



# AVM 2

P R E A M P L I F I E R • P R O C E S S O R • T U N E R

# THE NEXT REVOLUTION

## I N H I G H - E N D S O U N D

For more than a decade, Sonic Frontiers International (SFI) has manufactured award winning, high-end Preamplifiers, Power Amplifiers, CD players, CD transports and Digital-to-Analog Converters of the finest quality under both the Sonic Frontiers™ and Anthem™ brandnames.

Throughout this time we have built an enviable reputation for products that truly recreate the passion you experience with a live musical performance; or the emotion, thrills and chills of a great movie. Our products allow you to virtually 'be there' every time you listen to music or theater surround-sound in the comfort of your home. This success comes from a steely determination to deliver the best performance and value you can find in high-end product, anywhere in the world! Sonic Frontiers™ and Anthem™ offer, by far, the highest level of craftsmanship, design sophistication, quality of material, sleek industrial design and contemporary intuitive ergonomics — all of which make our products easy to operate and enjoy, and a pleasure to own.

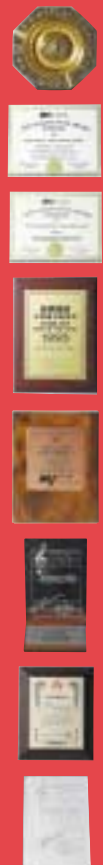
Our reputation in both analog and digital design is legendary and respected globally — establishing new high-end reference standards of performance, regardless of price. From Europe to Asia to North America, our products have received many international awards and been acclaimed in the best known magazines. In the USA, Stereophile has praised us with numerous "CLASS A" recommendations and even honored us with their coveted, 'Digital Component of the Year' award!

Our products are used internationally at all levels of music reproduction, not only in homes but also recording studios and even in broadcasting! Europe 1, France's national radio station, uses three SFD-2 MKII D/A converters atop the Eiffel Tower for all their

broadcast transmissions. NASA uses a Power 2 power amplifier for the Space Shuttle program in its testing laboratory in Key Largo, Florida. (These are just a couple of our more notable professional-use owners).

Anthem™ is "The Key To High End Audio-Video™" and the AVM 2 is the key component that gives you easy, intuitive control of recorded music, movies, satellite, radio and ultimately over the multitude of expensive components in your system; and it can do it all with multi-room control. When you think about it, your home theater preamplifier/processor is actually the 'control center' through which you and your family listen, watch, choose and control the various audio/video entertainment options in your home. As such it is the most important component choice you will make.

The mark of a true master is one filled with power and knowledge, yet who shows their skill with grace and ease. The Anthem™ AVM 2, Audio/Video Master, is true to this ideal with its stunningly clear and musical sound, vast control capabilities, elegant and easy-to-use front panel, intuitive remote control, software upgradeability, password protection and restorable settings. The AVM 2 gives you and your whole family the power and grace to enjoy high-end home entertainment as never before.



The Anthem™ AVM 2 is a truly spectacular design through and through, that combines seven high-end 'components' in one:

- **Preamplifier:**  
Provides incredible musical performance.
- **Digital to Analog Converter:**  
Fully capable of handling 24 bit / 96 kHz stereo signals.
- **Home Theater Surround Sound Processor:**  
Using the very latest in DSP technology for home theater sound that can only be described as astonishing!
- **HDTV Video Switcher:**  
With such high quality parts and extended bandwidth there is no degradation to the high definition video signal.
- **Multi-Room/Whole House Entertainment Control Center:**  
Intuitive and very easy to use.
- **FM/AM Tuner:**  
With fabulous sound quality and 24 presets.
- **Headphone Preamplifier:**  
Flexible, very useful and with vastly superior sound.

The AVM 2 delivers everything from the excitement of home theater entertainment to the smooth relaxation of music that you demand from a true high-end audio/video music and home theater system, yet at prices that clearly make Anthem™ the most remarkable value in the market!

**Anthem's Five Keys to Better High-End Products:**

- Superior circuit designs.
- Use of top quality parts and materials.
- Optimal implementation to minimize unwanted noise and jitter.
- Care in manufacturing and quality control.
- Passion, so that all aspects of design and manufacturing are taken to their highest level — maintaining the integrity of the original signal, never losing focus on high-end performance.

The AVM 2 uses the most advanced circuitry possible, including carefully hand-crafted circuit board layouts (not done by autorouters) with extensive use of ground planes to achieve exceptionally low noise, low crosstalk and protection against ESD (electro-static discharge). All critical signal paths are surrounded by ground planes — a painstaking, dedicated process that alone took two months! The AVM 2 is, by far, one of the quietest Preamp/Processor/Tuners you can buy! The large, conservatively rated toroidal-transformer-based linear power supply substantially minimizes radiated interference, another key ingredient to the AVM 2's effortless performance.



