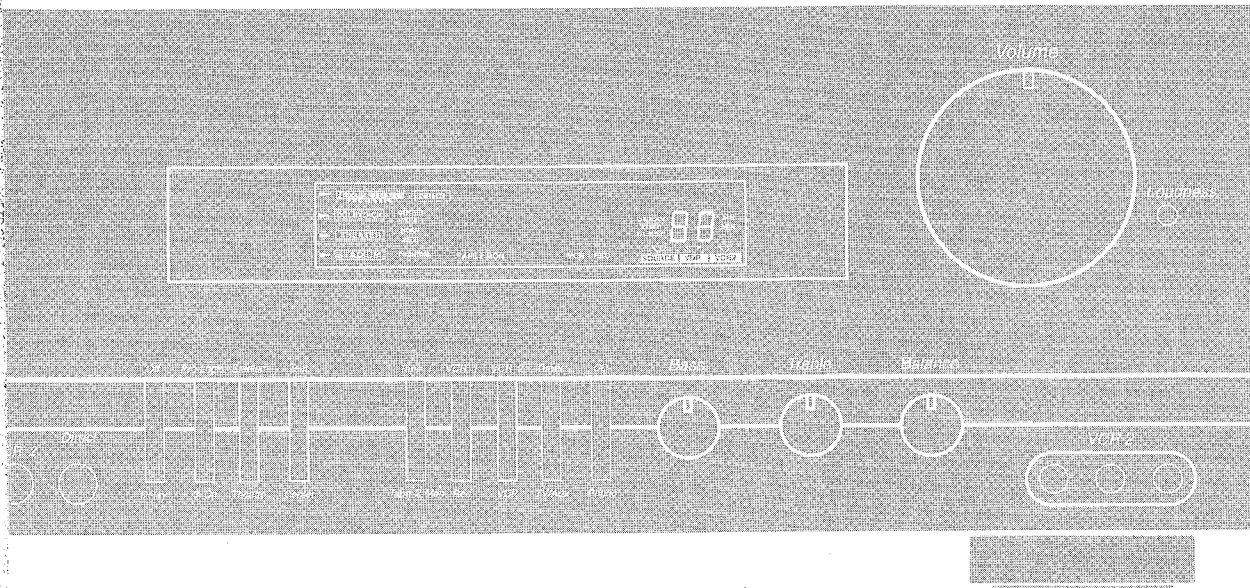




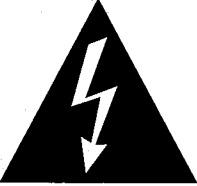
AVI200 II



harman/kardon


Audio and Video Amplifier

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.



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, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

Harman Kardon AVI200 II

Date of purchase _____

Purchased from _____

Address of business purchased from _____

Installed by _____

Date installed _____

Serial No. _____

Thank you for choosing a Harman Kardon Audio/Video Amplifier.

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.

U. S. and Canadian customers should use 120 volt AC only. Other customers should use voltages appropriate to their area. Connecting the unit to an outlet supplying a higher voltage may create a fire hazard.



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 small objects enter the unit, unplug the power cord immediately and consult an authorized Harman Kardon 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.

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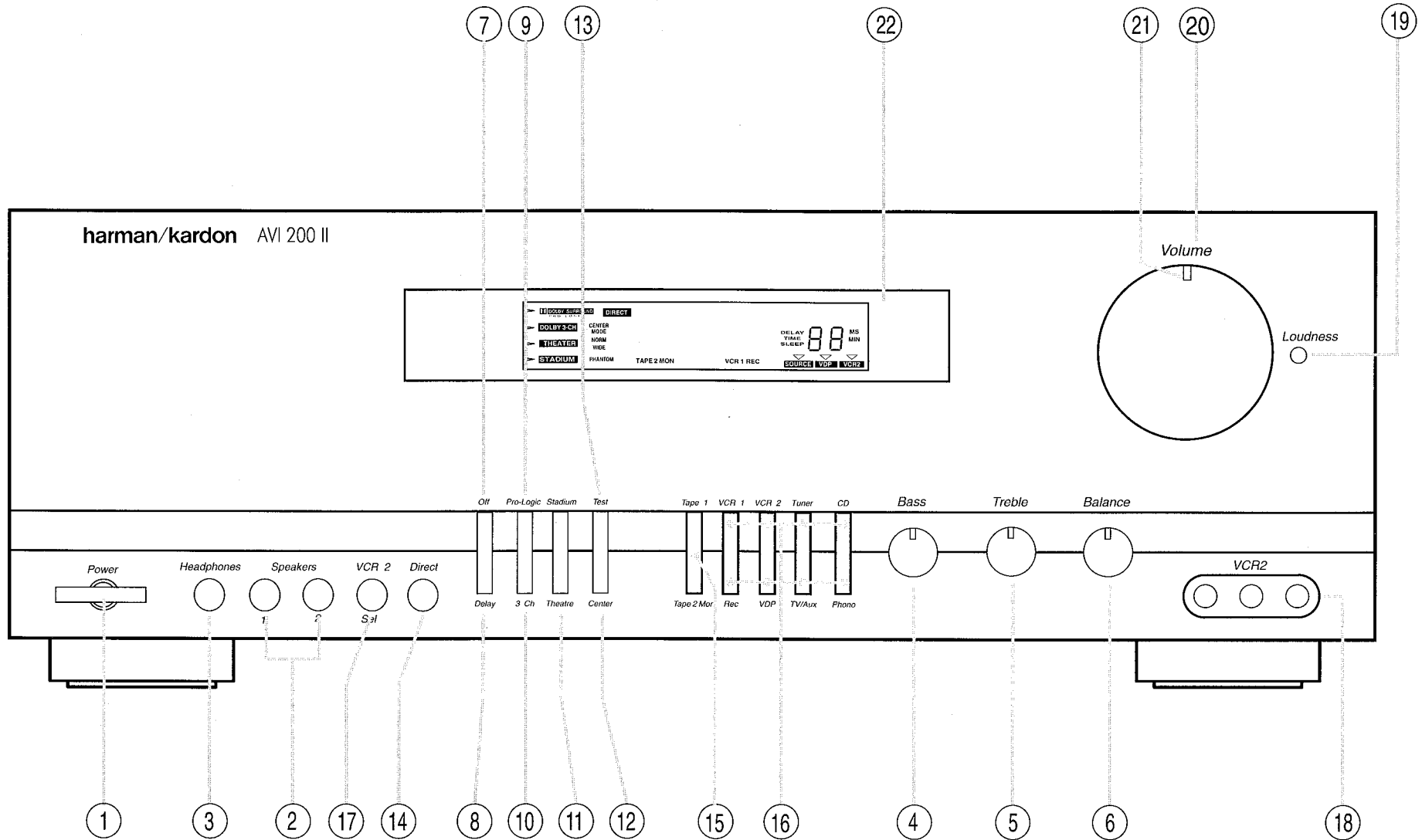
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FCC Information

