

lexicon

Lexicon

Since its inception in 1971, Lexicon has been a company dedicated to breaking sound barriers. Being at the leading edge of both the professional and consumer audio markets has led to an insight into the art of creating exquisite sound that is unmatched by any other brand.

At the heart of Lexicon are its engineers. The company is powered by some of the foremost scientists in the industry, whose work has led to numerous advancements in audio over the past 30 years: unparalleled reverberation algorithms; LOGIC 7® - the world's first stereo-to-7.1 decoder; the introduction of surround sound in automobiles; LARES - a room enhancement system used by prestigious concert halls and other live venues. From the launch of the first commercially available digital audio effects processor to the new Automatic Room Equalization system, a focus on research and development has kept Lexicon at the forefront of audio innovation.

Lexicon products combine power, precision, and flexibility with elegant industrial design. Drawing on the company's roots in the professional audio market, our home theater products are built to the same rigorous standards that make our recording studio equipment the

first choice for music, film, and television production worldwide. From the aluminum chassis cover to the machined aluminum front panel, each piece is crafted to convey both strength and refinement. Our engineers have created circuitry that preserves the accuracy of the input signal, without adding coloration. Lexicon's user interface is renowned for being both simple and completely flexible, making the task of configuring even the most complicated home theater system a quick and effortless process.

With an ever-expanding range of products to choose from, it is easy to select the right combination to cover a wide variety of applications. From the most complex, multi-zone system to the simplest living room environment, Lexicon processors, disc players, and amplifiers can be combined in different ways to create an optimum set of features. Each new piece has been designed to complement the aesthetics of the existing products, creating a stunning visual impact when used together.

Conceived with an emphasis on cutting edge technology, performance, and value, Lexicon products are the ultimate in home theater electronics. Contact an authorized Lexicon dealer to experience the magic of the Lexicon sound.

RT-10 Disc Player

“AAAA (highest) Recommended Component”

Stereophile Guide to Home Theater, March/April 2004

“Editors' Choice - Platinum” Stereophile Guide to Home Theater, January 2004

“Recommended Video Component” Stereophile Ultimate AV, January 2004

“Top 100” audiorevolution.com, 2004

“Top 100” audiorevolution.com, 2003

MC-12 Digital Controller

“Top 100” audiorevolution.com, 2004

“AAAA (highest) Recommended Component”

Stereophile Guide to Home Theater, March/April 2004

“Best of 2003 SSP Automated Room Calibration Software”

Secrets of Home Theater and High Fidelity, December 2003

“Top 100” audiorevolution.com, 2003

“AAAA (highest) Recommended Component”

Stereophile Guide to Home Theater, March/April 2003

“Golden Ear” The Absolute Sound, 2002

“Recommended Product - Class 1” The Perfect Vision, July/August 2002

“Top Sound” The Perfect Vision, 2002

“Best of the Year” Secrets of Home Theater and High Fidelity, 2002

“Editor's Best Buy” Home Theater, 2002

“Hi-Fi Grand Prix” Audio Video International, 2002

“Outstanding Surround Sound Process Preamplifier”

Sound Concepts Limited - Super AV Award, 2002

“Outstanding Surround Sound Preamp/Processor”

Super AV, November 2002

“Editors' Choice - Platinum” Stereophile Guide to Home Theater, 2002

“AV Processor of the Year” Home Cinema Choice, 2002

“AAA (highest) Recommended Component”

Stereophile Guide to Home Theater, 2002

“Staff Pick” Sensible Sound, 2001

“Hi-Fi Grand Prix” Audio Video International, 2001

"Editor's Best Buy" Home Theater, 2001

MC-8 Digital Controller

"Product of the Year" Electronic House, September 2003

MC-4 Digital Controller

"Processor of the Year" Home Cinema Choice, 2004

LX Power Amplifiers

"Hi-Fi Grand Prix" Audio Video International, November 2004

"Hi-Fi Grand Prix" Audio Video International, November 2003

"Outstanding AV Amplifier" Super AV, November 2003

"RAVE Award for best high-end amplifiers" Home Theater, 2003

"Hi-Fi Grand Prix" Audio Video International, November 2002

"Recommended Product - Class 3" The Perfect Vision, July/August 2002

CX Power Amplifiers

"RAVE Award for Best Amplifier, Over \$3,000" Home Theater, May 2005

RV-8 Receiver

"Hi-Fi Grand Prix" Audio Video International, 2005

"Recommended System Component" The Perfect Vision, July/August 2005

"Outstanding AV Receiver" Super AV, November 2004

"Products of the Year 2004, Surround Receiver" Hi Fi Review, 2004

The RT-20, the newest Lexicon product, is yet to be reviewed.

RT-20

Disc Player



- > High-Definition Multimedia Interface (HDMI)
- > DVD-Video, DVD-Audio, and DVD-R/RW compatibility
- > Audio CD, CD-R/RW, Video CD, and SVCD compatibility
- > SACD compatibility (stereo or multi-channel)
- > MP3, MPEG, and JPEG compatibility
- > 14-bit/216MHz video digital-to-analog converters (DACs)
- > Progressive-scan component video output on BNC, RCA, or D1/D2 (Mini-D Ribbon) connectors
- > True 2:3 pull-down for the finest film-based DVD reproduction
- > Video Adjust for exact, detailed adjustment of video settings
- > Three Video Adjust banks for user-defined settings
- > 24-bit/192kHz audio DACs
- > Digital audio output on S/PDIF coaxial, S/PDIF optical, or AES/EBU connectors
- > Still frame, frame-by-frame, slow, random, repeat, and program playback modes
- > Stored disc settings for up to twenty discs
- > Optional SACD speaker distance compensation
- > Audio Synchronization capability
- > Composite and S-video outputs
- > Trigger input connector
- > IR input connector
- > Serial control via RS-232C
- > Intuitive user-interface
- > Optional rack mount kit

The RT-20 is Lexicon's top-of-the-line universal disc player. Designed to provide superior audio and video performance with virtually any of the 5-inch optical media discs, it supports DVD-Video, DVD-Audio, DVD-R/W, SACD, CD, CD-R/W, MP3, JPEG, Video CD and SVCD. The RT-20 takes the universal disc player to a new level with a High-Definition Multimedia Interface (HDMI), built-in video processing, and extremely precise DACs.

HDMI provides direct uncompressed digital video transmission to compatible display devices delivering pristine images free from the deterioration associated with analog conversion and interfaces. High-quality video processing can convert video to 720p or 1080i for the HDMI output to drive a HDTV compatible display. HDMI also carries Dolby Digital®, DTS®, MPEG and PCM digital audio.

The RT-20 includes composite and S-video output connectors, as well as progressive-scan component video outputs on RCA and professional-grade BNC connectors. These interfaces are fed by high-precision 14-bit/216MHz video DACs, ensuring the cleanest possible conversion.

The Video Adjust feature allows for exact, detailed adjustment of video settings such as Progressive Motion, sharpness, white, black, gamma, hue, and chroma levels, as well as luminance (DNR) and chrominance (CNR) noise reduction. The Progressive Motion feature automatically converts film sources recorded at 24 frames-per-second to 60 frames-per-second to create a more natural picture. The RT-20 offers three banks of Video Adjust settings for storage of user-defined settings.

In addition to HDMI, digital audio is available on three output connectors – one S/PDIF coaxial, one S/PDIF optical, and one AES/EBU – allowing for external decoding and processing of Dolby Digital, DTS, and PCM sources. Alternatively, built-in 24-bit/192kHz DACs on all six analog audio outputs allows high-resolution formats such as DVD-Audio and SACD to deliver smooth, expansive analog output without sample rate conversion or word length reduction.

The RT-20 features serial control via RS-232 for full integration into third party control systems. It also offers a rear panel infrared (IR) input, a trigger input, and an optional rack mount kit, making it easy to incorporate the RT-20 into the finest home theaters.

Built to Lexicon standards, the RT-20 represents a solid investment. With its extensive compatibility, the RT-20 delivers exceptional performance whether you are watching the latest widescreen DVD, listening to old favorites on SACD or checking out the latest MP3s on CD-R. Even the most demanding enthusiast will be impressed with its unbeatable combination of technological innovation, flexibility, and performance.



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RT-10

Disc Player



- > DVD-Video, DVD-Audio, and DVD-R/RW compatibility
- > Audio CD, CD-R/RW, Video CD, and SVCD compatibility
- > SACD compatibility (stereo or multi-channel)
- > MP3 and MPEG compatibility
- > 12-bit/108MHz video digital-to-analog converters (DACs)
- > Progressive-scan component video output on RCA, BNC, and D1/D2 connectors
- > Frame rate conversion for superior film-based DVD reproduction
- > Pure Cinema processing
- > Comprehensive video adjust menu
- > 24-bit/192kHz audio conversion
- > Digital audio output on S/PDIF coaxial, optical, and AES/EBU connectors
- > Still frame, frame-by-frame, slow, random, repeat, A-B repeat, and program list playback modes
- > Stored disc preferences for up to fifteen discs
- > Setup Navigator
- > Customizable setup menu
- > Up to five setup menu shortcuts
- > Composite and S-video outputs
- > Trigger input
- > Rear panel IR input
- > Optional rack mount kit

The RT-10 is a very high-quality universal disc transport designed to play virtually any of the 5-inch optical media discs available today. It supports CD (including CD-R, CD-RW, Video CD, SVCD, and MP3), DVD (including DVD-Video, DVD-Audio, DVD-R, and DVD-RW), and SACD (stereo and multi-channel). With its sleek aluminum front panel and elegant design, it is the ideal companion to the rest of the Lexicon product line.

The RT-10 is replete with high-quality video technologies, including progressive-scan component video output, pure cinema processing, and 12-bit/108MHz DACs that minimize video signal degradation during analog conversion. A wide selection of video connectors includes the standard composite and S-video outputs, as well as progressive-scan component video output on both RCA and professional-grade BNC connectors. Progressive-scan processing converts interlaced component video signals to progressive-scan component video, doubling the amount of video information sent to a compatible display device for a more stable, flicker-free image with fewer video artifacts. For even greater enhancement, pure cinema processing automatically converts film sources recorded at 24 frames-per-second to 60 frames-per-second, producing an image rivaling that which appears in most local cinemas.

