

INTRODUCING THE NEW D2v

multi-channel preamp | audio/video processor | tuner



WHAT'S NEW ...

- **NEW!** Now with 8 HDMI (v1.3c) inputs and 2 parallel HDMI (v1.3c) outputs
- **NEW!** The latest Sigma Designs VXP broadcast-quality digital video processing:
 - Deep color support over HDMI
 - Improved noise reduction through block artifact and mosquito noise reduction
- **NEW!** PCM input is up to 7.1 channels at 24 bits / 192 kHz
- **NEW!** Two dual-core audio DSP engines (an Anthem design!) offer a total of 800 MIPS to allow decoding of the new Dolby and DTS-HD audio standards
- **NEW!** Dolby Volume (to be added soon as a free software download from our website at www.anthemAV.com)
- The critically acclaimed Anthem Room Correction (ARC™) system is included!

“... FANTASTIC ... sets a new standard of excellence.”

– Randall Smith, Home Theater & Sound

“ROOM CORRECTION makes the best A/V Processor available even better ...”

– Daniel Kumin, Sound & Vision

Quotes are from previous model. D2 has been updated for even better performance.

The Anthem Statement D2 ushered in a new era of music and home theater performance. With the unparalleled flexibility you had come to expect from Anthem processors, it provided the versatility and the adjustability you needed (and still need!) to make all your digital video components work together seamlessly. The results were spectacular.

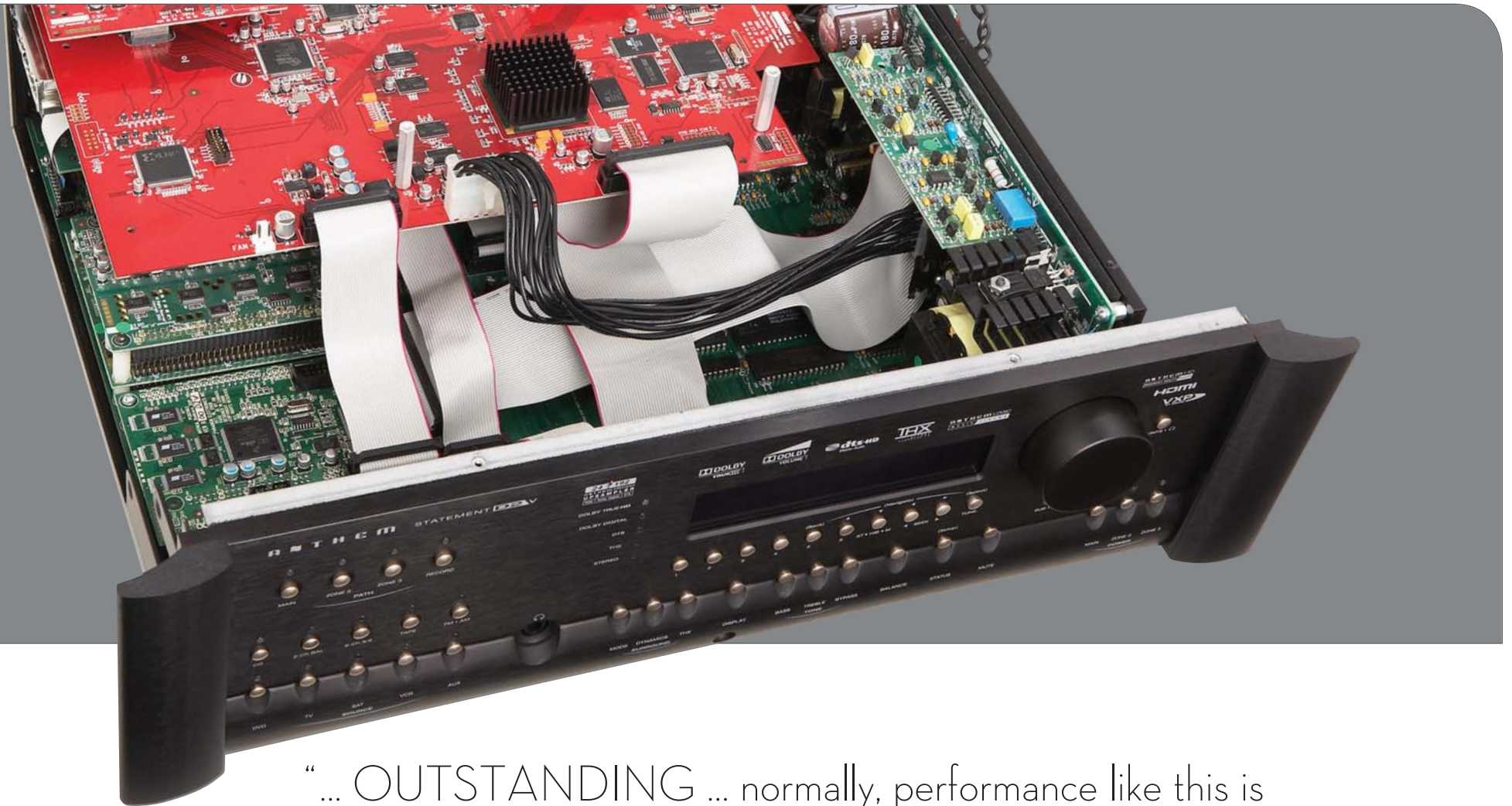
That was then, this is now. If there were another word, a better word than “spectacular” to do the D2v justice, to describe its phenomenal abilities succinctly, we’d use it. But there isn’t. The new feature set (provided above right) has taken the D2v to an entirely new level of performance. True next-generation performance. To truly do it justice, you need to give it a listen.

