

lexicon

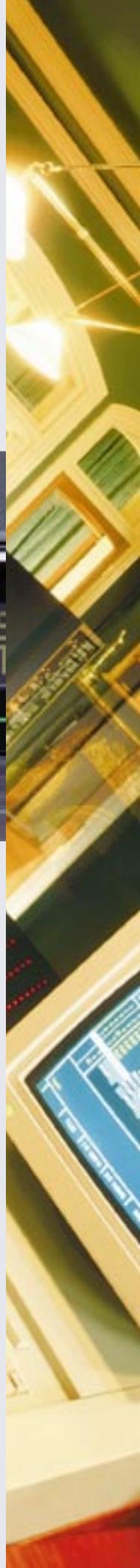
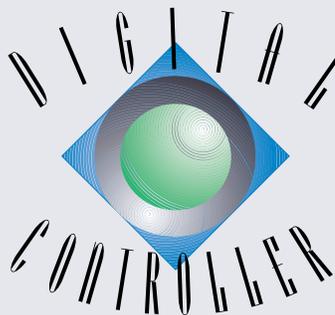


S E R I E S



DC-1

SURROUND





THE DC-1 DIGITAL CONTROLLER AND LEXICON'S PROFESSIONAL HERITAGE

With the introduction of the DC Series of digital controller systems, Lexicon takes the science and art of home theater another significant step into the future.

The wealth of features that characterize the DC Series are the result of careful research, providing you with the facilities and capabilities you always wanted – and, of course, the sought-after "Lexicon Sound".

That *Sound* is no myth: it's a legend. When you purchase a Lexicon DC Series product, you're buying more than the most sophisticated digital surround system controller on the market. You're investing in a heritage that stretches back to the very beginnings of digital audio – because Lexicon was there.

Lexicon introduced the first commercially-available digital audio system in 1971. Since then we have continued to lead the way, developing new and increasingly acclaimed digital audio products for the world's top recording studios, engineers, broadcasters and musicians. Lexicon products have won many prestigious awards,

including an *Emmy*™ and four *TEC Awards* – professional audio's highest accolades.

Over nine out of ten commercially-released recordings have employed a Lexicon digital signal processor in their production, whatever the musical genre. Lexicon systems subtly complement natural acoustics in classical recordings, add unique and impressive effects to popular music and movie soundtracks, and even shape the acoustics of some of the world's top concert-halls.

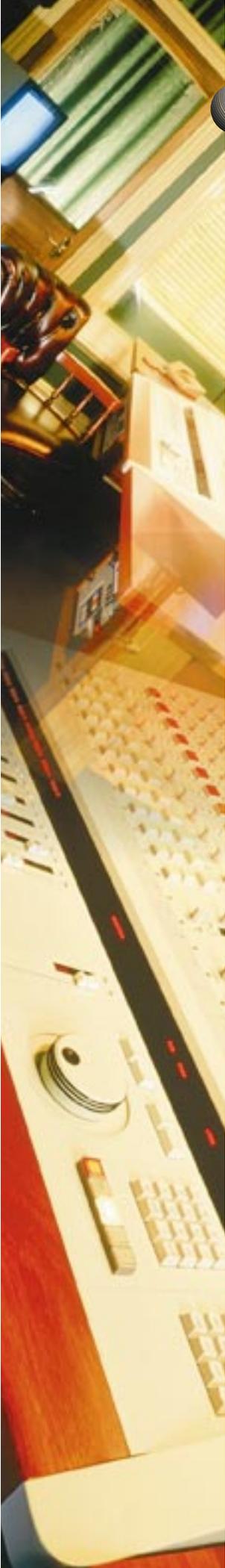
Whether you're listening to your favorite CD; a public radio broadcast of a leading orchestra from a world-famous concert-hall; or a stunning surround-sound TV or movie soundtrack, the chances are that Lexicon is there.

We've been in the business for 25 years, and we know how important our customers and suppliers are. We believe in partnerships, and we like to think that you'll continue to enjoy our products for life – once you've experienced the *Sound* of Lexicon.

Now, that Sound is yours...



The DC-1 is available in three versions. The base version has ten modes, including ambience extraction, acoustic environment simulation and digital Pro Logic with Auto Azimuth. The THX version has 13 modes, adding two THX modes, digital program EQ and loudness contour, stereo ambience extraction, 7-channel movie surround and more. And finally, the Dolby Digital version offers 15 modes, (including Dolby Digital and THX enhanced modes), dialog enhancement, 'late night' compression, spectral balance 'tilt EQ' and more.



