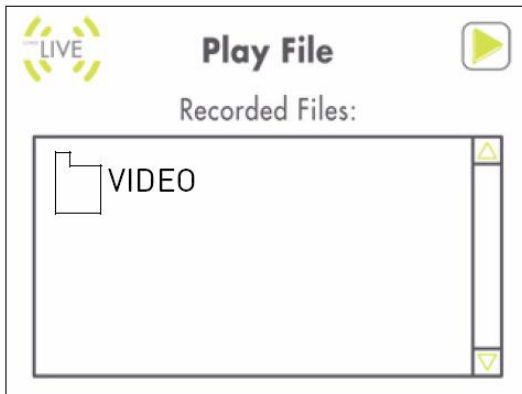
NOTE: The maximum recording time during auto recording is 10 consecutive minutes. For example, if there is constant noise, the video monitor will record a maximum of 10 minutes.

Viewing recorded files on the video monitor

There are two ways that you can view the recorded video files on the microSD memory card: through the video monitor, or on your computer.

To view video files through the video monitor:

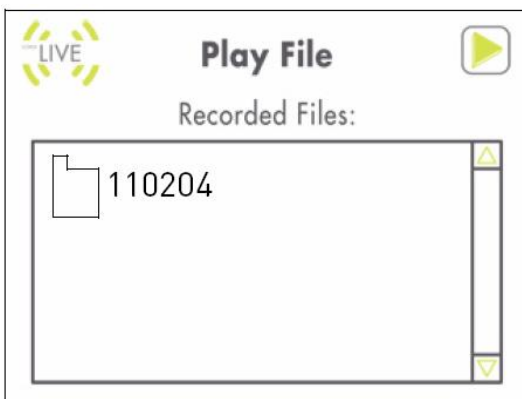
1. In the mode of live video, press the **OK** button on the video monitor (press down on the joystick). The File List menu opens.



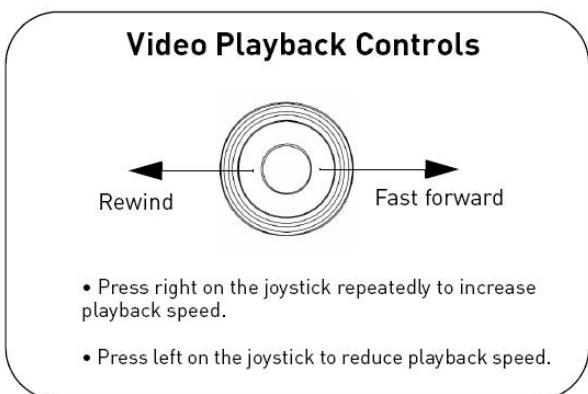
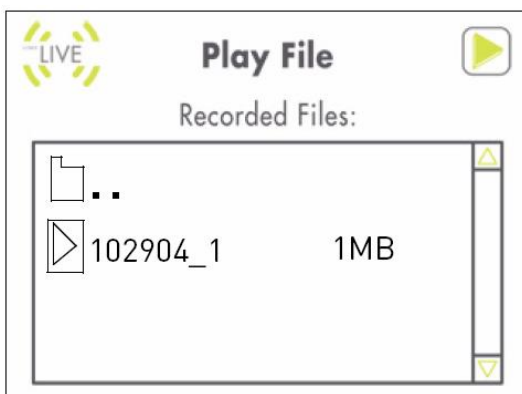
2. Press **OK** to open the VIDEO folder.

3. Select the desired folder and press the **OK** button.

NOTE: The folders are named by the year/month/date. For example, a folder named 110204 means that the folder was created in 2011, February (02), on the 4th.