Three S/PDIF digital audio outputs allow for external decoding and processing of Dolby Digital, DTS, and PCM sources. The RT-10 also has built-in 24-bit/192kHz DACs for all six analog output channels to allow high-bandwidth formats, such as DVD-A and SACD, to be enjoyed in full resolution without any reduction in the sampling rate or digital word length. The result is pristine, high quality audio from any disc. The remote control provides one-touch deactivation of all video outputs for the cleanest possible audio signal.

The RT-10 is equipped with an extensive array of controls and adjustments. An intuitive, graphical user interface with color on-screen display provides convenient access to menus where detailed adjustments can be made to a host of video settings. Luminance, chrominance, sharpness, white and black levels, gamma, hue, and corrections for black noise and mosquito noise levels can all be modified. Settings can be stored into six storage banks. Numerous playback options are available for compatible discs, including still frame, frame-by-frame, slow, random, repeat, A-B repeat, and program list playback modes. Playback can also be activated from a bookmarked or searchable disc location. In addition, preferred audio tracks, subtitle languages, camera angles, video adjustments, and other settings can be stored for up to fifteen discs, allowing the RT-10 to automatically recall these settings whenever the disc is loaded.

For all its technological sophistication, the RT-10 remains a product that is simple to configure. Combining leading-edge audio and video technology, impressive analog circuitry, and an ample array of rear panel connectors, the RT-10 is at home in the finest music and cinema playback systems.



Technical specifications located on page 29

Lexicon LIVE™

Lexicon LIVE is a unique system that can transform any listening room into an exceptional and pleasurable acoustic space. It uses a combination of microphones and digital signal processing to enhance the room's acoustics and create the illusion of a much larger space. A room utilizing Lexicon LIVE can rise to any occasion. Choose from one of three customizable presets to create a pleasing environment in which to practice or perform with a musical instrument or create an ambiance to liven up a party.

The change in frequency content that takes place as a sound travels from the speaker that produces it to the microphone (or ear) that receives it is called the room transfer function. The transfer function in any room is uneven - there are peaks and dips in the frequency content. It is the peaks that cause feedback when an enhancement system is used, often making it difficult to raise the volume to the optimum level.

The first step in creating a stable sound reinforcement system is to even out these peaks. Lexicon LIVE solves this problem in several ways. An automatic calibration evens out the power response across all frequencies being produced by the speakers. This calibration takes approximately one minute and must be performed after all other frequency-related parameters have been set (speaker crossovers, bass and treble settings, loudness control settings) to provide accurate results. Then time-varying reverberators, which are able to both broaden and reduce the level of the resonant peaks, are inserted into the signal path. The final step is a proprietary method used to help lower the risk of feedback and reduce overall system noise.

The reverberation provided by Lexicon LIVE is based on years of psychoacoustic research. Lexicon is renowned for developing the world's premier reverb algorithms found in the majority of top music and cinema recordings. The proper timing and level of early and late reflections is central to this algorithm design. Research has shown that early reflections should arrive at the listener between 15 and 50 milliseconds (ms) after the end of the direct sound and they should be relatively low in level. Reflections that arrive too late or too loudly will sound like

echoes and will reduce clarity. The late reflections, or reverberant tail, should have substantial energy starting after 150 ms in order to provide an adequate sense of envelopment. When these conditions have been met the result is an increased sense of spaciousness that does not obscure the intelligibility of the source.

Three presets have been provided as a starting point for the Lexicon LIVE experience. Each of these presets is fully customizable and can be adjusted to create acoustic spaces that range from small rooms to cavernous structures. The ability to modify both the room size and the reverberation time provides enormous control over the type of space being created. A pre-delay setting can be changed to give the impression of being different distances from the reflecting surfaces (the walls). Separate parameters for reverberation and early reflection levels allow for precise control over the apparent distance from the sound source.

The Lexicon LIVE system requires the MC-12 Version 5 software and a Lexicon Microphone Kit (with two permanently installed microphones) to operate. Note that Lexicon LIVE is active only for sounds originating from within the listening room itself - sounds that are picked up by the microphones. Lexicon LIVE cannot be applied to a recorded source such as a CD or a DVD.

Lexicon LIVE frees your listening space of acoustic confinement. Simple to install and set up, it adds immediate excitement to a previously ordinary home theater. Use Lexicon LIVE to transport yourself to a gothic cathedral, a concert hall, a sports arena... the possibilities are endless.

Lexicon EQ

With the MC-12 EQ upgrade, Lexicon has raised the bar for room equalization, providing a solution that demonstrably improves the listening experience. It is easy to set up and requires only a small amount of user interaction to achieve superior results. Lexicon EQ uses advanced room analysis techniques and is completely integrated with existing processing. No additional analog or digital conversion is required. The upgrade doubles the amount of processing available to the MC-12, and provides up to seven filters per channel for as many as ten output channels. Four microphones, designed to meet Lexicon's stringent requirements for room analysis, enable optimization for the entire listening area.

Equalization is necessary because the listening space is the victim of room modes - resonances that occur when sound waves reinforce each other as they reflect back and forth between the hard boundaries of the room. Room modes can cause certain bass frequencies to sound too loud and others too soft.

Lexicon EQ improves the sound over a wide listening area, not just one seat. The system utilizes four microphones, allowing detection of room modes that would be missed by systems that employ only a single microphone. Using four microphones also provides improved accuracy and a larger listening area, since the measurements from each microphone can be correlated. Careful engineering has created a room equalization procedure that is easy to use. The process is simple: place the microphones at ear height on the seat(s) used for listening, and select the automatic test from the MC-12 Speaker Settings menu. The MC-12 automatically analyzes the room, identifies problem room modes, and calculates the proper correction. The MC-12 EQ upgrade requires an enormous amount of processing power so that detailed correction can be applied to all channels: up to seven filters for each of the seven main channel outputs and three subwoofer outputs. The additional DSP provided in the upgrade ensures that the best results can be obtained for all of the speakers in the system.

Lexicon's approach to solving the problems of room equalization delivers

better results than traditional methods, which simply attempt to flatten the frequency response of the listening room. These traditional methods have several limitations, the most significant of which is that it is very difficult to improve more than one listening position. When improvements are made for one seat, others can be made much worse.

It is more important to make sure that resonant frequencies do not have abnormally long decay times than it is to have a flat frequency response. Lexicon's EQ algorithm measures the decay times of the room resonance modes and prioritizes those with long decay times as being the most important to correct - an approach which has far more impact on the audio experience than merely flattening the frequency response. Another benefit of using this method is that the long decay times occur throughout the room; correcting them for one listening position also fixes them for others. Addressing the decay time, especially of low frequencies, results in flatter frequency response and a more uniform experience from seat to seat.

One of the primary goals in the development of the Lexicon EQ user interface was ease of use. The need was for a powerful tool that was quick and self-contained. With Lexicon EQ, the only special equipment required is an MC-12 and a Lexicon Microphone Kit. Once the EQ setup has been run, the user is given the choice of four settings: Low, Medium, High, or Maximum, allowing the adjustment of EQ being applied. EQ can also be turned on and off to quickly A/B the improvement. Each of the EQ settings can be selected with discrete IR codes from the MC-12 remote control for quick comparisons.

Lexicon has a tradition of providing remarkably innovative, powerful, and practical upgrades to our products. Lexicon EQ builds on this tradition, offering MC-12 owners a completely automatic digital room equalization package that is based on the latest research in acoustics.

MC-12

Digital Controller



- > Twelve channels, twelve configurable inputs, and three zones
- > Automatic speaker distance and output level calibration (with optional microphone kit)
- > 5.1-channel analog audio input
- > Analog bypass for stereo and 5.1-channel analog audio inputs
- > Two 24-bit/192kHz digital-to-analog converters (DACs) for each main audio output
- > Balanced main and second zone audio outputs (balanced version only)
- > S/PDIF coaxial, S/PDIF optical and AES/EBU digital audio inputs
- > S/PDIF coaxial and S/PDIF optical digital audio outputs
- > Automatic switching between analog and digital audio inputs
- > Two broadcast-quality video switchers
- > Four component video inputs with full high-definition television compatibility
- > RCA and professional-grade BNC component video inputs/outputs
- > Eight S-video and five composite video inputs
- > LOGIC 7 decoding
- > Lexicon LIVE
- > Dolby Digital Surround EX and Dolby Pro Logic IIx decoding
- > DTS 96/24®, DTS Neo:6®, and DTS-ES® (matrix and discrete) decoding
- > THX Ultra2® and THX Surround EX® decoding
- > Three trigger outputs, rear panel IR input, and RS-232 control
- > Four microphone inputs
- > Optional rack mount kit

The MC-12 is the culmination of years of product design, effortlessly combining performance, flexibility, and elegance. Sophisticated and powerful, it is supremely equipped to control the most intricate home theater. Three zones, twelve configurable inputs, onboard processing, twelve output channels, and a wide array of expansion capabilities enable the MC-12 to easily meet the demands of the discerning audio/video enthusiast.

With myriad features available in the MC-12, the simple and intuitive user interface provides ultimate adjustability without being confusing. Access to the listening modes, input and output settings, speaker distances and levels is never more than a few button pushes away.

The MC-12's three zones are independent, allowing for seamless control of multi-room systems. Because each zone is capable of routing a different input source, it is possible to watch a DVD in the home theater while listening to a CD in the kitchen and recording a program from a satellite receiver to a DVD-R. The record zone can also be used to provide audio to a third room.

A glance at the MC-12's rear panel will show the tremendous array of inputs and outputs. Analog audio is available on stereo connectors and a 5.1-channel connector, ideal for DVD-A or SACD sources such as the RT-20 Disc Player. High resolution 24-bit/96kHz analog-to-digital converters can be used to bring these sources into the digital domain for processing or, for audio purists, a true analog bypass option is available which keeps the signal in the analog domain from input to output.

Digital audio input is available on one AES/EBU, six S/PDIF coaxial, and six

S/PDIF optical connectors. These signals are processed at their native sampling rates through a two stage phase lock loop, achieving remarkably low intrinsic jitter and high jitter rejection. Lexicon's proprietary auto azimuth processing corrects timing and level imbalances in stereo signals, resulting in exceptional channel separation in matrix-encoded sources.