This equipment has been tested and found to comply with the 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 correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
 - Increase the distance between the equipment and the amplifier.
 - Connect the equipment to an outlet different from that to which the amplifier is connected.
 - Consult the dealer or an experienced TV technician for help
- CAUTION:** any changes or modifications in construction of the device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Front Panel Controls



Front Panel Controls

1. POWER BUTTON

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

NOTE: In POWER OFF state, the POWER indicator will light up orange and power is partially supplied to the infrared remote control receiver and the memory circuitry.

2. 1/2 SPEAKER SWITCHES

These switches allow you to select various combinations of speakers as follows;

- To drive 1 pair of speakers, push only the speaker 1 switch in.
- To drive a second pair of speakers, push only the speaker 2 switch in.
- To drive both pairs of speakers, push both 1 and 2 switches in.
- To use headphones for private listening or monitoring, leave both 1 and 2 switches pushed out.

NOTE: If both speaker switches are pushed in and only one set of speakers is connected to the amplifier, no sound will be heard.

3. 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.

4. BASS CONTROL

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

5. TREBLE CONTROL

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

6. BALANCE CONTROL

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

7. SURROUND-OFF MODE SELECTOR

Press this switch to select normal stereo mode.

8. DELAY TIME

Adjusts time delay between front and rear channels, operates only when the surround mode is on. (see Delay Time button on page 16).

Adjusts the surround delay time in steps. For Dolby Surround 20ms is standard

→ 16ms → 18 ms → → 28 ms → 30 ms →

9. PRO LOGIC MODE

Press this button for Pro-logic mode.

10. 3 CHANNEL MODE

The 3 channel mode can be used when rear speakers are not being used to provide a center (dialog) channel.

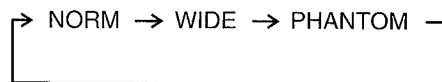
11. STADIUM/THEATER MODE

Switches for selecting desired surround mode; Stadium or Theater. See Surround Sound Effects on page 13.

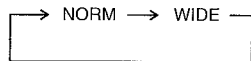
12. CENTER MODE SELECTOR

This button operates only in DOLBY PRO-LOGIC and DOLBY 3 STEREO mode. The mode changes as below, when the button is pressed in succession.

DOLBY PRO-LOGIC MODE



DOLBY 3 STEREO MODE



The display window shows each mode.

NORM: Select this mode if you use a small center speaker. The bass sound of the center channel is reproduced from the front speakers, because the small speaker cannot produce enough bass.

WIDE: Select this mode if you use a medium-to-large center speaker. The bass sound is reproduced from the center speaker.

PHANTOM: Select this mode if you don't use a center speaker. The center speaker's sound is reproduced from the front speakers.

13. TEST TONE BUTTON

This button operates only in DOLBY PRO-LOGIC and DOLBY 3 STEREO mode. When the button is pressed, 2 seconds of test tone is generated in all channels (Left, Center, Right, and Rear) in succession. The display window shows TEST Left, Center, Right, and Rear in succession (in DOLBY PRO-LOGIC mode) or Left, Center or Right (in DOLBY 3 STEREO mode) in succession. Use this button to test speaker connections.

14. SOURCE/DIRECT BUTTON

This feature bypasses the tone control circuitry, resulting in flatter frequency response and wider bandwidth. When it is activated, "DIRECT" illuminates in the display.

15. TAPE 2 MONITOR BUTTON

Set TAPE 2 MONITOR to the "off" position when you want to hear the other input functions. Press this button to monitor the cassette deck connected to the TAPE 2 MON input jacks.

16. INPUT FUNCTION SELECTOR

Press the button to select the desired input function: VCR 1, VCR 2, VDP, TAPE 1, TV/Aux, Tuner, CD or Phono.

To dub from VCR 2 to VCR 1, press the VCR 2 button and then press the VCR 1 REC button.

For the input function of VCR 1 press the VCR 2 button and VCR1 DUBBING button. Set the recording VCR (VCR 1) to recording mode. Set the playback VCR (VCR 2) to playback mode.

Dubbing will start.

- To hear another input source during video tape dubbing: Press the input function you want to hear, and play the input source.

NOTE: If you press the TEST TONE button during VCR 1 DUBBING, the audio signal is not recorded.

17. VCR 2 SELECTOR

Push in this button to select the VCR 2 jacks on the front, rather than the VCR 2 jacks on the rear.

18. VCR 2/CAMCORDER INPUT JACKS

VIDEO IN:

Connect to the VIDEO OUTPUT jack of a VCR.

AUDIO IN:

Connect to the AUDIO OUTPUT jacks of a VCR.

19. LOUDNESS BUTTON

Press this button to compensate for the response of the human ear at low listening levels (known as the Fletcher-Munson hearing curve). The high and low frequencies are automatically boosted when this button is pushed in. In the OFF position, the frequency response is flat at all volume levels. This button does not work at high volume levels.

20. 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.