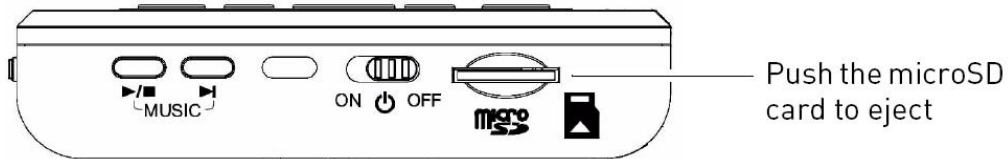


4. Select the desired video file you wish to view, and press the **OK** button to begin playback.



Viewing video files on a PC

1. Remove the memory card from the video monitor.



2. Insert the microSD card into a memory card reader (not included).

NOTE: If required, use a SD card adapter (not included) to convert the microSD card to SD/HCS D memory card format.

3. When the AutoPlay menu appears, click on **Open folder to view files**.




4. Double-click the **VIDEO** folder, and then select the desired sub-folder you want to open.

NOTE: The folders are named by the year/month/date. For example, a folder named 110204 means that the folder was created in 2011, February (02), on the 4th.

5. Double-click the desired video file to begin playback.

Viewing video files on a Mac

1. Insert the microSD card into a memory card reader. If required, use a SD card adapter (not included).
2. The memory card automatically appears on the desktop.
3. Double-click the USB icon  on your desktop to view the microSD contents.
4. Double-click the **VIDEO** folder, and then select the desired sub-folder you want to open.

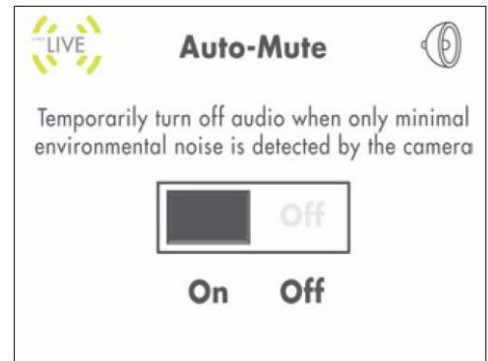
Configuring your video monitor

Enabling the Auto Mute feature

The Auto Mute feature eliminates white noise when monitoring a room. The Auto Mute feature works by muting the video monitor when the camera detects no audible noise. Once the camera detects a sound, the video monitor unmutes.

To enable Auto Mute:

1. Press the **Menu** button on the video monitor.
2. Select **Auto-Mute** and press **OK**.
3. Select **ON** to enable auto mute.
4. Press the **OK** button to save your settings.

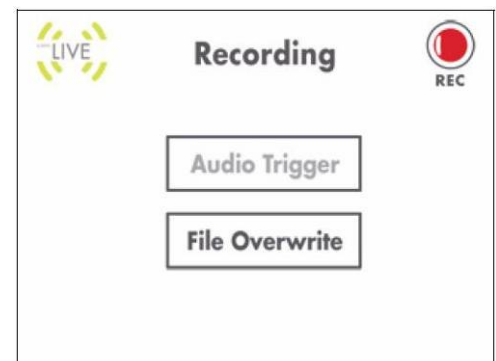


Configuring the Overwrite feature

The Overwrite feature allows the video monitor to continuously record on the microSD card. When the microSD card is full, the video recordings begin to overwrite the first recorded video entry (first in first out).

To configure the overwrite feature:

1. Press the **Menu** button on the video monitor.
2. Select **Record** and press **OK**.
3. Select **File Overwrite** and press **OK**.
4. Select **Yes** to enable the overwrite feature, select **No** to disable the overwrite feature.
5. Press the **OK** button to save your settings.

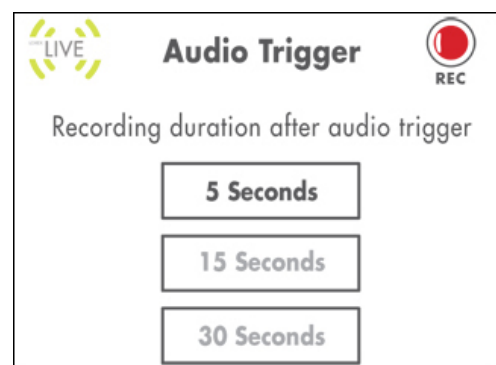


Configuring the recording time for auto recording

The recording time for auto recording can be set to 5s (default), 15s or 30s.

