

Congratulations on your purchase of the 2.4GHz **Wireless MicroCam System**(WMS). The WMS consists of a wireless receiver and a wireless MicroCam, an ideal product for application of covert monitoring, such as the porch, watching the yard, pool, pets or the baby. It is also suited to many small business.

## FEATURES

- 2.4GHz wireless technology
- Miniature color in covert type
- Both audio and video output
- Three channel selection for camera
- Supports up to 3 cameras
- Manual or auto switching between cameras
- Adjustable cycle time between different channels
- AC power adaptor or battery operation.

## SYSTEM CONTENTS

- RO160A wireless receiver x1
- CA160 wireless MicroCam x1
- Power adaptor x2
- Adaptor cable x1
- Battery Clip x1
- Hardware kit x1
- Manual x1



## THINGS TO CONSIDER BEFORE INSTALLATION

For best performance, follow these simple guidelines:

- Camera(s) should be installed between 8 and 13 feet above the area to be monitored
- The Camera should be aimed accordingly to optimize viewing area
- For best transmission, avoid installations where there are thick walls or major obstructions between the Camera and Receiver

## INSTALLING THE CAMERA (TRANSMITTER)

1. Unpack the Camera.
2. Decide whether the Camera will be wall-mounted or sit on a desk/table top. If wall mounting, use the hardware kit in the package. The Camera can be adjusted for either mounting scenario by rotating the Camera to the required position.
3. Decide whether to connect using AC power or battery. If using battery push the 9V battery to snap the battery adaptor, then connect it to power jack of camera. If using the 9V camera power adapter, just connect power jack. Make sure the Camera is positioned

no more than 5 1/2 feet from an AC power outlet.

4. Select the Camera operating channel on the slide switch on side of the housing. moving switches to position 1,2, or 3. Switch is preset to channel 1



The Camera (Transmitter) installation is now complete.

### SETTING UP THE RECEIVER

1. Connect one end of the cable (Min Din<male>) to the back of the receiver, the other end (RCA cord) to your television's A/V inputs, the yellow plug to the VIDEO IN jack and the white plug to the AUDIO IN jack.
2. Plug the receiver power adapter into the 9V DC power jack on the back of the receiver and plug the power adapter into any **120 V/240 V** power outlet.
3. Place the receiver either on top or near to your TV. Rotate the antenna to a vertical position.

### OPTIMIZING THE WIRELESS CAMERA SYSTEM

The 2.4GHz video signals pass easily through your home's interior walls, but the signal may be reflected by power wires or plumbing inside the wall. Usually a slight adjustment of the Receiver and/or Camera antenna will improve reception. Take care not to force the antennas past their lock positions.

The most common source of interference are microwave ovens. Try to avoid mounting the Receiver near a microwave oven or other source of RF interference such as cordless phones.

### MULTI-CAMERA OPERATION

Our wireless 2.4GHz MicroCam system is designed to work with up to 3 Cameras. Additional Cameras (With different shapes for your option) are sold separately.

**IMPORTANT: When using more than one Camera, make sure each camera is assigned to a specific channel by adjusting the corresponding slide switch position.** Accordingly the dip switch located on the back of the Receiver should be adjusted to reflect the channels in use.

### OPERATING THE SYSTEM

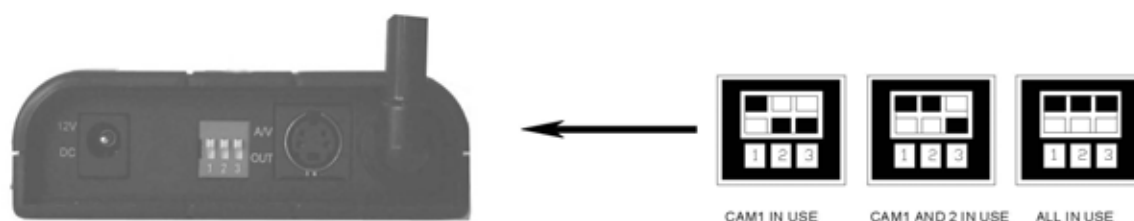
Set your TV to monitor the VIDEO INPUT designated for the Receiver.

