

# AVM 30

OPERATING MANUAL

ANHEM™



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SOFTWARE VERSION 1.1x



BREAKING THE SOUND BARRIER™

# SAFETY PRECAUTIONS

READ THIS SECTION CAREFULLY BEFORE PROCEEDING!

	<b>WARNING</b> RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		



The lightning flash with arrowpoint within an equilateral triangle warns of 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 warns users of 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 PRODUCT TO RAIN OR MOISTURE.

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

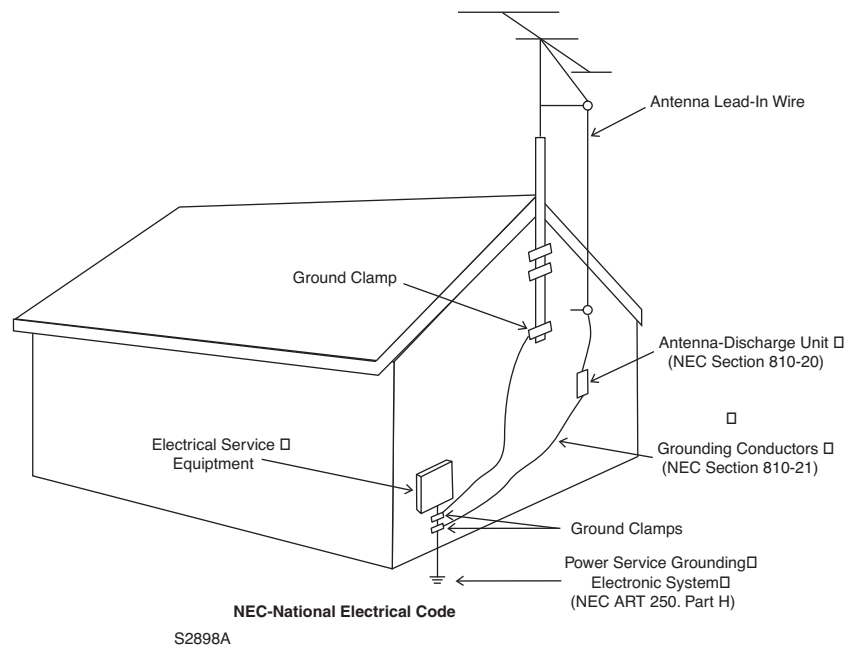
**CAUTION:** FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE THE FUSE ONLY WITH THE SAME AMPERAGE AND VOLTAGE TYPE. REFER REPLACEMENT TO QUALIFIED SERVICE PERSONNEL.

**WARNING:** UNIT MAY BECOME HOT. ALWAYS PROVIDE ADEQUATE VENTILATION TO ALLOW FOR COOLING. DO NOT PLACE NEAR A HEAT SOURCE, OR IN SPACES THAT CAN RESTRICT VENTILATION.

## IMPORTANT SAFETY INSTRUCTIONS

- 1. Read Instructions** – All the safety and operating instructions should be read before the product is operated.
- 2. Retain Instructions** – The safety and operating instructions should be retained for future reference.
- 3. Heed Warnings** – All warnings on the product and in the operating instructions should be adhered to.
- 4. Follow Instructions** – All operating and use instructions should be followed.
- 5. Cleaning** – Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp, soft cloth for cleaning.
- 6. Water and Moisture** – Do not use this product near water – for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
- 7. Accessories** – Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow manufacturer’s instructions, and should use a mounting accessory recommended by the manufacturer.

8. **Ventilation** – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
9. **Power Sources** – This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
10. **Grounding and Polarization** – This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
11. **Power-cord Protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
12. **Outdoor Antenna Grounding** – If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to the proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.



13. **Lightning** – For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable systems. This will prevent damage to the product due to lightning and power-line surges.
14. **Power Lines** – An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
15. **Overloading** – Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

- 16. Object and Liquid Entry** – Never push objects of any kind through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on this product. This product shall not be exposed to dripping or splashing. No objects filled with liquids such as vases shall be placed on this product.
- 17. Servicing** – Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- 18. Damage Requiring Service** – Unplug this product from the wall outlet and refer servicing to qualified personnel under the following conditions:
- When power-supply cord or plug is damaged.
  - If liquid has been spilled, or objects have fallen into the product.
  - If the product has been exposed to rain or water.
  - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will require extensive work by a qualified technician to restore the product to its normal operation.
  - If the product has been dropped or damaged in any way.
  - If the product exhibits a distinct change in performance – this indicates a need for service.
- 19. Replacement Parts** – When replacement parts are required, be sure the technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- 20. Safety Check** – Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
- 21. Heat** – The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.



**RECYCLING AND REUSE GUIDELINES (Europe)**

In accordance with the European Union WEEE (Waste Electrical and Electronic Equipment) directive effective August 13, 2005, we would like to notify you that this product may contain regulated materials which, upon disposal, require special reuse and recycling processing. For this reason Paradigm Electronics Inc. (the manufacturer of Paradigm speakers and Anthem electronic products) has arranged with its distributors in European Union member nations to collect and recycle this product at no cost to you. To find your local distributor please contact the dealer from whom you purchased this product or go to our website at [www.paradigm.com](http://www.paradigm.com).

Please note that only the product falls under the WEEE directive. When disposing of packaging and other shipping material we encourage you to recycle through the normal channels.

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# 1. INTRODUCTION

## Thank you for purchasing the Anthem AVM 30.

The AVM 30 is a cutting-edge home theater audio processor with video switching, independent multizone capabilities, and FM/AM tuner. Anthem products are engineered to recreate the passion of a live musical performance and thrill of the very best movie theaters by using the highest level of circuit design, proprietary software, superior build quality, innovative features, and intuitive ergonomics with tremendous flexibility.

### 1.1 BEFORE OPERATING YOUR AVM 30

Check that you have received everything in the Packing List below and report any discrepancies to your dealer as soon as possible. Retain all packing materials and use them for any future shipment.

#### Packing List:

- AVM 30
- Remote Control
- 2 'AA' Batteries
- FM Antenna
- FM Antenna Adapter
- AM Loop Antenna
- IR Terminal Block (on rear panel)
- Power Cord
- Operating Manual

**Keep the invoice that you received from your authorized Anthem dealer at time of purchase – without it, service will not be provided under warranty.**

#### Safety Instructions:



- Read all safety precautions and instructions at the beginning of this manual.
- Do not connect power if there are any signs of damage to any part of the exterior.
- The Front Panel power buttons and the Rear Panel AC switch do not disconnect the product from the AC line. Ensure that the power cord remains readily accessible at all times.
- To connect power, only use the supplied double-insulated power cord.
- Allow adequate ventilation to ensure reliable operation and to prevent overheating. The amount of space required above the unit for radiation depends on ambient air temperature and circulation. Installation inside a cabinet with a front that can be closed is not recommended unless a fan is also installed to adequately draw air away from the top of the unit.
- Failing to comply with any safety instruction, precaution, or warning in this Operating Manual is in direct violation of the standards of design, manufacture, and intended use of the product.
- Anthem, Sonic Frontiers International, our agents, and any related party assume no liability whatsoever for the user's failure to comply with any of these requirements.

### 1.2 POWER REQUIREMENTS

In countries where the line voltage is 120V, this product (low voltage version) operates from a single phase AC power source that supplies between 108V and 132V at a frequency of 60 Hz.

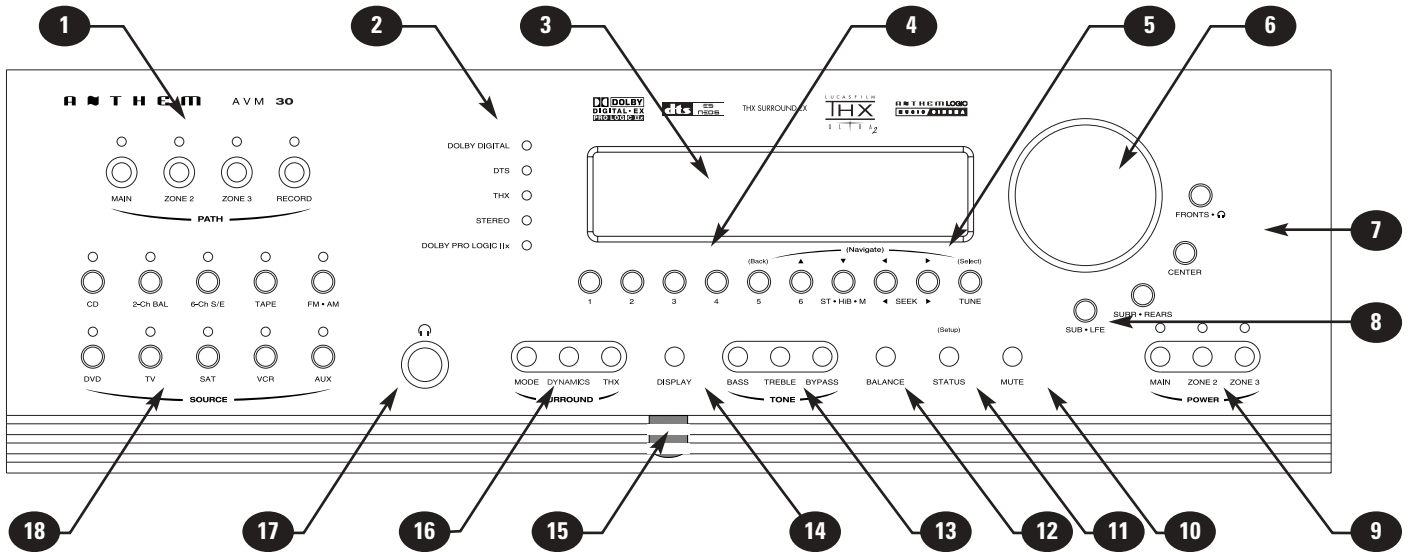
In countries where the line voltage is 220, 230, or 240V, this product (high voltage version) operates from a single phase AC power source that supplies between 216V and 264V at a frequency of 50 or 60 Hz.

### 1.3 IN-USE NOTICES

- Disconnect the power cord before connecting or disconnecting any components.
- Do not remove the top cover.
- Do not modify the product.

# 1. INTRODUCTION continued ...

## 1.4 FRONT PANEL



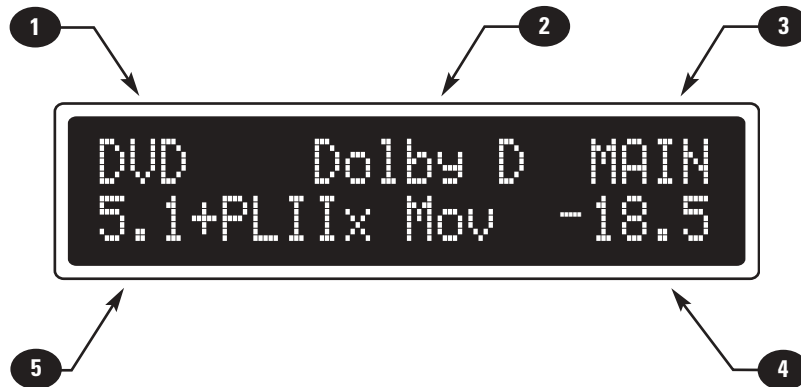
- |   |   |
|---|---|
| <p>1 – Path selection</p> <p>2 – Mode / Surround Decoder indicators</p> <p>3 – Display</p> <p>4 – FM•AM Preset selection</p> <p>5 – FM•AM Tuning / Setup navigation</p> <p>6 – Master Control Knob</p> <ul style="list-style-type: none"> <li>• <u>Volume</u></li> <li>• <u>Tune</u> for FM•AM</li> <li>• <u>Setting Adjustment</u> for Mode, DD Dynamics, THX Options, Surround Mode Level / Bass / Treble / Balance, Path Bass / Treble / Balance, Display Brightness</li> <li>• <u>Setup Adjustment</u> for Letters, Numbers, and Times</li> </ul> | <p>7 – Surround Mode / Headphone settings for Level / Bass / Treble / Balance</p> <p>8 – Subwoofer / LFE Level settings</p> <p>9 – Power On / Stand-By (MAIN / ZONE2 / ZONE3)</p> <p>10 – Mute</p> <p>11 – Status review / Setup (press and hold for 3 seconds)</p> <p>12 – Balance setting</p> <p>13 – Bass / Treble settings</p> <p>14 – LED / Display Brightness setting (see section 3.10)</p> <p>15 – Front Panel Remote Control IR Sensor</p> <p>16 – Surround Mode / Dynamics / THX Options settings</p> <p>17 – Headphone Jack</p> <p>18 – Source selection</p> |
|---|---|

For a larger diagram, see inside back cover.

# 1. INTRODUCTION continued ...

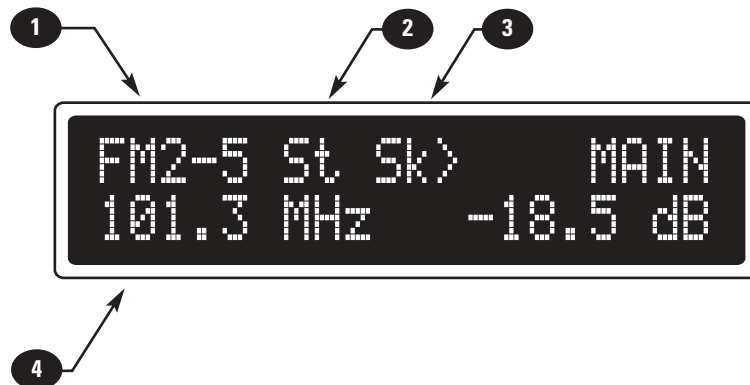
## 1.5 FRONT PANEL DISPLAY

### MAIN Display Example:



- 1 – Source selection.
- 2 – Audio Input Format or Sleep indication if engaged.
- 3 – Path that the information on the display refers to.
- 4 – Volume.
- 5 – Surround Mode.

### FM•AM Display Example:



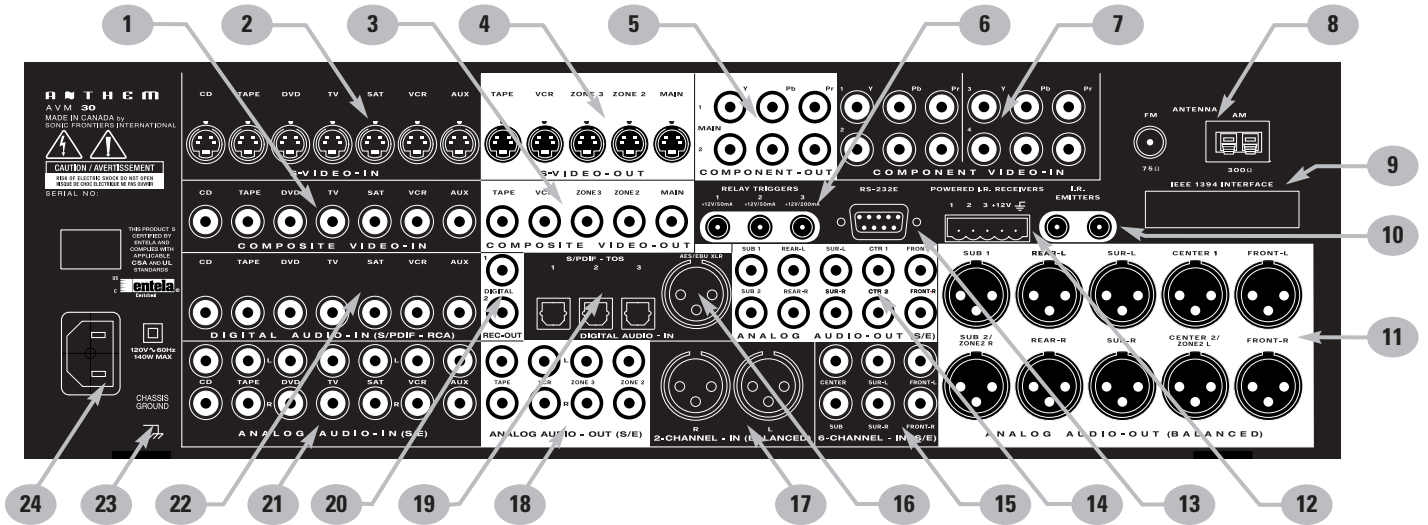
- 1 – Band+Bank+Preset. The tuner has three FM banks (FM1, FM2, and FM3) and one AM bank.
- 2 – FM mode. Displays “St” when in stereo, “HB” when in Hi-Blend, or “Mn” when in mono.
- 3 – Seek and scan indications.
- 4 – Currently tuned FM•AM frequency to the nearest 0.1 MHz for FM and to nearest 10 kHz for AM.

### If changes take place simultaneously in different Paths, the hierarchy of the display info is:

- i) Volume changes, ii) Front Panel activity, iii) MAIN, iv) ZONE2, v) ZONE3, vi) RECORD, vii) HEADPHONE.

# 1. INTRODUCTION continued ...

## 1.6 REAR PANEL



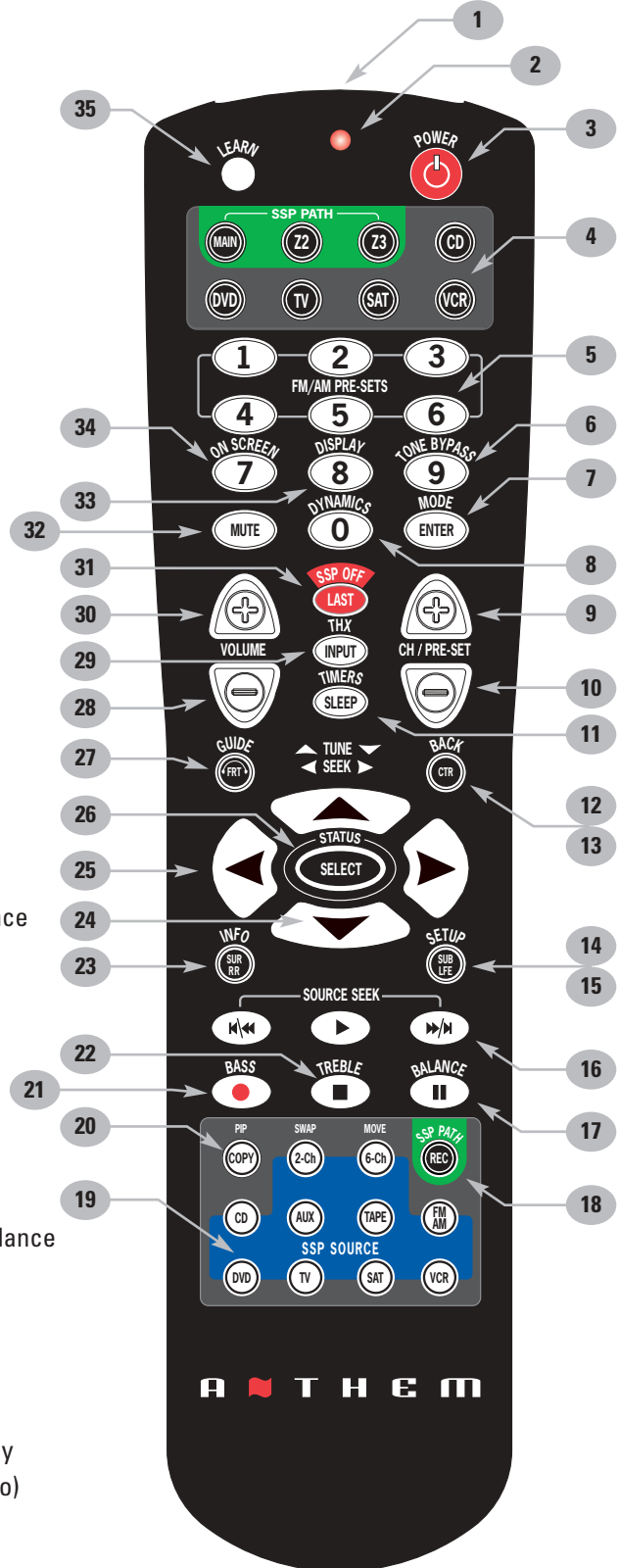
- |  |   |
|--|---|
| 1 – 7 composite video inputs                           | 13 – RS-232 interface (bidirectional)           |
| 2 – 7 S-Video inputs                                   | 14 – Main audio output (10 jacks)               |
| 3 – 5 composite video outputs                          | 15 – 6-channel analog audio input               |
| 4 – 5 S-Video outputs                                  | 16 – AES/EBU digital audio input                |
| 5 – 2 component video outputs (3 jacks/ea)             | 17 – Analog audio balanced L/R input            |
| 6 – 3 12 Volt trigger outputs                          | 18 – ZONE2, ZONE3, and REC analog audio outputs |
| 7 – 4 component video inputs (3 jacks/ea)              | 19 – 3 optical digital audio inputs             |
| 8 – FM and AM antenna connections                      | 20 – 2 digital audio REC outputs                |
| 9 – Expansion port                                     | 21 – 7 analog audio L/R inputs                  |
| 10 – 2 I.R. emitters                                   | 22 – 7 digital audio coaxial inputs             |
| 11 – Main audio output (10 balanced jacks)             | 23 – Ground terminal                            |
| 12 – 3 Infra Red (IR) extension inputs with 12V supply | 24 – Power cord connection                      |

For a larger diagram, see inside back cover.

# 1. INTRODUCTION continued ...

## 1.7 REMOTE CONTROL

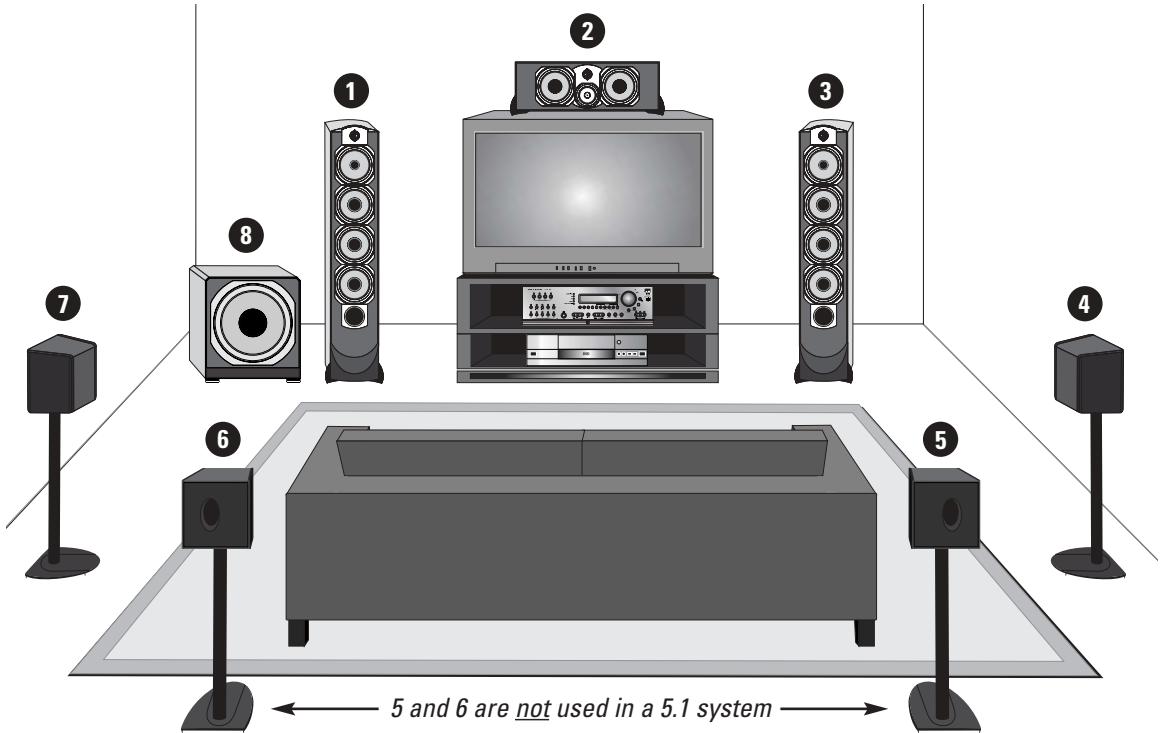
- 1 – IR Transmitter (front face)
  - 2 – LED
  - 3 – Power ON for MAIN, ZONE2, and ZONE3 control modes  
Power ON/OFF for other control modes (see #4)  
**This key does not turn the AVM 30 off (see #31)**
  - 4 – Control mode (to control other components)  
**These are not the source selection keys (see #19)**
  - 5 – FM•AM Preset setting and selection
  - 6 – Tone Bypass
  - 7 – Surround Mode
  - 8 – Dynamics setting
  - 9 – FM•AM Preset Up
  - 10 – FM•AM Preset Down
  - 11 – Sleep Timer selection / Timers setting
  - 12 – Center Channel selection for Level / Bass / Treble
  - 13 – Back (for Setup)
  - 14 – Subwoofer / LFE selection for Level
  - 15 – Setup (Press & Hold for 3 seconds)
  - 16 – Source Seek
  - 17 – Balance
  - 18 – RECORD Path selection (Must be in MAIN – see #4)
  - 19 – Source selection
  - 20 – Copy MAIN when ZONE2, ZONE3, or RECORD is selected
  - 21 – Bass selection
  - 22 – Treble selection
  - 23 – Surrounds / Rears selection for Level / Bass / Treble / Balance
  - 24 – **◀** • Tune for FM•AM  
• Adjustment for Surround Mode, Dynamics, THX, Levels, Bass / Treble, Timers, Display Brightness  
• Navigation for Setup
  - 25 – **▶** • Seek for FM•AM  
• Adjustment for Balance  
• Navigation for Setup
  - 26 – Status / FM•AM Direct Entry / Setup selection
  - 27 – Fronts / Headphones selection for Level / Bass / Treble / Balance
  - 28 – Volume Down
  - 29 – THX selection
  - 30 – Volume Up
  - 31 – Power OFF when in MAIN, ZONE2, or ZONE3 control mode
  - 32 – Mute
  - 33 – Front Panel LED / Display Brightness setting / Lip-Sync Delay
  - 34 – On-Screen display of current front panel display (via S-Video)
  - 35 – Learn (for customization of remote)
- Rear:** Battery cover (when batteries are running low and a key is pressed, the backlight stops working and the LED blinks twice)



# 1. INTRODUCTION continued ...

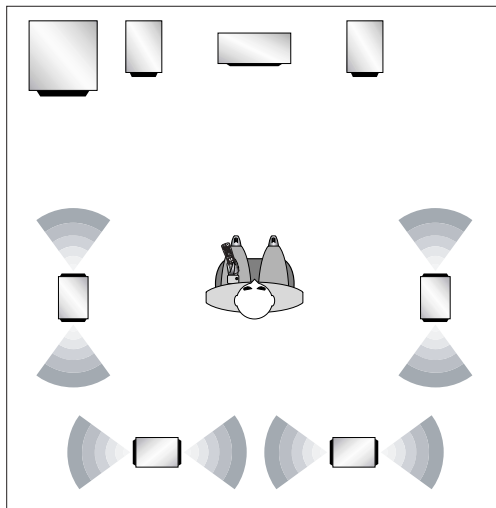
## 1.8 SPEAKER PLACEMENT

These illustrations show the typical speaker placement for a 7.1-channel surround system (the '.1' speaker is the subwoofer). Ideally, the Surround and Rear speakers should be positioned 2-3 feet above ear level. The subwoofer can be placed in any location where severe resonances are prevented – see section 3.2.

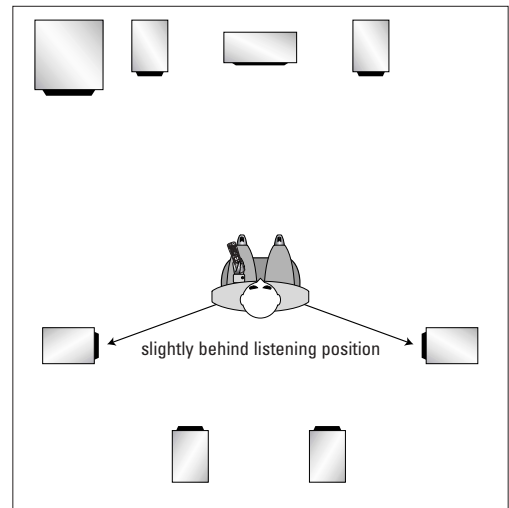


- |               |                    |                |                   |
|---------------|--------------------|----------------|-------------------|
| 1. Front-Left | 3. Front-Right     | 5. Rear-Right* | 7. Surround-Left* |
| 2. Center     | 4. Surround-Right* | 6. Rear-Left*  | 8. Subwoofer      |

\*Dipole speakers shown with 'null' facing listening area. Direct radiating speakers are shown below.



Placement with dipole surrounds










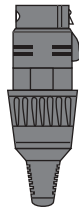

Placement with direct radiating surrounds

# 1. INTRODUCTION continued ...

## 1.9 INTERCONNECTS

These illustrations show various audio, video, and 12V trigger connectors that are used between source components, the AVM 30, monitors, and power amplifiers. Note that when RCA cables have coaxial construction and their impedance is 75 ohms, they are equally suitable for analog video and digital audio.

RCA Black or White	RCA Red	RCA Yellow	Mini DIN
			
Analog Left Channel	Analog Right Channel	Digital Audio or Composite Video	
RCA Green: Component Y	RCA Blue: Component Pb	RCA Red: Component Pr	S-Video

1/4" Stereo	3.5mm Mini (Mono)	Optical	XLR Female (connects to output)	XLR Male (connects to input)
				
Headphone	12V Trigger IR Emitter	Digital Audio	Analog Balanced or AES/EBU	Analog Balanced or AES/EBU

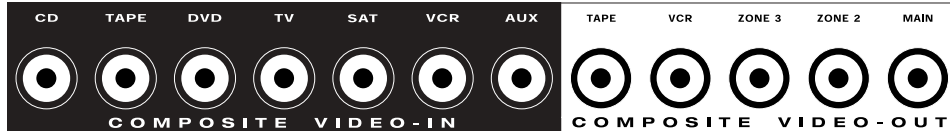
# 2. CONNECTIONS

## 2.1 VIDEO CONNECTIONS

The best choice for video connection depends on your monitor(s) and source components. Any video input can be assigned to any number of Sources. To configure inputs, **see section 3.5**.

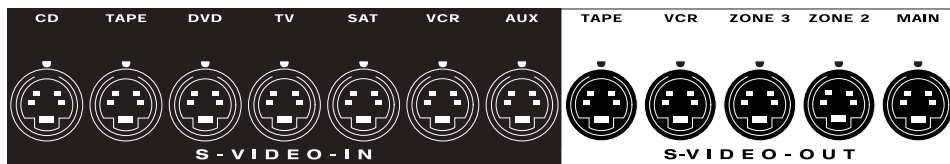
### Composite Video:

This traditional format combines the black/white and color information for transmission on a single coaxial cable. To be displayed, it has to be comb-filtered apart, a process that degrades video quality substantially. Maximum resolution is 480i. If you use a VCR, one with S-Video output is recommended since comb filtering does not apply.



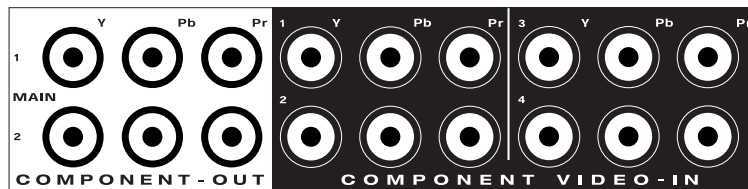
### S-Video:

With S-Video, maximum resolution is also 480i, though better video quality results from its multi-conductor connection that keeps color and brightness signals separate.



### Component Video:

Component video uses three coaxial cables, one for brightness and two for color-difference, and has a maximum resolution of 1080p. Two component video outputs are provided for MAIN in case you use a front projector for movies and a flat panel for the news in the same room.



On-Screen Display is shown through MAIN and ZONE2 S-Video outputs only.



## 2. CONNECTIONS continued ...

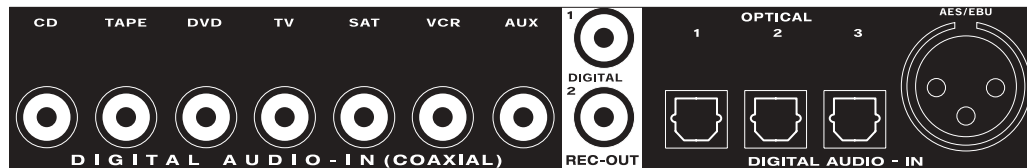
### 2.2 AUDIO CONNECTIONS

There are two methods of transmitting audio signals: Analog and Digital. Analog is an electrical waveform representation of sound and requires one cable for each channel. Digital represents sound using a sequence of numbers and requires only one cable for all channels.

