## JSR 635 Am/FM audio/video Receiver

OWNER'S Manual



## CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,** 

DO NOT REMOVE COVER (OR BACK)
NO USER – SERVICEABLE PARTS INSIDE

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

Note to CATV System Installer:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## **WARNING**

To reduce the risk of fire or electric shock do not expose this appliance to rain or moisture.

**CAUTION:** TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT

ATTENTION: POUR EVITER LES CHOCS ELECTRIQUES, INRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

## SAFETY INSTRUCTIONS

#### HANDLE THE POWER CORD GENTLY

- To disconnect the plug from the AC outlet, pull on the plug itself, not on the cord.
- Disconnect the plug from the AC outlet whenever the unit is to be left unused for an extended period of time.
- Do not place furniture or other heavy objects on the cord, and avoid dropping heavy objects on it. Also do not make a knot in the cord.

# PLACE THE UNIT ON A FIRM AND LEVEL SURFACE

Avoid installing it:

- In moist or humid places
- Close to heating equipment or in places exposed to direct sunlight
- In a direct draft from an air conditioner or in other very cold locations
- In places subject to excessive vibration or dust
- In poorly ventilated places

#### **MOVING THE UNIT**

Before moving the unit, be sure to unplug the power cord from the AC outlet and disconnect all wires to antennas and other components.

#### DO NOT OPEN THE CABINET

Do not attempt to service this unit. Tampering with internal components can cause fire or shock, and may void your guarantee. If water or a small object enters the unit, unplug the power cord immediately and consult an authorized JBL service center. Using the unit under such conditions may cause a fire or shock hazard.

#### **CLEANING**

Remove dust by wiping the unit with a soft, dry cloth. If necessary, use a soft cloth lightly dampened with mild soapy water, then wipe with a dry cloth. Never use benzene, thinner, alcohol or other volatile agents, and avoid spraying insecticides near the unit.

## CONTENTS

INTRODUCTION	3
REAR PANEL CONNECTIONS	4
FRONT PANEL CONTROLS	10
SURROUND SOUND EFFECTS	14
OPERATION	16
JSR 635 SYSTEM REMOTE CONTROL	20
TROUBLESHOOTING	24
SPECIFICATIONS	25



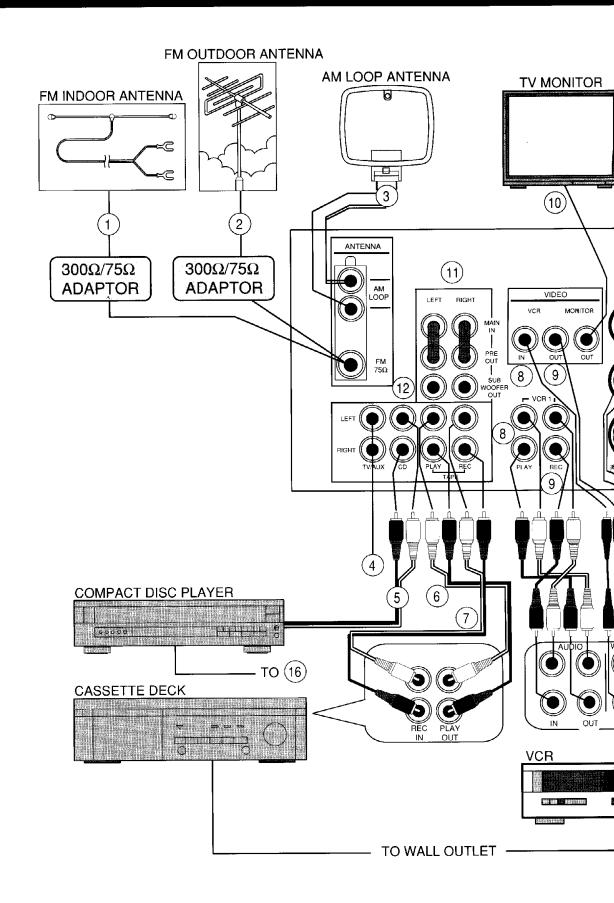
## Thank you for choosing a JBL Audio/Video Receiver.

Your new Unit is an exceptionally well-engineered product that will give you years of superb performance.

