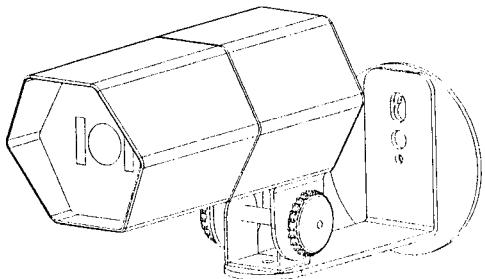


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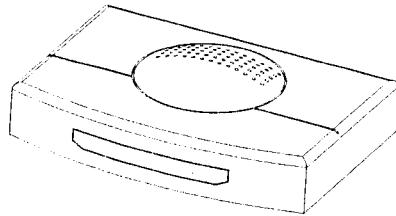
EmCom

2.4GHz

**Wireless Camera Transmitter & Receiver
Operation Manual**



WS-50TX
Transmitter



WS-50RX
Receiver

CIRCUIT DESCRIPTIONS

WS-50 Camera Video Sonic

The main function of this WS-50 Camera Video Sonic model is to convert the image to video Signal by Camera and convert the voice to audio signal by microphone, then send the video and Audio signals to remote side by 2.4GHz RF signal with FM modulation. So at the remote side. We pick up the 2.4GHz RF signal and do the FM demodulation , we get the video and audio Signals again, and put these signals to TV, monitor, or others AV Device.

The said circuit descriptions including transmitter unit go as below:

WS-50 Camera Video Sonic Transmitter Unit :

Consisting of (1) Voltage Regulator, (2) 2.4GHz TX RF Module, (3) Channel Switching, (4) Microphone, (5) Audio Amplifier, (6) Camera Module

(1) Voltage Regulator : the unit converts the 12V DC output of the adapter to 5V DC By 78L05 voltage regulator, and supplies the 5V DC to the 2.4GHz TX RF Module and channel switching.

(2) 2.4GHz TX RF Module : the unit converts the audio and video signals to FM modulated signals, and transmits these signals in 2.4GHz band.

(3) Channel Switching : to set the transmitting frequency channel in 2.4GHz band by DIP switch.

(4) Microphone : convert the voice to audio signal and output to audio amplifier.

(5) Audio Amplifier : to amplify the audio signal and output to the 2.4GHz TX RF Module.

(6) Camera Module : convert the image to video signal and put the video signal to the 2.4GHz TX RF Module.

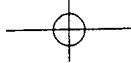
FCC Compliance Statement

This equipment has been tested and found to comply with 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 residential installations. 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 interference to radio or television equipment 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
- Move the equipment away from the receiver
- Plug the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/television technician for additional suggestions

Only equipment certified to comply with Class B should be attached to this equipment to continuing compliance with FCC emission limit, and must have shielded interface cables.

You are cautioned that any change or modifications to the equipment not expressly approved by the party responsible for compliance could void your authority to operate such equipment.



WS-50 OPERATION MUNUAL

1. INTRODUCTION:

The equipment has been tested and found to comply with the limits for a Class B Analog 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 instruction, may cause harmful interference to radio communication. 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:

- Rearrange 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.

Notice:

The change or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Features

- IP44 Weather proof video camera integrated with wireless transmitter.
- 2.4GHz wireless transmitter and receiver with 4 selectable channels
- Built in microphone for crystal clear audio
- Bracket can be desk-top placement as well as wall/ceiling mounting.
- PAL or NTSC format available.
- Easy installation by just plug in and play within minutes.

Applications

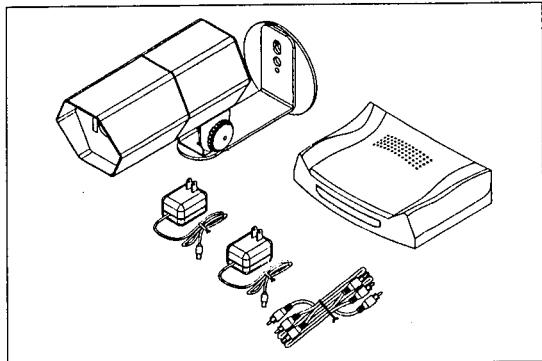
- See and hear who's at the door/yard. Watch the kid's room from your easy chair.
- Record family ge-togethers on your VCR.
- Applicable to shop, parking garden, conference hall, lounge, jewelry, warehouse, factory, entrance, book store, industry, security, garage and super market, etc.

2. IMPORTANT SAFETY PRECAUTIONS (add "CAUTION" Mark)

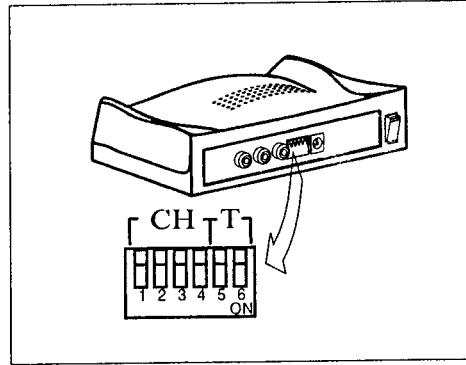
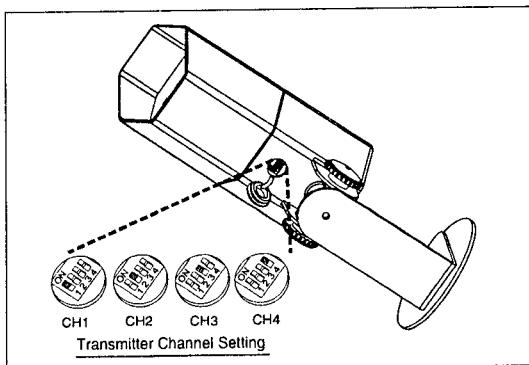
- Read this manual carefully before you use the product.
- This manual will show you how to mount and use it.
- Please observe all the warnings in this manual
- When cleaning the product, TURN it OFF first. Use a clean soft cloth moistened with a little bit of water to clean it.
- Installing the product on a wall or ceiling is recommendable.
- Do not apply pressure to it or drop it.
- If it does not work correctly, return it to the company where it was purchased. Do not dismantle it yourself.
- Do not use the product close to heater, refrigerator or stove.
- When the product is in use, do not direct the lens toward any bright light.

