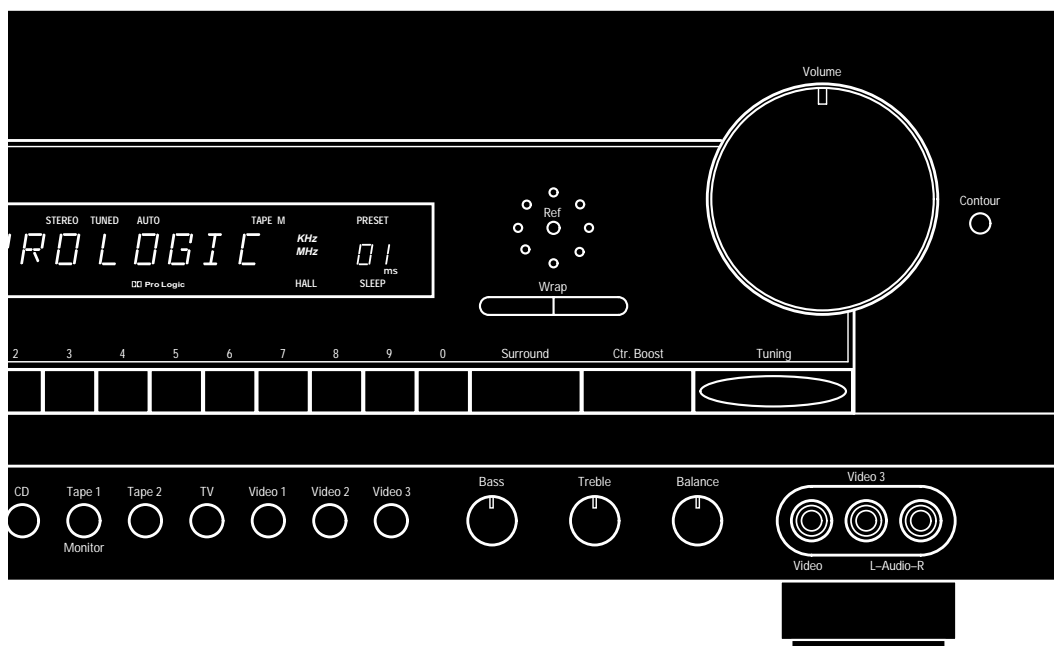# Harman Kardon
AVR41
Audio/Video Receiver

Owner's Manual

harman/kardon

ENGLISH

Owner's Manual
AVR41 Audio/Video Receiver

Table of Contents

Introduction

1

Congratulations! With the purchase of a Harman Kardon AVR 41 you are about to begin many years of listening enjoyment. The AVR 41 has been custom designed to provide all the excitement and detail of movie soundtracks and every subtle nuance of musical selections.

While complex systems are hard at work within the AVR 41 to make all of this happen, hookup and operation are simple. Color keyed connections and a unique remote control make the AVR 41 easy to use. To obtain the maximum enjoyment from your new receiver we urge you to take a few minutes to read through this manual. This will ensure that connections to speakers, source playback units and other external devices are made properly. A few minutes spent learning the functions of the various controls will enable you to take advantage of all the power the AVR 41 is able to deliver.

If you have any questions about this product, its installation or operation, please contact your dealer. They are your best local source of information. You may also contact Harman Kardon directly via the Internet at www.harmankardon.com

Description and Features

The AVR 41 is a full featured A/V receiver, incorporating a wide variety of listening options. Four audio inputs, three audio/video inputs and the AVR 41's RDS tuner with Radiotext (RT) enable it to serve as the control centre for a complete audio/video system. A system remote control operates the AVR 41 and compatible Harman Kardon source equipment.

- **Dolby* Pro Logic* and Hall Modes with Exclusive Harman Kardon Wrap Circuitry**

- **Direct Video Dubbing**

- **Front Panel A/V Inputs for Games or Camcorder Connection**

- **System Memory for Surround Modes**

- **RDS System Including Radio Text for Advanced Tuning and Programme Selection**

- **High Current Capability, Low Negative Feedback and Wide Bandwidth Circuits for Pure Sound Reproduction**

- **Four Pure Discrete Power Amps**

- **Preamp Outputs for All Channels for Ease of Expansion**

- **Configuration System for Center and Rear Speakers**

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Important Information

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Safety Information

Verify Line Voltage Before Use

Your new Harman Kardon AVR 41 is configured for use with 230 volt AC line current. Connecting the receiver to a line voltage other than that for which it is intended can create a safety and fire hazard, and may damage the receiver.

If you have any questions about the voltage requirements for your specific model, or about the line voltage in your area, contact your dealer before plugging the unit into a wall outlet.

Do Not Use Extension Cords

To avoid safety hazards, use only the power cord supplied with your unit. We do not recommend that extension cords be used with this product. As with all electrical devices, do not run power cords under rugs or carpets or place heavy objects on them.

Handle The AC Power Cord Gently

When disconnecting the power cord from an AC outlet, always pull the plug, never pull the cord. If you do not intend to use the unit for a considerable length of time, disconnect the plug from the AC outlet.

Do Not Open The Cabinet

There are no user serviceable components inside this product. Opening the cabinet may present a shock hazard, and any modification to the product will void your guarantee. If water or any metal object such as a paper clip, wire or a staple accidentally falls inside the unit, disconnect it from the AC power source immediately, and consult an authorized service station.

Installation Location

■ To assure proper operation, and to avoid the potential for safety hazards, place the unit on a firm and level surface. When placing the unit on a shelf, be certain that the shelf and any mounting hardware can support the weight of the product.

■ Make certain that proper space is provided both above and below the unit for ventilation. If this product will be installed in a cabinet or other enclosed area, make certain that there is sufficient air movement within the cabinet. Under some circumstances a fan may be required.

■ Do not place the unit directly on a carpeted surface.

■ Avoid installation in extremely hot or cold locations, or an area that is exposed to direct sunlight or heating equipment.

■ Avoid moist or humid locations.

■ Do not obstruct the ventilation slots on the top of the unit, or place objects directly over them.

Cleaning

When the unit gets dirty, wipe it with a clean, soft dry cloth. If necessary, wipe it with a soft cloth dampened with mild soapy water, then a fresh cloth with clean water. Wipe dry immediately with a dry cloth. NEVER use benzene, thinner, alcohol or any other volatile cleaning agent. Do not use abrasive cleaners, as they may damage the finish of metal parts. Avoid spraying insecticide near the unit.

Moving The Unit

Before moving the unit, be certain to disconnect any interconnect cords, and make certain that you disconnect it from the AC outlet.

Important Information

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Unpacking and Installation

The carton and shipping materials used to protect your new AVR41 during shipment were specially designed to cushion it from shock and vibration. We suggest that you save the carton and packing materials for use in shipping if you move or should the unit ever need repair.

To minimize the size of the carton in storage, you may wish to flatten it. This is done by carefully removing any staples that attach the carton flaps to one another, and then slitting the tape covering the seams. Fold the carton down to a more two dimensional appearance. Packing materials that cannot be collapsed should be saved along with the carton in a plastic bag.

If you do not wish to save the packaging materials, please note that the carton and other sections of the shipping protection are recyclable. Please respect the environment and discard those materials at a local recycling centre.

When positioning your AVR41 in its final location, make certain that any shelf or stand is capable of supporting its weight, and that there is adequate ventilation on all sides, as well as on the top and bottom. Do not place CDs, record jackets, owner's manuals, or other paper on top of, or beneath the unit. This will block air flow, causing degraded performance and a possible fire hazard. If the unit is to be enclosed in a cabinet or rack, make certain that there is adequate air circulation, with a means provided for hot air to exit, and for cool air to be brought in.

Typographical Conventions

In order to help you use this manual with the remote control, front panel controls, rear panel connections and on-screen menus, certain typographical conventions have been used.

BOLD TYPE – will be used to indicate a front or rear panel control. It will typically be followed with a reference number to the specific control being described.

`DISPLAY TYPE` – will be used to indicate messages that appear in the information display window.

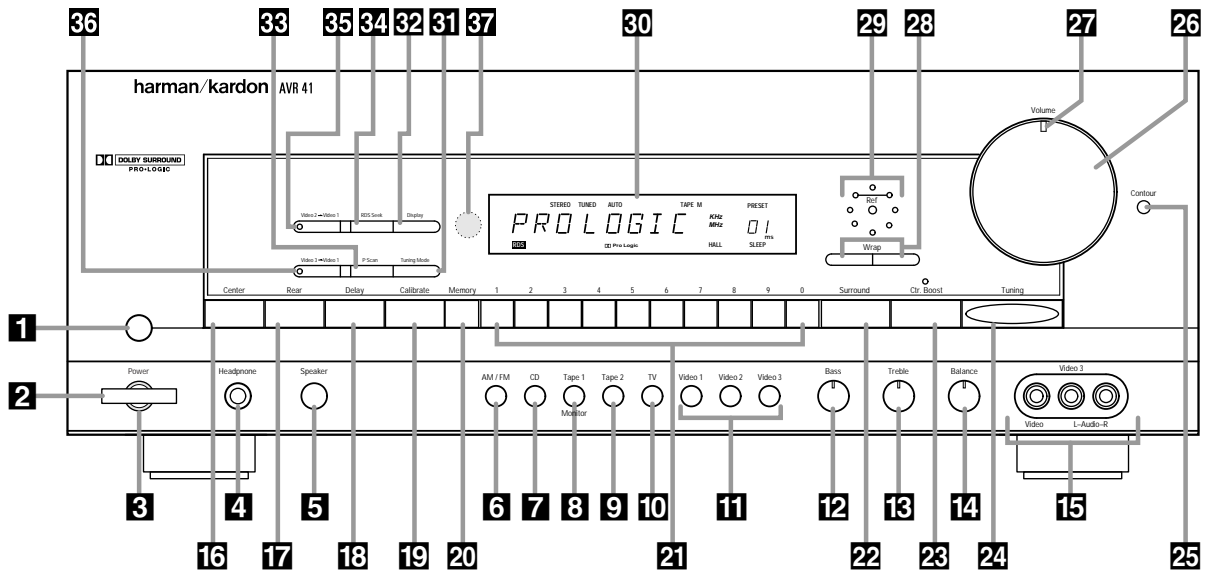**1** – A number within a Square references a front panel control.