Any audio input in the AVM 30 can be changed from the factory setting to either Digital or Analog, except 2-Ch BAL and 6-Ch, which accept analog signals only. Any analog input can be set to be used with **Digital Signal Processing** for bass management, bass/treble control, time alignment, surround modes, and THX post-processing, or to **Direct** and bypass all digital stages. As well, **Auto-Dig** uses the digital connection when there's a digital signal at the input, and when there isn't, it switches to analog connection with DSP. For more information see sections 3.2, 3.3, 3.5, 4.7, and 4.8.

#### Digital Audio Inputs and Outputs:

Digital audio source components can be connected with a coaxial, optical, or balanced cable. These carry 2-channel PCM, Dolby Digital, and DTS.

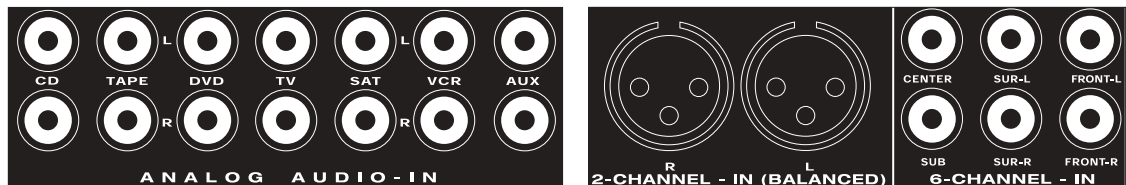


Use the coaxial input if the source has coaxial output, otherwise use the optical input. The AVM 30 also provides one balanced AES/EBU connection, which is used on professional equipment. Any digital input can be assigned to any number of Sources that are set to 'Digital'. **To change digital audio connection from the factory default assignments, see section 3.5.**

Digital Rec-Out can provide a signal to the digital audio input of a Mini Disc recorder, CD recorder, etc., from any Source set to 'Digital' or 'Anlg-DSP' – see sections 3.5 to 3.7.

#### Analog Audio Inputs:

Analog audio connections are made with RCA or XLR cables.



If you are going to use ZONE2, ZONE3, or RECORD, connect both the digital and analog outputs from the source components. ZONE2, ZONE3, and RECORD require analog connection unless they're set to 'copy' MAIN (see sections 3.5 and 4.3).

#### 6-Ch Analog Input:

The 6-Ch input is for connecting DVD-Audio and multichannel SACD players. When 6-Ch is selected, the video signal from **DVD** input is routed to the video outputs by factory default – to change this, see section 3.5.

## 2. CONNECTIONS continued ...

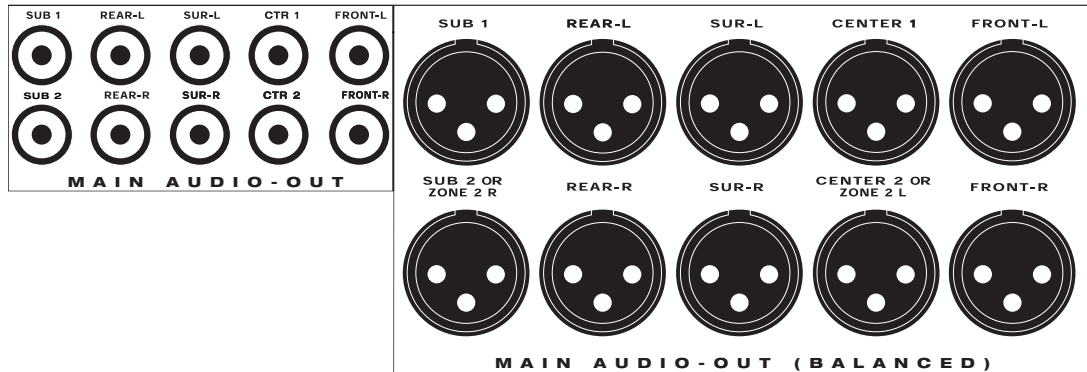
### Analog Audio Outputs:

Balanced connection offers the highest transmission quality over long cable lengths, because it rejects noise and hum pickup. In the AVM 30, XLR output voltage is twice that of RCA (6 dB higher). The RCA outputs and the XLR outputs are active at the same time.

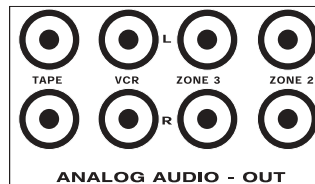
Parallel outputs are provided for a second center channel speaker and/or subwoofer. If your screen is large, you might want to use one speaker above it and another one below it. One way to tame room resonances is by using multiple subwoofers playing the same signal from different locations in the room.

If you are not using the second set of Balanced SUB2 and CENTER2 outputs, they can be reassigned as ZONE2 L/R outputs to ensure noise rejection if the ZONE2 amplifier has balanced input and it's far away from the AVM 30 (see section 3.7).

If you're using one Rear channel, use the Rear-L output to connect it (see section 3.2).



Shown below are the analog audio RECORD outputs, which connect to the inputs of tape recorders and VCRs, together with the outputs that connect to amplifiers for ZONE2 and ZONE3:



**For ZONE2, ZONE3, and RECORD to have any output, the source components being used there must be connected to the AVM 30 with the same type of connection**

The only exception is when using Copy mode for audio – see section 4.3.

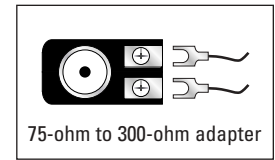
## 2. CONNECTIONS continued ...

### 2.3 FM•AM ANTENNAS

To connect the AM loop antenna, press the spring-loaded tabs of the AM ANTENNA connector and insert the bare ends of the two wires. Move the antenna until best reception is found.

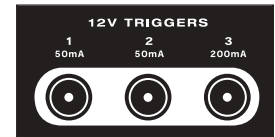


To connect the FM antenna, connect the two wires to the screw terminals of the 75-ohm to 300-ohm adapter, then connect the adapter to the FM ANTENNA connector. Move the antenna until best reception is found – this is usually a “T” formation. If your cable company provides FM service, you can connect the cable directly to the AVM 30.



### 2.4 12 VOLT TRIGGERS

If your other components have provisions for a trigger, you can automatically turn them on and off together with the AVM 30, or when a specified Source is selected. Connect a trigger output from the AVM 30 to the trigger input of your power amplifier, TV monitor, etc., using a cable with 3.5mm mono mini plugs.

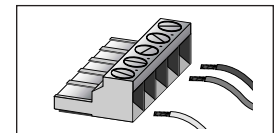


Trigger3 is designed to provide the extra current (up to 200 mA) required by relays in larger projectors and motorized screens. Depending on the equipment, a thicker wire gauge may be required (consult your dealer).

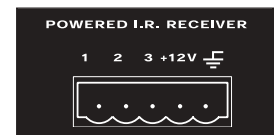
The AVM 30 provides flexible trigger options. From the factory, all the triggers are disabled. Through the Setup Menu, you can specify the conditions for enabling triggers (see section 3.9).

### 2.5 POWERED I.R. (INFRA RED) RECEIVERS

External IR receivers allow the Remote Control to be used from other locations in your home. Once an IR receiver is wired to a selected room, connect it to one of the three I.R. RECEIVER inputs through the removable terminal block. To use the terminal block, remove it from the AVM 30, loosen the proper screw, insert the wire in the slot, tighten the screw onto the wire, and insert the terminal block into the AVM 30. See section 3.9 for Setup information.



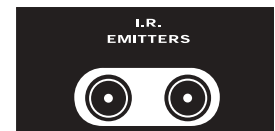
In addition, there is no need for an external 12V supply to power the receivers – use the AVM 30's built-in supply instead for up to three IR receivers, and connect according to the IR receiver manufacturer's instructions.



**Custom Installers:** The AVM 30's IR inputs sense modulated 38 kHz carrier, not demodulated data. With some control systems, an emitter face-to-face with an IR receiver may be needed.

### 2.6 I.R. (INFRA RED) EMITTERS

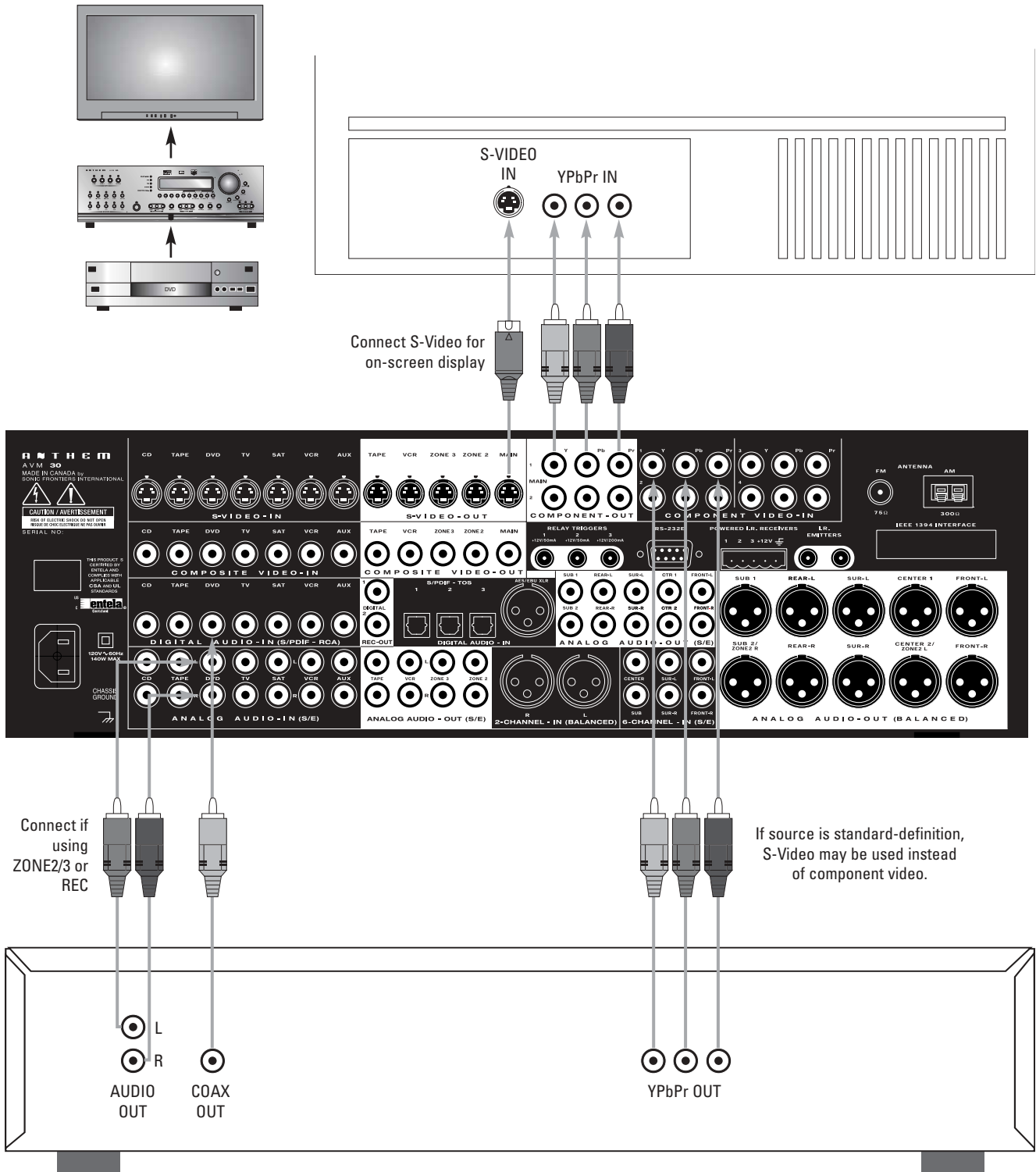
External IR emitters allow control of your source components from any location in your home that has an IR receiver wired to the back of the AVM 30. After positioning the IR emitter according to its instructions, connect it to I.R. EMITTER output. Commands that come in through the rear I.R. RECEIVER connections are re-transmitted through the IR emitters.



# 2. CONNECTIONS continued ...

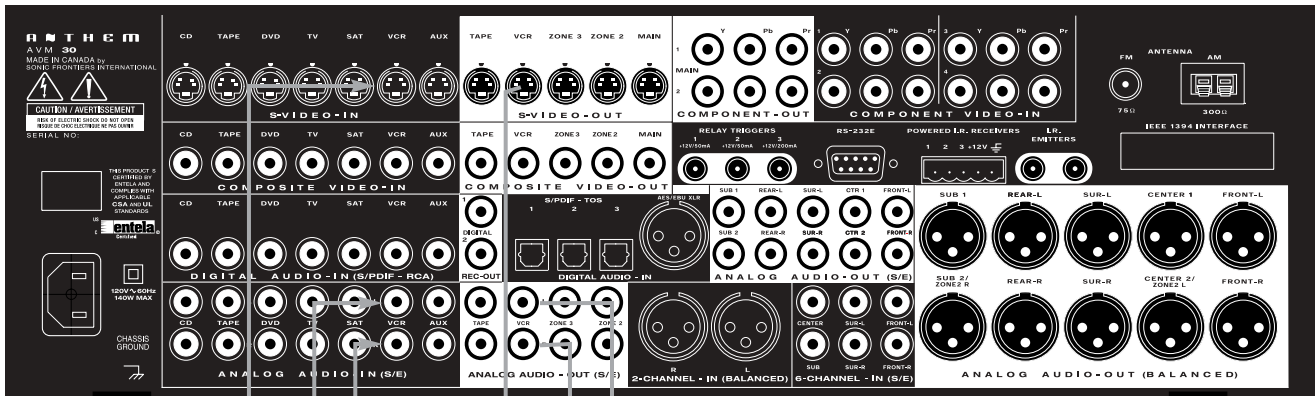
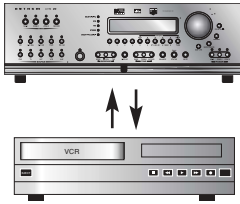
## Example 1: DVD Player to AVM 30 to Main TV

HDTV receivers are connected the same way as DVD players.

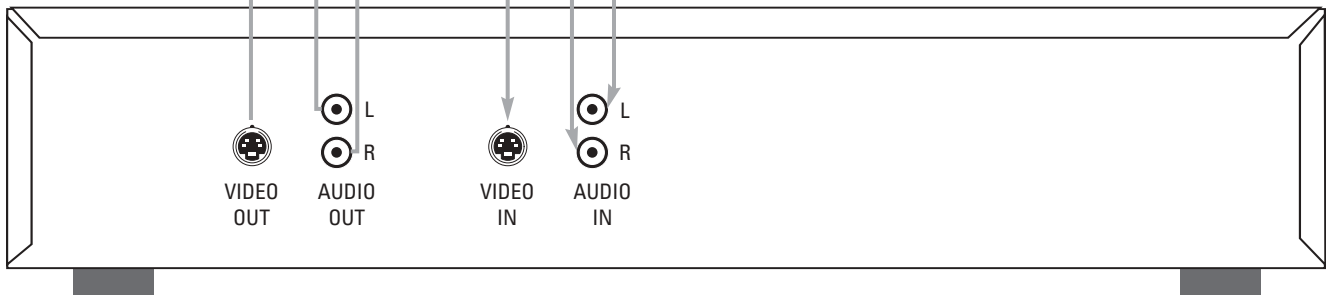


# 2. CONNECTIONS continued ...

## Example 2: Video Recorder to AVM 30

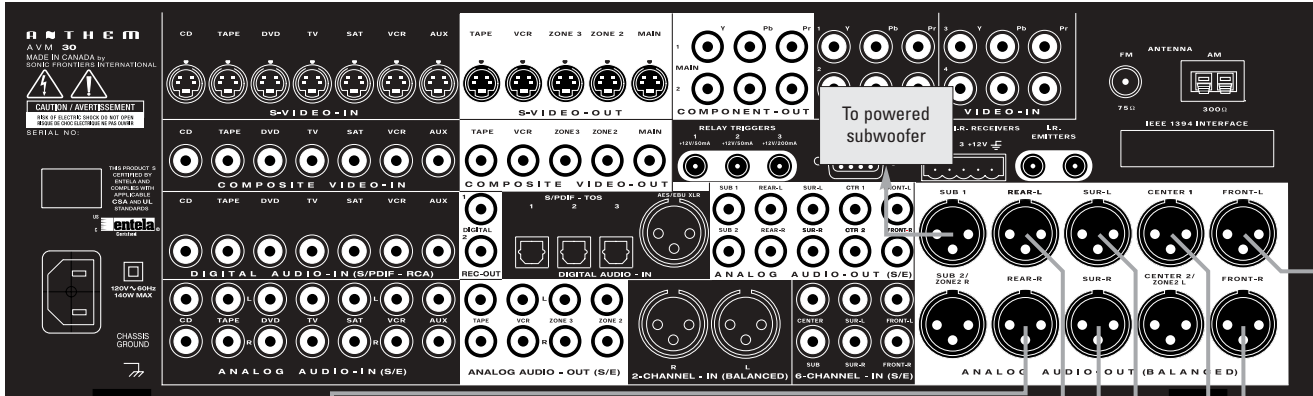


For ZONE2, ZONE3, and REC, in most cases you must use the same input type as the output type. If MAIN uses a different input connection, all you need to do is add these connections for ZONE2, ZONE3, and REC.

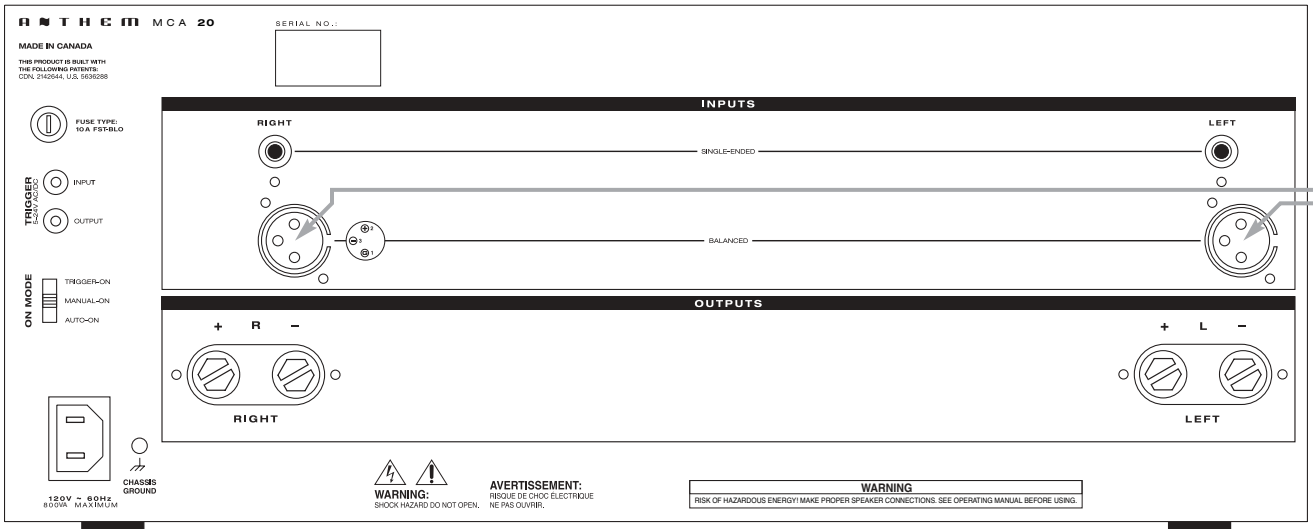
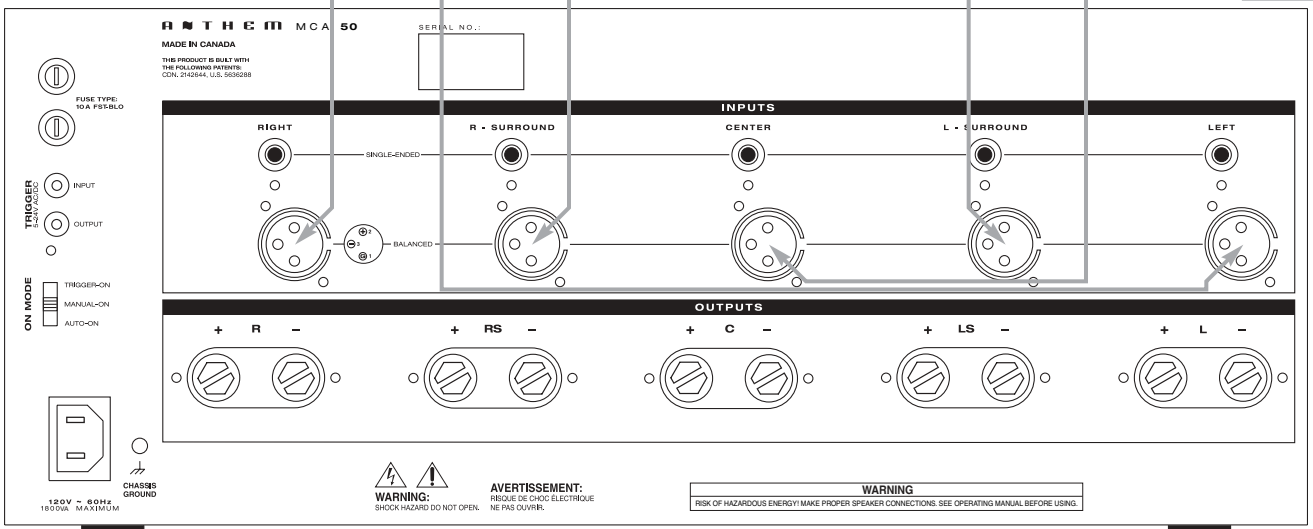


# 2. CONNECTIONS continued ...

**Example 3: AVM 30 to Amplifiers and Subwoofer** (Balanced connection shown, single-ended is similar)



**Trigger Setup Suggestion:**  
If it is not necessary to have both amplifiers turned on when stereo sources are playing, set triggers to turn on only the 2-channel amplifier when a stereo source is selected (see section 3.9).



# 3. SETUP MENU

For optimum performance and enjoyment, it is crucial that your AVM 30 be properly set up. This may appear like a lot of work, however, most settings do not need to be changed from the factory defaults.

The most important things are entering how many speakers you have (the factory default is 7.1-channel) and the distance from each speaker to the listening area (menu 3), balancing speaker output levels to one another (menu 4), and entering information about your monitor (menu 8). The rest are largely for fine tuning and personal preference – the surround mode presets in menu 5, for example, should be set up **after** you have played a variety of source material and have decided which surround modes you like best.

**Menus that involve audio test signals should be set up in the order that they appear.** Illustrations throughout this section show the On-Screen display menus in that order. For ease of viewing, use of the On-Screen display is recommended, although the Front Panel display shows similar information.

Alternatively, most of the setup can be done on your personal computer through RS-232 connection and a program called Settings Editor (available from our web site). Settings Editor can also save your configuration as a backup file. Settings Editor cannot play test tones – calibration still has to be done with the Setup Menu.

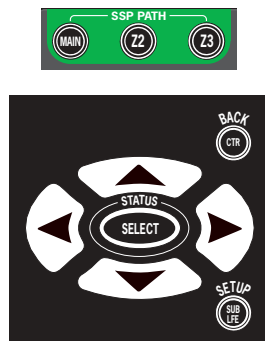
## HOW TO ENTER THE SETUP MENU

The Setup Menu can be accessed from either **MAIN** or **ZONE2**. The On-Screen display shows only in that Path (MAIN or ZONE2 S-Video outputs only). Audio test signals only play from MAIN.

To enter the Setup Menu:

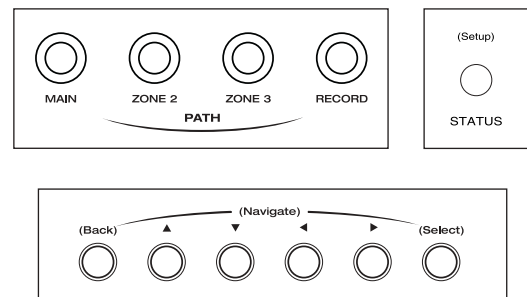
### Remote Control

Make sure the appropriate control mode is set, then press **SUB/LFE (SETUP)** for 2 seconds.



### Front Panel

Make sure the appropriate Path is selected, then press and hold **STATUS (Setup)** for 2 seconds.



## HOW TO NAVIGATE INSIDE THE SETUP MENU

- Use the **▲ ▼** buttons to scroll through menus.
- Press **SELECT** to choose a menu item.
- Use the **▲ ▼** and **◀ ▶** buttons to change settings.
- Press **BACK** to return to previous item or menu.

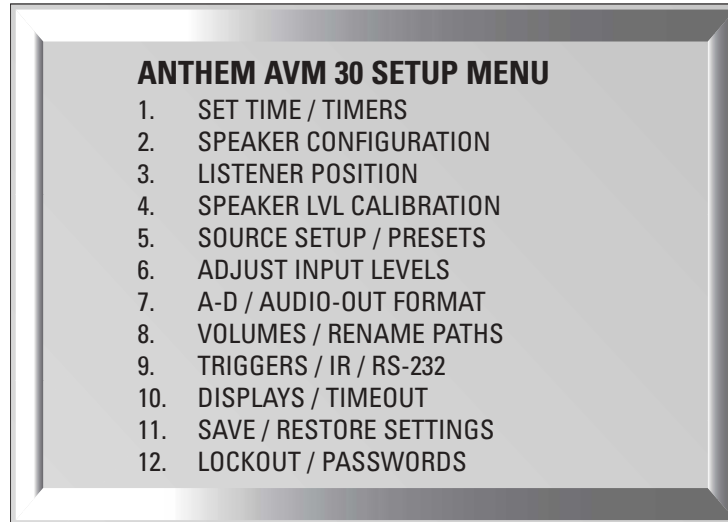
## HOW TO EXIT FROM THE SETUP MENU

Press **BACK** as many times as necessary. Each time **BACK** is pressed, the previous item or menu returns. The Setup will exit automatically if not used for 5 minutes to prevent burning of a permanent On-Screen display image in the projector/monitor.

## 3. SETUP MENU continued ...

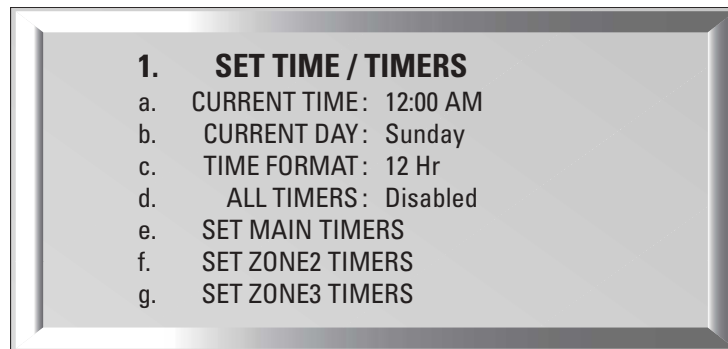
### SETTING UP THE AVM 30

When you enter the Setup Menu, S-Video on-screen display will show the menu below. Only 8 menu items can be displayed at one time. To go to a submenu, highlight a menu item in red and then press **SELECT**.



#### 3.1 SET TIME / TIMERS

The time and day, plus 6 different timers are set in this menu. The timers in the AVM 30 are like an alarm clock, but allow two different timer settings for each of MAIN, ZONE2, and ZONE3.



#### To set Current Time and Day:

- Enter the Setup Menu. Go to '1. SET TIMERS/TIME' and press **SELECT**.
- Press the **▼** button until you reach 'c. TIME FORMAT: 12 Hr'.
- Use the **◀ ▶** buttons and choose '12 Hr' or '24 Hr'.
- Press the **▼** button to go to 'a. CURRENT TIME: 12:00 AM'.
- Press **SELECT**. '12' will be highlighted in red.
- Use the Master Control Knob or the **▲ ▼** buttons to set the current hour.
- Press the **▶** button. '00' minutes will be highlighted.
- Use the Master Control Knob or the **▲ ▼** buttons to set current minutes.
- Press **BACK** to return to the menu line.
- Press the **▼** button to go to 'b. CURRENT DAY: Sunday'.
- Use the **◀ ▶** buttons to set the current day.

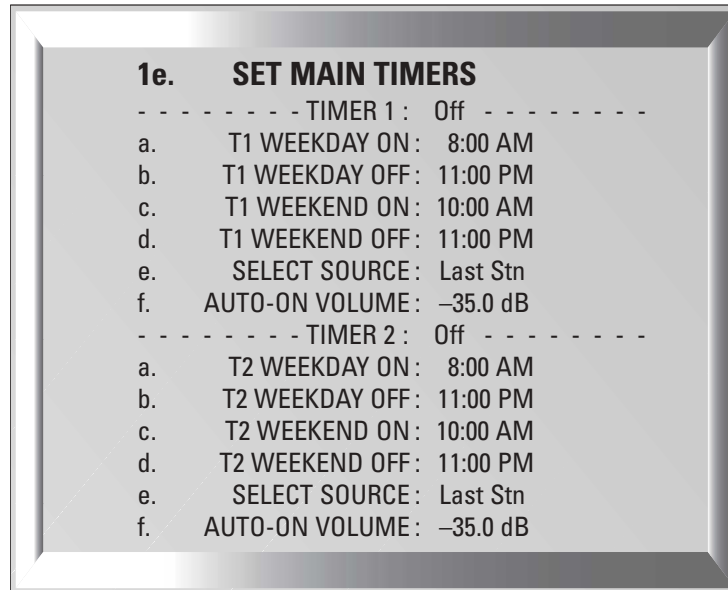
#### All Timers:

This allows you to simultaneously 'Enable' or 'Disable' all Timers for MAIN, ZONE2, and ZONE3.



## 3. SETUP MENU continued ...

Highlighting 'e. SET MAIN TIMERS' in menu 1 and then pressing **SELECT** displays this menu:



### Timer Options:

There are two Timers for Main and each Zone to allow greater flexibility. You can set individual week and weekend auto-on/off times twice – once for the morning and again for the evening, for example.

Using the ◀ ▶ buttons, TIMER 1 and TIMER 2 choices are:

- **'Off'** – Timer is disabled and will not come on at any time or day.
- **'Week'** – Timer will operate for Monday to Friday only.
- **'Wkend'** – Timer will operate for Saturday and Sunday only.
- **'Wk+Wkend'** – Timer will operate for every day of the week.

### On and Off Times:

Individual auto-on/off times are entered for:

**T1 or T2 WEEKDAY ON:** Sets the Monday to Friday turn-on time.

**T1 or T2 WEEKDAY OFF:** Sets the Monday to Friday turn-off time.

**T1 or T2 WEEKEND ON:** Sets the Saturday and Sunday turn-on time.

**T1 or T2 WEEKEND OFF:** Sets the Saturday and Sunday turn-off time.

Timers may also be set to only turn on or only turn off (see Example 2) – this way, the AVM 30 can be set to turn on automatically, and it won't turn off until you turn it off manually when you're done for the day.

If the AVM 30 is already on, 'Timer On' settings are ignored to ensure that Source and Volume are not changed when you are already listening to a program.

### Select Source:

Select what you want playing when a Timer turns the power on – any Source, any preset FM•AM station, or Last Stn (the tuner setting when AVM 30 was last turned off). Be sure that the **source component** and the **power amplifier** are turned on or will be on at the Timer turn-on time. If your components have trigger inputs, you can set a AVM 30 trigger to turn them on automatically (see section 3.9).

### Auto-On Volume:

Sets the Volume that will play when a Timer turns the power on. The volume increases slowly until the setting is reached.

## 3. SETUP MENU continued ...

**Example 1:** Select a Source for the ZONE2 Timer:

- Enter the Setup Menu. Go to '1. SET TIME/TIMERS' and press **SELECT**.
- Press the ▼ button until you reach 'f. SET ZONE2 TIMERS'.
- Press **SELECT**. The '1f. SET ZONE2 TIMERS' submenu will appear.
- Press the ▼ button until you reach 'e. SELECT SOURCE'.
- Use the ◀ ▶ buttons to change to desired Source.
- Press **BACK** to leave this submenu and return to the SET TIME/TIMERS menu.

