

Lexicon Model 97

# Super Prime Time™

The programmable audio processor



Space photo courtesy of NASA

Lexicon, Inc., 60 Turner Street, Waltham, MA 02154/(617) 891-6790

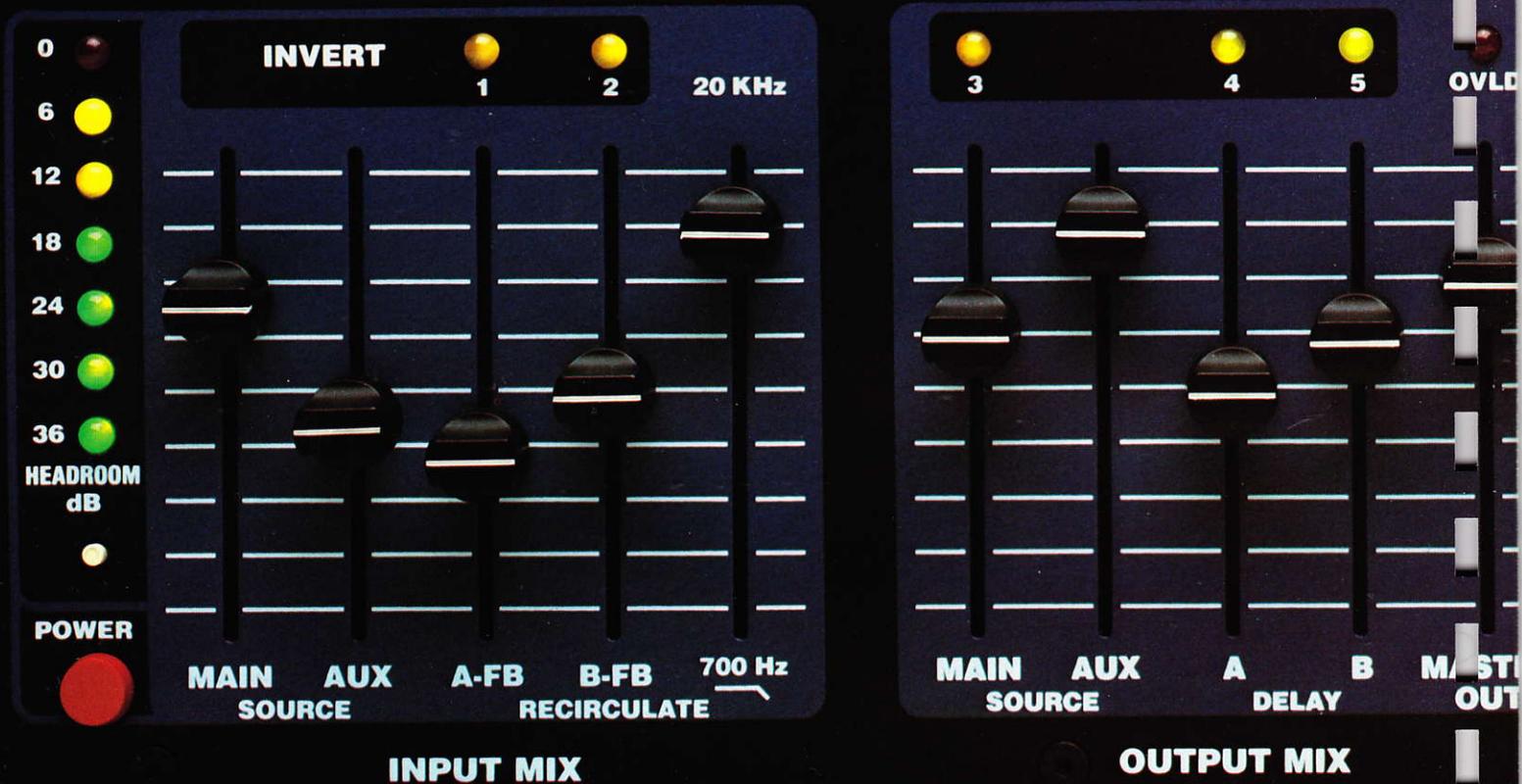
**lexicon**

# Super Prime Time

The audio processor that remembers

From Lexicon, another major advancement  
in digital audio equipment

**lexicon** programmable  
digital delay processor



## Stores and recalls complete effects

You can store **all** your front-panel settings — just with a touch of a button! And recall the settings as needed from internal memory. Super Prime Time is designed with 40 storage registers, 32 are user programmable and 8 are factory preset . . . all recallable as needed.

## Eight built-in effects

Flanging  
Resonant Flanging  
Doubling  
Tripling  
Chorusing  
Slap echo  
Short echo  
Long echo

## Controllable sequencing

You can recall stored settings in any sequence, to rearrange or group different effects to accommodate specific requirements.

Extremely versatile. Super Prime Time holds programs in memory for months without external power.

## Tape-transferrable programs

You can create your own library of an unlimited number of effects. You simply download completed effects into a cassette or any other tape media for external storage. The programs may be re-entered anytime on the same or a different Super Prime Time. The 32-register capacity of the system is such that, typically, several users can have their programs in memory at the same time.

With the Model 97 Super Prime Time — **you can create . . . store . . . and recall the desired effects which you have programmed for any given piece of music.** You can input any combination of effects, and have the ability to recall them in any sequence.

For the performer, Super Prime Time opens an exciting new world of virtually unlimited musical enhancements . . . up to 32 special effects recallable at any time via the front panel or at the touch of a footswitch. They are yours to command whenever and wherever you perform

. . . in the studio **or on the stage.**

For the studio, this remarkable system provides literally an entire rack-full of equipment in a single, compact audio processor. The Model 97 is engineered to give you the superb audio performance and trouble-free reliability that have made Lexicon the standard for professionals the world over.

