

# TIU - 200A

Before operating the system,  
please read this manual thoroughly  
and keep it for future reference.



## 2.4GHz

2.4GHz WIRELESS TRANSMITTER  
& WIRELESS RECEIVER

 **UTEL**

**N6YUT-2006**

**UTEL CO.,LTD**  
**TIU-200A**

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.

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Caution: Any changes or modifications in  
construction of this device which are not  
expressly approved by the party responsible  
for compliance could void the users  
authority to operate the equipment.

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#### **SUB - ASSY'S IN THIS UNIT**

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Standard package	TIU-200A
1- Transmitter	
1- UL Approved AC adaptor	
1- RCA A/V cable	
1- User's manual	
RIU-100AN / 100AP	
1- Receiver	
1- UL approved AC adaptor	
1- RCA A/V cable	
1- RF cable	

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Optional Items (Not included)	Extra wireless transmitter Extra wireless receiver CCD Video Camera Extra RCA A/V cable Extra RF cable Warranty registration card
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### **CHECK LIST PRIOR TO USE**

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**CHECK THESE INSTRUCTIONS BELOW BEFORE OPERATING THIS UNIT.**

1. Keep distance at least 10 feet between the transmitter and receiver when you install it because high frequency radio waves of 2.4GHz may cause an interfering problem between channels, which is the reason of the distorted picture on the monitor.
2. Turn and adjust the antenna of the transmitter and receiver in order to optimize the picture condition. Be aware that maximum scope of turning the antenna is 90° towards right and left. Therefore, Do not turn it over 90° to prevent breakage.
3. Be sure to adjust the adaptor correctly to the exact power (120V or 220V you are using) before installation.

**FOR EFFICIENT USE**

1. External radio waves may cause an interfering problem and geographical features may affect the communication distance.
2. Keep in mind the usage of instructions for effective maintenance of your camera.

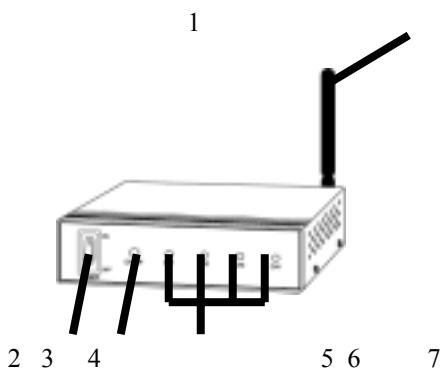
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### **CONTROLS AND FUNCTIONS**

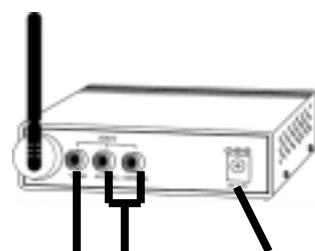
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**WIRELESS TRANSMITTER**

FRONT VIEW



REAR VIEW



**1. 2.4GHz A/V ANTENNA**

The high gain directional dipole antenna sends the A/V modulated RF signal to the receiver.

## 2. POWER SWITCH

Controls power on/off. Be sure to set the switch to "OFF" before plugging the AC adaptor into the unit and AC outlet.

## 3. CHANNEL SELECTOR

Push button switch for channel selection

## 4. LED CHANNEL INDICATORS

Indicators of selected channel

## 5. VIDEO INPUT JACK (Yellow)

RCA jack for video input source connection

## 6. AUDIO INPUT JACKS (Left : White, Right : Red)

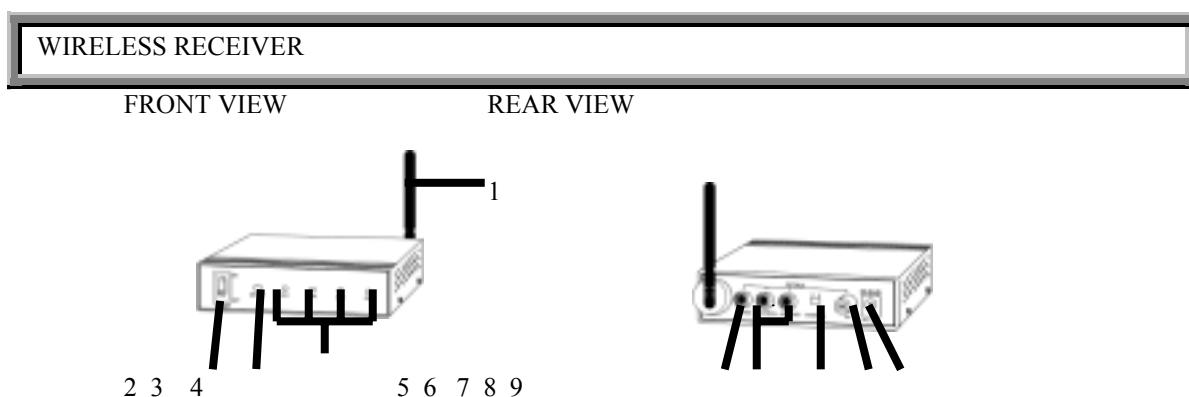
RCA L/R jacks for Audio input source connection

## 7. DC IN JACK

Connect the supplied 12V 500mA AC adaptor

## CONTROLS AND FUNCTIONS

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## 1. 2.4GHz A/V ANTENNA

The high gain directional dipole antenna receives the RF signal.

## 2. POWER SWITCH

Controls power on/off. Be sure to set the switch to "OFF" before plugging the AC adaptor into the unit and AC outlet.

## 3. CHANNEL SELECTOR

Push button switch for channel selection

## 4. LED CHANNEL INDICATORS

Indicators of selected channel

##### **5. VIDEO OUTPUT JACK (Yellow)**

RCA jack for video output

##### **6. AUDIO OUTPUT JACK (Left : White, Right: Red)**

RCA L/R jacks for Audio output

##### **7. RF CHANNEL SELECTOR**

Channel 3,4 selector to operate with TV(NTSC Standard)

##### **8. RF OUTPUT CONNECTOR**

Connector for TV connection

##### **9. DC IN JACK**

Power supply for 12V 500mA AC adaptor

## **INSTALLATION**

### **WIRELESS TRANSMITTER**

DC 12V 500mA

AC ADAPTOR

#### **Transmitting From**



- .Satellite Receiver .Camcorder
- .Cable TV .Surveillance Camera
- .VCR .Computer
- .Laser Disc Player (convertible card required)
- .Wireless Cable .A/V Receiver
- .Digital Video Disc .CD Player

1. Place the wireless transmitter on or near the A/V source unit.

2. Connect the 500mA AC adaptor to the DC IN jack on the receiver and plug it into the 120V AC outlet.

### **WIRELESS RECEIVER**

DC 12V 500mA

AC ADAPTOR



### Connects to

- TV
- Monitor
- Computer (convertible card required )
- Speakers



1. Place the wireless receiver on or near the TV, monitor or other A/V unit.
2. Connect the 500mA AC adaptor to the DC IN jack on the receiver and plug it into the 120V AC outlet.