Audio and video inputs are all fully buffered for minimum crosstalk. All digital inputs feature individual low-jitter multiplexers — just another extreme that we go to, to ensure the best in high-end sound.

Our parts complement includes: The most powerful Digital Signal Processing (DSP) engine in the industry; the 24 bit / 96 kHz Motorola® Digital DNA™ 56362 DSP chip operating at a phenomenal 108 million instructions per second; top-rated Burr-Brown® PCM1728, 24 bit / 96 kHz digital-to-analog converters; ultra low-noise, low-distortion Cirrus Logic/Crystal® 24 bit / 96 kHz analog-to-digital converters; Analog Devices AD812, 50 MHz (-3 dB) video buffers (allowing 37 MHz High Definition video signals to be switched with no video degradation); and a high-current/high-voltage headphone amplifier with a dedicated fully discrete output stage. Component parts are carefully chosen for optimal audio use to maintain the lowest possible total harmonic distortion plus noise (THD+N), which would otherwise interfere with the spaciousness and clarity of sound.

For best possible video performance the On-Screen Display can be disabled, completely removing its character generator from the video signal path. Our 6-Channel Direct analog input is not only meant for DVD-Audio, you can also use the Front L/R of this input with your high-end 2-Channel analog source for 2-Channel bypass operation — only the volume, balance, subwoofer controls and minimal operational circuitry remain in the signal path. The AVM 2 is truly a high-end audiophile's and videophile's dream!





### All Digital is Not Created Equal

The AVM 2 is extraordinary for both music and home theater! It reproduces music that is completely true to the original. It recreates film the way the director and recording engineer wanted you to see and hear it. The AVM 2's state-of-the-art digital design decodes Dolby Digital®, DTS®, MPEG2®, Dolby ProLogic® and CD (PCM) with unprecedented accuracy and delivers sound that is nothing short of spectacular in its clarity, purity and dimensional precision. But don't just take our word for it, listen for yourself – you will be amazed!



### Zone / Path

Have you ever wanted your audio/video system to do three things at once? For instance: watch a DVD in one room while someone in another room listens to a CD and then record a Satellite broadcast, all at the same time? Now you can, and it's easy with our Zone/Path feature. Just press the Zone/Path button to choose 'where', then press the Source button to select 'what' you want to see or hear in that Zone/Path. And Zone 2 even has its own bass, treble and balance controls to let you make changes independent of your MAIN room settings.

### Auto-Mode Detection and Effects

Dolby Digital®, DTS®, CD? The AVM 2 makes it easy. For all digital inputs it selects the right mode, automatically! In stereo it also offers five 'Effects' options which can be used to create a variety of acoustic environments, including: Hall, Theater, Stadium, Club, Church and ProLogic®. Having a party? Select '5-Channel Stereo' and music will fill your room from every speaker!



For even easier operation, the AVM 2 remembers the effect chosen by source component until you decide to change it for that source.

We even have a 96 kHz Stereo setting that recalibrates bass, treble and subwoofer controls for accurate operation with a 24 bit / 96 kHz source.



### Audiophiles Rejoice!

If you are a music lover, then this is the preamplifier for you! From the introduction of our famous SFL-1 and SFL-2 in 1991/93 to the Line Series of today, our award winning preamps are well known for their fabulous dynamics, stunning transparency, tonal neutrality and Direct bypass mode. The AVM 2 remains true to this tradition and has also taken it much farther. Like its predecessors, the AVM 2 even has a 6-channel analog Direct bypass input for DVD Audio, that can alternatively be used for your best 2-channel analog source component.

A balanced XLR digital input (AES/EBU) and balanced XLR outputs provide the best noise rejection possible. Upgrade the performance of your CD player by connecting its digital output to the AVM 2, thereby using the AVM 2's superior Burr-Brown® PCM 1728, 24 bit / 96 kHz digital-to-analog converters.

### Universal Learning Remote Control

The AVM 2 Remote Control operates the MAIN, ZONE 2 and REC Paths. It can be programmed to operate six other components, such as: Televisions, DVD players, CD Players, Satellite receivers, VCR's and more – an extensive universal library of codes is included. It can also learn almost any other command to a button location. It is even smart enough to let you know when its batteries are running low – the back light and the red LED will flash as it turns off. Intuitive, logically laid out and easy to use, our remote control lets you spend less time on 'fiddling' and more on taking command over all of your components.