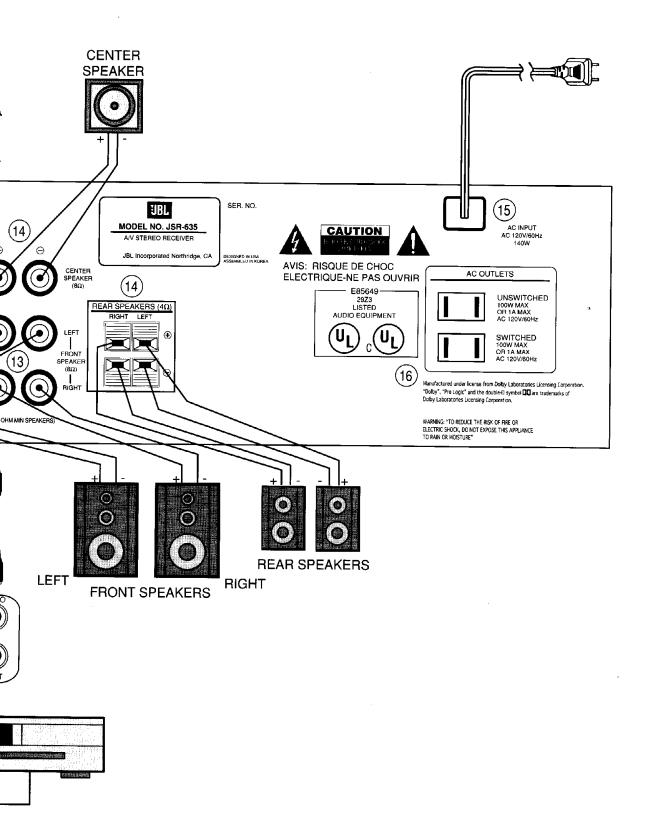
## Save all packing material.

It is essential for shipping should you move, or in the event the unit ever needs repair.

JBL JSR 635
Date of Purchase
Purchased from
Address of Business Purchased from
Installed by
Date Installed
Serial No



## REAR PANEL CONNECTIONS



## REAR PANEL CONNECTIONS

### 1) FM INDOOR ANTENNA

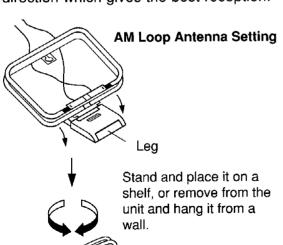
Connect the supplied antenna (the wire lead) to a  $300\Omega/75\Omega$  adapter and connect the adapter to the  $75\Omega$  T-shaped FM antenna terminal, as shown in the Rear Panel Connection Diagram. Change the position of the antenna until you get the best reception of your favorite stations.

### (2) FM OUTDOOR ANTENNA

An outdoor FM antenna may be used to further improve the quality of reception. Disconnect the indoor antenna before replacing it with the outdoor one. A  $75\Omega/300\Omega$  adapter must be used.

## (3) AM LOOP ANTENNA

Tune in your favorite AM station and position the loop antenna for best reception. Try other stations and find the position that gives best overall reception. When this unit is mounted in a rack or placed on a shelf with sufficient space behind, hang the antenna on a wall in the direction which gives the best reception.



## (4) TV/AUX INPUT JACKS

This input is provided for any source you want to hear. An additional compact disc player, tape recorder, TV, video cassette recorder (VCR), etc., can be plugged into these jacks.

#### (5) CD INPUT JACKS

Connect the output cables of a compact disc player to these jacks.

### **6** TAPE PLAY JACKS

Connect the line output of your CAS-SETTE DECK to these jacks.

### (7) TAPE REC JACKS

Connect the line input of your CAS-SETTE DECK to these jacks.

## (8) VIDEO/AUDIO INPUT (PLAY) JACKS OF VCR 1

Connect these jacks to the corresponding OUTPUT jacks of your TV (if available) or VCR.

# (9) VIDEO/AUDIO OUTPUT (REC) JACKS OF VCR 1

Connect these jacks to the corresponding INPUT jacks of a VCR. VIDEO OUTPUT jack: Connect this jack to the VIDEO INPUT jack of the VCR. VCR 1 REC jack: Connect these jacks to the AUDIO INPUT jacks of the VCR.

## (10) VIDEO MONITOR JACK

Connect this jack to the VIDEO INPUT jack of a TV/MONITOR.

# (1) FRONT PRE OUT AND MAIN IN JACKS

#### Front PRE OUT

When a separate power amplifier is used to drive the front speakers, connect the power amplifier input to these jacks.

#### Front MAIN IN

When a separate pre-amplifier is connected and this unit is used as a power amplifier, connect the pre-amplifier output to these jacks.

Note: When you do not use the PRE OUT and MAIN IN separately, always connect the PRE OUT and MAIN IN jacks with a jumper plug.

## (12) SUBWOOFER OUTPUT JACKS

Connect a powered subwoofer to these jacks. This output may also be used for any external component requiring a full range line-level input.

## (13) SPEAKER TERMINALS

Connect the front left (L) and right (R) speakers to the corresponding terminals. Make sure that the positive (+) and negative (-) terminals on the speaker are connected to the corresponding terminals on the receiver.

# (14) CENTER/REAR SPEAKER TERMINALS

Connect the center and rear speakers to the corresponding terminals. When you connect the rear speakers, connect both L and R speakers.

Please Note: Sound will not be provided through the rear speakers unless both speakers are connected.