To configure the recording time:

1. Press the **Menu** button on the video monitor.
2. Select **Record** and press **OK**.
3. Select **Audio Trigger** and press **OK**.
4. Select the desired recording time: 5s, 15s or 30s.
5. Press the **OK** button to save your settings.



Changing the date and time

1. Press the **Menu** button on the video monitor.
2. Select **Settings** and then press the **OK** button.
3. Select **Date & Time** and then press the **OK** button.
4. Use the joystick to configure the Year/Month/Date/Time.
 - Press up/down on the joystick to adjust the values.
 - Press left/right to move between the year, month, date and time.
5. Press the **OK** button to save your changes.



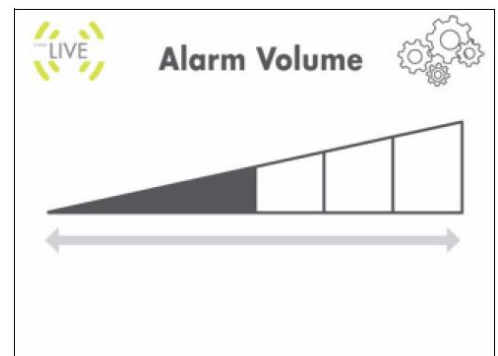
Adjusting the alarm volume

The video monitor 'beeps' when the camera detects audio triggers (i.e. a loud noise). You can adjust how loud the video monitor beeps when the camera detects an audio trigger.

This is useful if you want to monitor activity in a room, but cannot keep your eyes on the video monitor.

To change the video alarm volume:

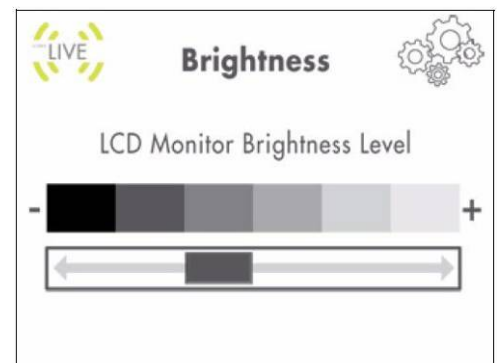
1. Press the **Menu** button on the video monitor.
2. Select **Settings** and then press the **OK** button.
3. Select **Alarm Volume** and then press the **OK** button.
4. Press left and right on the joystick to adjust the alarm volume.
5. Press the **OK** button to save your settings.



Adjusting the screen brightness

To adjust screen brightness:

1. Press the **Menu** button on the video monitor.
2. Select **Settings** and then press the **OK** button.
3. Select **Brightness** and then press the **OK** button.
4. Press left and right on the joystick to adjust the screen brightness.
5. Press the **OK** button to save your settings.

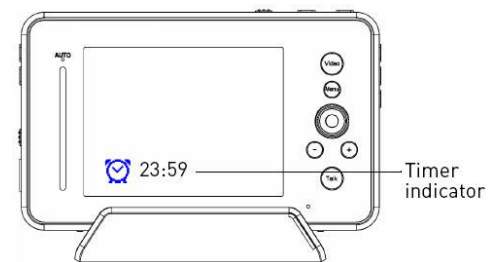


Adjusting the Timer settings

The timer feature allows the video monitor to beep after a set duration as a reminder tool. If the monitor is used as a baby monitor, the Timer tool is useful as a baby feeding timer.

To enable the Timer:

1. Press the **Menu** button on the video monitor.
2. Select **Settings** and then press the **OK** button.
3. Select **Timer** and then press the **OK** button.
4. Enter the desired time that you want to set the timer at using the joystick. Press left / right to navigate the values. Press up/down to adjust the values.
5. Press the **OK** button to save your settings.
6. Select **ON** and then press the **OK** button.
7. Press the **OK** button to save your settings.