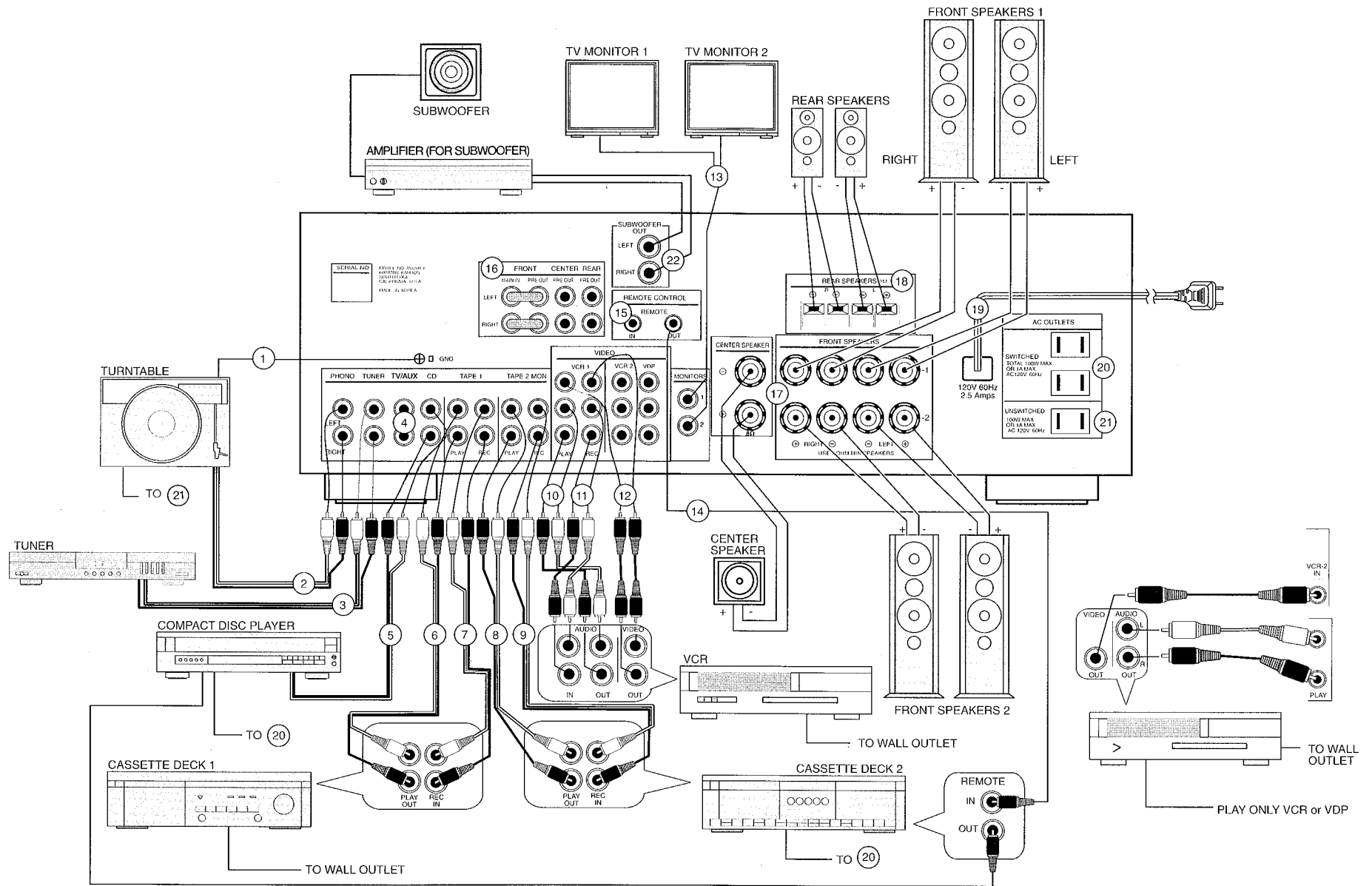
21. VOLUME LEVEL INDICATOR

This indicator moves in accordance with the volume level. The indicator blinks when the mute button on the remote commander is pressed.

22. DISPLAY WINDOW

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

Rear Panel Connections



Rear Panel Connections

1. SYSTEM GROUND TERMINAL

To reduce hum to a minimum, connect the ground lead from your turntable to this terminal.

2. PHONO INPUT JACKS

Input for TURNTABLE with an MM cartridge requiring a 47K ohm load impedance. Connect shielded cables from your phono to the LEFT and RIGHT input jacks.

NOTE: Do not place your TURNTABLE on a speaker enclosure. This will avoid howling caused by transmission of the speaker vibration to the TURNTABLE.

3. TUNER INPUT JACKS

Connect the line output of your tuner to these jacks

4. TV/AUX INPUT JACKS

This extra stereo input is provided for any source you want to hear. An additional compact disc player, a tape recorder, a 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 1 PLAY JACKS

Connect the line output of your CASSETTE DECK to these jacks.

7. TAPE 1 REC JACKS

Connect the line input of your CASSETTE DECK to these jacks.

8. TAPE 2 MONITOR PLAY JACKS

Connect the line output of your cassette deck to these jacks. This input may be connected to the line output of the audio processor like an optional graphic equalizer or a Digital Signal Processor.

9. TAPE 2 MONITOR REC JACKS

Connect the line input of your cassette deck to these jacks. EQ controls, loudness and volume settings have no effect on the signal from this output for recording. To monitor this input source while recording, press the TAPE 2 MONITOR button (MONITOR ON position). These REC jacks may be used for the line input of the audio processor like an optional graphic equalizer or a Digital Signal Processor.

10. AUDIO INPUT (PLAY) JACKS OF VCR 1

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

11. AUDIO OUTPUT (REC) JACKS OF VCR1

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. VIDEO REC jack: Connect these jacks to the AUDIO INPUT jacks of the VCR.

12. VIDEO INPUT/OUTPUT (PLAY) JACKS OF VCR1

Connect these jacks to the corresponding OUTPUT jacks of your VCR or VDP.

13. VIDEO MONITOR JACK

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

14. REMOTE OUT JACK

Connect this jack to the "REMOTE IN" jack on a Harman Kardon component. Use one of the accessory mini-plug cables.

You can control many other Harman Kardon components in your system using the AVI200 II remote commander.

15. REMOTE IN JACK

Connect a Harman Kardon HE 1000 remote I.R. sensor to this jack. You can operate the unit by remote commander through the adaptor. It is convenient when the unit is located in a separate room. (See page 10)

16. FRONT, CENTER, REAR 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.

CENTER PRE OUT

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

REAR PRE OUT

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

17. SPEAKER TERMINALS (1, 2 and CENTER)

Connect the main left (L) and right (R) speakers to the corresponding 1 and 2 speaker terminals. Connect the center speaker to the center (+), (-) terminals. Make sure that the positive (+) and negative (-) terminals on the speaker are connected to the corresponding terminals on the amplifier.