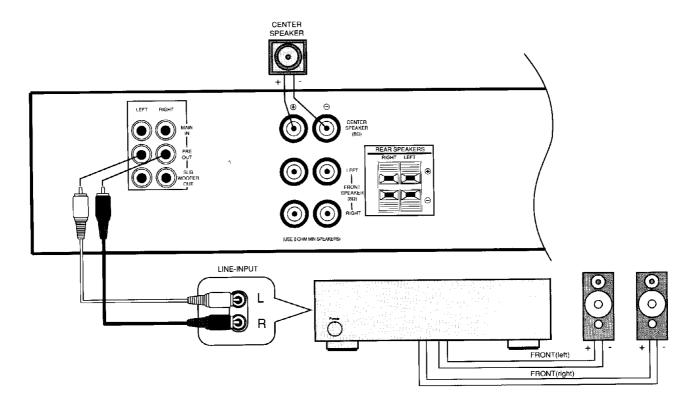
## (15) AC INPUT CORD

Plug this cord in AC outlet on a wall.

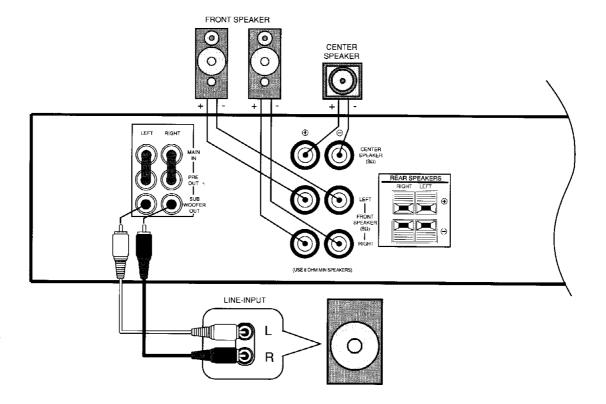
## (6) UNSWITCHED OUTLET SWITCHED OUTLET

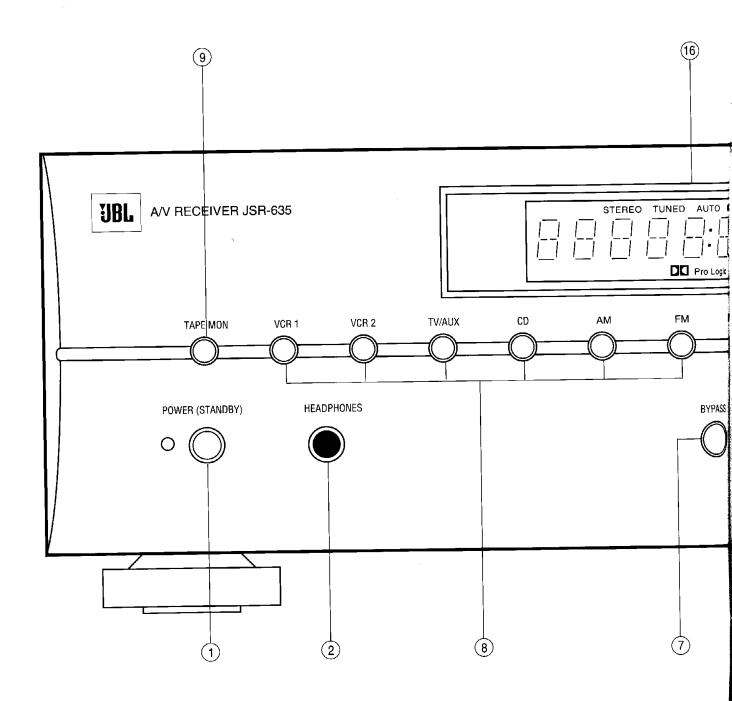
These outlets provide AC power. The AC power is switched by the power button. Use this outlet for a CD player or a cassette deck.

When you drive the front speakers with another amplifier (Remove PRE-OUT/MAIN IN jumpers when the front speakers are connected to external amplifier.)

