

JESMAY

5 0 2 1999

FCC ID.:NOQJM2063S

EXHIBIT 4

User Manual

JESMAY

2061/2063 → FCC ID: NOQJM2063S
2062/2064 → FCC ID: NOQJM2064R

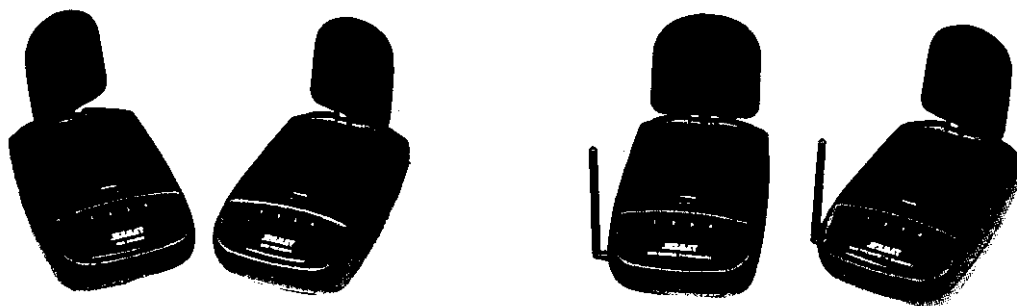
2.4GHz WIRELESS AV LINK

2061/2062

2063/2064

OWNER'S MANUAL

(PLEASE READ BEFORE USE)



2061/2062 without remote control extender
(TRANSMITTER:2061,RECEIVER:2062)

2063/2064 with remote control extender
(TRANSMITTER:2063,RECEIVER:2064)

JESMAY ELECTRONICS CO., LTD

FCC ID	Model	2.4 GHz TX	2.4 GHz RX	418 MHz Periodic TX	418 MHz Receiver	TVID TV Ch 2&3
NOQJM2063S	2061	Yes (Cert)	No	No	No	No
NOQJM2063S	2063	Yes (Cert)	No	No	No	No
NOQJM2064R	2062	No	Yes (DoC)	No	Yes (DoC)	No
NOQJM2064R	2064	No	Yes (DoC)	No	No	No

A. Specifications

Transmitter: 2061/2063

Output Level	90 dB μ v/m at 3 meters
Operating Frequency Band	2.4 to 2.4835 GHz
Modulation	FM (video and audio)
Video Input level	1V p-p @ 75 Ω
Audio Input Level	1V p-p @ 600 Ω
Video Input Impedance	75 Ω
Audio Input Impedance	600 Ω
Power consumption	12VDC, 350mA
Dimension	18cm $\times$ 12cm $\times$ 5cm
Weight	400g

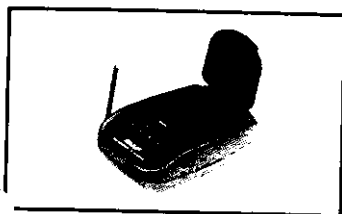
Receiver: 2062/2064

Output Level	1 Vp-p (video), 1Vp-p (audio)
Noise Figure	3.5dB
Power Consumption	12 VDC, 350mA
Remote Control Transmitter	
Frequency	433.92 MHz or 418 MHz (2064 only)
RF Output Channel	CH3 or CH4 (NTSC/M) or CH36 (PAL/G)
Dimension	18cm $\times$ 12cm $\times$ 5cm
Weight	430g

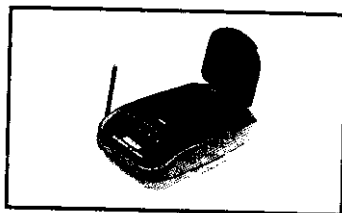
All specification subject to change without notice.

B. Checking Contents of Box

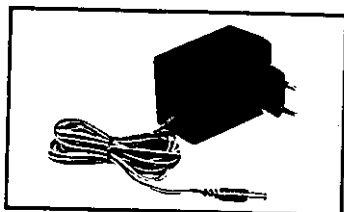
Check to make sure that all of the items shown as below are included with your 2.4 GHz Wireless Video Sender System. If something is missing, please contact your dealer as soon as possible.



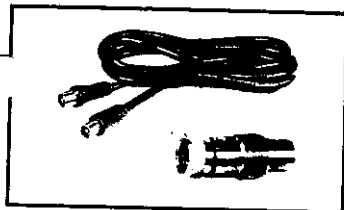
- | | |
|-------------------------------------|-----|
| 1. Transmitter (model 2061 or 2063) | × 1 |
| 2061 W/O Remote Receiver | |
| 2063 with Remote Receiver | |



- | | |
|----------------------------------|-----|
| 2. Receiver (model 2062 or 2064) | × 1 |
| 2062 W/O Remote Transmitter | |
| 2064 with Remote Transmitter | |



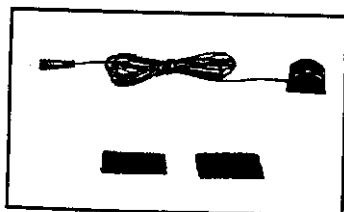
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|--------------------------------------|-----|
| 3. Power adapters (230VAC to 12 VDC) | × 2 |
| or (120VAC to 12 VDC) | × 2 |



- | | |
|--|-----|
| 4. TV hook-up cable,
9.5mm plug to 9.5mm jack | × 1 |
| 5. Cable adapter, F plug to 9.5mm plug | × 1 |



- | | |
|---|-----|
| 6. RCA to scart connector A/V cable (PAL) | × 2 |
| • one for transmitter | |
| • one for receiver | |



- | | |
|--|-----|
| 7. Audio/Video RCA cable (NTSC) | × 2 |
| 8. IR extender to connect to
transmitter's rear panel | × 1 |
| 9. Fasten strips | × 2 |

- | | |
|--------------------|-----|
| 10. Owner's manual | × 1 |
|--------------------|-----|

■ Important-Safety Precautions

- To prevent fire or shock hazard, do not expose this product to rain or moisture. Do not use near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.
- To avoid electrical shock, do not open this product.
- This product should be operated to use only the power supply included with it or provided as an accessory.
- Do not overload wall outlets and extension cords as this can result in the risk of fire or electrical shock.
- Refer servicing to qualified personnel only.

Caution: Changes or modifications not expressly approved by the Party responsible for compliance could avoid the user's authority to operate the equipment.

■ Note:

This equipment are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, if not installed and used in accordance with the instruction, it 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 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:

- Reorient 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.

C. Introduction to 2.4GHz Wireless AV Link

This sender system is a wireless audio/video sender that uses advanced wireless communication technology to deliver consistently sharp audio and video up to 100 meters away. By transmitting at a very high frequency (2.4 GHz), it avoids the crowded 900 MHz band used by many cordless telephones and other wireless audio/video transmitters. It's superior quality is due to wide-band FM rather than AM signal modulation. Circular polarized high-gain directional transmitting and receiving antennas are used to minimize interference from unwanted signals and maximize the signal range.