To have the Timer turn on to a Preset Station, do the following from the 'e. SELECT SOURCE' menu line:

- Use the ◀ ▶ buttons to change to 'Last Stn'.
- Press **SELECT** to highlight 'Last Stn'.
- Use the ▲ ▼ buttons to change to the desired FM•AM Preset. These will scroll from 'AM 1-1' to 'AM 1-6' then from 'FM1-1' to 'FM3-6' and back to 'Last Stn'.
- Press **BACK** once you have selected a preset.

The Timer submenu setup procedure is the same for MAIN, ZONE2, and ZONE3.

**Example 2:** Change ZONE2, TIMER2 to come on Weekdays at 7:35 AM.

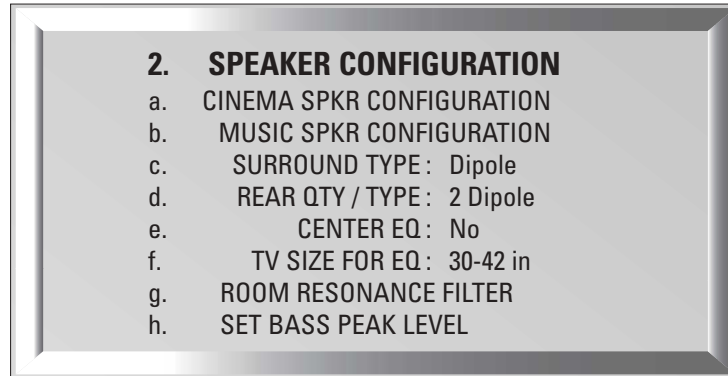
- Enter the Setup Menu. Go to '1. SET TIME/TIMERS' and press **SELECT**.
- Press the ▼ button until you reach 'f. SET ZONE2 TIMERS'.
- Press **SELECT**. The '1f. SET ZONE2 TIMERS' submenu will appear.
- Press the ▼ button to reach 'TIMER 2: Off'.
- Use the ◀ ▶ buttons to change to 'Week'.
- Press the ▼ button until you reach 'a. T2 WEEKDAY ON: 8:00 AM'.
- Press **SELECT**. The hour is now in red, use the Master Control Knob or the ▲ ▼ buttons to set the hour to '7' AM. (Continuing through '12' will advance the AM/PM settings.)
- Press the ▶ button. '00' minutes will be highlighted.
- Use the Master Control Knob or the ▲ ▼ buttons to set the minutes to '35'.
- Press **BACK** to leave this submenu and return to SET TIME/TIMERS menu.

When scrolling between '11 PM' and '12 AM' settings, the display shows '--:--'. Timers set in the '--:--' position will be skipped. Thus, to set the Timer to only turn on, set the Off time to '--:--'. To set the Timer to only turn off, set the On time to '--:--'.

## 3. SETUP MENU continued ...

### 3.2 SPEAKER CONFIGURATION

The Speaker Configuration Setup allows you to enter information about how many speakers you have in your system, and their relative size and type. Here you will also set up the bass management. Entering information about the size of your speakers will enable the AVM 30 to control bass information so it is not lost or distorted by smaller speakers that are unable to reproduce large amounts of bass.



#### **Cinema and Music Configurations:**

The AVM 30 allows you to set two separate bass management configurations – **Music** can be tailored for music (and movies that do not contain a Low Frequency Effects '.1' track), and **Cinema** for source material that contains LFE, including all 5.1/6.1 channel movie and music sources. These configurations can be assigned to each Source.

**Use of the Music configuration is optional.** Once you enter menu 2b. MUSIC SPKR CONFIGURATION, it asks whether or not you want to use the same settings as the Cinema configuration – 'Yes' is the factory default.

Setting up a configuration is described later in this section. Assigning a configuration to a Source or enabling automatic activation according to presence/absence of LFE is explained in section 3.5.

#### **Surround and Rear Speaker Quantity and Type:**

Surround speakers fall under two radiation pattern categories: Direct and Dipole. No delay is necessary in channels using dipole speakers – the sound is already delayed through room reflections. When dipoles are selected as the SURROUND TYPE and/or REAR TYPE, their distance will automatically equal the greatest distance in menu 3. LISTENER POSITION (see section 3.3).

**If you are using one Rear speaker,** set d. REAR QTY/TYPE to 1 speaker and use the Rear-L output.

**If you are using no Rear speakers,** skip the d. REAR QTY/TYPE setting. It makes no difference what it's set to.

#### **Center EQ:**

When a center channel speaker sits on top of or below a vertical surface such as a TV screen, frequency response can be altered by the reflections, making dialog less natural. With Anthem's unique CENTER EQ set to 'Yes', timbre can be restored using response curves specifically made to cancel effects of TV screens.

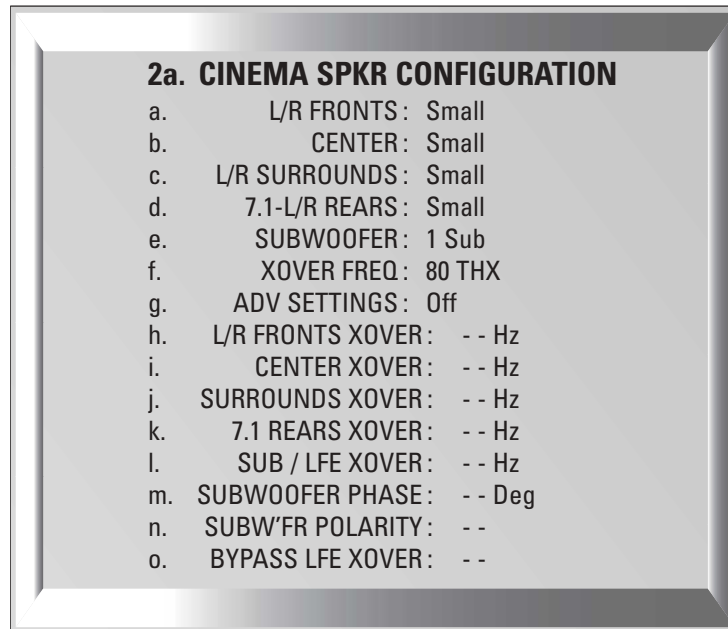
#### **TV Size For EQ :**

This is used to determine the frequency ranges of CENTER EQ. Since room/TV/furniture acoustics vary, as do characteristics of center channel speakers from model to model, you may wish to spend a little time experimenting to determine which setting works best – play 3 or 4 different DVDs and listen to center channel dialog to find the setting that sounds the clearest.

- Select the TV size category that is one higher than what you are using, then listen and compare to other settings. The settings are: 18" - 30" / 30" - 42" / 42" - 54" / 54" - 66" / 66" - 78".
- Leave it in the setting that provides the clearest dialog, even if it doesn't actually match the size of your TV. Turning the Center EQ off completely may even sound best. Let your ears be the final judge!

## 3. SETUP MENU continued ...

Highlighting 'a. CINEMA SPKR CONFIGURATION' in menu 2 and then pressing **SELECT** displays this menu:



### Small or Large:

Most speakers should be set to 'Small' and be used with a subwoofer, unless they use large drivers that can handle bass and LFE. Even then, physically large speakers may need a subwoofer for bass frequencies, particularly the bass of the '.1' LFE channel. All THX certified speakers are designed to be set to 'Small'. After highlighting a speaker or speaker group, use the ◀ ▶ buttons to select to 'Large', 'Small', or 'None'.

### Subwoofer:

- **'1 Sub'** The subwoofer plays two things – bass from channels set to Small, plus the Low Frequency Effects track on 5.1-channel source material. This setting is preferred by THX.
- **'1 Super'** As above, except bass from all channels is included, not just the ones set to Small. This setting is not recommended for the Cinema configuration.
- **'2 Sub'** or **'2 Super'** – Select if you're using both Subwoofer outputs. This simply reduces the subwoofer channel's test noise level to compensate for the additional subwoofer.

### 'None' Settings:

No information is lost if less than 7.1 speakers are used and this menu is set correctly.

- **If CENTER is set to 'None'**, the Center channel plays from the L/R Front speakers.
- **If SURROUNDS are set to 'None'**, the L-Surround channel plays from the L-Front channel, and the R-Surround channel plays from the R-Front channel (except Dolby Pro Logic mode).
- **If REARS are set to 'None'**, the Rear channel on Surround EX and DTS-ES DVDs plays from the Surround channels.
- **If SUBWOOFER is set to 'None'**, the Subwoofer channel (bass from 'Small' channels plus the LFE track) plays from 'Large' L/R Front and Surround speakers.

**If you are using 5.1 speakers, use the SURROUND outputs and set REARS to 'None'.**

## 3. SETUP MENU continued ...

### **Crossover Frequency:**

The crossover (Xover) divides the audio signal into two frequency bands, thereby restricting the amount of bass sent to any speaker set to 'Small', and preventing midrange and treble from going to the subwoofer.

Using the ◀ ▶ buttons, choose a frequency between 25 Hz - 160 Hz suitable for the low frequency capability of the speakers in your system. If you are using THX certified speakers, the crossover should be set to 80 Hz.

The subwoofer's built-in crossover should be bypassed – be sure to set it to the highest frequency.

Note that a crossover does not cut frequencies off, but rolls them off. Setting XOVER FREQ to the very limit of your speakers' low frequency capability may not give the best results. If XOVER FREQ is set to 80 Hz, for example, your main speakers will still be playing lower frequencies – they just won't have to play them as loudly. This also lightens the load on the amplifier, leaving extra power for mid and high frequencies.

Bass response is most dependent on room acoustics, and some experimentation with subwoofer placement is highly recommended – start by placing the subwoofer in the listening area, play some music with a range of bass notes, and walk around the room. Locations where bass sounds even, without certain notes being much louder than others, are usually good spots for placing the subwoofer and getting response that's even.

LFE is redirected only when Subwoofer is set to 'No'. If set to 'Yes' or 'Super', Cinema Configuration XOVER FREQ should not be set much lower than 80 Hz, otherwise some LFE information will be lost.

### **Advanced Settings – Crossover Frequency:**

When 'ADV SETTINGS' is set to 'On', each speaker type can be set to a Crossover Frequency that best suits its low frequency characteristics and interaction with the room. For example, if placing a speaker against a wall reinforces the bass making it excessive, the Advanced Crossover can be used to roll off the excess. A very low setting, such as 25 Hz, can be used to protect full-range speakers from frequencies that are too low for them. Scrolling below 25 Hz or above 160 Hz brings the 'Off' setting, which bypasses the crossover.

If room acoustics cause response to drop in the crossover region, the Subwoofer setting can be set to overlap the settings of other speakers to compensate, for instance setting SUB/LFE XOVER to 90 Hz and L/R FRONTS XOVER to 70 Hz. If there is a bass peak in the crossover region, you can spread the settings apart to flatten response, for example SUB/LFE XOVER to 80 Hz and L/R FRONTS XOVER to 100 Hz.

### **Advanced Settings – Subwoofer Phase and Polarity:**

Room acoustics vary. If you have the flexibility, experiment with subwoofer placement to determine where it sounds best in your system, providing deep, tight, and well defined bass. Certain subwoofer positions, however, may cause bass frequency cancellation, meaning that when your front speakers and subwoofer are "out-of-phase", they work against each other, resulting in weak and sometimes dislocated sounding bass. This can be corrected by adjusting the Subwoofer Phase and Polarity settings in this submenu.

If your subwoofer has phase and/or polarity controls, set them to zero/normal before making any adjustments to the AVM 30's Subwoofer Phase and Polarity settings.

As a general guide, set Polarity to 'Normal' if the subwoofer is placed close to the front speakers, and to 'Inverted' if the subwoofer is located behind the listening area or toward the back of the room. With bass material playing, switch Polarity from 'Normal' to 'Inverted' as a quick check – leave it in the position where bass is louder and more solid sounding.

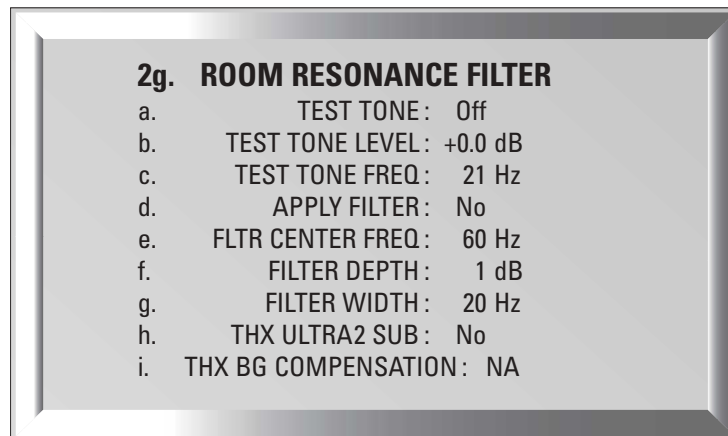
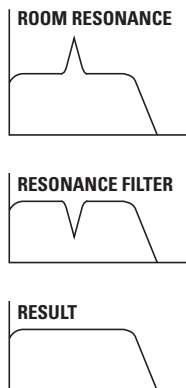
Subwoofer Phase allows you to take things a step further and fine tune the phase alignment of the subwoofer to your front speakers. Again, adjust Phase for the least amount of cancellation by listening for loudest and most solid bass. Alternatively, listen to the 'shhhh' noise created between FM radio stations, and adjust Phase until you find the most natural sounding transition between your main speakers and subwoofer.

### **Advanced Settings – Bypass LFE Crossover:**

If you have set SUB/LFE XOVER to much lower than 80 Hz, the upper portion of the LFE signal will be lost. With BYPASS LFE XOVER set to 'Yes', LFE goes to the subwoofer without going through the crossover, preventing loss of LFE information. This also applies to the 6-Ch input's SUB input (effectively, an LFE input).

## 3. SETUP MENU continued ...

Highlighting 'g. ROOM RESONANCE FILTER' in menu 2 and then pressing **SELECT** displays this menu:



Rooms often have a single prominent resonance peak which can make bass sound boomy, even with the finest subwoofer. The AVM 30 has a proprietary set of low frequency test tones that allow you to find and easily remove that resonance peak.

The Room Resonance Filter is a notch filter – it is not designed to boost weaker bass frequencies. While running the test tones, if you discover that instead of a prominent peak, there is a prominent dip in response, the best way to fill it is through a subtle repositioning of the subwoofer and/or listening position. Using electronics alone to accomplish this is often met with frustration, for example, a 10 dB boost would require the amplifier to work ten times harder, as well as speakers that can handle that much more power.

### Test Tone and Test Tone Level:

Test tones sweep from 18 Hz up to the XOVER FREQ (or the SUB/LFE XOVER frequency) that you have set in menu 2a. or 2b., whichever is higher. You can vary the level to obtain a comfortable playback volume.

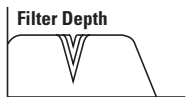
### Filter Center Frequency:

The frequency that is reduced the most when the filter is applied is called the Center Frequency. Set this to the frequency that sounds the loudest or most boomy when the built-in test tones are played. If you're using a sound pressure level meter, set it to 'Flat' or 'C-weighting'.



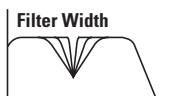
### Filter Depth:

This is the amount of center frequency 'cut', or reduction in volume, in the subwoofer channel. Frequencies just above and just below the center frequency are also reduced, but not as much. Range is from 1 to 20 dB. Adjust to bring the level of the resonant peak down to the same level as the other frequencies.



### Filter Width:

This adjustment varies the range and sharpness of the filter. For example, if Filter Width is set to 3 Hz, the Room Resonance Filter cuts a very narrow range at the filter center frequency. If Filter Width is changed to 18 Hz, a broader range is reduced. Adjust so that resulting frequency response is as flat as it can be made.



Changing Center Frequency and Depth settings affects the available range of Width and causes it to automatically decrease if required.

### THX Boundary Gain Compensation:

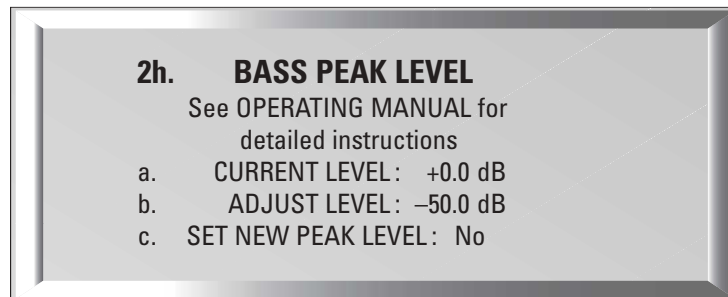
If your listening room layout results in the subwoofer and/or listeners being too close to a wall, an excessive bass effect can result. With a subwoofer that extends to 20 Hz, including all THX Ultra2 certified subwoofers, Boundary Gain Compensation can improve bass balance. To enable, set THX ULTRA 2 SUB to 'Yes' and then THX BG COMPENSATION to 'On'.

## 3. SETUP MENU continued ...

### Procedure for adjusting Room Resonance Filter:

- Enter the Setup Menu. Go to '2. SPEAKER CONFIGURATION' and press **SELECT**.
- Press the **▼** button until you reach '2g. ROOM RESONANCE FILTER' and press **SELECT**.
- Use the **◀ ▶** buttons to set TEST TONE to 'Auto'. Press **SELECT** to start automatic sweeping of the test tones. Alternatively, you can set TEST TONE to 'Manual' – to vary the frequency, press the **▲ ▼** buttons to reach 'c. TEST TONE FREQ', then use the **◀ ▶** buttons to change frequency.
- Some subwoofers are not able to accurately reproduce frequencies below 30 Hz or so, especially at higher levels. In addition, it can be quite difficult to hear these frequencies. If playing them doesn't 'sound right', do not continue to play them.
- Line 'c. TEST TONE FREQ' changes to show the frequency being played during automatic sweep. Listen for (or measure) the frequency that sounds too loud compared to the other frequencies.
- Press the **▼** button until you reach 'e. FLTR CENTER FREQ' and select the frequency that is closest to the test tone frequency that was found to be the loudest.
- Press the **▲** button until you reach 'd. APPLY FILTER' and set to 'Yes'.
- Press the **▲ ▼** buttons to go to 'f. FILTER DEPTH' and 'g. FILTER WIDTH'. Adjust both to achieve the flattest response across the range of test tones.
- Press **BACK** to stop the test tones and leave this submenu.

Moving to the next menu, highlight 'h. BASS PEAK LEVEL' in menu 2 and press **SELECT** to display:



The loudest part of movie soundtracks is usually the bass that comes from the LFE track. The Bass Peak Level Manager 'looks ahead' at the bass signal, and reduces the chance that your speakers will overload by tailoring bass output to match their capabilities. **Better subwoofers generally have their own protection and do not need BPLM to limit bass output.** BPLM is disabled if 'THX Ultra2 Subwoofer' is set to 'Yes' in menu 2g.

### Procedure for setting Bass Peak Level:

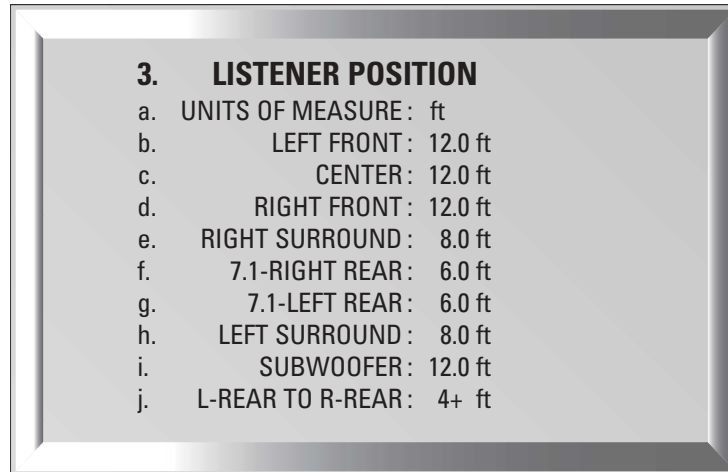
- Enter the Setup Menu. Go to '2. SPEAKER CONFIGURATION' and press **SELECT**.
- Press the **▼** button until you reach '2h. BASS PEAK LEVEL' and press **SELECT**.
- Press the **▼** button until you reach 'b. ADJUST LEVEL -50.0 dB'.
- A test signal should be audible. Use the **◀ ▶** buttons to turn up the level. Stop when distortion from the subwoofer (or 'Large' L/R Fronts if Subwoofer is set to 'No') begins to appear, then lower the level of the test signal until the distortion just disappears. **The test signal will become very loud but do not stop at a setting that's too low, or bass will be too low when you play a movie or music.**
- Press the **▼** button to go to 'c. SET NEW PEAK LEVEL'.
- Use the **◀ ▶** buttons to change to 'Yes'.
- Press **SELECT** and 'a. CURRENT LEVEL' will change to the new setting. The AVM 30 will not allow bass output to exceed this new setting.
- Press **BACK** to leave the submenu.

## 3. SETUP MENU continued ...

### 3.3 LISTENER POSITION

The Listener Position menu lets you enter the distance between each speaker and the listening area. Ideally, speakers should be placed at an equal distance so that their sound arrives at the listening area at the same time, but since this is rarely practical, the AVM 30 can delay the sound coming from speakers that are closer to the listener. This way, sound reaches the listening area at the same time from all speakers, and proper imaging can be achieved.

The speaker with the greatest distance setting will have no delay – speakers with shorter distance settings will be delayed according to their setting.



#### Units of Measure and Distance Adjustment:

Choose the units you want to use (feet/metres), then enter the distance between your primary listening area and each speaker. Range is 0-99 ft in 0.5 ft increments or 0-99 m in 0.2 m increments.

Speakers set to 'Dipole' in menu 2. SPEAKER CONFIGURATION will automatically have their distance set to equal the greatest distance of any other speaker (see section 3.2).

#### L-Rear to R-Rear:

ASA is a proprietary THX technology which processes the sound fed to the two surround and two rear speakers to provide an optimal surround sound experience. Choose the setting that corresponds to the spacing between your Rear speakers.

**Example:** Set Right Front speaker distance to 9.5 feet.

- Enter the Setup Menu. Go to '3. LISTENER POSITION' and press **SELECT**.
- Press the **▼** button until you reach 'd. RIGHT FRONT: 12.0 ft'.
- Use the **◀ ▶** buttons to change to '9.5 ft'.
- When finished, press **▲ ▼** to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

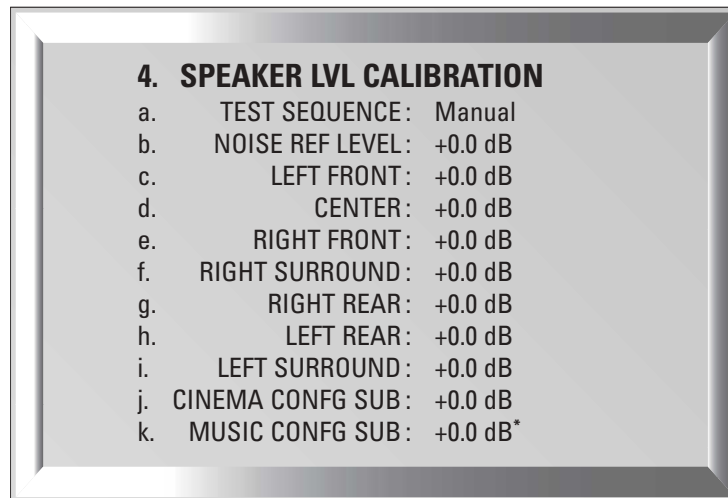


## 3. SETUP MENU continued ...

### 3.4 SPEAKER LEVEL CALIBRATION

Speaker Level Calibration uses internal test noises to match the relative level of each speaker at the listening position. Use of noises from home theater setup discs is not recommended – some use incorrect methods.

The FRONTS, CENTER, SURROUNDS, REARS, SUB, and BALANCE buttons on the Front Panel and Remote Control do not affect settings in this menu – they allow ‘on-the-fly’ adjustment for individual program material and Modes according to personal preference (sections 4.6 and 4.7).



\* Item k. is displayed only when ‘a. SAME AS CINEMA CONFIG’ is set to ‘No’ in menu 2b.

#### Test Sequence:

Test noise can be set to travel from speaker to speaker manually using the ▲ ▼ buttons, or automatically in two second intervals by setting TEST SEQUENCE to ‘Auto’ using the ◀ ▶ buttons and then pressing **SELECT**.

If the previously selected Source is Anlg-Dir, the AVM 30 switches to FM • AM, which is always Anlg-DSP, for the duration of the test noise. (‘Anlg-Dir’ bypasses the test noise generator.)

#### Use of a Sound Pressure Level meter is strongly recommended, especially for setting the subwoofer level.

Set the meter to ‘C-weighted’ (if C-weighting is unavailable, set to ‘Flat’), and ‘Slow’ or ‘RMS’ if available. At the listening position, point the meter upwards, holding it away from your body to prevent reflections.

#### Noise Reference Level:

This is the ‘master volume’ control for this menu’s test noises – changing this level changes the levels of all channels together. The noise comes out of the Left Front channel. Using the ◀ ▶ buttons, adjust NOISE REF LEVEL so the SPL meter reads 75 dB. If you do not have an SPL meter, skip this adjustment.

#### Level Calibration of individual channels:

Balances each speaker level to one another. If you’re calibrating by ear, use the Remote Control and sit in the primary listening area when adjusting. If using a meter, adjust the level so the SPL meter reads 75 dB for each channel. If you do not listen to music or movies at loud levels, you may prefer an increased subwoofer level – set by ear. Speakers set to ‘None’ in the Speaker Configuration menu are skipped (see section 3.2).

**If Subwoofer is set to ‘Super’** in menu 2a. (not recommended) or 2b., do not rely on an SPL meter to set subwoofer level – set it by ear while playing various types of source material. Speaker Level Calibration cannot take into account the bass that’s added to the subwoofer from speakers set to ‘Large’, which results in more bass during playback than the calibrated level.

## 3. SETUP MENU continued ...

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### Procedure for Manual Test Sequence:

- Enter the Setup Menu. Go to '4. SPEAKER LVL CALIBRATION' and press **SELECT**.
- Press the ▲ ▼ buttons to go from speaker to speaker.
- As each speaker plays, use the ◀ ▶ buttons to adjust its loudness relative to other speakers.
- Press **BACK** to stop the test tone.

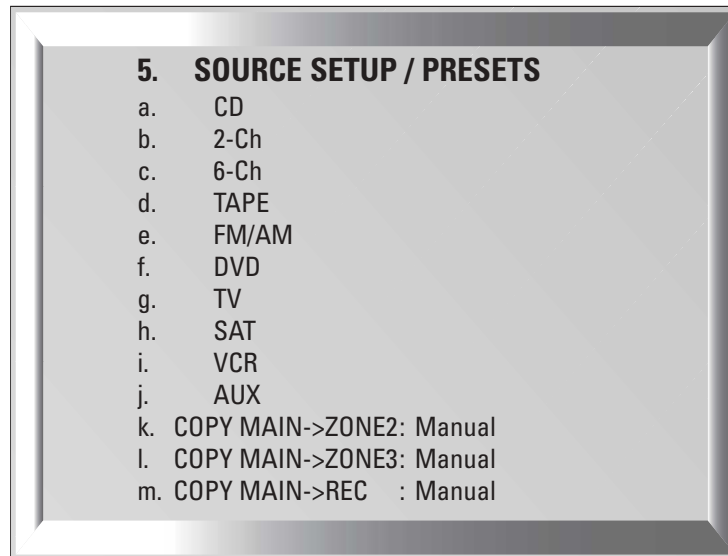
### Procedure for Auto Test Sequence:

- Enter the Setup Menu. Go to '4. SPEAKER LVL CALIBRATION' and press **SELECT**.
- Use the ◀ ▶ buttons to set TEST SEQUENCE to 'Auto'.
- Press **SELECT** to start the automatic sequence.
- As each speaker plays, use the ◀ ▶ buttons to adjust its loudness relative to other speakers. Once set, the sequence will automatically advance to the next speaker for adjustment. It will then continue to cycle speaker by speaker to allow you to fine tune all levels.
- Press **BACK** to stop the test tone.

## 3. SETUP MENU continued ...

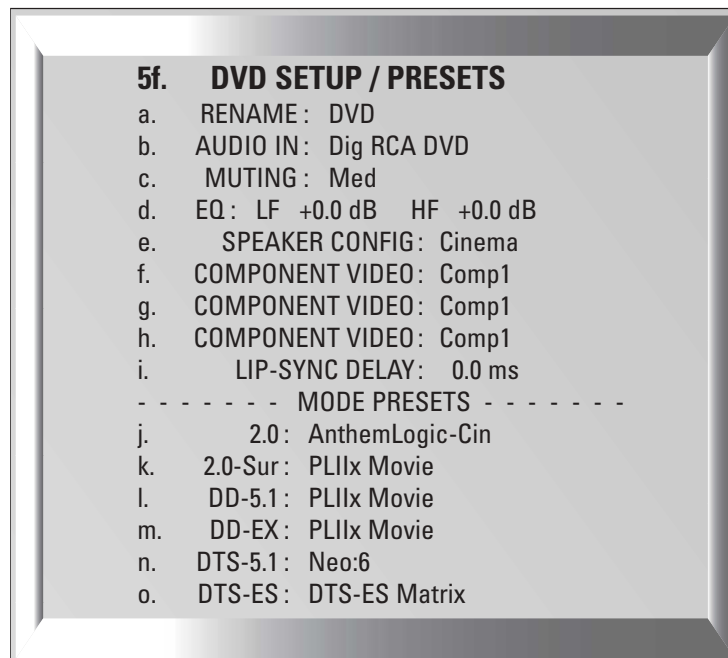
### 3.5 SOURCE SETUP / PRESETS

These are the menus where you set up how you want each input to be used.



If you want MAIN to always be copied to another Path (see section 4.3), change 'Manual' to 'Always'. This is recommended if you want a Source that only has digital audio output to be used in ZONE2, ZONE3, or REC, or if you want MAIN and another Path to always play the same Source. 'Always' setting is not recommended if you want Source selection to be independent – in this case, see the highlighted part of section 2.2.

For the following example, highlighting 'f. DVD' in menu 5 and then pressing **SELECT** displays this menu:



The submenus for the other Sources are identical or similar to this one.

## 3. SETUP MENU continued ...

### **Rename:**

The factory assigned Source names that appear on the Front Panel Display and the On-Screen Display can be changed to another name, up to six characters long. The following characters are available:

**A, B, C...Z, a, b, c...z**, blank, dash (-), period (.), slash (/), **0, 1, 2...9**.

After highlighting the RENAME line, press **SELECT** and use the ◀ ▶ buttons to move from character to character, then use the ▲ ▼ buttons or rotate the Master Control Knob to change the character. It is also possible to rename 'ZONE2', 'ZONE3', and 'RECORD' – see section 3.8.

### **Audio In** (applies to MAIN only):

There are three input types to choose from – Digital, Analog-DSP, and Analog-Direct. After highlighting 'AUDIO IN' use the ◀ ▶ buttons to select an input format.

- **Dig** (Digital – not applicable to 6-Ch S/E, 2-Ch BAL, or FM•AM): Use this setting for any source component that has a digital output. Note that Dolby Digital and DTS are transmitted only through a digital connection.
- **Anlg-DSP** (Analog with Digital Signal Processing): If you want your subwoofer to play from an analog L/R input, use this setting. Analog input is converted to digital through the AVM 30's high-end A/D converters to enable bass management, time alignment, Mode, Bass/Treble, Lip-Sync Delay, and THX. These are also available for the **6-Ch** input, since it can also be set to Anlg-DSP. With the bass management and time alignment that this provides, the resulting sound quality from DVD-Audio or multichannel SACD is far better than setting the 6-Ch input to Anlg-Dir. If your player has bass management and time alignment, defeat it by setting all channels 'large' and to the same distance. This is necessary when using Anlg-DSP, otherwise the processing occurs twice.
- **Anlg-Dir** (Analog-Direct – not applicable to FM•AM): A/D conversion and Digital Signal Processing are bypassed, and the preamp plays the traditional role of switching inputs and adjusting levels. There is no subwoofer output in Analog-Direct, except with 6-Ch input and only if the source material has a subwoofer channel recorded in it.
- **Auto-Dig**: When selected, the AVM 30 switches to Digital when it senses a digital bitstream and to Analog-DSP when it doesn't. This feature is useful with digital cable boxes that use the digital output for digital channels and analog output for analog channels.

Once you have set a Source to 'Digital' or 'Auto', press **SELECT** and then use the ▲ ▼ buttons to choose any one of the eleven digital input connections – coaxial, optical, or AES/EBU. Any one of these can be assigned to multiple Sources. This allows, for example, two unique Setup/Preset settings for the same DVD player – one for DVDs using the DVD Source, and the other for CD music using the CD Source.