Super Prime Time . . . the audio processor that remembers. Another major advance from Lexicon.



#### Footswitch control

Available for remote control of Super Prime Time by performers. The footswitch provides for register advance, infinite repeat, and system bypass functions.

#### 20 Hz - 20 kHz bandwidth

Full audio bandwidth at all delay times. No decrease in bandwidth with increases in delay.

#### Dynamic Recirculation Control

A Lexicon exclusive. Makes it possible to achieve long delay time feedback effects without undesirable "layering" or overlap with the next input signal.

#### Operating versatility

Two separate inputs provide versatile input mixing and allow for cross-connection of two delay lines for stereo or for complex processing. Separate mix and delay outputs are provided.

VCO inputs permit foot-pedal control of delay sweep and rate. VCO output permits modulation of a second delay line with the Super Prime Time or cross-coupling of two systems for stereo effects.

#### Other highlights

Super Prime Time is designed to provide up to 1.92 seconds of full bandwidth delay. The system features 90 dB dynamic range with wide sweep delay range. Two delay taps provide individually selectable delay with 3 digit display resolution of each setting. Sine, square, and envelope modulation. 10,000:1 low-frequency modulation range.

# Easy serviceability — another Super Prime Time plus

Diagnostic software permits field verification of system operation. Modular construction simplifies field service. The system is Lexicon-engineered throughout for trouble-free service life.

## Specifications

### Frequency Response:

20 Hz - 20 kHz +0, -1 dB @ X1 clock (Delay Sweep)  
20 Hz - 20 kHz +0, -3 dB any Delay Sweep setting

### Dynamic Range:

Better than 90 dB, 20 Hz - 20 kHz noise bandwidth

### THD plus Noise:

0.03% typical, .05% maximum below 5 kHz @ X1 clock (Xtal clock)  
0.3% maximum, 20 Hz - 20 kHz @ X1 clock

### Delay Range:

200 microseconds to 480 milliseconds @ full 20 kHz bandwidth  
1.92 seconds with Memory Extension Option @ full bandwidth  
Standard: 480 milliseconds  
Option #1: 960 milliseconds  
Option #2: 1.92 seconds

### Delay Modulation:

Adjustable from none to 3:1 sweep of delay time  
Modulation rate adjustable from .05 Hz (20 seconds for full sweep) to 500 Hz in two ranges.

### LFO Shape:

Continuous adjustment (blend) is available between sine wave and envelope functions, or between square wave and envelope functions.

### Dynamic Recirculation Control:

VCA control of feedback makes possible long delay time recirculation effects without undesirable layering or overlap

### Factory Presets:

8 effects programs — permanently stored

### User Presets:

32 effects programs (non-volatile storage)  
Unlimited storage via standard audio tape record and playback of register contents

### Headroom Indicator:

7 level LED displays, input level relative to max level "0" dB in 6 dB steps

### Input Mixer:

Slide controls for Main Input, Auxiliary Input, 'A' Delay Feedback, 'B' Delay Feedback levels as well as Feedback Lowpass Filter adjustable from 600 Hz to 20 kHz cutoff

### Output Mixer:

Slide controls for Main Input, Auxiliary Input, 'A' Delay, 'B' Delay, and Master Output Level

### Overload Light:

Red LED indicates Master Output overload

### VCO Controls:

Rotary controls for Delay Sweep, Depth, Waveform and Rate  
Pushbuttons for Rate X100, Sine/Square Modulation, XTAL/VCO

### Delay Selection:

Rotary controls for Delay Taps 'A' and 'B'  
Large amber 7-segment LED displays  
Display Factors both Delay Select and Delay Sweep controls for accurate 3-digit resolution

### Register Storage:

Pushbutton control of store and recall

### Function Switches:

8 pushbutton switches for actuation of VCA, Bypass, Infinite Repeat, Tape or register store and recall, Manual (front panel) mode, and Phase Invert of 'A' and 'B' Delay Taps and Main Input, and clear

### Input Connectors:

Main and Auxiliary Inputs: XLR-3 Female in parallel with tip-ring-sleeve 1/4" phone jacks

### Input Impedance:

> 50K ohm in parallel with 300 pf for Main Input  
> 20K ohm in parallel with 150 pf for Auxiliary Input  
Both inputs may be used balanced or unbalanced

### Input Levels:

0 dBV to +19 dBV (-20 dBV to 0 dBV with gain switch on rear panel) for Main Input  
0 dBV to +19 dBV for Auxiliary Input

### Output Connectors:

XLR-3 Male in parallel with tip-ring-sleeve 1/4" phone jack for Master Output  
1/4" phone jacks for Input Mix, Delay 'A', Delay 'B' outputs

### Output Impedance:

200 ohm Balanced or Unbalanced for Master Output  
600 ohm Unbalanced for Input Mix, Delay 'A', Delay 'B' outputs

### Output Levels:

+22 dBV for Master Output when driving balanced loads 600 ohms or greater  
+16 dBV for Master Output when driving unbalanced loads 600 ohms or greater  
+16 dBV for Input Mix, Delay 'A', Delay 'B' outputs when driving 2K ohm loads or greater

### Input/Output coupling:

direct balanced electronic (Main)

### Remote Connectors:

1/4" phone jacks at rear for Delay Sweep, Modulation Input, Modulation (LFO) Output, Rate, Bypass, Infinite Repeat, Step Program, Tape (store) Input and Output