18. REAR SPEAKER TERMINALS

Connect rear speakers to the corresponding terminals.

19. AC INPUT CORD

Plug this cord in AC outlet on a wall.

20. AC SWITCHED OUTLET

These outlets provides AC power. The AC power is switched by the power button. Use these outlets for a CD player and a cassette deck.

21. AC UNSWITCHED OUTLET

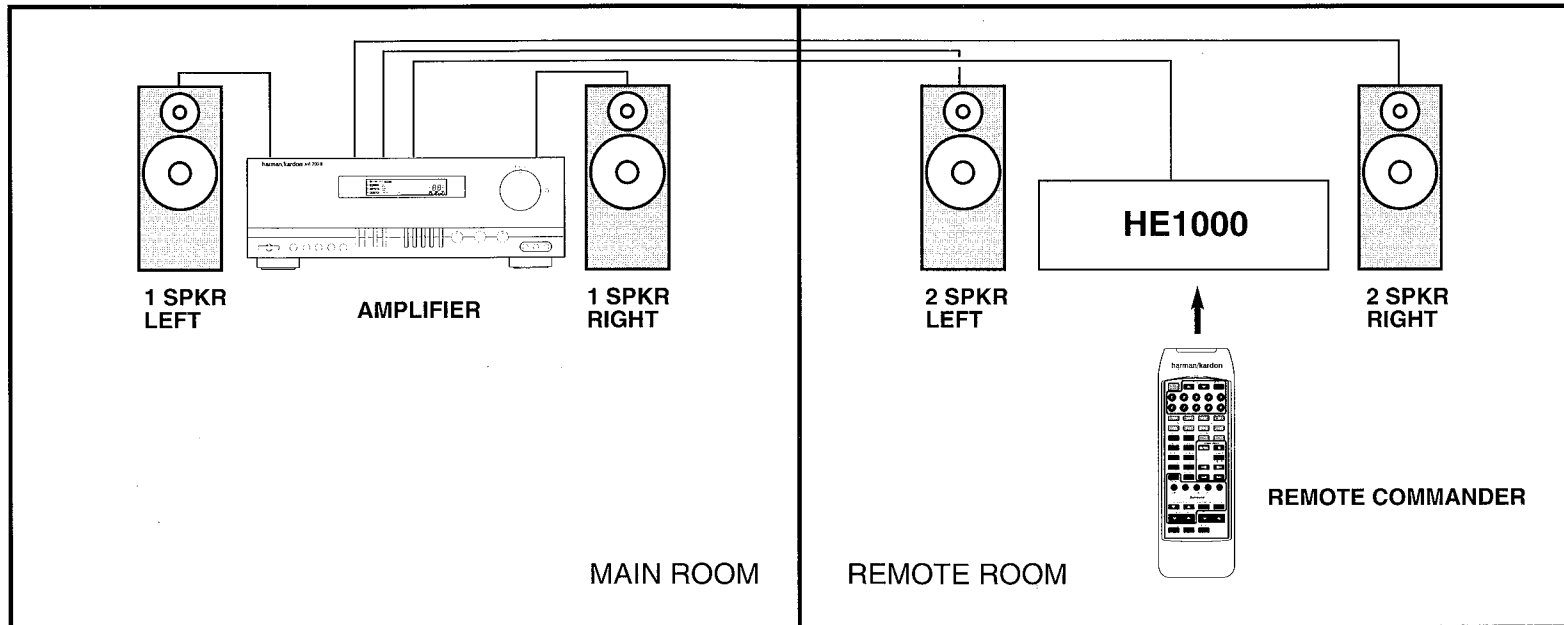
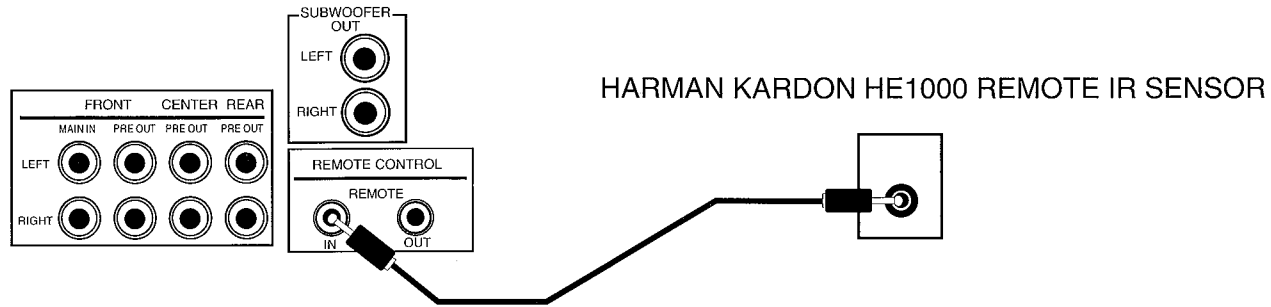
This outlet provides AC power. The AC power is not switched by the power button. Use this outlet for a turntable.

NOTE: Do not plug irons or toasters or other products with high power consumption into these outlets.