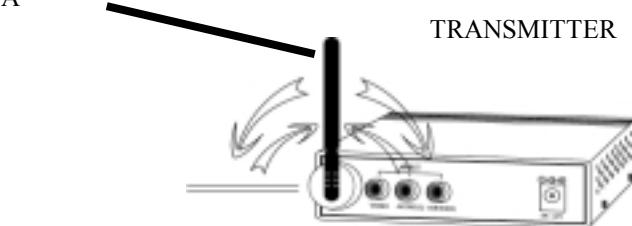
### INSTALLATION

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#### ADJUSTING ANTENNA OF UNIT

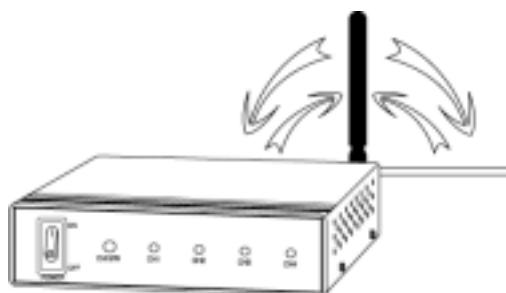
RF ANTENNA

TRANSMITTER



#### WARNING!

Please do not turn the antenna towards the same way more than 90 degrees.



### IMPORTANT NOTE FOR CHANNEL SELECTION

Search the CH 1-CH 4 and select the best one for optimum reception in your area. Both transmitter and receiver must be set to the same channel.

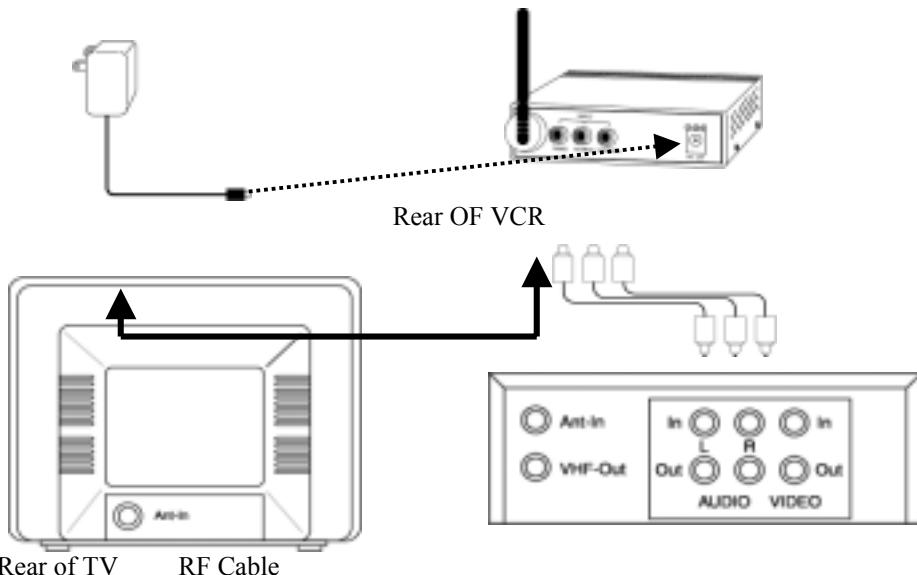
### INSTALLATION OF WIRELESS TRANSMITTER

THE MAXIMUM RANGE IS 300 FT WITHOUT LOSS OF ANY PICTURE / SOUND QUALITY

12V 500mA

AC Adaptor

TRANSMITTER  
RCA cable(Optional)



**Note:** Be sure to set the power on the transmitter to "OFF" before following steps below.

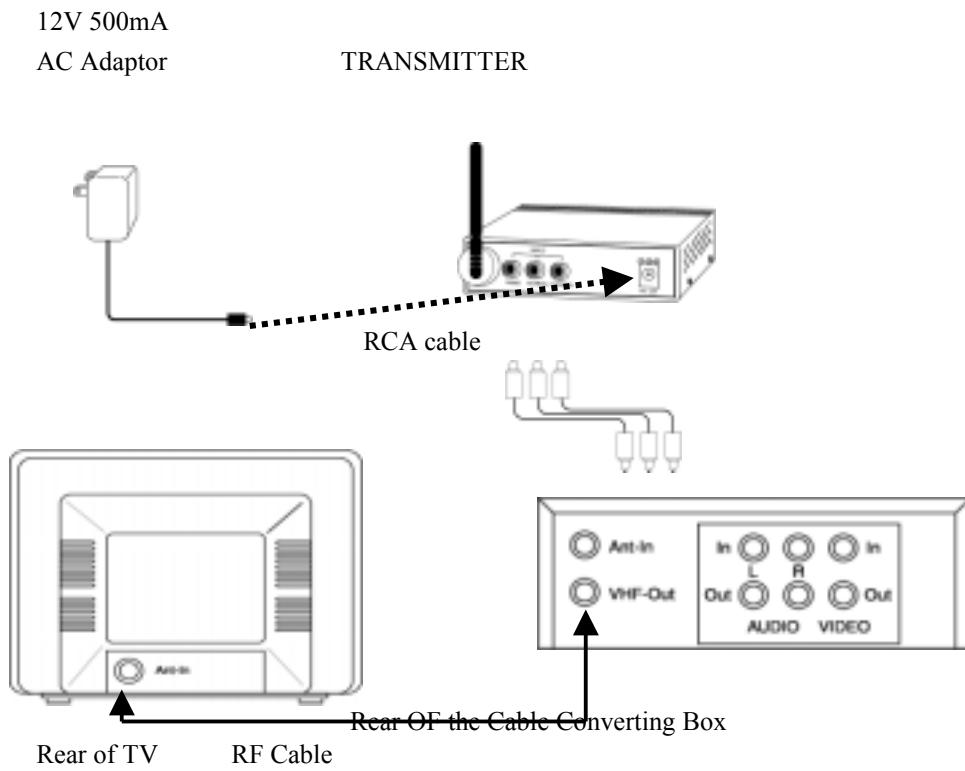
1. Connect one end (triple plugs) of the RCA cable to the A/V jacks on the transmitter, and the other end to the Audio/Video Out jacks on your VCR.  
Be sure to match the color of the plugs in both connection.  
If your VCR has only one audio out jack (mono sound), connect the white plug(Audio-L) to your VCR.
2. If you want to use the system with a nearby TV, connect one end of the supplied RF cable to the VHF Out jack on your VCR, and the other end to the antenna In jack on your TV.
3. To receive cable transmission on your TV without the cable converting box, connect the cable TV input source to the VHF In jack on your VCR.
4. Turn on the transmitter and search the channel 1-4 by pressing the Channel selector,

and then select the best one for optimum reception in your area.

5. Adjust the antenna direction as necessary.

## INSTALLATION OF WIRELESS TRANSMITTER

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**Note:** Be sure to set the power on the transmitter to "OFF" before proceeding as follows.

1. Connect one end of the RCA cable to the A/V jacks on the transmitter, and the other end to the A/V Out jacks on your cable converting box.

Be sure to match the color of the plugs in both connection.

If your cable converting box has only one audio OUT jack, connect the white plug to your cable converting box.

2. For viewing cable signals through the nearby TV, connect the RF cable to the Antenna Out jack on your converting box and the Antenna In jack on your TV.

3. Turn on the transmitter and search the channel 1-4 by pressing the Channel Selector, and select the best one for optimum reception in your area.