❶ – A number within a Circle references a connection point on the rear panel.

❶ – A number within an Oval references a button on the remote control.

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Front Panel Controls

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harman/kardon AVR 41

DOLBY SURROUND
PRO-LOGIC

Video 2→Video 1   RDS Seek   Display

Video 3→Video 1   P.Scan   Tuning Mode

Center   Rear   Delay   Calibrate   Memory   1   2   3   4   5   6   7   8   9   0   Surround   Ctr. Boost   Tuning

STEREO TUNED AUTO   TAPE M   PRESET

PRO LOGIC   01

Pro Logic   HALL   SLEEP

KHz
MHz
ms

Ref   Wrap   Volume   Contour

Power   Headphone   Speaker   AM/FM   CD   Tape 1   Tape 2   TV   Video 1 Video 2 Video 3   Bass   Treble   Balance   Video 3

Monitor

Video   L–Audio–R

1 Main Power Switch	**14** Balance Control	**27** Mute/Volume Indicator
2 System Power Control	**15** Video 3 Inputs	**28** Wrap
3 Power Indicator	**16** Center Channel	**29** Wrap Indicator
4 Headphone Jack	**17** Rear Channel	**30** Information Display
5 Speaker Switch	**18** Delay Time Adjust	**31** Tuning Mode
6 AM/FM Selector	**19** Calibrate	**32** Display
7 CD Selector	**20** Tuner Memory Button	**33** P.Scan Button
8 Tape 1/Tape Monitor	**21** Numeric Buttons	**34** RDS Seek
9 Tape 2 Selector	**22** Surround Mode	**35** Video 2 → Video 1 Dubbing
10 TV Selector	**23** Center Boost	**36** Video 3 → Video 1 Dubbing
11 Video Source Selectors	**24** Tuning Button	**37** Remote Sensor
12 Bass Control	**25** Contour (Loudness)	
13 Treble Control	**26** Volume Control	

Front Panel Controls

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1 Main Power Switch: Press this switch to apply power to the AVR41. When it is pressed in the unit is placed in a Standby mode, as indicated by the amber LED **3** surrounding the **System Power** control **2**. This button MUST be pressed in to operate the unit regardless of the status of the Power Switch at the bottom of the front panel. To turn the unit off and prevent the use of the remote control, this switch should be pressed until it pops out to extend from the front panel so that the word "OFF" may be read at the top of the switch (see page 15).

NOTE: In normal operation this switch may be left in the "on" position.

2 System Power Control: When the **Main Power Switch 1** is pressed in, press this button to turn on the AVR41, press it again to place it in standby. Note that the **Power Indicator** surrounding the switch **3** will turn green when the unit is on.

3 Power Indicator: This LED will illuminate in amber when the unit is in the Standby mode, to signal that the unit is ready to be turned on. When the unit is in operation the indicator will turn green.

4 Headphone Jack: This jack may be used to listen to the AVR41's output through a pair of headphones. Be certain that the headphones have a standard 6.3mm stereo phone plug (see page 15).

5 Speaker Switch: This switch controls the front left/right speakers. For normal operation it is pressed in and sound is heard through the front speakers. To silence the front left/right speakers, push the button once until it is in the "out" position. When the front speakers are turned off sound will continue to be heard through the centre and rear speakers and the headphone jack.

6 AM/FM Selector: Press this button to select the tuner as your listening source. Press it again to change between AM and FM frequency bands (see page 17).

7 CD Selector: Press this button to select your CD player as the listening source.

8 Tape 1/Tape Monitor: Press this button to select the recorder connected to the **Tape 1 Inputs 5** as the listening source, or to monitor a recording of another selected source (see page 20).

9 Tape 2 Selector: Press this button to select the recorder connected to the **Tape 2 Inputs 3** as your listening source.

10 TV Selector: Press this button to select the device connected to the TV Inputs **2** on the rear panel as your listening source.

11 Video Source Selectors: Press these buttons to select any of the sources connected to an audio/video input **7 8 15** as your viewing and listening source. The selected input will also be routed to the device connected to the **Video Monitor Output 10** on the rear panel.

NOTE: When the AVR41 is in the Standby mode, as indicated by the **Power Indicator 3** illuminating in amber, the unit may be turned on by pressing any of the **Source Selection** buttons **6 7 8 9 10 11 4**.

12 Bass Control: Turn this control to modify the low frequency output of the left/right channels by as much as ±10dB. Set this control to a suitable position for your taste and room acoustics.

13 Treble Control: Turn this control to modify the high frequency output of the left/right channels by as much as ±10dB. Set this control to a suitable position for your taste and room acoustics.

14 Balance Control: Turn this control to change the relative volume for the front left/right channels.

NOTE: For proper operation of the surround modes this control should be at the midpoint, or "12 O'clock" position.

15 Video 3 Input: This alternate set of Audio/Video inputs may be used for the connection of a camcorder video game or any other Audio/Video source (only for playback). Select this input by pressing the **Video 3** button **11** on the front panel.

16 Center Channel: Press this button to select the type of centre channel speaker used. If there is no centre channel speaker, press the button until the **Information Display 30** reads NO CENTR (see page 13).

17 Rear Channel: Press this button to configure the AVR41 for the presence or absence of rear speakers (see page 13).

NOTE: Changing the Center and Rear configuration automatically may change the selected Surround mode (if any) for best correspondence. Moreover the surround modes available will vary according to this speaker selection (see page 13).

18 Delay Time Adjust: Press this button to adjust the delay time between the front and rear channels (see page 14).

19 Calibrate: Press this button to turn on the calibration circuits that are used to adjust the output levels of the AVR41. Once the button is pressed you may adjust the levels of the center and rear channels using the **Level −**/**Level +** buttons **20** on the remote control while listening to the current input source. To calibrate the system using the internal test tone, press this button **19** first, and then press the **Calibrate** button **17** on the remote or press the button **17** on the remote twice (see page 13).

Front Panel Controls

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20 Tuner Memory Button: Press this button to store an AM or FM frequency in the unit's memory. The MEM indicator will flash in the display to remind you to choose a numeric location using **Numeric Buttons 21** on the front panel. Storing a station in a memory location that has already been used will overwrite the existing data (see page 18).

21 Numeric Buttons: Use these buttons to enter or recall stations from the tuner memory (see page 18).

22 Surround Mode: Press this button to select the desired surround listening mode (see page 16).

23 Center Boost: Press this button to increase the level of the centre channel output +4 dB above that of the left/right channels for increased dialogue intelligibility. A red LED will illuminate above the button when the circuit is engaged (see page 15).

24 Tuning Button: Press the left side of the button to tune lower frequency stations and the right side to tune higher frequency stations. When a station with a strong enough signal is tuned, the **TUNED** indicator will illuminate in the **Information Display 30** (see page 17).

25 Contour: Press this button when listening at low levels to activate special circuits that compensate for the response of the human ear at lower volumes. In the off position the unit will provide flat frequency response independently from the volume (see page 15).

26 Volume Control: Rotate this control to raise or lower the volume. Note that this is a motorized control, and when the volume is changed using the remote control **12** it will move in response to remote commands.

27 Mute/Volume Indicator: In normal operation this green LED provides a relative indication of the unit's volume level. When the AVR41 is in the MUTE mode, this indicator flashes to remind you that output to the speakers has momentarily been silenced (see page 15).

28 Wrap: When the Dolby Pro Logic or Hall modes are in use, press these buttons to increase or decrease the amount of effect for the Wrap circuit (see pages 16/17).

29 Wrap Indicator: These LEDs indicate the degree of Wrap that has been selected (see page 17).

30 Information Display: The indicators in this display illuminate to provide visual display of the unit's operation.

31 Tuning Mode: Press this button to select the tuning and receiving (mono/stereo) mode for the FM tuner. When AUTO appears in the **Information Display** the tuner will automatically search stations with strong enough signals for acceptable stereo reception in the moment any of the **Tuning** buttons **24** or ▶▶/◀◀ **9** on the remote is pressed. All weaker stations will be muted, if tuned manually, do NOT open the volume too much in this case.

When the button is pressed until the letters RDS appear in the lower left corner of the **Information Display**, the tuner will automatically search stations transmitting RDS data only.

Press the button until the RDS and AUTO lights go out to step tune through each frequency increment and to tune all stations without any muting. This also compensates for weak stereo signals by changing the reception to mono (see pages 17/18).

32 Display: When the FM tuner is in use, press this button to select the type of RDS information to be displayed or to turn the display off (see page 19), or hold it in to dim the front panel display (see page 16). For all other inputs, pressing this button once will dim the front panel display to half brightness. Pressing it again will turn the display off. Press the display button or any other button to return the display to full brightness.