22.. SUBWOOFER OUT

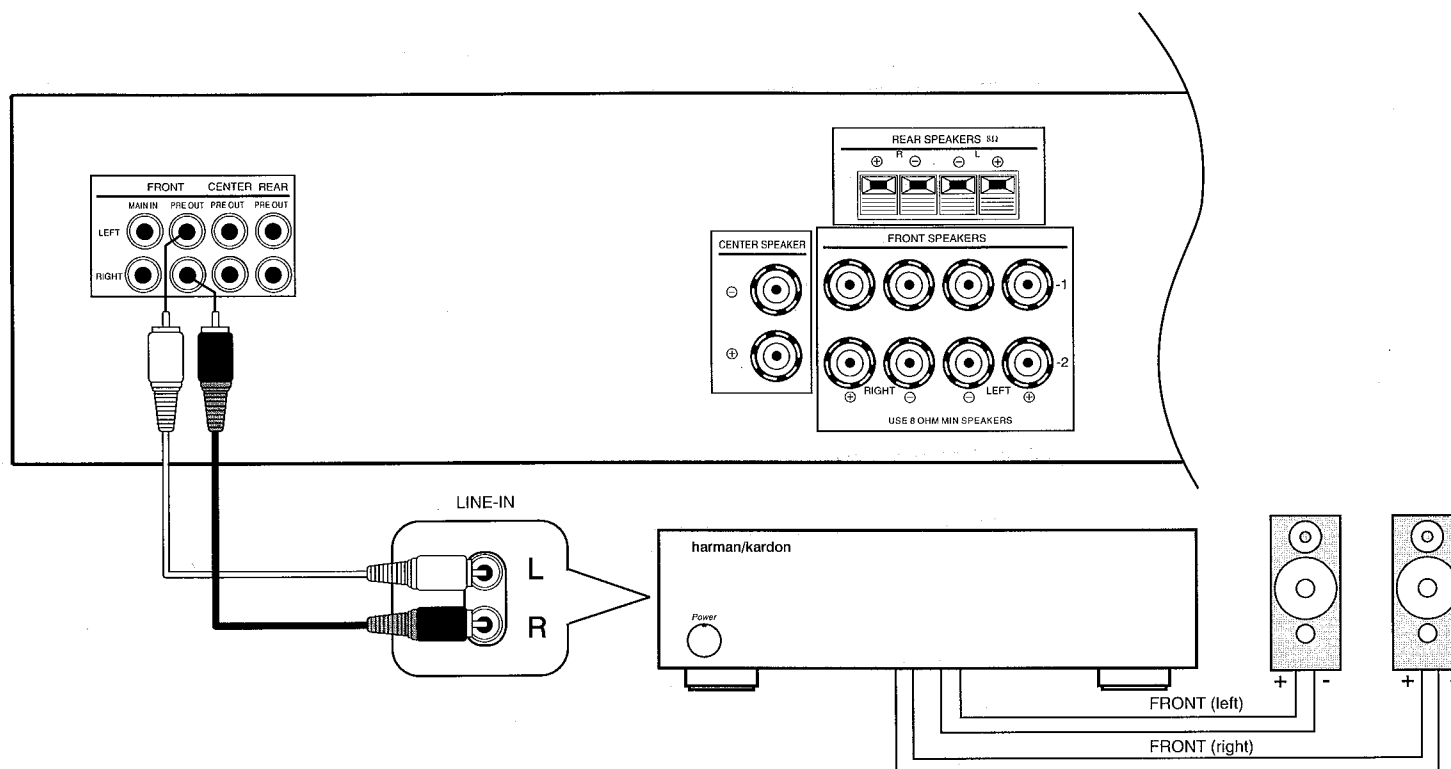
When a separate power amplifier is used to power a subwoofer connect these jacks to the input of the amplifier (For Subwoofer).

Optional Multi-Room Control Adapter Connection

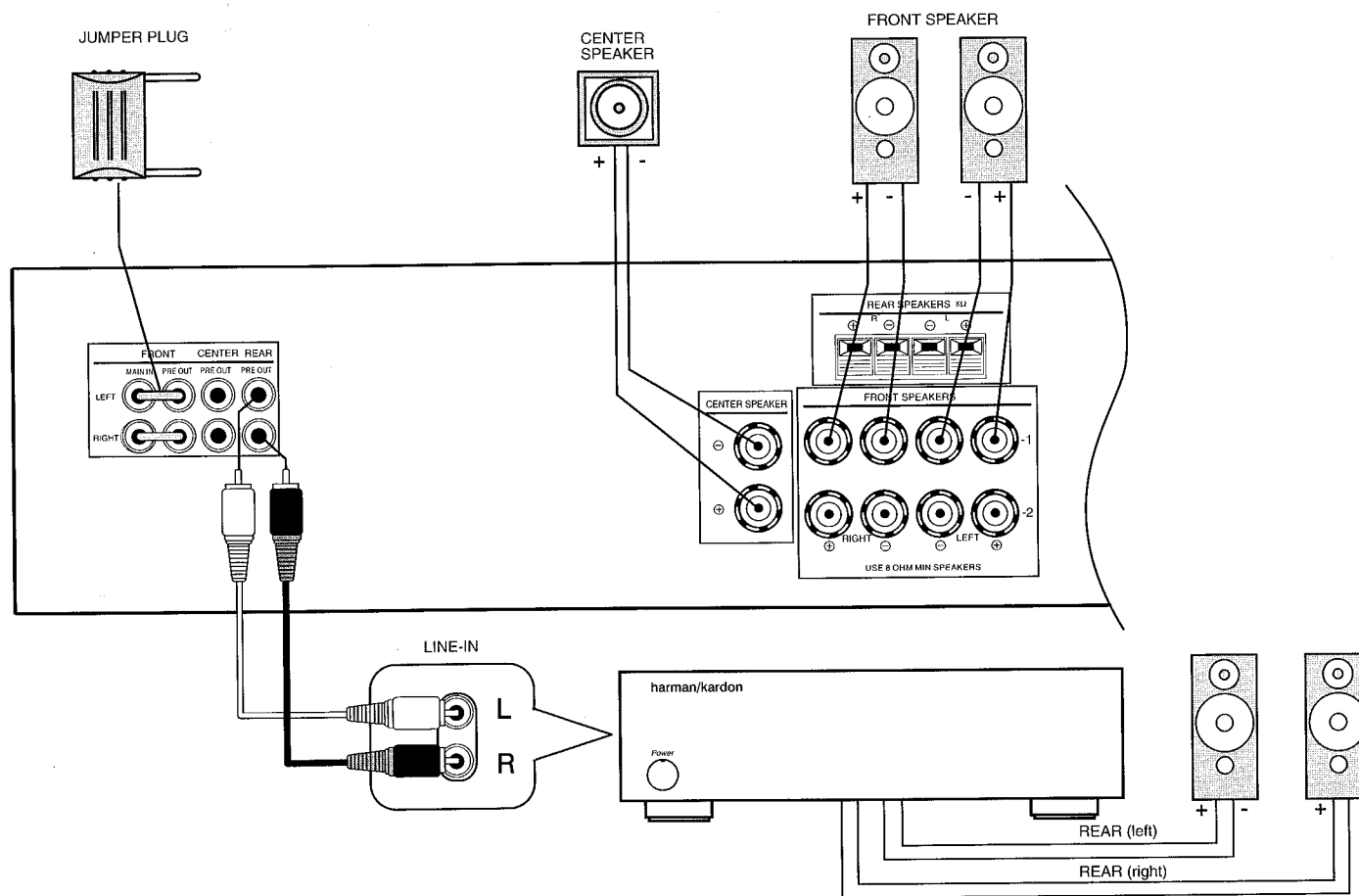


When you drive the front speakers with another amplifier

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



When you drive the rear speakers with another amplifier.