It also integrates an UHF remote control extender to allow you to control the audio or video source from another room using your existing remote controller (not available with Model 2061/2062).

Using sender system, you can enjoy greater convenience and security in many ways:

General Application

- Watch the movie you rent on any TV at your house without moving your VCR, laser disc player or running messy cables.
- Watch cable or satellite programs on any TV in your house.
- Listen to stereo-quality music from your receiver on any powered speakers inside or outside the house.
- Show computer images on a remote TV. (additional equipment required)

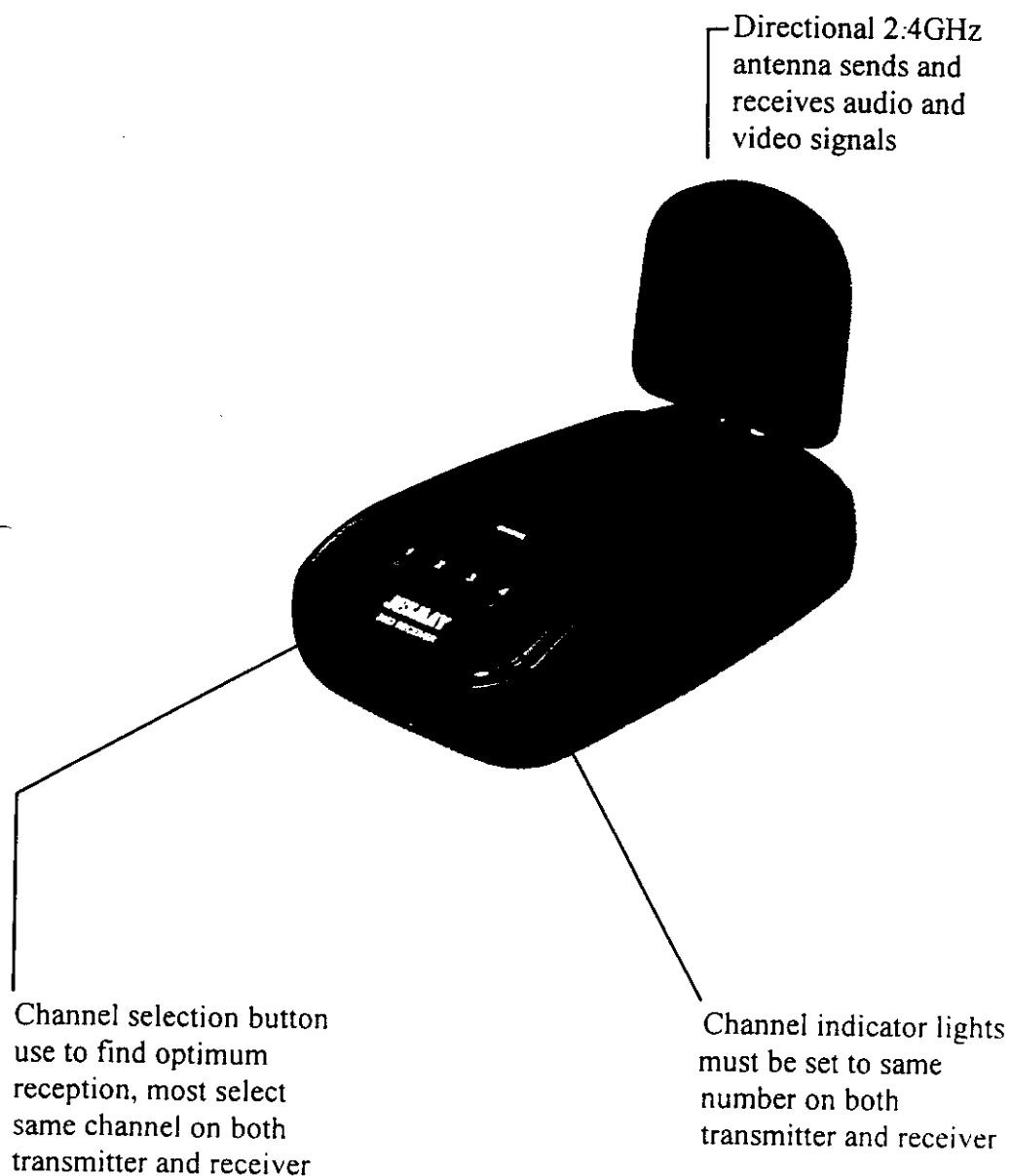
Safety & Security Application:

- Monitor your sleeping baby, playing children, the elderly, or the disabled on your TV using your existing camcorder.
- See who is outside your door on TV through your camera or miniature CCD camera.
- And many more uses!

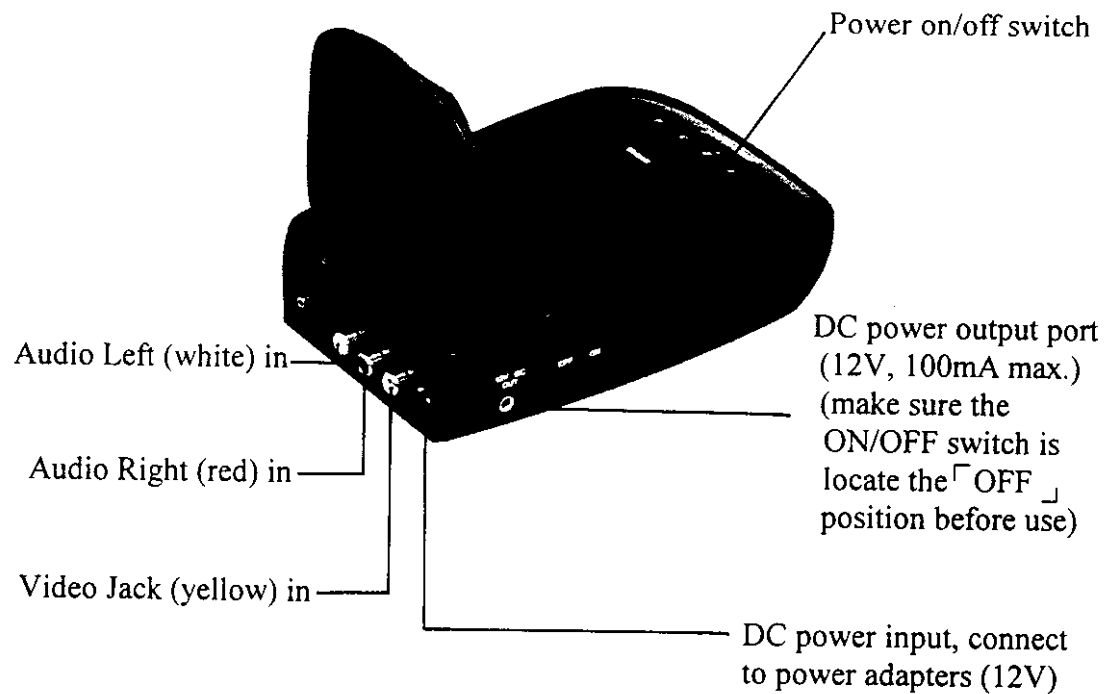
D. 2061/2062 Panel Controls and Features

The following illustrations show the names of each components, button and switch connectors on the transmitter and receiver.