33 P·Scan Button: Press this button to scan the stations entered in the unit's memory. When the desired station is reached, press the button again to stop the scan (see page 17).

34 RDS Seek: Press this button to only seek RDS stations of a specific "PTY" or programme type. Each press of the button will cycle through the list of PTY types, but beginning with ANY STN (any station is searched) and RDS ONLY (only RDS stations with any PTY will be seeked, see page 19).

35 Video 2 → Video 1 Dubbing: Press this button to make a recording from the device connected to the Video 2 Input **7** to the device connected to **Video 1 9**. The copy may be made while another input is the listening source for the main system outputs (see page 20).

36 Video 3 → Video 1 Dubbing: Press this button to make a recording from the device connected to the front panel **Video 3** input **15** to the device connected to **Video 1 9**. The copy may be made while another input is the viewing and listening source for the main system outputs (see page 20).
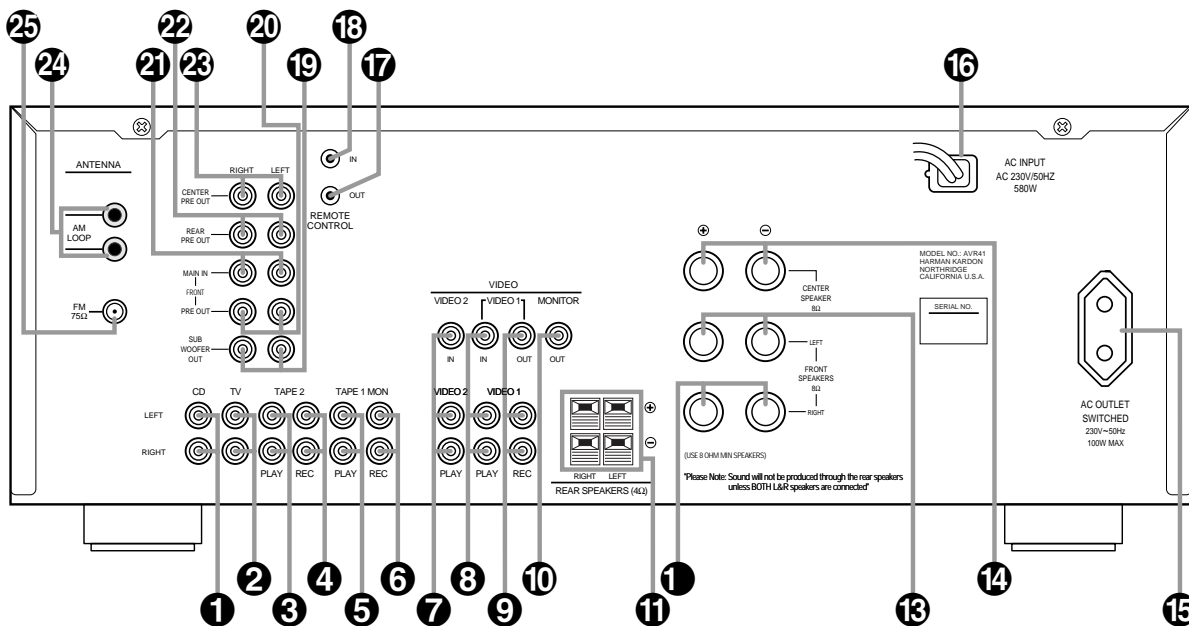
37 Remote Sensor: This sensor receives the signals from the remote control to operate the unit. Do not block this area.

Rear Panel Connections

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❶ CD Input
❷ TV Input
❸ Tape 2 Input
❹ Tape 2 Output
❺ Tape 1 Monitor Input
❻ Tape 1 Monitor Output
❼ Video 2 A/V Inputs
❽ Video 1 A/V Inputs
❾ Video 1 A/V Outputs

❿ Video Monitor Output
⓫ Rear Speaker Outputs
❶ Front Right Speaker
⓭ Front Left Speaker
⓮ Centre Speaker
⓯ Switched AC Power Outlet
⓰ AC Power Cord
⓱ Remote Control Extension Output
⓲ Remote Control Extension Input

⓳ Subwoofer Outputs
⓴ Front Preamp Outputs
㉑ Front Main Inputs
㉒ Rear (Surround) Outputs
㉓ Centre Preamp Outputs
㉔ AM Antenna Input
㉕ FM Antenna Input

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Rear Panel Connections

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❶ **CD Input:** Connect the output of your CD player or D/A converter to these jacks.

❷ **TV Input:** Connect the audio outputs of a TV, satellite receiver or any audio source to these jacks.

❸ **Tape 2 Input:** Connect the PLAY/OUT jacks of an audio tape recorder to these jacks.

❹ **Tape 2 Output:** Connect the RECORD/INPUT jacks of an audio tape recorder to these jacks.

❺ **Tape 1 Monitor Input:** Connect the PLAY/OUT jacks of a second audio tape recorder to these jacks.

❻ **Tape 1 Monitor Output:** Connect the RECORD/INPUT jacks of a second audio tape recorder to these jacks.

NOTE: The recorded signal of a 3 head recorder connected to the **Tape 1/Mon** jacks may be monitored during a recording session by pressing the **Tape 1/Mon** button ❽❹ on the front panel or remote.

❼ **Video 2 A/V Inputs:** Connect the audio and video PLAY/OUT jacks of a VCR, DVD, LD, Satellite system or other video source to these jacks.

❽ **Video 1 A/V Inputs:** Connect the audio and video PLAY/OUT jacks of your main VCR to these jacks.

❾ **Video 1 A/V Outputs:** Connect the audio and video REC/IN jacks of your main VCR to these jacks.

NOTE: The **Video 1** jacks may be used for any video source, but when used with a VCR they will permit dubbing from one source to another while a separate source is being viewed and listened to by selecting the **Video Dubbing** switch ❸❺ ❸❻ (see page 20).

❿ **Video Monitor Output:** Connect this jack to the video input of a TV or video projector to view the selected source.

NOTE: An optional adapter is required if your VCR or TV is equipped only with a SCART connection (see page 11).

⓫ **Rear Speaker Outputs:** Connect these terminals to the input terminals on your rear/surround speakers.

IMPORTANT NOTE: A speaker must be connected to both of these outputs in order for the unit to function properly. If only one speaker is connected there will be no rear channel output (see page 12).

⓬ **Front Right Speaker:** Connect the front right channel speaker to these terminals.

⓭ **Front Left Speaker:** Connect the front left channel speaker to these terminals.

⓮ **Center Speaker:** Connect the centre channel speaker to these terminals.

⓯ **Switched AC Power Outlet:** This outlet provides AC power only when the AVR41 is turned on. Note that the total power draw of the products connected may not exceed 100 watts (see page 11).

⓰ **AC Power Cord:** Connect this plug to an unswitched, wall mounted 230 volt AC outlet.

⓱ **Remote Control Extension Output:** This jack may be connected to other compatible Harman Kardon products so that they will receive infrared commands captured by the AVR41's remote sensor.

⓲ **Remote Control Extension Input:** If the AVR41's front panel IR sensor is blocked due to cabinet doors or other obstructions, an external IR sensor may be used. Connect the output of the sensor to this jack (see page 11).

⓳ **Subwoofer Outputs:** Connect these jacks to the line level input of a powered subwoofer, or to the inputs of a subwoofer amplifier.

NOTE: This output is a full range left/right signal. For proper operation BOTH jacks must be connected to the left/right inputs of a powered subwoofer, or a "Y" cable must be

used to connect the two outputs together if a single input mono subwoofer is used (see page 12/13).

WARNING: Since this is a full range output, the signal must be sent through a crossover or low pass filter before being used with a passive subwoofer or other speaker that does not contain a built in crossover.

⓴ **Front Preamp Outputs:** These jacks provide the output for the front left and right channels to an external amplifier or processor. In normal operation, unless an external power amplifier is used (see page 13), the jumper pins should remain connected to the **Front Main In** jacks ㉑.

㉑ **Front Main In:** These jacks are the input to the AVR41's front left/right channel power amplifier. Unless an external power amplifier is used for the left/right channels, the jumper pins should remain connected to the **Front Pre Out** jacks ⓴.

㉒ **Rear (Surround) Outputs:** These jacks may be used to connect the rear/surround channels to an external power amplifier or to the inputs of the AVR41's main left/right channel amplifier (see page 13).

㉓ **Center Preamp Outputs:** These jacks may be used to connect the centre channel output to an external power amplifier (see page 13).

NOTE: In most applications only one centre channel connection will be required. The output of both jacks is identical, and either jack may be used for system connections.

㉔ **AM Antenna Input:** Connect the AM loop antenna supplied with the AVR41 to these terminals. An external AM antenna may also be connected here (see page 11).

㉕ **FM Antenna Input:** Connect an FM antenna to these terminals. Note that the attached 300-ohm to 75-ohm adapter is required for connections from twin lead dipole antennas.