“ANY SUFFICIENTLY ADVANCED TECHNOLOGY IS INDISTINGUISHABLE FROM MAGIC...”

Arthur C. Clarke probably wasn't thinking of home theater systems when he wrote those words – but we were. Because there's nothing quite like the magic of music and sound – whether it's a live broadcast from a concert hall, a movie soundtrack, or the latest album.

Now the magic of Lexicon's digital signal processing technology can bring you it all: now you, at home, can become part of a musical performance or a great film.

The superb DC-1 line of digital controllers combines Lexicon's proven digital signal processing capabilities, known to professionals the world over, with the latest in home theater: highly-accurate versions of *Dolby® Pro Logic* and *Dolby® Digital* surround decoding with all the enhancements of *Lucasfilm Home THX® Cinema*.

The result is a system that draws you, the listener, more deeply than ever before into a movie or musical event.

In the DC-1, all signal processing, including filters, EQ and crossovers, is performed in the digital domain, while the true 20-bit D/A converters out-perform exotic stand-alone devices.

Even the volume control is unique: a digital rotary shaft encoder offers 1dB steps when moved slowly, but gives a rapid response to rapid movement, with precise inter-channel matching at all levels. All this enables the DC-1 to set a new standard for multi-channel audio reproduction.

But behind the sophistication of Lexicon technology, there is simplicity. The DC-1 delivers a level of control flexibility and sheer audio quality that will satisfy the most critical or demanding

listener: yet it is as uncomplicated to operate as a coffee machine and as elegant as a piece of fine furniture.

According to the features and facilities you need, three DC-1 models are available, and each can be upgraded easily to the model above – see the caption opposite.



Lexicon has won many awards – including an Emmy and an impressive five TEC Awards, the pro-audio industry's highest accolade.





Total Digital Control

The DC-1 is more than a surround preamp; more, even, than a superb D/A converter – although it performs these functions. The DC-1 is a signal processing computer that can be custom-programmed for any specific system. In addition, the DC-1 puts you in control of your entire home theater environment, from playing digital disks to dubbing a videotape – even controlling the volume of a system in another room. And the simple, ergonomically-designed remote unit provides complete control over every aspect of operation.

The DC-1's remote is as intuitive to use as it is attractive. Frequently-performed operations are totally straightforward – inputs are selected directly with dedicated buttons, and effects can be stepped through with up/down controls, for example – while the more advanced functions are easily accessible via a simple on-screen menu structure and dedicated menu button controls.



The DC-1 incorporates a full audio/video switcher: the eight analog inputs can be programmed for any digital and video source. The four digital inputs can be assigned to any input combination. You can even configure the DC-1 as a stand-alone D/A conversion system.

Any input can be defined as a tape monitor, or blocked from the second zone output. In addition, each input can be configured to load any mode automatically and enable a 12v trigger for control of external devices, such as projection screens, lighting controllers or even drapes. Power control interconnects allow you to switch the entire system on or off with the press of a single button.

A second level of control is also available from the remote. The Accessory button works like a "shift key", accessing a whole new layer of control features. Adjust treble and bass settings with the up/down buttons, password-protect your settings, or assign your most-used effects to the input buttons and recall them instantly. You can also put the unit into a known state.



The rear panel of the DC-1 reveals a wealth of facilities, including full audio/video switching for five inputs (including three S-video) plus three additional audio inputs, and multiple coax and optical digital (S/PDIF) connectors. On the output side, there are both monitor and record video and S outs, the monitor output including system menu video overlays if desired;



All too often, a plethora of features results in compromised audio quality, because of all the additional circuitry in the audio path. But in the DC-1 all processing, switching and routing is performed in the digital domain. There's no compromise in audio quality, and no limit to control flexibility – placing the DC-1 firmly and significantly in a class of its own.

The Audio Experience

To recreate the magic of being at a live musical performance, the DC-1 draws upon recent studies of concert hall acoustics and the nature of reverberation and applies their findings to the home listening room, extracting ambience from a recording or creating it where necessary.

For recordings which faithfully capture the original acoustic environment, ambience extracting modes are provided. The *Panorama* mode achieves a remarkably accurate recreation of an acoustic environment by canceling inter-aural crosstalk. Alternatively, the *Music Logic* mode is ideal for extracting the enveloping effects of studio-produced pop and rock recordings.