### Power:

100/120/220/240 volts (switchable inside chassis)  
50/60 Hz, 50 watts maximum  
Standard IEC power connector and cord  
Mains fused: 1/4" domestic, 20mm export  
Secondaries fused with European 20mm fuses  
RFI power line filter standard  
All jacks RFI filtered

### Backup power:

NiCad 3.6 v automatic recharging

### Size:

Standard 19" rack mount, 5 1/4" high by 13 1/2" deep (483 x 133 x 343mm)

### Weight:

17.0 lbs (7.7 kg)  
Shipping 20 lbs. (9.1 kg)

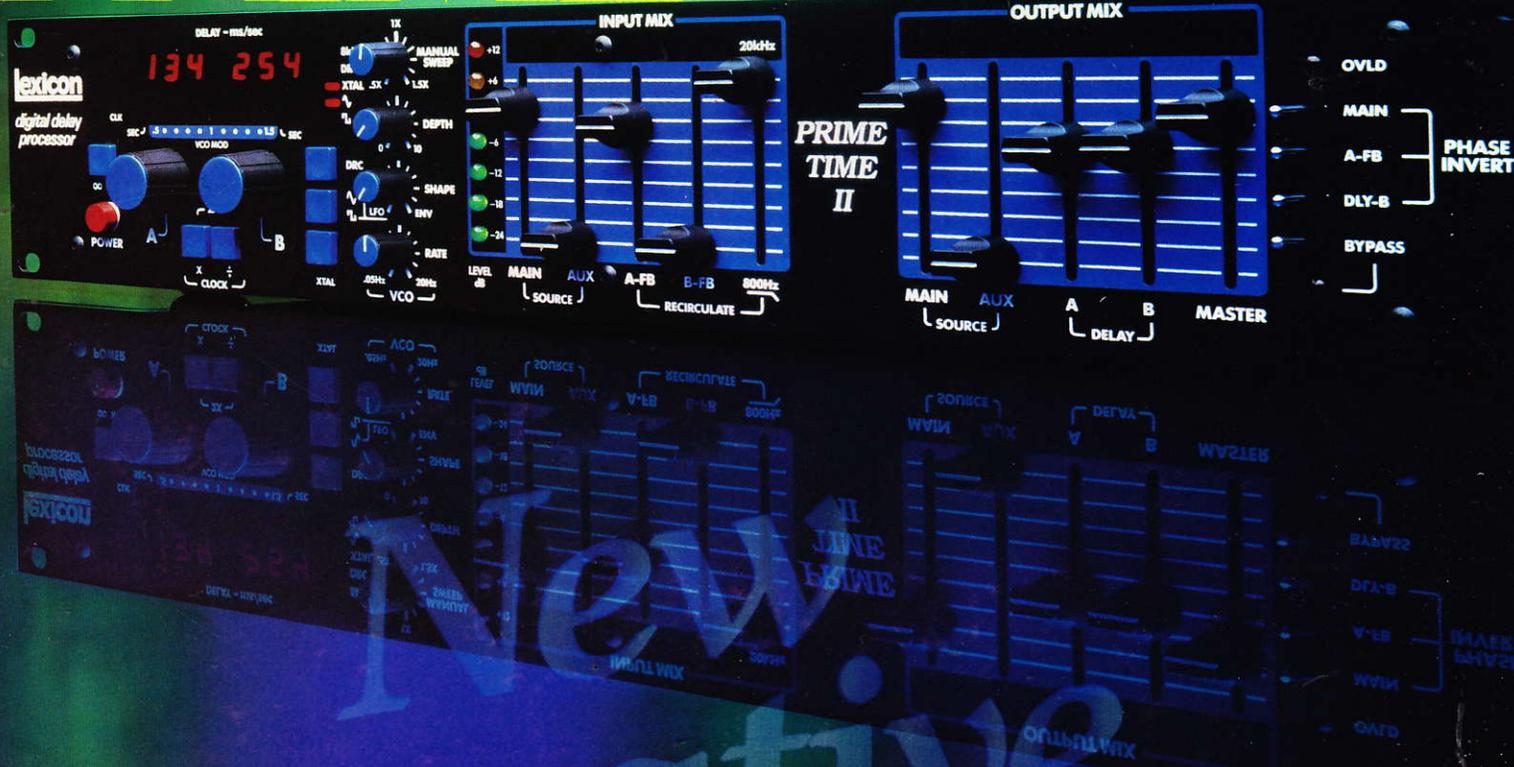
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**Lexicon**

# PRIME TIME III



New  
creative  
worlds

# The legacy of Prime Time

New creative worlds of musical adventure can be discovered through the magic of Prime Time II. The successor to the most popular digital delay ever, Prime Time II brings a new level of quality, reliability, and versatility to the world's favorite digital delay design.

## Superb Audio Quality

The Prime Time II (Model 95) meets the highest standards in performance for studio delay lines, incorporating high-resolution analog-to-digital converters and carefully optimized audio circuitry for clarity and wide dynamic range. The Model 95 maintains wide audio bandwidths even out to very long delay times (up to 3.84 seconds of delay at 16-kHz bandwidth), and a two-stage limiter circuit prevents transient overloads, allowing greater optimization of signal-to-noise ratio. For clean, clear audio delay, free from undesired artifacts, the Model 95 is unsurpassed.

## Rugged and Reliable

Prime Time II has been engineered by one of the most experienced design teams in digital processing, with the



requirements of modern professional touring and recording in mind. Conservative component rating, low power dissipation, and nearly connectorless construction, all contribute to the inherent reliability of the Model 95. Ten years of experience with thousands of professional installations show in careful attention to all aspects of mechanical and electronic design — your insurance against disruptive field failures.