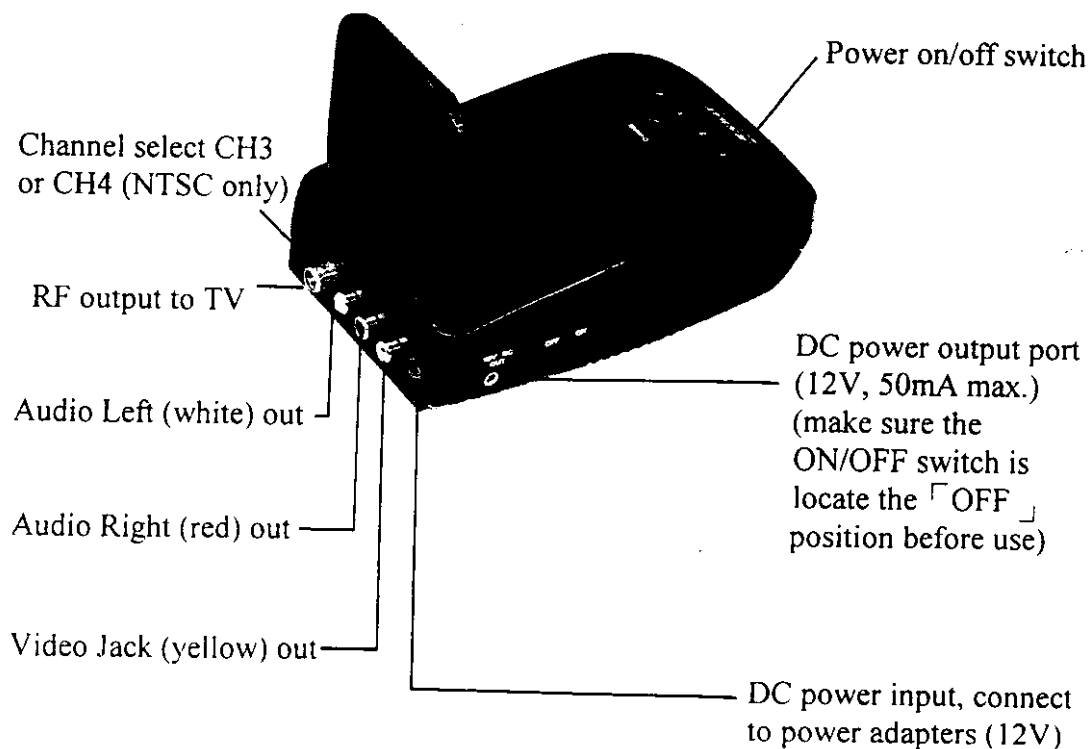
FRONT VIEW FOR TRANSMITTER AND RECEIVER



FCC ID: NOQJM20639
REAR VIEW FOR TRANSMITTER (2061)



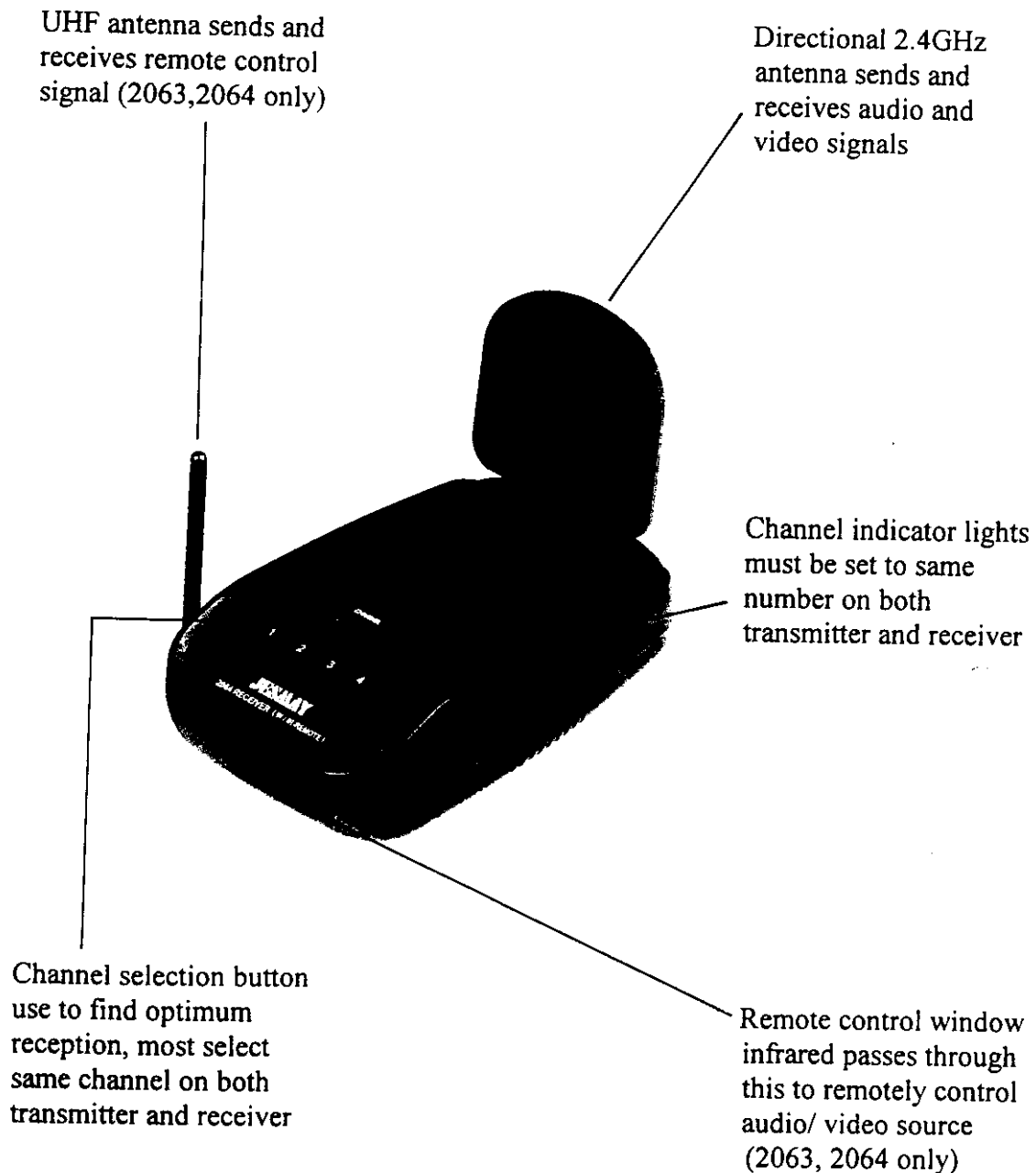
FCC ID: NOQJM20642
REAR VIEW FOR RECEIVER (2062)



