

# PORTABLE DIGITAL WIRELESS MONITORING SYSTEM

## INSTRUCTION MANUAL

MODEL: CMD6521M



## Features

- Digital wireless technology provides excellent image quality and clarity
- Interference free, secure and private signal
- Up to 450ft wireless transmission range <sup>①</sup>
- Listen in with exceptional sound clarity
- Safety warning feature notifies you when out of range
- Music in 3 selections
- Quad view and two way control night light
- System expandable up to 4 cameras <sup>②</sup>
  - <sup>①</sup> Maximum open space transmission range. The actual range is dependent upon building materials and other obstructions in path of wireless signal.
  - <sup>②</sup> Additional cameras sold separately.
- Two-way audio communication
- Recording (to micro SD card)
- Camera room temperature display on monitor and over-temperature alert

## Camera Features

- QVGA resolution camera
- Night vision allows for low light viewing up to 15 feet / 4.5 meters <sup>③</sup>
- Built-in microphone
- Camera can be battery (alkaline) operated for true portable wireless operation
- <sup>③</sup> 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

- 2.4" color LCD monitor/receiver with superior image quality
- Rechargeable lithium polymer battery for true portability
- Audio level indicator
- Displaying stored pictures in scan mode (screen saver)
- Baby room temperature display
- Micro SD card for recording (support 32GB)

## Getting Started

The system comes with the following components:



Wireless Receiver

Receiver Cradle  
(Charging Base)

Wireless Camera

Power Adapter  
(For Receiver)

Power Adapter  
(For Camera)

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

## Wireless Receiver

### Front/Back Controls

**1. Sound Bar**– The first green LED indicates the receiver power is ON or OFF.

The other two green LEDs and two red LEDs indicate the audio levels (low to high).

**2. LCD Screen** – Displays video from the camera.

**3. Sound Only Button**– Press this button , the LCD screen is turned off and monitor only get audio from camera, press this button again to cancel video only function. In play back menu, press this button to delete videos



**4. MENU Button** – Press to access the receiver menu. Press the button again to exit.

**5. Navigation Controls/OK Button** – Use the controls in Viewing Mode and Menu Mode

Press up/ Vol+ button -1. Move up after entered "Menu" option

2. Increase the volume in **live video** mode

3. Play and Pause in **playback** mode

Press down/vol- button -1. Move down after entered "MENU" option

2. Decreases the volume in **live video** mode

3. Stop in **playback** mode

Left/Auto button 1. Move left after entered "MENU" option

2. Press this button to view cameras\* in automatic switching mode in **live Video mode**

3. Fast backward in **play back** mode

Right/Manual button 1. Move right after entered "MENU" option

2. Press this button to manually switch between cameras\* in **live video mode**

3. Fast forward in **play back** mode.

- OK Button
1. Press to go to play list (when there is SD card in monitor) in **live** video mode.
  2. Confirm selections in MENU and it's sub-menu.

**6. Stand** – Flip the stand out to place the receiver on a flat surface (such as a table or countertop). Alternatively, place the receiver in the receiver cradle.

**7. Speaker** – Produces the sound transmitted from the cameras\*.

\* You must have more than one camera configured on the system when using the functions that requires more than one camera.

**8. Record** – Press this button to start recording, press again to stop.

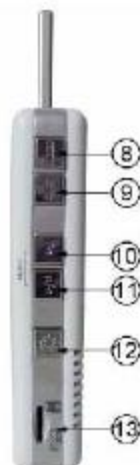
**9 Quad-** Press **Quad** button to view the images in quad mode, press again to change back to single channel display.

**10** ► | ◄ – Press the button to play next lullaby.

**11** ► / ◄ – Press the button to start or stop the lullaby.

**12 Night Light Button** – Press to remotely turn night light ON or OFF (for the camera currently being displayed on the LCD screen).

**13 .Micro SD Card Slot** – Insert Micro SD card to this SD card slot for both video and audio recording.



**14 Receiver Antenna** – receives & sends signals from or to the camera(s).

**15 Antenna Locking Switch** – Slide the switch to **unlocking position**, the receiver antenna will pop up. Then you can adjust the antenna to vertical position for best signal reception.

**16 Power Slide Switch** – Slide the switch to **ON or OFF** position to switch on/off the receiver.

**17 Talk Button**– Press and hold the button in **Viewing Mode** to talk to camera side.

**18. 5V Power Input** – Connect the included DC 5V power adaptor to power the receiver and/or charge the receiver battery (when the receiver is not in the cradle).