### Two Delay Outputs

Two independently adjusted delay outputs, each with digital display and separate blend and recirculation controls, can be routed individually or combined in a virtually endless number of ways to create a vast array of highly dimensional spatial enhancements, subtle shadings, and special effects such as bouncing echoes, etc. Delay time for each output is adjusted by a continuous rotary control. Resolution in milliseconds varies as a function of the delay range, allowing extremely fine control (to 1/3 of a millisecond!) of short delays used for flanging, double tracking, image localization, etc., and appropriately broader settings at longer delay times.

Extended delay mode can be selected for very long de-

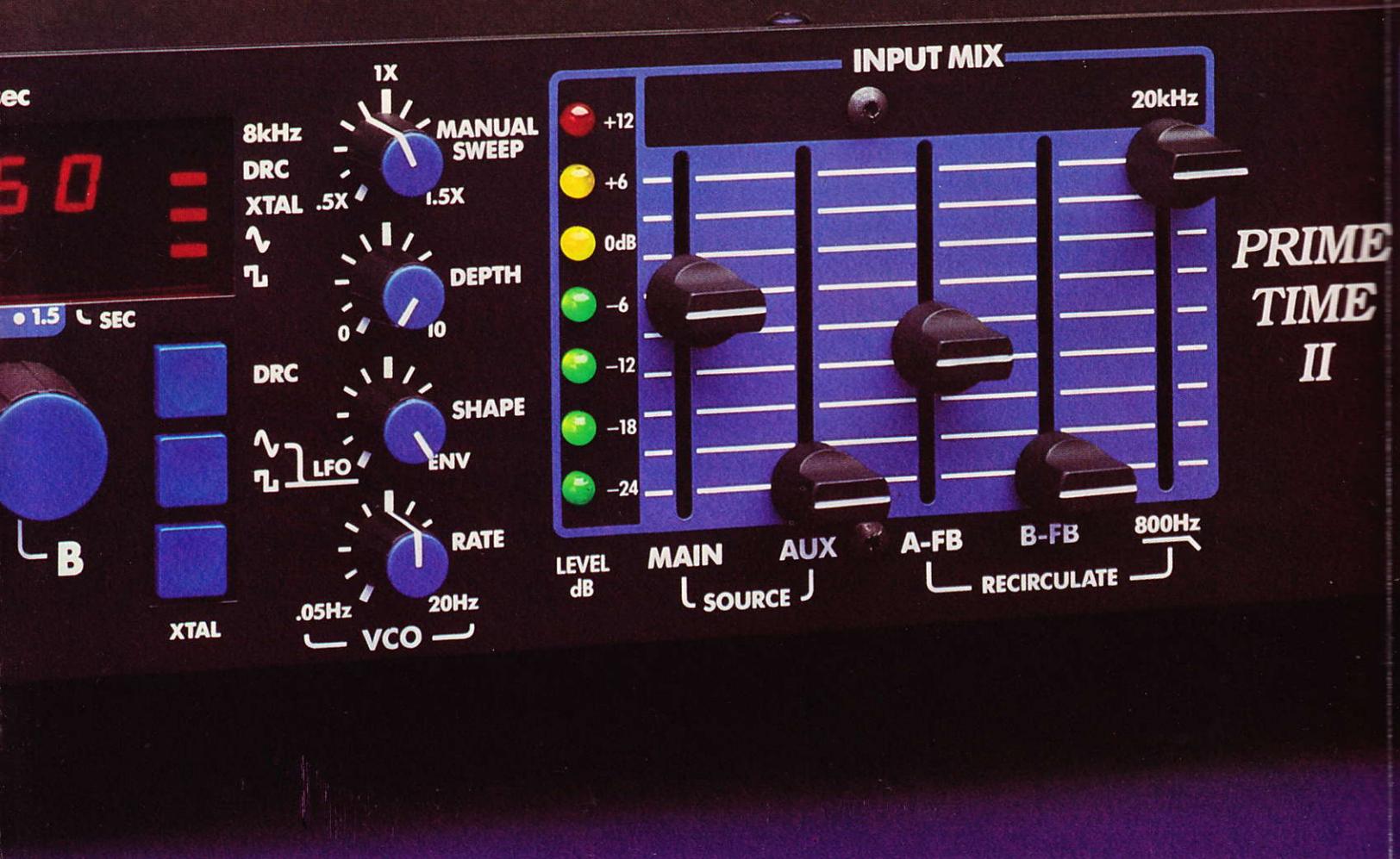
lay times, with corresponding reduction in system bandwidth (from 16 kHz to 8 kHz). A MANUAL SWEEP control allows the delay to be continuously varied over a range of 3 to 1. Three memory options let you select the amount of delay time appropriate to your application and budget. The most basic configuration provides up to 1.92 seconds of delay. Two options allow extension to 3.84 and 7.68 seconds.

### Versatile Audio Signal Routing

The uniquely flexible input and output structure of the original Prime Time has been preserved in the Model 95. Two mixable inputs (Main and Auxiliary) greatly facilitate patching the unit with other processing devices. The Master Output provides any mix of direct, auxiliary, and the two delayed signals desired. The Input Mix Output allows effective patching into stereo output configurations without the use of an external mixer, and separate Delay-A and Delay-B outputs can be routed to the console for ultimate versatility and control.

### Input Overload Protection

A two-stage compression-limiting circuit on the input effectively prevents transient overload, allowing input



levels to be optimized for dynamic range without fear of sudden, harsh clipping, and giving stage performers new freedom to play without having to keep one eye on input level.