Remote Control Functions

9

1 Infrared Transmitters
2 Sleep
3 Power Button
4 Input Select Buttons
5 Preset/Disc Skip
6 Cassette Control
7 Transport Control
8 Manual Tune/Fast Forward/Reverse
9 Automatic Tune/Track Change
10 Battery Compartment
11 Display Selector
12 Master Volume Control
13 Mute
14 Center Boost
15 Wrap
16 Scan
17 Calibrate
18 Surround Mode
19 Calibrate Speaker Select
20 Calibrate Level Adjust
21 RDS Seek

Slide cover to expose battery compartment
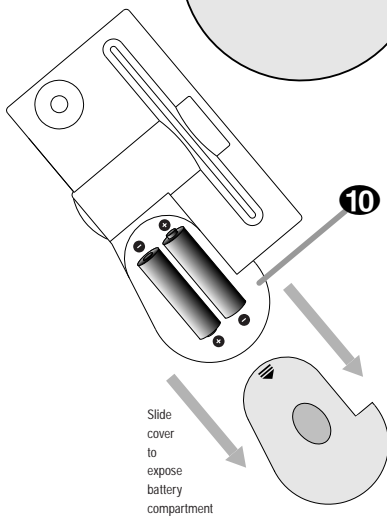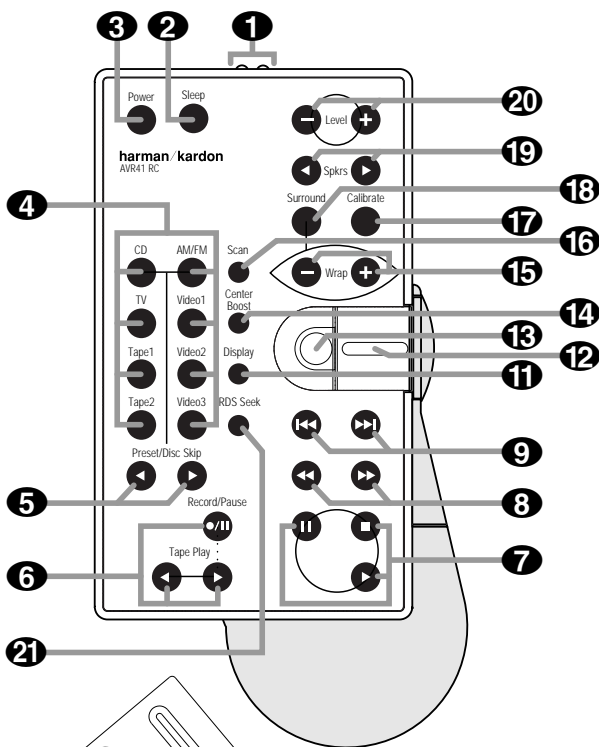
Remote Control Functions

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❶ Infrared Transmitters: An infrared beam is transmitted from these emitters when you press any button on the remote. For best operation, always point the front of the remote towards the sensor on the AVR41 **37** and do not obstruct this area.

❷ Sleep: Press this button to place the unit in the sleep mode. The display will dim and the unit will turn off after the number of minutes shown in the information display.

❸ Power Button: Press this button to turn the AVR41 on or to put it in standby (see page 15).

NOTE: In order for this button to work, the AVR41 must first be placed in the standby mode by pressing the front panel **Main Power Switch 1** until it is engaged and the ring surrounding the **Power** switch **2** turns amber.

❹ Input Select Buttons: Press one of these buttons to choose an input source.

NOTE: Automatic Power On: When you press an **Input Select Button** while the unit is in the Standby Mode, the system will automatically be turned on.

❺ Preset/Disc Skip: Press these buttons to scan up or down through the stations entered in the tuner memory. The ▶ button will also advance the disc being played in compatible Harman Kardon CD changers.

❻ Cassette Control: These buttons control some transport functions of compatible Harman Kardon cassette decks. The ◀ ▶ buttons put the deck or primary transport in play or change the direction during play. The ●/ǁ button will place the deck to Record/Pause or will pause the deck during record. Press any of the ◀ ▶ buttons **6** or **7** to start or continue recording.

❼ Transport Control: These buttons control the Play ▶, Pause ǁ and Stop ■ functions of compatible Harman Kardon CD or cassette players.

❽ Manual Tune/Fast Forward/ Reverse: Press these buttons to manually tune stations in any **Tuning Mode** (see page 18). They may also be used to put a compatible Harman Kardon CD player or cassette deck in the fast forward ▶▶ or fast reverse ◀◀ mode.

❾ Automatic Tune/Track Change: Press these buttons to search stations with a strong enough signal for acceptable stereo listening, no matter if **Tuning Mode** AUTO is selected or not (see page 18). If RDS Seek is on, they will search only stations with the program type (PTY) selected (see page 19). These buttons will also change the disc track on compatible Harman Kardon CD players, and engage the title search on cassette decks.

NOTE: In order for the transport controls **❼❽❾** to function, you must first press the Source Select Button **4** for the device to be controlled.

❿ Battery Compartment: Install two "AA" batteries as shown on page 9 to power the remote control.

⓫ Display: Press this button to change the display brightness from normal to half to off (see page 15). When the FM tuner is selected, this button is also used to select the type of RDS information to be displayed, or press and hold during FM operation to dim the display (see pages 15/19).

NOTE: If CD was selected by the remote control this remote button may dim or turn on/off only the display of the linked CD player.

⓬ Master Volume Control: Push the bar away from you to raise the unit's volume, and press it towards you to lower the volume.

⓭ Mute: Press this button to momentarily silence the speakers. Note that the word MUTE will flash in the information display along with the **Mute/Volume Indicator 27** to remind you that the Mute function is engaged. Press the button again to return to the previously selected listening level (see page 15).

⓮ Center Boost: Press this button to increase the level of the Centre Channel for improved dialogue intelligibility, or to turn the Centre Boost circuit off. Note that a Red LED will illuminate above the **Ctr. Boost** button **23** on the front panel when Centre Boost is activated (see page 15).

⓯ Wrap: Press these buttons to increase or decrease the amount of Wrap signal that is applied when the unit is in any surround mode (see page 16/17).

⓰ Scan: Press this button to automatically scan through the list of stations programmed into the tuner memory. The tuner will stop for five seconds at each station. To stop the scan on a desired station press the button again (see page 18).

⓱ Calibrate: Press this button to begin the calibration process that establishes the proper output levels for each channel (see page 13).

⓲ Surround Mode: Press this button to select a surround processing mode. Each press will cycle through the list of available modes. Select SURR OFF to turn all surround processing off and listen in a two channel stereo mode (see page 16).

⓳ Calibrate Speaker Select: Press these buttons to select the speaker being adjusted when using the Calibrate function (see page 13).

⓴ Calibrate Level Adjust: Press these buttons to adjust the centre or rear channel level when using the Calibrate function (see page 14).

㉑ RDS Seek: Press this button until the RDS indicator lights to seek only RDS stations or those of a specific "PTY" or programme type. Each press of the button will cycle through the list of PTY types, but beginning with ANY STN (any station is seeked) and RDS ONLY, where only RDS stations with any PTY are seeked (see page 19).

Installation and Configuration

System Component Connections

Your new Harman Kardon receiver is designed to provide the best reproduction from both movies and musical programmes. To assure that the unit operates to its fullest capability, it is important that you spend a few minutes to properly install and configure all of the elements in your new system. Some, or all of the following steps will apply to your system, depending on the equipment in use. If you have any questions concerning the installation of this product consult your local dealer, or contact the Harman Kardon web site at www.harmankardon.com

IMPORTANT SAFETY NOTE: Many products feature automatic turn on circuitry which may accidentally be activated when making connections. For your own safety and to prevent damage to speakers, amplifiers and other components we strongly recommend that all equipment power be turned off at the **Main Power Switch 1**, or that AC power cords be unplugged when any system connections are made or changed.

Using high-quality interconnect cables, connect all source components to the appropriate input jacks on the rear panel. When connecting audio recorders and VCRs it is important to make certain that the PLAY/OUT jacks on the recorders are connected to the **PLAY** jacks on the AVR41, and that the RECORD/IN jacks of the recorders are connected to the **REC** jacks on the AVR41. Note that the following Cinch-SCART adapters may be required when a VCR or TV without Cinch In/ Outputs is connected to the AVR41: Scart to Cinch A/V In/Outputs (6 lines) for recording VCRs, Scart to Cinch Outputs (3 lines) for VCRs only for playback and Cinch (3 lines) to Scart for TVs.

Assemble the supplied AM loop antenna as shown below and connect it to the **AM ANTENNA Terminals 24**.

AM LOOP ANTENNA SETTING

LEG

Stand and place it on a shelf, or hang it on a wall.
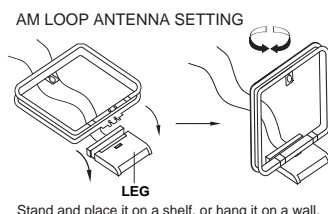
It may be necessary to rotate the antenna or change its position to achieve the best AM reception. Connect an FM antenna to the **FM ANTENNA Terminal 25**. The 300-ohm to 75-ohm adapter (included) is required for twin lead dipole antennae.

If you are using the AVR41 to switch video inputs, connect the **Monitor** output **10** to a video input on your TV or projector.

The rear panel accessory outlet **15** may be used to power a low current device such as a CD player or cassette deck. This outlet will receive power only when the AVR41 is turned on, so the product plugged into the outlet must have a mechanical power switch in order to turn on simultanously.

CAUTION: The power load for any device connected to the accessory outlet must not exceed 100 watts.

If the AVR41's front panel **remote sensor 37** is blocked by cabinet doors you may still operate the unit via remote control with the use of an optional external remote sensor. Connect the output of the sensor to the rear panel **REMOTE CONTROL Input 18**.

The AVR 41's remote sensor may be looped to other components by connecting the **REMOTE CONTROL Output 17** to the IR remote input jack of other compatible components by the black mini jack cables included.