Often, however, recordings do not capture ambience accurately. Here, *Nightclub*, *Concert Hall*, *Church* and *Cathedral* effects

employ Lexicon's proprietary, professional-audio specification DSP engine and reverberation algorithms to transform your listening room into a new acoustic space, allowing you to choose an audio environment to suit your music or your mood – concert-hall realism; an intimate club atmosphere; or spacious churches and cathedrals.

Soundtracks That Surround

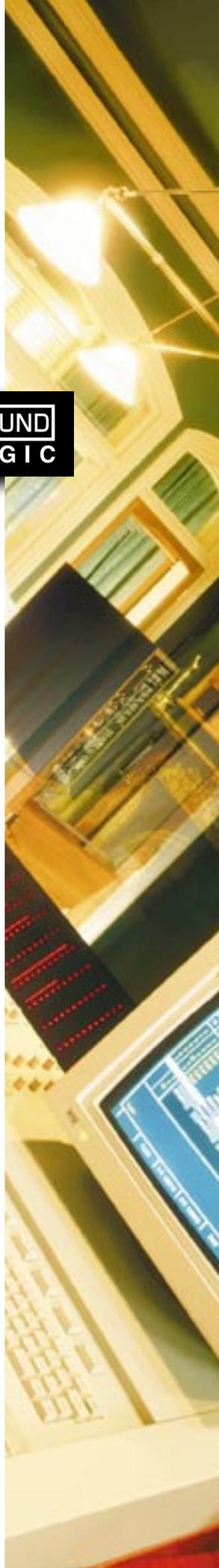
Home Theater applications require a completely different approach to that required for listening to music, yet Lexicon's software-based technology permits the DC-1 successfully to perform both tasks.

For movies encoded in *Dolby Surround*, all models of the DC-1 include Lexicon's patented, fully-digital, *Dolby Pro Logic Surround* decoder.

The decoder incorporates Lexicon's unique *Auto-Azimuth™* circuitry, detecting and analyzing the two most common audio errors in current video releases: interchannel balance and phase. Both such anomalies in the source material are automatically corrected – and Lexicon is the only manufacturer to offer interchannel phase correction. As a result, our decoding system is recognized as the most accurate available.



independent outputs for recording and for a second room; and a full complement of main front, side and rear line level outputs plus center and subwoofer feeds. A DIN connector provides 12v triggers to control of external devices such as TVs, projection screens or lighting controllers, and a facility is provided for direct infra-red remote control input.



DC-1 Options For Ultimate Upgradeability

result, our decoding system is recognized as the most accurate available.

The DC-1's unique, expandable design means that whichever model you purchase, you can upgrade later on. All units include the capabilities already discussed, plus several additional features. These include expanding mono film soundtracks with *Mono Logic*; *TV Matrix* for viewing regular TV programs; playing background music in *Party* mode; and direct 2-channel stereo.



THX: Maximum Accuracy

The *THX* and *Dolby® Digital* models of the DC-1 provide all the capabilities of the basic model, plus Lexicon's special implementation of the *Lucasfilm Home THX Cinema* processing system, providing maximum accuracy in home film presentation – clear dialog, precise sound localization, enveloping surround-sound, smooth frequency response and wide dynamic range.

Several additional modes are also provided. These include a unique 7-channel stereo surround mode, generating seven channels of surround from a "4-2-4" matrix-encoded soundtrack without degrading audio quality. Listeners have mistaken it for *Dolby® Digital* – and this mode is ideal for bringing new life to existing *Dolby Surround*-encoded soundtracks.

Music Surround adds enhancement to stereo sound sources, offering *true stereo* ambience extraction, for a significantly improved listening experience on any material, while psychoacoustically correct loudness compensation ensures that you hear a truly balanced frequency range, even at low levels.

Useful, no-compromise digital equalization capabilities are also included. The *THX* model offers shelving ± 6 dB bass and treble controls, while the *Dolby® Digital* version adds

a spectral balance "tilt" control around 1 kHz, which gently adds bass while reducing treble, or vice-versa.

An effective time alignment capability delays signals for optimum compensation for loudspeaker placement. Basic and *THX* models include center-channel delay as well as standard rear-channel delay, while the *Dolby® Digital* version features a delay for every channel for perfect time alignment of every speaker to the primary listening position.