### **Muting** (applies to MAIN only):

This eliminates 'popping' sounds that may occur with some digital source components during a bitstream change. If popping is heard when changing chapter on a DVD or channel on a digital satellite receiver or cable box, use Max setting. However, if the beginning of a track is cut off when playing a CD, use Min setting.

### **EQ** (applies to MAIN only):

For Sources set to Digital or Anlg-DSP, you can preset low and high frequency levels. This is useful for source components that have frequency irregularities. After highlighting the EQ line, press **SELECT** and use the ◀ ▶ buttons to select LF (low frequency) or HF (high frequency), then use the ▲ ▼ buttons to adjust. In the FM/AM Setup/Presets menu, FM and AM can be adjusted separately. The EQ settings in this menu and the 'on-the-fly' BASS / TREBLE adjustments do not affect each other (see section 4.7).

## 3. SETUP MENU continued ...

### **Speaker Configuration** (MAIN only):

Choose between Cinema or Music configuration (section 3.2), or Auto-LFE. When this is selected, the AVM 30 uses the Cinema configuration if there is LFE in the source material, and changes to the Music configuration at all other times. Auto-LFE is recommended when using the same player for DVDs and CDs, and separate Cinema and Music configurations.

### **Component Video Input:**

Assign which video input (or 'None') is used for video switching when the Source is selected.

### **Lip-Sync Delay** (MAIN only):

Video can fall out of synchronization with audio for a variety of reasons. If for whatever reason audio is heard before the corresponding image is seen, you can set up to 85 milliseconds of audio delay. You can also set delay while watching video – see section 4.9.

### **Mode Presets** (MAIN only):

When you or another member of your family uses the AVM 30, the Mode and THX presets that are set here are recalled, ensuring trouble-free operation. The presets are applied whenever a Source is selected or MAIN power is turned on. Each type of program material has a separate setting. Presets do not apply to Sources that are set to Anlg-Dir. **If you do not want to have presets, set this to 'Last Used'.**

Use the ▲ ▼ buttons to highlight one of the lines in the menu, then use the ◀ ▶ buttons to scroll through the selections. For complete descriptions of surround modes and when to use them, refer to section 4.8.

#### **Program    Preset Selections**

- **2.0** For stereo input, select any Mode in section 4.8.3, THX Games Mode, or Last Used. Dolby Pro Logic, Pro Logic IIx Movie, and Neo:6 Cinema can be set with or without THX Cinema.

#### ***The following presets apply to Digital inputs only:***

- **2.0-Sur** Separate setting especially for surround-flagged Dolby Digital 2.0 material (section 4.8.2), normally PLIIx Movie but any setting that applies to regular stereo input can also be used.
- **DD-5.1** Select your playback preference for Dolby Digital 5.1 material: PLIIx Movie (either with or without THX Cinema), PLIIx Music, Dolby D EX, THX Surround EX, THX Cinema, THX Ultra2 Cinema, THX MusicMode, THX Games Mode, Neo:6 (either with or without THX Cinema), Last Used, or None (see sections 4.8.4 and 4.8.6).
- **DD-EX** For material encoded in Dolby Digital Surround EX: PLIIx Movie (either with or without THX Cinema), PLIIx Music, Dolby D EX, THX Surround EX, Neo:6 (either with or without THX Cinema), Same as DD-5.1, Last Used, or None (see sections 4.8.4 and 4.8.6)
- **DTS-5.1** For DTS material: Neo:6 (with or without THX Cinema), PLIIx Movie (either with or without THX Cinema), PLIIx Music, Dolby D EX, THX Cinema, THX Ultra2 Cinema, THX MusicMode, THX Games Mode, Last Used, or None (sections 4.8.5 and 4.8.6).
- **DTS-ES** For DTS-ES: DTS-ES Matrix (with or without THX Cinema), PLIIx Movie (with or without THX Cinema), PLIIx Music, Dolby D EX, Same as DTS, Last Used, or None (see sections 4.8.5 and 4.8.6). Note that for ES Discrete, this setting is overridden and playback is in 6.1.

## 3. SETUP MENU continued ...

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### **Example 1:** Rename AUX to 'GAME'.

- Enter the Setup Menu. Go to '5. SOURCE SETUP / PRESETS' and press **SELECT**.
- Press the ▼ button until you reach 'j. AUX' and press **SELECT**.
- 'a. RENAME: AUX' will be highlighted in red.
- Press **SELECT**. The first character 'A' will be highlighted in red.
- Use the Master Control Knob or the ▲ ▼ buttons to change characters. Change the first one to 'G'.
- Press the ▶ button to move to the next character. Change it to 'A'.
- Use the ◀ ▶ buttons to move to each remaining character. Change to 'M' and 'E'.
- Press **BACK** to leave the submenu and return to the main menu.

### **Example 2:** Change SAT Digital Input from coaxial to optical.

- Make sure satellite receiver is connected to OPT1 and playing.
- Enter the Setup Menu. Go to '5. SOURCE SETUP / PRESETS' and press **SELECT**.
- Press the ▼ button until you reach 'h. SAT' and press **SELECT**.
- Press the ▼ button until you reach 'b. AUDIO IN: Dig Coax DVD' and press **SELECT**.
- 'Coax DVD' will be highlighted. Use the ▲ ▼ buttons to change to 'OPT1' (sound will now be heard).
- Press **BACK** to leave the submenu and return to the main menu.

### **Example 3:** Adjust TAPE Source Equalization.

- Make sure TAPE source component is connected to Analog Inputs and playing.
- Enter the Setup Menu. Go to '5. SOURCE SETUP / PRESETS' and press **SELECT**.
- Press the ▼ button until you reach 'd. TAPE' and press **SELECT**.
- Press the ▼ button until you reach 'c. EQ' and press **SELECT**.
- Use the ◀ ▶ buttons to move to 'LF' or 'HF'. Use the ▲ ▼ buttons to adjust.
- Press **BACK** to leave the submenu and return to the main menu.

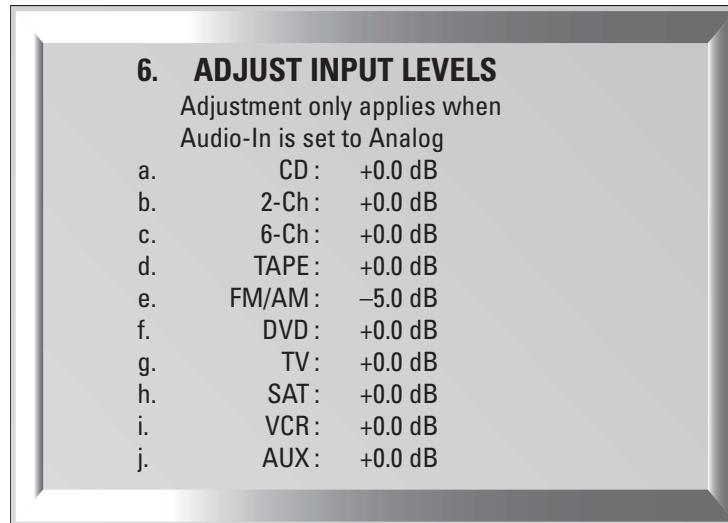
### **Example 4:** Set DVD Lip-Sync Delay to 24 milliseconds.

- Enter the Setup Menu. Go to '5. SOURCE SETUP / PRESETS' and press **SELECT**.
- Press the ▼ button until you reach 'f. DVD' and press **SELECT**.
- Press the ▼ button until you reach 'f. LIP-SYNC DELAY' and press **SELECT**.
- Use the ◀ ▶ buttons to move from digit to digit and the ▲ ▼ buttons to adjust to '24 ms'.
- Press **BACK** to leave the submenu and return to the main menu.

## 3. SETUP MENU continued ...

### 3.6 ADJUST INPUT LEVELS

For Sources set to Anlg-DSP or Anlg-Dir in menu 5, you can match input levels in MAIN to each other so there are no large changes in volume as you change Sources. This is also where recording level is set when using the AVM 30 as an analog-to-digital converter (see sections 3.5, 3.7, and 4.3).



If a source that is set to Analog-DSP is playing while you adjust the Input Level, you will notice a vertical bar graph to the left of the dB setting. With the On-Screen display, this Bar Graph changes from green to pink, to warn that there is 6 dB of headroom left. With pop music material, an occasional transition into the pink region does not necessarily mean that the input is overloaded. If the bar graph stays pink constantly, reduce the level until the bar graph becomes green for the most part.

Before making changes or adjustments in this menu, have all connected source components playing similar music material. Then, as you switch through each highlighted Source, you will hear that component play. This lets you know that each component is connected to the AVM 30, and it also allows for easy comparative level adjustments of analog sources. Remember, adjusting input levels only functions with Sources set to Analog in menu 5, and the bar graph only works with Analog-DSP setting.

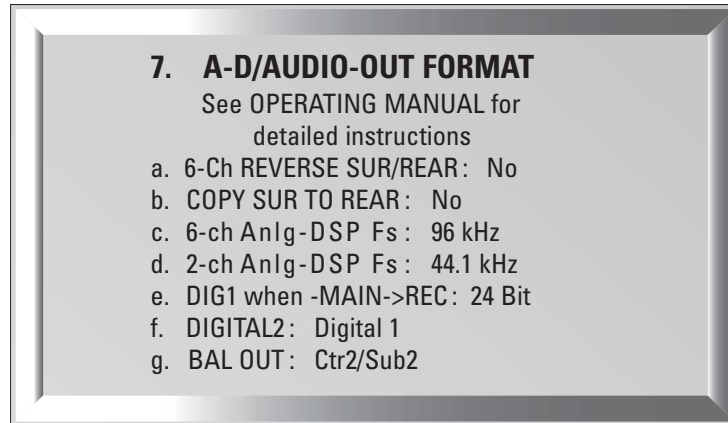
**Example:** Adjust TAPE Input Level.

- Make sure a source component is connected to TAPE Analog L/R Input and playing.
- Enter the Setup Menu. Go to '6. ADJUST INPUT LEVELS' and press **SELECT**.
- Press the ▼ button until you reach 'd. TAPE: +0.0 dB'.
- Press **SELECT**. '+0.0 dB' will be highlighted in red.
- Use the ▲ ▼ buttons to change the Level.
- When finished, press **BACK** and then ▲ ▼ to go to another Source, or...
- Press **BACK** to leave the submenu and return to the main menu.

## 3. SETUP MENU continued ...

### 3.7 ADC / AUDIO OUTPUT

In the ADC / Audio Output menu you can re-configure the Surround and Rear channels, set analog to digital conversion parameters for the digital Record output, and configure the balanced analog outputs.



#### **Reverse Surrounds/Rears:**

If you're using a 7.1 speaker system and want to use the Rear speakers instead of the Surrounds when the 6-Ch input is selected, set REVERSE SUR/REAR to 'Yes' and **re-connect the AVM 30 as follows**: Surround outputs on the AVM 30 to the Rear inputs on your amplifier, and the Rear AVM 30 outputs to the Surround amplifier inputs. The 6-Ch Surround inputs will now play through your Rear speakers. The AVM 30 flips the SUR/REAR channels back to normal whenever a mode with 6.1 or 7.1 output is turned on for the 6-Ch input or when any other input is selected.

#### **Copy Surrounds to Rears:**

When playing material or using a Mode that has Surround channel information but no Rear information, setting this to 'Yes' plays the Surround channel out of both sets of speakers.

#### **Sampling Frequency (Fs):**

When a Source that is set to Anlg-DSP is copied from MAIN to RECORD, the analog signal is converted to digital using the AVM 30's high-end A/D converters, and sent to DIGITAL1. This is useful for recording analog music on a CD burner or computer with S/PDIF input on the sound card. You can select from 44.1, 48, 88.2, or 96 kHz sampling rates. Recording level is set by the input level in menu 6 (see sections 3.6 and 4.3).

This is also the signal processing rate for MAIN. **Neo:6 does not function when '2-Ch Anlg-DSP Fs' is set to 88.2 kHz or 96 kHz**, therefore leave this set to 44.1 or 48 kHz unless a recording is being made, and then use 48, 88.2, or 96 kHz only if the equipment connected to DIGITAL1 and DIGITAL2 is capable of accepting those sampling rates – audio CD burners can not.

For the 6-Ch input, a separate setting is used so that bass management, time alignment, Mode, Bass/Treble, Lip-Sync Delay, and THX can be performed at the same high resolution that DVD-Audio and SACD provide. When 6-Ch is copied from MAIN to RECORD, the DIGITAL1 output is a 2-channel downmix.

#### **Bit Rate of DIGITAL1 when MAIN is copied to REC:**

Choose from 16 or 24 bit output, to match the recorder. At 16 bits, dither is added to improve low level signals.

#### **Output of DIGITAL2:**

Set it to have the same output as DIGITAL1, or a fixed output from any Source set to Digital (DVD, SAT, etc.). DIGITAL1 and DIGITAL2 transmit data from digital sources in the same format it comes in – if it's Dolby Digital or DTS encoded, it stays that way and can be linked to other digital equipment.

#### **Balanced Output:**

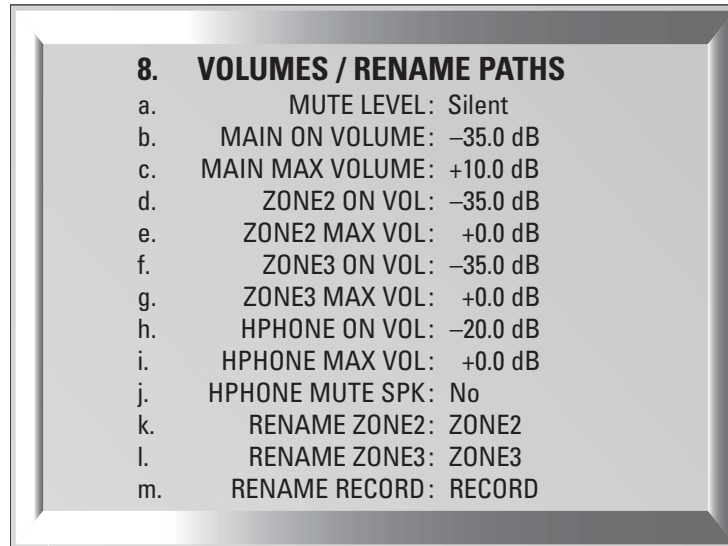
If the Balanced CENTER2 and SUB2 outputs are not in use for a second Center channel or Subwoofer in MAIN, they can be used as Balanced ZONE2 L/R outputs (see section 3.2.5).



## 3. SETUP MENU continued ...

### 3.8 VOLUMES / RENAME PATHS

This menu allows you to define the power-on volume settings, set whether or not MAIN outputs shut off when headphones are used, and to rename ZONE2, ZONE3, and RECORD.



#### Mute Level:

When MUTE is pressed, sound can cut out completely, or decrease in volume by the amount that you set to keep some of it in the background – select from ‘Silent’, or -5 to -30 dB in 5 dB steps.

#### Power-On Volume:

When you turn MAIN, ZONE2, or ZONE3 on, or plug in your headphones, the volume for each will come on at the known levels you have set in this menu. This avoids any potential ‘surprises’ of not knowing the volume someone had set when turning the AVM 30 off, and then having the power-on volume be either too loud or quiet. You can set independent volumes for MAIN, ZONE2, ZONE3, and HEADPHONE.

#### Maximum Volume:

These settings allow you to individually limit the volume of MAIN, ZONE2, ZONE3, or HEADPHONE to avoid damaging your equipment and/or your ears. This can also serve as a parental volume control feature. The range of settings available for MAIN is from -95.5 dB to +31.5 dB in steps of .5 dB, and for ZONE2, ZONE3, and HEADPHONE, the range is from -70.0 dB to +10.0 dB in 1.25 dB steps.

**To set a fixed output for ZONE2 or ZONE3**, scroll MAX VOL past +10.0 dB to set ‘LockOnVol’ and then set the desired fixed output level in ON VOL. When the Path is on, ‘Lock’ is displayed beside the volume readout to indicate that its volume cannot be changed with the volume control.

#### Headphone Mutes Speakers:

Determines whether or not the MAIN speakers turn off when headphones are plugged into the Front Panel:

- **‘Yes’** The MAIN speakers mute. “HPHONE” is displayed instead of “MAIN” to indicate that adjusting Volume, Bass, Treble, and Balance affect HEADPHONE only.
- **‘No’** MAIN speakers continue to play when headphones are plugged in. (To make headphone adjustments see sections 4.2 to 4.7.)

#### Rename Path:

The factory assigned Path names that appear on the Front Panel and On-Screen displays can be changed to another name up to six characters long – procedure is the same as Rename Source (section 3.5).

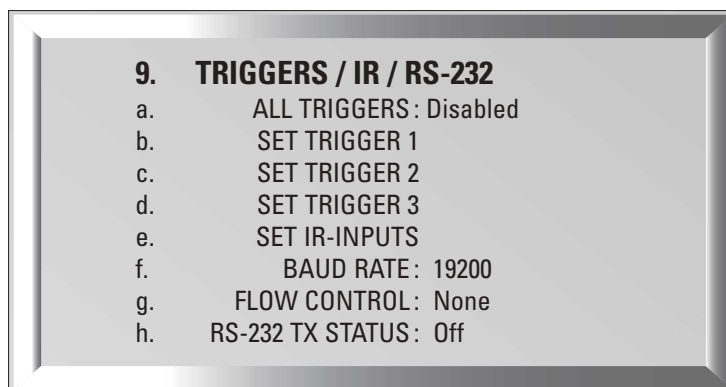
## 3. SETUP MENU continued ...

### 3.9 TRIGGERS / IR / RS-232

When a trigger output on the AVM 30 is connected to the trigger input of another component, such as a power amplifier or video projector, the AVM 30 can turn the component on or off according to the trigger's Setup. For components that do not use triggers, a triggerable power bar may work (see your dealer).

- **Trigger1** and **Trigger2**: Provide standard trigger output of 12 volts with up to **50 mA** of current, suitable for typical source components and most amplifiers.
- **Trigger3**: Provides an output of 12 volts with up to **200 mA** of current, suitable for triggers on motorized projection equipment and very high power amplifiers.

There is a quarter of a second delay between each trigger to minimize momentary line voltage drops caused by switching on too many devices at the same time.

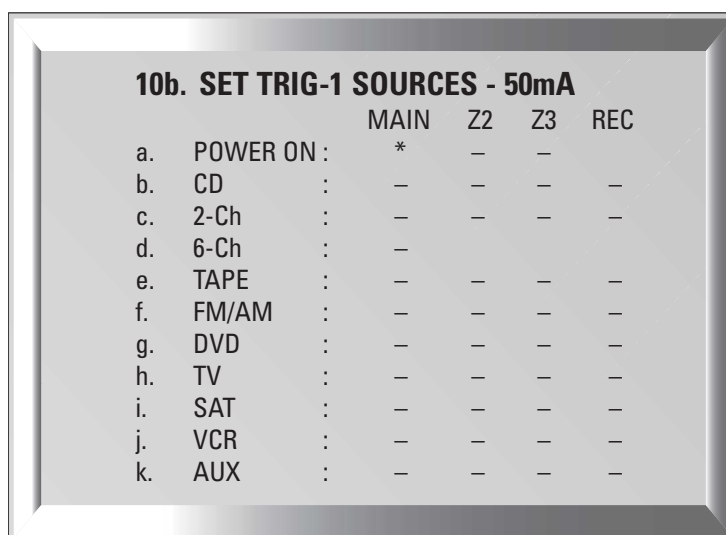


#### All Triggers:

When on 'Disabled' all triggers remain off. When on 'Enabled' the trigger chart below is used to set conditions. For custom installations, 'RS-232 Ctrl' uses external control over all triggers.

#### Set Trigger:

Highlighting 'b. SET TRIGGER 1' and then pressing **SELECT** displays this menu – in the example shown, TRIGGER 1 activates whenever MAIN power is turned on:



Under each of the four Paths, MAIN, ZONE2 (**Z2**), ZONE3 (**Z3**), and RECORD (**REC**), notice that there are 40 available Sources (40 dashes) that could be used to activate the trigger. After highlighting POWER ON or a Source, press **SELECT** and use the ◀ ▶ buttons to move from one Path to another, and then to set the trigger to activate, use the ▲ ▼ buttons to change the '-' to a '\*' (be sure ALL TRIGGERS is set to 'Enabled').

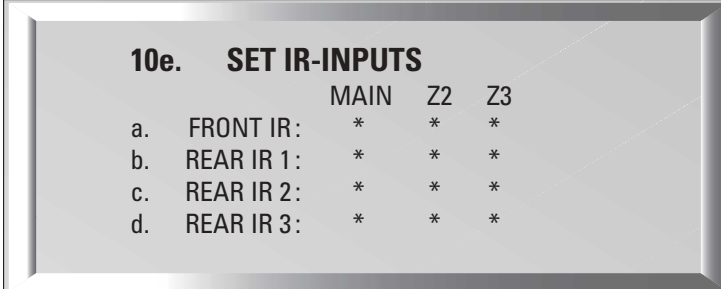
## 3. SETUP MENU continued ...

Changes to the trigger setup do not take effect until the Setup Menu is exited completely, to avoid unnecessary rapid turning off and on of triggers while changes are being made.

### Set IR Inputs:

This allows you to enable or disable the AVM 30's infra-red inputs. Being able to do so can be useful when an IR receiver, connected to the AVM 30, is located in the same room as the AVM 30. In such a case, the AVM 30 can receive two IR signals for the same command – one through the front, and one through the back. The potential result is that whatever you're trying to command may not respond. Disabling the Front IR solves this problem.

In rare situations, the IR signal may find its way to the internally mounted IR receiver through the vents in the top cover. This could also cause IR commands to be intermittent or ineffective. If the Rear IR inputs are not in use, simply disable them to prevent any potential problems.



10e. SET IR-INPUTS		MAIN	Z2	Z3
a.	FRONT IR:	*	*	*
b.	REAR IR 1:	*	*	*
c.	REAR IR 2:	*	*	*
d.	REAR IR 3:	*	*	*

After highlighting an IR input, press **SELECT** and use the ◀ ▶ buttons to move from one Path to another. To turn the input off, use the ▲ ▼ buttons to change the '\*' to a '-'. Do this through the Front Panel, since Remote Control commands are ineffective once an IR sensor is turned off.

**If the AVM 30 does not respond to Remote Control commands**, enter the Setup using the Front Panel buttons, go to menu '10. TRIGGERS/IR/RS-232', followed by 'e. SET IR-INPUTS', and make sure the FRONT IR settings are set to '\*'. **Try this before contacting technical support (see also section 5.6).**

### Baud Rate and Flow Control:

The Baud Rate (adjustable from 1200 to 115200 bps), and Flow Control ('RTS', 'CTS', or 'None'), allow configuration of the serial port communication parameters (normally for use only by custom installers).

### RS-232 TX Status:

When 'On', all commands, status changes, and control information are echoed through the RS-232 port (normally for use only by custom installers).

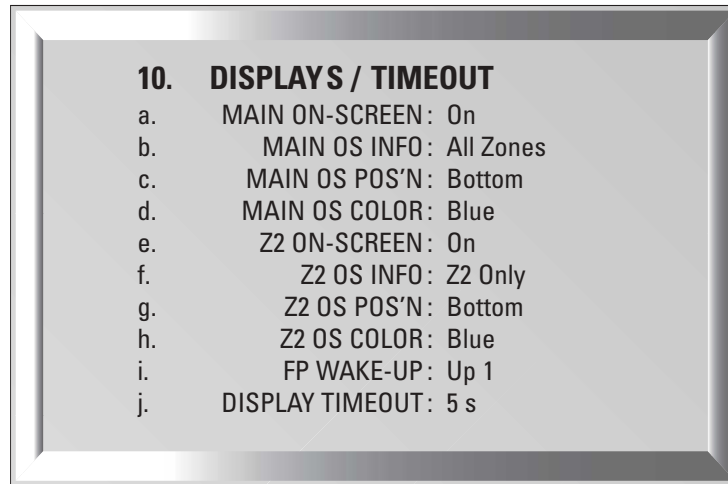
**Example:** Activate Trigger1 when DVD is selected in MAIN.

- Enter the Setup Menu. Go to '10. TRIGGERS/IR/RS-232' and press **SELECT**.
- Upon entering this menu item, 'a. ALL TRIGGERS: Disabled' will be highlighted in red.
- Use the ◀ ▶ buttons to change to 'Enabled'.
- Press the ▼ button to go to 'b. SET TRIGGER 1. Press **SELECT**.
- Use the ▲ ▼ buttons to go to 'DVD'. Press **SELECT**.
- Use the ▲ ▼ buttons to change the '-' to '\*'.
- Press **BACK** twice to leave this submenu.

## 3. SETUP MENU continued ...

### 3.10 DISPLAYS / TIMEOUT

This menu allows you to configure On-Screen display, Front Panel display, and Selection Time.



#### **Main / Z2 On-Screen:**

Whenever you send any command such as volume adjustment or input selection, the Front Panel display information can be shown as On-Screen display through S-Video – turn 'On' or 'Off'.

#### **Main / Z2 OS Info:**

From here, select the Path adjustments that are shown by the MAIN or ZONE2 On-Screen displays. For example, if ZONE2 is set up with an IR repeater for the Remote Control, and you are using the AVM 30 in the MAIN room, you may not want to be disturbed by information about adjustments made in ZONE2 by someone else. In a different situation, you may want to see the ZONE2 information, for example, while adjusting ZONE2 yourself from the MAIN room.

#### **Main / Z2 OS Position:**

Allows you to position the On-Screen display to reduce the chance of it interfering with the on-screen display positions of other video components (e.g. satellite receiver or a TV monitor's own display, etc.). Choose from: 'Bottom', 'Mid', or 'Top'.

#### **Main / Z2 OS Color:**

If the On-Screen display of the Setup Menu appears unstable, it could be that your monitor is not synchronizing to the blue (factory default) background color. You can change the background color to one that your projector/monitor can synchronize to – black and magenta are also available.

#### **Front Panel Wake-Up:**

If Display is set to Medium, Low, or Off, it can be made to change to a brighter level while you make any adjustment, to either one level higher or Hi – choose 'None', 'Up 1', or 'Hi'. When 'None' is chosen and the Display is Off, it will behave as if set to 'Up 1' to prevent confusion as to whether the power is on or off.

#### **Display Timeout:**

This is the time that elapses after an adjustment is made in any Path. After that, On-Screen text disappears, the Front Panel becomes dim, and the regular MAIN display returns. Adjustable from 1 to 15 seconds.

## 3. SETUP MENU continued ...

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**Example:** Set the position of the MAIN On-Screen information to the middle of the monitor.

- Enter the Setup Menu. Go to '11. DISPLAYS/TIMEOUT' and press **SELECT**.
- Press the ▼ button until you reach 'c. MAIN OS POS'N: Bottom'.
- Use the ◀ ▶ buttons to change to 'Middle'.
- When finished, press ▲ ▼ to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

## 3. SETUP MENU continued ...

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### 3.11 SAVE / RESTORE SETTINGS

The AVM 30 enables you to save your entire Setup configuration. Two separate save files are provided: USER SETTINGS and INSTALLER SETTINGS. If your system is set up by your dealer, the configuration can be saved in the INSTALLER file by the dealer. You can then make further Setup adjustments – save those settings separately in your own USER file. FM • AM presets are also saved separately in USER SETTINGS and INSTALLER SETTINGS.

If someone makes unwanted changes to the Setup Menu of your AVM 30, you can quickly and easily restore either the dealer's INSTALLER settings or your USER settings, thereby preventing the need to run through the Setup procedure all over again. FM•AM presets saved in USER SETTINGS or INSTALLER SETTINGS will also be restored.

The original FACTORY DEFAULTS can also be reloaded at any time to reset the AVM 30 to the factory settings. As well, surround mode level, balance and bass/treble adjustments described in sections 4.6 and 4.7 will be reset to 0 dB, and Mode settings described in section 4.8 will be reset to 'None' for all Sources.



#### **Save Settings:**

You can save settings with or without the use of a Password. Passwords are very easy to set up (see section 3.12) and will protect both USER and INSTALLER files from being changed by anyone who doesn't have the Password. **New saves will overwrite the previously saved file.** The AVM 30 will prompt you to confirm that you want to over-write currently saved settings – press **BACK** at this point to abort a save.

#### **Restore or Reload Settings:**

You may RESTORE USER SETTINGS, INSTALLER SETTINGS, or RELOAD FACTORY DEFAULTS at will. The AVM 30 will prompt you to confirm that you want to replace the current settings – press **BACK** at this point to abort a restore.

## 3. SETUP MENU continued ...

### Example 1: Save User Settings.

FM•AM Tuner presets will also be saved in USER SETTINGS.

- Enter the Setup Menu. Go to '12. SAVE/RESTORE SETTINGS' and press **SELECT**.
- Upon entering this menu item, 'a. SAVE USER SETTINGS' will be highlighted in red.
- Press **SELECT**. You will be asked to confirm that you want to over-write current settings.
- Use the ◀ ▶ buttons and change to 'Yes'. If you are using a Password (section 3.12), you will be asked for it. Use the 0–9 buttons to enter your Password. The On-Screen display message will then say 'Saving Successful', the Front Panel display will say 'Done!'.
- When finished, press ▲ ▼ to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

### Example 2: Restore Installer Settings.

FM•AM Tuner presets that were saved in INSTALLER SETTINGS will also be restored.

- Enter the Setup Menu. Go to '12. SAVE/RESTORE SETTINGS' and press **SELECT**.
- Press the ▼ button until you reach 'd. RESTORE INSTALLER SET'NS'.
- Press **SELECT**. You will be asked to confirm that you want to restore installer settings.
- Use the ◀ ▶ buttons to change to 'Yes' and press **SELECT**. On-Screen display message will then say 'Saving Successful', the Front Panel display will say 'Done!'.
- When finished, press ▲ ▼ to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

### Example 3: Reload Factory Defaults.

The current time and FM•AM Tuner presets will be retained. Surround mode level, balance, bass/treble adjustments (sections 4.6 and 4.7) will be reset to 0 dB.

- Enter the Setup Menu. Go to '12. SAVE/RESTORE SETTINGS' and press **SELECT**.
- Press the ▼ button until you reach 'e. RELOAD FACTORY DEFAULTS'.
- Press **SELECT**. You will be asked to confirm that you want to 'reload factory settings'.
- Use the ◀ ▶ buttons to change to 'Yes' and press **SELECT**. On-Screen display message will then say 'Saving Successful', the Front Panel display will say 'Done!'.
- When finished, press ▲ ▼ to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

**To clear all adjustments described in sections 4.6 and 4.7, save User Settings, then reload Factory Defaults, then restore User Settings. The Setup Menu will remain as it was. If certain channels don't sound as loud as they should under certain conditions, and you have already calibrated levels according to section 3, **try this before contacting technical support**. The cause may just be a forgotten adjustment, or an adjustment that someone else made and didn't tell you. **Happens sometimes!****

## 3. SETUP MENU continued ...

### 3.12 LOCKOUT / PASSWORDS

Passwords are used to protect the saved User and Installer settings. Once you have set a password, it can also be used as a Lockout to prevent settings from being changed by anyone without one of the passwords.



#### Set Setup Menu Lockout:

When set to 'Yes', this prevents anyone without a password from entering the Setup. When you attempt to enter the Setup, you will be asked for your Password – either the USER or INSTALLER Password must then be entered from the Remote Control before you will be allowed to continue.

#### Set User or Installer Password:

When setting the USER or INSTALLER Password, you will be asked to enter a four digit number. Pick one that you will remember easily. To enter that number, use the **0 – 9** keys on the Remote Control (password cannot be entered from the Front Panel). To change an existing password, enter the old one first, then enter (and confirm) the new one. Write it down in case it's forgotten in the future!

#### Example 1: Set User Password (Remote Control only).

- Enter the Setup Menu. You must enter the USER or INSTALLER Password if there is one.
- Go to '13. LOCKOUT/PASSWORDS' and press **SELECT**.
- Press the **▼** key to go to 'b. SET USER PASSWORD'.
- Press **SELECT**. You will be asked to enter a four digit number. Use the **0 – 9** keys to do so. If you are changing your Password you will be asked to enter your old Password first. You will also be asked to confirm your new Password (re-enter your new Password).
- When finished, press **▲ ▼** to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.