Speaker Selection and Placement

Depending on the type of centre channel speaker in use and your viewing device, place the centre speaker directly above or below your TV.

Once the centre channel speaker is installed, position the left and right front speakers so that they are as far away from one another as the centre channel speaker is from the preferred listening position. Ideally, the front channel speakers should be placed so that their tweeters are no more than 60 cm higher or lower from the tweeter in the centre channel speaker. They should also be at least 0.5 meters from the TV set to avoid interference as the front speakers usually are not magnetically shielded.

Depending on the specifics of your room acoustics and the type of speakers in use, imaging may be improved by moving the front left and right speakers slightly forward of the centre channel speaker. If possible, adjust all front loudspeakers so that they are aimed at ear height when you are seated in the listening position.

Using these guidelines, you may find that it takes some experimentation to find the correct location for the front speakers in your particular installation. Don't be afraid to move things around until the system sounds correct. Optimize speaker locations so that pans across the front of the room sound smooth.

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Installation and Configuration

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Centre Speaker

No more than 60 cm

Left Front Speaker

Right Front Speaker
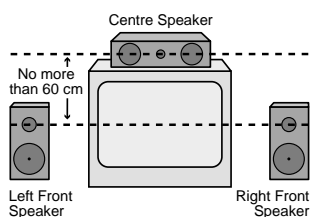
A) Front Channel Speaker Installation with Direct View TV Sets or Rear Screen Projectors

TV or Projection Screen

Left Front Speaker

Centre Speaker

Right Front Speaker

No more than 2 meters when rear-mounted speakers are used

Optional Rear Wall Mounting

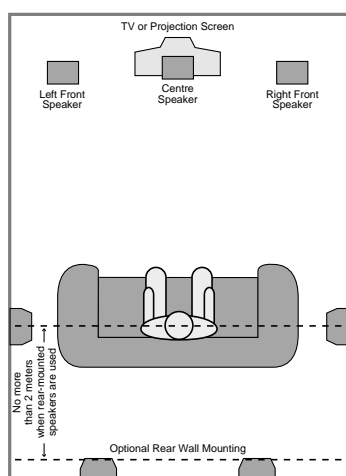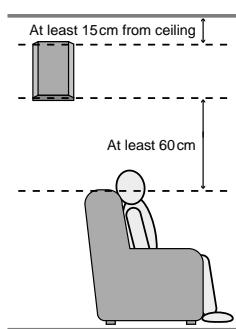*B) The distance between the left and right speakers should be equal to the distance from the seating position to the viewing screen. You may also experiment with placing the left and right speakers slightly forward of the centre speaker.*

At least 15cm from ceiling

At least 60 cm

Surround speakers should be placed on the side walls of the room, at or slightly behind the listening position. The speakers should be located so that the bottom of the cabinet is at least 60 cm higher than the listeners' ears when in the desired area.

If side wall mounting is not practical, the speakers may be placed on a rear wall, behind the listening position. Again, they should be located so that the bottom of the cabinet is at least 60 cm higher than the listeners' ears. The speakers should be no more than 2 meters behind the rear of the seating area.

Subwoofers produce virtually non-directional sound, so they may be placed almost anywhere in a room. Subwoofer placement is highly influenced by room size and shape, and the type of subwoofer used. Follow the instructions of the subwoofer's manufacturer, or experiment with the best location for a subwoofer in your listening room.

Speaker Connections

Once the speakers are positioned in the room connect them to the rear panel output terminals. For optimal reproduction we recommend the use of high quality speaker wire. Wire of 1.5mm² or greater is recommended for short runs (under 5 meters) and wire of 2.5mm² or greater is recommended for longer runs.

NOTE: Be certain to match positive (+) terminals on the AVR41 to the positive terminals on all speakers. While most speaker manufacturers observe the same red/black color code as the AVR41, some reverse the pattern.

To connect the **front** left, right and **centre** channel speakers twist the red or black terminal ❶ ⓭ ⓮ counterclockwise

until the V-shaped notch at the rear of the terminal is exposed. Insert the stripped end of the speaker wire through the notch and tighten the terminal.

IMPORTANT NOTE: To avoid a short circuit that will cause the receiver to shut down, make sure that the wires for one speaker do not touch any other.

To connect the **rear** speakers ⓫, hold the spring clips down and push the wire through the hole, making certain that the inner copper conductors do not separate. Release the clip to secure the connection.

For proper operation, it is essential that a speaker be connected to **BOTH** Rear Speaker ⓫ terminals. If only one rear speaker is connected, no sound will be heard. It is also important that the impedance of the rear speakers be no less than 4 ohms each.

Subwoofer connections are made using the **Subwoofer Outputs** ⓳. When using a powered subwoofer, connect **BOTH** the left and right subwoofer outputs to the respective left and right line level inputs on your subwoofer. The AVR41 subwoofer outputs are full range, so it may be necessary to adjust the crossover frequency on the subwoofer's control panel to properly match the subwoofer to your other speakers. Consult the subwoofer instructions or consult your dealer for additional information.

When using a single subwoofer and a separate mono power amplifier, the AVR41 subwoofer outputs must be combined using an optional "Y" adapter. If there is no crossover in the subwoofer an optional, external low pass filter or crossover system must be used.

Installation and Configuration

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External Amplifier Connections

The flexibility of the AVR41 permits you to use external power amplifiers in place of the unit's built-in amplifier. If an external five channel amplifier is used, remove the jumper pins connecting the **front left/right outputs** ⑳ and the **main amplifier inputs** ㉑. Connect all preamp output channels ⑳ ㉒ ㉓ to the appropriate input connections of your power amplifier. Remove the speaker wire connections from the receiver and connect them to the external amplifier. All other operation of the receiver remains normal.

NOTE: Although there are two outputs for the centre channel, both are identical.

It is also possible to use a higher power external amplifier for the two or all three front channels and use the AVR41's internal amplifier to power the surround channels. For this installation remove the jumper pin connecting the **front left/right outputs** ⑳ and the **main amp inputs** ㉑. Flip the pins so that the **rear outputs** ㉒ are connected to the main inputs.

Connect the front channel outputs ⑳ as shown above, with 3 channel amplifiers any of the **Center Pre Outs** ㉓ too, to the appropriate inputs of the external amplifier, and move the front channel speaker wire connections from the AVR41 to the power amplifier.

Finally, connect the rear channel speaker wires to the front left and right speaker outputs on the AVR41 ❶ ⓭, as shown on the accompanying diagram.

NOTE: When using an external amplifier for the front channels it is highly recommended that the same power be used for the left, centre and right channels.

NOTE EXTERNAL DECODES

When using an external 5 channel (option 1 above) or 3 channel (option 2) amplifier it is possible to accommodate external **5.1 Digital Audio Decoders** with cinch in/outputs for all channels (as f.e. the HK ADP 303). Connect it between all Preamp Outs ⑲ ⑳ ㉒ ㉓ of the AVR41 and the corresponding inputs of the external 5 channel amplifier (option 1) respectively of the 3 channel amplifier and the **Front Main Inputs** ㉑ used with the AVR41 (option 2). Reduce the Volume control of the AVR41 ㉖ and control the volume only with the decoder's control button, when playing any 5.1 source.
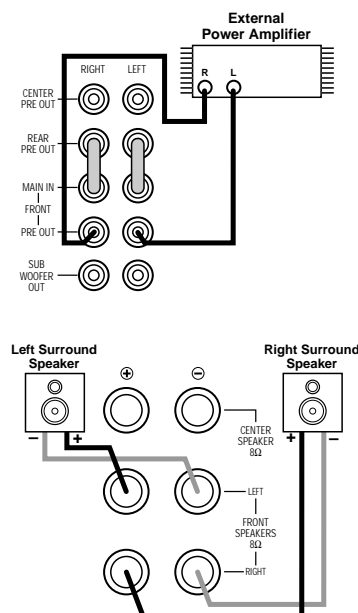
Speaker Configuration:

After speakers have been connected, you need to configure the unit so that it knows which type of speakers are installed. At this point it is neccessary to turn the AVR41 on by pressing the **Main Power Switch** ❶

and then the **System Power Control** ❷. The **Power Indicator** should glow green indicating that the unit is on.

Center Channel Mode

This setting enables you to tailor the output of the AVR41 to the type of centre channel speaker in use. Press the **Center** button ⓰ until the front panel display indicates the type of speaker used in your listening environment.

L G   C E N T R: Choose this setting if your centre speaker is a traditional full range model capable of extended bass response. Subwoofer output may be low in this mode.

S M   C E N T R: Choose this setting if your centre speaker is a smaller type with limited bass response. This is the mode used in most systems.

N O   C E N T R: Choose this setting if no centre speaker is installed.

Rear Channel Setting

This setting tells the AVR41 if rear channel speakers are in use. Press the **Rear** button ⓱ until the front panel display indicates the appropriate condition for your listening system.

R E A R: Choose this setting if rear channel speakers are installed.

N O   R E A R: Choose this setting if rear speakers are not in use.

Output Level Calibration

For proper operation in the surround modes it is important that the level from all channels be as close to one another as possible. A small amount of time spent to properly calibrate the AVR41's output levels will enable the unit to deliver all the performance it is capable of within the specific environment of your listening room.