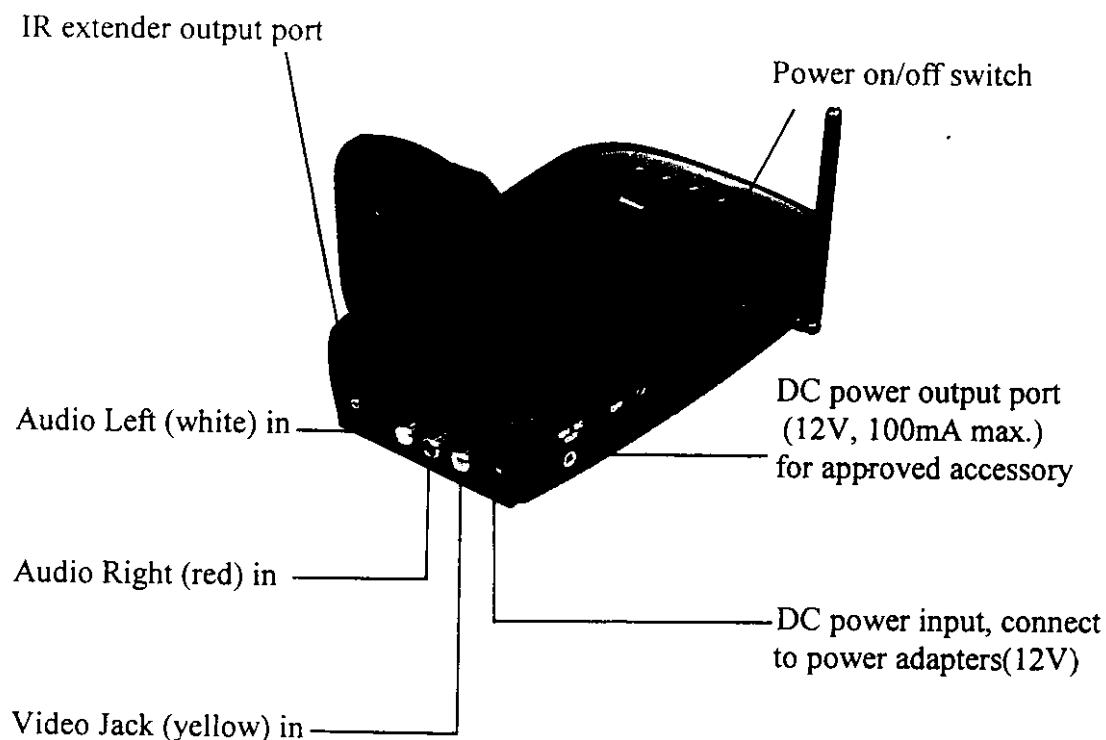
E. 2063/2064 Panel Controls and Features

The following illustrations show the names of each component, button and switch connectors on the transmitter and receiver.

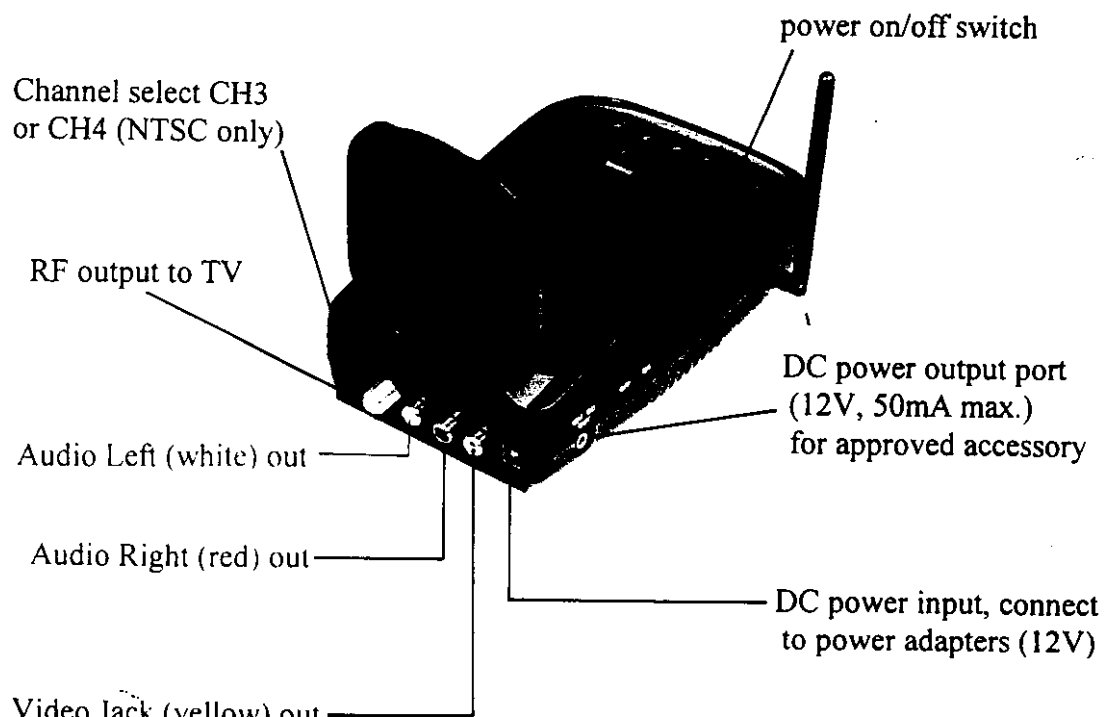
FRONT VIEW FOR TRANSMITTER AND RECEIVER



REAR VIEW FOR TRANSMITTER (2063)