Designed, engineered and manufactured in North America, the D2v remains the ultimate high-end statement—the final word in digital audio and digital video processing, not to mention, through ARC, its ability to solve the problems of “the room.” Full details are available on the following pages.



“ROOM CORRECTION makes the best A/V Processor available even better ... ARC IS A KEEPER.”

- Daniel Kumin, Sound & Vision



“... OUTSTANDING ... normally, performance like this is reserved for flagship standalone video processors.”

– Kris Deering, Secrets of Home Theater and High Fidelity

“AS GOOD AS IT GETS” WHEN IT COMES TO DIGITAL AUDIO AND DIGITAL VIDEO PROCESSING

SOUND FROM HDMI SOURCES PLAYS PERFECTLY, AT LEAST IT DOES IF YOU'RE USING A D2v ...

Why? In the D2v, all eight HDMI inputs are connected through high-performance TMDS (Transition Minimized Differential Signaling) timing regenerators and multiplexers. The receiver contains a programmable equalizer and a Clock Data Recovery (CDR) function for each of the three TMDS pairs in an HDMI or DVI signal. The TMDS data outputs are regenerated and perfectly aligned to the regenerated TMDS clock signal, creating an extremely clean low-jitter DVI/HDMI signal that is easily decoded by the HDMI receiver. This is particularly useful for cleaning up a noisy/jittery source, or when a long or low-quality cable is being used.

BROADCAST-QUALITY DIGITAL VIDEO PROCESSING

- Video Format Conversion—the latest-generation Sigma Designs VXP broadcast-quality digital image processor (supporting deep color and better-than-ever video algorithms!) converts any SD or HD video standard to other video standards.
- Quadruple video output configuration makes it easy to switch from one configuration to another.
- Superior image quality using per-pixel processing and motion-adaptive de-interlacing ensures optimal image sharpness and picture resolution.
- Dynamic directional interpolation eliminates jaggy artifacts found in traditional de-interlacing algorithms.
- Full film-mode detection for all SD and HD inputs.
- Video transcoding allows S-Video and Component Video inputs to be digitally processed and enhanced, and then routed through the Component or HDMI outputs.
- Each source can be adjusted independently for best picture.