Surround Sound Effects

Surround Sound

The AVI200 II is equipped with 3 types of surround processors (DOLBY PRO LOGIC DOLBY 3 STEREO and THEATER/STADIUM) which provide a sense of presence and expansion and let you enjoy surround-sound in your home.

Every day, we are exposed to sounds coming from our surroundings. Some sounds reach our ears directly from the source, some indirectly reflected by walls or ceilings. Sounds of voices reach us from behind, sounds of cars reach us from the side. Sounds coming from all around us are called "surround-sounds".

In order to recreate with as much precision as possible that special sound in movie theaters, speakers are placed both in front of and behind the listeners. One reason that sound from the television in our homes is so different from sound in movie theaters is because usually sound from a television only comes from in front of the viewer. With a surround system, the sounds of applause and cheers from the stands during a baseball game on TV come from in front and in back, from the left and right.

The sound from a TV equipped with a single speaker (or 2 speakers with stereo televisions) sounds very different from the actual, "live" sound.

Surround Processors

- THEATER/STADIUM

modes work best for recorded concerts and other music programs. In their modes, the front speakers provide a normal stereo effect while the rear speakers provide a reverberated sound. This reverberation helps simulate the sound you might hear at a live concert.


- DOLBY 3 STEREO

Combining 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 speakers) 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 position 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, on-screen, and making high-fidelity multi-dimensional sound are essential parts of cinematic

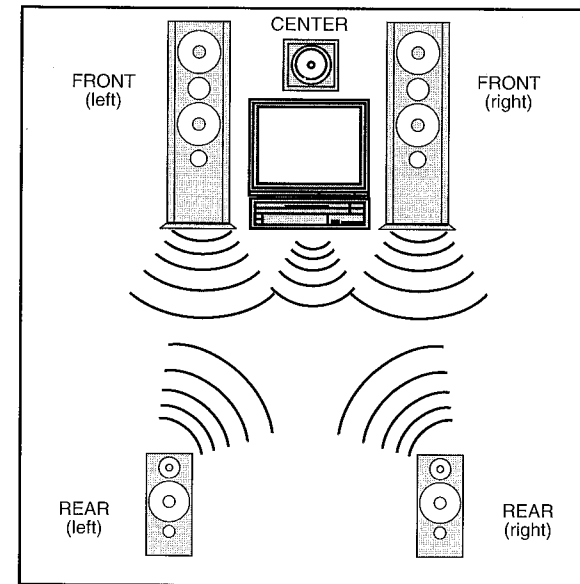
presentations. Imagine recreating the same sort of audio-visual experience right in your own home.

*"DOLBY", "PRO LOGIC" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation. Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under Canadian patent

number 1,037,877.

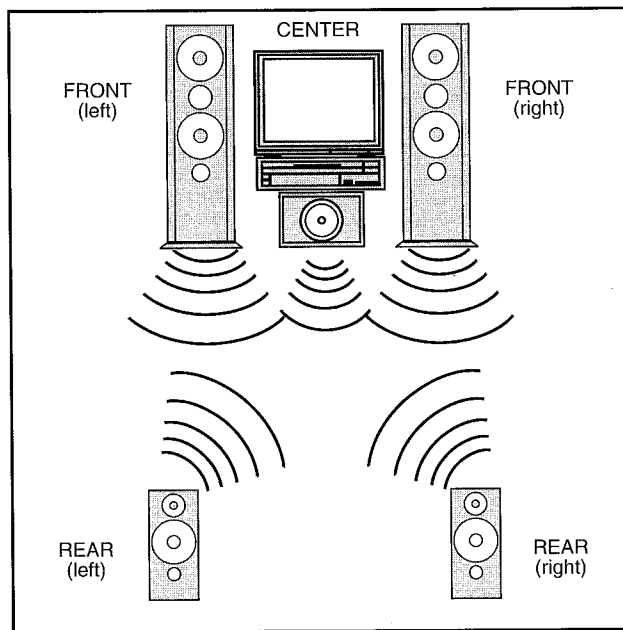
Speaker Installation

The AVI200 II incorporates a decoder which reproduces the specially encoded surround sound of Dolby surround video programs. In Dolby surround mode, select the speaker operation mode according to your speaker system.



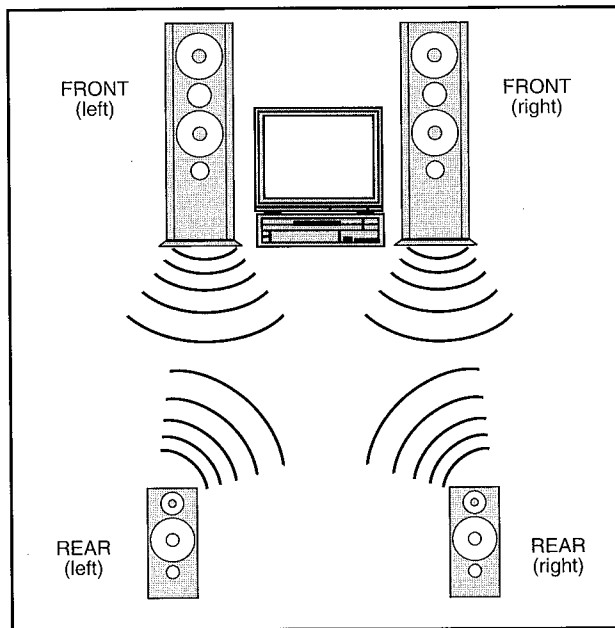
NORMAL mode

Select this mode if you use a small center speaker. The bass sound of the center channel is output from the front speakers, as a small speaker can't produce enough bass.