### Dynamic Recirculation Control

A Lexicon exclusive, the Dynamic Recirculation Control (DRC) feature provides "intelligent echo" that stays out of the way during a musical phrase, but fades into an extended, multiple repeat in the spaces between lines. It's like having an extra hand at the mixing console.

### Delay Modulation/Sweep

All digital delay processors provide some form of sweep function, but none is more versatile than Prime Time II's. Three separate waveforms are provided, with the capability to blend continuously between periodic sine or square wave functions and signal dependent envelope follower modulation. This function allows a broad range of sweep effects, including "talking" flanges, trills, dynamic pitch sharpening for realistic doubling, and others. A unique dynamic visual indicator shows the exact state of the sweep at any instant.

### Metronome/Clock Feature

Lexicon's unique Clock Output provides the means to coordinate the use of long delay "loops" with musical tempo. The Clock subdivides the delay length (up to 7.68 seconds) into intervals suitable for application as an audible metronome or as a master clock for today's sophisticated automatic rhythm devices. Musical material can then be recorded in memory using the Infinite Repeat function. The start and end points of the recorded phrase, or "loop," will fall precisely on the beat, for a startling, "locked-in," effect. Using regeneration, more material can be overdubbed without limit as to the number of tracks. Creatively applied, this feature opens up a whole new repertoire to the contemporary musician.

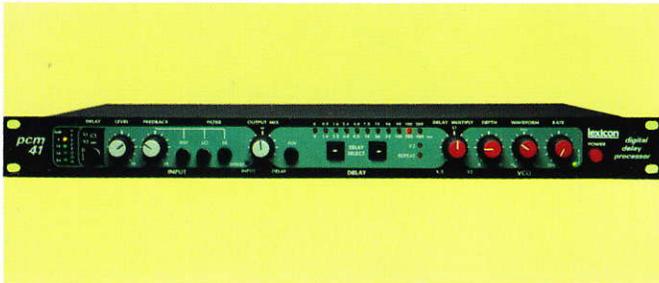
### Remote Functions

The Prime Time II provides a full complement of remote control functions for use by performer or engineer. Both inputs and outputs for modulation/sweep are provided to allow injection of external modulation sources, foot pedal control, or linkage between the sweeps of two different machines. Foot switches or external logic signals can be used to activate the Infinite Repeat and Bypass functions. Lexicon offers a line of Foot Pedal/Switch accessories for such applications.



# The Lexicon Line of Professional Digital Delay Processors

Lexicon has the most comprehensive line of digital delay products in the industry. As specialists in digital processing technology, Lexicon provides the technological expertise and attention to detail needed to satisfy the most demanding needs of the audio professional.



## PCM 41 Digital Delay Processor

High-performance, versatile digital delay in a compact, affordable package. Single delay output (800 ms max. delay), blend and recirculation with phase invert and EQ. Flexible sweep section with sine or square wave combined with envelope follower modulation provides rich chorusing and unique effects. Our most economical delay processor, designed with the needs of stage performers and small studios in mind.



## PCM 42 Digital Delay Processor

An enhanced signal processor derived from the PCM-41 framework. Includes all features of the 41; PLUS delay times to 4800 ms (with infinite repeat), numeric delay readout, metronome/clock output (exclusively on Lexicon products), two-stage limiter to protect against input overload, and foot pedal control of blend and recirculation.



## Prime Time II Model 95

Dual output delay processor for the most demanding professional application. Complete on-board mixing, delay times to 7.68 seconds, versatile modulation section, and special features such as Dynamic Recirculation Control and a metronome/clock output.



## Super Prime Time Model 97

The PROGRAMMABLE, dual output, 20-kHz delay processor — the top of the line. Includes all control features of the Model 95, except metronome/clock output. All front panel settings can be stored in memory (32 registers) and recalled with the push of a button. Dump and load function allows user setups to be stored on audio tape (cassette or reel), allowing access to an unlimited number of repeatable effects.

## Sound Reinforcement and Broadcast

Lexicon also manufactures a complete line of audio processors for the special needs of sound contractors and broadcasters.

## Digital Reverberation

Lexicon has the most comprehensive line of affordable professional digital reverbs. All models offer clear, realistic acoustic ambience, exceptional versatility and sophisticated programmable effects.

# Specifications

## Total Distortion and Noise

- 0.03% typical, 0.05% maximum @1-kHz input
- 0.1% maximum 20 Hz to 10 kHz

## Frequency Response

- 1X mode: 20 Hz to 16 kHz, +0.5, -2 dB
- 2X mode: 20 Hz to 8 kHz, +0.5, -3 dB
- Measured 12 dB below 1-kHz input reference level

## Dynamic Range

- 90 dB typical, 86 dB minimum, 20-Hz to 20-kHz noise bandwidth

## Delay Capacity

Memory Option	VCO @ 1X or XTAL		VCO @ 1.5X	
	1X	2X	1X	2X
Standard	640 ms	1.28 s	960 ms	1.92 s
Option 1	1.28 s	2.56 s	1.92 s	3.84 s
Option 2	2.56 s	5.12 s	3.84 s	7.68 s

## Delay Selection

- Two individual rotary controls, each with 128 selectable delay values, can select independent delay taps. Both delays can be continuously varied over a 3 to 1 range using the MANUAL SWEEP or DEPTH controls.

## Delay (VCO) Modulation

- Adjustable from none to 3:1 sweep of delay time; continuous/adjustment (blend) is available between sine wave or square wave and envelope follower functions, or external modulation. Oscillator (LFO) rate is adjustable from 0.05 Hz (20 seconds for full sweep) to 20 Hz.