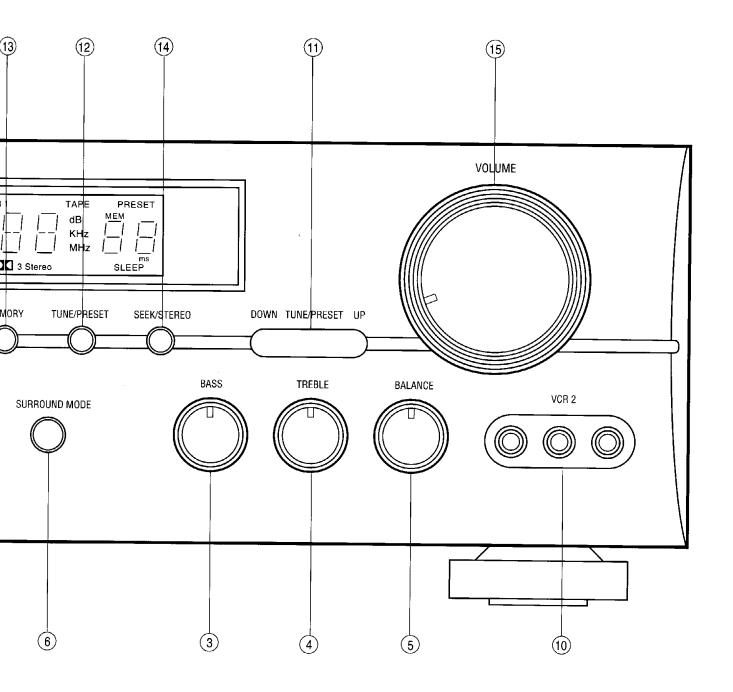


## When you Drive the Subwoofer Amp





## FRONT PANEL CONTROLS



## FRONT PANEL CONTROLS

### 1 POWER BUTTON

Press this button to turn the power on. Press again to turn the power off. If you connect the other components to the switched outlet, it can also be used as a system power button.

## (2) HEADPHONE JACK

Stereo headphones can be plugged into this jack for private listening. Headphone impedance should be between 8 and 2K ohms. Best results between 200 and 400 ohms.

### (3) BASS CONTROL

Modifies the low frequency sound of the left and right channels as much as +/-10 dB. Set this control at a suitable position for your taste and room acoustics.

## (4) TREBLE CONTROL

Modifies the high frequency sound of the left and right channels by as much as +/-10 dB. Set this control at a suitable position for your taste and room acoustics.

## (5) BALANCE CONTROL

This control is used for balancing the relative sound volume of the left and right front channel speakers. Clockwise rotation reduces the volume from the left speaker, counterclockwise rotation reduces the volume from the right speaker.

## (6) SURROUND MODE SELECTOR

Press this button to select the desired surround mode. The mode is changed between DOLBY Pro Logic and DOLBY 3-STEREO.

## (7) BYPASS SELECTOR

Defeats all surround modes.

## (8) INPUT FUNCTION SELECTOR BUTTONS

Press these buttons to select the desired input source.

## (9) TAPE MONITOR BUTTON

Press this button to select input from a tape deck.

## **(10) VCR 2 INPUT JACKS**

Connect these jacks to the corresponding output jacks of a VCR.

## (11) TUNE/PRESET BUTTON

When PRESET and AUTO is not lit, the TUNE/PRESET button will allow you to tune to a station manually.

## (12) MEMORY TUNE/PRESET BUTTON

Press the TUNE/PRESET side of this button to light up the preset mode, then use the up/down buttons momentarily to scan the preset station frequencies. The receiver stops at each preset location from 1-30 that has been entered in memory. Hold the button down to skip through the presets quickly. In the TUNE mode press these buttons to change selected frequencies.

## (13) MEMORY BUTTON

Use this button to store an AM or FM frequency. Press this button and select one of 30 preset locations to store the frequency with the TUNE/PRESET button while the MEMORY indicator blinks, press MEMORY again to store preset station.

Note: When you store a frequency in a memory location that already contains a frequency, you replace the previous frequency. If your receiver is disconnected from AC power for more than about 2 weeks, it loses all stored frequencies.

## (14) SEEK/STEREO BUTTON

Press this button, "Auto" will illuminate in the display. Then press the TUNE/PRESET button. The tuner will automatically seek out stations in your area that have enough signal strength to be listenable. The tuner will stop on stations until the SEEK/STEREO button is pressed again.

## (15) **VOLUME CONTROL**

Turn the VOLUME clockwise to increase the volume and counterclockwise to decrease it. The volume of the front, center and rear channels is changed at the same time.

## (6) DISPLAY WINDOW

This window shows the state of operation for easier control of the receiver. It also contains the IR Remote Sensor.

## SURROUND SOUND EFFECTS

#### SURROUND PROCESSING

## ■ Dolby 3 Stereo

Combines the front and rear signals so that you can enjoy a regenerated sound field which has comparatively more presence and a more expansive feeling from the front 3 channels (front L, front R, center speaker) than that of ordinary stereo regeneration.

## Dolby Pro Logic Surround

A great number of movies made in recent times have the sound track specially encoded with the Dolby Surround Mode (carrying the [Dolby Stereo] or [Dolby Surround] trademark).

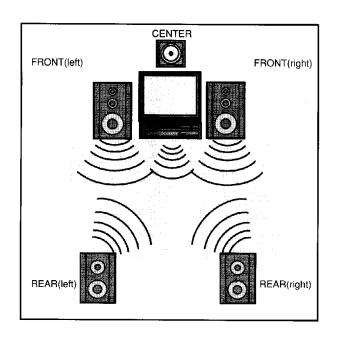
The front speakers provide the dialogue and the normal stereo effect, while the rear speakers reproduce the surround signals. This mode provides excellent results when watching television programs, video software, video discs or video tapes of stereo television broadcasts encoded with Dolby Surround. Dolby Stereo films have dramatically changed the role of the movie-goer from that of observer to that of participant. Clearer dialogue, richer music, enveloping ambience and high-fidelity, multi-dimensional sound are essential parts of cinematic presentations. Imagine recreating the same sort of audio-visual experience right in your own home.