**Note:** Both transmitter and Receiver units must be set to the same channel.

4. Adjust the antenna direction as necessary.

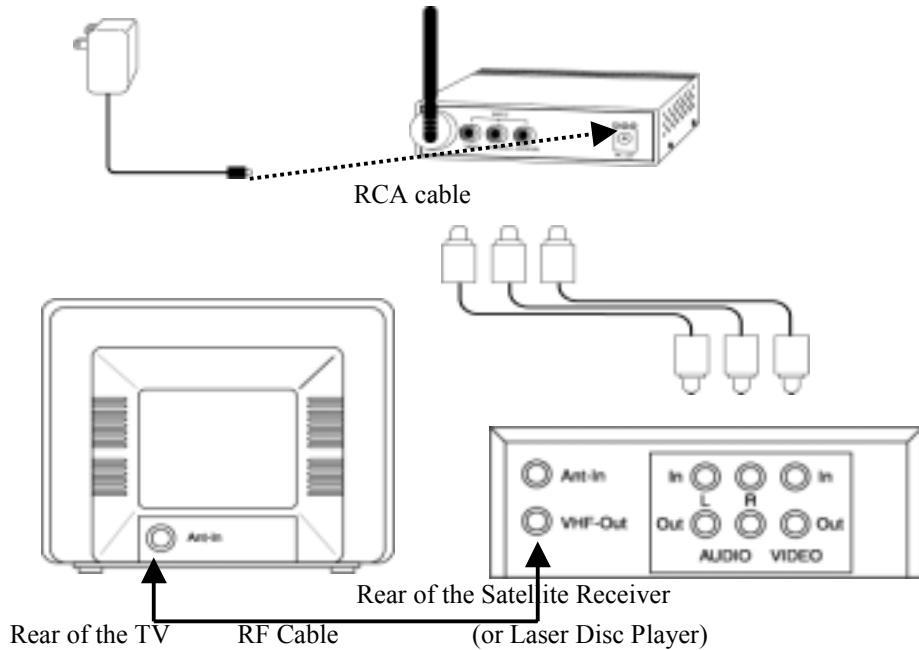
## INSTALLATION OF WIRELESS TRANSMITTER

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12V 500mA

AC Adaptor

TRANSMITTER



**Note:** Be sure to set the Power Switch on the transmitter to "OFF" before following steps below.

1. Connect one end of the RCA cable to the A/V jacks on the transmitter, and the other end to the Audio/Video Out jacks on your satellite receiver or laser disc player. Be sure to match the color of the plugs in both connection.
2. Connect the RF cable to the Antenna Out jack on the satellite receiver (or laser disc player) and the Antenna In jack on your TV.
3. Turn on the transmitter and search the channel 1-4 by pressing the Channel Selector, and select the best one for optimum reception in your area.  
**Note:** Both transmitter and receiver units must be set to the same channel.
4. Adjust the antenna direction as necessary.

## INSTALLATION OF WIRELESS TRANSMITTER

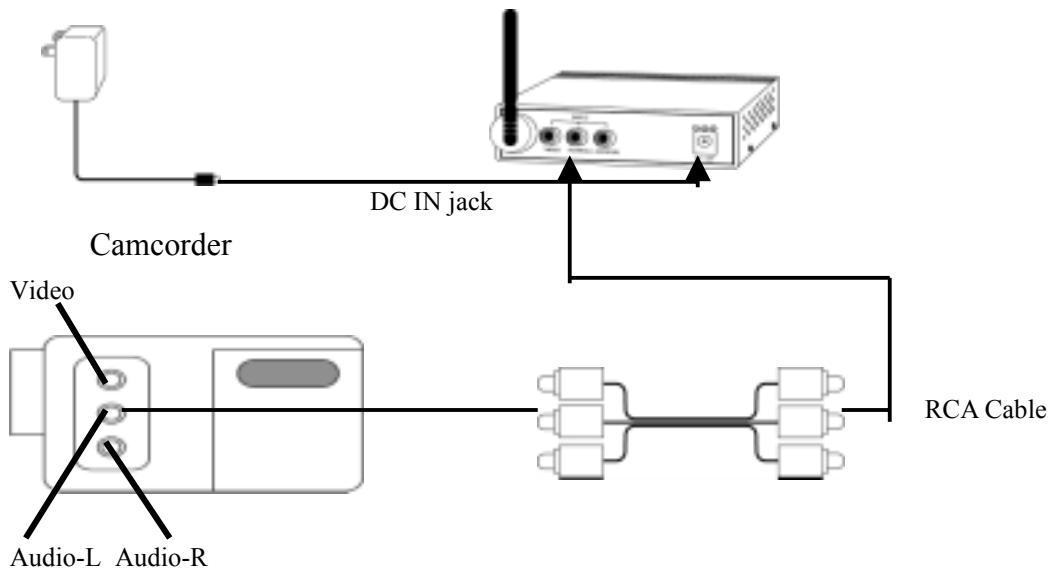
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## TRANSMITTING AUDIO/VIDEO FROM CAMCORDER

The system can be used with any camcorder as a wireless monitoring system.

DC 12V 500mA

AC Adaptor



**Note:** Be sure to set the Power Switch on the transmitter to "OFF" before following steps below.

1. Place your camcorder near the object you want to monitor such as a sleeping baby, the playing children, the elderly, or the disabled.

2. Connect one end(triple plugs) of the RCA cable to the A/V jacks on the transmitter, and the other end to the A/V Out jacks on your camcorder.

Be sure to match the color of the plugs in both connection.

If your camcorder has only one Audio Out jack (mono sound), connect the white plug(Audio-L) to the single audio out jack on your camcorder.

**Note:** Some camcorders require the adaptor patch cable.

3. Turn on the transmitter and search the channel 1-4 by pressing the Channel selector, and select the best one for optimum reception in your area.

**Note:** Both transmitter and receiver units must be set to the same channel.

4. Adjust the antenna direction as necessary.

## INSTALLATION OF WIRELESS TRANSMITTER

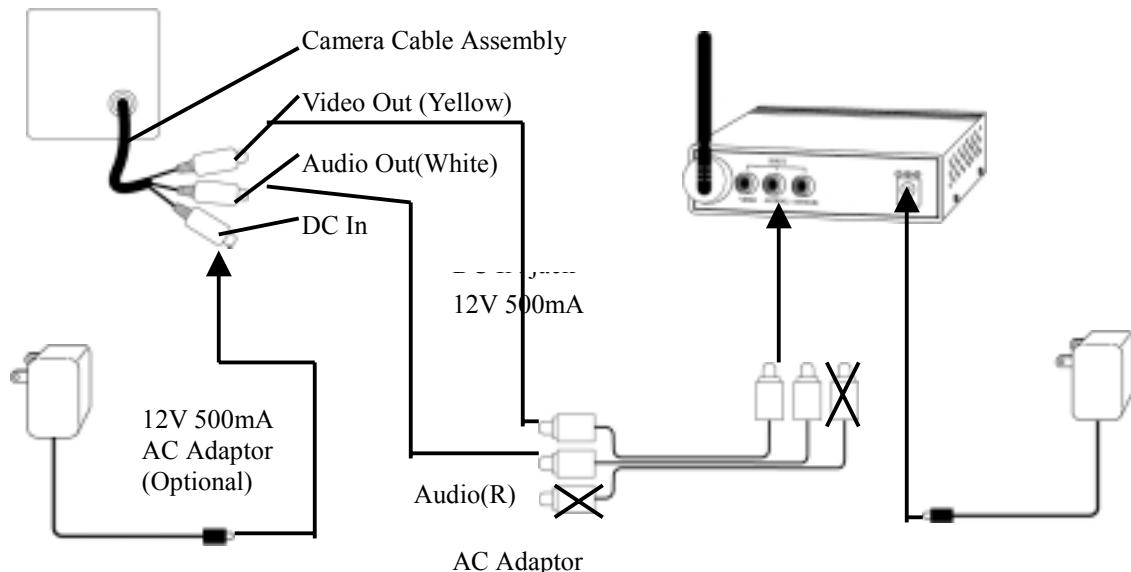
## TRANSMITTING AUDIO/VIDEO FROM CCD VIDEO CAMERA

The system can be used with the CCD Video Camera (optional-see order from) as a

wireless monitoring system for your home or business security.