The receiver can support up to three different camera/transmitter signals. You can switch from one camera to the next either manually or automatically via button on the top panel of the receiver.

### MANUAL MODE

To select one of the three channels manually, press the MANUAL button on the panel of the receiver.

The red LED will light and the receiver will switch to a different channel (CAM1, CAM2, CAM3) each time when the MANUAL button is pressed. To avoid searching channels that do not have cameras/transmitters assigned to them, set the DIP switches (located on the rear panel of the receiver) for those corresponding channels to the OFF position (up). When you have selected a channel with an active camera, that video will appear on your TV screen.



## AUTO MODE

To have the receiver automatically rotate through the channels, press the AUTO button on the top panel of the receiver. The green LED will light and the receiver will continuously scan through all channels which are ON. To avoid searching channels that do not have cameras/transmitters assigned to them, set the dip switches for those corresponding channels to the OFF position. The monitor will display the picture from one camera to the next, while the beeper will sound. The dwell time (time taken to switch between cameras) is preset to 4 seconds and can be adjusted between 2-30 seconds. To adjust the dwell time, press both the AUTO and MANUAL button simultaneously. Each flash of the LED increases the dwell time by one second.

| TROUBLE SHOOTING                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| If you are having trouble operating this product, please consult the guide below: |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SYMPTOM                                                                           | REMEDIES                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| No camera picture                                                                 | <ol style="list-style-type: none"> <li>1. Check all connectors. Make sure camera(s) and receiver are switched ON.</li> <li>2. Ensure camera(s) and receiver are set to correct channel(s).</li> <li>3. Make sure camera is within range of receiver.</li> </ol>                                                                                                                                                                                        |
| Blank monitor                                                                     | <ol style="list-style-type: none"> <li>1. Make sure receiver is switched ON.</li> <li>2. If using AC adapter, make sure it is plugged in.</li> <li>3. If using batteries, make sure they are installed correctly, or try replacing them.</li> </ol>                                                                                                                                                                                                    |
| Interference on camera picture                                                    | <ol style="list-style-type: none"> <li>1. Make sure each camera (transmitter) is within range, and that no large obstructions are blocking the signal.</li> <li>2. Try repositioning the camera, receiver or both to improve the reception quality.</li> <li>3. If a camera is positioned close to the receiver, point antenna away from the receiver.</li> <li>4. Reposition other nearby equipment transmitting on the 2.4 GHz frequency.</li> </ol> |
| Audio problems                                                                    | <ol style="list-style-type: none"> <li>1. Ensure the volume is turned up sufficiently on the TV.</li> <li>2. Make sure the sound is within the microphone range.</li> <li>3. If the unit emits a loud wailing sound (feeds back), try moving the camera away from the receiver or angle the</li> </ol>                                                                                                                                                 |

receiver differently.

### SPECIFICATIONS

#### Camera

|                               |                            |
|-------------------------------|----------------------------|
| TV System                     | PAL or NTSC                |
| Integrated Lens               | 6.0mm, F2.0 fixed focus    |
| Resolution                    | 360 horizontal TV Lines    |
| Signal/Noise Ratio            | 48 dB                      |
| High-Speed Electronic Shutter | 1/60 - 1/15,000 sec        |
| Image Sensor                  | 1/3" CMOS                  |
| Min. Illumination             | 0.5 lux                    |
| Current Consumption           | 100mA                      |
| Overall Size                  | 0.82Wx0.82Hx1.10D          |
| Frequency Range               | 2.41- 2.47 GHz             |
| Modulation                    | FM                         |
| Video Signal/Noise Ratio      | 48db                       |
| Audio Signal/Noise Ratio      | 45db                       |
| Channel Selection             | Electronic tuning with PLL |
| Case Finish                   | UV resistant ABS plastic   |

#### Receiver

|                       |                           |
|-----------------------|---------------------------|
| Frequency Range       | 2.41- 2.47 GHz            |
| Signal/Noise Ratio    | 40dB                      |
| Operating Temperature | -10°C to +40°C            |
| Output                | Audio/Video               |
| Humidity              | Less than 85%             |
| Current Consumption   | Approx. 180 mA            |
| Overall Size          | 3.25" W x 1.0" H x 5.0" D |

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.