The MC-12 has twelve channels of audio output, including stereo subwoofers, an LFE, and two auxiliary outputs. The MC-12 Balanced adds XLR connectors for all Main Zone and Zone 2 audio outputs - useful for installations where long cable runs are required or where there is a high risk of RF interference. Each of the outputs uses two 24-bit/192kHz DACs operating in dual-mono mode. This design extends the signal-to-noise ratio and dynamic range, resulting in superior sound quality. High precision crossovers and tone controls are digital to avoid the signal distortion their analog counterparts often introduce. In addition, digitally controlled analog output levels can be adjusted in 0.5dB increments.

For maximum flexibility, each of the main audio outputs has independent crossover, speaker distance, and output level control. The crossovers are available in 10Hz increments from 30 to 120Hz. If the THX speaker setup is selected, a THX 80Hz crossover setting is automatically applied to all main audio outputs. The MC-12 also provides access to advanced speaker array processing and, if a THX Ultra2-certified subwoofer is present, boundary gain compensation controls.

Automatic calibration of speaker distances and output levels is available using the rear panel microphone inputs and an optional Lexicon Microphone Kit.

MC-12

Digital Controller

The accurate adjustment of these settings ensures that signal arrival times and levels are optimal relative to the listening position.

A comprehensive bass management system helps protect the subwoofers and other loudspeakers from overloading, even with Dolby Digital and DTS sources that produce low-frequency signal peaks at much higher levels than stereo sources. Sophisticated routing automatically directs low-frequency signals to the loudspeakers most capable of reproducing them, while adjustable bass peak limiters restrict the amplitude level of low-frequency signals sent to the subwoofers and redirected to other loudspeakers.

Complementing its extraordinary audio performance, the MC-12 includes two broadcast-quality video switchers. An ultra-wide bandwidth component video

switcher accepts analog component video signals, including high-definition television signals, while a separate composite and S-video switcher accepts high-quality NTSC, PAL, and SECAM video signals. The MC-12 has five composite video inputs, eight S-video inputs, and four component video inputs.

Enhanced versions of Lexicon's popular Nightclub, Concert Hall, Church, Cathedral, and Panorama listening modes are available, along with an impressive collection of advanced decoders, including Dolby Digital Surround EX®, Dolby Pro Logic IIx®, DTS 96/24, DTS Neo:6, DTS-ES (discrete and matrix), THX Ultra2, THX Surround EX, and the latest version of Lexicon's own critically acclaimed LOGIC 7. Unlike other decoders, LOGIC 7 is compatible with all input sources and requires no special encoding for playback. Applied to music recordings, it increases the sense of spaciousness in the listening area without altering the front soundstage, resulting in a more realistic recreation of the original recording. Applied to film soundtracks, LOGIC 7 expands stereo sources to 7.1 channels for a performance that rivals that of discrete multi-channel sources. LOGIC 7 also derives two additional channels from 5.1-channel sources to create a more enveloping listening experience. See page 14 for more information on LOGIC 7.

Most impressive about the MC-12 is its enormous array of custom processing. Four 32-bit floating-point digital signal processing (DSP) engines provide





vast resources to power such proprietary features as LOGIC 7, Lexicon LIVE (page 8), Auto Azimuth, five-speaker enhancement, bass enhancement, and dialog enhancement. Lexicon's bass management system, digital crossovers and tone controls are also powered by these DSP engines. This processing is performed at sample rates up to 96kHz, with 24-bit resolution to retain top performance from all input sources. A fifth DSP engine is dedicated to decoding Dolby Digital and DTS sources.

Inside and out, the MC-12 is designed to accommodate possible hardware and software advancements with internal expansion slots, a removable rear panel

access plate, and additional RS-232 connector. One RS-232 connector performs flash-memory software upgrades as well as configuration downloads. A configuration tool available at www.lexicon.com can be used to send current MC-12 settings to a compatible personal computer, creating an archive of settings that can later be sent back to the MC-12 for instant reconfiguration.

The MC-12 is a paragon of home theater processing. Immense power, leading-edge technological sophistication, and extensive expansion capabilities make it an indispensable addition to any high-quality home theater.

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LOGIC 7

LOGIC 7 is a proprietary Lexicon algorithm that is capable of extracting seven channels of output from stereo, 5.1, or 6.1 channel input sources. First introduced in 1990, LOGIC 7 has undergone constant refinement through multiple revisions, resulting in an algorithm that is widely regarded to be the best stereo to multi-channel decoder available.

Presentation of 2-channel sources approaches the performance of discrete multi-channel formats. Surround effects, dialogue, music, and ambience are steered intelligently between all speakers. Even better, LOGIC 7 requires no special encoding to work its magic.

LOGIC 7 transforms the listening area, or “sweet spot”, into a larger, more comfortable space. A larger sweet spot means that you can enjoy movies and music with others and all have a good listening experience.

LOGIC 7 also increases the sense of envelopment, making the movie watching or music listening experience much more engaging and exciting. Instead of feeling like you are in your living room, you feel like you are transported to the space depicted in the recording.

All of these enhancements are provided without harming the original mix—the sound stage and stereo image are meticulously preserved. LOGIC 7’s stereo image preservation is unparalleled by any other decoder of its kind.

In addition to being present in all Lexicon processors, LOGIC 7 can be found in automobiles such as BMW®, Mercedes®, Rolls Royce®, and Land Rover®. Cars have become the latest surround sound listening environment. They present unique challenges to creating an enjoyable experience for each listening position – challenges that have been successfully met by the LOGIC 7 algorithm.

LOGIC 7 excels at steering sounds to precisely the correct position in the listening room by analyzing stereo source material for phase and amplitude clues to determine where sound should be placed. It is important that the algorithm detects and steers the sound very quickly, so that the listener is not aware of the process. If steering is sluggish, the listener will hear artifacts and be distracted. LOGIC 7’s steering capabilities approach the performance of discrete multi-channel source material.

LOGIC 7 also uses frequency contouring to provide a seamless transition between the fronts and surrounds. When surrounds are reproducing background material or ambience, a low-pass filter is applied so they do not distract from the primary sounds (such as dialog). When the surrounds are reproducing steered material (such as a sound effect), the filter is removed.

Frequency contouring is an important factor contributing to LOGIC 7’s superior performance.

The ability to unobtrusively reproduce secondary surround information, then flawlessly steer full range sound effects around the room, creates a sense of realism without distraction from the most important aspect of the film soundtrack: dialog.

There are other stereo-to-multi-channel formats now available in the market. LOGIC 7 out-performs them by providing:

- Better front stereo image preservation
- More accurate steering
- More natural sounding surrounds (not “phases”)

In addition to transforming stereo audio sources to multi-channel, LOGIC 7 expands 5.1 sources to 7.1 channels. Discrete multi-channel sources are steered intelligently through seven channels instead of five, providing an increased sense of envelopment and involvement.

Steering in the front channels is very similar to that found in LOGIC 7 for 2-channel sources, giving the user the flexibility to affect the balance between the center channel and the front left and right channels in a multi-channel source. This is performed in such a way that the appropriate level balance of the center channel is maintained.

The center channel is in many ways the most important speaker in a multi-channel system. However it is still underutilized in many recordings. The most common examples of this are multi-channel music recordings that place little or no vocal content in the center channel. Instead, the vocals are mixed into the front left and right channels. For a listener sitting directly between the front left and right speakers, this does not present a problem. The front left and right speakers create a phantom center image and the vocals appear to come from the center of the front soundstage. However, for any listener that is off-axis, recordings like this present a major problem. The vocals appear to come from the speaker that the listener is closest to. LOGIC 7 provides a means of redirecting the vocals to the center channel, thus maintaining the front soundstage for all listeners no matter where they are located in the room.

With multi-channel sources, LOGIC 7 extracts two additional surround channels, which increases the perceived depth of the listening area, as well as providing smoother steering of sound effects between the fronts and surrounds. The Side and Rear channels are independent of each other (contain different audio material). Adjustable parameters shift the sound field forward or backward and control high-frequency attenuation for surround channels, giving the user unprecedented control over the listening experience.

LOGIC 7 technology offers a universal multi-channel sound solution. It plays normal stereo recordings in full and satisfying surround with a wide sound stage and increased envelopment, also offering enhanced playback of all encoded surround formats.

Based on years of psychoacoustic research, LOGIC 7 strikes a delicate balance between channel separation and surround envelopment. For music, film, and broadcast sources, LOGIC 7 distinguishes between primary and background signals and processes them appropriately. Prominent sounds like a singer's voice or an airplane's roar are reproduced with stunning clarity. The signal is sent to the appropriate speaker with high channel separation, while secondary sounds like the ambient noise of a concert hall or the great outdoors are reproduced with amazing spaciousness. With LOGIC 7, the listener experiences an unmatched sense of involvement.



MC-8

Digital Controller

- > Eight channels, eight configurable inputs, and two zones
- > Up to two 5.1-channel analog audio inputs
- > Analog bypass available for stereo and 5.1-channel analog audio inputs
- > 24-bit/192kHz digital-to-analog converters (DACs)
- > Balanced main and second zone audio outputs (balanced version only)
- > Stereo side and rear outputs and a dedicated subwoofer output
- > S/PDIF coaxial and S/PDIF optical digital audio inputs
- > S/PDIF coaxial digital audio output
- > Automatic switching between analog and digital audio inputs
- > Two broadcast-quality video switchers
- > Three component video inputs with full high-definition television compatibility
- > Eight S-video and five composite video inputs
- > Four 32-bit, floating-point DSP engines
- > Separate DSP engine to decode Dolby Digital and DTS signals
- > LOGIC 7 decoding
- > Dolby Digital Surround EX and Dolby Pro Logic II decoding
- > DTS 96/24, DTS Neo:6, and DTS-ES (matrix and discrete) decoding
- > THX Ultra2 and THX Surround EX decoding
- > Two trigger outputs, rear panel IR input, and RS-232 control
- > Optional rack mount kit

Based on the MC-12 Digital Controller, the MC-8 is ideal for less complex multi-channel systems in which sound quality, picture quality, ease-of-use and reliability are still of paramount importance. The MC-8 is equipped with two independent zones, eight configurable inputs, and eight channels of output, and is both physically smaller and more affordable than the MC-12. Drawing on Lexicon's legendary expertise in digital audio, the MC-8 offers superior performance and value for today's music and home theater devotee.