Rear of the Camera

TRANSMITTER



**Note:** Be sure to set the Power Switch on the transmitter to "OFF" before following steps below.

1. Place optional CCD camera near the object you want to monitor such as a sleeping baby, the playing children, the elderly, or the disabled.
2. Connect one end of the RCA cable to the Audio(L)/Video jacks on the transmitter, and the other end to the A/V Out jacks on the camera cable assembly on the optional camera. Be sure to match the color of the plugs in both connection.
3. Turn the transmitter on and Search the channel 1-4 by pressing the Channel Selector on the transmitter, and select the best one for optimum reception in your area.  
**Note:** Both transmitter and receiver units must be set to the same channel.
4. Adjust the antenna direction as necessary.

## INSTALLATION OF WIRELESS TRANSMITTER

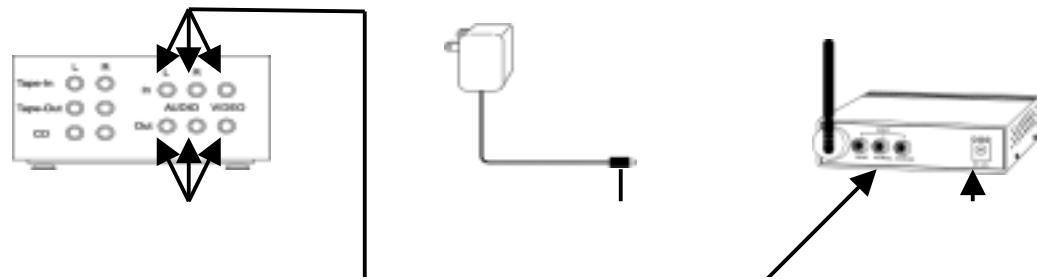
### TRANSMITTING AUDIO/VIDEO FROM CCD VIDEO CAMERA

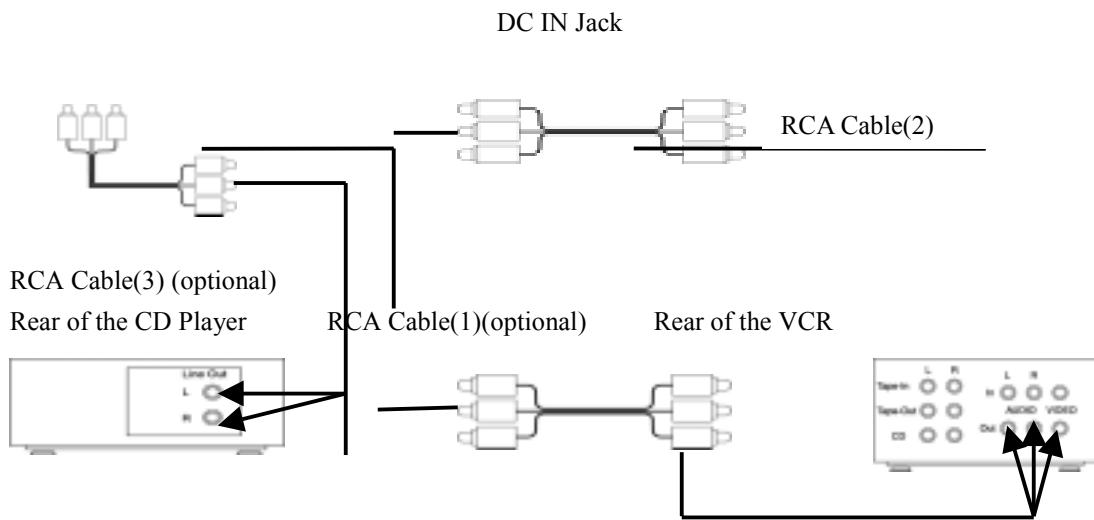
You can transmit signals from several A/V sources to a remote location by using the wireless transmitter with A/V receivers that have multiple input and output jacks.

Rear of the A/V Receiver

12V 500mA AC Adaptor

TRANSMITTER





**Note:** Be sure to set the Power Switch on the transmitter to "OFF" before proceeding as follows.

1. Connect one end of the RCA cable (1) to the A/V Out jacks on any source units you want to use, and the other end to the A/V In jacks on your A/V receiver. Be sure to match the color of the plugs in both connection.
2. Connect one end of the RCA cable(2) to the A/V jacks on the transmitter, and the other end to the Audio/Video Out jacks on your A/V receiver.
3. If you also want to connect your CD player to the system, connect one end of the RCA cable (3-optional) to the Line-Out (L/R) jacks on your CD player and the other end to the CD (L/R) jacks on your A/V receiver.
4. Turn on the transmitter and search the channel 1-4 by pressing the Channel Selector, and select the best one for optimum reception in your area.

**Note:** Both transmitter and receiver units must be set to the same channel.

5. Adjust the antenna direction as necessary.

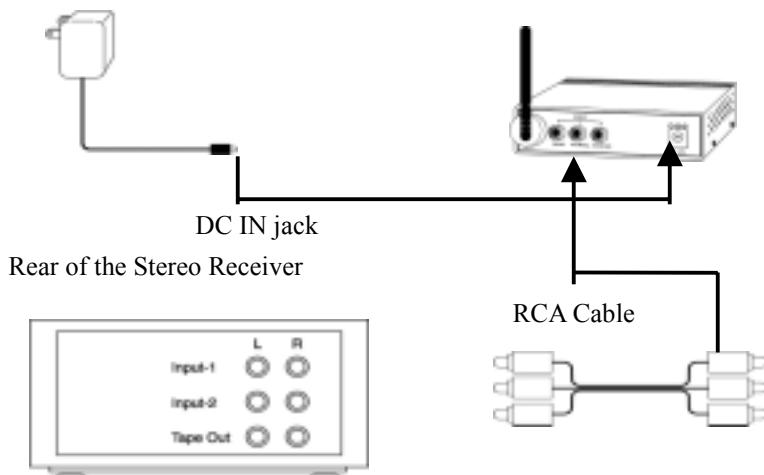
## INSTALLATION OF WIRELESS TRANSMITTER

### TRANSMITTING SOUND FROM STEREO RECEIVER

You can transmit the sound from your CD player, cassette deck, or radio to your speakers by using the wireless transmitter.

12V 500mA AC Adaptor

TRANSMITTER



**Note:** Be sure to set the Power Switch on the transmitter to "OFF" before processing following steps.

1. Connect the RCA cable to the Audio (L/R) jacks on your transmitter and the Tape Out(L/R) jack on your stereo receiver. (Connect to Line-Out jacks, In case of the cassette deck or CD player)
2. Turn on the transmitter and select the channel 1-4 by pressing the Channel Selector, and select the best one for optimum reception in your area.  
**Note:** Both transmitter and receiver units must be set to the same channel.
3. Adjust the antenna direction as necessary.

