

AVM 20

OPERATING MANUAL

ANHEM™





UPDATES: www.anthemAV.com

SOFTWARE VERSION 2.1x

SAFETY PRECAUTIONS

READ THIS SECTION CAREFULLY BEFORE PROCEEDING!

	WARNING RISK OF ELECTRIC SHOCK DO NOT OPEN	
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.		



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.

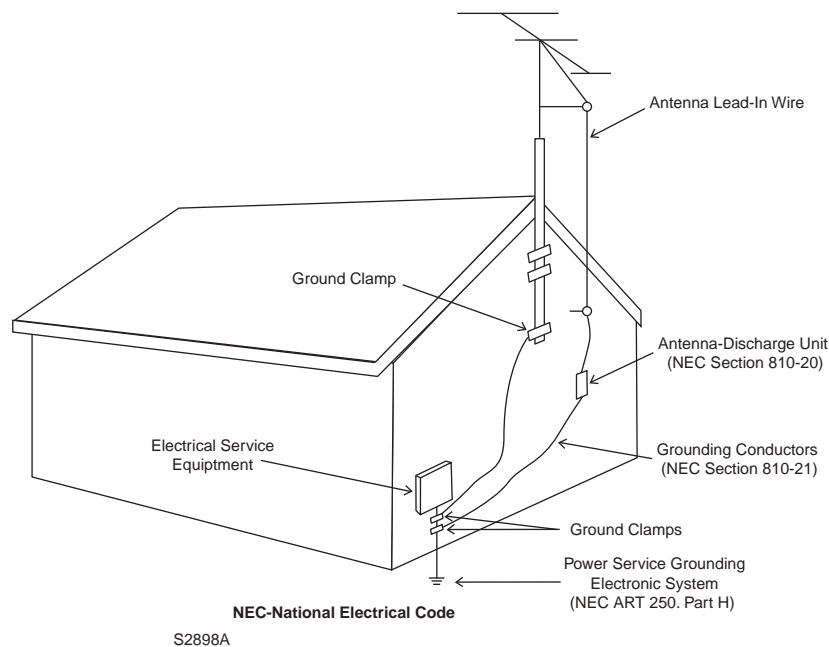
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE THE FUSE ONLY WITH THE SAME AMPERAGE AND VOLTAGE TYPE. REFER REPLACEMENT TO QUALIFIED SERVICE PERSONNEL.

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.
- 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.

Copyright© Anthem™/Sonic Frontiers International. All rights reserved. The information contained herein may not be reproduced in whole or in part without our express written permission.

ANTHEM™ is a trademark of Sonic Frontiers International. All other trademarks are the property of their respective owners.

Anthem™/Sonic Frontiers International reserves the right to change specifications and/or features without notice as design improvements are incorporated.

Motorola name and logo are registered trademarks of Motorola, Inc.

PHASTLINK™ is a trade mark of PHAST Corporation.

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", "AC-3", "Surround EX", and the double-D symbol are trademarks of Dolby Laboratories.

"DTS", "DTS-ES Extended Surround", "DTS 96/24", and "Neo:6" are trademarks of Digital Theater Systems, Inc.

Manufactured under license from THX Ltd. U.S. patent numbers 5,043,970; 5,189,703; and/or 5,222,059. European patent number 0323830. Other U.S. and foreign patents pending. Ultra2 and THX are trademarks or registered trademarks of THX Ltd. Lucasfilm is a trademark of Lucasfilm Ltd. Surround EX is a trademark of Dolby Laboratories. Used under authorization.