**Clearing the User Password:** When asked for your new Password, press the **▶** key four times. You will also be asked to confirm your new Password – press the **▶** key four times again. Message will then say 'User Password Removed'.

#### Example 2: Set Setup Menu Lockout.

- Enter the Setup Menu. Go to '13. LOCKOUT/PASSWORDS' and press **SELECT**.
- Upon entering this menu item, 'a. SET SETUP MENU LOCKOUT' will be highlighted in red.
- Press **SELECT**. You will be asked to enter your Password. Either the USER or INSTALLER Password will work. Use the **0 – 9** keys to do so.
- Use the **◀ ▶** buttons to change to 'Yes' or 'No'.
- Press **SELECT** or **BACK**.
- When finished, press **▲ ▼** to go to another menu item, or...
- Press **BACK** to leave the submenu and return to the main menu.



# 4. OPERATION

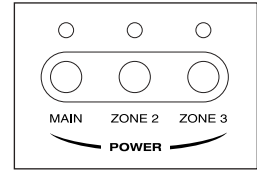
## 4.1 POWER ON/OFF

When turned on, the AVM 30 comes on at the pre-programmed volume setting (see section 3.8). **Always turn the power amplifier on last to prevent 'turn-on pops' when other components are turned on.**

### Front Panel – Power ON Main

Choose one of the following:

- Press **MAIN** in the POWER group, or...
- Press **MAIN** in the PATH group, or...
- If ZONE2 and ZONE3 are off, press any **SOURCE** button, FM • AM preset (1 through 6), or **TUNE**.

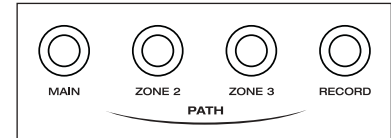


### Front Panel – Power ON a Zone

- Press **ZONE2** or **ZONE3** in the POWER or PATH group.

### Front Panel – Power OFF Main or a Zone

- Press **MAIN** or **ZONE2** or **ZONE3** in the POWER group.



### Remote Control – Power ON

- Make sure the appropriate control mode is set (**MAIN**, **Z2**, or **Z3** in the SSP PATH group) then press **POWER**.



### Remote Control – Power OFF

- Make sure the appropriate control mode is set then press **SSP OFF**.



## 4.2 PATH SELECTION

Path routes Sources to the MAIN, ZONE2, ZONE3, or RECORD outputs.

- **MAIN:** As the name suggests, MAIN routes the audio/video sources to your main listening/viewing room, with outputs for your MAIN TV monitor and 7.1-channel audio.
- **ZONE2** and **ZONE3:** Routes any audio/video source to other listening/viewing rooms in your home. The chosen Source can be either the same or different from the Source selected in other paths. ZONE2 and ZONE3 each have outputs for a TV monitor and 2-channel audio. **To listen to a Source that doesn't have L/R Analog Audio-In connected, you must 'copy' it from MAIN (see section 4.3).**
- **RECORD:** Allows you to record audio/video sources independently of what is selected in other paths. Composite and S-Video, and fixed-level analog audio outputs are available for your tape recorder and VCR. In addition, there are two configurable coaxial digital outputs: DIGITAL1 can be set to put out the audio of any digital Source, or convert an analog Source to digital (must be set to Anlg-DSP in the Setup). DIGITAL2 can be set to put out the same signal as DIGITAL1, or any of the Sources set to Digital. Refer to sections 3.5 and 3.7 for an explanation on how to set input and output formats. **As with Zones 2 and 3, RECORD has output only if L/R Analog Audio-In is connected, or when MAIN is 'copied' (see section 4.3).**

**Remote control** – the **REC PATH** key is near the bottom of the remote control.



The displayed Path returns to MAIN a few seconds after an adjustment is made in ZONE2, ZONE3, RECORD, or HEADPHONE\*. This is designed to prevent accidents. For example, if someone in the MAIN room wants to turn up the volume there, and the Path is in ZONE2, the volume would increase in ZONE2, not MAIN. Since the person adjusting the volume doesn't hear the change, chances are that he or she would keep turning up the volume in ZONE2, unaware of what's happening there, like Peter Sellers in "The Party" except maybe not quite as hilarious. The timeout setting can be changed in the Setup (see section 3.10).

\* Except when MAIN is off or HEADPHONE is set to 'Mute' the MAIN speakers (see section 3.8).

## 4. OPERATION continued ...

### 4.3 MANUALLY COPYING THE MAIN PATH TO ZONE2, ZONE3, OR RECORD

When Main is copied to another Path, the Source selected in MAIN is directed to ZONE2, ZONE3, or RECORD from either analog or digital inputs.

If a source component's audio is connected to the AVM 30 using digital connection only, then the Copy function is the only way to deliver the sound to another Path.

#### Front Panel

Press **MAIN** simultaneously with **ZONE2**, **ZONE3**, or **REC**. Use **MAIN** to select the Source.

#### Remote Control

Make sure the appropriate control mode is set, or **REC** Path is selected, then press **COPY**.



When MAIN is copied, the display for the other Paths reads “-MAIN-> ZONE2” (or ZONE3 or REC), along with the information normally displayed. **Copy can also be set permanently – see section 3.5.**

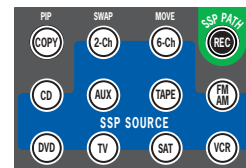
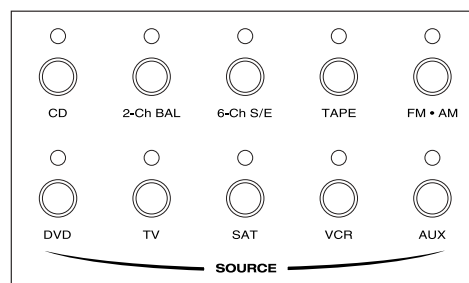
#### Down-Mixing to 2-Channel Stereo:

The Center, Surround, and Rear channels can be mixed into the Left and Right Channels for the ZONE2, ZONE3, TAPE, and VCR outputs. This can be done by the DVD player or the AVM 30:

- **AVM 30 Down-mix:** If the digital audio output from your DVD player is connected to the AVM 30, the AVM 30 down-mixes 5.1 channels into 2.0 whenever you copy MAIN to another Path. This applies whether the input is, Dolby Digital, DTS, or 6-Ch input.
- **DVD Player Down-mix:** If the Left/Right analog outputs from your DVD player are connected to the AVM 30's Analog Audio-In, the Dolby Digital down-mix done by your DVD player can be used for ZONE2, ZONE3, TAPE, and VCR outputs, without having to copy MAIN. Note that DVD players do not normally provide a down-mix for DTS material.

### 4.4 SOURCE SELECTION

After making sure that you are in the appropriate Path (Front Panel) or appropriate control mode is set (Remote Control), select a Source.



#### 6-Channel Input:

The 6-Channel S/E (single-ended analog) input is for multichannel DVD-Audio and SACD players. When the 6-Channel input is selected, the video signal from the DVD input is routed to the Composite, S-Video, and Component outputs (if assigned to DVD – see section 3.5) to allow track selection and navigation of the disc's menu. The 6-Ch audio can be routed to ZONE2, ZONE3, and RECORD outputs as long as Copy mode, which creates the stereo down-mix, is used (see section 4.3).

#### Source Seek (Remote Control Only):

The SOURCE SEEK ◀▶ keys detect the previous/next active Source, while the ▶ key advances one Source at a time.



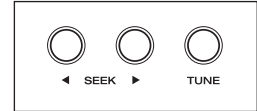
## 4. OPERATION continued ...

### 4.4.1 FM•AM TUNER

The AVM 30 has a built-in FM•AM tuner, which is common to all Paths. The station that is selected in either MAIN, ZONE2, ZONE3, or RECORD is shared with all other Paths.

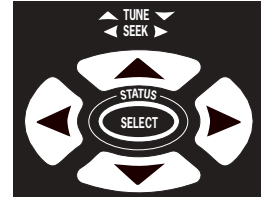
#### Manual Tuning:

After selecting the desired band by pressing **FM • AM**, use the **▲ ▼** buttons (Remote Control) or press **TUNE** and rotate the Master Control Knob (Front Panel).



#### Automatic Tuning:

To find the next station, press **◀ SEEK** or **SEEK ▶**. To scan and listen to all available stations for a few seconds, press and hold **◀ SEEK** or **SEEK ▶** for about a second. The '**◀ Sk**' or '**Sk ▶**' indicator on the display will change to '**◀ Prv**' or '**Nxt ▶**'. To stop scanning, press one of the **◀ SEEK ▶** buttons to return to Seek mode, or press **TUNE** to tune manually (Front Panel only). Press **TUNE** a second time to restore the regular functions and display (the TUNE function does not time out).

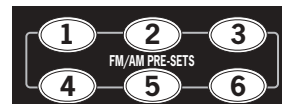
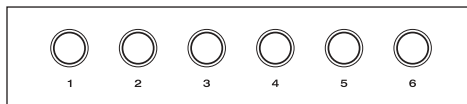


#### Direct Tuning (Remote Control Only):

A station's frequency can be entered as a four-digit number. For example, to tune into 98.3 FM, press and hold **SELECT** until the display shows "<blank>0.0" in the lower left corner, then press **0, 9, 8, 3**.

#### Presets:

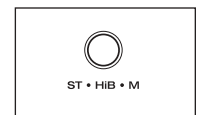
18 FM and 6 AM stations can be stored. The presets are divided into four banks of six. By repeatedly pressing **FM•AM**, the display will show that you are cycling through 'FM1', 'FM2', 'FM3', 'AM'. Once you have selected the desired bank, you can store the currently tuned radio station by pressing and holding one of the six preset keys (**1** through **6**) for about a second. You can even do this while scanning for stations. The lower line of the display briefly flashes once the station is stored. To skip a preset, set it to 87.5 FM or 530 AM.



To recall a preset, select the bank that it is in, then press the respective preset key. From the Remote Control, you can also use the **CH+** and **CH-** keys to run through all FM or AM presets.

#### ST / HiB / M (Front Panel Only):

If FM reception is weak, switching a station out of stereo can reduce or eliminate unwanted noise. Press **ST / HiB / M** repeatedly to cycle through Stereo, Hi-Blend, or Mono. Hi-Blend offers an alternative to Mono, offering decreased noise without the complete loss of stereo – it decreases hiss and noise by reducing some stereo separation only at higher frequencies. The setting is memorized individually for each preset.



### 4.4.2 SIMULCAST

Simulcast allows you to select one video Source and a different audio Source. For example, you could view a sports event on TV while listening to your favorite FM•AM station. Simulcast is available for all Paths.

Press and hold the desired video Source button for 2 seconds. The display shows the video Source in the top line next to "SIMULCAST" and the audio Source in the bottom line next to the Path. Before the display returns to normal, press another Source button to select an audio Source.

When the regular display returns, the Source LED indicates the video Source, and the display shows the audio Source next to a '+'.

To exit from Simulcast mode, press any Source button – both the audio and video will switch to this selection.

## 4. OPERATION continued ...

### 4.5 VOLUME CONTROL

#### Changing Volume via Front Panel:

**MAIN** – Adjust using the Master Control Knob. If levels have been calibrated according to section 3, set Volume to 0 dB for the playback level which the film was originally presented in theaters.

**ZONE2** or **ZONE3** – Press ZONE2 or ZONE3, then adjust.

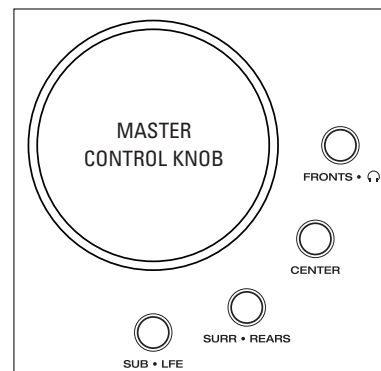
**HEADPHONE** – Check that the display reads MAIN, press FRONTS twice, then adjust. MAIN can be set to mute whenever headphones are plugged in (see section 3.8).

#### Changing Volume via Remote Control:

Make sure the appropriate control mode is set, then use the **VOL+** and **VOL-** keys.

#### Mute:

When MUTE is pressed, the audio of the selected Path is silenced (or reduced in level – see section 3.8). Press MUTE again, or rotate the Master Control Knob, and sound will return.



**Always make sure you are in the Path that you want to adjust before changing Volume or muting.**

#### Dialog Normalization:

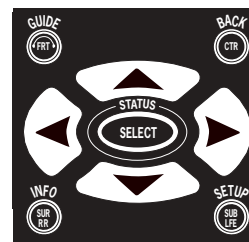
Dolby Digital program material contains non-audio data which the AVM 30 uses to adjust playback level, when necessary, so that volume variations between movies and programs are eliminated. Without Dialog Normalization, movies not encoded at standardized levels for the dialog could lose dynamic range – higher levels can result in distorted peaks, lower levels can result in quiet sounds disappearing into the noise floor. Dialog Normalization also ensures that Dynamics control (section 4.8.10) works as intended.

If the display reads “Dial Norm Offset -4.0 dB” at the start of a movie, it is indicating that the encoded level is higher than standard by 4.0 dB – the playback level of all channels is then automatically reduced by 4 dB.

### 4.6 SURROUND MODE LEVELS

The AVM 30 memorizes the level of one group of channels relative to another separately for each surround mode (section 4.8), and for the 6-Ch input. To make a change for the surround mode that is currently playing, adjust using the Master Control knob or ▲ ▼ on the remote as follows:

- **Fronts:** Press FRONTS, then adjust (this changes Left, Center, and Right levels together).
- **Center:** Press CENTER, then adjust.
- **Surrounds:** Press SURREAR • REARS, then adjust.
- **Rears:** Press SURREAR • REARS twice, then adjust.
- **Subwoofer Only:** Press SUB • LFE, then adjust. **Pressing SUB • LFE twice** allows you to reduce the level of the '.1' LFE channel while leaving the bass derived from the other channels unchanged. Certain movies exhibit prodigious levels of bass, and may need LFE adjustment.




To reset the above adjustments to 0 dB all at once, see section 3.11.

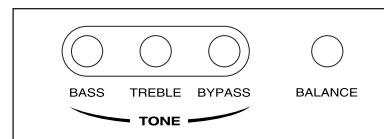
When listening in Stereo with Front speakers set to 'Large', the Subwoofer must be set to 'Super' if you want it to play (see section 3.2).

## 4. OPERATION continued ...

### 4.7 BASS / TREBLE / BALANCE

To change the Bass, Treble, or Balance of:

- **MAIN – All Speakers Simultaneously:** Press BASS, TREBLE, or BALANCE, then adjust.
- **MAIN – Fronts Only:** Press FRONTS, press BASS, TREBLE, or BALANCE, then adjust.
- **MAIN – Center Only:** Press CENTER, press BASS or TREBLE, then adjust.
- **MAIN – Surrounds Only:** Press SURR•REARS, press BASS, TREBLE, or BALANCE, then adjust.
- **MAIN – Rears Only:** Press SURR•REARS twice, press BASS, TREBLE, or BALANCE, then adjust.
- **ZONE2 or ZONE3:** Press ZONE2 or ZONE3, press BASS, TREBLE, or BALANCE, then adjust.
- **HEADPHONE:** Press FRONTS• twice, press BASS, TREBLE, or BALANCE, then adjust.

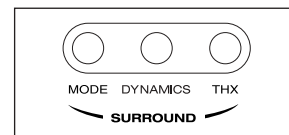


Pressing BYPASS disables Bass/Treble in the selected Path. To enable Bass/Treble, be certain you are in the Path that you want to adjust and press either BASS or TREBLE. To reset all the above adjustments to 0 dB, see section 3.11. Bass/Treble is not available for Anlg-Dir sources (see section 3.5).

### 4.8 SURROUND MODES

A surround mode is signal processing that enhances original source material. Surround modes fall into two main categories – those that apply to **stereo** source material and those that apply to **multichannel** source material.

Factory defaults for Surround Modes are set so that all of your surround speakers are used with any type of source material except 1.0-channel input. To change these defaults, see Mode Presets in section 3.5.



#### Stereo Source Material:

This includes analog stereo, digital PCM stereo, and Dolby Digital 2.0 source material. Surround modes can be applied to provide up to 7.1 channels of output. They are described later in this section. Each Source memorizes its own Mode setting, so you can, for example, set VCR to 'AnthemLogic-Cinema', and then set CD to 'AnthemLogic-Music' – when you change Source, the respective Modes are remembered.

Surround modes are not available for inputs set to Anlg-Dir (see section 3.5).

Regarding analog VCR input: With analog, there is no way for a processor to detect Dolby Surround encoded material. Dolby Pro Logic must be turned on manually by selecting it in the Mode options.

#### 5.1- and 6.1-Channel Source Material:

The AVM 30 detects the digital format that you select on each DVD and automatically engages decoding for the selected format.

As soon as the AVM 30's display shows the format, you can select additional processing, described throughout this section. Your selections are memorized by format and by Source as well.

#### Why isn't my AVM 30 detecting Dolby Digital 5.1 or DTS?

The connection can carry only one bit stream at a time, and the processor plays exactly what it gets. Make sure your DVD player's setup menu is set to leave Dolby Digital and DTS unchanged ("Bitstream"), otherwise output will always be 2.0-channel PCM! You must also select the soundtrack that you want to hear from each disc's menu, or after the movie starts by pressing AUDIO on the player's remote control.

## 4. OPERATION continued ...

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Various surround modes produce 6.1 or 7.1 channels of output. If you are using a 5.1 system and have Rears set to 'None' in the Speaker Configuration (section 3.2), no information is not lost – it comes out of the L/R Surround channels.

---

### 4.8.1 AnthemLogic™



These are proprietary surround modes developed by Anthem that offer outstanding surround performance and can be applied to any 2-channel source material:

#### AnthemLogic-Music™

AnthemLogic-Music™ enhances the stereo listening experience without detracting from the stereo soundstage. Through extensive listening tests a very effective design was developed. This is a minimalist design that uses no echo or reverberation effects which could negatively affect the purity of the sound.



Depending on your speaker configuration, up to 6.1 channels of output are provided – L/R Fronts, L/R Surrounds, L/R Rears and Subwoofer. AnthemLogic-Music™ does not utilize the Center Channel, to ensure that the purity of the stereo music soundstage will in no way be compromised when you're sitting in the 'sweet spot' and listening to your favorite stereo recordings.

AnthemLogic-Music™ is very effective in creating an expansive musical soundstage that psychoacoustically helps to remove the barrier of the listening room itself, and it does so in a completely non-intrusive, natural and very compelling way. This is the factory default 2-channel Mode for CD, 2-Ch BAL, TAPE, and FM•AM.

#### AnthemLogic-Cinema™

AnthemLogic-Cinema™ provides a large, enveloping and dynamic movie listening experience that makes 2-channel movies sound more like what is experienced in a state-of-the art movie theater. Again through extensive listening tests a very effective design was developed. This is also a minimalist design that avoids the use of echo effects, which could otherwise negatively affect the purity of the sound.



AnthemLogic-Cinema™ uses the rear speakers to provide up to 7.1 channels of output, depending on your speaker configuration.

AnthemLogic-Cinema™ provides the missing link that lets you experience 7.1 channels of output for full impact home theater sound, from any 2-channel stereo analog source such as VCR or TV, or any Dolby Digital 2-channel source, such as DVD or satellite. This is the factory default Mode for DVD, TV, SAT, VCR, and AUX.

### 4.8.2 DOLBY DIGITAL 2.0



Dolby Digital 2.0 soundtracks with surround encoding contain a flag that can be used to automatically activate Pro Logic IIx Movie mode. The AVM 30 can be set to either use this flag or to override it.

To find out if the Dolby Digital 2.0 material being played has the surround flag, press **MODE**. If flagged, the first line of the display says "DOLBY D 2.0 SUR AUTO" and if not flagged, it says "MODE FOR 2 CH INPUT".

The Modes in the next section may be selected separately for flagged and unflagged stereo source material.

Single-channel soundtracks can be encoded in one of two ways – either using the Center channel, or with the same signal into the Left/Right channels. The Mode changes to Mono if the soundtrack uses only the Center channel – you can switch it to Mono-Academy or All Channel Mono afterwards.

## 4. OPERATION continued ...

### 4.8.3 SURROUND MODES FOR 2.0-CHANNEL SOURCE MATERIAL

Number of output channels for each Mode is indicated below in bold type – '.1' refers to a subwoofer signal derived through bass management, not a separate channel (see section 3.2). Press **MODE**, then rotate the Master Control Knob or use ▲ ▼ (up/down) on the remote control to cycle through the following:

**THX must be Off for all Modes to be available (see section 4.8.6).**

- Stereo:** No surround mode is applied.
- AnthemLogic-Music:** **6.1** – One of Anthem's proprietary surround modes, designed to expand the soundstage of stereo music in a very natural way without losing soundstage integrity or image focus. **The Center channel is not used.**
- AnthemLogic-Cinema:** **7.1** – Another proprietary mode from Anthem, designed to provide the impact of a large theater experience from 2-channel movies and TV programs.
- Pro Logic IIx Music:** **7.1** – Created for use with stereo music material. The following three parameters can be adjusted by pressing the **MODE** button one, two, or three times while in Pro Logic IIx Music, and rotating the Master Control Knob or using ▲ ▼ :  
**Center Width** is adjustable from 0 to 7 – '0' places all Center sound in the Center speaker, while '7' places it equally in the Left and Right channels.  
**Dimension** helps achieve the desired front-to-back balance by providing seven steps of adjustment between the Surround and Center channels.  
**Panorama** is effective for recordings with strong left or right channel elements. When 'On', it extends the front stereo image to include the Surround channels.
- Pro Logic IIx Movie:** **7.1** – Dolby Surround decoder for 2-channel movies and TV programs.
- Pro Logic IIx Matrix:** **7.1** – A matrix decoder that does not steer the image from one speaker to another.
- Pro Logic IIx Game:** **7.1** – Bass from surround effects in video games is optimized for visceral impact.
- Dolby Pro Logic:** **4.1** – In case there's a desire to hear it "as it used to be" (Surrounds are mono).
- Neo:6 Music:** **6.1** – Can be used with stereo music material to create 6.1 output channels. The center image can be adjusted by pressing **MODE** while in Neo:6 Music, and rotating the Master Control Knob or using ▲ ▼ (up/down) on the remote:  
**Center Image** is adjustable from 0 to 5 – increasing the number gives more center channel prominence.
- Neo:6 Cinema:** **6.1** – A matrix decoder that can be used with any matrix-encoded movie. Separation is created by allowing various sounds to be placed at different points in the sound field simultaneously.
- All Channel Stereo:** **7.1** – The Left and Right channels are also sent to the Surround and Rear channels, while the Center channel and Subwoofer receive a combination of both. Some processing is used to retain image clarity. Useful for playing music at parties so that it can be heard with equal loudness in all parts of the room.
- All Channel Mono:** **7.1** – Combines the Left and Right channels and sends the signal to all speakers.
- Mono:** **1.1** – Combines the Left and Right channels and sends them to the Center speaker.
- Mono-Academy:** **1.1** – Gives a presentation closer to the original on movies made from the 1930s to the 1960s, which relied on high-frequency rolloff for sound balance and to mask inherent hiss. Use with old mono movies that sound overly noisy. Can also be useful with DVDs of some TV shows if high-pitched noise leakage from a CRT (cathode ray tube) monitor is audible in the recording.

## 4. OPERATION continued ...

### 4.8.4 DOLBY DIGITAL EX / PRO LOGIC IIx FOR 5.1 SOURCES



Dolby Digital EX and Pro Logic IIx can be used to decode DVDs encoded in Dolby Digital Surround EX by extracting Rear channel information from the two Surround channels. Dolby Digital EX creates a mono Rear signal, whereas with Pro Logic IIx, the two Rear channels play a stereo signal. Either one of these Modes can be applied to any other 5.1-channel material. The Rear channels may or may not be pleasing depending on the soundtrack.

A list of movies encoded in Dolby Digital Surround EX can be found on the Dolby web site at [www.dolby.com](http://www.dolby.com) and on the THX web site at [www.thx.com](http://www.thx.com). Newer titles contain a flag that can automatically engage Dolby Digital EX / Pro Logic IIx, whereas older titles do not. Press **MODE** when a movie starts playing and use the Master Control Knob to select the Mode that sounds best – the display says “DOLBY D 5.1 INPUT” if the soundtrack is unflagged, and “DOLBY D EX AUTO” if it is flagged.

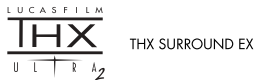
### 4.8.5 DTS-ES



There are two ways that Rear channel information is encoded in DTS-ES – Matrix and Discrete:

- **Matrix** – DTS-ES Matrix movies contain a matrixed Rear channel. The AVM 30 automatically engages Neo:6 to decode DTS-ES Matrix. Neo:6 can also be turned on manually and applied to any other 5.1-channel material – when a movie starts playing, press **MODE** and use the Master Control Knob to select. A mono Rear channel is derived from the Left and Right Surround channels. This Rear channel may or may not be pleasing depending the soundtrack.
- **Discrete** – DTS-ES Discrete soundtracks contain 6.1 channels with an independent Rear channel. The AVM 30 automatically engages DTS-ES Discrete decoding.

### 4.8.6 THX ULTRA2 / THX SURROUND EX



THX is an exclusive set of standards and technologies established by the world-renowned film production company, Lucasfilm Ltd. THX grew from George Lucas' personal desire to make your experience of the film soundtrack, both in movie theaters and in your home theater, as faithful as possible to what the director intended. Movie soundtracks are mixed in special movie theaters called dubbing stages and are designed to be played back in movie theaters with similar equipment and conditions. This same soundtrack is very often transferred to DVD, Laserdisc, VHS tape, etc. without any adjustments for playback in the smaller home theater environment. THX engineers developed patented technologies to accurately translate the sound from the movie theater environment into the home, restoring proper tonal and spatial balance.

Each THX mode includes a specific combination of the following:

- **Re-Equalization** – Restores the correct tonal balance for home playback. A film soundtrack may sound too bright when played in the home, because film soundtracks are designed for large movie theaters where acoustical properties are different. To enable or disable Re-EQ, press **THX** twice to display “THX RE-EQUALIZATION”, then select On or Off with the Master Control Knob or ▲ ▼ (up/down) on the remote control. **You can even apply Re-EQ when THX is Off** – this can be useful if the high-pitched noise produced by standard CRT monitors accidentally leaked into the audio while it was being recorded, and you would like to filter it out.
- **Timbre Matching** – The human ear changes our perception of a sound depending on the direction from which the sound is coming. In a movie theatre, there is an array of surround speakers so that the surround information is all around you. In a home theatre, you use only two speakers located to the side of your head. Timbre Matching, which includes Re-EQ, filters the information going to the surround speakers so that they more closely match the tonal characteristics of the sound coming from the front speakers. This ensures seamless panning between the front and surround speakers.



## 4. OPERATION continued ...

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- **Adaptive Decorrelation** – In a movie theatre, a large number of surround speakers help create an enveloping surround sound experience, but in a home theatre there are usually only two speakers. Unless you are using properly positioned dipoles, surround speakers can sound like headphones that lack spaciousness and envelopment – they will also collapse into the closest speaker as you move away from the middle seating position. Adaptive Decorrelation senses the presence of identical surround channels (mono) and slightly changes one surround channel's time and phase relationship with respect to the other. This expands the listening position and creates – with only two speakers – the same spacious surround experience found in a movie theatre. Adaptive Decorrelation does not operate when the surround channels are different, as is often the case in discrete multichannel source material.
- **ASA (Advanced Speaker Array)** – ASA is a proprietary THX technology that processes the sound fed to the two surround and two rear speakers to provide an optimal surround sound experience. When you set up your home theater system using all 7.1 speaker outputs (L-Front, Center, R-Front, R-Surround, R-Rear, L-Rear, L-Surround, Subwoofer), placing the two Rear speakers close together will provide the largest sweet spot. If for practical reasons you have to place the Rear speakers further apart, you will have to go to the Listener Position menu (section 3.3) and choose the setting that most closely corresponds to the speaker spacing to re-optimize the surround soundfield.

Depending on source material and speaker configuration, THX processing is available as follows:

- |                           |   |
|---------------------------|---|
| <b>THX Cinema:</b>        | <b>5.1 to 7.1</b> output with 2.0- and 5.1-channel movies (see overview that follows)<br><b>Processing:</b> Re-Equalization, Timbre Matching, Adaptive Decorrelation (if applicable)<br>When THX Cinema is selected, Dolby Pro Logic IIx Movie is automatically engaged. Alternatively, Dolby Pro Logic or DTS Neo:6 Cinema may be selected. Other Surround Modes are not available and do not appear when pressing MODE.   |
| <b>THX Ultra2 Cinema:</b> | <b>7.1</b> output with 5.1-channel movies<br><b>Processing:</b> Re-Equalization, Timbre Matching, Adaptive Decorrelation, ASA (Cinema)<br>THX Ultra2 Cinema mode plays 5.1 movies using all 7.1 speakers giving you the best possible THX movie watching experience with 5.1 program material. In this mode, ASA processing blends the L/R-Surround speakers and L/R-Rear speakers providing the optimal mix of ambient and directional surround sounds.  |
| <b>THX MusicMode:</b>     | <b>7.1</b> output with 5.1-channel music (including <b>DVD-Audio, multichannel SACD</b> )<br><b>Processing:</b> Timbre Matching, Adaptive Decorrelation, ASA (Music)<br>THX MusicMode can be selected when playing multi-channel music. In this mode THX ASA processing is applied to the surround channels of all 5.1 channel encoded music sources to provide a wide stable rear soundstage.  |
| <b>THX Games Mode:</b>    | <b>7.1</b> output with 2.0- and 5.1-channel games<br><b>Processing:</b> Timbre Matching, ASA (Games)<br>Game audio is mixed and monitored in a different environment than that of music and movies. The interactive nature of the audio requires a playback system which can provide 360 degree panning while preserving the ambient nature of background sound elements. When playing back 5.1 games, THX Games Mode may be engaged. Suitable sources are Dolby Digital 5.1 and DTS 5.1 game sources. If THX Games Mode is engaged with 2.0 input, the source is first converted to 5.1 via Pro Logic IIx Game mode. |

## 4. OPERATION continued ...

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### THX Surround EX:

#### 6.1 output with **Dolby Digital Surround EX**

**Processing:** Re-Equalization, Timbre Matching

THX Surround EX – Dolby Digital Surround EX is a joint development of Dolby Laboratories and the THX division of Lucasfilm Ltd.

In a movie theater, film soundtracks that have been encoded with Dolby Digital Surround EX technology are able to reproduce an extra channel which has been added during the mixing of the program. This channel (called Surround Back, but named Rear in the AVM 30), places sounds behind the listener in addition to the currently available L-Front, Center, R-Front, R-Surround, L-Surround and Subwoofer channels. This additional channel provides the opportunity for more detailed imaging behind the listener and brings more depth, spacious ambience, and sound localization than ever before.

Movies that were created using the Dolby Digital Surround EX technology may exhibit wording to that effect on the packaging when released on DVD. A list of movies created using this technology can be found on the Dolby web site at [www.dolby.com](http://www.dolby.com). A list of DVD titles encoded with this technology can be found on the THX web site at [www.thx.com](http://www.thx.com).

Bearing the THX Surround EX logo, the AVM 30 will faithfully reproduce this technology in the home when in THX Surround EX mode.

The AVM 30 also allows you to engage THX Surround EX during playback of 5.1-channel material that is not encoded with Dolby Digital Surround EX. The information delivered to the Rear channel will be program dependent and may or may not be pleasing depending on the soundtrack and your listening tastes.

In compliance with THX requirements, Bass/Treble, Surround Mode Level, and Balance adjustments are **reset to 0 dB** whenever a THX mode is selected, after which you can make adjustments with THX engaged if you wish to do so. When THX is turned 'Off', previous settings are restored, except for Balance (see sections 4.6 and 4.7). Also note that due to the nature of digital bitstreams, adjustments made while THX is engaged will be reset to 0 dB if the program is paused for longer than 3 seconds.

---

**Outputs indicated are the number of output channels as follows:**

**6.1 = L-Front, Center, R-Front, R-Surround, Rear\*, L-Surround, LFE/Subwoofer**

**7.1 = L-Front, Center, R-Front, R-Surround, R-Rear, L-Rear, L-Surround, LFE/Subwoofer**

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\* If two rear speakers are used, the same Rear channel information goes to both.