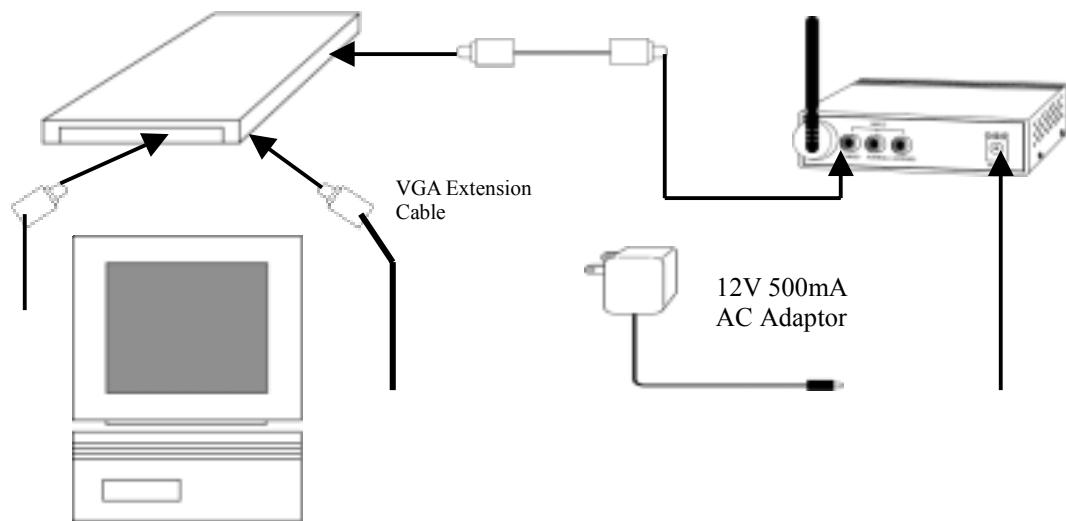
## INSTALLATION OF WIRELESS TRANSMITTER

### TRANSMITTING AUDIO/VIDEO FROM YOUR COMPUTER

This system also sends images and sounds from the computer to any TV in your home or office by using a sound card and a VGA-to-TV converter (both can be purchased at the local computer store). This feature allows you to send A/V signals from your desktop or laptop computer to a large TV screen for presentation without running cables.

#### VGA-to-TV Converter

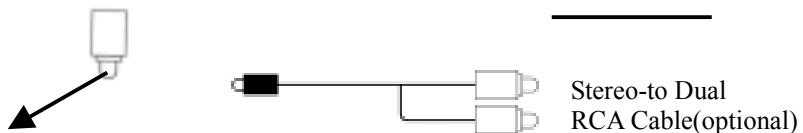
RCA Cable(optional)



**Note:** Be sure to set the Power Switch on the transmitter to "OFF" before following steps below.

1. Connect the monitor cable of your computer to the VGA Out port on the VGA-to-TV converter.
2. Connect a VGA extension cable (supplied with converter) to the VGA port on your CPU unit and the VGA In port on the VGA-to-TV converter.
3. Connect one end of the RCA cable (Yellow Plug) to the Video jack on the Monitor Cable →-TV converter, and the other end (Yellow plug) to the Video jack on

Monitor  
Cable



the transmitter.

4. Connect the 3.5mm stereo plug (of the Stereo-to Dual RCA cable) to the sound card, and the dual RCA plug (of the Stereo-to Dual RCA cable) to the Audio-L/R jacks on the transmitter.
5. Turn on the transmitter and search the channel 1-4 by pressing the Channel Selector, and select the best one for optimum reception in your area.

**Note:** Both transmitter and receiver units must be set to the same channel.

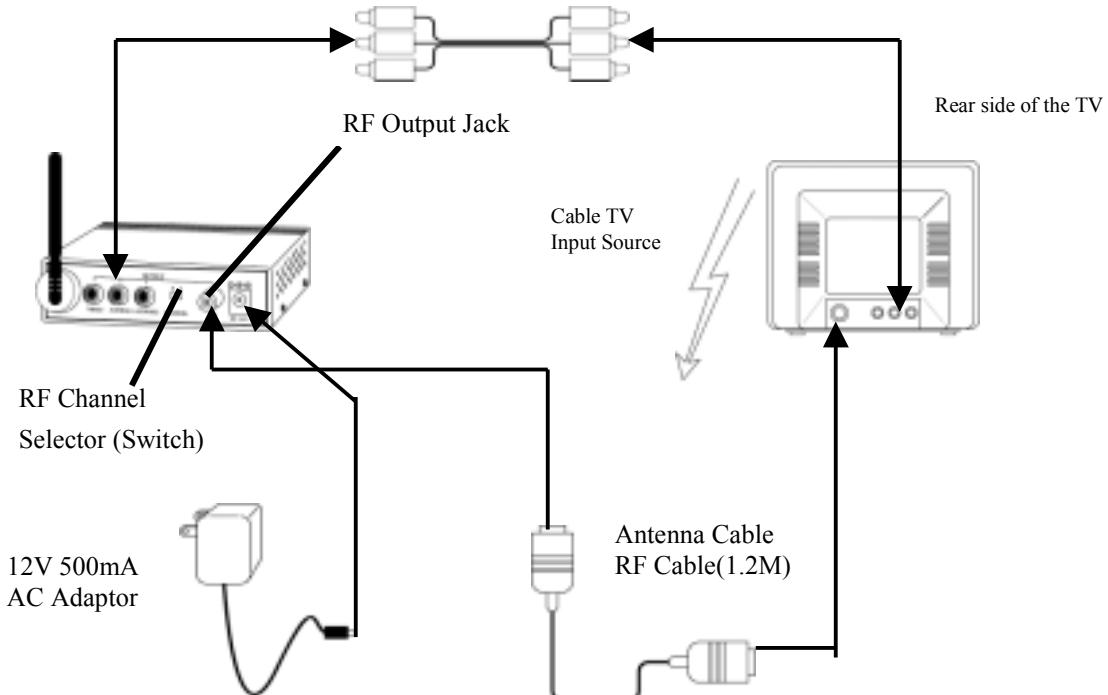
6. Adjust the antenna direction as necessary.

## INSTALLATION OF WIRELESS RECEIVER

### RECEIVING AUDIO/VIDEO ON REMOTE TV

Both units can be connected by either the RCA cable or RF cable.

RECEIVER      RCA Cable(1.2M)



**Note:** Be sure to set the power switch on the receiver to "OFF" before following steps below.

1. Connect one end (triple plugs) of the RCA cable to the A/V jacks on the Receiver, and the other end to the A/V In jacks on your TV.  
Be sure to match the color of the plugs in both connection.  
If your TV has a single Audio Input jack, connect white RCA plugs (Audio-L) in both connection.
2. Turn on the receiver and set your TV to Video mode to view the receiving A/V signal from the receiver.
3. If your TV has a single input port (Antenna Input jack) you can connect both units with the RF cable. Connect one end of the RF cable to the Antenna In jack on your TV and the other end to the RF Out jack on the receiver unit.
4. Set the RF channel selector on the receiver to Ch3 or Ch4 whichever is not used in your area. Set your TV channel corresponding to the selected channel on the receiver.