#### Receiver Cradle Inputs

**19. 5V Power Input** – Connect the DC 5V power adaptor (included) to the receiver cradle to power the receiver and/or charge the receiver (when docked).



#### Wireless Receiver Installation

Determine if you will be using the receiver cradle, or connecting the cables directly to the receiver before installation:

1. Place the receiver cradle or receiver in a place that will have clear reception with your camera(s).
2. Plug the AC adaptor power output cable into the 5V POWER input of the cradle or receiver. Plug the power plug into a wall outlet or surge protector.
3. Leave the receiver to charge for 8 hours prior to first time use so the built-in rechargeable receiver battery is fully charged. DO NOT remove the power cable from the receiver / from the cradle during initial charge process. After initial charge, charge the receiver as required.

## Wireless Camera

### Front & Back Controls

1. **Camera Antenna** – Sends & receives signals to or from the receiver.

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.

2. **Night Light Switch** – Press to turn the night light ON or OFF. Alternatively, press the light button on the receiver to remotely turn the camera light ON or OFF.

Note: Night Light is available only when the camera is paired to the receiver.

3. **Lens/IR LED Cover** – Infrared LEDs provide viewing in no/low light conditions

4. **Speaker** - Produces the sound transmitted from the monitor.

5. **Microphone** – Receives sounds for the area near the camera, and transmits sound from the camera to the receiver.

6. **Pair Button** – The pair button is located on the back of the camera behind the stand mount.



### Side Controls

7. **Sound trigger sensitivity knob** – Adjust the sensitivity knob to set the sound alarm sensitivity.

8. **ECHO Button**—Slide this switch to select high/low power of wireless transmission

9. **Lullaby volume knob**- Increase or decrease the lullaby volume

10. **Light sensor**—Detects light intensity on the camera side

- 11 **Temperature sensor**- Detects temperature at camera side and displayed in the LCD monitor

- 12 **Camera ON/OFF Switch** – Turns the camera ON or OFF.

- 13 **DC 5V Power** – Connect the DC 5V power adaptor to the



camera

**NOTE:** The camera can also be powered using 4 AA batteries (not included) installed in the base. If the camera is plugged in with the AC adaptor, the batteries will not be used. The batteries are intended for short term, portable camera use.

## Camera Installation

Before you install the camera, carefully plan where and how it will be positioned, and where you will route the cable that connects the camera to the power adaptor.

Before starting permanent installation, verify its performance by observing the image on the receiver when camera is positioned in the same location/position where it will be permanently installed and the receiver is placed in the location where it will be used most of the time.

### Installation Warnings

Aim the camera(s) to best optimize the viewing area: Select a location for the camera that provides a clear view of the area you want to monitor, which is free from dust, and is not in line-of-sight to a strong light source or direct sunlight.

Avoid installing the cameras where there are thick walls, or obstructions between the Cameras and the Receiver.

### Night Vision

This camera has built-in IR LEDs, which provides the camera with the ability to view images in no/low light conditions. It is important to use the provided power adaptor (and not the batteries) when using the camera for prolonged periods in low light conditions, as the built-in IR LEDs will drain the battery more quickly than regular daytime use.

### Installing the Camera

1. Carefully unpack the camera.

**NOTE:** If you are installing cameras that did not come with the system, please see the pairing camera section of this manual for details on installation.

2. Mount the camera to the wall.

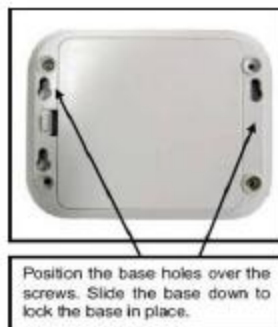
Mark the position of the screw holes on the wall, and drill holes and insert 2 screws, then firmly attach the camera to the wall by placing the stand over the installed screws and pushing the base downwards.

**NOTE:** The camera can also be placed on a flat surface, such as a Table or Shelf, and no mounting hardware is required.

3. Adjust the viewing angle of the camera

**NOTE:** You can install additional cameras (maximum of 4 cameras). When adding cameras that were not included in the original box, you will need to pair up the cameras with the receiver. Refer to the camera pairing section of this manual.

### Connecting Camera Power





The camera can be powered either by using the provided power adaptor, or using batteries (requires 4 AA type batteries, not included).

NOTE: Wireless cameras require a power source (either an electrical outlet or battery power) to operate. If you plan to permanently mount the camera in a location, it is recommended to use the included camera power adaptor to prevent interruptions in the image, as using battery power is intended as a temporary power solution.