ENHANCED VIDEO PERFORMANCE

- Adjustable cropping
- Aspect ratio control
- Chroma bug filter
- Frame lock
- Gamma correction
- Adjustable noise reduction
- Adjustable detail enhancement
- Custom output resolution and timing via PC utility
- All on-screen displays are shown through HDMI and Component Video
- On-screen display shows adjustments being made (can be disabled)
- All functions are available for HD input

STATE-OF-THE-ART DIGITAL AUDIO PROCESSING

- The 24-Bit/192-kHz precision upsampler operates on all digital audio signals. The D2's DACs also incorporate 128X oversampling to increase the sample rate to 24.576 MHz, ensuring the best phase and frequency response possible. Measurable results reflect exceptionally flat frequency response and THD+N in the upper frequencies. This is up to twenty times lower than some of the best high-end outboard DACs, resulting in a much higher level of transparency for multi-channel music and movies. Sonic performance is astounding. Smoother high-frequency response, superior detail, and better image focus—a far more transparent window on the original performance.
- Anthem's Own Design! Two dual-core digital signal processing (DSP) engines, our own DSP design, offer a total of 800 MIPS to allow decoding of the new HD audio standards: Dolby Digital Plus, Dolby TrueHD, DTS-HD High-Resolution Audio and DTS-HD Master Audio. More than enough processing power to handle even the most complex program material with matchless precision.
- Triple 4 Mbit 8ns external memory is large enough to ensure that the DSP engines never run out of resources.
- An impressive resumé of superior-quality component parts:
 - Audio-grade film capacitors and operational amplifiers
 - Low-ESR electrolytic capacitors
 - Audio-grade signal-coupling capacitors
 - High-value (1,000 µF) ADC reference voltage decoupling capacitors for lowest possible THD+N below 1 kHz
- Super-efficient switching power supply:
 - Low-noise, low-emissions design
 - Multiple-synchronized dithered-frequency isolation stages ensure exceptionally quiet audio and video operation and excellent electromagnetic compatibility
 - Fourteen independently regulated output stages ensure optimal operating environment
- 4-layer hand-designed motherboard includes separate power- and groundplanes.
- Independent 6- and 8-layer DSP, A/D and D/A converter boards—A/D and D/A use separate analog and digital planes as well as separate power- and groundplanes for remarkably low noise.
- All critical signal paths are surrounded by groundplanes.
- Fully buffered audio/video inputs for minimum crosstalk.
- State-of-the-art video switching circuitry is laid out on isolated, independent 2-layer glass-epoxy circuit boards.
- Highest-precision thru-hole passive components.

- Unparalleled analog-to-digital and digital-to-analog conversion eliminates noise in the 20 to 80-kHz frequency band thanks to the high quality of our ADC and DAC designs:

Analog-to-Digital Conversion (ADC):

- Capable of up to 24-bit x 192-kHz resolution
- Six stereo analog attenuators—one for each channel of the 6-channel input, promote greater dynamic range and an impressive reduction in distortion

Digital-to-Analog Conversion (DAC):

- Converters operate at their full 24-bit x 192-kHz resolution
- Switched-capacitor output filters significantly reduce the DAC's sensitivity to rapid fluctuations in bit rate
- The built-in state-of-the-art upsampler allows the DACs to run at the highest speed (192 kHz) regardless of the incoming digital bitstream, and with extremely low background noise up to almost 100 kHz
- High-accuracy clock generator (49.152 MHz, ±0.001%) eliminates the potential for errors in timing, thereby contributing to a significant reduction in the distortion common in D/A conversion

ANTHEM ROOM CORRECTION (ARC)

And then there's Anthem Room Correction (ARC). Even when the finest speakers are perfectly positioned, the room itself still has a dramatic impact on a system's sound, an impact more profound than that of any individual component. Various solutions have fallen in and out of favor over the years, but none has solved the problem of “the room.” Until ARC. Using proprietary processes and the power of your PC, ARC analyzes each speaker's in-room sound and then computes the required correction to yield optimal performance from every speaker. ARC is garnering rave reviews across the industry.