## Inputs

- Balanced differential inputs; MAIN INPUT via XLR-3 female, AUXILIARY INPUT via standard 1/4" tip-ring-sleeve phone jack, with 50 dB minimum common-mode rejection. Unbalanced inputs are also accepted.

## Input Impedance

- Greater than 50 k $\Omega$  in parallel with 300 pf for MAIN INPUT, balanced or unbalanced.
- Greater than 20 k $\Omega$  in parallel with 150 pf for AUX INPUT balanced or unbalanced.

## Input Level

- **Main Input**  
+20-dB GAIN switch out 0 to +19 dBV  
+20-dB GAIN switch in -20 to 0 dBV
- **Aux Input**  
0 to +19 dBV

## Input Limiting

- A dual slope limiter activated via a push-push switch.

## Outputs

- The MASTER OUTPUT is a balanced source into an XLR-3 male connector. INPUT MIX OUTPUT, DELAY-A OUTPUT, and DELAY-B OUTPUT are unbalanced and have standard 1/4" tip-sleeve phone jacks.

## Output Impedance

- **Master Output**  
200  $\Omega$  balanced or unbalanced actual source impedance.

## Output Level

- **Master Output**  
+22 dBV (12.5 volts rms) maximum when driving balanced loads 600  $\Omega$  or greater.  
+16 dBV (6.3 volts rms) maximum when driving unbalanced loads 600  $\Omega$  or greater.
- **Input Mix**  
+16 dBV maximum when driving loads 2 k $\Omega$  or greater.
- **Delay-A and -B Outputs**  
+8.5 dBV maximum when driving loads 2 k $\Omega$  or greater.

## Power

- 115 or 230 volts  $\pm$  10% (selectable) 50 to 60 Hz, 40 watts maximum. IEC power connector on rear of unit; 3-prong cord provided. An RFI mains filter is installed.

## Protection

- Mains are fused (standard U.S. 3AG fuses). For export models, mains and secondaries are fused (European style 20 mm fuses).

## Dimensions

- Standard 19" (483 mm) relay rack. 3 1/2" (89 mm) high by 13 1/2" (343 mm) deep.

## Weight

- Net 10.5 lbs (4.76 kg); shipping 13.5 lbs (6.12 kg).

All specifications subject to change without notice.



# Lexicon 224-X

*The  
Ultimate  
Reverb!*



## Another major advance from Lexicon

All the features of the Model 224 plus — true 15 kHz bandwidth, more processing power, flexible, sophisticated effects.

The Lexicon Model 224-X is the ultimate reverberation machine. The digital hardware offers even more processing power than our popular Model 224 while providing wider bandwidth. The full bandwidth makes most programs smoother and more natural, while opening a whole world of new effects. The flexibility and inexpensive program updates of the standard 224 have been retained, making the Lexicon 224-X the reverberation system for the most discriminating audio engineers and artists.

### FEATURES:

The 224-X has all the standard 224 features plus —

- **Full 15 kHz bandwidth — great sound**  
Full bandwidth makes every reverberation program more natural, especially on popular music. High quality reverb or effects can be used in a mix without the direct for a whole new sound.
- **Variable Bandwidth — 15 kHz to 170 Hz**  
A variable bandwidth control allows the 224-X to reduce its bandwidth with a natural 6 dB/octave slope to better mimic the effects of air absorption.

- **Dynamic Decay — reverb time depends on program level**

The 224-X can automatically switch to a different reverb time when the music stops, allowing long sustain or decay without muddying continuous music.

- **Paging System — simple, familiar operation**

Paging allows the 6 sliders on the 224-X remote panel to be redefined to control additional features while retaining the familiar pattern for the most-used reverberation adjustments.

- **Flexible, Sophisticated Effects**

The 8 voice chorus program in the 224 has been updated with the paging system to allow additional control over the delays and density, and the high bandwidth gives it a whole new sound. New programs with tuned combs, recirculating delays, and multi-tap slap are coming soon.

- **Non-Volatile register storage and extended ROM storage standard**

36 completely user defined pre-sets may be stored in non-volatile register storage. In addition, there is ROM space for at least 32 basic program algorithms. Present and future basic programs are developed by Lexicon and supplied in ROM module form.

## The 224 Series — Unique Performance

All the features of the popular 224 reverb, the industry standard, have been retained in the 224-X. Most of these features are unique to Lexicon. No other digital reverberation unit offers them.

The unique features of both the 224 and the 224-X are:

1. True stereo — 2 inputs and 4 outputs
2. Variable diffusion — Allows the density of the sound to match the music
3. Reverb times from 0.6 to 70 seconds
4. 36 non-volatile storage registers with single-button recall
5. The best synthesis of concert halls, chambers, and plates available  
Lexicon reverbs are unique in emulating any form of natural or artificial reverberation.
6. Ease of operation  
224-X and 224 give the convenience of modern digital equipment while keeping the tactile feel of mechanical sliders. Programs are adjusted like a good automated desk. When a basic ROM stored program is called all parameters are preset. To change anything the user simply activates a slider by pushing it to the preset position. All other parameters remain preset. This allows even inexperienced users to get good sound from the 224 and 224-X. Once the right sound has been found, they can store the program number and all their settings in one of 36 non-volatile registers with the push of a button. A recalled program behaves just like one called from ROM, except the presets are the users.

## PROGRAMS

### Small Concert Hall - B

Provides warmth, depth, and the sense of being at a live performance without adding density or mud. Perfect whenever ambience is needed in classical or popular music.