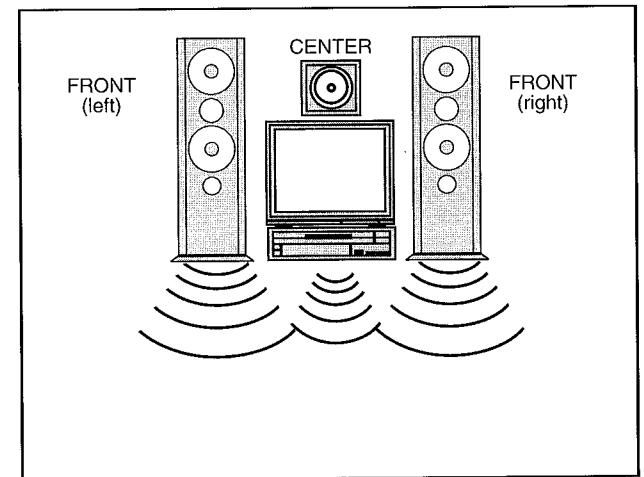
WIDE mode

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 output from the front (L and R) speakers.



3 STEREO 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 output from the front (L and R) speakers.

Operation

AMPLIFIER SECTION

1. Set the VOLUME CONTROL to the extreme counterclockwise position.
2. Turn the power on.
3. Select the desired input function.
4. Play the input source.
5. Turn the VOLUME clockwise until you reach the desired sound level.

TAPE RECORDING

1. Insert a blank tape in a cassette deck (TAPE1 or TAPE2).
2. Select the desired input function.
3. Set the cassette deck to recording mode.
4. Play the input source. Recording will start.

TAPE DUBBING

1. Insert a blank tape in cassette deck 2 (TAPE2).
2. Insert a recorded tape in cassette deck 1 (TAPE1).
3. Select the input function of TAPE2 MON to monitor the sound (see #9 on page 8).
4. Set cassette deck 2 to recording mode.
5. Set cassette deck 1 to playback mode. Dubbing will start. NOTE: If you press the TEST TONE button during TAPE RECORDING or TAPE DUBBING, the audio signal is not recorded.

PROTECTION CIRCUITS

This amplifier has special protection circuits.

- The thermal overload protection circuit automatically turns off the power if it begins to overheat.
- The overdrive protection circuit automatically turns off the power if it is about to deliver too much power.
- The short protection circuit automatically turns off the power if the speaker terminals are shorted.

If the amplifier shuts off, check to be sure that the ventilation holes on the top of the amplifier are clear of obstructions, and check the speaker connections and impedance.

AVI200 II System Remote Control

1. INFRARED TRANSMITTER WINDOW

The infrared beam is emitted forward 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 amplifier and do not obstruct this window with any material.

2. POWER BUTTON

Press this button to turn the power on and off. - Automatic power on: When you press the input function buttons (CD, TUNER, TAPE 1, TAPE 2, VDP, TV/AUX, VCR 1, VCR 2, PHONO) in STANDBY mode, the power is automatically turned on and the function is selected.

3. TUNING BUTTONS

The TUNING buttons will control the tuning functions of a Harmon Kardon AM/FM TUNER, when the TUNER REMOTE IN is connected to the REMOTE OUT jack of the AVI200 II.

4. CD FUNCTIONS BUTON

For a CD PLAYER: DISK(DISC SELECTOR this is available for the Harmon Kardon FL8400 CD changer), (play), (pause), (stop), (backward search), (foreward search), (backward skip), (foreward skip), A-B and INTRO buttons are available. - When selecting a disc, press the DISC button. A-B button is used to repeat a specific passage.

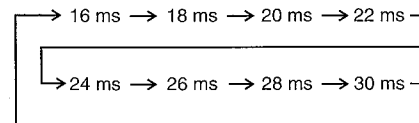
5. CASSETTE DECK FUNCTION

BUTTONS - For a cassette deck: (pause), (stop), (record), (reverse play), (forward play), (rewind), (fast forward) buttons are available.

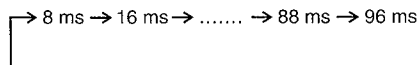
6. DELAY TIME BUTTON

This button operates only in DOLBY PRO-LOGIC and THEATER/STADIUM mode. In these modes, the output signal from the rear 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 time is changed as below, when the button is pressed in succession.

DOLBY PRO-LOGIC MODE



THEATER/STADIUM MODE



7. INPUT FUNCTION SELECTOR

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

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 (see page 14).

10. TEST TONE BUTTON

Generates test sounds in all channels (Left, Center, Right and Rear) in succession.

11. REAR LEVEL UP/DOWN BUTTONS

These buttons operate only in DOLBY PRO-LOGIC and THEATER/STADIUM mode. Use these buttons to adjust the sound level of the rear 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

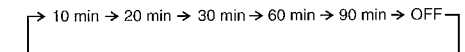
Adjust the overall (front, center, and rear) volume level.