... AND FOR THE AUDIO PURIST

- Analog-Direct available on all inputs
- Tone Bypass disables Bass/Treble adjustment
- Balanced 2-channel XLR digital input for best digital signal
- True-Balanced 2-channel analog input for best analog signal
- True-Balanced analog outputs provide best noise rejection and purest signal transmission

MULTIPLE HIGH-END COMPONENTS IN ONE:

- Preamplifier
- Surround-Sound Processor
- Broadcast-Quality Digital Video Processor
- Highest-Quality HDTV Video Switcher
- Analog-to-Digital Converter (ADC)
- Digital-to-Analog Converter (DAC)
- Built-in 24-Bit/192-kHz Upsampler
- Room Correction System (ARC)
- Multiroom/Whole-House Entertainment Control Center with (4) Independent Signal Paths (Main, Zone 2, Zone 3, Record)
- AM/FM Tuner
- Headphone Amplifier

INPUTS

- Auto Digital/Analog Input Switching (For Every Source)
- Built-In AM/FM Tuner with Stereo/High-Blend/Mono Setting (Memorized to each FM Preset)
- (8) HDMI Inputs (Allowing deep-color support [36 bit] and high-definition audio streaming; Assignable to Multiple Digital Sources)
- (7) Coaxial Digital Audio Inputs (Assignable to Multiple Digital Sources)
- (3) Toslink Digital Audio Inputs (Assignable to Multiple Digital Sources)
- (1) AES/EBU Digital Audio Input (Assignable to Multiple Digital Sources)
- Bit Rate/Sample Rate Status Indicator (Displays PCM, Dolby Digital, DTS)
- (7) Stereo S/E Analog Audio Inputs (DSP or Direct)
- (1) Stereo True-Balanced (XLR) Analog Audio Input (DSP or Direct)
- (1) Six-Channel S/E Audio Input (DSP or Direct)
- Source EQ (Independent for Each Source)
- (4) Component Video Inputs (Assignable to Multiple Sources)
- HDTV Video Switching (All formats up to 1080p)
- (7) S-Video Inputs (Assignable to Multiple Sources)
- (7) Composite Video Inputs (Assignable to Multiple Sources)

MAIN

- (10) True-Balanced (XLR) Analog Audio Outputs
- (10) S/E Analog Audio Outputs
- Second Center Channel Output (Parallel-Balanced and S/E)
- Second Subwoofer Output (Parallel-Balanced and S/E)
- (1) Stereo Headphone Output (Independent Volume/Bass/Treble/Balance Controls)
- (2) HDMI Outputs (parallel with 36-bit Deep Color support)
- (2) Component Video Outputs
- (1) S-Video Output
- (1) Composite Video Output
- Mode Presets by Source (Assignable for Each Source)
- Simulcast Video+Audio Sources
- Lip-Sync Delay (For Each Source in half-ms increments)
- Main Sources – Copy to Other Paths
- On-Screen Display (Bypassable) of:
 - S-Video (including Zone 2)
 - Component Video
 - HDMI
 - Setup Menu (including Zone 2, full screen)
 - Status (blended with picture)
 - Video Adjustment (blended with picture)
- Digitally Generated Test Patterns
- Selectable Setup Menu Background Color (Blue, Black, Magenta)
- Adjustable Mute Level
- Direct Remote Control Codes for Modes

6-CHANNEL ANALOG-DSP (MAIN)

- (DVD-Audio/SACD)
- Selectable 44.1 kHz, 48 kHz, 88 kHz, 96 kHz
 - Bass Management
 - Time Alignment for Listener Position
 - Bass/Treble
 - Lip-Sync Delay
 - THX, Dolby Pro Logic IIx, DTS Neo:6 Post Processing
 - 2-Channel Stereo Downmix (Headphone, Zone 2, Zone 3, Record)

INPUT FORMATS (MAIN)