### Vocals Plate

When diffusion is set high this provides a very smooth, bright, metallic sound - a close replica of a metal plate. Perfect for percussion or wherever a smooth, metallic sound is wanted.

### Large Concert Hall

Identical to Small Concert Hall, but with preset low diffusion. Best with Symphonic or popular music which has been already mixed.

### Acoustic Chamber

In between a concert hall and a plate, Acoustic Chamber is useful on vocals, Jazz.

### Percussion Plate

Less metallic than Vocals Plate but with the rich density of a metal plate, Percussion Plate is ideal for almost all popular material.

### Small Concert Hall - A

Brighter than the natural acoustics of Small Concert Hall - B. Excellent on popular material when ambience is wanted.

### Room

Our best acoustic chamber. Perfect for emulating rooms in film or broadcast work, dynamite whenever a dense, "acoustic" sound is wanted.

### Constant Density Plate - A

An algorithm similar to other digital reverbs. Has a fat, metallic sound which decays with constant color. Good on popular music.

### Constant Density Plate - B

Similar to Constant Density Plate — A, but with true stereo inputs and enhanced stereo spread on the outputs.

### Chorus

An 8 voice chorus program. Voices have controllable level and delay, and the last 4 voices can be made into dense clusters with the variable diffusion control. Terrific on percussion and vocals.

## 224-X Basic Specifications:

<b>Program Capacity:</b>	Up to 32 different program types may be installed
<b>Register Storage:</b>	36 registers (non-volatile); 4 main and 32 extended; each register stores the program type and complete parameter settings
<b>Reverberation Time:</b>	Adjustable in 2 bands from approximately 0.6 up to 70 sec (program dependent)
<b>Frequency Contouring:</b>	Crossover, treble decay, and variable bandwidth; each adjustable from 170 Hz to 15 KHz
<b>Depth Control:</b>	Adjustable; controls apparent pick up location in simulated chamber; controls explosiveness in non-acoustic programs
<b>Pre-Delay</b>	Adjustable; minimum between 0-24 ms; maximum between 100-400 ms (program dependent)
<b>Frequency Response:</b>	20 Hz to 15 KHz $\pm 1.5$ dB; 20 Hz to 12 KHz $\pm 0.5$ dB
<b>Dynamic Range:</b>	
<b>Reverberant Mode:</b>	84 dB typ., 81 dB min., relative to reference level at 20 Hz to 20 KHz noise bandwidth for all reverberation times between 0 and 10 sec
<b>Non-Reverberant Mode:</b>	90 dB typ., 86 dB min., 20 Hz to 20 KHz noise bandwidth
<b>Total Noise &amp; Harmonic Distortion:</b>	0.04% typical, 0.07% max at reference level for all reverberation times between 0 and 35 sec
<b>Inputs:</b>	Two, balanced and transformer isolated; 20 K ohms input impedance; adjustable from +8 to +18 dBm
<b>Outputs:</b>	Four, balanced and transformer isolated; 90 ohms output impedance; adjustable from +8 to +18 dBm
<b>Power:</b>	100, 115, 200, 230V switch selectable, 50/60Hz, 180 watts
<b>RFI Shielding:</b>	AC power connector, audio connectors, and console cable are RFI shielded
<b>Connectors:</b>	IEC 3-wire power cord, XLR-3 audio connectors, DB-25 remote and RS-232 connectors
<b>Size:</b>	
<b>Mainframe:</b>	Standard 19" rack mount, 7" high by 15" deep (483 x 178 x 381 mm)
<b>Console:</b>	5.4" x 8.8" x 3" (137.2 x 223.5 x 76.2 mm)
<b>Weight:</b>	
<b>Mainframe:</b>	34 lbs. (15.5 Kg); 48 lbs. (22 Kg) shipping
<b>Console:</b>	2.5 lbs. (1.2 Kg); 6 lbs. (2.7 Kg) shipping

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The  
adventure  
continues...



**lexicon**

# LEXICON PCM-42

The newest member of the Lexicon PCM series of stage/studio products, the PCM-42 combines Lexicon's established performance and rugged reliability with advanced features for today's musician. Unique in concept and execution, the Lexicon PCM-42 performs all of the functions you would expect of a high quality digital delay line, while opening the door to realms of musical expression that were only a dream before now.

Imagine being able to overdub entire phrases of music, vocal or instrumental, layer upon layer, into complex arrangements IN REAL TIME! Imagine a device that lets you lock delay times precisely to musical tempos for rhythmic and expressive enhancements. Imagine an unprecedented degree of footpedal control for live performance. Imagine a delay line that can not be audibly overloaded. Imagine a numeric display that tells you the EXACT delay time at any instant.

Now imagine all of this in a unit with the superior, field-proven audio quality and the established reliability of the Lexicon PCM product series, backed by the resources and reputation of the world leader in digital audio processing, and you'll be imagining the Lexicon PCM-42, the cutting edge of music technology.

## PCM-42: innovation from a solid base

The PCM-42 incorporates all of the innovative features that have made the PCM series the top performing delay lines on the market today: studio quality PCM (pulse-code-modulation) encoding for super clean audio; multi-waveform sweeps for realistic vocal doubling, rich chorusing, and unique effects; reliability and excellence of construction that have long been PCM series hallmarks. The Lexicon PCM-41 is the world standard in cost-effective, roadable delay processors and the PCM-42 builds on this tradition. The 42 adds many new, sophisticated features including very long delay capacity and synchronizing metronome/clock, bringing totally new possibilities to the performing artist.