### Power Adaptor

Connect the power adaptor to the camera. Make sure the power adaptor is placed into a grounded outlet or surge bar to protect the camera from power fluctuations.



**Power Adapter:**  
Connect the Power Adapter to the 9V input on the back of the camera.

### Battery Compartment

1. Remove the battery cover off the base of the camera.
2. Insert 4 AA batteries (not included) into the battery compartment. Make sure to correctly line up the Positive (+) and negative (-) terminals of the batteries.
3. Place the battery compartment cover on.



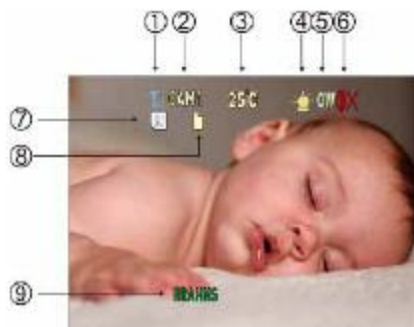
NOTE: If the camera is plugged in with the AC adaptor, the batteries will not be used. The batteries are intended for short term, portable camera use only.

### Viewing Mode

1. **Signal Indicator** – The signal indicator shows the strength of the signal being received from the camera. The number of bars in the signal indicator shows the strength of the signal – One or No Bars indicates the signal is poor, and 4 bars indicate a very strong signal.

#### Signal Indicators:

Signal Strength	Indicator	Warning
Perfect		None
Good		None
Fair		Out of Range
Low		Out of Range
Out of Range		Out of Range





**2. Channel Indicator** – Displays the current channel number. Press the RIGHT ► arrow on the receiver to switch between available cameras.

Note: To automatically switch between channels, press the LEFT ◀ arrow (AUTO).

**3. Temperature indicator**- Display the temperature on the camera side

**4. Night light indicator**- Turn on the night light button on camera or monitor, The OSD LED will mark



**5. OW indicator**—When you choose “yes” for the overwrite function, The OSD LED will show this icon.

**6. Mute indicator**—Decrease the volume into mute, mute icon will be show on the OSD LED.

**7. SD indicator**—SD icon will be show on the OSD LED if the SD card has put into SD slot.



**8. Unread file indicator**- Unread file icon while video has been recorded

**9. Tune indicator**— Play the lullaby, and the tune name shown on screen.

## Out of range Warnings

When the camera is positioned too far from the receiver, warning messages will be displayed.



OUT OF RANGE: The “OUT OF RANGE” message means the receiver cannot access the camera. Please reposition the camera, or check the camera power.

## Adjusting the Receiver Volume

The receiver volume can be adjusted by using the UP/DOWN ▲ ▼ arrows when viewing a camera.

Press the DOWN ▼ arrow to decrease the volume, and press the UP ▲ arrow to increase the volume. When the volume adjust to the lowest setting the volume is muted.

The volume adjustment icon will be displayed during volume changes, and will disappear after 5 seconds of inactivity.



## SD Card Recording

The system is designed for SD card recording. You can manually record the video at your desire. Before

recording, you need to insert an SD card to the SD card slot. The system can support the size of up to 32GB SD card.

### Recording Mode

Note: To use the recording function, make sure an SD card is inserted into the SD card slot.

#### Manual Recording

Press (Record) ● button on the receiver, the receiver starts recording. Every ten minutes recording is for a file. Press the button again to cancel manual recording.

In the recording mode, only TALK button and Sound only button available. Other function is disable.

#### Playback

When there is new recorded file, the yellow indication icon on the LCD screen appears and flashes.

When SD card is full of memory, the red indication icon on the LCD screen appears and flashes.

Follow the steps to play the recorded files.

- 1). In viewing mode, press the OK/ ► button on the receiver navigation to enter the operation interface. In the recording mode, press record again to exit recording mode and press the OK button to enter the operation interface.



- 2). Press UP/DOWN ▲▼ arrows to select the folder VIDEO and press OK. You will see some folders name by date. For example: 000101 means the videos in this folder are recorded on January 1<sup>st</sup> 2000. Press RIGHT ► arrow to browse the next page directly. Press LEFT ◀ arrow to backward the previous page. Select the

main file [icon] and press OK to back to the previous menu.



- 3). Select a folder and press OK to enter submenu. You will see the recorded files named by time. For example: 101024\_1 means the video is recorded at 10:10:24 and from camera 1. Press RIGHT ► arrows to browse the next page directly. Press LEFT ◀ arrows to backward the previous page. Select the main

file [icon] and press OK to back to the previous menu.