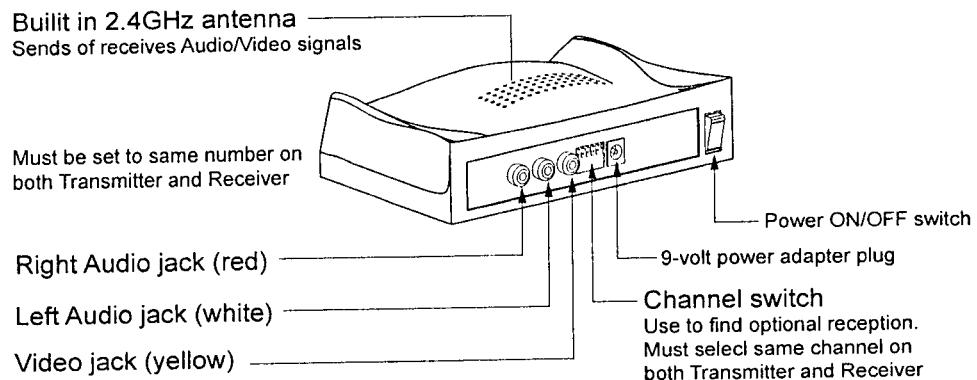
3. PACKAGING AND ACCESSORIES (illustrate each item)

- One WS-50MBH Wireless CMOS B/W Security Camera with built-in transmitter and antenna.
- One Receiver
- Two DC Adapters
- A set of A/V connectors (RCA or SCART option)

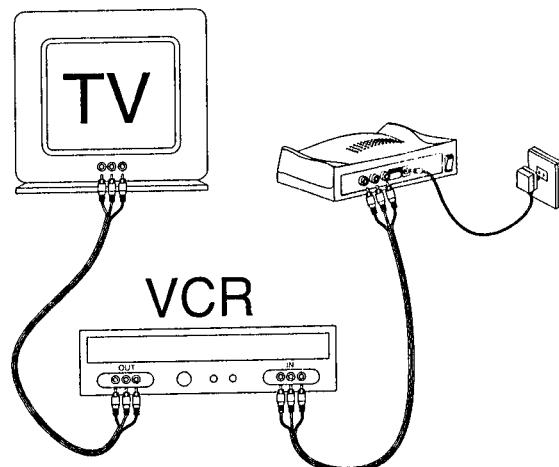
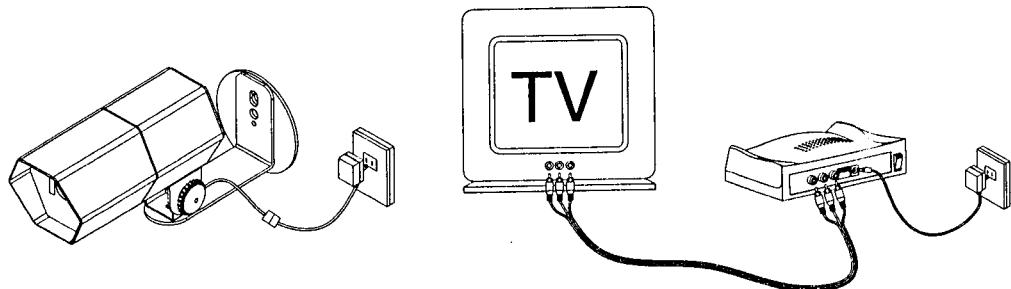


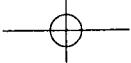
4. FEATURES AND FUNCTIONS OF THE TRANSMITTER AND THE RECEIVER (illustration required)





5. CONNECTING THE RECEIVER (illustration required)





6. SPECIFICATIONS

(1) Camera / Transmitter

- I. Frequency range: 2.414 GHz – 2.468 GHz
- II. 1/3" CMOS B/W camera, 380 TV-Line.
- III. Channels available: 4
- IV. Antenna: built in antenna
- V. Power Supply: 9V / 300mA D/C adapter

(2) Receiver

- I. Frequency range: 2.414 GHz – 2.468GHz
- II. Channels available: 4
- III. A/V output: RCA or SCART OPTION
- IV. Power Supply: 9V / 300mA D/C adapter

7. TROUBLE-SHOOTING

(1) No image or sound

- I. Make sure the power supply switches on the back of the transmitter and the receiver are both in the "ON" position.
- II. Check correct position of all the connectors and plugs.
- III. Make sure the transmitter and the receiver are on the same channel.

(2) Interruption in image and sound

- I. Make sure antennas of the transmitters and the receiver are in correct alignment.
- II. Adjust the transmitter and the receiver to closer position.
- III. If a microwave oven or electro-magnetic oven is in use, turn it off and try the product again.
- IV. Use other channels for the transmitters and the receiver.
- V. This wireless transmitter and receiver will be at its optimum when both antennas are in alignment.