## 4. OPERATION continued ...

### THX Ultra2 Overview

<b>Key:</b>	<b>Re-EQ</b>	– De-emphasizes treble. May be turned on or off at any time after pressing <b>THX</b> twice.
	<b>Timbre</b>	– Matches the sound character, or timbre, of the surround channels to the front channels.
	<b>Adp-Decor</b>	– When content of L/R-Surrounds is mono, adjusts time and phase to restore spaciousness.
	<b>ASA</b>	– Surround and Rear channels are processed to provide a wide rear soundstage.

<u>Program</u>	<u>Decoding / Processing</u>	<u>THX Available</u>	<u>Outputs</u>	<u>THX Processing</u>
<b>Stereo</b>	<b>Selected Mode</b>	<b>Off</b>	<b>up to 7.1</b>	<b>Off</b>
	PLIIx Movie <sup>†</sup>	THX Cinema	7.1	Re-EQ, Timbre
	PLIIx Games	THX Games Mode	7.1	Timbre, ASA (Gam)
	Dolby Pro Logic	THX Cinema	5.1	Re-EQ, Timbre, Adp-Decor
	Neo:6 Cinema	THX Cinema	6.1	Re-EQ, Timbre
<b>Dolby Digital 5.1</b>	<b>Dolby Digital</b>	<b>Off</b>	<b>5.1</b>	<b>Off</b>
	Dolby Digital	THX Cinema	5.1	Re-EQ, Timbre, Adp-Decor
	Dolby D 5.1+PLIIx Movie	THX Cinema	7.1	Re-EQ, Timbre
	Dolby Digital	THX Ultra2 Cinema	7.1	Re-EQ, Timbre, Adp-Decor, ASA (Cin)
	Dolby Digital	THX MusicMode	7.1	Timbre, Adp-Decor, ASA (Mus)
	Dolby Digital	THX Games Mode	7.1	Timbre, ASA (Gam)
	Dolby Digital EX <sup>*</sup>	THX Surround EX	6.1	Re-EQ, Timbre
	Dolby D 5.1+Neo:6	THX Cinema	6.1	Re-EQ, Timbre
<b>DTS 5.1</b>	<b>DTS</b>	<b>Off</b>	<b>5.1</b>	<b>Off</b>
	DTS	THX Cinema	5.1	Re-EQ, Timbre, Adp-Decor
	DTS+Neo:6	THX Cinema	6.1	Re-EQ, Timbre
	DTS	THX Ultra2 Cinema	7.1	Re-EQ, Timbre, Adp-Decor, ASA (Cin)
	DTS	THX MusicMode	7.1	Timbre, Adp-Decor, ASA (Mus)
	DTS	THX Games Mode	7.1	Timbre, ASA (Gam)
	DTS+PLIIx Movie	THX Cinema	7.1	Re-EQ, Timbre
<b>DTS-ES Matrix<sup>§</sup></b>	<b>DTS+Neo:6</b>	<b>Off</b>	<b>6.1</b>	<b>Off</b>
	DTS+Neo:6	THX Cinema	6.1	Re-EQ, Timbre
	DTS+PLIIx Movie	THX Cinema	7.1	Re-EQ, Timbre
<b>DTS-ES Discrete<sup>§</sup></b>	<b>DTS-ES Discrete</b>	<b>Off</b>	<b>6.1</b>	<b>Off</b>
	DTS-ES Discrete	THX Cinema	6.1	Re-EQ, Timbre

† DVDs with Dolby Digital 2.0 Surround may be flagged for auto-detection.

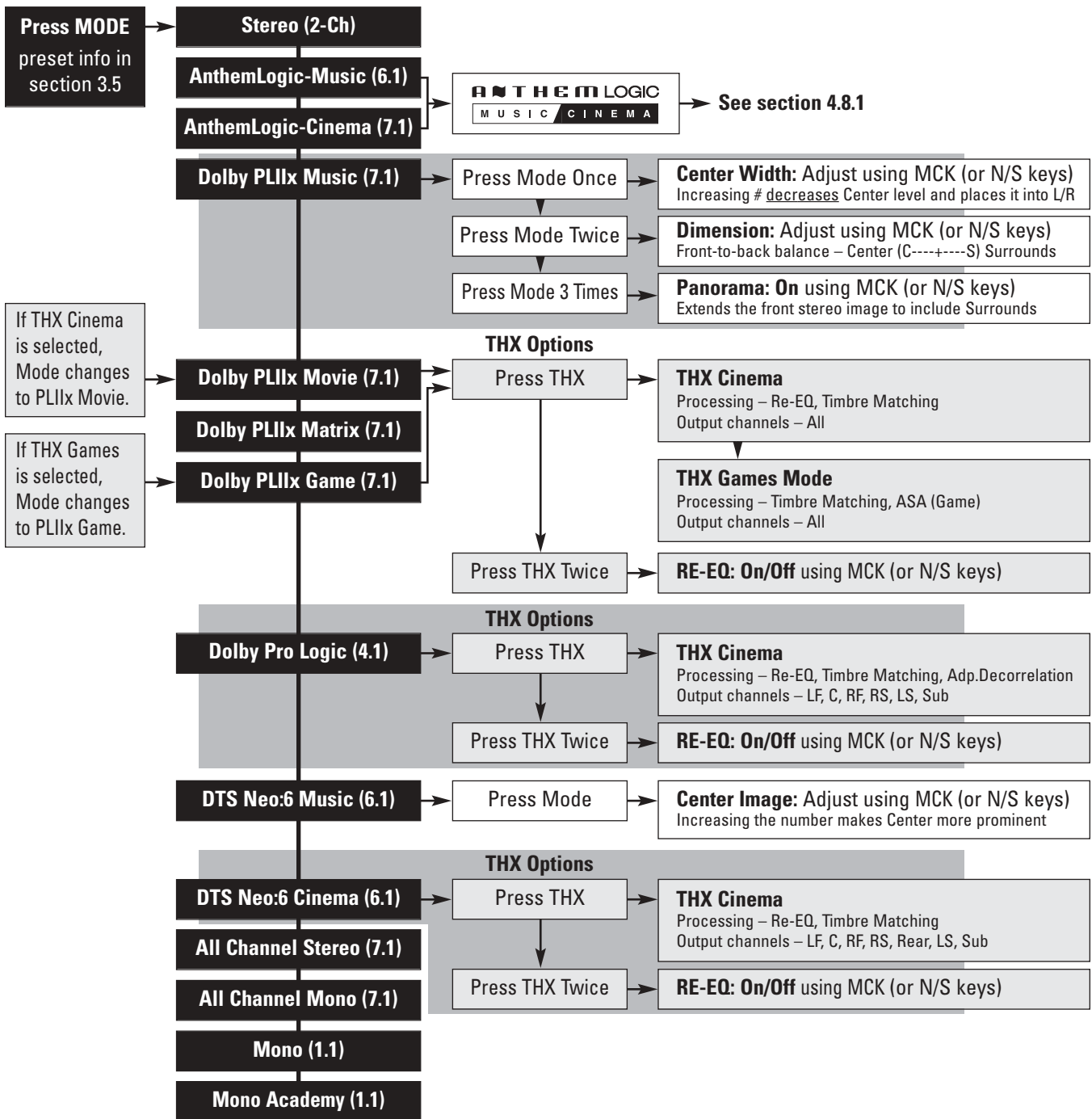
\* DVDs with Dolby Digital Surround EX may be flagged for auto-detection.

§ DVDs with DTS-ES Matrix and DTS-ES Discrete are flagged for auto-detection.

# 4. OPERATION continued ...

## 4.8.7 Mode and THX Operation for 2.0-Channel Source Material – To make all Modes available, turn THX Off.

Cycle through Modes and THX using Master Control Knob or ▲ ▼ keys on remote control.



Selections are memorized separately for each Source and for Dolby Digital Surround 2.0-flagged vs. unflagged material.

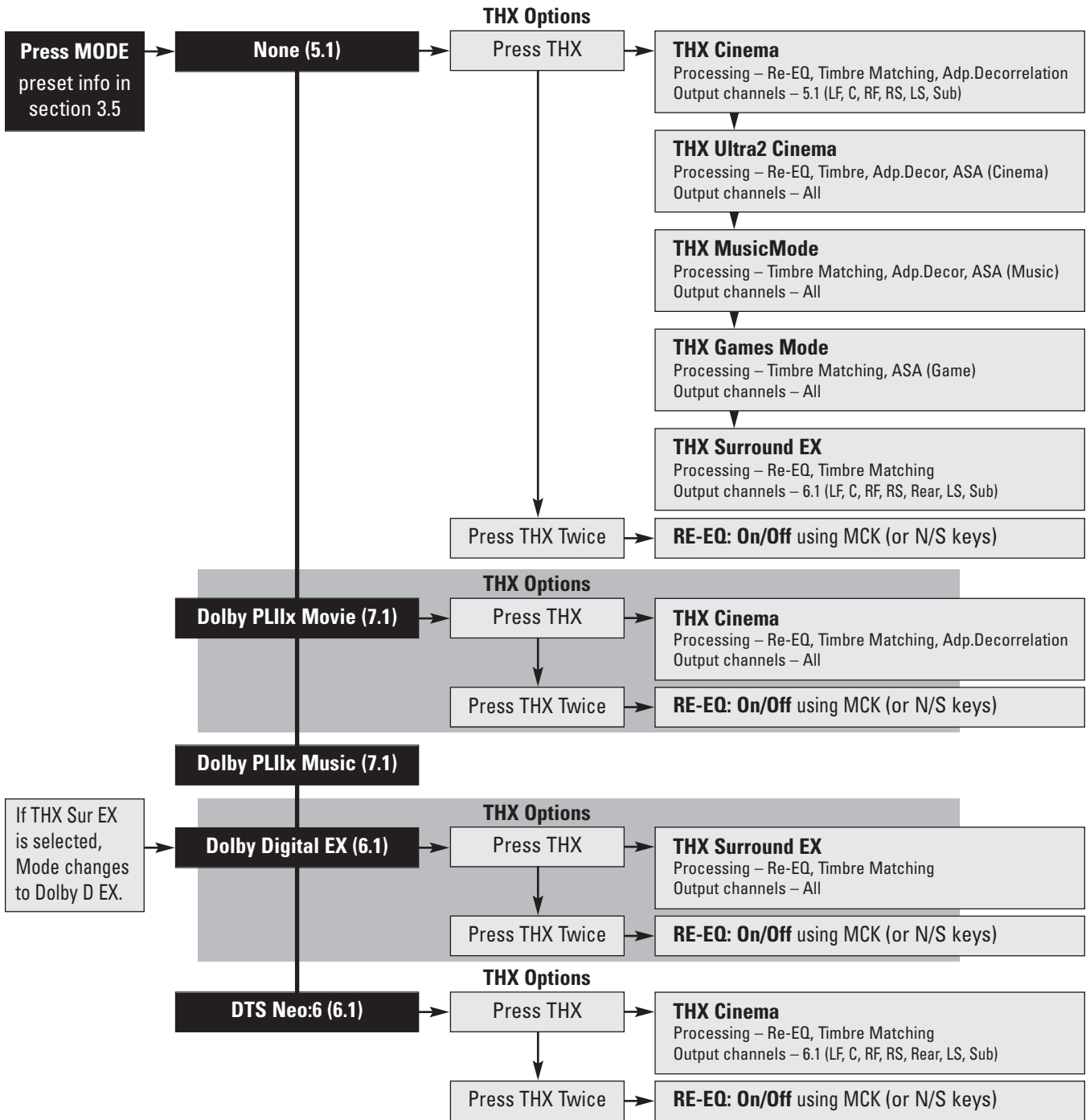
**THX Processing** (for complete descriptions see section 4.8.6):

- **Re-Equalization** – De-emphasizes treble. Not applicable to THX Games Mode.
- **Timbre Matching** – Matches the sound character, or timbre, of the surround channels to the front channels.
- **Adaptive Decorrelation** – When content of L/R Surrounds is mono, adjusts time and phase to restore spaciousness.
- **ASA** – Surround and Rear channels are processed to provide a wide rear soundstage.

# 4. OPERATION continued ...

## 4.8.8 Mode and THX Operation for Dolby Digital 5.1 and 6-Ch S/E – To make all Modes available, turn THX Off.

Cycle through Modes and THX using Master Control Knob or ▲ ▼ keys on remote control.



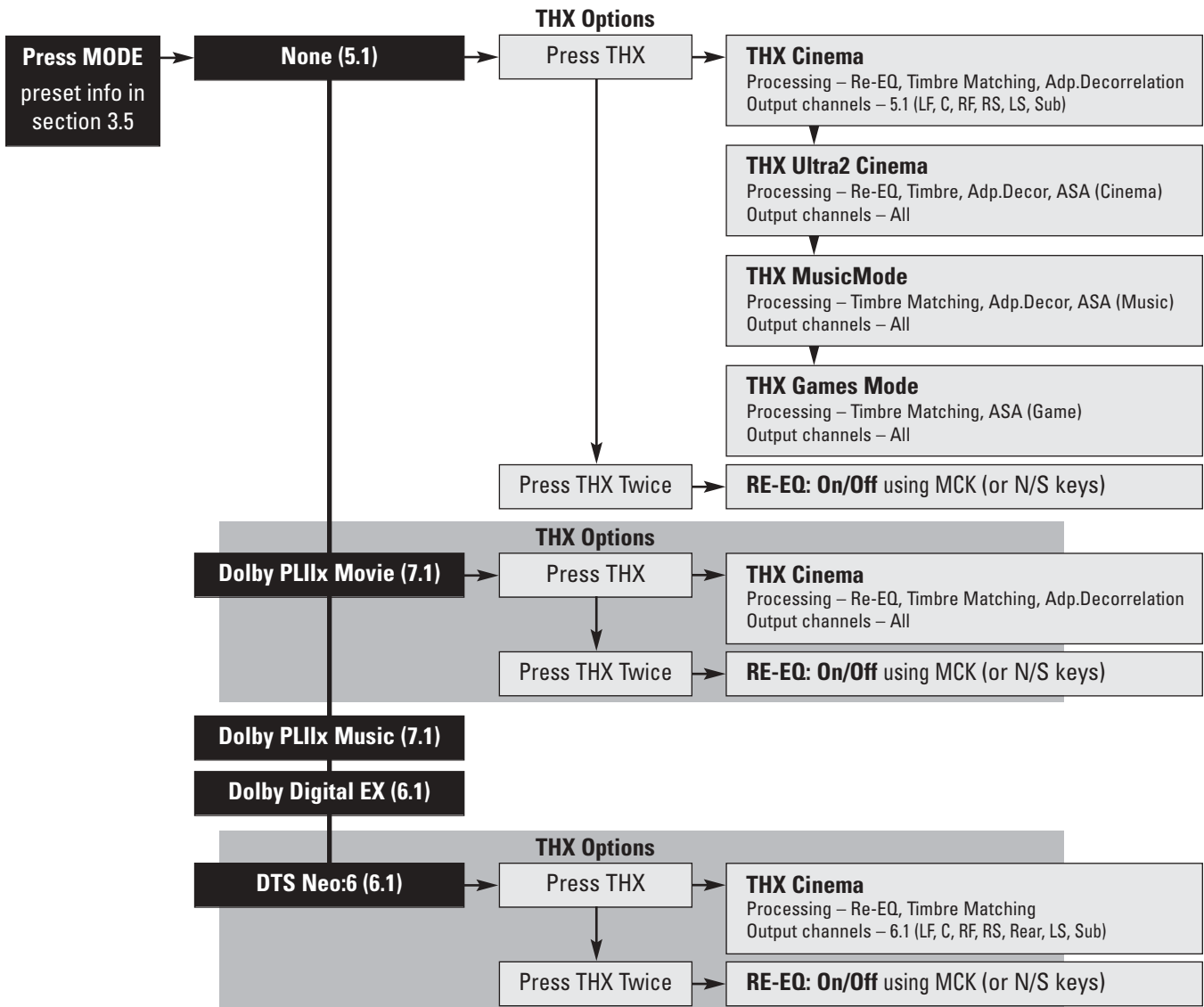
**Selections are memorized separately for each Source and for Dolby Digital Surround EX-flagged vs. unflagged material.**

- THX Processing** (for complete descriptions see section 4.8.6):
- **Re-Equalization** – De-emphasizes treble. Not applicable to THX MusicMode and THX Games Mode.
  - **Timbre Matching** – Matches the sound character, or timbre, of the surround channels to the front channels.
  - **Adaptive Decorrelation** – When content of L/R Surrounds is mono, adjusts time and phase to restore spaciousness.
  - **ASA** – Surround and Rear channels are processed to provide a wide rear soundstage.

# 4. OPERATION continued ...

## 4.8.9 Mode and THX Operation for DTS Source Material – To make all Modes available, turn THX Off.

Cycle through Modes and THX using Master Control Knob or ▲ ▼ keys on remote control.



**Selections are memorized separately for each Source and for DTS vs. DTS-ES.**  
**DTS-ES Discrete:** The only applicable selection is THX Cinema (6.1, Re-EQ, Timbre Matching).  
**THX Processing** (for complete descriptions see section 4.8.6):

- **Re-Equalization** – De-emphasizes treble. Not applicable to THX MusicMode or THX Games Mode.
- **Timbre Matching** – Matches the sound character, or timbre, of the surround channels to the front channels.
- **Adaptive Decorrelation** – When content of L/R Surrounds is mono, adjusts time and phase to restore spaciousness.
- **ASA** – Surround and Rear channels are processed to provide a wide rear soundstage.

## 4. OPERATION continued ...

### 4.8.10 DYNAMICS

This allows you to control the difference between the softest and loudest passages on 5.1/6.1-channel soundtracks, as long as the soundtrack contains dynamic scaling information and at least 5.1 speakers are used. Press **DYNAMICS** and then use the Master Control Knob or ▲ ▼ keys on the remote control to select:

**Reduced:** Allows the quieter parts to be heard more easily, and works by raising the level of quieter sounds and/or reducing the level of louder ones according to cues encoded on the DVD.

**Late Night:** Reduces the softest-to-loudest difference even further.

'Reduced' and 'Late Night' get reset back to 'Normal' when Main power is turned off.

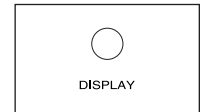
### 4.9 LIP-SYNC DELAY (Remote Control Only)

To adjust Lip-Sync Delay while viewing the picture and listening to the soundtrack simultaneously, press and hold the **DISPLAY** key until the display shows "LIP-SYNC DELAY", then use the ◀ ▶ keys to move from digit to digit and the ▲ ▼ keys to adjust (see section 3.5).



### 4.10 DISPLAY BRIGHTNESS (Front Panel Only)

The brightness of the Front Panel display and LED indicators can be changed. Press **DISPLAY** and then use the Master Control Knob to select Maximum, High, Medium, Low, or Off. The Front Panel Wake-Up can be modified, as can the time-to-rest when the display will dim (see section 3.10).



### 4.11 SLEEP TIMER (Remote Control Only)

If you would like to go sleep while listening to a program or music, the Sleep Timer will automatically turn the AVM 30 power off after a preselected time. So when you find yourself falling asleep at the TV, take the Remote Control and:



- Select the desired Path (MAIN, ZONE2, or ZONE3), then press **SLEEP** (the Sleep timer will operate for that Path only).
- The first **SLEEP** keystroke always resets the timer to 30 minutes. Additional keystrokes then cycle as follows: Second=60, third=90, fourth=Disabled.
- Once set, the time remaining appears as the number following 'Zzz' in the display.

### 4.12 ENABLE / DISABLE TIMERS (Remote Control Only)

To enable or disable all timers without entering the Setup, press and hold the **SLEEP** key until the display shows 'ALL TIMERS', then use the ▲ ▼ keys to enable/disable (see section 3.1).

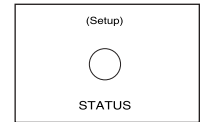
## 4. OPERATION continued ...

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### 4.13 STATUS DISPLAY

Press, Release, Press to cycle through display screens that show the following:

- **Software version, day, and time.**
- **Audio Input:** Bit rate / sample rate of digital source, or Analog.
- **Input Format:** Channels in the source.
- **Audio Output:** Bit rate / sample rate mode of the digital to analog converters.
- **Output Format:** Channels producing output.
- **Mode:** Surround mode (section 4.8).
- **DD/DTS 5.1 Dynamics:** Normal, Reduced, or Late Night (section 4.8.10).
- **Tone Controls:** Enabled, Bypassed, or N/A (section 4.7).
- **Sleep Mode:** Enabled or Disabled (section 4.11).
- **All Timers:** Enabled or Disabled (sections 3.1 and 4.12).
- **Serial Number:** If the number on the rear panel does not match this, contact Anthem immediately.



When in ZONE2 or ZONE3, information relating only to the selected Path is displayed.



# 5. REMOTE CONTROL CUSTOMIZATION

## 5.1 ENTERING PRESET MEMORY CODES

Appendix B at the back of this manual contains setup codes for controlling other components in your system with the AVM 30 Remote Control. If a component is not listed, see section 5.2. To enter a code:

1. Press the control mode key at the top (e.g. **DVD**).
2. Press and hold **LEARN** until the LED flashes twice.
3. Enter the **five-digit code** from Appendix B. The LED should blink twice.



## 5.2 SEARCHING FOR A CODE (Remote controls shipped after September 2005 only)

If the brand name for your component is not found in Appendix B, the following may help in finding a code:

1. Turn the component on (e.g. the DVD player).
2. Press the matching **control mode** key (e.g. DVD).
3. Press and hold **LEARN** until the LED flashes twice, then press **9, 9, 1**.
4. Press **0** for cable converters, satellite receivers, or video accessories, **1** for TVs, **2** for DVD players or VCRs, or **3** for CD players or audio amps/tuners.
5. Aim the remote towards the player, and select a test function, such as **POWER** (or Play).
6. If the player responds, press and release **LEARN** to lock the code. If the player does not respond, press **CH+** to try the next code. **CH-** goes back to the previous code. The codes are sent in order of popularity. **If no code is found, see section 5.4.**

For future reference, record the code as follows: Press and hold **LEARN** until the LED flashes twice, then press **9, 9, 0, 1**. Wait 3 seconds and count the number times that the LED flashes. This represents the first digit (e.g. 3 flashes = 3, no flash = 0) – write this down. Next, press **2** for the second digit, **3** for the third digit, **4** for the fourth digit, **5** for the fifth digit and write down the number of flashes each time.

## 5.3 VOLUME LOCK

After entering a code for your TV or satellite receiver, you may find it inconvenient to change the control mode back and forth every time you alternate between, for example, changing channels on your TV and adjusting the volume of MAIN on the AVM 30. With Volume Lock engaged, the volume keys adjust MAIN volume, regardless of which control mode is selected, making operation much more convenient.

**To engage Volume Lock for MAIN:**

1. Press and hold **LEARN** until the LED flashes twice.
2. Press **9, 9, 3**.
3. Press **MAIN**.

At this point, the Volume and Mute keys control MAIN only, regardless of control mode setting.

**To disengage Volume Lock for ZONE2 (or ZONE3), and re-engage the ZONE2 (or ZONE3) Volume Control:**

1. Press **ZONE2** (or ZONE3).
2. Press and hold **LEARN** until the LED flashes twice.
3. Press **9, 9, 3**.
4. Press **VOL-**.

The Volume and Mute keys now control MAIN for every control mode selection except ZONE2. You may continue to disengage other control modes one at a time. To disengage all, press **VOL+** in step 4.

## 5. REMOTE CONTROL CUSTOMIZATION continued ...

### 5.4 LEARNING A COMMAND

The AVM 30 Remote Control has the ability to learn the command of an individual key from almost any other remote control. When a new command is programmed onto a key, the pre-programmed command is still available by pressing LEARN before pressing the key (Layer1).

If the pre-programmed command is used more than the learned command, the learned command can be programmed in Layer2 instead. When a taught key is pressed, the pre-programmed command functions as always, and the learned command is sent by pressing LEARN before pressing the key.

#### Limitations on learning:

- Multi-frequency codes, some high frequency codes, and other unusual formats are not learnable.
- Control mode keys and LEARN can not be taught. These keys do not send IR commands.
- Depending on the source, the memory typically allows a total of 12 to 26 keys to be taught.
- A multiple keystroke sequence can not be taught to one key.
- Teaching the Record key is not recommended since it almost always requires a double key press (Rec+Pause or Rec+Play) which will be lost in most learning operations.
- The source remote and the AVM 30 remote should be approximately 2 inches apart during teaching mode, and the IR transmitters of the two remotes should be aligned with each other.
- The placement of the IR transmitter in the source remote may make it difficult to correctly align the two remotes.
- Source remotes that contain a beam-focusing lens may require more than one attempt at successful alignment.
- The learning process should be conducted in an area where there is a low level of IR emission. High levels of natural or fluorescent lighting, monitors, and exposed fans could interfere with learning.
- The maximum carrier frequency is 135 kHz.

#### Teaching a key:

1. Point the source remote and AVM 30 remote at each other to be ready for step 5.
2. Press and hold **LEARN** until the LED flashes twice. One long blink indicates low battery or faulty memory. The remote will not go into learn mode if either of these conditions exist.
3. Press **9, 7, 5**, then the desired **control mode** key.
4. To program the command into Layer1, press the **key to be taught**. To program the command into Layer2, press **LEARN** (don't hold), then press the **key to be taught**.
5. The LED flashes rapidly. Within 4 seconds, press and hold the **teaching key on the source remote** until the LED flashes twice. The LED goes out while it receives a signal from the source remote. One long blink means bad capture (try again), memory full (delete another command), or unlearnable code.
6. Repeat steps 4 and 5 as often as desired, up to maximum capacity of memory.
7. To exit, press and hold **LEARN** until the LED flashes twice, or wait 10 seconds.

#### Deleting learned commands:

1. Press and hold **LEARN** until the LED flashes twice, then press **9, 7, 6**.
2. To delete a learned command from one key, press the **control mode** key, then the **key to be deleted** twice. To delete all learned commands in the control mode, press the **control mode** key twice.

## 5. REMOTE CONTROL CUSTOMIZATION continued ...

### 5.5 PROGRAMMING MACROS (Remote controls shipped after September 2005 only)

Macros are used to execute multiple functions with a single key press, such as powering the AVM 30, cable box, and monitor On at the same time. Up to 32 commands total can be programmed.

#### Programming a Macro that works regardless of control mode setting:

1. Press and hold **LEARN** until the LED flashes twice.
2. Press **9, 9, 5**.
3. Press the key you want to use to activate your macro (e.g. Power).
4. Enter the command sequence that you want the macro to execute.
5. To exit, press and hold **LEARN** until the LED flashes twice, or wait 10 seconds.

To clear the macro, repeat the steps above, but skip step 4.

#### Programming a Macro that works in only one control mode:

1. Press the control mode key.
2. Press and hold **LEARN** until the LED flashes twice.
3. Press **9, 7, 8**.
4. Press the key you want to use to activate your macro (e.g. Power).
5. Enter the command sequence that you want the macro to execute.
6. To exit, press and hold **LEARN** until the LED flashes twice, or wait 10 seconds.

To clear the macro:

1. Press and hold **LEARN** until the LED flashes twice, then release.
2. Press **9, 7, 8**.
3. Press the control mode key where you programmed the macro.
4. Press the key that was programmed to activate the macro.
5. To exit, press and hold **LEARN** until the LED flashes twice, or wait 10 seconds.

### 5.6 RESETTING THE REMOTE TO FACTORY DEFAULTS

Press and hold **LEARN** until the LED flashes twice, then press **9, 8, 0**.

**If your remote control seems to have stopped working, try resetting it before contacting technical support.** As well, make sure the IR sensor wasn't turned off – see section 3.9.

# 6. SOFTWARE UPDATING

The operational characteristics of the AVM 30 are controlled by software that can easily be upgraded via the RS-232 port on the Rear Panel. New software can be downloaded from our web site, and then transferred by connecting the AVM 30 to your computer's serial port and running the Software Installer.

## 6.1 SOFTWARE VERSION IDENTIFICATION

To find out which software version is in your AVM 30, press **STATUS** and the display will show it. The latest software is available from our web site. A list of changes comes with the download. If operating manual updates aren't also included, or if you haven't been keeping up with the upgrades, it's a major upgrade, so download and use the latest operating manual as well.

## 6.2 SOFTWARE UPDATING VIA YOUR DEALER

If you do not have a computer or wish to do software updates yourself but still want to have them done, please make arrangements with your dealer. Whether your dealer comes to your theater to do the update, or you bring your AVM 30 to the dealer, the dealer may charge for this service.

## 6.3 SOFTWARE UPDATING VIA YOUR COMPUTER

To update the Software through your computer, you will need the following:

- Access to the Internet.
- Serial cable (the common kind, which is straight wired, one end DB9 male and the other end DB9 female. A null-modem cable, which looks identical, does not work since pins 2 and 3 are switched).

Typically, a serial cable up to 100 feet (33 metres) long will work. You may also install the cable permanently to enable easy future updates. When it's not in use, disconnecting it either behind the computer or the AVM 30 is recommended, to prevent the possibility of a ground loop.

Computer System Requirements:

- Win9x, NT, ME, 2000, or XP.
- 1 MB free space on the hard drive.
- Serial port. The Software Installer automatically detects the port being used (COM1 to COM6).

**If your computer does not have a serial port but has a USB port**, you will need a USB-to-serial adapter (its driver program must also be installed on your computer). Make sure it's one that's Windows-certified. Some no-name models have been found to cause operation to freeze. Reviving a AVM 30 that was made inoperable by an inadequate USB-to-serial adapter is not covered under warranty.

Before running the Installer, check your computer's power management settings – particularly if using a laptop – to ensure that the Software Update **does not get interrupted** while running.

## 6. SOFTWARE UPDATING continued ...

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### Software installation procedure:

1. Find out which Software version you currently have by pressing **STATUS**.
2. Go to the ANTHEM web site ([www.anthemAV.com](http://www.anthemAV.com)) and locate the latest AVM 30 Software version. Proceed only if your version is a lower number, indicating that it is older.
3. Click on the download icon. You will be asked where to save a file called 'avm30v1.1x.zip' – save it to your computer's desktop.
4. Double click on 'avm30v1.1x.zip'. If your computer tells you that the file cannot be opened, you can download a program that can open the file through one of the links on the ANTHEM web site.
5. Drag or extract 'AVM 30 Installer.exe' and 'Read Me First.txt' to desktop. 'Read Me First.txt' lists the latest software changes. You can now delete 'avm30v1.1x.zip'.
6. Ensure that your current AVM 30 Setup configuration is saved (see section 3.11).
7. Turn off your AVM 30 and **disconnect the power cord** to prevent the possibility of a static discharge when the serial port is connected. Tuner presets, speaker level settings, bass/treble, etc. are automatically written to memory if the line voltage is disconnected or during a power failure.
8. Using the serial cable, connect your computer to the AVM 30 via the RS-232 port on the rear panel. Updating does not require moving the AVM 30 or disconnecting it from your system, as long as you can connect your computer to the RS-232 port.
9. Plug the AVM 30's power cord back in and turn the rear panel switch on.
10. Double click on 'AVM 30 Installer.exe', then click on 'Install Upgrade Now'. In a few minutes, the installation and verification will be completed.

### Restore Settings?

You do not need to Restore or Recall any settings after installing new software. The AVM 30 will retain the settings that were in use before the update, except that the day and time will be set according to your computer's day and time settings – if re-adjustment is required, see section 3.1.

### Troubleshooting:

If the Installer keeps returning a message that says 'AVM 30 Not Found' after several attempts, restore Factory Defaults in the Setup Menu, try installing again, and reload User Settings once the new software is installed. If that doesn't work, make sure that the serial port on your computer isn't already being used by another application, such as a docking station for a personal organizer – you must go into the application that is using it to turn off the serial port.