TABLE of CONTENTS

SECTION	PAGE
1. INTRODUCTION	1
1 Receiving and Unpacking the AVM 20	1
1.1 Packing List	1
1.2 Important Safety Instructions	1
1.2.1 Before Operating Your AVM 20	1
1.2.2 Supply Power Requirements	2
1.2.3 In-Use Notices	2
1.3 Packing Materials	2
2. QUICK START	3
2.1 Quick Start Guide	3
2.2 Connector Diagrams and Descriptions	4
2.2.1 CD Player to AVM 20	5
2.2.2 DVD Player and TV to AVM 20	6
2.2.3 VCR and TV to AVM 20	7
2.2.4 AVM 20 to Amplifier and Powered Subwoofer (RCA)	8
2.2.5 AVM 20 to Amplifiers and Powered Subwoofer (XLR)	9
2.3 Speaker Placement	10
3. PANELS / DISPLAYS / REMOTE LAYOUT	11
3.1 Front Panel Layout	11
3.2 Front Panel Display	12
3.3 Rear Panel Layout	13
3.4 Remote Control Layout	14
4. CONNECTIONS	15
4.1 Connecting Power To The AVM 20	15
4.2 Audio Connections	15
4.2.1 Digital Audio Inputs and Outputs	15
4.2.2 Analog Audio Inputs	15
4.2.3 Left / Right Analog Audio Inputs	16
4.2.4 2-Ch Balanced and 6-Ch Single-Ended Audio Inputs	16
4.2.5 Analog Audio Outputs	16
4.3 Video Connections	17
Composite Video	17
S-Video	17
Component Video	17
4.4 Powered I.R. (Infra Red) Receivers	19
4.5 I.R. (Infra Red) Emitters	19
4.6 Relay Triggers	19
4.7 FM•AM Antennas	19

5. FRONT PANEL OPERATION

20

5.1 Power On / Off	20
5.2 Path Selection	20
5.2.1 Copying the MAIN Path to ZONE2, ZONE3, or RECORD Down-Mixing to 2-Channel Stereo	21 21
5.3 Master Control Knob	21
5.4 Source Selection	21
5.4.1 6-Channel S/E Input	21
5.4.2 FM•AM Tuner	22
Manual Tuning	22
Automatic Tuning	22
Presets	22
ST / HiB / M	22
5.4.3 Simulcast	22
5.5 Volume Control	23
Dialog Normalization	23
Mute	23
5.6 Surround Mode Level	23
5.7 Bass / Treble / Balance	24
Tone Bypass	24
5.8 Surround Modes	24
5.8.1 AnthemLogic™	25
5.8.2 Dolby Digital-2.0	25
5.8.3 Surround Modes for Stereo Source Material	26
5.8.4 Dolby Digital EX	27
5.8.5 DTS-ES	27
5.8.6 THX Ultra2 / THX Surround EX	27
5.8.7 Modes and THX Operation for Stereo Program Material	31
5.8.8 Modes and THX Operation for Dolby Digital 5.1 Program Material	32
5.8.9 Modes and THX Operation for DTS program Material	33
5.8.10 Dynamics	34
5.9 Front Panel Display	34
5.10 Status / Setup	34

6. REMOTE CONTROL OPERATION

35

6.1 Powering the AVM 20 ON and OFF	35
6.2 Path Selection	36
6.2.1 Copying the MAIN Path to ZONE2, ZONE3, or RECORD	36
6.3 Source Selection	36
6.3.1 Source Seek	36
6.4 Direct FM•AM Station Entry	36
6.5 Sleep Timer	36
6.6 Enable / Disable Auto-On Timers	36
6.7 Audio Group Delay	37

6.8 Controlling Other Components	37
6.8.1 Entering Manufacturer's Codes	37
6.8.2 Searching For a Code	37
6.8.3 Volume Lock	37
6.8.4 Learning Function	38
Limitations on Learning	38
Teaching a Key	39
Deleting a Learned Command from a Key	39
6.9 Controlling the AVM 20 with Aftermarket Remotes	39
7. SETUP MENU	40
<hr/>	
7.1 How to Enter the Setup Menu	40
7.2 How to Navigate in the Setup Menu	40
7.3 How to Exit the Setup Menu	40
7.4 Setting Up the AVM 20	41
7.4.1 Set Time / Timers	41
7.4.2 Speaker Configuration	42
7.4.3 Listener Position	49
7.4.4 Speaker Level Calibration	50
7.4.5 Source Setup / Presets	52
7.4.6 Adjust Input Levels	56
7.4.7 A-D / Audio-Out Format	57
7.4.8 Volumes / Rename Paths	58
7.4.9 Triggers / IR / RS-232	59
7.4.10 Displays / Timeout	61
7.4.11 Save / Restore Settings	63
7.4.12 Lockout / Passwords	65
8. SOFTWARE UPDATING	66
<hr/>	
8.1 Software Version Identification	66
8.2 Software Updating Via Your Dealer	66
8.3 Software Updating Via Your Computer and the Internet	66
Appendix A – Remote Control Codes	68
<hr/>	
Specifications	71
<hr/>	
Warranty	74
<hr/>	
Big Pictures of Front and Rear Panels	Inside Back Cover
<hr/>	