## INSTALLATION OF WIRELESS RECEIVER

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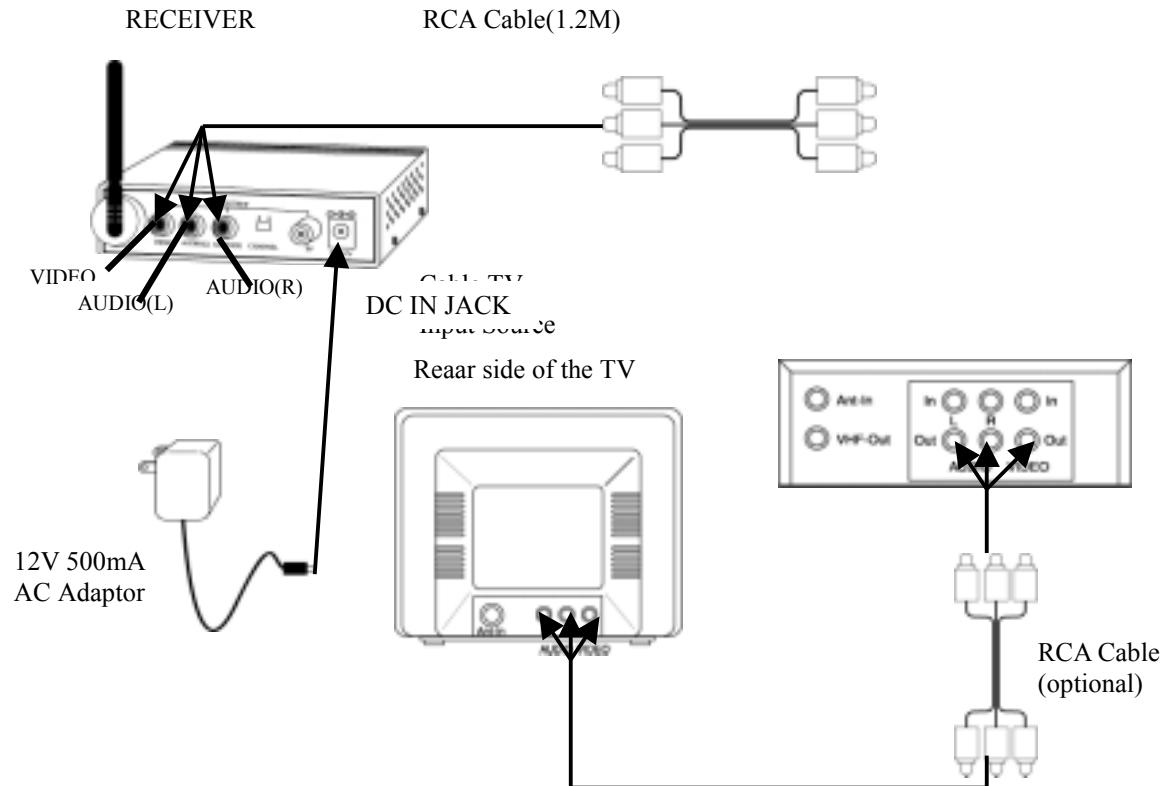
### RECEIVING AUDIO/VIDEO ON REMOTE TV (Cont'd)

5. Search the channel 1-4 by pressing the Channel Selector on the receiver and select the best one for optimum reception in your area.  
**Note:** Both transmitter and receiver units must be set to the same channel.
6. Adjust the antenna direction as necessary.

## INSTALLATION OF WIRELESS RECEIVER

### RECEIVING AUDIO/VIDEO ON REMOTE TV THROUGH VCR

Both units can be connected by either the RCA cable or RF cable.



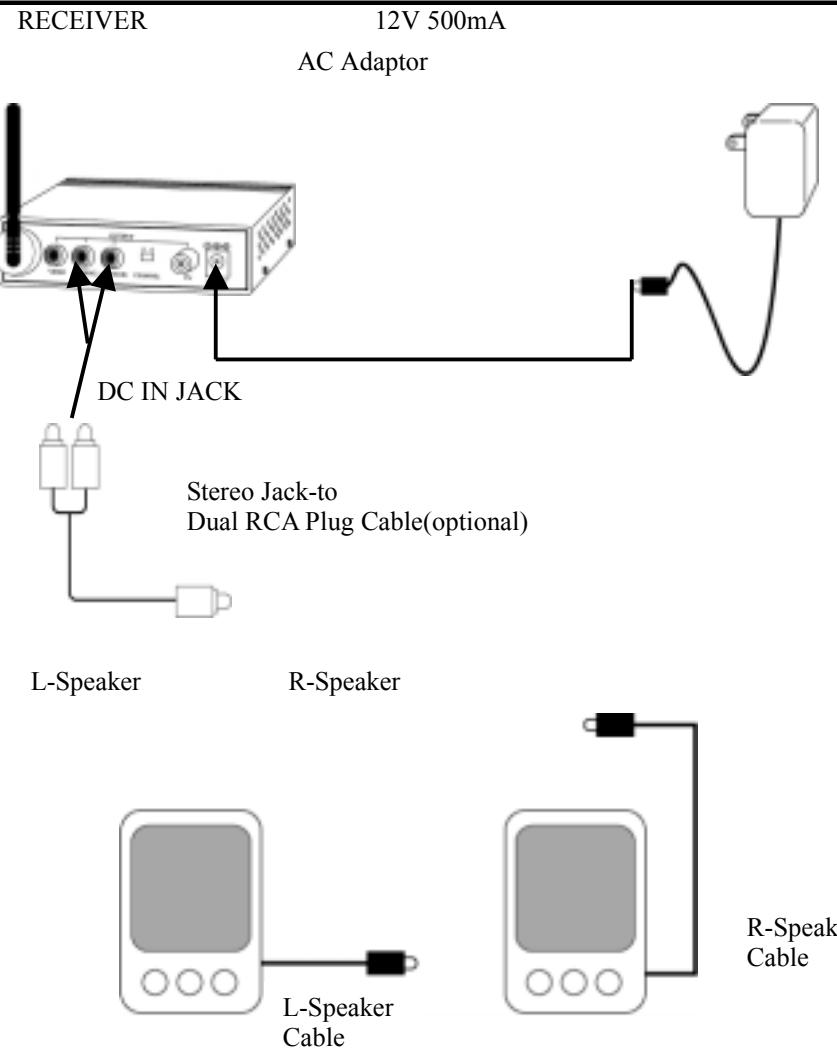
**Note:** Be Sure to set the Power Switch on the receiver to "OFF" before processing as follows.

1. Connect one end (triple plugs) of the RCA cable to the A/V jacks on the receiver, and the other end to the A/V jacks on your VCR. Be sure to match the color of the plugs in both connection.  
If your VCR has a single audio input jack, connect white RCA plugs (Audio-L) in both connection.
2. Connect one end of another RCA cable to the A/V jacks on your TV, and the other end to the A/V jacks on your VCR.

3. Turn on the receiver and Set your TV to the Video mode to view the receiving signal from the receiver.
4. Search the channel 1-4 by pressing the Channel Selector on the receiver and select the best one for optimum reception in your area.
- Note:** Both transmitter and receiver units must be set to the same channel.
5. Adjust the antenna direction as necessary.