## On products sold in North America

Manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby", the double-D symbol □□ and "Pro Logic" are trademarks of Dolby Laboratories Licensing Corporation.

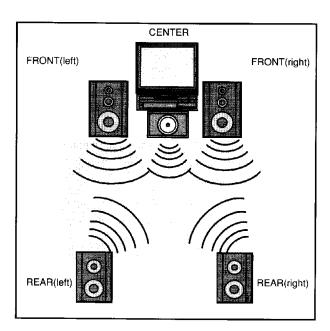
#### SPEAKER INSTALLATION

■ The JSR 635 incorporates a decoder which reproduces the specially encoded surround sound of Dolby Surround video programs. In Dolby Surround mode, select the speaker operation mode which best suits your speaker system.



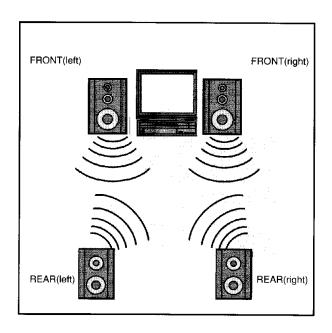
#### **NORMAL** mode

Select this mode if you use a small center speaker. The bass sound of the center channel is redirected to the front speakers, as a small speaker cannot produce enough bass.



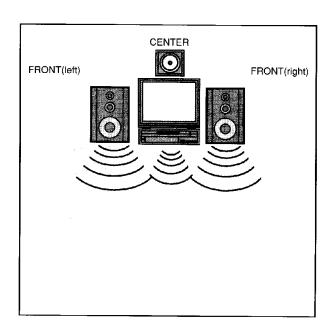
#### **WIDEBAND** mode

Select this mode if you use a medium to big center speaker.



#### **PHANTOM** mode

Select this mode when you play back a Dolby Surround program source without using a center speaker. The sound of the center channel is redirected to the front (L and R) speakers.



#### 3 CH. (channel) LOGIC mode

Select this mode when you play back a Dolby Surround program source only with the front and center speakers. The sound of the rear channel is redirected to the front (L and R) speakers.

#### **BASIC OPERATION**

1. Press the POWER button to ON. The display panel will light up.

Note: If you prefer to turn the unit off and on with the remote control, this button must be left in the ON position. The remotes' Standby button will then turn the unit "ON" and "OFF" by taking it in and out of standby mode.

- 2. Select the desired program source with the INPUT FUNCTION SELECTOR buttons. The selected input function will appear in the display.
- **3.** Operate the selected component for playback.
- When a video source is selected, the picture will appear on the television and sound will be heard from the speakers.
- When playing back a video source with surround sound effects, refer to the "Surround Sound Effects" section of this manual.
- When the TAPE MONITOR button is set to ON so that the TAPE MONITOR indicator lights up, other selected program sources will not be heard from the speakers.
- To listen to a program source other than cassette deck be sure to set the TAPE MONITOR button to OFF.
- **4.** Adjust the volume to a comfortable listening level with the VOLUME control or MASTER VOLUME UP/DOWN buttons on the remote control.
- **5.** For private listening, insert a 1/4 inch plug of the headphone into the HEAD-PHONE jack.
- When headphones are plugged in, sound from the speakers is cut off.

#### LISTENING TO RADIO BROADCASTS

Press the AM or FM BUTTON and use auto, manual or preset tuning to select a radio station.

### **AUTO TUNING**

If broadcast signals are strong and there is no interference, auto tuning is possible.

- 1. Press the FM or AM button to select the desired band.
- 2. Press the SEEK/STEREO button.
- 3. Press the UP or DOWN TUNE/PRESET button. Tuning will start automatically and stop at a broadcast station frequency with sufficient signal strength.

#### MANUAL TUNING

Auto tuning may not be possible if the broadcast signal is weak. If so, use manual tuning.

- **1.** Press the FM or AM button to select the desired band.
- 2. Press the UP or DOWN TUNE/ PRE-SET button until the desired station frequency is reached.
- Each time the button is pressed, the frequency changes by a step.
- When the button is kept pressed, the frequency changes continuously in sequence.

#### PRESET TUNING

The receiver has a memory for up to 30 preset stations.

If the station frequencies are stored in this memory, they can be tuned in by a simplified procedure.

#### **MANUAL PRESETTING**

Up to 30 stations can be preset at random, regardless of the reception band.