- PCM (up to 7.1 at 24-bit/192 kHz)
- Dolby TrueHD
- Dolby Digital Plus
- Dolby Digital EX
- Dolby Digital 5.1
- DTS-HD Master Audio
- DTS-HD High-Resolution Audio
- DTS ES Discrete

- DTS ES Matrix
- DTS 96/24
- DTS 5.1
- DTS 2-Channel Stereo Downmix (For Headphone, Zone 2, Zone 3, Record)

DYNAMIC RANGE CONTROL (MAIN)

- Dolby Volume (to be added via software upgrade)
- Dynamics Adjustment (Dolby Digital and DTS)
- Dynamics Reset to Normal at Power Off
- Individual Speaker Levels Memorized for Each Mode

SURROUND MODES (MAIN)

- AnthemLogic–Music (No Center Channel)
- AnthemLogic–Cinema (Up to 7.1)
- Dolby Pro Logic IIx Music (with Adjustments)
- Dolby Pro Logic IIx Movie
- Dolby Pro Logic IIx Matrix
- Dolby Pro Logic IIx
- Dolby Pro Logic
- DTS Neo:6 Music (Center Image Adjustment)
- DTS Neo:6 Cinema
- All-Channel Stereo (Up to 7.1)
- Mono
- Mono-Academy
- All-Channel Mono

THX MODES (MAIN)

- THX Cinema
- THX Ultra2 Cinema
- THX MusicMode
- THX Surround EX
- THX Games Mode
- THX ReEQ: On/Off (Can be applied even when THX is Off)

BASS MANAGEMENT (MAIN)

- Independent Cinema and Music Speaker Configurations (Assignable to Each Source)
- Auto-LFE Option (For Cinema or Music Configuration)
- Dipole Setting for Surround/Rear
- Center Channel EQ
- Room Resonance Filter
- THX Boundary Gain Compensation

BASS MANAGEMENT (MAIN) (continued)

- Super Subwoofer Setting
(Subwoofer Operates when Fronts are Set to Large)
- Cinema and Music Configurations each include:
 - Independent Crossovers by Speaker Group (5-Hz Steps)
 - Independent Crossover for Subwoofer (5-Hz Steps)
 - Subwoofer Variable Phase/Subwoofer Polarity
 - LFE Crossover Bypass

ZONE 2

- (1) Stereo S/E Analog Audio Output
- (1) Stereo True-Balanced (XLR) Audio Output
- Variable or Fixed Volume Level Setting
- Adjustable Maximum Volume Setting
- Bass, Treble, Balance Controls
- (1) S-Video Output
- (1) Composite Video Output
- Component Video Output Control (Allows second set of Component Video outputs to be used for HD video switching of sources output to Zone 2)
- Simultaneous S-Video and Composite Outputs
- Simulcast Video+Audio Sources
- On-Screen Display (Bypassable)
- On-Screen Setup Menu

ZONE 3

- (1) Stereo S/E Analog Audio Output
- Variable or Fixed Volume Level Setting
- Adjustable Maximum Volume Setting
- Bass, Treble, Balance Controls
- (1) S-Video Output
- (1) Composite Video Output
- Simultaneous S-Video and Composite Outputs
- Simulcast Video+Audio Sources

RECORD

- Tape Record Out: (1) Stereo S/E, (1) S-Video, (1) Composite
- VCR Record Out: (1) Stereo S/E, (1) S-Video, (1) Composite
- (2) Coaxial Digital Record Outputs (Independent)
- Analog-In to Digital-Out (Selectable 16-bit/44.1 kHz, 16-bit/48 kHz, 24-bit/88 kHz, 24-bit/96 kHz)
- Dithered Output for 16-bit Recording

CUSTOM INSTALLATION

- (2) 50-mA Trigger Outputs
- (1) 200-mA Trigger Output
- (3) Powered IR Receivers
- (2) IR Emitters
- RS-232 Communication/Internet Upgradeability