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

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



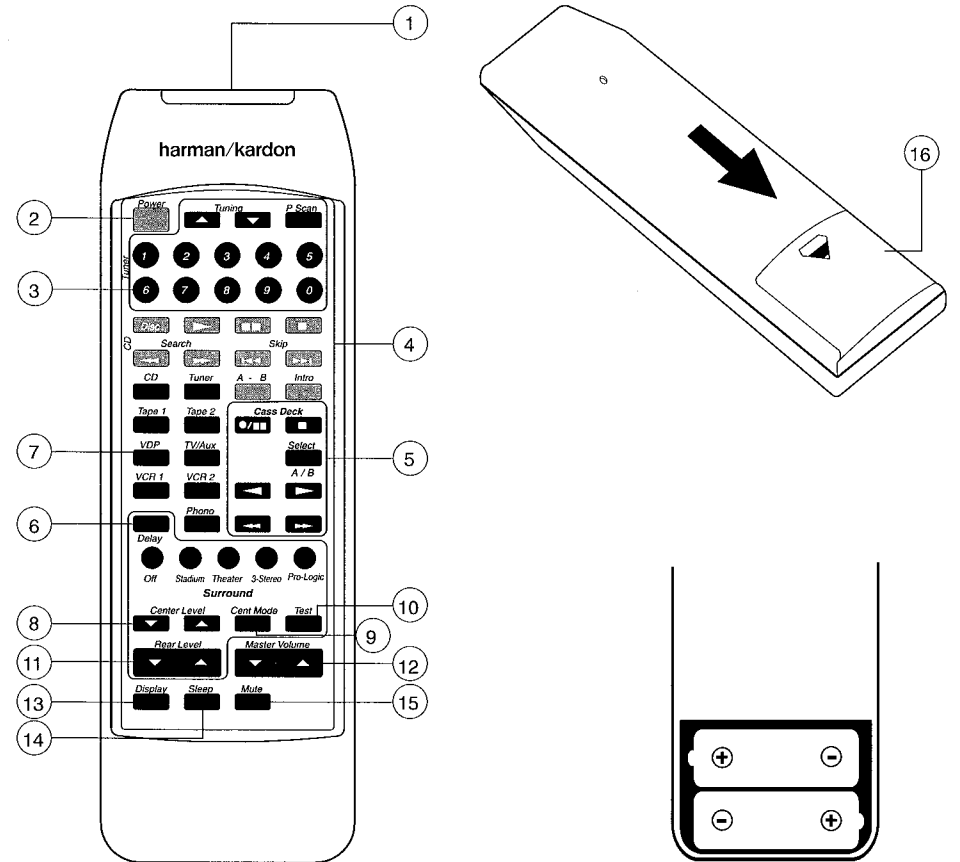
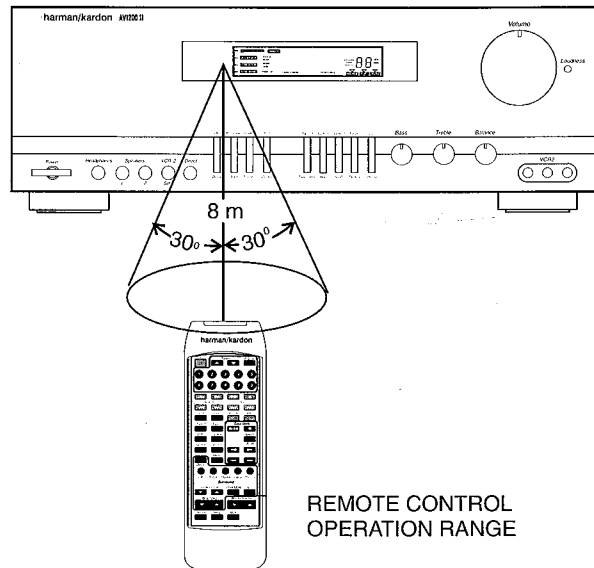
The display will dim when the sleep function has been set

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. 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 authorized Harman Kardon service center.

If the problem is...

Make sure that the:

No lights illuminate when Power switch is pressed.

- Unit is plugged into a live outlet.

No sound is heard

- Speaker selector is set to the desired speakers
- Correct source button has been pressed.
- Volume is turned up.
- Speakers are connected properly.

Dolby Surround does not work on center and rear channels.

- Correct surround mode is selected.
- Rear and Center levels are turned up.

Selecting video component produces sound but no picture.

- Video cables are connected properly.

The TV picture does not match the sound.

- Video sources are properly connected to receiver.
- Video/Antenna Switch on TV is set to Video.

No output from one or more channels.

- Cables are not defective: check/replace speaker or phono cables.
- The signal source is operating and providing proper signal output to the AVI200 II.

No center channel output.

- Dolby surround or movie mode is turned on.
- "Phantom" mode is not active.

Phono sound is too faint, has hum, ringing, or "howl".

- Turntable cartridge is moving magnet type, or step-up transformer is used.
- Ground wire from turntable has been connected to ground terminal on receiver.
- Cable from turntable is away from power cords and speaker cables.
- Turntable is away from speakers.
- Turntable is on a stable surface.

Specifications

Stereo Mode

Continuous Average Power (FTC) 75 Watts from 20Hz-20kHz:	@<0.09% THD,, both channels driven into 8 Ohms
100 Watts from 20Hz-20kHz:	@<0.3% THD both channels drive into 4 Ohms

Five Channel Surround Mode

Continuous average power per channel (FTC) Front L&R channels 65 Watts from 20Hz-20kHz:	@<0.3% THD, both channels driven into 8 Ohms
Center channel 65 Watts from 20Hz-20kHz:	@<0.3% THD, driven into 8 Ohms
Rear L & R channels 25 Watts from 20Hz-7kHz:	@<0.7% THD, both channels driven into 4 Ohms

Amplifier Section

High-Instantaneous Current Capability (HCC):	+/-40 Amps
Negative Feedback:	26dB
Frequency Response @1W (+0/-3dB):	0.5Hz - 150kHz
Slew Rate:	80 Volts/ μ Sec
Rise Time:	1.8 μ Sec
Transient Intermodulation Distortion (TIM):	Unmeasurable

Preamplifier Section

Signal-to-Noise Ratio (ref. 1 Volt, A-Wtd)	
Phono (MM):	74dB
Video, CD:	92dB
Input Sensitivity/Impedance	
Phono (MM):	2.5mV/47k Ω , 125pF
Video, CD, Tape:	150mV/22k Ω
Phono Overload:	120mV
RIAA EQ Accuracy (20Hz-20kHz):	+/-1.0dB
Tone Control Range	
Bass @ 100 Hz:	+/-10dB
Treble @ 10kHz:	+/-10dB
Loudness Counter @ -40dB, 100 Hz/10 kHz :	+6dB/+3dB
Dimensions (WxHxD):	
inches:	17 ³ / ₈ x 6 ¹ / ₈ x 16 ¹ / ₂
mm:	440 x 155x 420
Weight (lbs/kgs):	26.9/12.2

Depth measurement includes knobs, buttons and antennas.

Height measurement includes feet.

All features and specifications are subject to change without notice.