1. INTRODUCTION

Thank you for purchasing the Anthem AVM 20 Preamplifier • Processor • Tuner.

Anthem Electronics has been manufacturing high-quality, high-end audio equipment for over a decade. In that time, Anthem has built an enviable reputation for products that can recreate the passion a music lover experiences when attending a live musical performance, or the thrilling sound a movie buff experiences in the very best movie theaters. Anthem equipment allows audiophiles to almost “be there” each and every time they sit and enjoy music or home theater in the comfort of their home. Anthem provides all this with the highest level of craftsmanship, sophisticated circuit designs, superior quality parts and materials, modern intuitive ergonomics, and stylish industrial design.

Although Anthem products sound great “right out of the carton”, they will sound even better after they are thermally stabilized. We therefore recommend that you operate this product for a period of time before doing any critical listening.

The AVM 20 is a state-of-the-art four path A/V Preamplifier / Surround Sound Processor, with built-in FM • AM Tuner. It is designed to provide high-end sound and video for both music, home theater, and multi-room applications.

1 RECEIVING AND UNPACKING THE AVM 20

The AVM 20 is shipped in a reinforced shipping box. Please keep this box for any future shipment. Check that you have received everything in the Packing List below and report any discrepancies to your dealer as soon as possible. **Keep the invoice that you received from your authorized Anthem dealer at time of purchase – without it, service cannot be given under warranty.**

1.1 PACKING LIST

- AVM 20
- Powered IR Terminal Block (on rear panel)
- Remote Control
- 2 ‘AA’ Batteries
- Power Cord
- FM Antenna
- 75-ohm to 300-ohm FM Antenna Adapter
- AM Loop Antenna
- Operating Manual

1.2 IMPORTANT SAFETY INSTRUCTIONS



- The Front Panel power switches are secondary only; they do not disconnect the AVM 20 from the AC power line. Line voltage is switched off through the rear panel power switch.
- 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 or all of these requirements.

1.2.1 BEFORE OPERATING YOUR AVM 20

- Do not connect power to the AVM 20 if there are signs of damage to any part of its exterior.
- Install the AVM 20 in a stable location. Do not mount to a wall or from a ceiling.
- Allow six or more inches of unobstructed air space above the ventilation slots in the top cover of the AVM 20. Do not block any ventilation openings. Do not obstruct bottom vents by removing the rubber feet or operating the AVM 20 directly on a carpet, sofa, or similar surface.

1. INTRODUCTION continued ...

1.2.2 SUPPLY POWER REQUIREMENTS

The AVM 20 operates from a single phase AC power source that supplies between 105V and 130V at a frequency of 60 Hz. It cannot be changed from 120V to 240V operation.

DO NOT USE A POWER LINE CONDITIONER:

- **Some Power Line Conditioners are incompatible with the AVM 20 and may cause the AVM 20's AC line fuses to blow.**
- **One is not required because the AVM 20's power supply has power line filtering and voltage regulation built in.**

1.2.3 IN-USE NOTICES

- Use only the power supply cord with double insulation as supplied.
- Disconnect the AVM 20's power cord before connecting or disconnecting any components.
- Fuses are not a user serviceable item (see specification section).
- Do not remove the top cover.
- Do not alter or modify the AVM 20 in any way.

1.3 PACKING MATERIALS

Retain the shipping box and all packing material. They are custom designed to prevent shipping damage. Do not ship or transport the AVM 20 in anything other than the original box and packing material.