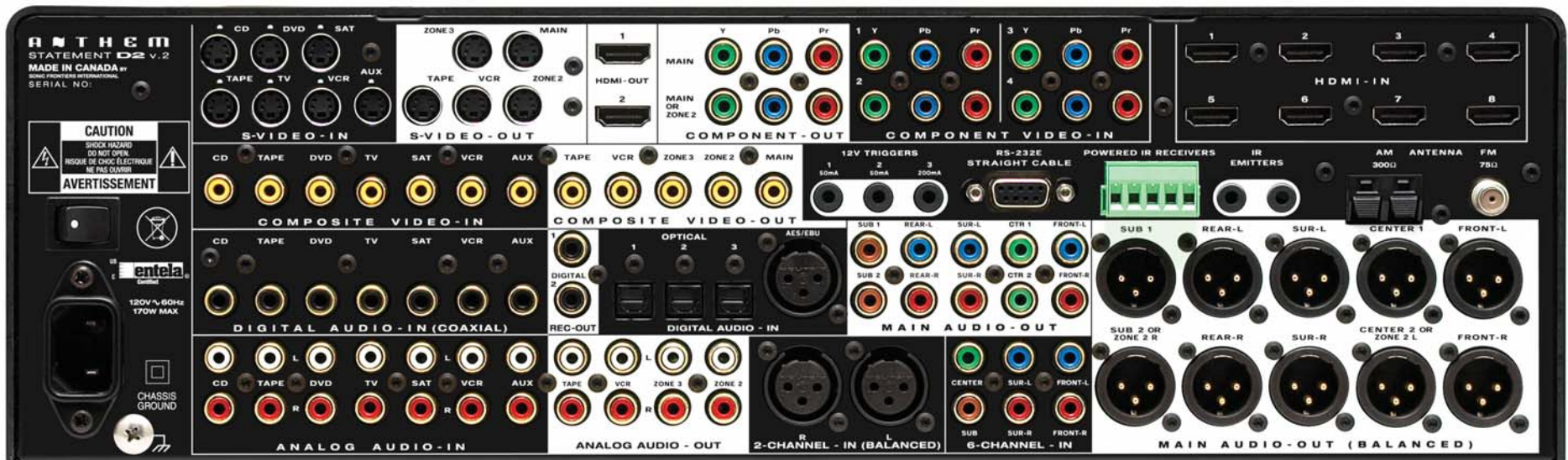
- RS-232 Crestron and AMX Compatible
- Front-Panel Lockout Option
- User Settings Save Function
- Installer Settings Save Function
- Setup Menu Lockout
- Wake-Up/Shut-Off Timers
(Main, Zone 2, Zone 3)
- On/Off Skip Timers
(Main, Zone 2, Zone 3)
- Sleep Timers
(Main, Zone 2, Zone 3)

UPGRADEABILITY

- Hardware Upgradeable
- Easy (no charge) Website Software Upgradeability

ADDITIONAL

- Universal Learning Back-Lit Remote Control
- Power Failure/Overheating Text Warning
- Advanced Hardware Framework (Allows longer cables to be driven without degrading or losing the signal, and provides support for 1080p/60 Hz)
- Warranty: 3 years on Audio; 2 years on Video; 1 year on Remote Control unit





VIDEO SWITCHING

Bandwidth from input jack to output jack (bypass mode for component video)

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

All analog video inputs and outputs are 75 Ω, 1.5 Vp-p.