At the heart of the MC-8 are four Analog Devices SHARC® digital signal processing engines, one Cirrus Logic DSP engine, and ten 24-bit/192kHz digital-to-analog converters - an architecture that is nearly identical to the MC-12. As a result, the MC-12 and MC-8 share the same tremendous processing power and sonic soul. The MC-8 includes THX Ultra2 certification and dts 96/24 decoding. Its impressive list of playback technologies also includes Dolby Digital EX, Pro-Logic II, DTS-ES, DTS Neo:6, and LOGIC 7.

The MC-8 Balanced includes balanced audio outputs for all channels, including Zone 2. In many installations, the Digital Controller is located in an equipment rack along with tuners, satellite receivers, and so forth which can introduce audible interference into the system. By using balanced audio connections between the digital controller and the power amplifier, the potential for audio interference is minimized. For systems utilizing amplified speakers, balanced connections will eliminate noise introduced on cables between the digital controller and the speakers.

With the advent of formats such as DVD-Video, DVD-Audio, Super Audio CD, and High-Definition TV, the demand for input connectors has grown.

The MC-8 provides compatibility with these formats, offering three component video inputs and eight configurable analog inputs. The analog inputs can be configured as eight stereo inputs, five stereo inputs plus one 5.1-channel input, or two stereo inputs plus two 5.1-channel inputs (useful for systems containing separate DVD-A and SACD sources).

Like the MC-12, the MC-8 software is easily upgradeable via a rear panel RS-232 port. There are also two internal upgrade slots and two rear panel access plates, which allow for additional connections should upgrades be made available by Lexicon.

The MC-8 uses the same intuitive on-screen menu system as the MC-12 for navigation of the set-up options and features. Both new users and those that are familiar with Lexicon digital controllers will instantly feel at home with the MC-8 and will be fine-tuning it in minutes.

Designed with a careful balance of performance and function, the MC-8 is sure to impress with its stellar performance, simple user interface, flexibility, and expandability. Combined with an RT-20 disc player and an LX series power amplifier, the MC-8 serves as the core of a high performance, high value home theater system.



Technical specifications located on page 32

MC-4

Digital Controller

- > Eight channels, eight configurable inputs
- > Up to two 5.1-channel analog audio inputs
- > Analog bypass available for stereo and 5.1-channel analog audio inputs
- > S/PDIF coaxial and S/PDIF optical digital audio inputs
- > Automatic switching between analog and digital audio inputs
- > 24-bit/192kHz D/A converters
- > Stereo side and rear outputs and a dedicated subwoofer output
- > Two broadcast-quality video switchers
- > Three component video inputs with full high-definition television compatibility
- > Five S-video and five composite video inputs
- > Four 32-bit, floating-point DSP engines
- > Separate DSP engine to decode Dolby Digital and DTS signals
- > LOGIC 7 decoding
- > Dolby Digital Surround EX and Dolby Pro Logic II decoding
- > DTS 96/24, DTS Neo:6, and DTS-ES (matrix and discrete) decoding
- > THX Ultra2 and THX Surround EX decoding
- > Two trigger outputs
- > Rear panel IR input
- > RS-232 control
- > Optional rack mount kit

Based on the reference MC-12, the MC-4 Digital Controller is perfectly suited for less complex multi-channel systems in which sound quality, picture quality, ease-of-use and reliability are still of paramount importance.

Equipped with eight configurable inputs, and eight channels of output, the MC-4 is ideal for all but the most elaborate systems. Drawing on Lexicon's legendary expertise in digital audio, the MC-4 offers superior performance and value for today's music and home theater enthusiast.

At the heart of the MC-4 are four Analog Devices SHARC digital signal processing engines, one Cirrus Logic DSP engine, and eight 24-bit/192kHz digital-to-analog converters - an architecture that is nearly identical to the MC-12. As a result, the MC-12 and MC-4 share the same tremendous processing power and sonic soul. The MC-4 includes THX Ultra2 certification and DTS 96/24 decoding. Rounding out its impressive list of playback technologies: Dolby Digital EX, Pro-Logic II, DTS-ES, DTS Neo:6, and LOGIC 7.

The MC-4 features Lexicon's decoding technology: LOGIC 7. Based on years of psychoacoustic research, LOGIC 7 strikes a delicate balance between channel separation and surround envelopment. For music, film, and broadcast sources, LOGIC 7 distinguishes between primary and background signals and processes them appropriately. Prominent sounds like a singer's voice or an airplane's roar are reproduced with stunning clarity. The signal is sent to the appropriate speaker with high channel separation, while secondary sounds like the ambient noise of a concert hall or the great outdoors are reproduced with amazing spaciousness. With LOGIC 7, the listener experiences an unmatched sense of involvement.

With formats such as DVD-Video, DVD-Audio, Super Audio CD, and High-Definition TV, the demand for input connectors has grown. The MC-4 provides compatibility with these formats, offering three component video inputs and eight configurable analog inputs. The analog inputs can be configured as eight stereo inputs, five stereo inputs plus one 5.1-channel input, or two stereo inputs plus two 5.1-channel inputs for separate DVD-A and SACD sources.

The MC-4 uses the same intuitive on-screen menu system and user interface as the MC-12 for navigation of the set-up options and features. Both new users and those that are familiar with Lexicon digital controllers will instantly feel at home with the MC-4 and will be fine-tuning it in minutes.

Designed with a careful balance of performance and function, the MC-4 is sure to impress with its stellar performance, simple user interface, and set-up flexibility. Combined with an RT-10 disc player and a CX series power amplifier, the MC-4 serves as the core of a high performance, high value home theater system.



Technical specifications located on page 34

LX

Power Amplifiers

- > 200 watts per channel, capable of driving 2 ohm loudspeaker impedances
- > Bridgeable 400 watt channels compatible with 4 ohm loudspeaker impedances
- > Oversized toroidal power transformer with low DC resistance and advanced thermal protection
- > High power supply voltage for extra output headroom
- > Four custom-designed, hand-graded output transistors per channel
- > Selectable XLR, RCA, or 1/4-inch T/R/S inputs
- > Stable with mismatched, reactive, and unusual loads
- > JTS thermal protection
- > Quiet, microprocessor-controlled forced-air cooling
- > Loudspeaker protection against DC and frequencies below 10Hz
- > Protection against electrical and component failures, short circuits, wiring faults, and internal errors
- > THX Ultra Certification
- > Heavy-duty, gold-plated outputs
- > Trigger input for power control from connected components
- > Ground-lift switch
- > Multi-color channel status LEDs
- > Optional rack mount kit

Designed to exacting standards, the LX-7 and LX-5 provide top performance and power even under the most rigorous operating conditions. With extensive protection circuitry, they deliver maximum performance without risking failure. The strong industrial design makes these amplifiers perfect companions for Lexicon processors and disc players.

The LX amplifiers deliver ample power in a compact package. With individual amplifier cards, each channel drives an impressive 200 watts into 8 ohms, and is stable into 2 ohms. Bridgeable architecture makes it possible to drive even higher-power outputs, combining up to four 200-watt channels into two imposing 400-watt channels. Each 200-watt channel is capable of driving loudspeaker impedances of 2 ohms and above, while each 400-watt channel can drive impedances of 4 ohms and above. Massive toroidal power transformers and several oversized capacitors allow the amplifiers to retain ample power reserves even when all channels are delivering maximum output.

Following the Lexicon design philosophy of flat frequency response, low distortion, and high signal to noise ratio, the LX amplifiers deliver the finest reproduction of extreme music and film soundtracks with exceptional fidelity. Selectable balanced (XLR), unbalanced (RCA), and 1/4-inch Tip/Ring/Sleeve inputs and four custom-designed, hand-graded output transistors per channel allow them to reproduce the subtlest sonic details with stunning clarity and dynamic range. Heavy-duty, gold-plated output connectors allow the LX amplifiers to accommodate a wide range of loudspeaker connectors, including bare wires, banana plugs, and spade connectors. A ground-lift switch is also available to minimize the audible hum that can result from multiple grounding paths.

To protect themselves and other components in the system, the LX-7 and LX-5 automatically deactivate if device failures, short circuits, wiring faults, or other internal faults occur. DC protection also prevents DC and other frequencies below 10Hz from reaching the loudspeakers. Dedicated multi-color LEDs on the front panel provide instant channel status information.

Sophisticated Junction Temperature Simulation (JTS) thermal protection uses an internal processor to predict output transistor temperatures. Unlike similar technologies, JTS combines the current voltage of each output transistor with heat sink temperatures to arrive at an accurate temperature prediction. As a result, JTS prevents overheating before it occurs. In addition to JTS, the LX amplifiers feature thermal protection for each channel and the main power transformer. If heat sink or main power transformer temperatures exceed a certain level, the corresponding channel or the main power transformer deactivates until temperatures return to within a normal operating range.

A trigger input for power control from connected components and an optional rack mount kit make the LX-7 and LX-5 easy to integrate into any home theater system.



Technical specifications located on page 36

CX

Power Amplifier

- > 140 watts per channel, capable of driving 2 ohm loudspeaker impedances
- > Oversized toroidal power transformer with low DC resistance and advanced thermal protection
- > High power supply voltage for extra output headroom
- > Four custom-designed, hand-graded output transistors per channel
- > Selectable balanced or unbalanced inputs
- > Stable with mismatched, reactive, and unusual loads
- > Thermal protection for each channel
- > Loudspeaker protection against DC and frequencies below 10Hz
- > Protection against electrical and component failures, short circuits, wiring faults, and internal errors
- > THX Ultra2 Certification
- > Heavy-duty, gold-plated output connectors
- > Trigger input for power control from connected components
- > Separate ground-lift switch for each channel
- > Multi-color channel status LEDs
- > Optional rack mount kit

Based on Lexicon's reference-quality LX Power Amplifiers, the CX-7 and CX-5 represent a lower-output version of their award-winning counterparts. The CX amplifiers have THX Ultra2 certification and the same gorgeous industrial design as the other products in the Lexicon line - they are a beautiful complement to any home theater.