# APPENDIX A – IR MACROS

Using the factory remote control's IR codes for MAIN Path, the following 3-key sequences can be programmed into macro-capable aftermarket remotes to create a separate button for each Mode and tuner bank:

#### **For Stereo sources:**

MODE, 0, 1 – Stereo  
MODE, 0, 2 – AnthemLogic-Music  
MODE, 0, 3 – AnthemLogic-Cinema  
MODE, 0, 4 – Pro Logic IIx Music  
MODE, 0, 5 – Pro Logic IIx Movie  
MODE, 0, 6 – Dolby Pro Logic  
MODE, 0, 7 – DTS Neo:6 Music  
MODE, 0, 8 – DTS Neo:6 Cinema  
MODE, 0, 9 – All Channel Stereo  
MODE, 1, 0 – All Channel Mono  
MODE, 1, 1 – Mono  
MODE, 1, 2 – Mono-Academy  
MODE, 1, 3 – Pro Logic IIx Matrix  
MODE, 1, 4 – Pro Logic IIx Game  
THX, 0, 1 – THX Off  
THX, 0, 2 – THX Cinema  
THX, 0, 3 – THX Games Mode

#### **For Surround-flagged Dolby Digital 2.0 sources:**

MODE, 2, 1 – Stereo  
MODE, 2, 2 – AnthemLogic-Music  
MODE, 2, 3 – AnthemLogic-Cinema  
MODE, 2, 4 – Pro Logic IIx Music  
MODE, 2, 5 – Pro Logic IIx Movie  
MODE, 2, 6 – Dolby Pro Logic  
MODE, 2, 7 – DTS Neo:6 Music  
MODE, 2, 8 – DTS Neo:6 Cinema  
MODE, 2, 9 – All Channel Stereo  
MODE, 3, 0 – All Channel Mono  
MODE, 3, 1 – Mono  
MODE, 3, 2 – Mono-Academy  
MODE, 3, 3 – Pro Logic IIx Matrix  
MODE, 3, 4 – Pro Logic IIx Game  
THX, 0, 4 – THX Off  
THX, 0, 5 – THX Cinema  
THX, 0, 6 – THX Games Mode

#### **Pro Logic IIx Music adjustment:**

MODE, 4, 1 – Center Width display  
MODE, 4, 2 – Dimension display  
MODE, 4, 3 – Panorama Off  
MODE, 4, 4 – Panorama On

#### **Neo:6 Music adjustment:**

MODE, 4, 5 – Center Image display

#### **For Dolby Digital 5.1 sources and 6-Ch input:**

THX, 1, 0 – None  
THX, 1, 1 – THX Cinema  
THX, 1, 2 – THX Ultra2 Cinema  
THX, 1, 3 – THX MusicMode  
THX, 1, 4 – THX Surround EX  
THX, 1, 5 – THX Games Mode  
THX, 1, 6 – PLIIx Movie  
THX, 1, 7 – PLIIx Movie+THX Cinema  
THX, 1, 8 – PLIIx Music  
THX, 1, 9 – Dolby Digital EX  
THX, 2, 0 – Neo:6  
THX, 2, 1 – Neo:6+THX Cinema

#### **For Dolby Digital Surround EX-flagged sources:**

MODE, 5, 1 – None  
MODE, 5, 2 – Dolby Digital EX  
MODE, 5, 3 – THX Surround EX  
MODE, 5, 4 – PLIIx Movie  
MODE, 5, 5 – PLIIx Movie+THX Cinema  
MODE, 5, 6 – PLIIx Music  
MODE, 5, 7 – Neo:6  
MODE, 5, 8 – Neo:6+THX Cinema

#### **For DTS sources:**

THX, 4, 0 – None  
THX, 4, 1 – THX Cinema  
THX, 4, 2 – THX Ultra2 Cinema  
THX, 4, 3 – THX MusicMode  
THX, 4, 4 – Neo:6+THX Cinema  
THX, 4, 5 – THX Games Mode  
THX, 4, 6 – PLIIx Movie  
THX, 4, 7 – PLIIx Movie+THX Cinema  
THX, 4, 8 – PLIIx Music  
THX, 4, 9 – Dolby Digital EX  
THX, 5, 0 – Neo:6

#### **For DTS-ES sources:**

MODE, 6, 1 – None  
MODE, 6, 2 – DTS-ES Matrix  
MODE, 6, 3 – DTS-ES+THX Cinema  
MODE, 6, 4 – PLIIx Movie  
MODE, 6, 5 – PLIIx Movie+THX Cinema  
MODE, 6, 6 – PLIIx Music  
MODE, 6, 7 – Dolby Digital EX

#### **THX Re-EQ:**

THX, 3, 0 – Re-EQ Off when THX is on  
THX, 3, 1 – Re-EQ On when THX is on  
THX, 3, 2 – Re-EQ Off when THX is off  
THX, 3, 3 – Re-EQ On when THX is off

#### **FM•AM Banks (ZONE2/3/REC codes also work):**

MODE, 9, 0 – AM  
MODE, 9, 1 – FM1  
MODE, 9, 2 – FM2  
MODE, 9, 3 – FM3

### **Some tips if you're using a macro-capable remote control:**

- If you do not want separate Mode selection according to flagged vs. unflagged source material, you can program macros as a 6-key sequence, for example MODE, 0, 1, MODE, 2, 1 and flag will make no difference to selection.
- You can program your source selection keys with the power-on command preceding each source-select command. This way, when a Source is selected, the AVM 30 will turn on at the same time if it is off, similar to Front Panel operation.
- If your source components also have discrete commands for power-on and power-off, you can take the above idea even further, for example, program the TV button with the following sequence: Power-on the AVM 30, select TV Source in the AVM 30, power-on the satellite receiver / cable box, power-on the TV. This way, when the entire system is off and you or a family member wants to watch TV, 'just push TV'.

# APPENDIX B – PRESET MEMORY CODES

The following codes are for operating other components with the remote control. If codes for one of your components are not in this library, see sections 5.2 and 5.4. **This list pertains to remote controls shipped after September 2005 only.**

To enter a 5-digit code:

1. Press the control mode key near the top of the remote (e.g. **DVD**).
2. Press and hold **LEARN** until the LED flashes twice.
3. Enter the **5-digit code**. Two LED blinks indicate that the code is accepted.

Statement D1/2, AVM 20/30 – MAIN	31185	AVLight	30158	Optimus	31531
Statement D1/2, AVM 20/30 – ZONE2	31186	Bel Canto Design	31584	31023, 30801, 31074, 30080,	
Statement D1/2, AVM 20/30 – ZONE3	31187	Bose	31229, 31253, 30639	30186, 30531, 30797, 30042,	
AVM 2 – MAIN	31096	Brix	31602	30181, 30440, 30738, 30849,	
AVM 2 – ZONE2	31097	Cambridge Soundwks	31477, 31370	30177, 30219, 30670	
		Capetronic	30531	Oritron	31497, 31366
		Carver	31189, 30189, 30042, 31089,	Panasonic	31518, 30039, 31548, 31764,
			30008, 30360	30518, 31350, 31763, 30367,	
		Casio	30195	31316, 31509, 31633, 30309,	
		Clarinet	30195	31288, 31363	
		Classic	31352	Penney	30195
		Coby	31513, 31389, 31263	Philco	31390
		Compaq	31136	Philips	31189, 31269, 30189, 31365,
		Criterion	31420	31089, 31266, 31283, 30891,	
		Curtis	31596	31368, 30391, 31120, 31268	
		Curtis Mathes	30080	Pioneer	31023, 30150, 30630, 31184,
		Daewoo	31250	30080, 30531, 31084, 31384,	
		Dell	31383	30244, 31343	
		Denon	31360, 30004, 31104, 30771,	Polaroid	31508
			31311, 30273, 31142, 30301	Polk Audio	30189, 31289
		Dynamic Bass	30360	Proscan	31254
		Emerson	30424, 30255	Qisheng	31609, 31390
		Fisher	31409, 30360, 30219, 31801,	Quasar	30039
			30042	RadioShack	31263
		Fonmix	31360	RCA	31023, 31609, 31254, 30346,
		Fosgate	31487	30531, 31154, 31511, 30080,	
		Garrard	30424, 30281, 30463, 30146,	30530, 31074, 31390, 30054,	
			30440	30360	
		Gateway	31517, 31567	Realistic	30195, 30181, 30163
		GE	31379	Regent	31437
		Glory Horse	31263	Rio	31869, 31383
		Go Video	31532	Saba	31519
		GoldStar	30281	Samsung	31500, 31295
		GPX	31299	Sansui	30189, 30346, 30193, 31089
		Hafler	30146	Sanyo	30801, 30360, 31469, 30219,
		Harman/Kardon	30110, 30189, 30891	31251	
		Hewlett Packard	31181	Scott	30163, 30322
		Hitachi	31801, 31273	Sharp	31286, 30186, 31386, 31361
		Initial	31426	Sharper Image	31545, 31556, 30797, 31409,
		Inkel	30027, 30062, 30502, 30491	31416, 31549, 31385, 31411,	
		Integra	30135, 31298	31546, 31723, 31263, 31410	
		JBL	30110, 31306, 30281	Sherwood	30491, 31423, 30062, 31077,
		JVC	30074, 31282, 31263, 31495,	30502, 31653	
			31374	Shinco	31390
		Kansai	30440	Shinsonic	31426
		Kenwood	31313, 31570, 31569, 30027,	Silsonic	30176, 31426
			31051, 30077, 30313, 31027,	Sonic	30281
			30042, 30239, 30569, 31052,	Sonic Blue	31383, 31869, 31532
			30186, 30314	Sony	31058, 31441, 31258, 31759,
		KLH	31412, 31390, 31428	30158, 31442, 31529, 31758,	
		Koss	30424, 30255, 31366	31371, 31503, 31042, 31658,	
		Lasonic	31798, 31510	31158, 31858, 31367, 31406,	
		Lennox	31437	31458, 30168, 31558, 31131,	
		Lexicon	31076	31349, 31382	
		Linn	30189	Soundesign	30670
		Liquid Video	31497	Stereophonics	31023
		Lloyd's	30195	Sunfire	31313, 30314, 30313, 31052
		LXI	30181	Tae Kwang	30440
		Magnavox	31189, 31269, 30189, 30128,	Teac	30163, 31267, 31074, 31528,
			30391, 30195, 31089, 31514,	30463, 31390	
			30531	Technics	31308, 31518, 30039, 30518,
		Marantz	31189, 31269, 30039, 30189,	30309, 31309, 30208	
			31089, 31289, 30200, 30128	30281	
		MCS	30039, 30346	Techwood	30281
		Memorex	31596	Thorens	31189
		Mitsubishi	31393	Venturer	31390, 30849
		Modulaire	30195	Victor	30074
		Musicmagic	31089	Wards	30158, 30189, 30080, 30054
		NAD	30320	Yamaha	30176, 30081, 31176, 31375,
		Nakamichi	30347, 30097, 31555	30186, 31331, 31276	
		NEC	30235	30195	
		Norcent	31389	Yorx	30195
		Onkyo	30135, 31298, 30842, 30380,	Zenith	31293, 30857, 30281, 31869

# APPENDIX B – PRESET MEMORY CODES continued...

## Cable Converters:

ABC	0003, 0008, 0014, 0001, 0007, 0013, 0011, 0017
Allegro	00315, 00153
Americast	00899
Antronix	00207, 00022
Archer	00797, 00207, 00153, 00022
Belcor	00056
Bell & Howell	00014
Bell South	00899
Cable Star	00056
Cabletenna	00022
Cableview	00022
Century	00153
Citizen	00315, 00153
Clearmaster	00883
ClearMax	00883
Colour Voice	00025, 00031
Comtronics	00040
Contec	00019
Coolmax	00883
Daeryung	01877, 00877, 00477, 00008
Digi	00637
Director	00476
Dumont	00637
Eastern	00002
Emerson	00797
Everquest	00040, 00015
Focus	00400
Funai	00019
Garrard	00153
GC Electronics	00207, 00056
Gehua	00476
Gemini	00797, 00015
General Instrument	00476, 00810, 00276, 00003, 00014, 00011, 00015
Global	01327
GMI	00015, 00797
GoldStar	00144, 00040
Goodmind	00797
Hamlin	00009, 00273, 00034, 00020, 00259
Hitachi	00014, 00011
Hytex	00007
Jasco	00015, 00315, 00153
Jebsee	00400
Jerrold	00476, 00810, 00276, 00003, 00012, 00014, 00011, 00015
Leon	00015
LG	00144, 00040
Linsay	00440
Magnavox	00027
Memorex	00000
Motorola	00476, 00810, 00276, 01254, 01106, 01376
Movie Time	00156, 00063
MS	00015
MultiVision	00012
Novaplex	00618
NSC	00063, 00156
Oak	00019, 00007
Optimus	00021
Pace	01877, 00237
Panasonic	00000, 00008, 00107, 00040, 00021
Panther	00637
Paragon	00000
Philips	00317, 00027, 00025, 00153, 00013, 00031, 01305
Pioneer	01877, 00877, 00144, 00533, 01021
Popular Mechanics	00400
Pulsar	00000
Quasar	00000
RadioShack	00015, 00883, 00797, 00315
RCA	00021
Realistic	00207
Recoton	00400

Regal	00279, 00273, 00259, 00020
Regency	00002
Rembrandt	00011
Runco	00000
Samsung	00000, 00144, 00040
Scientific Atlanta	01877, 00877, 00477, 00008, 00017
Seam	00510
Signal	00040, 00015
Signature	00011
SL Marx	00040
Sony	01006
Sprucer	00021
Starcom	00003, 00014, 00015
Stargate	00015, 00797, 00040
Starquest	00015
Supercable	00276
Supermax	00883
Sylvania	00001
Tandy	00258
Televue	00040
Texscan	00001
TFC	00310
Timeless	00040
Tocom	00012, 00013
Torx	00003
Toshiba	00000
Trans PX	00276, 00153, 00315
Tristar	00883
TS	00003
Tusa	00015
TV86	00063
Unika	00207, 00153, 00022
United Artists	00007
Universal	00153, 00056, 00207, 00022, 00191
V2	00883
Viewmaster	00883
Viewstar	00063, 00027, 00258
Vision	00883
Vortex View	00883
Zenith	00000, 00525, 00899
Zentek	00400

## CD Players:

ADC	30018
Adcom	30155, 30234
Aiwa	30157, 30124, 30012
Akai	30156
Audio Alchemy	30194
Audio-Technica	30170
BSR	30245, 30194
Burmester	30420
California Audio Labs	30029, 30303
Carrera	30194
Carver	30157, 30437, 30179
Classic	31297
Crown	30122
DAK	30245
DBX	30254
Denon	30873, 30003
DKK	30000
DMX Electronics	30157
Dynamic Bass	30179
Emerson	30305, 30164, 30155, 30469
Fisher	30179, 30174, 31325, 30088, 30342
Garrard	30245, 30420, 30393, 30280, 30425
GE	30009
Gemini	30625
Genexxa	30032, 30305, 30164
GoldStar	30417
GPX	31296
Harman/Kardon	30157, 30173, 31202, 30426
Hitachi	30032, 30155
Inkel	30196, 30180, 30437
Integra	30101

JVC	30072, 31294, 30655
Kenwood	30681, 30826, 30626, 30028, 30037, 30036, 30190
KLH	31318
Kodak	30287
Korsun	31484
Koss	31317
Krell	30157
Kyocera	30018
LG	31208
Linn	30157
Luxman	30093
LXI	30305
Magnavox	30157, 30305
Marantz	30626, 30029, 30157, 30180
Mark Levinson	31484
McIntosh	30287
MCS	30029, 30043
Miro	30000
Mission	30157
MTC	30420, 30625
Nakamichi	30147
NEC	30043, 30234
Nikko	30174, 30170, 30164, 30625
NSM	30157
Onkyo	30868, 30101
Optimus	31063, 30000, 30032, 30037, 30342, 30437, 31075, 30145, 30194, 30305, 30426, 30087, 30179, 30280, 30420, 30468, 30175, 30196
Panasonic	30029, 30752, 30303
Parasound	30420, 30194
Philips	30626, 30157, 30287
Pioneer	31063, 31062, 30032, 30305, 30468, 31087
Polk Audio	30157
Proton	30157
QED	30157
Quad	30157
Quasar	30029
RadioShack	31075
RCA	31062, 30032, 30305, 30764, 30179, 30468, 30009, 30155, 30420, 30053
Realistic	30164, 30180, 30155, 30179, 30175, 30420
Rotel	30157, 30420
SAE	30157
Sansui	30157, 30305, 30202
Sanyo	30179, 30087
SAST	30157
Scott	30305, 30164, 30155
Sears	30305
Sharp	30861, 30037, 30180
Sherwood	31067, 30196, 30180, 30426
Shure	30043
Silsonic	30888, 30036
<b>Sonic Frontiers</b>	<b>30157</b>
Sony	30490, 30000, 31364, 30185, 30605, 30100, 30604
Soundesign	30425, 30145
STS	30018
Symphonic	30305
TAG McLaren	30157
Tascam	30420
TDK	31208
Teac	30393, 30180, 30174, 30420
Technics	30029, 30207, 30303
Tivoli Audio	31553
Vector Research	30194, 30417
Victor	30072
Wards	30157, 30053
Yamaha	30888, 30036, 30187, 30170, 31292
YBA	30625
Yorx	30461
Zonda	30157



# APPENDIX B – PRESET MEMORY CODES continued ...

## DVD Players:

Adcom	21094
Advent	21016
Aiwa	20641, 21912
Akai	20899, 20770, 21975, 21089
Allegro	20869
Amphion Media Works	22016, 22001
AMW	20872, 22016, 22001, 21176
Anam	21913
Apex Digital	20672, 20717, 20797, 21020, 21100, 20796, 21004, 21061, 21937, 20794, 20830, 21056, 21915, 20755
Aspire Digital	21168
Audiologic	20736
Audiovox	21071, 21122, 21041, 21121, 21072
Axion	21071, 21072
B & K	20662, 20655
Bel Canto Design	21571
Blaupunkt	20717
Blue Parade	20571
Broksonic	20868, 20695
Cambridge Soundwks	21916
CAVS	21057
Changhong	20627, 21061
CineVision	20876, 20869
Classic	21917
Coby	20778, 21107, 21086, 21923, 20852, 21165
Criterion	22007
Curtis Mathes	21087
CyberHome	21023, 21129, 20816, 21117, 21024
Daewoo	20784, 20869, 20833, 21918, 21172, 20705
Denon	20490, 20634
Dual	21085, 21068
DVD2000	20521
Emerson	20591, 20675, 20821
Enterprise	20591
Fisher	20670, 21919
Funai	20675
Gateway	21077, 21073, 21158
GE	20522, 20815, 20717
Go Video	20744, 20869, 21099, 21970, 20715, 20833, 21075, 21730, 20783, 21044, 21144
GPX	20699, 20769
Greenhill	20717
Harman/Kardon	20582, 20702
Hitachi	20573, 20664, 21919
Hiteker	20672
Initial	20717, 21931
Integra	20627, 21924
Jamo	22003
Jaton	21078
JBL	21926, 20702
Jensen	21016
JVC	20558, 20623, 21940, 21901, 20867
jWin	21051, 21049
Kenwood	20490, 20534, 21063, 20682
KLH	20717, 21939, 21149, 21020
Konka	20720, 20719, 20711, 20721
Koss	20651
Landel	20826
Lasonic	20798, 21173
Lennox	21938
LG	20801, 20101
Lite-On	21158, 21058
Loewe	20511
Magnavox	20503, 20675, 21976, 21914, 20821
Malata	21159, 20782
Marantz	20539
Memorex	20695

Microsoft	20522
Mintek	20839, 20717
Mitsubishi	21521, 20521
Momitsu	21082
NEC	20785
Nesa	20717
Next Base	20826
Niro	22024
Norcent	21003, 20872, 21923, 21107
Onkyo	20503, 20627, 21924, 20792, 21985
Oritron	20651, 21980
Panasonic	20490, 21462, 21907, 21910, 21990, 21362, 21762, 21909, 21986, 20632, 21490, 21908, 21925, 22017
Philco	22000
Philips	20503, 20539, 20646, 20885, 20854, 21914
Pioneer	20525, 20571, 20638, 20632, 20631, 21902
Polaroid	21086, 21061, 21998, 21200
Polk Audio	20539
Portland	20770
Prima	21016
Princeton	20674
Proscan	20522
ProVision	20778
Qwestar	20651
RCA	20522, 20571, 20717, 20822, 21193, 21974, 21132, 21965, 21022, 21913
Regent	21938
Rio	20869
Rotel	20623
Rowa	20823
Saba	21977
Sampo	20752, 20698
Samsung	20490, 20573, 20820, 21932, 21075, 20899, 21979
Sansui	20695
Sanyo	20695, 20670, 21967, 20873
Sharp	20630, 20752
Sharper Image	21995, 21117
Sherwood	21043, 20770, 20633, 21077
Shinco	20717
Shinsonic	20533, 20839, 21931
Sigma Designs	20674
Sonic Blue	20869, 21970, 21099
Sony	20533, 21533, 20864, 21033, 21904, 22020, 21903, 21981, 20772, 21934
Sungale	21074
Superscan	20821
SVA	20717, 20860, 21105
Sylvania	20821, 20675
Symphonic	20675
Teac	21984, 20809
Technics	20490
Technosonic	20730
Techwood	20692
Terapin	21031
Theta Digital	20571
Tivo	21996
Toshiba	20503, 21154, 22006, 21045, 21996, 20695, 21988
Tredex	20803, 20800, 20799, 20804
TYT	20705
Urban Concepts	20503
US Logic	20839
V Inc.	21226, 21064
Vocopro	21027
Xbox	20522
Xwave	21001
Yamaha	20490, 20539, 20545
Zenith	20503, 20591, 21906, 20869, 22002

## Satellite Receivers:

AlphaStar	00772
Chaparral	00216
Crossdigital	01109
DirecTV	00392, 00566, 00639, 01639, 01142, 00247, 00749, 01749, 00724, 00819, 01856, 01076, 01109, 00099, 01444, 01108, 01392, 01443, 01640, 01442, 01414
Dish Network System	01005, 00775, 01775, 01505, 01170
Dishpro	01005, 00775, 01505, 01775
Echostar	01005, 00775, 01170, 01775, 01505
Expressvu	00775, 01775
Funai	00338
GE	00566
General Instrument	00869
GOI	00775, 01775
Goodmans	01246
Hisense	01535
Hitachi	00819, 01250, 00214, 00491, 00489, 00201
HTS	00775, 01775
Hughes Network Sys	01142, 00749, 01749, 01443, 01442, 01444
I-Lo	01535
JVC	00775, 01170, 00492, 01775
LG	01414, 01226
Magnavox	00724, 00722
Matsushita	00340, 00214, 00500
Memorex	00724
Mitsubishi	00749, 00491
Motorola	00869
NEC	00496, 01270
Next Level	00869
Panasonic	00247, 00701, 00214, 00500, 00340
Paysat	00724
Philips	01142, 00749, 01749, 00724, 01076, 00722, 00099, 01442
Proscan	00392, 00566
Proton	01535
RadioShack	00869
RCA	00392, 00566, 00855, 00143, 01392
Samsung	01276, 01109, 01108
Sanyo	00493, 01219
Sharp	00494
SKY	00856
Sony	00639, 01639, 00294, 01640, 00163
Star Choice	00869
Tivo	01142, 01444, 01443, 01442
Toshiba	00749, 01749, 00790, 00486, 01285
UltimateTV	01392, 01640
Uniden	00724, 00722
US Digital	01535
USDTV	01535
Victor	00492
Voom	00869
Zenith	00856, 01856

# APPENDIX B – PRESET MEMORY CODES continued ...

## TVs:

888 10264  
A-Mark 10003  
Abex 10032  
Addison 11150, 10653, 10092  
Admiral 10093, 10463  
Advent 10761, 10817, 10815, 11933, 10783, 10842  
Adventura 10046  
Aiko 10092  
Aiwa 11914, 11910  
Akai 10812, 10702, 10030, 10672, 11903, 10264  
Alaron 10179  
Albatron 10843, 10700  
Ambassador 10177  
America Action 10180  
Ampro 10751  
Anam 10250, 10180, 10003, 10700, 10161, 10628  
Anam National 10250, 10161, 10055, 10650  
Anhua 10051  
AOC 10451, 10093, 10180, 10060, 10030, 10178, 10019, 10185, 11150, 10018, 10052, 10474, 10003, 10092, 10179  
Aolinpike 10264  
Apex Digital 10748, 10765, 10767, 11943, 10879  
Archer 10003  
Audiovox 10451, 10180, 10875, 11952, 10802, 11951, 10092, 10623, 11937, 10003  
Axion 11937  
Baihe 10264  
Baile 10001, 10391  
Baohuashi 10264  
Baosheng 10817  
Beijing 10812, 10391, 10264, 10817, 10001  
Belcor 10019  
Bell & Howell 10154, 10016  
BenQ 11032  
Bradford 10180  
Brockwood 10019  
Broksonic 10236, 10463, 11911, 11938, 10003, 11905, 11935, 11929  
Caihong 10817  
Cailing 10748  
Candle 10030, 10046, 10186, 10056  
Carnivale 10030  
Carver 10054, 10170  
Celebrity 10000  
Celera 10765  
Changcheng 10051, 10817, 10001, 10391, 10264  
Changfei 10817  
Changfeng 10817, 10264  
Changhai 10817  
Changhong 10156, 10765, 10817, 10264, 10783, 10767, 11910  
Chengdu 10817  
Ching Tai 10003, 10474, 10179, 10092  
Chun Yun 10000, 10180, 10161, 10474, 11150, 10092, 10843, 10003, 10179, 10700  
Chunfeng 10264  
Chung Hsin 10180, 10053, 11150, 10036, 10474  
Chunsun 10817  
Cinema 10672  
Citizen 10060, 10030, 10039, 10280, 10056, 10186, 10046, 10092, 11928  
Clairtone 10185  
Clarion 10180  
Colt 11906  
Concerto 10056  
Conrowa 10156, 10145, 10264  
Contec 10180, 10157, 10185  
Craig 10180, 10161  
Crosley 10054  
Crown 10180, 10039

Curtis Mathes 10047, 10054, 10154, 10451, 10093, 10060, 10702, 10030, 10145, 10166, 10466, 11347, 10039, 10056, 11147, 10016, 11919  
CXC 10180  
Daewoo 10154, 10451, 10180, 10030, 10178, 11661, 10474, 10003, 10628, 10032, 11150, 10092, 11928, 10627, 10700, 10056, 11909, 10170, 10391, 10623, 10019, 10672, 10039  
Daytron 10019  
Dayu 10391  
Dell 11080  
Denon 10145, 10511  
Dumont 10017, 10019  
Durabrand 10463, 10180, 10178, 10171, 11034, 10003  
Dwin 10774, 10720  
ECE 10037  
Electroband 10000, 10185  
Electrohome 10381  
Elektra 10017, 11661  
Emerson 10154, 10236, 10463, 10180, 10178, 10171, 10280, 10623, 10038, 11911, 11944, 10179, 10019, 11909, 11929, 10185, 10282, 11905, 10039, 11928, 10177  
Envision 10030, 10813  
Epson 10833, 10840  
Ether 10030, 10161, 10003  
Feilu 10817  
Feiyan 10264  
Feiyue 10817  
Firstar 10236  
Fisher 10154, 10159  
Fortress 10093  
Fujitsu 10186, 10853, 10179, 10809, 10683  
Funai 10180, 10171, 10264, 11904, 10179, 10342  
Furi 10145, 10817, 10264  
Futurtech 10180  
Ganxin 10817  
Gateway 11756, 11755  
GE 11447, 10047, 11454, 10051, 10451, 10180, 10030, 10178, 10092, 11147, 11919, 10055, 10027, 11917, 10135, 10282, 11347, 10021, 11907, 11922  
General 10186  
Gibraltar 10017, 10030, 10019  
Gintai 11150, 10474  
Go Video 10886  
GoldStar 10154, 10030, 10178, 11926, 10019, 10037, 11910, 10001, 10032, 10056, 11150, 10039  
Goodmans 10360  
Grunpy 10180, 10179  
Haier 11034, 10768  
Haiyan 10264, 10817  
Hallmark 10178  
Hankook 10180, 10030, 10178, 10019, 10056, 10628  
Harley Davidson 11904, 10179  
Harman/Kardon 10054  
Harvard 10180  
Havermy 10093  
Hello Kitty 10451  
Hitachi 10180, 10628  
Hisense 10156, 10748, 10145  
Hitachi 11256, 10156, 10030, 10178, 11145, 10145, 10038, 11245, 10092, 10027, 10381, 10036, 11150, 10056, 11904, 10151, 10165, 10019, 10186, 10032, 10039, 10157, 10016, 10179, 10474  
Hongmei 10093, 11910, 10817, 10264  
Hongyan 10817, 10264  
Hua Tun 11150

Huafa 10145  
Huanghe 10817  
Huangshan 10264, 10817  
Huanyu 11910, 10817, 10264  
Huaqiang 10264  
Huari 10145, 10264  
Huodateji 10051  
Hyundai 10849  
Imperial Crown 10001, 10391, 10264  
Infinity 10054  
Inteq 10017  
Janeil 10046  
JBL 10054  
JCB 10000  
Jean 10156, 10051, 10236, 10092, 10179, 10003, 10474  
Jensen 10761, 10815, 11933, 10817  
Jiahua 10051  
Jialicai 10264  
Jinfeng 10051, 10817  
Jinhai 11910  
Jinque 10817, 10264  
Jinta 10264, 11910  
Jinxing 10054, 10156, 10145, 10264, 10037, 10817  
Juhua 10817, 10264  
JVC 10053, 10160, 11923, 11253, 10036, 10653  
Kaige 10264, 10817  
Kangchong 11910  
Kangli 10001, 10817, 10391, 10264  
Kangyi 10264  
Kaypani 10052  
KEC 10180  
Kenwood 10030, 10019  
KLH 10765, 10767  
KLL 10037  
Kloss 10046, 10024  
Kolin 10180, 10053, 11150, 10036, 10474  
Kongque 10264, 10817  
Konka 10632, 10707, 11940, 10628, 10703, 11939, 10638, 10817  
KTV 10180, 10030, 10185, 10039, 10280  
Kuaile 10264  
Kunlun 10051, 10817, 10264  
LG 10060, 10030, 10178, 10056, 10442, 10856, 10001, 10038, 10700, 10019, 10037, 10474, 11178, 10003, 10032, 10006  
Lihua 10817  
Lloyd's 11904  
Loewe 10136  
Logik 10016  
Longjiang 10264, 10817  
Luxman 10056  
LXI 10047, 10054, 10154, 10156, 10178  
Magnasonic 11928, 11913  
Magnavox 11454, 10054, 10030, 10706, 11904, 10020, 11944, 10036, 10179, 10386, 11931, 10096, 10187, 11254, 11913, 10024, 10186  
Magnin 11907  
Majestic 10016  
Marantz 10054, 10030, 10854, 10704, 11154, 10855  
Maruman 10627, 10391  
Matsushita 10250, 10650, 10161  
Megapower 10700  
Megatron 10178, 10145, 10003  
MEI 10185  
Meile 10264, 11910, 10817  
Memorex 10154, 10463, 10150, 10178, 10179, 11920, 11927, 10016, 11911, 11926, 11924  
Mermaid 10037  
MGA 10150, 10030, 10178, 11907, 10019  
Midland 10047, 10017, 10051, 10039, 10135, 10032

# APPENDIX B – PRESET MEMORY CODES continued ...

## TVs continued:

Minutz 10021  
 Mitsubishi 10154, 10250, 10093, 10236, 10180, 11250, 10150, 10030, 10178, 10381, 10836, 10036, 10179, 10817, 11150, 10474, 10019, 10868, 10056, 11917  
 Monivision 10843, 10700  
 Motorola 10093, 10055  
 MTC 10060, 10030, 10185, 10019, 10056  
 Mudan 10051, 10817, 10264  
 Multitech 10180  
 NAD 10156, 10178, 10866  
 Nanbao 11910, 10264  
 Nansheng 10817, 10264  
 National 10051  
 NEC 10154, 10156, 10051, 10053, 10030, 10178, 10046, 11150, 10056, 10165, 10186, 10474, 10036, 10882, 10381, 10817, 11704, 10170, 10264, 10019, 10497  
 Newave 10093, 10178, 11150, 10092, 10161  
 Nikko 10030, 10178, 10092  
 Nikon 11910  
 Norcent 10748, 10824  
 Noshi 10018  
 NTC 10092  
 Onking 10280  
 Onwa 10180  
 Optimus 10154, 10250, 10166, 11924, 11913, 10650, 11927  
 Optoma 10887  
 Optonica 10093, 10165  
 Orion 10236, 10463, 11911, 11905, 10179, 11463, 11929  
 Panasonic 10054, 10250, 10051, 10161, 11410, 11927, 11947, 10037, 10055, 10650, 11924, 11946, 11919, 11941  
 Panda 10051, 10706, 10817, 10264, 11910  
 Penney 10047, 10156, 10051, 10060, 10030, 10178, 10135, 11347, 11926, 10018, 10027, 10039, 11919, 10003, 10021, 10032, 11907, 10019  
 Philco 10054, 10180, 10030, 10178, 10628, 10474, 10020, 10037, 10096, 10186, 10774, 10019, 10032, 10056  
 Philips 11454, 10054, 10000, 10051, 10030, 10178, 10474, 10019, 11154, 10092, 10187, 10774, 10024, 10037, 10056, 10186, 10690, 10020, 10032  
 Pilot 10030, 10019, 10039  
 Pioneer 10166, 10038, 10866, 10679  
 Portland 10092, 10039, 10019  
 Prima 10761, 10815, 10783, 11933, 10817  
 Princeton 10717, 10700  
 Prism 10051  
 Proscan 11447, 10047, 11347, 11922  
 Proton 10030, 10178, 10001, 10039, 10466, 10003, 10052, 10474  
 Pulsar 10017, 10019  
 Qingdao 10051, 10817, 10264  
 Quasar 10250, 10051, 11924, 10165, 11919, 10055, 10650  
 RadioShack 10047, 10154, 10180, 10030, 10178, 10032, 10056, 11920, 10165, 11904, 10019, 10039