ANALOG AUDIO

Input Impedance	20 kΩ
Output Impedance	
Main-RCA	300 Ω
XLR	600 Ω
Zones 2/3 and Record	51 Ω
Rated Input	2.0 Vrms
Maximum Input	5.3 Vrms
Minimum Load	5 kΩ
Rated Output (100 kΩ load)	2.0 Vrms
Maximum Output	
RCA	6.3 Vrms
XLR	12.6 Vrms
Headphone Output	100 mW into 32 Ω at 0.2% THD+N
Volume Control Range	
Main	-95.5 dB to +31.5 dB (in 0.5 dB increments)
Zones 2/3 and Headphone	-62.5 dB to +10.0 dB (in 1.25 dB increments)
Crosstalk (at 1 kHz)	82 dB between channels; 86 dB between inputs
XLR Pin Configuration	Pin 1: Ground, Pin 2: Positive, Pin 3: Negative

DIGITAL AUDIO

Crossover

High-Pass Slope (small speaker setting)	12 dB/octave (2nd order)
Low-Pass Slope (subwoofer)	24 dB/octave (4th order)
Frequency (adjustable)	25 Hz to 160 Hz (in 5 Hz increments)

Tone Control

Filter Type	Shelf
Range	±12 dB
Bass Turnover Frequency	200 Hz
Treble Turnover Frequency	2 kHz

Analog-to-Digital Conversion S/N Ratio (at digital Rec output) (IEC-A Filter) 100 dB

All digital inputs and outputs comply with HDMI, S/PDIF or AES/EBU standards. Sample rate converter output is 24 bit/192 kHz regardless of input.

MAIN PATH (RCA and XLR Outputs)

Frequency Response and Bandwidth

Analog Direct Inputs	10 Hz to 20 kHz (+0 -0.2 dB), 1 Hz to 130 kHz (+0 -3 dB)
Analog-DSP Inputs at 24/96	10 Hz to 20 kHz (+0 -0.3 dB), 2 Hz to 44.1 kHz (+0 -3 dB)
Digital Inputs at 24/96	10 Hz to 20 kHz (+0 -0.2 dB), 1 Hz to 45 kHz (+0 -3 dB)

THD+N (at Rated Input and Output)

Analog Direct Inputs	0.006% (80 kHz BW)
Analog-DSP Inputs at 24/48 or 24/96	0.004% (AES17 Filter)
Digital Inputs at 24/48 or 24/96	0.004% (AES17 Filter)

IMD (CCIF at 15 kHz and 16 kHz)

Analog Direct Inputs	<0.001%
Analog-DSP Inputs at 24/48	0.001%
Digital Inputs at 24/48 or 24/96	0.001%

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

Analog Direct Inputs	107 dB
Analog-DSP Inputs at 24/48 or 24/96	101 dB
Digital Inputs at 24/48 or 24/96	104 dB

ZONE 2 and ZONE 3 PATHS

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 and Output) 0.06% (80 kHz BW)

IMD (CCIF at 15 kHz and 16 kHz) 0.06%

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

FM TUNER

Sensitivity

50 dB S/N	13 dBμ typical, 25 dBμ max.
IHF	10 dBμ typical, 20 dBμ max.

S/N Ratio

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

Distortion

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

Stereo Separation 40 dB typical, 25 dB min.

Alternate Channel Selectivity (±400 kHz) 70 dB typical, 60 dB min.

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

AM TUNER

Sensitivity (20 dB S/N) 49 dBμ typical, 56 dBμ max.

S/N Ratio 50 dB typical, 43 dB min.

Distortion 0.7% typical, 2.0% max.

One-Signal Selectivity (±10 kHz) 24 dB typical, 18 dB min.

CONTROL

Infra Red

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

RS-232 Interface

Connection	DB-9F, straight-wired
Pinout (D2 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
Maximum Current at 12 VDC	300 mA between all three triggers
Sequential Delay	250 ms

POWER REQUIREMENT

Consumption Maximum 170 W

DIMENSIONS

Height 5-7/8 inches (14.9 cm) including feet; rack-mounting: 3 rack units without feet

Width:

Standard version	19-1/4 inches (49 cm)
Rack-Mount version	19 inches (48.3 cm)
No-Handle version	17-1/4 inches (43.8 cm)

Depth 15-1/4 inches (38.7 cm)

Weight (unpacked) 27 lb (12.3 kg)

AVAILABLE FINISH

. Black