Late night compression allows you to hear dialog — without action sequences waking up the neighbors. Dialog enhancement allows the tailoring of dialog levels to suit your needs at any playback level.

Tomorrow's Surround Sound



Dolby® Digital is the first major upgrade to sound since the introduction of *Pro Logic* a decade ago. Providing up to six discrete (not matrixed) digital audio channels – full-range left, center, right and two surround plus a bass effects channel – *Dolby® Digital* introduces a whole new world of all-digital realism for the home theater environment, with true stereo and surround effects for a dramatically expanded sense of depth, surround image and overall realism. The DC-1's *Dolby® Digital* feature set also provides for a *THX Enhanced* mode.

Future-Ready

Thanks to Lexicon's Digital Discrete Bus, the DC-1 is truly future-ready; *Dolby® Digital* decoder circuitry is on its own plug-in daughter card, and future decoders for other systems may be developed to install in the same way.

MAIN MENU

EFFECT ADJUST
EQUALIZATION
DISPLAY ADJUST
SETUP

ON-SCREEN DISPLAY

STATUS 2 SECONDS
POSITION TOP
FORMAT NTSC
COLOR ENABLED

SPEAKER CONFIG MENU

FRONT HPF 80Hz
CENTER LARGE
SIDES DIPOLE
REARS TWO
SUBWFR YES

The most sophisticated parameters of the DC-1 can be set up with ease, thanks to a simple on-screen menu system. Menus are optionally superimposed on video from the Monitor output, and are controlled with dedicated buttons on the remote.



DC-1 SPECIFICATIONS

| | | | |
|--|---|--------------------------------|---|
| Inputs | | THD+Noise: | Less than 0.01% @1kHz, maximum output level |
| Audio: | 8 stereo (RCA) pairs | Dynamic Range: | 90dB minimum, 22kHz band- width, Ref. 1kHz@ -60dB below maximum output level |
| Min. Input Level: | 500 mVrms for maximum output 200 mVrms for Dolby level (Input Gain +12dB) | Signal to Noise Ratio: | 90dB minimum, 22kHz band- width, Ref. 1kHz at max. O/P level |
| Input Impedance: | 100 k Ω in parallel with 150pF | Physical Specifications | |
| Video: | 5 composite (RCA), 3 S-video, NTSC M, PAL standards | Power Requirements: | 90-250 VAC, 50-60Hz 30Watts (universal input) IEC detachable power cord provided per country of destination |
| Digital: | 4: 2 coaxial (RCA), 2 optical (TosLink), conforms to S/PDIF standard, 44.1kHz sample rate | Dimensions: | 17.3" W x 11.5" D x 3.6" H (440 x 292 x 92mm) 19.0" W x 11.5" D x 3.5" H (483 x 292 x 89mm) with rack mounting brackets |
| Outputs | | Weight: | 10.5 lbs. (4.8kg) |
| Audio: | 8 outputs: Left, Center, Right, L&R Sides, L&R Rears, Subwoofer (RCA) | Environment | |
| Max. Output Level: | minimum 6 vrms (System Volume = +12dB) | Operating Temp.: | 32° to 95°F (0° to 35°C) |
| Output Impedance: | 100 Ω in parallel with 150pF | Storage Temp.: | -22° to 167°F (-30° to 75°C) |
| Video: | 2 composite (RCA), 3 S-video, NTSC M, PAL standards | Relative Humidity: | 95% max without condensation |
| Output Level: | 1v p-p | Remote Control | Hand-held, battery-powered infra-red remote control unit, uses 2 AAA batteries |
| Impedance: | 75 Ω | | |
| <i>Video and audio input and output connectors are gold-plated throughout.</i> | | | |
| D/A Conversion: | 20-bit Delta-Sigma | | |
| General Audio Specifications | | | |
| Frequency Response: 10 Hz-20 kHz, +0.5dB, Ref. 1kHz | | | |

Specifications subject to change without notice. Trademarks and registered trademarks are the property of their respective owners.

NT SERIES AMPLIFIERS: POWER, CONTROL AND FLEXIBILITY



Let's face it: amplifiers that were built in the days before modern home theater systems – before THX, Dolby® Digital multichannel digital audio, sub-bass effects tracks and extreme dynamic range – often simply can't cope with the demands placed upon them by modern program material. And the problem is only going to get worse, as A/V sound sources improve.