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Installation and Configuration

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IMPORTANT NOTE: Many listeners are often confused about the operation of the rear (surround) channels. While some assume that sound should always be coming from each speaker, most of the time there will be little or no sound in the surround channels. This is because they are only used when a movie director or sound mixer specifically places sound there to create ambiance, an effect or to continue action from the front of the room to the rear. When the output levels are properly set it is normal for rear/surround speakers to operate only occasionally. Artificially increasing the volume to the rear speakers may destroy the illusion of an enveloping sound field that duplicates the way you hear sound in a movie theater or concert hall.

It is also important to note that the Dolby Pro Logic surround processing used in the rear channel is a single monaural feed, even though there are two speakers. The position of the speakers and the relationship of the level of sound in the rear channel and the front left or right channels creates the effect of directional sounds for the rear channels. Thus, when adjusting the rear channel there is only one, as opposed to two adjustments.

To begin the adjustment process make certain that all speaker connections have been made. Then set the system volume to the level that you will use during a typical listening session. Next, press the **Calibrate** button 🔳🔳 on the front panel or remote. Note that the front panel display will change to read L F (Left Front) although there will be no change to the system output.

NOTE: The **Balance** control 🔳 should be at the midpoint, or "12 O'clock" position when calibrating the system.

Press the **Calibrate** button 🔳 **on the remote** again and note that a test tone will be heard from the left front speaker. Press the **Speaker ▶** button 🔳 on the

remote and observe that the test noise will move first to the centre speaker, then to the front right speaker and then to the rear speakers as you press the button. This is a good opportunity to check for proper speaker connections by listening to the test noise and checking to see that it is coming from the speaker location indicated in the front panel display.

While seated at your preferred listening position, press the **Speaker ◀** or **▶** buttons 🔳 on the remote to return the test tone to the front left speaker and make any fine tuning to the volume setting using the **Volume** control 🔳. Next, press the **Speaker ▶** button 🔳 to move the test noise to the centre channel. Use the **Level +** or **Level -** buttons 🔳 so that the sound level appears identical to the left front channel.

Press the **Speaker ▶** button 🔳 again to listen to the front right channel for reference purposes, and then press the **Speaker ▶** button 🔳 so that the test noise moves to the rear channel. Use the **Level +** or **Level -** buttons 🔳 to adjust the volume level so that it appears identical to the other channels.

After making initial adjustments to the system it is a good idea to repeat the procedure again, switching the channels more quickly in order to hear and adjust for any differences between the channels. When the procedure is concluded the volume level from all channels should be as equal as possible.

To end the adjustment reduce the **Volume** control 🔳🔳 until the test noise is quite low and press any **Calibrate** button 🔳 🔳, or any input source selection button on the remote or front panel.

NOTE: It is also possible to adjust the channel levels while listening to any input source by pressing any **Calibrate** button

🔳 🔳 only once and adjusting the levels using the main **Volume** control 🔳🔳 and the **Level + -** buttons 🔳 to change the levels and the **SPKRS ◀ ▶** buttons 🔳 to change the channel being adjusted. During this procedure, however, all channels will be heard simultaneously.

Delay Setting

Delay time adjustment enables you to adjust the timing between signals at the front and surround channels.

The factory setting of 20 milliseconds is appropriate for most rooms, but an abundance of hard (reflective) surfaces such as windows and wood floors, or soft (absorbent) surfaces such as thick carpeting, acoustical tiles and some furnishings may create an unpleasant effect. These surfaces, in conjunction with the size of the room, the height of the ceiling and other design aspects may cause the arrival of surround channel sounds to become disconnected from front channel sounds.

To adjust the delay time press the **Delay** button 🔳 on the front panel several times until the time shown in the **Information Display** 🔳 is as close as possible to the result of the following formula.

1. Measure the distance from the listening position to the front speakers in meters.

2. Measure the distance from the listening position to the surround speakers in meters.

3. Subtract the distance to the rear speakers from the distance to the front speakers, add 5 and multiply the result by 3. That number is the ideal delay time in milliseconds for your room. For example, if the front speakers are 3 meters away and the rear speakers are 1 meter away, the formula will be "((3-1)+5)x3=21." Thus, the correct delay time in this room would be set at 20 milliseconds.

Operation

Basic Operation

Once you have completed the setup and installation of your new receiver, it is simple to operate and enjoy. The following instructions will provide the steps needed to enjoy the AVR41

• When using the AVR41 for the first time, it is necessary to press the **Main Power** button **1** on the front panel to turn the unit on. This places the unit in a standby mode, as indicated by the amber color of the **System Power Indicator 3** . Once the unit is in standby, you may begin a listening session by pressing the **System Power Control 2** on the front panel or the **Power** button **3** on the remote. Note that the **System Power Indicator 3** will turn green. This will turn the unit on and return it to the input source that was last used. The unit may also be turned on from standby by pressing any of the **Input Selector** buttons on the remote **4** or front panel **6 7 8 9 10 11** .

To turn the unit off at the end of a listening session simply press the **System Power Control 2** on the front panel or the **Power** button **3** on the remote. Power to any equipment plugged into the rear panel **Switched Outlet 15** will be shut off and the **System Power Indicator 3** will turn amber.

When these buttons **2 3** are used to turn the unit "off" there are actually placing the system in a standby mode, as indicated by the amber color of the power switch ring.

When you will be away from home for an extended period of time it is always a good idea to completely turn the unit off

using the front panel **Main Power Switch 1** . Note that all preset memories may get lost if the unit is left turned off totally for more than about two weeks.

• To select a source at any time, press any of the **Input Selector** buttons on the remote **4** or front panel **6 7 8 9 10 11** even if the unit is in the standby mode.

• When an audio source is selected the last video input used remains routed to the **Monitor** and **Video 1 Outputs 9 10** . This permits simultaneous viewing and listening to different sources.

• During a listening session you may wish to adjust the **Bass 12** and **Treble 13** controls to suit your listening tastes.

• At lower volume levels you may wish to engage the **Contour** button **25** . This boosts the low- and high-frequency sounds in accordance with what are known as the Fletcher-Munson hearing curves to compensate for the response of human hearing at low sound levels.

• Adjust the volume to a comfortable level using the front panel **Volume Control 26** or remote **Volume Up/Down 12** buttons .

• When both a centre channel speaker and the Pro Logic mode are in use, pressing the **Ctr. Boost** button **23 14** will increase the level to the centre channel speaker for improved dialogue intelligibility. If the soundtrack of a movie or broadcast seems to have a music track that overwhelms the

dialogue, the Centre Boost circuit may compensate for the problem.

• To temporarily silence all speaker outputs press the **Mute** button **13** on the remote. This will cut the output to all speakers, but it will not effect any recording or dubbing that may be in progress. When the system is muted the word MUTE will flash in the information display, and the **Volume/Mute Indicator 27** will flash to remind you that the system is muted. Press the **Mute 13** button again to return to normal operation.

• For private listening, plug the 6.3 mm stereo phone plug from a pair of stereo headphones into the front panel **Headphone** jack **4** and turn off any surround mode. To cut the output to the front left/right speakers when using the headphones press the **Speaker** button **5** on the front panel so that the button is in the extended position.

• When one of the **Video** inputs **11 4** is selected the video signal for that input will be routed to the **Monitor** output jack **10** and will be viewable on a TV monitor connected to the AVR41. Make certain that your TV is set to the proper input to view the signal.

• In some installations it may be desirable to dim or extinguish the front panel lights. This may be done by pressing the **Display** button **11 32** on the remote or front panel. The first press will dim the lights to one half normal brightness, and a second press will turn them totally off. Press the button again or any other button to return the lights to normal brightness (Further details, if CD is selected, see page 10, item 11).
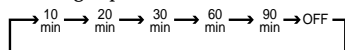
Operation

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Note that the **Power Indicator** and **Mute/Volume Indicator** will remain lit at all times as a reminder that the unit is turned on.

NOTE: When the FM tuner is selected, press the **Display** button several times to scroll through the RDS features until the word OFF is visible in the information display. Release the button when OFF appears and the display will extinguish in a few seconds. Press any button on the front panel or remote to re-light the display. Press and hold the **Display** button when in an FM mode to dim the display to half brightness.

• To programme the AVR41 for automatic turn off, press the **Sleep** button ❷ on the remote. Each press of the button will increase the time before shut down in the following sequence:

$$\rightarrow \frac{10}{min} \rightarrow \frac{20}{min} \rightarrow \frac{30}{min} \rightarrow \frac{60}{min} \rightarrow \frac{90}{min} \rightarrow OFF \rightarrow$$

When the programmed time has elapsed the unit will automatically turn off (to Stand By). Note that the front panel display will dim to one half brightness when the Sleep function is programmed. To cancel the Sleep function, press the **Sleep** button ❷ until the information display returns to normal brightness and the Sleep indicator numbers disappear.

Surround Mode Options

The AVR41 offers a choice of surround modes. To select a surround mode press the **Surround** button 22 ⓫ on the front panel or remote. The choice of which surround mode to use is influenced by the type of programme material being played and the specifics of your listening room setup.

Surround sound processing enables four separate audio signals to be transmitted within the left and right channels of any

stereo source, such as stereo videocassette, radio or TV broadcast, CD or video disc (LD/DVD). Through a process known as matrix encoding a separate centre channel signal for dialogue and a surround channel for effects are encoded into the stereo signal. When you see the Dolby Surround, Dolby Stereo, DTS Stereo or other similar logos on a movie or broadcast this indicates that the programme has surround information.

NOTE: Most movies made since 1980 have surround information even without further indication by the broadcaster or your Program guide.

When the programme you are listening to has such encoded surround information, select the **Pro Logic** mode using the **Surround** button 22 ⓮.