Available with seven or five channels, the CX amplifiers are designed with massive toroidal transformers and several oversized capacitors, allowing them to retain ample power reserves even when all channels are delivering maximum output. Each channel uses four custom designed, hand-graded output transistors to drive 140 watts into 8 ohms. They are compatible with loudspeaker impedances of 2 ohms and above.

The CX amplifiers feature a convection cooling system, which results in ultra-quiet performance. An extensive protection system also makes them extremely reliable. Thermal protection monitors the temperatures of the chassis, main power transformer, and heat sinks, deactivating channels that exceed safe operating temperatures. Current protection limits the quantity of current delivered to the output transistors based on the amount of headroom available. DC protection prevents DC and frequencies below 10Hz from reaching the loudspeakers. In addition, the CX amplifiers offer protection against electrical and device failures, short circuits, wiring faults, and internal errors. To protect themselves and associated components, the amplifiers automatically deactivate if these conditions occur. Dedicated multicolor channel status LEDs on the front panel provide instant notification if dangerous conditions arise.

Each channel includes selectable balanced (XLR) or unbalanced (RCA) inputs. Heavy-duty, gold-plated output connectors allow the CX ampli-

fiers to accommodate a wide-range of loudspeaker connectors, including bare wires, banana plugs, and spade connectors. In addition, a separate ground-lift switch is provided for each channel to help eliminate the audible hum that sometimes results from multiple grounding paths. For even greater flexibility, a rear panel trigger input connector provides power control of the amplifiers from compatible associated components such as the MC-12 and MC-8 Digital Controllers. When one of these Lexicon digital controllers is connected, the power status of the digital controller and the CX amplifier can be synchronized for added convenience.

The CX-7 and CX-5 achieve the highest standards of power and performance, delivering superior reproduction of music and film soundtracks. An impressive combination of 140-watt channels, selectable balanced or unbalanced inputs, and advanced protection features make the CX amplifiers capable of handling all but the most demanding applications.



Technical specifications located on page 37

R E C E I V E R

RV-8

Receiver



- > **Eight channels**
- > **Eight configurable inputs**
- > **Three independent zones**
- > **Integrated 7-channel amplifier with massive toroidal transformer and thermal/DC protection**
- > **AM/FM tuner with 40 presets**
- > **Low noise MM phono input**
- > **Two 5.1-channel analog audio inputs**
- > **Analog bypass option for 5.1-channel and stereo audio inputs**
- > **Auto switching between digital and analog audio input connectors**
- > **Headphone output with available LOGIC 7 processing**
- > **Two 32-bit DSP engines**
- > **Separate DSP engine for decoding compressed digital audio sources**
- > **Four S/PDIF coaxial and four S/PDIF optical digital audio inputs**
- > **One S/PDIF coaxial and one S/PDIF optical digital audio output connector**
- > **24-bit/192kHz digital-to-analog converters (DACs) for all audio channels**
- > **Two sets of analog A/V Zone 2 outputs; one fixed, one variable**
- > **One set of analog audio Zone 3 outputs, variable level**
- > **Broadcast-quality video switching**
- > **Video conversion from S-video or composite video to component video**

Based on the critically acclaimed line of Lexicon preamp/ processors and power amplifiers, the RV-8 was designed from the ground up with the enthusiast in mind. The massive power amplifier section outputs an impressive 140 watts on each of its seven channels across the entire audible spectrum with all seven channels driven simultaneously. And it does so while retaining exceptional transparency, wide dynamic range and sonic neutrality. The RV-8 delivers real power that makes stand-alone multi-channel power amplifiers blush. Mated with an exceptional preamp/

- > **Three component video inputs with full high-definition television compatibility**
- > **Five composite video inputs**
- > **Five S-video inputs**
- > **One component video output**
- > **Four S-video outputs**
- > **Five composite video outputs**
- > **LOGIC 7 processing**
- > **Dolby Digital Surround EX, Dolby Pro Logic II and Dolby Pro Logic decoding**
- > **DTS 96/24, DTS-ES (discrete and matrix) and DTS Neo:6 decoding**
- > **THX Ultra2 and THX Surround EX decoding**
- > **THX Ultra2 certification**
- > **Flash memory software upgrade capability**
- > **Two internal expansion slots**
- > **Rear panel access plate**
- > **RS-232 control**
- > **Rear-panel IR input connector**
- > **Two trigger output connectors**
- > **Powerful preprogrammed and learning IR remote control with LCD**
- > **Optional rack mount kit**

processor utilizing the latest algorithms, including LOGIC 7 and an intuitive user interface, the RV-8 can be viewed as “separates” that happen to share the same chassis.

The RV-8 Receiver is an 8-channel audio and video control center with independent zone monitoring that provides control of audio and video source selection in three zones at the same time. The RV-8 includes a host of inputs: a built-in tuner, eight digital audio, eight analog audio, phono, five

RV-8

Receiver



composite video, five S-video and three component video input connectors. These can be assigned to any of the eight software configurable inputs. The analog input connectors can also be configured to accommodate up to two 5.1-channel analog sources such as DVD-A and SACD. The RV-8 features an integrated 7-channel power amplifier that is designed to achieve high levels of power and performance. Equipped with a massive toroidal power transformer, the amplifier also provides thermal and DC protection. A built-in AM/FM tuner allows for automatic or manual storing of up to 40 preset stations.

More than just an audio and video control center, the RV-8 offers the latest version of Lexicon's critically acclaimed LOGIC 7 processing, which creates a 7.1-channel output signal from stereo, 5.1- and 6.1-channel sources. Unlike other decoders, LOGIC 7 processing is compatible with all input sources and requires no special encoding. Because the improvement it provides is clearly audible, LOGIC 7 is widely regarded as the finest surround process currently available.

A LOGIC 7 downmix of multichannel source material is available when using the Headphone listening modes. If a

stereo source is present, the dedicated HEADPHONE L7 listening mode utilizes Head Related Transfer Functions that introduce a subtle sense of surround sound, while preserving the original stereo image.

In addition to LOGIC 7, the RV-8 offers Dolby Digital Surround EX, Dolby Pro Logic II, Dolby Pro Logic, DTS 96/24, DTS Neo:6, DTS-ES, THX Ultra2 and THX Surround EX decoding. THX Ultra2 certification guarantees that the RV-8 meets the most stringent THX specifications.

With two floating-point Hammerhead™ Digital Signal Processing (DSP) engines, the RV-8 boasts enormous processing power. These powerful processors perform custom Lexicon processing such as LOGIC 7 decoding, bass enhancement, dialog enhancement, auto azimuth, 5-speaker enhancement, bass management, high-precision digital crossovers and audio controls. These features are available at sample rates up to 96kHz, with 24-bit resolution to retain top performance from all sources. In addition, a third DSP engine is dedicated to decoding multi-channel compressed audio sources.

The RV-8 is one of the most advanced audio and video control centers available. High-precision 24-bit/96kHz analog-to-digital converters can be used to convert stereo analog audio input signals to digital signals, allowing the RV-8 to provide the benefits of precise digital signal processing without sacrificing signal integrity. 24-bit/192kHz DACs converters are utilized for all output channels. Alternatively, 5.1-channel and stereo analog



inputs can be set up individually to bypass analog-to-digital conversion and internal processing altogether, following a pure analog signal path directly to the outputs. Digital audio input signals are processed through a two-stage phase lock loop for extremely low intrinsic jitter and high jitter rejection.

Lexicon's proprietary auto azimuth technology corrects timing and level imbalances in stereo sources, ensuring exceptionally accurate playback of surround-encoded sources. A digital audio pass-through output is available for recording digital signals with a CD recorder or a similar component.

Complementing its audio performance, the RV-8 features broadcast-quality video switchers. A wide-bandwidth component video switcher accepts analog component or RGB video signals, while a composite and S-video

switcher accepts high-quality NTSC, PAL or SECAM video signals.

Composite and S-video sources can be converted to component video. The component video switcher can pass high-definition television signals, as well as standard-definition TV signals. The switcher is designed to pass video signals without alteration or degradation.

Built to professional standards, the RV-8 is designed to serve as the control center in any high-quality home theater. Even the most demanding enthusiast will be impressed with its unique combination of power, performance and flexibility. Add to this a powerful learning remote control that makes your entire system easier to use and you start to understand why the RV-8 is the ultimate receiver.

RT-20 Specifications

Discs Supported	DVD-V, DVD-A, DVD-R, DVD-RW, SACD, CD, CD-R, CD-RW, VCD (v2.0, MPEG 1), S-VCD (IEC), and MP3
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Audio Outputs	
<i>Analog</i>	Four RCA pairs. Two stereo front L/R, center, subwoofer, and one surround L/R
<i>Digital</i>	One AES/EBU (XLR), one Coaxial (RCA) and one optical (Toslink). All conform to IEC-958 and S/PDIF standards Sample Rates: 44.1, 48, 88.2, and 96kHz. (16 to 24 bits)

Audio Performance	
<i>Digital-to-Analog Conversion</i>	24-bit/192kHz PCM and Pure DSD
<i>Frequency Response</i>	20Hz-20kHz (+/- 0.5dB), -1.0dB at 50kHz, reference 1 kHz (Front L/R outputs)
<i>THD + Noise</i>	0.004% at 1kHz
<i>Dynamic Range</i>	100dB
<i>Signal-to-Noise Ratio</i>	100dB
<i>Channel Separation</i>	100dB
<i>Output Level</i>	2.0V maximum

Video Outputs	Two component video (one RCA, one BNC), One S-video, and two composite video (RCA)
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Video Performance	
<i>Digital-to-Analog Conversion</i>	14-bit/216MHz (10-bit/54Mhz for A/V Euroconnector*)

<i>Bandwidth</i>	6MHz
<i>Signal-to-Noise Ratio</i>	75dB (Y output)
<i>Output Level</i>	1.0V peak-to-peak
<i>Output Impedance</i>	75 Ohms

A/V Output Connectors	
<i>HDMI A/V Output</i>	19-pin, Type A
<i>A/V Euroconnector</i>	21-pin SCART connector

Other	
<i>Trigger Input</i>	12V DC; detachable screw terminals
<i>IR input</i>	3.5mm T/R/S
<i>RS-232C</i>	9-pin connector
<i>Power Requirements</i>	120VAC, 60Hz (USA model) 230VAC, 50Hz (Export model)
<i>Power Consumption</i>	29W
<i>Dimensions</i>	
<i>Height (with feet)</i>	3.9" (99mm) (2 rack units without feet)
<i>Width</i>	17.3" (440mm)
<i>Depth</i>	14.5" (368mm)
<i>Weight</i>	21.5lbs (9.75kg)
<i>Rack Mounting</i>	Optional brackets are available for mounting unit in a standard 19-inch equipment rack
<i>Operating Temperature</i>	5° to 35° C (41° to 95° F)
<i>Relative Humidity</i>	85% maximum without condensation
<i>Remote Control</i>	Hand-held, battery-powered infrared remote control unit Batteries: Two AA

Specifications subject to change without notice.