## INSTALLATION OF WIRELESS RECEIVER

### RECEIVING AUDIO ON REMOTE AMPLIFIED SPEAKERS



**Note:** Be Sure to set the Power Switch on the receiver to "OFF" before following steps below.

1. Connect a 3.5mm stereo jacks-to dual RCA plug cable(optional) to the receiver and right speaker.

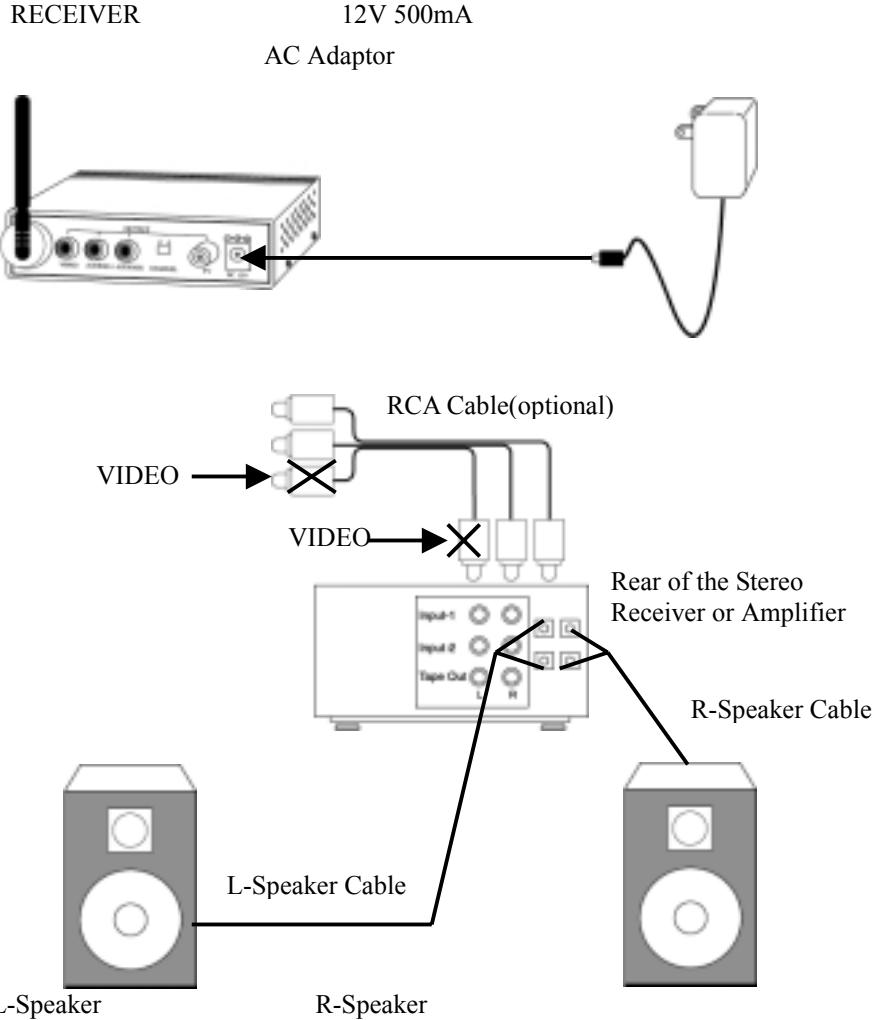
2. Connect the speaker cable to the R-Speaker.
3. Turn on the receiver. Search the channel 1-4 by pressing Channel Selector on the receiver and select the best one for optimum reception in your area.

**Note:** Both transmitter and receiver units must be set to the same channel.

4. Adjust the antenna direction as necessary.

## INSTALLATION OF WIRELESS RECEIVER

### RECEIVING AUDIO ON ANY REMOTE SPEAKERS



**Note:** Be Sure to set the Power Switch on the receiver to "OFF" before following steps below.

1. Connect one end of the RCA cable to the Audio L/R jacks on the receiver and the other end to the Audio L/R jacks on your stereo receiver or amplifier unit.
2. Connect the cable of your speakers to your stereo receiver or amplifier as usual.
3. Turn on the receiver. Search the channel 1-4 by pressing Channel Selector on the receiver and select the best one for optimum reception in your area.

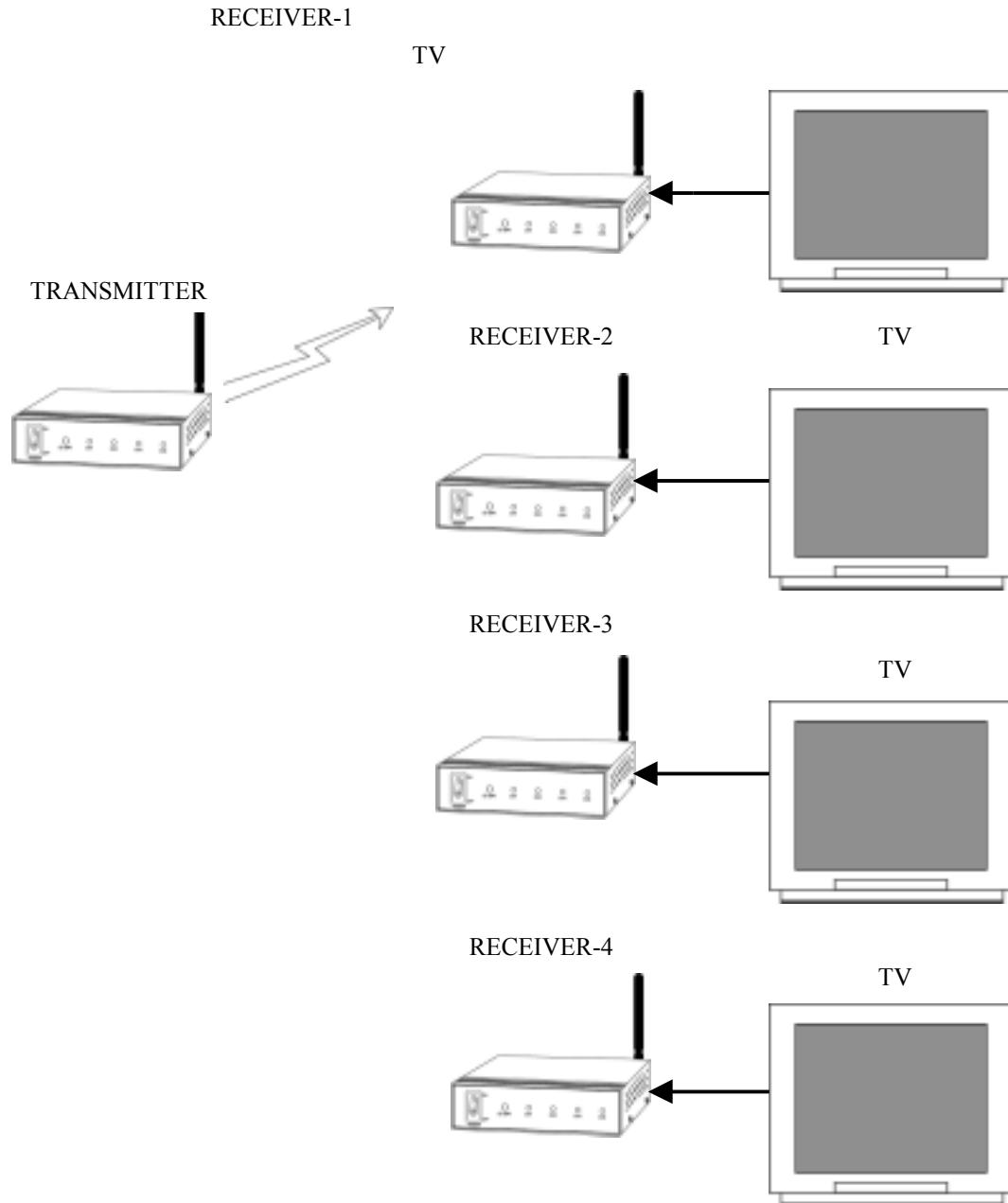
**Note:** Both transmitter and receiver units must be set to the same channel.

4. Adjust the antenna direction as necessary.

## MULTIPLE CHANNEL OPERATION

### ONE TRANSMITTER AND MULIPLE RECEIVER OPERATION

You can transmit the A/V signal to several A/V equipments in a remote location at the same time by using one wireless transmitter with multiple wireless receivers as many as you want.