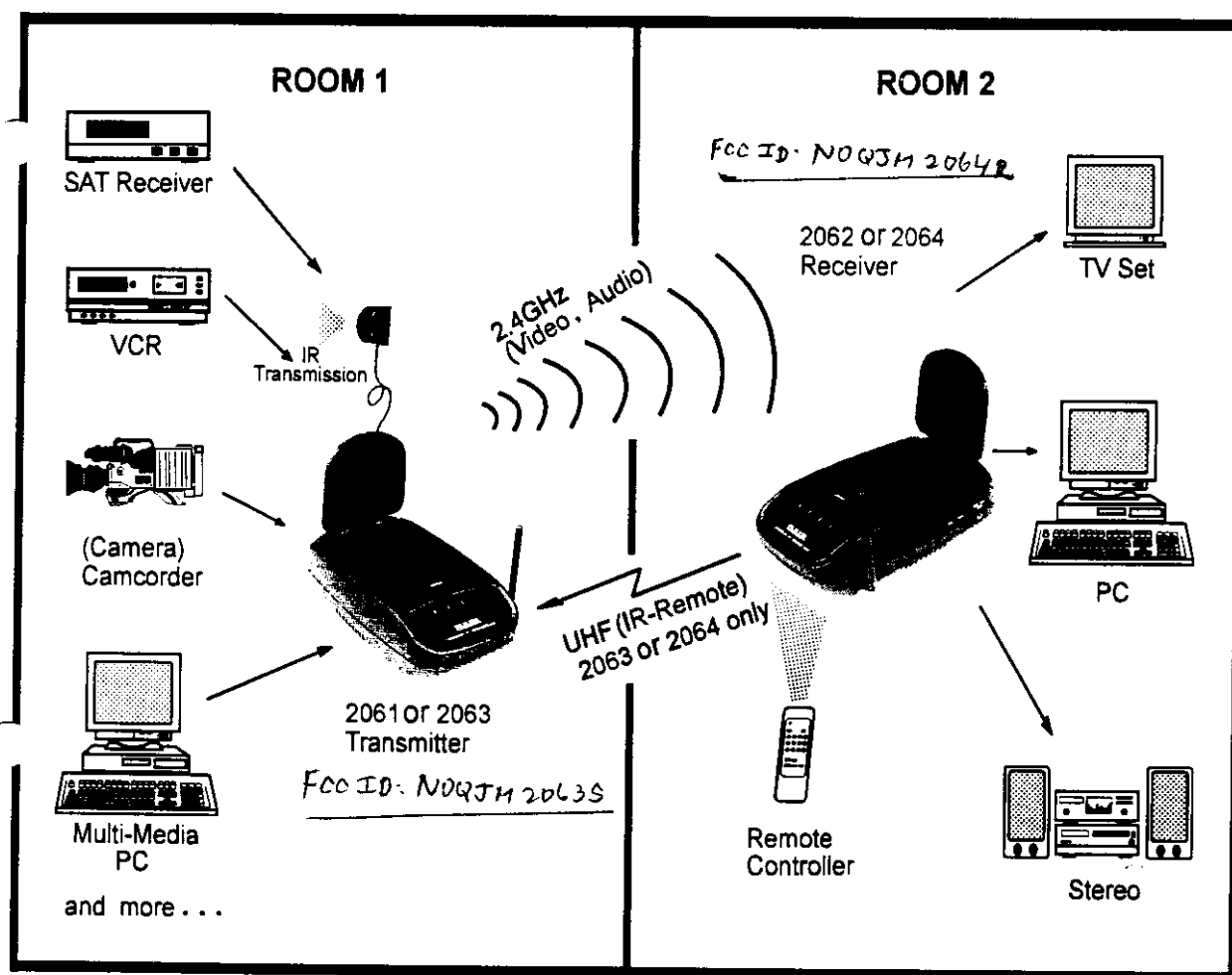


REAR VIEW FOR RECEIVER (2064)



F. Setting Up 2.4GHz wireless AV Link

To enjoy wireless video and audio, just connect the transmitter (Model 2061 or 2063) to whatever audio/video source you want to enjoy from another location, and connect the receiver (2062 or 2064) to the TV, monitor or powered speakers in that other location.



AV link system is suggested to connect to following A/V equipment use:

Video sources:

- VCR
- Cable set-top box (with A/V output)
- Satellite Receiver
- Laser Disc Player
- Camcorder or Miniature CCD Camera
- Computer
- Digital decoder

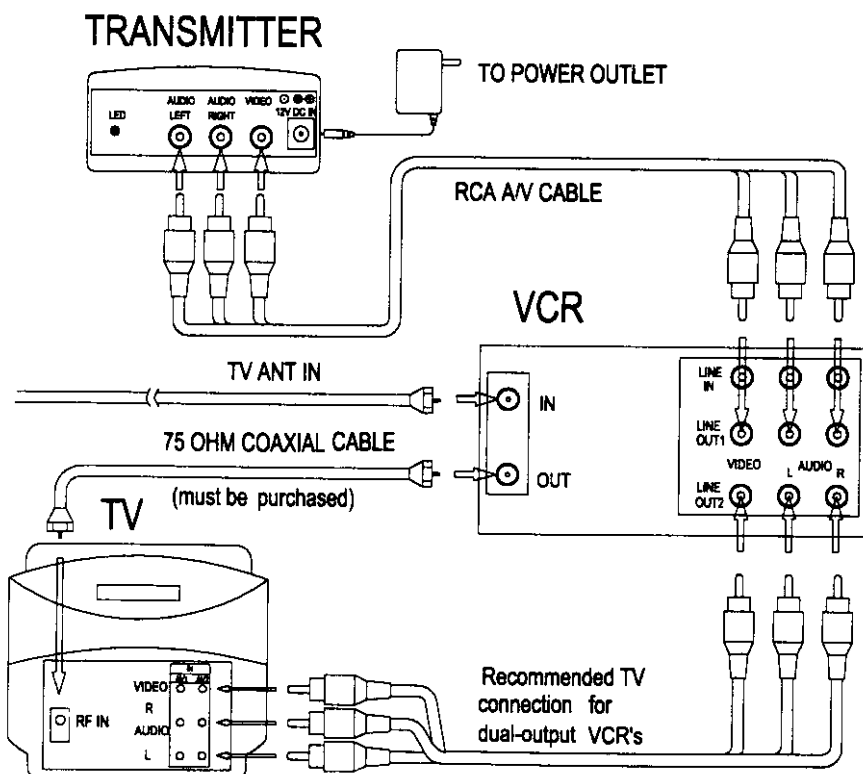
Audio sources:

- Compact Disk player or Changer
- Stereo Receiver
- Cassette Deck

Make sure the ON/OFF switch is in the "OFF" position before connection.