*An A/V Euroconnector is included in Region 2 models available in Europe only.

RT-10 Specifications

Discs Supported

DVD-V, DVD-A, DVD-R, DVD-RW, SACD, CD, CD-R, CD-RW, VCD (v2.0, MPEG 1), S-VCD (IEC), and MP3

Audio Outputs

Analog Four stereo pairs (RCA). Two stereo pairs for front L/R, One stereo pair for surround, and center/subwoofer

Digital One AES/EBU (XLR), one Coaxial (RCA) and one optical (Toslink). All conform to IEC-958 and S/PDIF standards Sample Rates: 44.1, 48, 88.2, and 96kHz. (16 to 24 bits)

Audio Performance

Digital-to-Analog Conversion 24-bit/192kHz PCM and Pure DSD

Frequency Response 20Hz-20kHz (+/- 0.5dB), -1.0dB at 50kHz, reference 1 kHz (Front L/R outputs)

THD + Noise 0.004% at 1kHz

Dynamic Range 100dB

Signal-to-Noise Ratio 100dB

Channel Separation 100dB

Output Level 2.0V maximum

Video Outputs

Two component video (one RCA, one BNC), One S-video, and two composite video (RCA)

Video Performance

Digital-to-Analog Conversion 12-bit/108MHz (10-bit/54Mhz for A/V Euroconnector*)

Bandwidth 6MHz

Signal-to-Noise Ratio 75dB (Y output)

Output Level 1.0V peak-to-peak

Output Impedance 75 Ohms

Other

Trigger Input 12V DC; detachable screw terminals

IR input 3.5mm T/R/S

D1/D2 14-pin D connector

Power Requirements 120VAC, 50-60Hz (USA model) 230VAC, 50-60Hz (Export model)

Power Consumption 20W

Dimensions

Height (with feet) 3.7" (94mm) (2 rack units without feet)

Width 17.3" (440mm)

Depth 12.2" (310mm)

Weight 17.2lbs (7.8kg)

Rack Mounting Optional brackets are available for mounting unit in a standard 19-inch equipment rack

Operating Temperature 5° to 35° C (41° to 95° F)

Relative Humidity 85% maximum without condensation

Remote Control Hand-held, battery-powered infrared remote control unit
Batteries: Two AA

Specifications subject to change without notice.



*An A/V Euroconnector is included in Region 2 models available in Europe only.

MC-12 Specifications

Audio Inputs and Outputs

<i>Analog Audio Inputs</i>	Eight stereo pairs (RCA) or five stereo pairs and one 5.1-channel analog input
<i>Digital Audio Inputs</i>	Six S/PDIF coaxial (RCA), six S/PDIF optical (five TosLink, and one optical mini jack), one AES/EBU (XLR); coaxial and optical inputs conform to IEC-958, S/PDIF standards
Sample Rates:	44.1, 48, 88.2, 96kHz
Accepts:	16-24 bits PCM audio, Dolby Digital, DTS and DTS-ES discrete data formats
<i>Main Audio Outputs</i>	Twelve unbalanced (RCA) and twelve balanced (XLR, MC-12 Balanced only) connectors for Front L/R, Center, LFE, Subwoofer L/R, Side L/R, Rear L/R, Auxiliary L/R
<i>Zone 2 Audio Outputs</i>	Two stereo pairs (RCA, one fixed and one variable output level); two balanced (XLR) for L/R variable output (MC-12 Balanced only)
<i>Record Audio Outputs</i>	Two stereo pairs (RCA, one fixed and one variable output level); one coaxial (RCA) S/PDIF and one optical (TosLink) S/PDIF output (in parallel)

Performance (Main Zone)

<i>Analog-to-Digital Conversion</i>	24-bit, 96kHz, dual-bit $\Delta\Sigma$ architecture
<i>Digital-to-Analog Conversion</i>	24-bit, 44.1 to 192kHz, multi-bit $\Delta\Sigma$ architecture, operating in dual-mono mode
<i>Frequency Response</i>	10Hz to 20kHz, +0.1dB/-0.25dB, -0.75dB at 40 kHz, reference 1kHz
<i>THD + Noise</i>	Below 0.008% at 1kHz, maximum output level
<i>Dynamic Range</i>	108dB minimum, 111dB typical, 22kHz bandwidth
<i>Signal-to-Noise Ratio</i>	108dB minimum, 111dB typical, 22kHz bandwidth
<i>Input Sensitivity</i>	200mVrms (2Vrms for maximum output level) at 0dB input gain
<i>Input Impedance</i>	100k Ω in parallel with 150pF
<i>Output Level</i>	150mVrms typical, 6Vrms maximum (RCA outputs); 300mVrms typ, 12Vrms maximum (XLR outputs, MC-12 Balanced only). Maximum value with full-scale input signal and volume at +12dB
<i>Output Impedance</i>	100 Ω in parallel with 150pF (RCA outputs); 50 Ω in parallel with 150pF (XLR outputs, MC-12 Balanced only)

Performance (Zone 2 and Record Zone)

<i>Analog-to-Digital</i>	24-bit, 44.1 to 96kHz, dual-bit $\Delta\Sigma$
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<i>Conversion</i>	architecture (Record Zone only)
<i>Digital-to-Analog Conversion</i>	24-bit, 44.1 to 192kHz, multi-bit $\Delta\Sigma$ architecture
<i>Frequency Response</i>	10Hz to 20kHz, +0.1dB/-0.25dB,-0.75dB at 40kHz, reference 1kHz
<i>THD + Noise</i>	Below 0.008% at 1kHz, maximum output level
<i>Dynamic Range</i>	105dB minimum, 108dB typical, 22kHz bandwidth
<i>Signal-to-Noise Ratio</i>	105dB minimum, 108dB typical, 22kHz bandwidth
<i>Input Sensitivity</i>	200mVrms (4Vrms for maximum output level)
<i>Input Impedance</i>	100k Ω in parallel with 150pF
<i>Output Level</i>	200mVrms typical, 4Vrms maximum (RCA outputs); 400mVrms typical, 8Vrms maximum (XLR outputs, Zone 2 only, MC-12 Balanced only); maximum value with full-scale input signal and volume at 0dB
<i>Output Impedance</i>	100 Ω in parallel with 150pF (RCA outputs); 50 Ω in parallel with 150pF (XLR outputs, Zone 2 only, MC-12 Balanced only)

Video Inputs and Outputs

<i>Video Inputs</i>	Five composite (RCA), eight S-video, and four component video (three RCA, one BNC)
<i>Video Outputs</i>	Four composite (RCA, two monitor and two record), four S-video (two monitor and two record), and one component (BNC)

Performance (Composite & S-video)

<i>Compatibility</i>	NTSC, PAL, and SECAM
<i>Switching</i>	Active
<i>Output Level</i>	1.0V peak-to-peak
<i>Impedance</i>	75 Ω
<i>Input Return Loss</i>	>40dB
<i>Differential Gain</i>	<0.5%
<i>Differential Phase</i>	<0.5°
<i>Bandwidth</i>	>25MHz
<i>K Factor</i>	<0.3%
<i>Gain</i>	± 0.15 dB
<i>Signal/Noise Ratio</i>	>70dB
<i>Frequency Response</i>	10Hz to 10MHz + 0.1/-0.3dB

Performance (Component Video)

Compatibility	3-channel (Y, Pr, Pb), format-independent
Switching	Passive
Impedance	75Ω
Bandwidth	>300MHz
Insertion Loss	<3dB

Other

Microphone Inputs	Four 3.5mm miniature phone jacks
Input sensitivity:	10mVrms (400mV maximum input level)
Input Impedance:	20kΩ (accepts balanced or unbalanced input signals)
Trigger Outputs	One power on/off trigger, two programmable triggers; +12 VDC, 0.5 amps each; detachable screw terminals
RS-232 Serial Input/Output	Two 9-pin D-sub connectors for system control and software upgrades
Power Requirements	90-250 VAC, 50-60Hz, 90W (universal line input), detachable power cord

Dimensions

MC-12:	
Height (with feet)	5.65" (144mm) (three rack units without feet)
Width	17.3" (440mm)
Depth	14.85" (377mm)

MC-12 Balanced:	
Height (with feet)	6.73" (171mm) (~four rack units without feet)
Width	17.3" (440mm)
Depth	14.85" (377mm)

Weight

MC-12:	36lbs (16.4kg)
MC-12 Balanced:	45lbs (20.5kg)

Rack Mounting

Optional brackets are available for installing either unit in a standard 19-inch equipment rack (three rack units required for MC-12, four rack units required for MC-12 Balanced).

Environment

Operating Temp:	0° to 35°C (32° to 95°F)
Storage Temp:	-30° to 75°C (-22° to 167°F)
Relative Humidity:	95% maximum without condensation

Remote Control

Hand-held, backlit infrared remote control unit
Batteries: Two AA



Specifications subject to change without notice.