In this interface, you can select a file and press the Sound Only (delete) button, select "YES" to delete the video record

4). Select the video you want to view and press OK button, the video will be played on the LCD screen. Then you can use the navigation buttons to pause (press UP ▲ arrows to pause, and press it again to play), stop (press DOWN ▼ arrows to stop, and press UP ▲ arrows to play), forward (press RIGHT ► arrows to forward) , backward (press LEFT ◀ arrows to backward). Press MEUN button to exit the video .

5).Press **MEUN** button on receiver to exit the playback function.

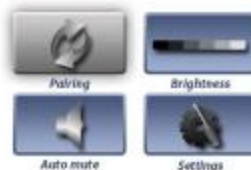
## Accessing Menu System

Press the MENU button on the receiver to enter MENU system. Use the navigating buttons to navigate up/down/left/right in the menu, and press the OK button to confirm a setting.

### Main Menu

The Main Menu contains 4 submenus:

1. **PAIRING** – Use the pairing menu to add camera(s) to the receiver.
2. **Brightness** – Adjusts the exposure level of the camera.
3. **Auto mute**–Auto mute function is to automatically cut off the audio when there is only slight environmental noise on camera side. In the submenu you can switch on/off this function



4. **SETTING** –In this submenu you can set date and time, Temp.alert, Temp.display, Format Memory, overwrite for recorded, , and reset the receiver to factory defaults (erases all configurations).

### Pairing Menu

The system comes with camera(s) that have already been paired. The pairing function assigns each camera to a different channel on the wireless receiver (up to 4 Cameras), and it is necessary for configuring additional cameras.

Use the UP ▼ and DOWN ▲ arrows to navigate. Select the desired pairing channel, and press the OK button to begin the pairing process with a camera.



NOTE: It is highly recommended to pair the cameras to the receiver before permanently mounting the

cameras. See the pairing section of this manual for details.

### Brightness Menu

The Brightness Menu is used to adjust the exposure of the camera.

Use the LEFT◀ and RIGHT▶ arrows to change the bar from DARKEST (left) to LIGHTEST (right). Press the OK button to accept the change.



### Auto Mute Menu

Auto mute function is to automatically cut off the audio when there is only slight environmental noise on camera side. Choose Yes to enable this function.

When auto mute function is enabled, the monitor audio will be cut off after 5 minutes when there is only slight environmental noise on camera side.

In auto mute mode, the audio can be activated by real noise or higher sound detected on camera side. After last activation, the monitor audio will go back to off status when there is no sound trigger within 5 minutes.



### Settings

The Setting Menu contains 6 submenus:

- 1) Date & Time—sets the time value to show in the monitor screen
- 2) Temperature Alert – Sets the temperature alert range. Once the temperature on camera side is out of the range, the monitor will beep to alert you.
- 3) Temperature Display—Choose the °C or °F for temperature unit
- 4) Format Memory—Deleted all the data from SD card
- 5) Overwrite—Decide whether to cover the initial recorded files when SD card is full of memory
- 10) Default— Choose Yes to reset the receiver to factory defaults. All menu settings will be reset.

NOTE: Resetting the receiver will not reset all camera pairing and Date/Time setting



### Date & Time

You can set the time value with YY MM DD HH MM to show in the monitor while recording



### Brightness

The Brightness is used to adjust the brightness of the image.

Use the LEFT◀ and RIGHT▶ arrows to change the bar from



DARKEST (left) to LIGHTEST (right). Press the OK button to confirm the change.

### Temperature Alert

The menu is to set the temperature range of audio alert. When the temperature on the camera side is out of the range, the monitor will beep to alert you.

Use the UP and DOWN ▼▲ arrows to select low temperature or high temperature, then use the LEFT◀ and RIGHT ▶ arrows to set the temperature value. After successfully setting the temperature range, choose Yes and then press the OK button to confirm the setting.

Choose NO to disable temperature alert function.



### Temperature Display

The °C or °F unit has exist to been selected to show the temperature in the monitor screen



### Format Memory

Select Yes to format the SD card. After formatting, all the data stored in the SD card will be deleted.

Note: Be cautious to use this function.



### Overwrite

Decide whether to cover the initial recorded files when SD card is full of memory.

Choose "yes" to set this function, the recorded files will be overwrite automatically while SD card is full. The "OW" indication icon appears on the LCD screen



## Default

Choose **Yes** to reset the receiver to factory defaults – all menu settings will be reset.

NOTE: Camera pairing settings and Date/Time setting will NOT be affected by a reset. Cameras will remain paired with the receiver.