An additional surround option is the **Phantom** mode, which uses the Pro Logic decoding circuits, but does not send any information to the centre channel. In this mode the centre channel information is sent to the front left/right speakers, making it usefull for systems with no center speaker.

If you are listening to a conventional two channel stereo programme or recording you may wish to use the **Hall** mode. Although these programmes do not have any intentional surround encoding information, they do contain natural ambiance information that the AVR41 can process to create rear channel information. The Hall mode uses the left and right front speakers, but not the centre channel, while a specially processed sound is sent to the rear channels. Depending on the specific programme the **Pro Logic** or **Phantom** mode may provide a pleasing sound presentation from stereo programmes too.

Note that the surround modes available will vary according to speaker selection (see page 13). When NO CENTR is selected, only **Hall** and **Phantom** modes may be used, as **Pro Logic** requires a centre channel speaker. When NO REAR is selected only the **Pro Logic** mode is available, a mode called **Dolby 3 Stereo** sometimes.

• For true two-channel stereo listening press the **Surround** button 22 ⓫ until SURR OFF appears in the information display for 3 seconds.

• The AVR41 is equipped with a memory system that permits a different surround mode to be used with each of the input sources. You may select the mode that is most appropriate to each source, such as **Pro Logic** for a VCR or disc player connected to a Video input, **Hall** for the CD input and **Surround Off** for the Tuner. When you select an input again for a subsequent listening session the system will automatically change to your preferred surround mode for that input.

Wrap Circuitry

The AVR41 contains Harman Kardon's exclusive **Wrap** circuits, which may be used to increase the feeling of spaciousness in a listening room. A simple explanation of the wrap circuits is to think of them as moving your listening position closer to or further from the stage or screen. The more Wrap you add the further away you "move" the sense of your seat position from the screen and the room will be opened. This may add effective spaciousness particulary to recordings with less surround information. The less Wrap you add, the closer you appear to be to the screen or performance, the more the spaciousness is reduced and (above of the "REF" position, see page 17) the stereo separation too.

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Based on Harman International's years of research into surround sound technology, the Wrap circuits take advantage of advances developed by noted surround sound designer Jim Fosgate. Wrap differs from conventional surround effect controls in that it blends carefully controlled amounts of uncorrelated front channel signal into the surround channel in response to frequency, level and phase changes.

To use the Wrap circuits, the AVR41 must first be placed in the Pro Logic or Phantom mode by pressing the **Surround** button 22 18 until the correct mode name appears in the front panel display. Note that in these modes the **Wrap Indicator** 29 on the front panel will illuminate.

To adjust the degree of Wrap in use, press the **Wrap** buttons 28 15 until the spaciousness is to your liking. The changes in the **Wrap Indicator** provide a visual reference of the amount of Wrap that is applied.

Note that there is no "right" or "wrong" setting for the Wrap circuits. Experiment and find the setting that sounds best. For example, you may want to increase the wrap for a sporting event or concert recorded in a large concert hall, while you may wish to decrease it for intimate chamber music presentations.

To some ears the impact of the wrap circuit may seem subtle, and this is normal. Remember that how audible the wrap effect will be varies with the acoustics of your listening room, the system volume and the type of programme material.

Note that the Wrap circuit is not in use when the **Wrap Indicator** 29 displays the two lights connected by the REF bar only (and possibly the one on top).

When the **Wrap** buttons 28 15 are pressed when the AVR41 is in the **Hall** mode, the circuits are adjusting a controlled amount of level into the rear channels. The amount of this change will be indicated in the **Information Display** by numbers in "dB". Thus, even in the **Hall** mode, you can optimize the surround effect in reference to your room, the source material and your personal favour..

Ref
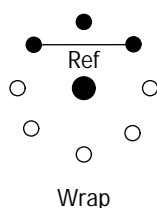
Wrap

A) When the Wrap indicator appears in the "Reference" position (including the upper LED or not), the special Wrap circuits are not being used and the unit is in the pure Pro Logic or Phantom mode.

Ref
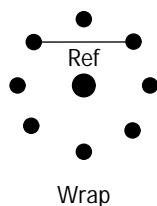
Wrap

B) This display appears when the maximum Wrap is applied.

Ref

Wrap
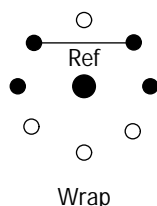
C) The top LED will not light in the Phantom mode or when a centre channel speaker is not installed.

Tuner Operation

The AVR41 is capable of tuning AM, FM and FM Stereo stations. They may be tuned manually or automatically, or stored as a favorite station recalled from a 30 preset memory. In addition, the AVR41 features RDS, which enables you to use special data transmitted by many FM stations to identify a programme, search for a particular programme type or display Radiotext or the time.

Station Selection

1. Press the **AM/FM** button 6 4 to select the tuner as an input.

2. Press the **AM/FM** button 6 4 again to switch between AM and FM so that the desired frequency band is selected.

3. Press the **Tuning Mode** button 31 to select manual, automatic or RDS only (see page 18) tuning.

When the AUTO indicator, but not the RDS indicator, is illuminated the tuner will automatically search those stations that have a strong enough signal to be received with acceptable quality. Stations with a lower signal strength will be muted if tuned manually, do NOT open the volume too much in this case.

If the AUTO indicator is NOT illuminated, the tuner is in a manual tuning mode and will stop at each frequency increment without any muting. All stations will be received in Mono mode only.

4. To select stations from the front panel press the **Tuning** button 24. When the AUTO indicator , but not the RDS indicator, is illuminated each press will cause the tuner to search for the next station that has an acceptable signal. To tune to the next station, press the button again.

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If the AUTO indicator is NOT illuminated, tap the **Tuning** button 🎛 to advance one frequency increment at a time, or press and hold it to locate a specific frequency. When the TUNED indicator illuminates, the station is properly tuned and should be heard with clarity. To listen to the station in stereo, press the **Tuning Mode** button 🎛 until the red STEREO indicator illuminates in the front panel display. If the STEREO indicator does not light, although AUTO is on the station is broadcasting in mono.

5. To select stations using the remote, press the **Manual Tune ▶▶/◀◀** buttons ❽ to select frequencies one at a time, no matter about the selected Tuning mode. After an FM station is selected and if the AUTO indicator is not lit, the **Tuning Mode** button 🎛 must be pressed once to receive the station in stereo, when available. Alternatively, the **Automatic Tune ▶▶I/I◀◀** buttons ❾ may be used to scan only those stations with sufficient strength for proper reception, no matter if the AUTO indicator is lit or not. If RDS Seek is engaged these buttons will start the seek for specific RDS stations (see page 19).

NOTE: When FM stereo reception is weak, audio quality may be increased by switching to mono mode by pressing the **Tuning Mode** button 🎛 until the STEREO indicator goes out.

NOTE: When an FM station transmitting RDS data is tuned the AVR41 will automatically display the station name respectively its program service (PS) that can be any additional information. Press the **Display** button ⓫🎛 repeatedly to view the frequency or other RDS information (see page 19).

Preset Tuning
Up to 30 stations may be stored in the AVR41's memory for easy recall using the front panel controls or the remote.

To enter a station to the memory, first tune the station using the steps outlined above. Then:

1. Press the **Memory** button 🎛 on the front panel. Note that the MEM indicator will illuminate and flash in the information display.

2. Within five seconds, press the **Numeric Buttons** 🎛 corresponding to the location where you wish to store this station's frequency. For two-digit locations, such as 10-29, be certain to enter the second digit within two seconds of pressing the first number (while MEM is still flashing). To enter a station to memory location "30," press only the ❶ button.

3. The selected preset number will light up in the information display just below the word "PRESET".

Recalling Preset Stations
• To manually select a station previously entered in the preset memory, press the **Numeric Buttons** 🎛 corresponding to the desired station's location as shown in item 2 above.

• To manually tune through the list of stored preset stations one by one, press the **Preset/Disc Skip ◀ ▶** buttons ❺ on the remote. Press and hold the buttons to skip through the preset stations.

• To automatically scan through the stations entered in the preset memory, press the **P·Scan** button 🎛 on the front

panel or the **Scan** button ⓰ on the remote. The tuner will run through the list of preset stations, stopping for five seconds at each one. Press the **P·Scan** or **Scan** button again to stop the scan at your desired station.

RDS Operation
Your AVR41 is equipped with RDS (Radio Data System), which brings a wide range of information to FM radio. Now in use in many countries, RDS is a system for transmitting station call signs or network information, a description of station programme type, text messages about the station or specifics of a musical selection and the correct time.

As more FM stations become equipped with RDS capabilities, the AVR41 will serve as an easy-to-use centre for both information and entertainment. This section will help you take maximum advantage of the RDS system.

RDS Tuning
When an FM station is tuned in and it contains RDS data, the AVR41 will automatically display the station's call sign (with some private stations other text between too). To tune only stations broadcasting RDS data, press the **Tuning Mode** button 🎛 until the RDS indicator illuminates in the front panel display or the **RDS Seek** button 🎛 🎛 until the display reads RDS ONLY for 10 seconds. Press the **Tuning** buttons 🎛 on the front panel or ▶▶I/I◀◀ ❾ on the remote, the display briefly will read RDS ONLY to advance to the next station transmitting RDS data. A few seconds after this RDS station is tuned its station name or programme service information will be displayed.