- 1. Tune in the station to be stored in memory using the auto or manual tuning.
- 2. Press the MEMORY button. The MEMORY indicator will light up for 5 seconds.
- **3.** Select the preset number with the UP or DOWN TUNE/PRESET button while the MEMORY indicator is lit.
- **4.** Press the MEMORY button again to store the station.
- When using the NUMERIC buttons on the remote, the station is stored in memory without pressing the MEMORY button again.
- When selecting single digit preset numbers with the NUMERIC buttons, press the corresponding number without pressing "0" first.
- **5.** Repeat steps 1 to 4 to preset other stations.

## RECALLING THE PRESET STATIONS

Select the preset number of the desired preset station with the UP or DOWN TUNE/PRESET or NUMERIC buttons on the remote control unit.

## SCANNING THE PRESET STATIONS IN SEQUENCE

- 1. Press the PRESET SCAN button on the remote control unit to listen to a brief sample of each preset station.
- 2. The receiver will start scanning the stations in the preset sequence and each station will be heard for 4 seconds.
- **3.** At the desired station, press again to stop scanning.

#### Notes:

- If the end of the frequency range is reached during the auto or manual tuning, tuning will continue from the opposite end.
- When FM stereo broadcasts are poor, select the FM mono mode with the SEEK/STEREO button so that the AUTO indicator goes off.
- When storing a new station preset, the previously stored station on the same channel number is cleared.
- In the event of a power failure or when the receiver is disconnected from the AC outlet, the memorized stations are maintained for approximately 2 weeks.

## RECORDING WITH A CASSETTE DECK

- 1. Select the program source to be recorded with the INPUT FUNCTION SELECTOR buttons.
- 2. Play back the desired program source and start recording on the cassette deck.
- The volume, balance, bass and treble settings have no effect on the recording.
- When recording with a 3-head cassette deck, the recorded sound can be monitored through the speakers by pressing the TAPE MONITOR button to ON.

#### **DUBBING FROM VCR 2 TO VCR 1**

- 1. Press the VCR 2 INPUT FUNCTION SELECTOR button and play back on the VCR connected to VCR 2. The video and audio signals from VCR 2 will be dubbed onto VCR 1.
- 2. Start recording on the VCR connected to VCR 1.

# RECORDING WITH SEPARATE VIDEO AND AUDIO SOURCES

When dubbing from VCR 2 to VCR 1, you can replace the audio signal from VCR 2 with the audio signal from other program sources.

- 1. Press the VCR 2 INPUT FUNCTION SELECTOR button.
- 2. Select the audio source to be recorded with the INPUT FUNCTION SELECTOR buttons.
- **3.** Start recording on the VCR connected to VCR 1.

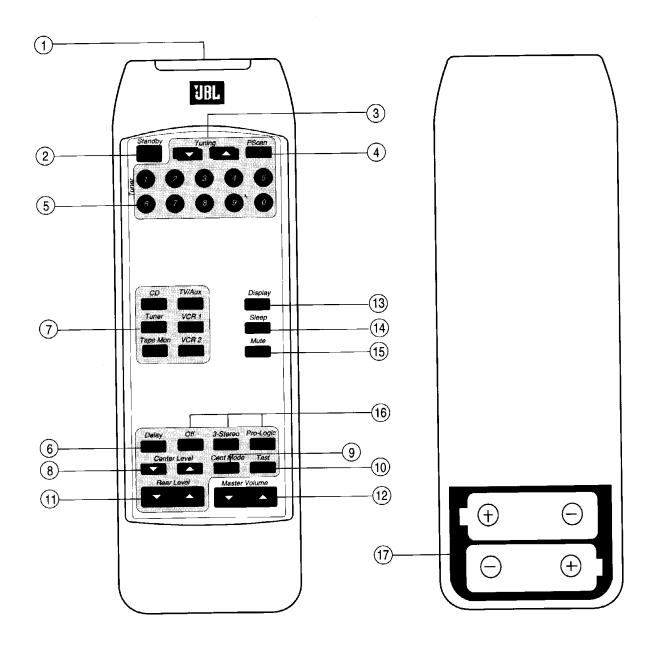
This allows you to watch the picture from the video component and listen to the sound from the audio component while recording.

Note: Be sure to observe the order of steps 1 and 2.

## **FCC INFORMATION**

- 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 a residential installation. 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 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 meaures:
- 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.

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



# 1 INFRARED TRANSMITTER WINDOW

The infrared beam is emitted from this window when you press any button on the commander. For the remote controls to function properly, always face this window toward the remote sensor window on the receiver and do not obstruct this window with any material.

## (2) STANDBY BUTTON

Press this button to turn the power on and off.

Note: For the Standby Button to work, the power switch on the JSR 635 must be set to ON.

Automatic power on: When you press the input function buttons (CD, TUNER, TAPE MON, TV/AUX, VCR1, VCR2) in STANDBY mode, the power is automatically turned on and the function is selected.

## (3) TUNING UP/DOWN

Press these buttons to tune the receiver up or down.