## MULTIPLE CHANNEL OPERATION

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### ONE TRANSMITTER AND MULIPLE RECEIVER OPERATION (Con'd)

**Note:** Be sure to set the Power Switch on the transmitter and receiver to "OFF" before following steps below.

1. Connect all receiver units to your TV with or without VCR using the RCA cable (see instructions on page 8).  
**Note:** This system includes only one receiver unit and additional units are optional. See the enclosed order form for additional order.
2. Turn on your transmitter and select one of the transmission channel 1-4 (corresponding to the receiver) by pressing the Channel Selector on the transmitter unit.
3. Turn on all TVs which are connected to the receiver unit and set your TV to video mode.
4. Turn on all receiver units and search the channel 1-4 by pressing the Channel Selector on the receiver, and select the best one for optimum reception in your area.  
**Note:** All receiver and transmitter units must be set to the same channel.
5. Adjust the antenna direction as necessary.

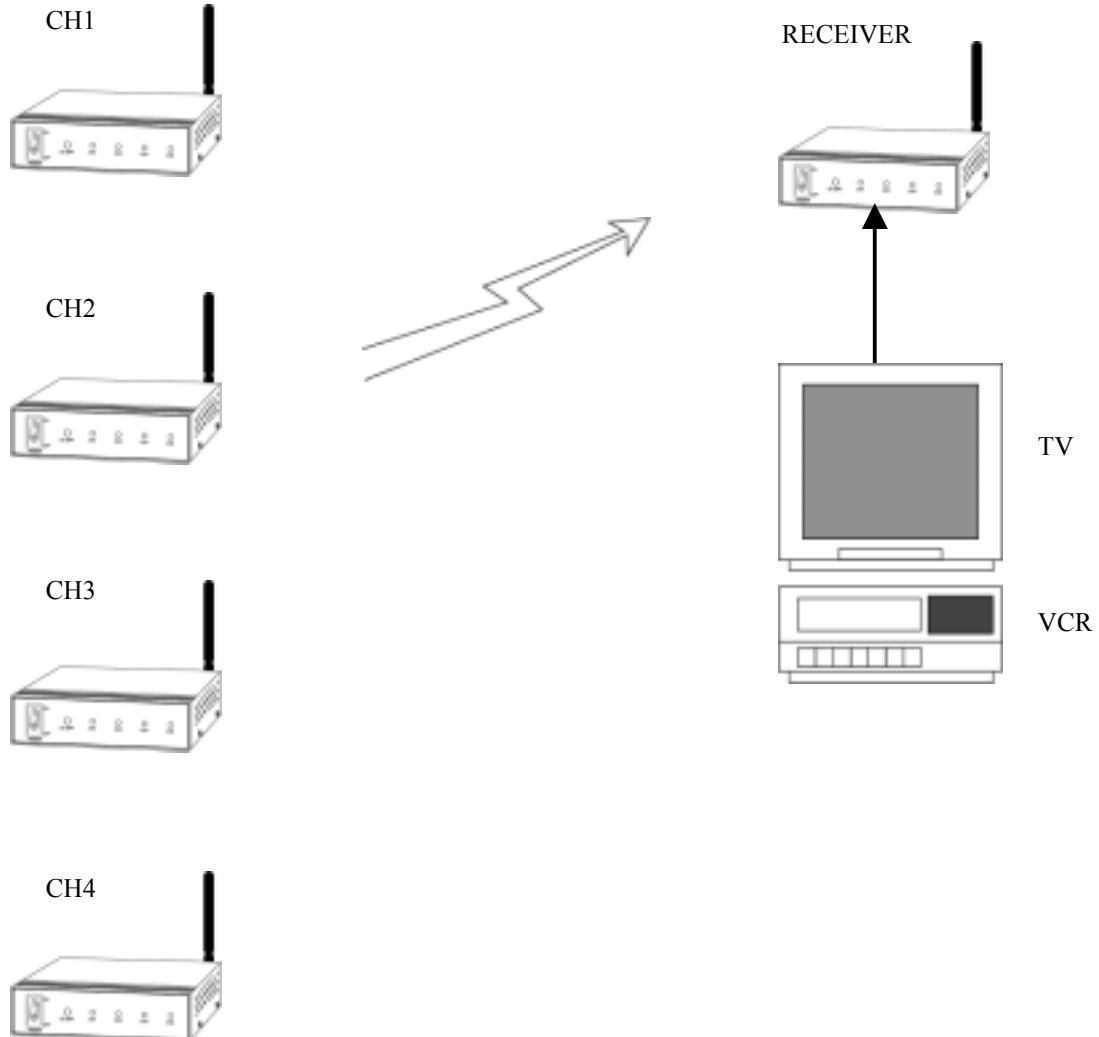
## MULTIPLE CHANNEL OPERATION

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### ONE RECEIVER AND MULTIPLE TRANSMITTER OPERATION (Con'd)

You can receive signals from several transmitters in a remote location with one wireless receiver. You can watch 4 different A/Vs by pressing the Channel Selector on the receiver.

#### TRANSMITTER



#### MULTIPLE CHANNEL OPERATION

ONE RECEIVER AND MULTIPLE TRANSMITTER OPERATION (Con'd)

**Note:** Be sure to set the Power Switch on the transmitter and receiver to "OFF" before

following steps below.

1. Connect the receiver unit to your TV with or without the VCR by using the RCA cable. (see instructions on 8)
2. Turn on all of transmitters. The transmitters must be set to different channels. Select the channel 1-4 for each unit by pressing the Channel Selector on each transmitter.
3. Turn on your remote TV that is connected to the receiver. Set your TV to video mode.
4. Turn on the receiver.
5. You can select the channel 1-4 one by one manually by pressing the Channel Selector on the receiver. Your TV will display the signals from different transmitters as selected.
6. Adjust the antenna direction as necessary.

## **TROUBLESHOOTING**

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IF THE SYSTEM DOES NOT FUNCTION PROPERLY, CHECK THE FOLLOWING POINTS BEFORE CONTACT WITH THE SERVICE CENTER

Problem	Causes and remedies
No power (no picture/sound)	<ul style="list-style-type: none"><li>- AC adapter not plugged in or improper adapter connection</li><li>- Power switches on the transmitter and receiver not</li></ul>

turned on.

- Power switches on the TV not turned on.
- Improper A/V cable connection.

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Poor reception

Improper transmitter & receiver antenna direction.

Improper channel 1-4 selection.

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## SPECIFICATIONS

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### TRANSMITTER WITH CAMERA

FREQUENCY RANGE	2400 ~ 2483.5 MHz
POWER SUPPLY	DC 12V
RF OUTPUT POWER	10mW(optional)
SPURIOUS EMISSION	-40 dBc
OUTPUT IMPEDANCE	50Ω NOMINAL
OPERATING TEMPERATURE	-10°C ~ +60°C
POWER CONSUMPTION	200 mA
WEIGHT	390g
SIZE (except antenna)	116(L) X 111(W) X32(H)

RECEIVER

RECEIVING METHOD	HETERODYNE
DEMODULATION METHOD	FM
OSCILLATION METHOD	PLL
AUDIO RESPONSE	300-3000 Hz
SENSITIVITY	≤-80 dBm
TV MODULATOR	NTSC OR PAL
VIDEO OUTPUT	1V P-P (COMPOSITE SIGNAL)
AUDIO OUTPUT	1V P-P
POWER SUPPLY	DC 12V
POWER CONSUMPTION	400 mA
WEIGHT	440g
SIZE (except antenna)	116(L) X 111(W) X 32(H)