### Center Channel Equalization

When you place a center channel speaker on top of your TV, the front of the TV screen becomes an extension of the speaker baffle, essentially 'changing' its exterior shape, which can reduce dialogue intelligibility. The AVM 2 addresses this problem with its Center Channel Equalization feature. Just select your TV's screen size and the AVM 2's proprietary algorithm adjusts the shape of the frequency response curve going to the center channel to provide the clearest sound possible.



### HDTV Ready

High Definition Video (720p, 1080i or 1080p) requires two things: First, video buffers with a minimum bandwidth of 50 MHz at -3 dB; and second, Component Video connections (RGB). Both S-Video and Composite-Video allow for no better than 480i. In fact they cannot even handle the higher definition – but still not HD – signal of 480p, now available with line-doubled DVD's.

Be wary of products claiming HD Video 'capability,' if they do not have both the required band-width and Component Video. The AVM 2 is true HDTV ready, using the highest quality video devices (rather than poorer ones that might just get by), so there is no degradation of the video signal whatsoever!



### FM / AM Tuner

Our tuner provides superb high-end sound and features 18 FM and 6 AM station presets, selectable Stereo, High Blend and Mono modes to capture even hard to reach stations. As with other sources, the tuner can be directed to all three Paths so you can listen to your favorite radio station anywhere in your home.



### Setup that's Intuitive, Easy and also Remembers



The setup menu is intuitive and easy to use. Once completed, settings can be saved and even password-protected. Two save files are included: one for User and one for Installer. Now, if you ever need to revert to your own or your installer's setup settings, simply restore the saved file.

Let's say someone changed a setup menu setting, it's Saturday night and now you can't watch a movie. What do you do? No need to wait (and pay!) for a service technician, just restore the saved settings file ... 'and press play'.



### Matching Volume Differences

Ever notice how some analog components (FM/AM, VCR, Tape, etc.) play louder than others with the volume control at the same setting? The AVM 2 lets you adjust for those differences easily. Built-in VU meters provide a visual indicator of the level right up to overload. Now all of your components can play at a similar level whenever you switch between sources, thereby minimizing volume control adjustments.



### Headphones

Terrific for late night movies (when you don't want to disturb the family), or for those hard of hearing. High quality headphones can also be used for serious listening. The AVM 2's built-in high-end headphone amplifier has discrete components for superb, life-like private listening. Headphones also have their own bass, treble and balance controls to let you make changes independent of your MAIN room settings.



### Advanced Bass Management with Memory

In the setup menu you can set the low-frequency crossover point for your speakers/subwoofer, which speakers will be included in this crossover, and the conditions by which your subwoofer will operate.

Want deep, visceral bass? The AVM 2 is one of the few processors that has a 'Super' subwoofer setting. This allows your subwoofer to receive bass at all times – not just from the Low Frequency Effects (LFE) channel plus speakers set to 'small', but even from speakers set to 'large', thereby improving overall bass reproduction. This setting is equally important for 2-channel music with 'large' fronts – activating your subwoofer to reproduce all of the glorious deep bass in your music recordings.

Concerned about the bass from the LFE channel overdriving your subwoofer, or neighbors? The AVM 2 lets you reduce the LFE level independent of the subwoofer level, to achieve the balance you want.

More bass for movies, less for music, more bass for the next movie – it seems the subwoofer is always being adjusted. Our unique memory feature solves this by automatically memorizing both subwoofer and LFE levels for each mode – Dolby Digital®, DTS®, MPEG2®, Stereo, Dolby ProLogic® and also for the Direct Input. This eliminates the need to constantly change subwoofer and LFE levels for different movie formats or music.

### Triggers

Triggers can turn components that have a trigger input, on or off. Three triggers provide tremendous flexibility. Set Trigger 1 to MAIN power-on, connect it to the trigger input of your amplifier, press the MAIN power button – your amplifier will turn on and off in tandem.

Use triggers to automate as much as you like, turn your entire system on or off with one button. And when used with Timers you have even more versatility. For example, set timers and triggers so that at 7:00 am MAIN turns-on to DVD, triggers-on your TV, Amplifier and DVD Player, even turn lights on or off, and your five-year-old can watch a Disney® movie on Saturday morning, and leave you time to sleep in.

Two triggers operate at 50 mA and the third at 200 mA. Unique to the AVM 2, this third higher current trigger saves hundreds of dollars on a separate outboard high current trigger, which would otherwise be required to operate motorized products such as video projection screens.



### Redefining Easy to Use

Our intuitive setup menu, written in plain English and easy to navigate, and WYSIWYG (what-you-see-is-what-you-get) front panel buttons and display readouts, make the AVM 2 a snap to operate. You can even rename source inputs to make them easier for your whole family to use. For example, change the 'AUX' input to read 'Game' so your kids can easily locate the source input for their video games.