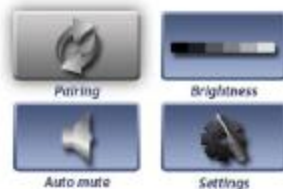
## Camera Pairing

The system comes with camera(s) that have already been paired. These cameras will communicate with the receiver once powered on.

The pairing function assigns each camera to a different channel on the wireless receiver (up to 4 cameras), and is necessary for configuring additional cameras.

NOTE: It is highly recommended to pair the cameras to the receiver before permanently mounting the cameras.

1. Power on the camera by connecting the power adaptor or battery pack, and turning the switch to ON. The power LED for the camera should be ON.
2. Power on the receiver by connecting the power adaptor to the 5V Input on the side.
3. Press the MENU button on the receiver. Navigate to the Pairing menu option by pressing the **▼▲** keys to navigate. Press the OK button to open the Pairing menu.



4. Select a channel by pressing the UP and DOWN **▼▲** arrows. Press the OK button on the receiver to accept.



5. A message will be displayed on the receiver screen. The receiver will count down from 30~0 – you must press the Pair button on the camera during this time to successfully pair the camera.



If the button on the camera is not pressed, the receiver will return to the view screen, and no pairing will



take place.

6. Press the Pair button on the back of the camera.

Once the camera has been paired, it will be immediately viewable on the receiver monitor.



## Troubleshooting

If you have problems with the system, there is often a quick and simple solution. Please try the following:

Problem	Solution
No picture from a camera	<ol style="list-style-type: none"><li>1. Check all connections to the camera. Make sure the adaptor is plugged in.</li><li>2. Make sure that the cameras and receiver are both ON.</li><li>3. Make sure that the camera is in range of the receiver.</li><li>4. If using the battery adaptor, try replacing the batteries</li></ol>
The picture is dropping	<ol style="list-style-type: none"><li>1. Move the camera closer to the receiver.</li><li>2. Try repositioning the camera, receiver or both to improve the reception.</li><li>3. Adjust the monitor antenna to vertical position.</li></ol>
Audio problems	<ol style="list-style-type: none"><li>1 Make sure that there is sound within range of the camera microphone</li><li>2 If the unit emits a loud screeching noise (feedback), move the camera or receiver farther apart.</li></ol>
The picture is or has become choppy	<p>The picture may become choppy when experiencing a lower frame rate.</p> <ol style="list-style-type: none"><li>1. Try moving the camera closer to the receiver.</li><li>2. Remove obstructions between the receiver and camera.</li><li>3. Adjust the monitor antenna to vertical position.</li></ol>

## Appendix #1 - Receiver Specifications

Receiver	
Receiving Frequency Range	2400MHz~2483.5MHz
Data Rate	2 Mbps
Receiving Sensitivity	-81dBm



Demodulation Type	GFSK with FHSS
Resolution	H: 320 V: 240
Viewing Angle	H: 120 V: 100°
A/V Output / Resolution	QVGA 320x240 / 30FPS Max
Alarm Sensitivity	80dB $\pm$ 10% (1M)
Power Requirement	5V DC $\pm$ 5%
Power Consumption	400mA Max without charging 800mA with charging
Operating Temp Range	14°F ~ 140°F (-10° ~ 60° C)
Operating Humidity	0 ~ 85% RH

## Appendix #2 - Camera Specifications

Camera(s)	
Transmit Frequency Range	2400MHz~2483.5MHz
Data Rate	2M bps
Transmitting Power	14dBm (TYP)
Modulation Type	GFSK with FHSS
Transmitting Distance	100m (Line of Sight)
Image Sensor Type	1/5" Color CMOS Image Sensor
Effective Pixels	H: 640 V: 480
Image Processing	Motion JPEG
Image Resolution / Frame Rate	H: 320 V: 240 / 30FPS Max
AES	On 1/2000 ~ 1/20 sec
White Balance	Auto
AGC / Range	On / 0dB~24dB
Lens	4.9mm / F2.8
Viewing Angle (Diagonal)	45°
Minimum Illumination	15 LUX (IR Off), 8 LUX (IR On)
IR LED / Night Vision Range	8 LEDs / 850nm 5m (with IR LEDs)
Power Requirement	5V DC $\pm$ 5%
Power Consumption	300mA (without Night Light/ IR/Lullaby Playing) 830mA MAX (With All functions on )
Operating Temperature	14°F ~ 104°F (-10°C ~ 40°C)
Operating Humidity	0% ~ 85%
Environmental Rating	14°F ~ 140°F (-10° ~ 60° C)

**FCC NOTICE:**

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.

**FCC NOTE: 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.**

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.