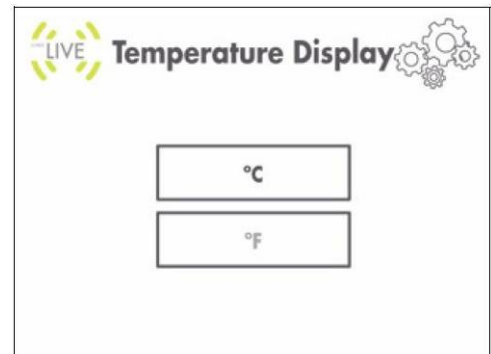


Adjusting the temperature unit of measurement

The camera has a built-in temperature sensor. You can change the video monitor to display temperature in Fahrenheit (F) or Celsius (C).

To change the unit of measurement:

1. Press the **Menu** button on the video monitor.
2. Select **Settings** and press the **OK** button.
3. Select **Temp. Display** and press the **OK** button.
4. Select either **C** for Celsius or **F** for Fahrenheit.
5. Press the **OK** button to save your settings.

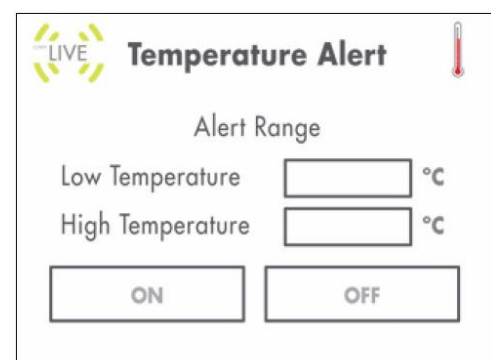


Configuring the temperature alert range

You can configure the video monitor to alert you through alarm beeps, when the temperature falls above or below the set temperature range.

To configure the temperature alert range:

1. Press the **Menu** button on the video monitor.
2. Select **Settings** and then press the **OK** button.
3. Select **Temp. Alert** and then press the **OK** button.



4. Using the Joystick, press Up/Down to change selection, left/right to adjust the values:

- Beside Low Temperature, enter the lowest room temperature threshold.
- Beside High Temperature, enter the highest room temperature threshold.

5. Select the **ON** button and then press the **OK** button on the joystick.

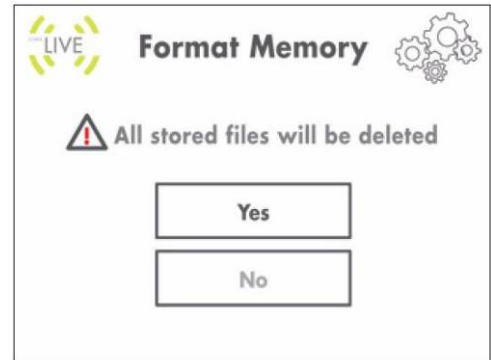
Erasing the memory card

Once you erase the memory card, the video will be deleted **permanently**.

To erase the memory card:

1. Press the **Menu** button on the video monitor.
2. Select **Settings** and then press the **OK** button.
3. Select **Format memory** and then press the **OK** button.
4. Select **Yes** and then press the **OK** button to erase the memory card.

- The message "Format OK" appears to confirm that the card has been erased.



Restoring default settings

Restoring your video monitor settings reverts the settings you've made to the factory settings.

To restore the video monitor factory defaults:

1. Press the **Menu** button on the video monitor.
2. Select **Settings** and then press the **OK** button.
3. Select **Factory Reset** and then press the **OK** button.
4. Select **Yes** and then press the **OK** button.