## (4) PRESET SCAN BUTTON

Button for scanning preset station frequencies. (See page 17)

## **5 NUMERIC BUTTONS**

These buttons can be used for preset tuning in TUNER mode.

**Preset tuning:** Press the TUNER button to change the input function of the receiver to TUNER and then select one of 30 preset locations.

## **6** DELAY TIME BUTTON

This button operates only in DOLBY PRO LOGIC mode. In this mode the output signal from the surround speakers is delayed slightly from that of the front speakers.

Select appropriate delay time to achieve the best surround sound effect. For Dolby Surround sound, we recommend a 20ms delay. The delay time is changed as below, when the button is pressed in succession.

### DOBLY PRO LOGIC MODE

 $\rightarrow$  15ms  $\rightarrow$  20ms  $\rightarrow$  25ms  $\rightarrow$  30ms  $\rightarrow$ 

## (7) INPUT FUNCTION SELECTOR

Press the button to select the desired input function. The available buttons are CD, TUNER, TAPE MON, TV/AUX, VCR 1, and VCR 2.

# 8 CENTER LEVEL UP/DOWN BUTTONS

Use these buttons to adjust the sound level of the center speaker to that of the front speakers. These buttons work only in DOLBY PRO LOGIC and DOLBY 3 STEREO mode. These buttons do not work in PHANTOM mode.

## (9) CENTER MODE BUTTON

Selects the center mode.

## **10) TEST TONE BUTTON**

Generates test tones in all channels (Left, Center, Right and Surround) in succession.

## (1) REAR LEVEL UP/DOWN BUTTONS

These buttons operate only in DOLBY PRO LOGIC mode. Use these buttons to adjust the sound level of the surround speakers. Set the MASTER VOLUME control at the desired level and press the UP or DOWN button until you get the optimum surround effect at your listening position.

## (12) MASTER VOLUME BUTTONS

Adjust the overall (Front, Center and Rear) volume level.

## (13) DISPLAY BUTTON

Press once and the display dims, press again and it turns off. Press a third time and it goes on.

## (14) SLEEP BUTTON

Set the receiver to automatically turn off after 10, 20, 30, 60 or 90 minutes. Each time the button is pressed, the setting is advanced as below.

ightarrow10min ightarrow20min ightarrow30min ightarrow60min ightarrow90min ightarrow0FF-

The display will dim when the sleep function has been set.

## (15) MUTE BUTTON

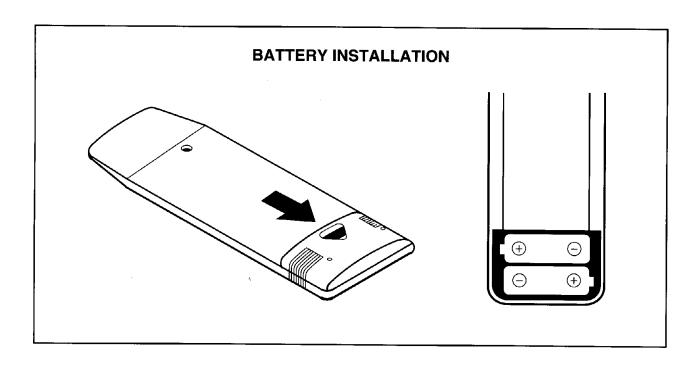
Press this button to silence the speakers temporarily. The volume indicator blinks. Press again to restore the same listening level as before.

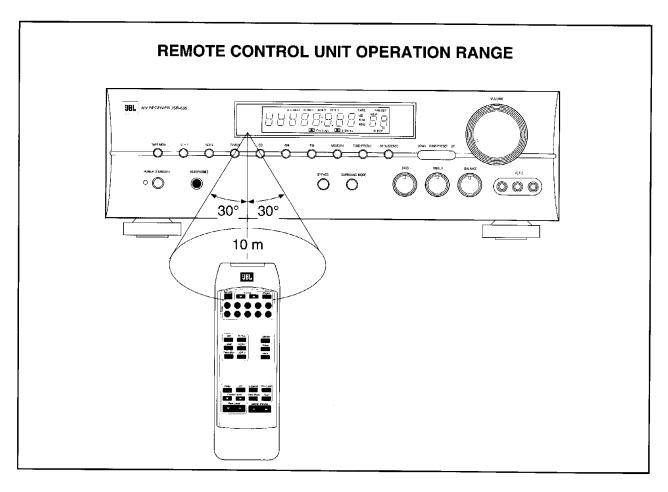
## (16) SURROUND SELECTOR BUTTONS

These buttons are used to select the desired surround mode.

## (17) BATTERY COMPARTMENT

This battery case is provided as the power source for the commander. To remove the cover, press it down with your thumb and pull it toward the back side. Two UM-3, size "AA" or R6 1.5V dry batteries are used. When loading the batteries, make sure that the polarity is correct. Remove the batteries from the case if the remote commander will not be used for a long time.