■ How To Transmit Audio/Video from Your VCR

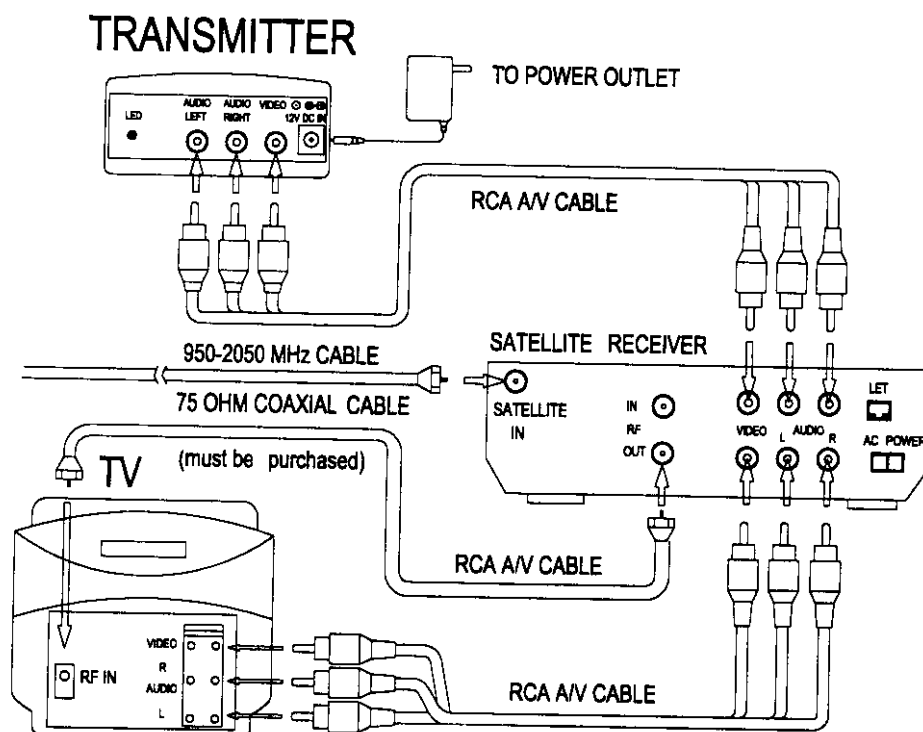
1. Connect one set of audio/video (A/V) cables (or scart cable labeled "Sender") to the A/V jacks of the transmitter (2061 or 2063) and to the A/V output jacks (or scart connector) on the back of your VCR. Be sure the yellow, red and white plugs match the yellow, red and white jacks on both the VCR and the transmitter. If the VCR has only one output for audio (mono sound only), connect the white plug to that single audio output and to transmitter's AUDIO LEFT jack.
2. Plug one end of the power adapter into the back of the transmitter and the other end into any 230-volt wall outlet (or 120-volt). Use only the adapter provided.
3. If your VCR has only one set of A/V output jacks and you want to use it with a nearby TV, connect 75 Ω RF coaxial cable from the modulator signal OUT port on your VCR to the RF IN port on your TV. (Note: In order to also view cable programs on that TV, connect your incoming cable TV source to the IN port of the VCR.)
4. Locate and orient the transmitter according to the section of this manual titled "Orienting Units for Optimum Performance" for best performance of transmitter.



■ How To Transmit Audio/Video from Your Satellite Receiver

You can transmit audio/video either directly from your satellite receiver, or by connecting them to your VCR. To transmit directly from your satellite receiver, follow the instructions below.

1. Connect one set of audio/video (A/V) cables (or scart cable labeled "Sender") to the A/V jacks of the transmitter (2061 or 2063) and to the AUDIO/VIDEO out jacks (or scart connector) of the satellite receiver or laser disc player. Be sure the yellow, red and white plugs match the yellow, red and white jacks on both the satellite receiver/laser disc player and the transmitter.
2. Plug one end of the power adapter into the back of the transmitter and the other end into any 230-volt (or 120-volt) wall outlet. Use only the adapter provided.
3. If your satellite receiver or laser disc player has only one set of A/V output (or scart connector) jacks, in this case, please connect 75Ω RF coaxial cable from satellite receiver's modulator output port to TV RF input terminal.
4. Locate and orient the transmitter according to the section of this manual titled "Orienting Units for Optimum Performance" for best performance of transmitter.



■ How To Receive Wireless Audio/Video on Your TV

There are two ways to receive wireless audio/video signals on your remote TV (TV in another location such as in bedroom, kitchen).

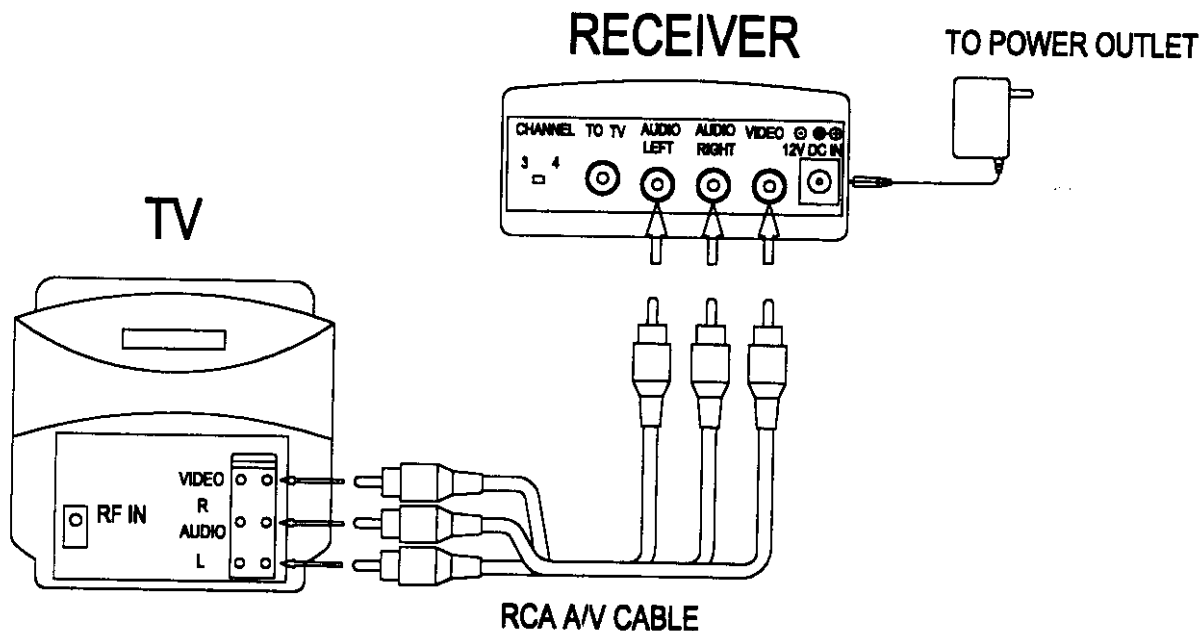
- Connect the receiver directly to the remote TV.
- Connect the receiver to a VCR, which is then connected to the TV.

If your TV has picture-in-picture capability, you can view any image transmitted by sender, such as your sleeping baby, in a small inset picture while enjoying other programming on the main part of the screen. Consult the owner's manual of your TV for instructions on using these capabilities.

Connecting Receiver Directly to Remote TV

If your TV has A/V jacks, connect one set of A/V cables (or scart cable labeled "Receiver") to the TV's A/V jacks and to the A/V output jacks on the receiver (2062 or 2064). Be sure the yellow, red and white plugs match the yellow, red and white jacks on both the TV and the receiver.