### Protect Your System and Yourself!

Password-protectable maximum volume settings let you protect your amplifier and speakers from damage that could result from overdriving. Independent settings are provided for each Path. You can even protect against hearing injury from headphones by setting its maximum volume!

Since all audio signals pass through the volume control, its quality is of tantamount importance. Digital volume controls add noise and distortion, there by diminishing the purity of sound. The AVM 2 uses the best; a wide-range analog Cirrus Logic/Crystal® volume control with extremely low noise and distortion – even at the lowest listening levels – for smooth, natural sound.



### Group Audio Delay

Thinking of adding a video line doubler/quadrupler or scaler to improve video quality? These can provide terrific improvement, but the time it takes to process the video signal also results in a slight, but noticeable delay – the video will no longer be in-sync with the audio signal. The AVM 2's Group Audio Delay corrects for this. In one millisecond increments from 0 to 84, the complete audio signal can be delayed and re-synchronized with the video signal to again ensure a perfect match.



### Communication

The AVM 2 makes communicating over home local area networks (LAN) easy. It is compatible with Crestron® (via RS 232 interface), PhastLink® (with optional module), and also has provisions to add an optional IEEE 1394 Firewire® connection in the future.



### Timers

Main and Zone 2 have sleep timers and two programmable on/off timers. The sleep timer for ZONE 2 can be set to turn-off after a selected time, while MAIN remains on – or is set to turn-off at its own sleep time. The programmable timers can be set to operate for weekdays, weekends, or both. You can also pre-select the source for any timer when it turns on. For example, you can set ZONE 2 to turn-on at 7:15 am to an FM Preset and wake up to that station. Set MAIN to turn-on at 7:45 am to TV and watch the morning news while you have breakfast. Then set MAIN and ZONE 2 to turn-off at 9:00 am, after you leave for work. And then turn-on again at 6:00 pm to a CD so your favorite music can be playing when you get home. And finally, set it to turn-off again at midnight.



### Software Updates

What if the operation of the AVM 2 is upgraded in the future? No problem. Updating your AVM 2 is as easy as 1-2-3. First, connect your computer (PC or MAC) to the Internet. Second, go to our website at [www.sonicfrontiers.com](http://www.sonicfrontiers.com) and download the latest version of the AVM 2 Software. Third, connect your computer to the AVM 2 and upload the new Software. It's easy and takes only a few minutes to fully update your AVM 2 with the latest version of the operating system.



### Late Night Operation

A number of late night features keep your sleeping family members (and your neighbors) in mind. Dynamics can be reduced on Dolby Digital® movies to limit the impact of louder sounds like symbol crashes and explosions, while still hearing the faintest whisper of dialog. An independent Low Frequency Effects (LFE) control lets you reduce the level of the '.1' LFE channel, which often contains substantial bass. The front panel display can even be dimmed to be less obtrusive, and it will still brighten momentarily whenever you make any adjustments.

## SPECIFICATIONS

Our cutting edge digital design, superior quality parts selection, massive and conservatively rated power supplies, ultra low-noise balanced XLR digital input (best choice for low jitter and maximum performance), balanced XLR outputs, advanced grounding techniques and superior analog design, make the AVM 2 a stunning high-end product. It can belt out a visceral rock performance with remarkable clarity and power and yet finesse through the most subtle nuances of a classical orchestra. And with 16 video inputs –

### PREAMPLIFIER SECTION

#### Input Impedance

Direct	25 k $\Omega$
All Others	20 k $\Omega$

#### Output Impedance

Main-RCA	300 $\Omega$
Other-RCA	51 $\Omega$
XLR	600 $\Omega$

#### Rated Input Maximum Input

Direct	3.3 Vrms
Others	5.3 Vrms

#### Rated Output Maximum Output

Headphone Output	100 mW into 32 $\Omega$ @ 0.2% THD+N
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#### Volume Range

Main	-95.5 dB to +31.5 dB
Zone2 & Headphone	-70.0 dB to +10.0 dB

#### Volume Resolution

Main	0.5 dB
Zone2 & Headphone	1.25 dB

#### Crossover

High-Pass Slope (Small Speaker Setting)	12 dB/octave (2nd order)
Low-Pass Slope (Subwoofer)	24 dB/octave (4th order)