That's why we created the NT Series – a line of power amplifiers specially designed for today's home audio installations. The THX-Approved NT Series offers the necessary combination of clarity and sheer power required to re-create film soundtrack dynamics faithfully.

NT Series amplifiers have the power and headroom required to handle the biggest surprises an action/adventure movie soundtrack – or the *1812 Overture* – can throw at you. Yet these amplifiers are among the quietest and

The Model 225: one of the new line of Lexicon NT Series power amplifiers – with the stamina and quality you need for true home theater.



cleanest available. Their unique Quad-Complementary output stage out-performs even Class A designs, but with improved efficiency and reliability.

Five models are available: the 212, 312 and 412 with two, three and four channels of 120W amplification respectively; the 225 with two 250W channels; and the awesome 500W (800W into 4 Ω) mono Model 501.

Ask your supplier for more details.





LEXICON. DIGITAL AUDIO EXPERTS FOR TWENTY-FIVE YEARS



The unique, award-winning technology utilized in Lexicon's DC Series of Home Theater products is identical to that found in Lexicon's professional products. The newly-developed Delta-Sigma analog-to-digital and digital-to-analog converters featured in the DC-1 challenge the performance of those installed in Lexicon's premier studio digital signal processing systems.

At the heart of the DC-1's ability to re-create an acoustic environment with the utmost fidelity is the proprietary *LexiChip II* – a second-generation large-scale integrated DSP chip that is unmatched in the professional audio industry.

It's only natural that Lexicon, maker of the first digital audio product, with 25 years of experience in creating the world's most popular digital signal processing systems in the professional audio industry, should also be the premier manufacturer of consumer audio products offering the very latest in superb digital audio reproduction.

Modern home theater surround-sound and audio enhancement processes require the same sophisticated digital signal processing as is utilized in recording studio reverberation and effects systems.

The DC-1 shares the source of its processing platform, reverberation and spatialization algorithms with Lexicon's finest studio units. The technology that enables the *Lexicon Acoustic Reinforcement and Enhancement System (LARES)*

to tailor and complement the sound of classic concert halls all over the world is the same technology that, via the DC-1, can tailor your own home audio system to re-create the sound and feeling of a fine natural acoustic environment. And the chances are very high that your favorite

albums, movies and even concert broadcasts employ Lexicon professional audio technology, such as the *Opus* digital audio workstation shown above, which enables audio engineers to compose complex sound balances for record, film and broadcast

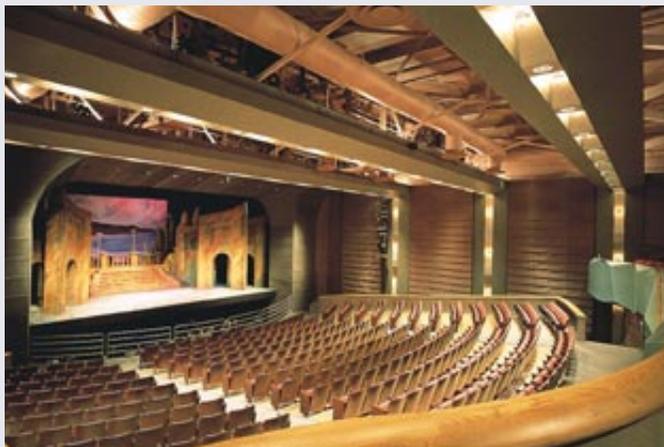


The Lexicon Opus was one of the first Digital Audio Workstations available, with the ability to record, mix and assemble several simultaneous digital audio tracks into a composite mix of the highest quality – without the use of tape.

applications entirely in the digital domain and without the use of recording tape.

Doesn't it make sense that a company as deeply involved as Lexicon in the recording and production of music and soundtracks should also be the best choice in home audio systems that seek to reproduce the sound and experience of such recordings?

If any audio manufacturer is able to offer you the equipment to re-create the feeling of being there when the producer said "Yes" to the replay of the master take, it must be Lexicon.



Lexicon's LARES system is used in concert halls, cathedrals and other performance venues to tailor the acoustics of the environment – and Lexicon Home Theater products can faithfully re-create those same environments. (Photo of the Tsai Performance Center, Boston, MA, © Steve Rosenthal.)



HEARD IN ALL THE RIGHT PLACES

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