RCA 11447, 10047, 11454, 10000, 10030, 10178, 10679, 11247, 11917, 10090, 11948, 11147, 10019, 11907, 11922, 10135, 11958, 11047, 11347, 10018, 11547, 10038, 11919, 10092, 11953  
 Realistic 10154, 10180, 10030, 10178, 10056, 10019, 10039, 10165, 10032  
 Rhapsody 10185  
 Rowa 10748, 10037, 10817  
 Runco 10017, 10030, 10603, 10497  
 Ruyi 10817  
 Saige 10817  
 Sampo 10154, 10093, 10030, 10178, 10171, 10032, 10052, 10474, 11755, 10039, 10700, 10036, 10092, 10650  
 Samsung 10154, 10156, 10060, 10812, 10702, 10030, 10178, 10019, 10056, 11060, 10092, 10474, 10774, 10032, 10817, 10090, 11903, 10264, 10766, 10814, 11150, 10179  
 Samsux 10039  
 Sanjian 10264  
 Sansui 10463, 11904, 11929, 11911  
 Sanyo 10154, 10156, 10180, 10145, 10376, 10474, 10036, 10893, 11907, 10159, 10280, 10424, 10799, 11154, 10157, 10264, 10381, 10798, 10088, 11150  
 Sanyuan 10093, 10817  
 Scimitsu 10019  
 Scotch 10178  
 Scott 10236, 10180, 10178, 10179, 10019  
 Sears 10047, 10054, 10154, 10156, 10178, 10171, 11926, 11904, 10056, 10159, 10179  
 Shancha 10817, 10264  
 Shanghai 10264, 11910, 10817  
 Shaofeng 10145, 10817  
 Sharp 10093, 10030, 10157, 10386, 10650, 10720, 10032, 10851, 10256, 10491, 10689, 10818, 10039, 10165, 10474, 10688, 10787, 10036, 11917  
 Sharper Image 11950  
 Shen Ying 10092, 10003, 10474, 10179  
 Shencai 10145, 10264  
 Sheng Chia 10093, 10236, 10179, 11150, 10474  
 Shenyang 10817, 10264  
 Shogun 10019  
 Signature 10016  
 Simpson 10187, 10186  
 Skygiant 10180  
 Skyworth 10748, 10264, 10037, 10817  
 Sony 11100, 10000, 10036, 10650, 11300, 10111, 11925, 10080, 10834, 11904  
 Soundesign 10180, 10178, 10179, 10186  
 Sowa 10156, 10051, 10060, 10178, 10036, 10092, 10474, 11150  
 Spectricon 10003  
 Squareview 10171  
 SSS 10180, 10019  
 Starlite 10180  
 Studio Experience 10843  
 Supre-Macy 10046  
 Supreme 10000  
 SVA 10748, 10587, 10865, 10872, 10768, 10871, 10870  
 Sylvania 10054, 10030, 10171, 11931,

Symphonic 10381, 11944, 10020, 10096  
 Synco 10180, 10171, 11913, 11904  
 10000, 10451, 10093, 10060, 10178, 10092, 10036, 10474  
 Tacico 10178, 10179, 11150, 10092, 10474  
 Tai Yi 11150  
 Taishan 10817, 10391  
 Tandy 10093  
 Tashiko 11150, 10650, 10092  
 Tatung 10054, 10154, 10156, 10051, 10060, 11150, 10474, 10036, 10055, 11756, 10003  
 Technics 10250, 10051  
 Technol Ace 10179  
 Techview 10847  
 Techwood 10051, 10003, 10056  
 Teco 10051, 10093, 10178, 10474, 10036, 10280, 10092, 10264, 10653  
 Teknika 10054, 10180, 10150, 10060, 10019, 10056, 10186, 10016, 10092, 10039, 10179  
 Telefunken 10702, 10056  
 Tera 10030, 10466, 10474  
 Thomas 11904  
 Tiane 10093, 10817  
 TMK 10178, 10177, 10056  
 TNCi 10017  
 Tobo 10748, 10264  
 Tongguang 10264  
 Toshiba 10154, 11256, 10156, 10060, 10145, 11918, 11945, 10381, 10832, 10036, 11704, 11936, 10264, 10650, 11150, 11656, 11935, 10161, 10509, 10845, 11356  
 Tosonic 10185  
 Totevision 10039  
 Trical 10157  
 Tuntex 10030, 10474, 10092  
 TVS 10463  
 Ultra 10391  
 Universal 10027  
 V Inc. 11756, 10885, 10864  
 Vector Research 10030  
 Victor 10250, 10053, 10160, 10650, 10376, 10036, 10653  
 Vidikron 10054  
 Videch 10178, 10019, 10036  
 Viewsonic 10857, 11755, 10885, 10864  
 Viking 10046  
 Wards 10054, 10030, 10178, 10020, 10080, 10165, 10866, 10019, 10027, 10056, 10111, 10179, 10016, 10021, 10096  
 Warumaia 10391  
 Waycon 10156  
 Westinghouse 10889  
 White Westinghouse 10463, 10186, 11909, 10623  
 Xiahua 10817, 10264  
 Xiangyang 10264  
 Xihu 10817, 10264  
 Xinghai 10264  
 Xinrisong 11910  
 Xuelian 11910  
 Yamaha 10030, 10838, 10019, 10833, 10769, 10839  
 Yapshe 10250  
 Yongbao 11910  
 Youlanasi 10817  
 Yusida 11910  
 Zenith 10017, 10463, 10178, 11911, 10016, 11909, 10092, 11904, 11929  
 Zonda 10003

# APPENDIX B – PRESET MEMORY CODES continued ...

## VCRs:

**ABS** 21972  
**Admiral** 20048, 20209  
**Adventura** 20000  
**Aiko** 20278  
**Aiwa** 20037, 20000, 20307, 20468, 20124, 20406, 20348, 20479  
**Akai** 20041, 20061, 20175, 20106  
**Alienware** 21972  
**America Action** 20278  
**American High** 20035  
**Amoisonic** 20479  
**Anam** 20162, 20037, 20240, 20278, 20226, 21037  
**Anam National** 20162, 20226  
**Asha** 20240  
**Audiovox** 20037, 20278  
**Beaumarck** 20240  
**Bell & Howell** 20104  
**Blaupunkt** 20226  
**Broksonic** 20184, 20121, 20209, 20002, 20348, 20295, 21479, 20479  
**Calix** 20037  
**Canon** 20035, 21174, 20167  
**Carver** 20081  
**CCE** 20072, 20278  
**Changhong** 20048, 20081  
**Citizen** 20037, 20278, 21278  
**Colt** 20072  
**Craig** 20037, 20047, 20240, 20072, 20271  
**Curtis Mathes** 20060, 20035, 20162, 20041, 20240, 21035  
**Cybernex** 21972  
**CyberPower** 20045, 20104, 20278, 20210, 20368, 21278, 20637, 20046, 20212, 20561  
**Daewoo** 21972  
**Denon** 20042  
**DirecTV** 20739, 21989, 21954, 21949  
**Dish Network System** 21943, 21946, 21945, 21944  
**Dishpro** 21944, 21943  
**Durabrand** 20039, 20038  
**Dynatech** 20000  
**Echostar** 21943, 21946, 21945, 21944  
**Electrohome** 20037  
**Electrohome** 20037  
**Emerex** 20032  
**Emerson** 20035, 20037, 20184, 20240, 20045, 20000, 20121, 20043, 20209, 20002, 20278, 20295, 20036, 20637, 21593, 20561, 21479, 20068, 20208, 20479, 21278, 20061, 20212  
**Euro1** 21962  
**Expressvu** 21944  
**Fisher** 20047, 20104, 20066, 20054  
**Fuji** 20035, 20033  
**Fujitsu** 20045, 20052, 20366  
**Funai** 20000, 20593, 21593  
**Garrard** 20000  
**Gateway** 21972  
**GE** 20060, 20035, 20240, 21060, 20202, 20760, 21035, 20807, 20226, 20761  
**General** 20045, 20366, 20052  
**Go Video** 20643, 20526, 20432  
**GOI** 21944  
**GoldStar** 20037, 20209, 20038, 20226, 20225, 21237  
**Gradiente** 20000  
**Haojie** 20240  
**Harley Davidson** 20000  
**Harman/Kardon** 20081, 20038  
**Harwood** 20072, 20068  
**Hauppauge** 21992  
**Headquarter** 20046  
**Hewlett Packard** 21972  
**HI-Q** 20047  
**Hitachi** 20037, 20000, 20042, 20041,

20166, 20105, 20089  
**Howard Computers** 21972  
**HP** 21972  
**HTS** 21944  
**Hughes Network Sys** 20042, 21949, 20739  
**Hyundai** 21951  
**iBUYPOWER** 21972  
**Jensen** 20041  
**JVC** 20045, 20067, 20041, 21945, 20008, 21944, 20384, 20366  
**KEC** 20037, 20278  
**Kenwood** 20067, 20041, 20038, 20384  
**KLH** 20072  
**Kodak** 20035, 20037  
**Kolin** 20043, 20041  
**LG** 20037, 20045, 20042, 20209, 20038, 22010, 21037, 20040  
**Lloyd's** 20000, 20208  
**Logik** 20072  
**LXI** 20037  
**Magnasonic** 21278, 20593  
**Magnavox** 20035, 20039, 20081, 20000, 20593, 20563, 20110, 21781  
**Magnin** 20240  
**Marantz** 20035, 20081, 21381  
**Marta** 20037  
**Matsushita** 20035, 20162, 20226, 21162, 20367, 20227  
**Media Center PC** 21972  
**MEI** 20035  
**Memorex** 20035, 20162, 20037, 20048, 20039, 20047, 20240, 20000, 20104, 20209, 21237, 20046, 20479, 21162, 20348, 21048, 21262, 20307, 21037  
**MGA** 20240, 20043, 20061  
**MGN Technology** 20240  
**Microsoft** 21972  
**Mind** 21972  
**Minolta** 20042, 20105  
**Mitsubishi** 20067, 20043, 20041, 20061, 20807, 20173  
**Motorola** 20035, 20048  
**MTC** 20240, 20000  
**Multitech** 20000, 20072  
**NAD** 20058  
**National** 20226  
**NEC** 20035, 20037, 20048, 20104, 20067, 20041, 20038, 20040, 20008, 20370  
**Newave** 20037  
**Nikko** 20037  
**Nikon** 20253, 20034  
**Noblex** 20240  
**Northgate** 21972  
**Olympus** 20035, 20226, 21046  
**Onkyo** 20222  
**Optimus** 21062, 20162, 20037, 20048, 20104, 21048, 21262, 20593, 21162, 20058, 20432  
**Optonica** 20062  
**Orion** 20184, 20209, 20002, 20479, 20295, 21479  
**Panarex** 21950  
**Panasonic** 21062, 20035, 20162, 20077, 20226, 20616, 21162, 20225, 20367, 20227, 21035, 21262  
**Pansat** 21950  
**Penney** 20035, 20037, 20240, 20042, 20038, 21035, 20040, 20054, 21237  
**Pentax** 20042, 20105  
**Philco** 20035, 20000, 20226, 20479  
**Philips** 20035, 20081, 20000, 20226, 20739, 21381, 20110, 20618, 21181, 20563, 21081, 21949, 20062  
**Pilot** 20037  
**Pioneer** 20042, 20067, 20058  
**Polk Audio** 20081  
**Profitronic** 20240  
**Proscan** 20060, 20760, 21954, 20202,

21060, 20761  
**Protec** 20072  
**Pulsar** 20039  
**Qisheng** 20060  
**Quarter** 20046  
**Quartz** 20046  
**Quasar** 20035, 20162, 21035, 20077, 21162  
**RadioShack** 20000, 21037  
**Radix** 20037  
**Randex** 20037  
**RCA** 20060, 20035, 20240, 20000, 20042, 20807, 21060, 21989, 20106, 20761, 21035, 20058, 21964, 20105, 20226, 20760, 20880, 21954, 20077, 20202, 20453  
**Realistic** 20035, 20037, 20048, 20047, 20000, 20104, 20066, 20046, 20062  
**ReplayTV** 20614, 20616  
**Ricoh** 20253, 20034  
**Runco** 20039  
**Sampo** 20037, 20048  
**Samsung** 20240, 20045, 20212, 20760, 20210, 20432, 21014  
**Samtron** 20643  
**Sanky** 20048, 20039  
**Sansui** 20000, 20067, 20209, 20041, 20479, 20271, 21479  
**Sanyo** 20047, 20240, 20104, 20046, 20159, 20369, 20368  
**Scott** 20184, 20045, 20121, 20043, 20210, 20212  
**Sears** 20035, 20037, 20047, 20000, 20042, 20104, 20046, 20066, 21237, 20054, 20105  
**Sharp** 20048, 20209, 20363, 20848, 20807, 20062, 20738, 21048  
**Shinco** 20000  
**Shintom** 20072  
**Shogun** 20240  
**Singer** 20072  
**Sonic Blue** 20614, 20616  
**Sony** 20035, 20032, 20033, 20000, 20253, 20639, 21232, 21972, 20636, 21032, 21957, 20034, 20586, 20640, 21956  
**STS** 20042  
**Sunpak** 20253  
**Sylvania** 20035, 20081, 20000, 20043, 20110, 21781, 21593, 20593  
**Symphonic** 20000, 21593, 20593  
**Systemax** 21972  
**Tagar Systems** 21972  
**Tashiko** 20037  
**Tatung** 20045, 20067, 20041, 20366, 20008  
**Teac** 20000, 20041  
**Technics** 20035, 20162  
**Teco** 20035, 20037, 20048, 20041, 20038, 20040  
**Teknika** 20035, 20037, 20000, 20052  
**Thomas** 20000  
**Tivo** 20739, 21957, 20636, 21956, 20618, 21503  
**TMK** 20240, 20208, 20036  
**Toshiba** 20045, 20067, 20043, 20041, 20210, 20384, 21008, 21972, 20366, 20845, 21503, 20066, 20212, 20828, 21145, 20008  
**Totevision** 20037, 20240  
**Touch** 21972  
**UltimateTV** 21989  
**Unitech** 20240  
**Vector** 20045  
**Vector Research** 20038, 20040  
**Victor** 20067, 20041, 20008, 20384  
**Video Concepts** 20045, 20040, 20061  
**Video magic** 20037  
**Videosonic** 20240  
**Viewsonic** 21972

# APPENDIX B – PRESET MEMORY CODES continued ...

## **VCRs continued:**

Villain	20000
Wards	20060, 20035, 20048, 20047, 20081, 20240, 20000, 20042, 20072, 20062, 20212, 20760
White Westinghouse	20209, 20072, 20637
XR-1000	20035, 20000, 20072
Yamaha	20041, 20038
Zenith	20039, 20033, 20000, 20209, 20034, 20479, 21479, 21139, 20637
ZT Group	21972

## **Video Accessories:**

ABS	01272
Alienware	01272
CyberPower	01272
Gateway	01272
Hewlett Packard	01272, 01267
Howard Computers	01272
HP	01272
iBUYPOWER	01272
InterVideo	01393
Jensen	01165
JVC	01384
Keyspan	01344
KWorld	01403
LG	01415
Linksys	01365
Macro Image Tech	01383
Media Center PC	01272
Microsoft	01272
Mind	01272
Motorola	01363

MyHD	01383
Northgate	01272
Panasonic	01120
Pinnacle Systems	01268
Pioneer	01010
Princeton	00113, 00295
Rabbit	00081
Roku	01486
Samsung	01190, 01490
Sensory Science	01126
Sharp	01010
SMC	01456
Sony	01272, 01324, 01364
Streamzap	01309
Systemax	01272
Tagar Systems	01272
TeleCaption	00171
Toshiba	01272
Touch	01272
Viewsonic	01272, 01329
ZT Group	01272

# SPECIFICATIONS

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## ANALOG AUDIO

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<b>Input Impedance</b> .....	20 k $\Omega$
<b>Output Impedance</b>	
Main .....	300 $\Omega$ (RCA), 600 $\Omega$ (XLR)
Zone2/3 & Record .....	51 $\Omega$
<b>Rated Input</b> .....	2.0 Vrms
<b>Maximum Input</b> .....	5.3 Vrms, 3.0 Vrms for 6-Ch input
<b>Minimum Load</b> .....	5 k $\Omega$
<b>Rated Output</b> (100 k $\Omega$ load) .....	2.0 Vrms
<b>Maximum Output</b>	
RCA .....	6.3 Vrms
XLR .....	12.6 Vrms
<b>Headphone Output</b> .....	100 mW into 32 $\Omega$ at 0.2% THD+N
<b>Volume Control Range</b>	
Main .....	-95.5 to +31.5 dB in 0.5 dB increments
Zone2/3 and Headphone .....	-62.5 to +10.0 dB in 1.25 dB increments
<b>Crosstalk</b> (at 1 kHz) .....	82 dB between channels, 86 dB between inputs
<b>XLR Pin Configuration</b> .....	Pin 1: Ground, Pin 2: Positive, Pin 3: Negative

## DIGITAL AUDIO

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<b>Analog to Digital Converters</b> .....	AKM AK5383
<b>Analog to Digital Conversion S/N Ratio</b> at digital Rec output (IEC-A Filter) .....	100 dB
<b>Processor</b> .....	Freescale 56367 at 150 MHz
<b>Digital to Analog Converters</b> .....	AKM AK4382
<b>Crossover</b>	
High-Pass Slope (Small Speaker Setting) .....	12 dB/octave (2nd order)
Low-Pass Slope (Subwoofer) .....	24 dB/octave (4th order)
Frequency (Adjustable) .....	25 to 160 Hz in 5 Hz increments
<b>Tone Control</b>	
Filter Response Type .....	Shelf
Bass Turnover Frequency .....	200 Hz
Treble Turnover Frequency .....	2 kHz
Range .....	$\pm$ 12 dB

All digital audio inputs and output are to S/PDIF coaxial (75  $\Omega$ , 0.5 Vp-p), S/PDIF optical, or AES / EBU (110  $\Omega$ , 5 Vp-p) standards.

# SPECIFICATIONS continued ...

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## MAIN Path (RCA & XLR output)

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### Frequency Response and Bandwidth

Analog-Direct Inputs	10 Hz to 20 kHz (+0, -0.2 dB), 1 Hz to 120 kHz (+0, -3 dB)
Analog-DSP Inputs at 24/96	10 Hz to 20 kHz (+0, -0.3 dB), 2 Hz to 37 kHz (+0, -3 dB)
Digital Inputs at 24/96	10 Hz to 20 kHz (+0, -0.2 dB), 1 Hz to 39 kHz (+0, -3 dB)

### THD+N (at Rated Input & Output)

Analog-Direct Inputs	0.006% (80 kHz BW)
Analog-DSP Inputs at 24/48	0.006% (AES17 Filter)
Digital Inputs at 24/48	0.004% (AES17 Filter)

### IMD (CCIF at 15 kHz & 16 kHz)

Analog-Direct Inputs	0.001%
Analog-DSP Inputs at 24/48	0.003%
Digital Inputs at 24/48	0.001%

### S/N Ratio (ref. 2.0 Vrms, IEC-A Filter)

Analog-Direct Inputs	106 dB
Analog-DSP Inputs at 24/48	100 dB
Digital Inputs at 24/96	104 dB

## ZONE2 and ZONE3 Paths

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**Frequency Response and Bandwidth** . . . . . 20 Hz to 20 kHz (+0, -0.1 dB), 3 Hz to 140 kHz (+0, -3 dB)

**THD+N (at Rated Input & Output)** . . . . . 0.06% (80 kHz BW)

**IMD (CCIF at 15 kHz & 16 kHz)** . . . . . 0.06%

**S/N Ratio (ref. 2.0 Vrms, IEC-A Filter)** . . . . . 97 dB

## FM TUNER

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### Sensitivity

50 dB S/N	13 dB $\mu$ typ., 25 dB $\mu$ max.
IHF	10 dB $\mu$ typ., 20 dB $\mu$ max.

### S/N Ratio

Mono	75 dB typ., 65 dB min.
Stereo	69 dB typ., 60 dB min.

### Distortion

Mono	0.2% typ., 1.0% max.
Stereo	0.3% typ., 1.5% max.

**Stereo Separation** . . . . . 40 dB typ., 25 dB min.

**Adjacent Channel Selectivity ( $\pm$ 400 kHz)** . . . . . 70 dB typ., 60 dB min.

**Frequency Response** . . . . . 25 Hz to 15 kHz (+0, -2 dB)

## AM TUNER

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**Sensitivity (20 dB S/N)** . . . . . 49 dB $\mu$  typ., 56 dB $\mu$  max.

**S/N Ratio** . . . . . 50 dB typ., 43 dB min.

**Distortion** . . . . . 0.7% typ., 2.0% max.

**One Signal Selectivity ( $\pm$ 10 kHz)** . . . . . 24 dB typ., 18 dB min.

# SPECIFICATIONS continued ...

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## VIDEO SWITCHING

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### Bandwidth from input jack to output jack

Composite & S-Video .....	70 MHz
Component: Y .....	110 MHz
Pr .....	90 MHz
Pb .....	80 MHz

All video inputs and outputs are 75  $\Omega$ , 1.5 Vp-p.

## CONTROL

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### Infra Red

Carrier Frequency .....	38 kHz
Max. 12V Supply Current .....	150 mA
Max. Emitter Current .....	60 mA per output

### RS-232 Interface

Connection .....	DB-9F, straight-wired
Pinout (AVM 30 side) .....	Pin 2: Tx, Pin 3: Rx, Pin 5: Ground
Baud rate .....	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
Configuration .....	8 data bits, 1 stop bit, no parity bits, flow control (RTS/CTS, None)

### Trigger Outputs

Polarity .....	tip positive, sleeve ground
Max. Current at 12 VDC .....	50 mA (Triggers 1, 2), 200 mA (Trigger 3)
Sequential Delay .....	250 ms

## POWER REQUIREMENT

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Power Consumption .....	Maximum 140 W
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## DIMENSIONS

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Height .....	5 <sup>7</sup> / <sub>8</sub> inches (14.9 cm) including feet, rackmounting – 3 rack units without feet
Width .....	17 <sup>1</sup> / <sub>4</sub> inches (43.8 cm)
Depth .....	14 <sup>1</sup> / <sub>4</sub> inches (36.2 cm)
Weight (unpacked) .....	28 lb (12.7 kg)

Audio measurements were performed with an Audio Precision System Two. Specifications and features are subject to change without notice as design improvements are incorporated.



# WARRANTY

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## CANADA & USA

Anthem Electronics warrants to the original purchaser that each Anthem AVM 30 is free from defects in workmanship and materials, during normal use, for a period starting from the date of sale of three (3) years, except for video circuitry, which is covered for two (2) years, and the remote control which is covered for one (1) year. During the warranty period, Anthem Electronics will repair or replace any defective components free of charge.

This warranty is not transferable unless the product is traded-in with an Authorized Anthem Dealer, who may resell the product with the remaining warranty if it is cosmetically acceptable, in perfect working condition, and has not been internally or externally altered.

Warranty is void if the Anthem product is not purchased from an Authorized Anthem Dealer, if the serial number has been removed, altered, or defaced, if the product has been operated or handled other than in accordance with the instructions in its Operating Manual or otherwise abused, misused, damaged by accident or while in transport, tampered with, modified, or repaired by anyone other than Anthem Electronics or an authorized Anthem Electronics service center. If inspection by Anthem Electronics discloses that the repair required is not covered by this warranty, regular repair charges shall apply.

Display products sold by an Authorized Anthem Dealer are covered under the same warranty terms, except that the warranty period commences from the date of the dealer invoice, not the purchaser's invoice, and cosmetic flaws, if there are any, are excluded.

If a problem or defect is discovered in your Anthem product, please contact your Authorized Anthem Dealer. It is the Dealer's responsibility to determine the nature of the problem and arrange for the appropriate replacement parts, or the return of the product to Anthem Electronics.

**A Return Authorization (RA) number must be obtained from Anthem Technical Support before any product can be returned to Anthem Electronics for any reason.** The RA Number must be clearly visible on the outside of the shipping carton for Anthem Electronics to accept the return. Product shipped to Anthem Electronics without a RA Number will be refused and returned to the sender, freight collect. Product shipped to Anthem Electronics for repair must have shipping and insurance prepaid by the sender, be packaged in the original carton and packing material, and should be accompanied by a written description of the defect. Anthem Electronics will accept no responsibility for any damage occurring to a product that is shipped in any type of carton and packing material other than the original carton and packing material.

**To receive service under warranty, an accompanying copy of the original sales receipt is required.** Product repaired under warranty will be returned with shipping and insurance prepaid by Anthem Electronics (within Canada and USA only). All other repairs are subject to charges for labor, parts, return shipping, and insurance.

## Disclaimer of Liability

Under no circumstances does Anthem Electronics assume liability or responsibility for injury or damages sustained in the use or operation of Anthem products, or for damages to any other connected products.

In no event shall Anthem Electronics, its agents, representatives, or employees, be responsible for any incidental or consequential damages. Some jurisdictions do not allow limitations of incidental or consequential damages, so this exclusion may not apply to you.

Anthem Electronics reserves the right to make design changes or improvements to products without any obligation to revise prior versions. All specifications are subject to change without notice.

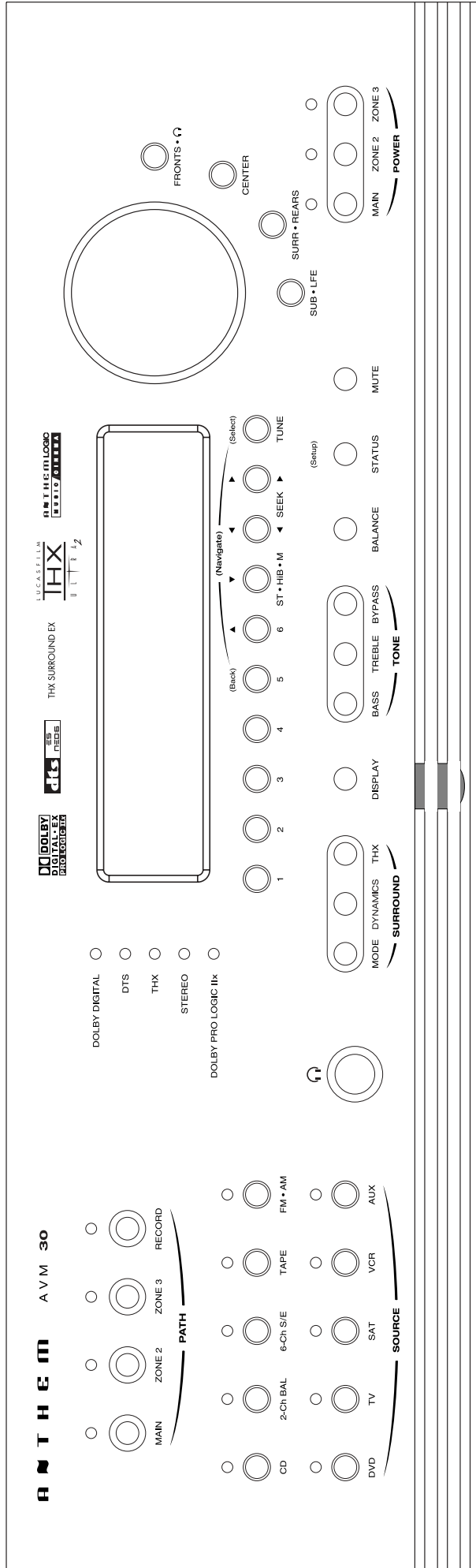
On the expiration of the warranty period all liability of Anthem Electronics in connection with the product shall terminate.

This warranty constitutes the only warranty applicable to products sold by Anthem Electronics. No other warranty or condition, statutory or otherwise, expressed or implied, shall be imposed upon Anthem Electronics, nor shall any representation made by any person, including a representation by a representative or agent of Anthem Electronics, be effective to extend the warranty coverage provided herein.

## INTERNATIONAL

Outside of Canada and USA, warranty coverage terms are set and maintained by the Authorized Anthem Distributor, not Anthem Electronics. Terms and conditions may vary.

# THE BIG PICTURE FRONT PANEL



# THE BIG PICTURE REAR PANEL

**R A T H E M**  
A V M 30  
MADE IN CANADA BY  
SONIC FRONTIERS INTERNATIONAL

**CAUTION / AVERTISSEMENT**  
DO NOT OPEN THE REAR PANEL  
UNLESS YOU ARE A QUALIFIED SERVICE  
TECHNICIAN. FAILURE TO FOLLOW THESE  
INSTRUCTIONS MAY VOID YOUR WARRANTY.

SERIAL NO.:

THIS PRODUCT IS  
CERTIFIED BY  
UL LISTED  
APPLICABLE  
STANDARDS

150V, 60Hz  
145W MAX

CHASSIS  
GROUND

**S-VIDEO-IN**

CD TAPE DVD TV SAT VCR AUX

**S-VIDEO-OUT**

TAPE VCR ZONE 3 ZONE 2 MAIN

**COMPOSITE VIDEO-IN**

CD TAPE DVD TV SAT VCR AUX

**DIGITAL AUDIO-IN (S/PDIF - RCA)**

CD TAPE DVD TV SAT VCR AUX

**ANALOG AUDIO-IN (S/E)**

CD TAPE DVD TV SAT VCR AUX

**COMPONENT VIDEO-IN**

1 MAIN 2

Y Pb Pr 1 2 3 4

**COMPONENT VIDEO-OUT**

1 MAIN 2

Y Pb Pr 1 2 3 4

**COMPOSITE VIDEO-OUT**

TAPE VCR ZONE 3 ZONE 2 MAIN

**COMPOSITE VIDEO-OUT**

TAPE VCR ZONE 3 ZONE 2 MAIN

**DIGITAL AUDIO-IN (S/PDIF - TOS)**

1 2 3

**DIGITAL AUDIO-OUT (S/E)**

1 2 3

**ANALOG AUDIO-OUT (S/E)**

TAPE VCR ZONE 3 ZONE 2 MAIN

**ANALOG AUDIO-OUT (S/E)**

CD TAPE DVD TV SAT VCR AUX

**RELAY TRIGGERS**

1 2 3 +12V

**POWERED I.R. RECEIVERS**

1 2 3 +12V

**I.R. EMITTERS**

1 2 3 +12V

**RS-232E**

FRONTL CTR 1 SUR-L SUR-R FRONTL CTR 2 SUR-L SUR-R

**ANALOG AUDIO-OUT (S/E)**

FRONTL CTR 1 SUR-L SUR-R FRONTL CTR 2 SUR-L SUR-R

**2-CHANNEL - IN (BALANCED)**

L R

**2-CHANNEL - IN (S/E)**

L R

**FM ANTENNA**

75 Ω

**AM**

300 Ω

**IEEE 1394 INTERFACE**

**ANALOG AUDIO-OUT (BALANCED)**

SUB 1 REAR-L REAR-R SUR-L SUR-R CENTER 1 CENTER 2 / ZONE 2 L CENTER 2 / ZONE 2 R FRONT-L FRONT-R

**ANALOG AUDIO-OUT (S/E)**

SUB 1 REAR-L REAR-R SUR-L SUR-R CENTER SUR SUR CENTER SUR SUR FRONTL FRONTL FRONTL FRONTL



**DESIGNED AND MANUFACTURED IN NORTH AMERICA**

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