If the TV has only a single jack for audio input, connect the white plug to that jack.



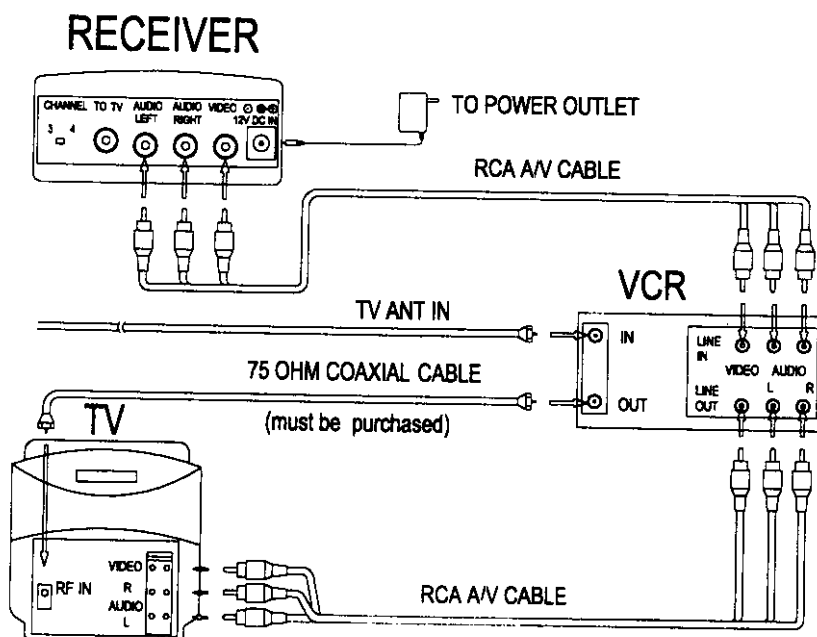
■ Connecting Receiver to Remote TV through VCR

This setup enables you to record transmitted audio and video on your remote VCR and also enjoy the picture and sound on a remote TV at the same time.

1. Connect one set of audio/video (A/V) cables to the A/V output jacks of the receiver (2062 or 2064) and to the A/V input jacks on your VCR. Be sure the yellow, red and white plugs match the yellow, red and white jacks on both the receiver and the VCR. If the VCR has only a single jack for audio input, connect the white plug to it.
2. If your TV has A/V input jacks, connect another set of A/V cables to the TV's A/V input jacks and to the A/V output jacks on your VCR.
3. If your TV does not have any A/V input jacks, please connect a 75Ω coaxial cable from the TV's antenna in (or RF in) to VCR's modulator output.

This feature is optional

4. Plug one end of the sender power adapter into the back of the receiver and the other end into any 230 volt (or 120 volt) wall outlet. Use only the adapter provided.
5. Locate and orient the receiver to best video and sound quality please to the section of the manual titled "Orienting Units for optimum Performance"



G. Orienting Units for Optimum Performance

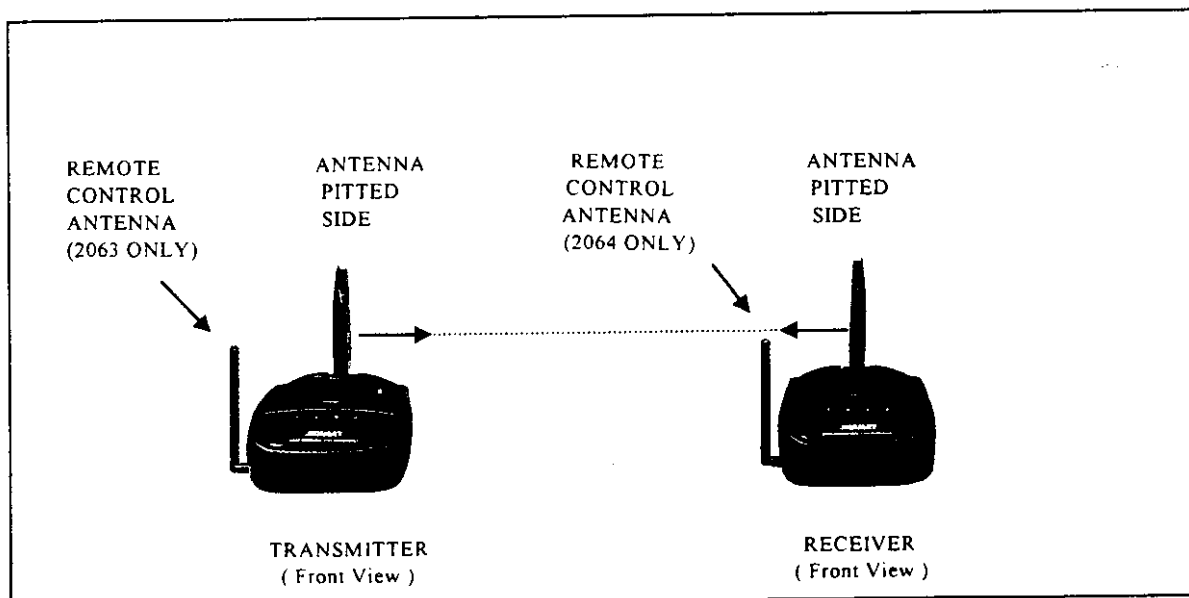
This sender system should be placed on a flat, stable surface to prevent damage to it from falling.

For Optimum performance, both the audio/video and remote control antennas should be carefully oriented as described below. In addition, to use the remote extension feature (available with 2063 and 2064 only), the transmitter itself must be specially oriented so it can relay the converted remote control signal back to the audio/video source (see following section titled "Using The Remote Control extension Feature"). For maximum operating range, try to minimize the number of obstacles (e.g. your TV or other electronics, large furniture) Where between the transmitter and receiver units.

Orienting the Audio/Video Antennas

Sender broadcast their high-quality audio and video using directional antennas which must be oriented in certain configurations for best results. The antennas have been designed to pivot and rotate in-almost any direction.

In most situation, the flat pitted face of the antennas on both the transmitter and receiver should be facing one another and perpendicular (at a right angle) to an imaginary line drawn between the two units. Three examples are shown Fig-1, Fig-2 and Fig-3. Since all homes are different, for optimum reception, additional slight pivots or rotations may be necessary. If the transmitter and receiver are less than 10 feet apart, suggest to keep the antennas flat in their casings since the distance is so short.