## TROUBLESHOOTING

This unit is designed for trouble-free operation. Most problems users encounter are due to operating errors. So, if you have a problem, first check this list for a possible solution. If the problem persists, consult your dealer or authorized JBL Service Center.

IF THE PROBLEM IS	MAKE SURE THAT THE
No lights illuminate when POWER button is pressed	1. Unit is plugged into a live outlet
No sound is heard	<ol> <li>Correct input function selector button has been pressed</li> <li>Volume is turned up</li> <li>Speakers are connected properly</li> <li>TAPE MON is not selected</li> <li>Selected source is playing and functioning properly</li> </ol>
Dolby Surround does not work on center and rear channels	<ol> <li>Correct surround mode is selected</li> <li>Rear and Center levels are turned up</li> <li>Selected source is providing high quality Dolby encoded signal</li> <li>Software is encoded with Dolby Pro Logic signal</li> </ol>
Selecting video component produces sound but no picture	<ol> <li>Video cables are connected properly</li> <li>Appropriate input or channel is selected on TV</li> <li>Video/Antenna switch on TV is set to Video</li> </ol>
The TV picture does not match the sound	<ol> <li>Video sources are properly connected to receiver</li> <li>Video/Antenna Switch on TV is set to Video</li> </ol>
No output from one or more channels	<ol> <li>Cables are not defective: Check/replace speaker cables</li> <li>The signal source is operating and providing proper signal output to the JSR 635</li> </ol>
No center channel output	<ol> <li>Dolby surround or movie mode is turned on</li> <li>PHANTOM mode is not active</li> <li>Selected source is providing high quality Dolby encoded signal</li> <li>Software is encoded with Dolby Pro Logic signal</li> </ol>
Tuner sound has a large amount of interference, or The "Stereo" display is not illuminated, or Tuner sound distorts and/ or volume level is too low	<ol> <li>The antenna is properly connected</li> <li>The antenna is properly located</li> <li>The antenna is set in the proper direction</li> <li>The antenna is adequate to receive the desired station</li> </ol>
Tuner is intermittent or continuously buzzing or hissing	<ol> <li>The unit is away from fluorescent lights, TVs, motors and other electrical appliances</li> <li>Other components are not causing interference. Try rearranging the order components are stacked in or unplugging/disconnecting components until the interference stops</li> </ol>
Stations cannot be preset	After pressing the MEMORY button, the PRESET button is pressed while the MEMORY indicator blinks

## SPECIFICATIONS

STEREO MODE

Continuous Average Power (FTC)

35 Watts from 20Hz - 20kHz:

@<0.09% THD,

both channels driven into 8 Ohms

**FIVE CHANNEL SURROUND MODE** 

Continuous average power per channel (FTC)

Front L&R channels

40 Watts from 20Hz - 20kHz:

@<0.2% THD, both channels

driven into 8 Ohms

Center channel

45 Watts at 1kHz:

@<0.9% THD,

driven into 8 Ohms

Rear channels

45 Watts at 1kHz:

@<1.0% THD. both channels

driven into 4 Ohms

**AMPLIFIER SECTION** 

High-Instantaneous Current Capability

(HCC):

±20 Amps

Negative Feedback:

20dB

Frequency Response

@1W (±0/-3dB):

5Hz - 120kHz

Rise Time:

1.8µSec

Transient Intermodulation Distortion

(TIM):

Unmeasurable

PREAMPLIFIER SECTION

Signal-to-Noise Ratio (ref. 1 Volt, A-Wtd)

CD:

95dB

Video:

85dB

Input Sensitivity/Impedance

Video, CD, Tape:

 $150 mV/22 k\Omega$ 

Tone Control Range

Bass @ 50Hz:

±10dB

Treble @ 10kHz:

±10dB

TUNER SECTION: FM

Usable Sensitivity, Mono (dBf):

14.2

50dB Quieting Sensitivity,

Stereo (dBf):

40.3

Signal-to-Noise Ratio

@ 65dBf, mono/stereo:

Selectivity, Adjacent/Alternate

70dB/65dB

Capture Ratio:

2.0dB

Channel:

5dB/65dB

IF Rejection:

80dB

AM Rejection @ 45dBf:

60dB

Stereo Separation

@1kHz, 65dBf:

45dB

THD @ 1kHz, 65dBf,

mono/stereo (%):

0.3/0.5

**TUNER SECTION: AM** 

Sensitivity, External Antenna:

500μV/m

Alternate Channel Selectivity:

25dB

Image Rejection:

35dB

IF Rejection:

50dB

Dimensions (WxHxD):

inches:

17 5/16 x 4 7/8 x 1415/16

mm:

440 x 138 x 360

Weight (lbs/kgs): 18 lbs, 8.2 kg

Depth measurement includes knobs, jacks and buttons.

Height measurement includes feet.

All features and specifications are subject to change without notice.