MC-8 Specifications

Audio Inputs and Outputs

<i>Analog Audio Inputs</i>	Eight stereo pairs (RCA) or five stereo pairs and one 5.1-channel analog input or two stereo pairs and two 5.1-channel analog inputs
<i>Digital Audio Inputs</i>	Four S/PDIF coaxial (RCA), four S/PDIF optical (TosLink); coaxial and optical inputs conform to IEC-958, S/PDIF standards
Sample Rates:	44.1, 48, 88.2, 96kHz
Accepts:	16-24 bits PCM audio, Dolby Digital, DTS and DTS-ES discrete data formats
<i>Main Audio Outputs</i>	Eight unbalanced (RCA) and eight balanced (XLR, MC-8 Balanced only) for Front L/R, Center, Subwoofer, Side L/R, Rear L/R
<i>Zone 2 Audio Outputs</i>	One unbalanced stereo pair (RCA, variable output level); One balanced stereo pair (XLR) variable output (MC-8 Balanced only) One coaxial (RCA) S/PDIF output

Performance (Main Zone)

<i>Analog-to-Digital Conversion</i>	24-bit, 96kHz, dual-bit $\Delta\Sigma$ architecture
<i>Digital-to-Analog Conversion</i>	24-bit, 44.1 to 192kHz, multi-bit $\Delta\Sigma$ architecture
<i>Frequency Response</i>	10Hz to 20kHz, +0.05dB/-0.1dB, -0.5dB at 40 kHz, reference 1kHz
<i>THD + Noise</i>	Below 0.008% at 1kHz, maximum output level
<i>Dynamic Range</i>	108dB minimum, 22kHz bandwidth
<i>Signal-to-Noise Ratio</i>	108dB minimum, 22kHz bandwidth
<i>Input Sensitivity</i>	200mVrms (2Vrms for maximum output level) at 0dB input gain
<i>Input Impedance</i>	100k Ω in parallel with 150pF
<i>Output Level</i>	150mVrms typical, 6Vrms maximum (RCA outputs); 300mVrms typ, 12Vrms maximum (XLR outputs, MC-8 Balanced only); maximum value with full-scale input signal and volume at +12dB
<i>Output Impedance</i>	100 Ω in parallel with 150pF (RCA outputs); 50 Ω in parallel with 150pF (XLR outputs, MC-8 Balanced only)

Performance (Zone 2)

<i>Digital-to-Analog Conversion</i>	24-bit, 44.1 to 192kHz, multi-bit $\Delta\Sigma$ architecture
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<i>Frequency Response</i>	10Hz to 20kHz, +0.1dB/-0.25dB, -0.75dB at 40kHz, reference 1kHz
<i>THD + Noise</i>	Below 0.005% at 1kHz, maximum output level
<i>Dynamic Range</i>	103dB minimum, 22kHz bandwidth
<i>Signal-to-Noise Ratio</i>	103dB minimum, 22kHz bandwidth
<i>Input Sensitivity</i>	200mVrms (4Vrms for maximum output level)
<i>Input Impedance</i>	100k Ω in parallel with 150pF
<i>Output Level</i>	200mVrms typical, 4Vrms maximum (RCA outputs); 400mVrms typical, 8Vrms maximum (XLR outputs, Zone 2 only, MC-8 Balanced only); maximum value with full-scale input signal and volume at 0dB
<i>Output Impedance</i>	100 Ω in parallel with 150pF (RCA outputs); 50 Ω in parallel with 150pF (XLR outputs, Zone 2 only, MC-8 Balanced only)

Video Inputs and Outputs

<i>Video Inputs</i>	Five composite (RCA), five S-video, and three component video (RCA)
<i>Video Outputs</i>	Two composite (RCA, one monitor and one Zone2), two S-video (one monitor and one Zone2), and one component (RCA)

Performance (Composite & S-video)

<i>Compatibility</i>	NTSC, PAL, and SECAM
<i>Switching</i>	Active
<i>Output Level</i>	1.0V peak-to-peak
<i>Impedance</i>	75 Ω
<i>Input Return Loss</i>	>40dB
<i>Differential Gain</i>	<0.5%
<i>Differential Phase</i>	<0.5°
<i>Bandwidth</i>	>25MHz
<i>K Factor</i>	<0.3%
<i>Gain</i>	± 0.15 dB
<i>Signal/Noise Ratio</i>	>65dB
<i>Frequency Response</i>	10Hz to 10MHz + 0.1/-0.3dB

Performance (Component Video)

Compatibility	3-channel (Y, Pr, Pb), format-independent
Switching	Passive
Impedance	75Ω
Bandwidth	>150MHz
Insertion Loss	<3dB

Other

Trigger Outputs	One power on/off trigger, one programmable trigger; +12 VDC, 0.5 amps each; detachable screw terminals
RS-232 Serial Input/Output	Two 9-pin D-sub connectors for system control and software upgrades
Power Requirements	90-250 VAC, 50-60Hz, 60W (universal line input), detachable power cord

Dimensions

MC-8:

Height (with feet)	3.81" (97mm) (two rack units without feet)
Width	17.3" (440mm)
Depth	14.85" (377mm)

MC-8 Balanced:

Height (with feet)	5.04" (128mm) (~three rack units without feet)
Width	17.3" (440mm)
Depth	14.85" (377mm)

Weight

MC-8:	17lbs (7.6kg)
MC-8 Balanced:	24lbs (10.7kg)

Rack Mounting

Optional brackets are available for installing either unit in a standard 19-inch equipment rack (two rack units required for MC-8, three rack units required for MC-8 Balanced).

Environment

Operating Temp:	0° to 35°C (32° to 95°F)
Storage Temp:	-30° to 75°C (-22° to 167°F)
Relative Humidity:	95% maximum without condensation

Remote Control

Hand-held, backlit infrared remote control unit
Batteries: Two AA

Specifications subject to change without notice.



MC-4 Specifications

Audio Inputs and Outputs

<i>Analog Audio Inputs</i>	Eight stereo (RCA) or five stereo and one 5.1-channel or two stereo and two 5.1-channel connectors
<i>Digital Audio Inputs</i>	Four S/PDIF coaxial (RCA) and four S/PDIF optical (TosLink) connectors Coaxial and optical input connectors conform to IEC-958, S/PDIF standards Accepts 44.1, 48, 88.2 and 96kHz sample rates Accepts 16-24 bits PCM audio, Dolby Digital, DTS and DTS-ES discrete data formats
<i>Audio Outputs</i>	Eight unbalanced (RCA) connectors for Front L/R, Center, Subwoofer, Side L/R, and Rear L/R

Audio Performance

<i>Analog-to-Digital Conversion</i>	24-bit, 96kHz, dual-bit $\Delta\Sigma$ architecture
<i>Digital-to-Analog Conversion</i>	24-bit, 44.1 to 192kHz, multi-bit $\Delta\Sigma$ architecture
<i>Frequency Response</i>	10Hz to 20kHz, +0.05dB/-0.1dB, -0.5dB at 40 kHz, reference 1kHz
<i>THD + Noise</i>	Below 0.008% at 1kHz, maximum output level
<i>Dynamic Range</i>	108dB minimum, 22kHz bandwidth
<i>Signal-to-Noise Ratio</i>	108dB minimum, 22kHz bandwidth
<i>Input Sensitivity</i>	200mVrms (2Vrms for maximum output level) at 0dB input gain
<i>Input Impedance</i>	100k Ω in parallel with 150pF
<i>Output Level</i>	150mVrms typical, 6Vrms maximum Maximum value with full-scale input signal and volume at +12dB
<i>Output Impedance</i>	100 Ω in parallel with 150pF

Video Inputs and Output Connectors

<i>Video Inputs</i>	Five composite (RCA), five S-video, and three component video (RCA)
<i>Video Outputs</i>	One composite (RCA), one S-video, and one component (RCA)

Composite & S-video Performance

<i>Compatibility</i>	NTSC, PAL, and SECAM
<i>Switching</i>	Active
<i>Output Level</i>	1.0V peak-to-peak
<i>Impedance</i>	75 Ω
<i>Input Return Loss</i>	>40dB
<i>Differential Gain</i>	<0.5%
<i>Differential Phase</i>	<0.5°
<i>Bandwidth</i>	>25MHz
<i>K Factor</i>	<0.3%
<i>Gain</i>	± 0.15 dB
<i>Signal/Noise Ratio</i>	>65dB
<i>Frequency Response</i>	10Hz to 10MHz + 0.1/-0.3dB

Component Video Performance

<i>Compatibility</i>	3-channel (Y, Pr, Pb), format-independent
<i>Switching</i>	Passive
<i>Impedance</i>	75 Ω
<i>Bandwidth</i>	>150MHz
<i>Insertion Loss</i>	<3dB

Other

Trigger Outputs	One power on/off and one programmable connector on detachable screw terminals (+12 VDC, 0.5 amps each)
RS-232 Serial Input/Output	Two 9-pin D-sub connectors
Power Requirements	90-250 VAC, 50-60Hz, 60W (universal line input), detachable power cord
Dimensions	
Height (with feet)	3.81" (97mm)
Width	17.3" (440mm)
Depth	14.85" (377mm)
Weight	17lbs (7.6kg)
Rack Mounting	Optional brackets are available for installing in a standard 19-inch equipment rack (two rack units required for MC-4).
Environment	
Operating Temp:	0° to 35°C (32° to 95°F)
Storage Temp:	-30° to 75°C (-22° to 167°F)
Relative Humidity:	95% maximum without condensation
Remote Control	Hand-held, backlit infrared remote control unit
Batteries:	Two AA

Specifications subject to change without notice.



LX Specifications

Audio Inputs

LX-7	Seven RCA, seven XLR (including 1/4-inch Tip/Ring/Sleeve)
LX-5	Five RCA, five XLR (including 1/4-inch Tip/Ring/Sleeve)

Audio Outputs

LX-7	Seven pairs of heavy-duty, gold-plated binding posts
LX-5	Five pairs of heavy-duty, gold-plated binding posts

Performance

Amplifier performance specifications are identical in INDIVIDUAL and (BRIDGED) Modes, with the exception of Output Power and Minimum Speaker Impedance. (BRIDGED) Mode includes channels 1 & 2 and 3 & 4 only.