#### Controls

Bass Center Frequency	200 Hz
Treble Center Frequency	2 kHz
Range	+/- 12 dB

#### Channel Separation (at 20 kHz)

Channel Separation (at 20 kHz)	58 dB
Crosstalk Between Inputs (at 20 kHz)	78 dB

### MAIN (RCA & XLR)

#### Frequency Response

Direct Inputs	20 Hz to 20 kHz +0, -0.2 dB
All Other Analog Inputs	20 Hz to 20 kHz +0, -0.4 dB
Digital Inputs	20 Hz to 20 kHz +0, -0.3 dB

#### THD+N @ Rated Input & Output

Direct Inputs	0.01%
All Other Analog Inputs	0.02%
Digital Inputs	0.02%

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

Direct Inputs	0.001%
All Other Analog Inputs	0.002%
Digital Inputs	0.001%

#### S/N ref. 2.0 Vrms A-weighted

Direct Inputs	98 dB
All Other Analog Inputs	96 dB
Digital Inputs	96 dB

### ZONE2

#### Frequency Response

Frequency Response	20 Hz to 20 kHz +0, -0.2 dB
THD+N (at Rated Input & Output)	0.08%
IMD (CCIF at 15 kHz & 16 kHz)	0.08%
S/N Ratio (ref. 2.0 Vrms A-weighted)	97 dB

including 7 Composite, 7 S-Video and 2 Component Video – and 18 audio inputs, the AVM 2 lets you to connect all your source components with ease.

The AVM 2 is a world class high-end Preamplifier • Processor • Tuner in every respect. When coupled with any number of Anthem™ amplifiers, in combination, these highly sophisticated products provide the absolute finest in high-end performance and value!

### FM TUNER SECTION

#### Sensitivity

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

#### Signal to Noise Ratio

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

#### Distortion

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

#### Stereo Separation

Stereo Separation	40 dB typ., 25 dB min.
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#### Adjacent Channel Selectivity (+/- 400 kHz)

Adjacent Channel Selectivity (+/- 400 kHz)	70 dB typ., 60 dB min.
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#### Frequency Response

Frequency Response	20 Hz to 15 kHz +/- 1 dB
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### AM TUNER SECTION

#### Sensitivity (20 dB S/N)

Sensitivity (20 dB S/N)	49 dB $\mu$ typ., 56 dB $\mu$ max.
Signal to Noise Ratio	50 dB typ., 43 dB min.

#### Distortion

Distortion	0.7% typ., 2.0% max.
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#### One Signal Selectivity (+/- 10 kHz)

One Signal Selectivity (+/- 10 kHz)	24 dB typ., 18 dB min.
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#### Frequency Response (0 dB ref. 600 Hz)

Frequency Response (0 dB ref. 600 Hz)	40 Hz to 4 kHz +0, -13 dB
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### VIDEO SECTION

#### Bandwidth

Composite & S-Video	6 MHz +/- 0.3 dB
Component	30 MHz +/- 0.4 dB, 50 MHz -3 dB

All video inputs and outputs are 75  $\Omega$ , 1.5 Vp-p, and work with either NTSC or PAL / SECAM signals according to factory setting. Component inputs and outputs work with any standard requiring bandwidth up to 30 MHz, including Component-RGB, HDTV, line doublers, and line quadruplers.

### DIGITAL AUDIO

#### Bandwidth

Composite & S-Video	6 MHz +/- 0.3 dB
Component	30 MHz +/- 0.4 dB, 50 MHz -3 dB

#### Frequency Response (0 dB ref. 600 Hz)

Frequency Response (0 dB ref. 600 Hz)	40 Hz to 4 kHz +0, -13 dB
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#### Bandwidth

Composite & S-Video	6 MHz +/- 0.3 dB
Component	30 MHz +/- 0.4 dB, 50 MHz -3 dB

#### Frequency Response (0 dB ref. 600 Hz)

Frequency Response (0 dB ref. 600 Hz)	40 Hz to 4 kHz +0, -13 dB
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#### Bandwidth

Composite & S-Video	6 MHz +/- 0.3 dB
Component	30 MHz +/- 0.4 dB, 50 MHz -3 dB

#### Frequency Response (0 dB ref. 600 Hz)

Frequency Response (0 dB ref. 600 Hz)	40 Hz to 4 kHz +0, -13 dB
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#### Bandwidth

Composite & S-Video	6 MHz +/- 0.3 dB
Component	30 MHz +/- 0.4 dB, 50 MHz -3 dB

#### Frequency Response (0 dB ref. 600 Hz)

Frequency Response (0 dB ref. 600 Hz)	40 Hz to 4 kHz +0, -13 dB
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#### Bandwidth

Composite & S-Video	6 MHz +/- 0.3 dB
Component	30 MHz +/- 0.4 dB, 50 MHz -3 dB

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