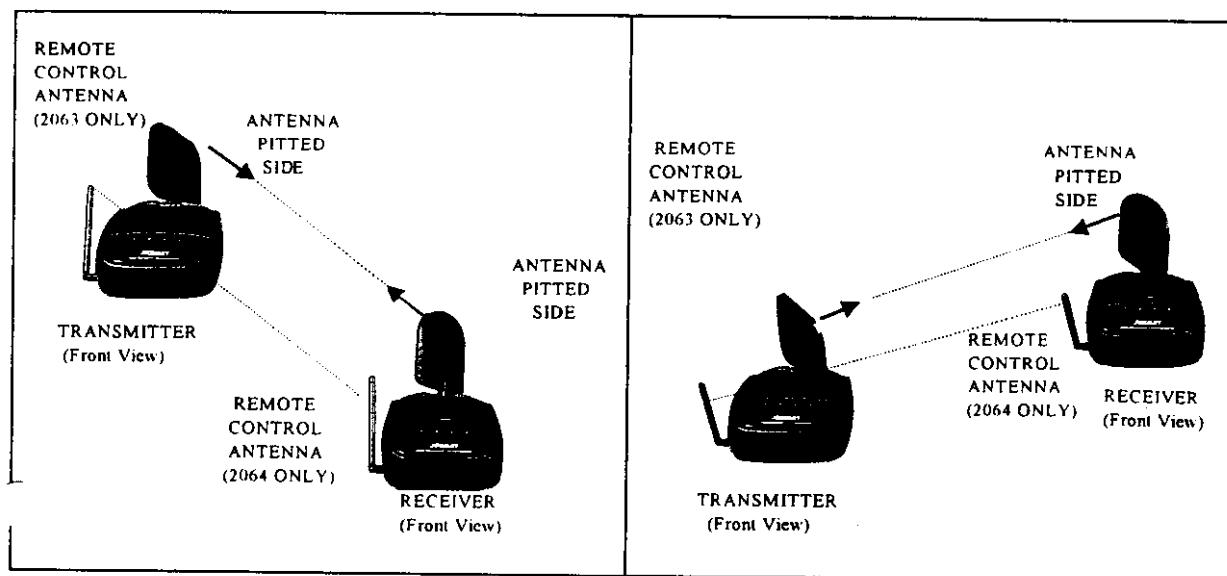
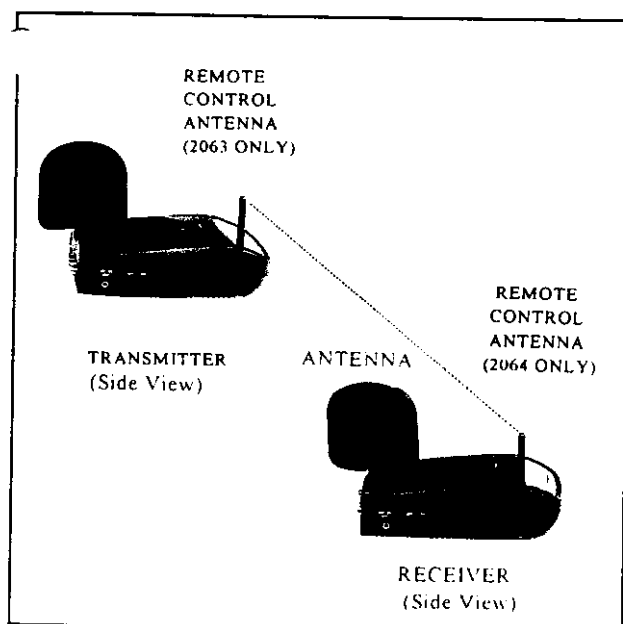


Fig-2

Fig-3

Orienting the Remote Control Antennas (2063 and 2064 only)

In order to obtain optimum performance of the remote control extender, the remote control extender, the remote control antennas should also be oriented at a right angle to an imaginary line drawn between the transmitter and receiver units.



If your remote control extender is not working satisfactorily, rotate the remote control antenna on either the transmitter or receiver 90 degrees so that it is perpendicular to the path between the units (see Fig-4)

If you notice improved performance, keep this orientation. Rotating the antenna on both units should have no effect.

Fig-4: How to orienting the remote control antenna

H. Using the Remote Control Feature (2063 and 2064 only)

This sender system not only allows you to send crisp audio/video from one area to another, it also gives you the ability to control the source using your existing remote control device (feature no

available with 2061 and 2062

only). It converts the infrared (IR) signal emitted by your remote control to a radio frequency (RF) signal in UHF band at the receiver (2064) and sends it back to the transmitter (2063) where the RF signal is converted back to the original IR signal and beamed to the audio/video source.

There are two ways to get your source A/V equipment to be controlled by using existing remote control through remote control feature.

1. To orient the transmitter (2063) unit face to face the source A/V equipment, this would allow the converted IR signal which from 2063 IR remote control window be able to send to the source A/V equipment(s) front panel.
2. Simply connect an IR extender from transmitter and locate this IR extender near the source A/V equipment from panel.

Sometimes, it may be difficult or even impossible to orient the transmitter unit such that it can be "seen" (means face-to-face) by the A/V equipments you wish to control. Perhaps there is no good surface that allows for this or perhaps you wish to control. Or perhaps you wish to remotely control A/V equipments in different locations without re-orienting the transmitter. So, in this case, to use in extender will be more convenient.

■ How To Use the IR Extender Accessory

The IR extender connects to the transmitter through its own special connector plug. The extender emits of an IR signal can control your AV equipment with the remote signal. To use the IR extender, follow the instructions below.

1. Plug the IR extender into the transmitter in rear panel.
2. Orient the end of the IR extender so that it points in the general direction of the IR sensors of the source AV equipment you wish to be controlled. Cut a length of provided fastener strip to secure the IR extender, which is always in its position.
3. Position the receiver so that your remote control signal can strike the IR window on the bottom front of the unit. To use your remote control, point it

I. Troubleshooting , Care and maintenance

Please read this owner's manual carefully and follow the steps described in it. If you still have difficulties, consult the following table. It will guide you through the most common problems and their solutions.

Problem	Possible solution
No picture or sound	• Check all cable connections. • Make sure power plugs are pushed all the way in. • Check power switches on the remote TV and video source. (VCR, laser disc player, satellite receiver, ect.) • Check the power on/off switches on the transmitter and receiver.
Interference: Noisy picture or audio	• Adjust receiver and transmitter antenna orientation. (see section on "Orienting Units for Optimum Performance" in this manual) • Select a different channel by pushing the channel selector button on both transmitter and receiver so that the channels match. • If using a microwave oven , turn it off. • Remove microwave oven from path between transmitter and receiver.
Remote control extender dose not work (2063 and 2064 only)	• Check the path between the transmitter and the audio/video source and clear any obstructions. • Check to see if the IR window on the bottom front of the transmitter is blocked. • Make sure IR extender is properly rotated in the A/V equipment you wish to control. (see section on "Using the Remote Control Feature" in this manual) • Adjust remote control antennas. (see section on "Orienting Units for Optimum Performance" in this manual)

Note

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