Output Power	200W at 8Ω, all channels driven 20Hz to 20kHz 400W at 8Ω, (BRIDGED)
Minimum Speaker Impedance	2Ω, INDIVIDUAL Mode 4Ω, (BRIDGED) Mode
Frequency Response	20Hz to 20kHz ±0.1dB; 10Hz to 100kHz +0.5/-3dB
THD	Below 0.02%, at 200W 8Ω, all channels driven, 20Hz to 20kHz
Signal-to-Noise Ratio	111dB 22kHz bandwidth, balanced inputs 109dB 22kHz bandwidth, unbalanced inputs (Ref 200W at 8Ω)
IM Distortion	Below 0.03% at 200W, 8Ω

Crosstalk	-80dB at 1kHz, minimum
Damping Factor	250 at 20Hz, minimum
Input Sensitivity	2V in for 100W out at 8Ω, balanced inputs 1V in for 100W out at 8Ω, unbalanced inputs
Input Impedance	20kΩ, balanced; 10kΩ, unbalanced
Gain	23dB, balanced; 29dB, unbalanced

Other

Trigger Input	12V DC +/- 10%
Power Requirements	120V 60Hz 20A (Domestic); 230V 50Hz 12.5A (Export)
Dimensions	
Height (with feet)	5.65" (144mm) (3U without feet)
Width	17.3" (440mm)
Depth	19" (483mm)
Weight	
LX-7	56lbs (25.4kg)
LX-5	52lbs (23.6kg)
Rack Mounting	Optional brackets are available for installing either amplifier in a standard 19-inch equipment rack (three rack units required).

Specifications subject to change without notice.



CX Specifications

Audio Inputs

CX-7	Seven RCA, seven XLR
CX-5	Five RCA, five XLR

Audio Outputs

CX-7	Seven pairs of gold-plated binding posts
CX-5	Five pairs of gold-plated binding posts

Performance

Output Power	140W at 8 Ω , all channels driven 20Hz to 20kHz
Minimum Speaker Impedance	2 Ω
Frequency Response	20Hz to 20kHz \pm 0.1dB; 10Hz to 100kHz +0.5/-3dB
THD	Below 0.02% at 140W, 8 Ω all channels driven 20Hz to 20kHz
Signal-to-Noise Ratio	110dB, 22kHz bandwidth, unweighted (Ref 140W at 8 Ω)
IM Distortion	Below 0.03% at 140W, 8 Ω
Crosstalk	-80dB at 1kHz, minimum
Damping Factor	850 at 20Hz, minimum
Input	2V input for 100W output at 8 Ω , balanced inputs

Sensitivity	1V input for 100W output at 8 Ω , unbalanced inputs
Input Impedance	20k Ω , balanced; 10k Ω , unbalanced
Gain	23dB, balanced; 29dB, unbalanced

Other

Trigger Input	12V DC +/- 10%
Power Requirements	120V 60Hz 15A (Domestic); 230V 50Hz 10A (Export)
Dimensions	
Height (with feet)	6.09" (155mm)
Width	17.3" (439mm)
Depth	19.75" (502mm)
Weight	
CX-7	52.8lbs (23.8kg)
CX-5	47.1lbs (21.2kg)
Rack Mounting	Optional brackets are available for installing either amplifier in a standard 19-inch equipment rack (three rack units required).

Specifications subject to change without notice.



RV-8 Specifications

Audio Inputs and Outputs

<i>Analog Audio Inputs</i>	Eight stereo (RCA) or five stereo and one 5.1-channel or two stereo and two 5.1-channel connectors
<i>Digital Audio Inputs</i>	Four S/PDIF coaxial (RCA) and four S/PDIF optical (TosLink) connectors; coaxial and optical input connectors conform to IEC-958, S/PDIF standards
<i>Sample Rates:</i>	44.1, 48, 88.2, 96kHz
<i>Accepts:</i>	16-24 bits PCM audio, Dolby Digital, DTS, DTS-ES and DTS-96k discrete data formats
<i>Main Audio Outputs</i>	Eight Unbalanced (RCA) connectors for Front L/R, Center, Sub, Side L/R and Rear L/R
<i>Zone 2 Audio Outputs</i>	One Unbalanced (RCA, variable output level) stereo connector, One Unbalanced (RCA, fixed output level) stereo connector, One S/PDIF coaxial (RCA) connector and one optical (Toslink) connector
<i>Zone 3 Audio Outputs</i>	One Stereo (RCA, variable output level) connector
<i>Headphone</i>	One Stereo (1/4-inch phone) connector
<i>Amplifier</i>	Seven Channels, two channels assignable to Zone 2 or Zone 3

Performance (Main Zone)

<i>Analog-to-Digital Conversion</i>	24-bit, 44.1 to 192kHz, multi-bit $\Delta\Sigma$ architecture
<i>Digital-to-Analog Conversion</i>	24-bit, 44.1 to 192kHz, multi-bit $\Delta\Sigma$ architecture
<i>Frequency Response*</i>	20Hz to 20kHz, +0.1dB/-0.2dB, -0.5dB at 10Hz, -0.5dB at 40kHz, reference 1kHz
<i>THD + Noise*</i>	Below 0.02%, 20Hz to 20kHz, 140Wrms all channels driven
<i>Dynamic Range*</i>	105dB minimum, 22kHz bandwidth, "A" weighted 102dB minimum, 22kHz bandwidth, unweighted
<i>Signal-to-Noise Ratio*</i>	105dB minimum, 22kHz bandwidth, "A" weighted 102dB minimum, 22kHz bandwidth, unweighted
<i>Input Sensitivity</i>	200mVrms (2Vrms for maximum output level) at 0dB input gain
<i>Input Impedance</i>	100k Ω in parallel with 150pF
<i>Preamp Output Level</i>	150mVrms typical, 3.5Vrms maximum (RCA connectors) Maximum value with full-scale input signal and volume at +12dB
<i>Preamp Output Impedance</i>	500 Ω in parallel with 150pF (RCA connectors)

Performance (Zone 2 and Zone 3)

<i>Analog-to-Digital Conversion</i>	24-bit, 44.1 to 192kHz, multi-bit $\Delta\Sigma$ architecture (Zone 2 only)
<i>Digital-to-Analog Conversion</i>	24-bit, 44.1 to 192kHz, multi-bit $\Delta\Sigma$ architecture
<i>Frequency Response</i>	10Hz to 20kHz, +0.1dB/-0.25dB, -0.75dB at 40kHz, reference 1kHz
<i>THD + Noise</i>	Below 0.005% at 1kHz, (1Vrms output level)

<i>Dynamic Range</i>	102dB minimum, 22kHz bandwidth
<i>Signal-to-Noise Ratio</i>	102dB minimum, 22kHz bandwidth
<i>Input Sensitivity</i>	200mVrms (4Vrms for maximum output level)
<i>Input Impedance</i>	100k Ω in parallel with 150pF
<i>Preamp Output Level</i>	200mVrms typical, 4Vrms maximum; maximum value with full-scale input signal and volume at 0dB
<i>Preamp Output Impedance</i>	300 Ω in parallel with 150pF

Video Inputs and Outputs

<i>Video Inputs</i>	Composite (RCA), five S-video and three component video (RCA)
<i>Video Outputs</i>	Five Composite (RCA), (two monitor, two Zone2, one Zone3), Four S-video (two monitor, two Zone2) and one component (RCA)

Performance (Composite & S-video)

<i>Compatibility</i>	NTSC, PAL and SECAM
<i>Switching</i>	Active
<i>Output Level</i>	1.0V peak-to-peak
<i>Impedance</i>	75 Ω
<i>Input Return Loss</i>	>40dB
<i>Differential Gain</i>	<0.5%
<i>Differential Phase</i>	<0.5°
<i>Bandwidth</i>	>25MHz
<i>K Factor</i>	<0.3%
<i>Gain</i>	± 0.15 dB
<i>Signal-to-Noise Ratio</i>	>65dB
<i>Frequency Response</i>	10Hz to 10MHz + 0.1/-0.3dB

Performance (Component Video)

<i>Compatibility</i>	3-Channel (Y/Pb/Pr), format-independent
<i>Switching</i>	Passive
<i>Impedance</i>	75 Ω
<i>Bandwidth</i>	>150MHz
<i>Insertion Loss</i>	<3dB
<i>Video Converter</i>	NTSC, PAL, SECAM to Y/Pb/Pr

Other

Trigger Outputs	One Power on/off and one programmable connector on detachable screw terminals (+12 VDC, 0.5 amps each)
RS-232 Serial Input/Output	Two 9-pin D-sub connectors
Power Requirements	120/230 VAC, 50-60Hz, 1300W (universal line input), detachable power cord
Dimensions & Weight	
Height (with feet)	7.76 inches (197.1mm)
Width	17.3 inches (440mm)
Depth	21.2 inches (538.48mm)
Weight	65lb (29.48kg)
Rack Mounting	Optional brackets are available for installation in a standard 19-inch equipment rack (four rack units required)
Environment	Operating Temp: 0° to 35°C (32° to 95°F) Storage Temp: -30° to 75°C (-22° to 167°F) Relative Humidity: 95% maximum without condensation
Remote Control	Hand-held, backlit infrared remote control unit, preprogrammed & learning Batteries: Requires four AAA batteries (alkaline batteries recommended)

Performance (FM Tuner)

Tuning Range	64MHz to 108MHz
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Usable Sensitivity	<4uV, 1.6uV typical
Selectivity	>87dbmV, 93dbmV typical
Frequency Response	50Hz to 16kHz, +0.5dB/-2.0dB
THD + Noise	Below 0.4% at 1 kHz (stereo)
Signal-to-Noise Ratio	50dB minimum at 60dBmV (stereo, A-Wtg)
Image Rejection	>50dB, >60dB typical
AM Suppression	>45dB, >55dB typical

Performance (AM Tuner)

Tuning Range	520 to 1720kHz
Usable Sensitivity	<8uV, typ. 4uV
THD + Noise	<0.56%, 0.32% typical (1kHz, 60dBmV, 30% mod)
Wideband AGC	>80dBmV

Compatible Amplifier Connectors

Banana Plugs	Standard 0.75-inch plugs
Space Connectors	Size 10-12 gauge
Bare Wire	Up to 10 gauge bare wire



Specifications subject to change without notice.



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