Trouble Shooting

Problem	Possible Causes	Solution
No picture or sound on the Monitor	<ul style="list-style-type: none"> • The monitor may be off. • The batteries on the camera or video monitor may be low. • The batteries may be installed backwards. 	<ul style="list-style-type: none"> • Ensure that both the camera and monitor are turned on. • Ensure that both the camera and monitor are plugged into and fully charged • Double check that you have not replaced the rechargeable battery backwards.
Monitor produces a high-pitched noise (squealing)	<ul style="list-style-type: none"> • The video monitor and camera are too close together. • The video monitor volume may be too loud. 	<ul style="list-style-type: none"> • Move the camera and video monitor further apart. • Lower the video monitor volume.
Picture but no sound on the monitor	<ul style="list-style-type: none"> • The volume on the video monitor may be too low. • The Auto-Mute feature may be enabled. 	<ul style="list-style-type: none"> • Turn up the volume on the video monitor. • In the Main menu select Auto Mute, then turn the setting off.
Sound but no picture on monitor	<ul style="list-style-type: none"> • The video monitor screen may be off 	<ul style="list-style-type: none"> • Press the Video button on the video monitor to turn the screen back on.
I get a "Out of Range" message on the monitor	<ul style="list-style-type: none"> • The video monitor lost connection with the camera. • The camera may be off. • Out of battery. 	<ul style="list-style-type: none"> • Move the video monitor and camera closer together. • Ensure the cameras are turned on. • Install fresh batteries.
Picture is not clear	<ul style="list-style-type: none"> • The video monitor and camera may have a weak signal. • Interference from the environment (i.e. microwaves, WiFi router etc.) • Brightness of the video camera may be too low. 	<ul style="list-style-type: none"> • Move monitor closer to the camera. • Move the monitor away from other wireless devices (i.e. other monitors, cordless phones, walkie-talkies etc.) • Adjust the brightness on the video monitor.
The video monitor does not turn on	<ul style="list-style-type: none"> • The video monitor may have low batteries. 	<ul style="list-style-type: none"> • Connect a power adapter to the video monitor and a power outlet to charge the monitor. Charge the monitor for 4.5 hours.
Incorrect temperature reading	<ul style="list-style-type: none"> • The camera may be under direct sunlight. 	<ul style="list-style-type: none"> • Move the camera to an area away from direct sunlight.
Missing recorded video files	<ul style="list-style-type: none"> • The Overwrite function may be turned on. 	<ul style="list-style-type: none"> • Turn the overwrite feature off. For details, see "Configuring the Overwrite feature" on page 18.

Specifications

Receiver	
Receiving Frequency Range	2400 ~ 2483.5MHz
Display Size	3.5" TFT LCD
Resolution	H:320 V:240
Power Requirement	5V DC 1A
Power Consumption	420mA max without charging 850mA max with charging
Battery Voltage	3.7V Li-Polymer Battery (built-in)
Battery Lift	4.5 hours
Dimension	128mmL x 22mmD x 76mmH
Operating Temp Range	14°F ~ 104°F (-10° ~ 40° C)
Operating Humidity	0 ~ 85% RH

Camera(s)	
Transmit Frequency Range	2400 ~ 2483.5MHz
Transmitting Range	450 ft outdoor / 150 ft indoor line of sight
Image Sensor Type	1/5" Color CMOS Image Sensor
Image Processing	Motion JPEG
Image Resolution	H: 320, V: 240 @ 20fps
Lens	4.5mm, F2.8
Viewing Angle	36 degree
IR LED / Night Vision Range	8 LEDs / 5m
Power Requirement	5V DC 1A
Power Consumption	450mA Max with IR LED 350mA Max without IR LED
Dimension	91mmL x 70mmW x 102mmH
Operating Temperature	14°F ~ 104°F (-10°C ~ 40°C)
Operating Humidity	0% ~ 85%

Notices

FCC Note:

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.

The antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operated in conjunction with any other antenna or transmitter.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

IC Note

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.