Operation

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Programme Search (PTY)
A major benefit of RDS is it's ability to encode broadcasts with Programme Type (PTY) codes that indicate the type of material being broadcast. The following list shows the abbreviation used to indicate each PTY in the front panel information display along with an explanation of the PTY:

- NEWS: News Broadcasts

- AFFAIRS: Political and current events

- INFO: General information, financial and trading news, medical conference and weather information

- SPORT: Sporting Events

- EDUCATE: Scholastic and industrial education programmes

- DRAMA: Plays and literature performances

- CULTURE: Cultural, religion and community programmes

- SCIENCE: Scientific and technical programmes

- VARIED: Entertainment

- POP M: Popular Music

- ROCK M: Rock Music

- MOR M: Middle of the Road Music

- LIGHT M: Light Classical Music

- CLASSICS: Serious Classical Music

- OTHER M: Other types of musical programmes. i.e. Jazz, Reggae, Rap, etc.

- ALARM: Emergency Warnings

- TRAFFIC: Traffic Information and Road Conditions

The AVR41 allows you to scan for a specific PTY by using the following steps:

1. Press (or hold pressed) the **RDS Seek** button **㉑㉞** until the desired PTY category appears in the front panel display, it will remain for 10 seconds. To scan for any station broadcasting RDS data press the button until R D S O N L Y appears in the display. You can return to the beginning of the PTY loop at any time by simply pressing the **Tuning mode** button **㉛** once.

2. Press **Tuning ㉔** or ▶▶❙ / ❙◀◀ **❾** and the tuner will scan through all FM stations and only stop when it reaches a station with a PTY code that matches the desired type.

- A PTY choice remains selected for any RDS Seek under all conditions unless another choice is made or RDS Seek is turned off by pressing the **Tuning Mode** button **㉛**. Pressing the **RDS Seek** button **㉞ ㉑** briefly will indicate any selected PTY for 10 seconds, pressing the **Tuning** buttons **㉔ ❾** will display the selected PTY briefly as reminder and start the PTY Seek afterwards.

- If no station matching the selected PTY choice was found after a complete search of all FM stations the display will report N O N E and return to its former indication.

- If the unit is not in the RDS Seek mode (small RDS flag is not on) when the **RDS Seek** button **㉞ ㉑** is pressed once, the display will indicate A N Y S T N to remind you that all stations will be searched, even if they are not transmitting RDS data.

- When TRAFFIC is selected as the PTY search criteria, the unit will seek all stations transmitting traffic information, even if they are not broadcasting that data at the time the search is made. Traffic is not displayed as a PTY when the **DISPLAY** button is pressed as it is not a true PTY, but part of the station's RDS code.

RDS Display Options
The RDS system is capable of transmitting a wide variety of information. In normal RDS operation the display will indicate the station name, call letters or other program service (PS). Pressing the **Display** button **㉜⓫** enables you to cycle through the various data types in the following sequence:

1. The station's frequency (this is not RDS data.)

2. The Programme Type (PTY) as shown on the above list.

3. A "text" message containing special information from the broadcast station. Note that this message scrolls across the display to permit messages longer than the eight positions in the display. Depending on signal quality it may take up to 30 seconds for the text message to appear. During that time the word T E X T will blink in the display until the tuner receives the entire text message.

4. The current time as transmitted by the station. It may take up to two minutes for the time to appear.

5. After cycling through the RDS data information the next press of the **Display** button is OFF. If the button is not pressed again in 3 seconds, the display will turn off. Press **Display** one more time or any other button to return to the main RDS information display or to turn the display back on.

• Some RDS stations may not choose to include some of these additional features. If the data required for the selected mode is not being transmitted, the display will show a NONE (no PTY), NO TEXT or NO TIME message each time the Display button 32 ⓫ is pressed.

• In any FM mode the RDS function requires a strong enough signal for proper operation. If you see wrong characters in the station name, changing from time to time, or the messages NO TEXT or NO TIME switching on and off, try slowly adjusting the antenna to improve the signal strength or tune to another, stronger, RDS station.

• If a station is not transmitting RDS, or if the signal is weak, the display will show NO RDS right befor the other "NO" messages mentioned above, if **Display** 32 ⓫ is pressed.

Tape Recording

In normal operation, the audio or video source selected for listening through the AVR41 is sent to the record outputs. This means that any program you are watching or listening to may be recorded simply by placing machines connected to the outputs for **Tape 1** ❻, **Tape 2** ❹ or **Video 1** ❾ in the record mode.

When a tape recorder with separate record and playback heads (3 head deck) is connected to the **Tape 1 Mon** in/ outputs ❺❻, you may monitor the output of the recording by selecting the **Tape 1/Monitor** input ❽❹. Note that the word MONITOR will briefly appear in the front panel display to remind you that you are listening to the record playback instead of the actual input source being recorded. After three seconds the display will once again display the selected input source, but the red TAPE M indicator will remain illuminated to remind you that you are listening to the record playback rather than the direct input source.

When a video recording is made and audio source is selected, the last video source used remains routed to the **Monitor** and **Video 1** outputs ❾❿. This permits simultanous viewing, listening and recording of different A/V sources

Video Dubbing

Special circuits in the AVR41 make it possible to copy the programme from one video source to another while you are viewing/listening to a separate and different input. When making a video dub note that the VCR connected to **Video 1** ❾ will always be the record machine, and the playback source will be either the equipment connected to the **Video 2** input ❼ or the front panel **Video 3** 🔢.

To make a video copy, simply press the front panel **Video Dubbing** button 35 36 corresponding to the video source being played back. It is not necessary to press the **Input Selection** buttons when making a direct video dub. The information display will briefly show VID2 > 1 or VID3 > 1 to confirm the dubbing operation. After the display returns to show the current input source for the main system, a red indicator will illuminate inside the **Video Dubbing** button to remind you that a Video Dub is in process. To turn the video dubbing off, simply press the same **Video Dubbing** button again.

Troubleshooting

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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 Dealer or Service Center.

If the problem is...	Make sure that the...
No lights illuminate when POWER button is pressed	Unit is plugged into a live outlet Main power switch is pressed in
No sound is heard	Unit has not been muted Correct input function selector button has been pressed Volume is turned up
Dolby Surround does not work on center and rear channels	Correct surround mode is selected Center and/or rear speakers are selected Rear and center levels are turned up You are using a surround encoded source
Selecting a Video source produces sound but no picture	Monitor output is connected to the video input on TV
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 cables
No center channel output	Center channel speaker is connected properly Phantom or Hall mode is not active Unit is in the Pro Logic mode Center channel level is properly adjusted Center speaker LARGE or SMALL mode is selected
Tuner sound has a large amount of interference, or The "Stereo" display is not illuminated, or Tuner sound distorts and/or is noisy	Antenna is properly connected Antenna is properly located Antenna is set in the proper direction Antenna is adequate to receive the desired station
Tuner is intermittent or continuously buzzing or hissing	Unit is away from fluorescent lights, motors and other electrical appliances
Stations cannot be preset	Memory button has been pressed and the MEM indicator blinks before numbers are pressed

Technical Specifications
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Stereo Mode

Continuous Average Power Per Channel (FTC)

65 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: 55 Watts from 20Hz-20kHz	@<0.3% THD both channels driven into 8 ohms
Center channel: 55 Watts at 1kHz	@<0.3% THD driven into 8 ohms
Rear channels: 2 x 27.5 Watts at 1kHz:	@<0.7% THD both channels driven into 4 ohms

Amplifier Section

High-Instantaneous Current Capability (HCC):	±35Amps
Frequency Response @1W (+0/-3dB):	0.5Hz-150kHz
Rise Time:	3.0µSec
Transient Intermodulation Distortion (TIM):	Unmeasurable

Signal-to-Noise Ratio (ref. 65 Watts, A-Wtd)

Video, CD:	95dB

Input Sensitivity/Impedance

Video, CD, Tape:	200mV/32kΩ

Tone Control Range

Bass @ 50Hz:	±10dB
Treble @ 10kHz:	±10dB

Tuner Section: FM

Usable Sensitivity, Mono :	11.2dBf (1µV/75 ohms)
50dB Quieting Sensitivity, Stereo :	41dBf (31µV/75 ohms)
Signal-to-Noise Ratio (IHF) @ 65dBf, mono/stereo:	76dB/71dB
Capture Ratio:	1.5dB
Selectivity, 300kHz	>65dB
IF Rejection:	110dB
AM Rejection @ 45dBf:	55dB
Stereo Separation @ 1kHz, 65dBf:	42dB
THD @ 1kHz, 65dBf, mono/stereo :	0.2/0.4%

Tuner Section: AM

Sensitivity, External Antenna:	500µV/m
Selectivity, 9kHz:	>25dB
Image Rejection:	>30dB
IF Rejection:	55dB

General

Dimensions (WxHxD):	440 x 157 x 420 mm
Weight :	12.3kgs
Power Requirement:	AC 230V/50Hz
Power Consumption:	580 Watts Max

Depth measurement includes knobs, buttons and terminals, Height includes feet.

All features and specifications are subject to change without notice.

Notes
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ENGLISH

Staple or clip original invoice here. ▼

Declaration of Conformity

$C \epsilon$

We, Harman Marketing Europe A/S
Kongevejen 194B
DK-3460 Birkerød
DENMARK

declare in own responsibility, that the product described
in this owner's manual is in compliance with technical
standards:

EN 55 013/8.1994

EN 55 020/12.1994

EN 60 065/1994

EN 61 000-3-2/4.1995

EN 61 000-3-3/1.1995

Steen Michaelsen
Harman Marketing Europe A/S
Birkerød. DENMARK. 7/97