## Long delays for creative applications

The PCM-42 combines a delay capacity of up to 4.8 seconds (with memory option) with a unique programmable metronome/clock, infinite repeat/hold, and special foot controls to bring new possibilities in musical expression. Use the delay memory as a short term "digital recorder" to enter entire phrases of music (as much as eight bars!) which will repeat indefinitely without degradation. Use the repeating phrases as background to lead parts, and dub any number of new parts in at will, to generate complicated, multi-layered arrangements LIVE, on-stage from even the simplest of inputs.

## New clock output

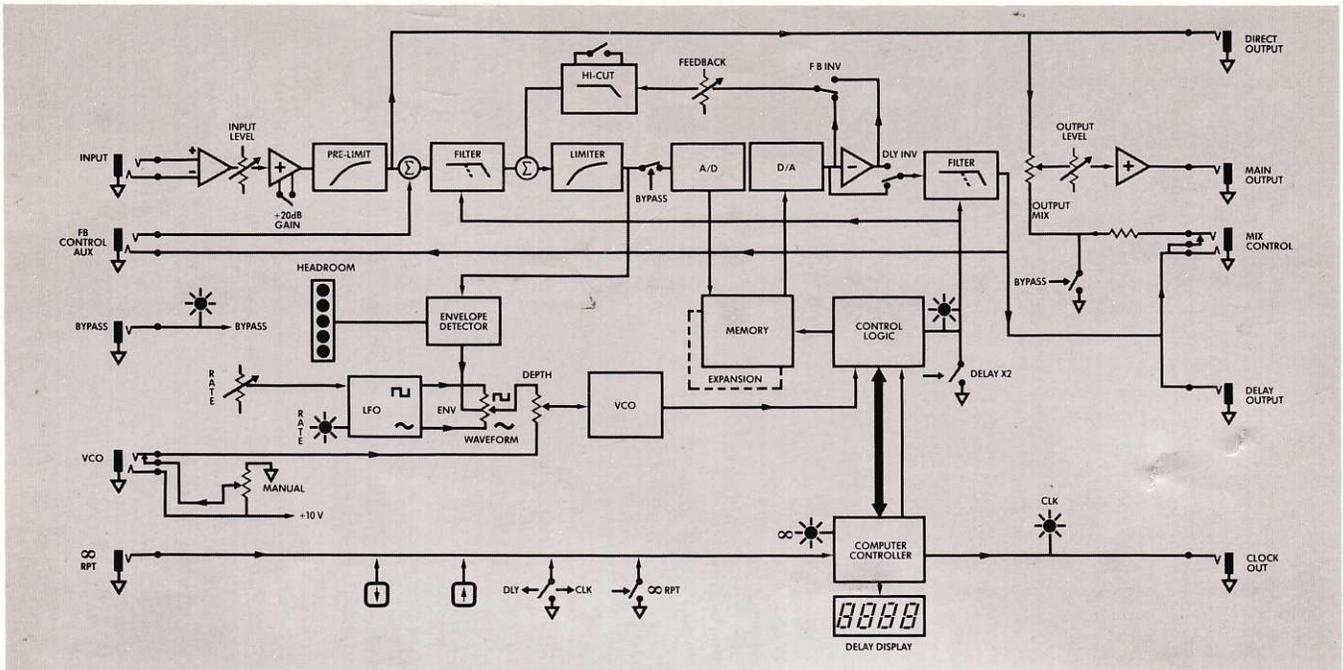
The metronome/clock feature provides the means to synchronize tempo with long delay periods. Settable for a variety of fractional divisions of the delay period, it may be used as a visible/audible metronome, or as a clock for many automatic sequencers and percussion units, driving these rhythmic devices in precise synchrony with the delay period.

## Unmatched versatility

Two new control/input jacks, together with VCO, Bypass, and Repeat inputs, provide the means to control all of this power conveniently on stage. The Mix Control input allows smooth footpedal variation of the delay level. The Recirculation Control adjusts the amount of delayed audio fed back to the input for multiple repeats. These jacks also serve as auxiliary inputs to connect to other delay lines, equalizers, reverberators, etc.







Wiring diagram

## Specifications

### Total Distortion and Noise

0.06% typical, 0.10% maximum @ 1 kHz

### Frequency Response

x1 mode: 20 Hz to 16 kHz, +1 dB, -3 dB  
 x2 mode: 20 Hz to 6 kHz, +1 dB, -3 dB

### Dynamic Range

Better than 90 dB, DIN weighted

### Delay Capacity

1200 ms standard memory, 16 kHz  
 2400 ms standard memory, 6 kHz  
 2400 ms extended memory, 16 kHz  
 4800 ms extended memory, 6 kHz

### Input Type

Electronically balanced, tip-ring-sleeve phone jack,  
 40 dB Common Mode Rejection

### Input Impedance

40 kilohms, balanced or unbalanced into Main input  
 20 kilohms, unbalanced into Mix or Recirculation  
 Control inputs

### Input Level

-12 dBV to +20 dBV (peak levels)

### Input Limiting

The audio input is subject to two step compression-limiting. At 3 dB below converter overload, the input stage begins to compress at a ratio of 5:1. Just below converter overload, the input level is hard limited (infinity: 1 ratio)

### Output Type

Single-ended, phone jack

### Output Level

Main Output: Up to +18 dBV, adjustable into a 600 ohm load  
 Direct and Delay Out: +12 dBV at full input level into a 2 kilohm load

### Power

115 or 230 volts (selectable), 50-60 Hz,  
 20 watts maximum

### Dimensions

Standard 19" rack mount, 1 3/4" high by 11" deep  
 (483 x 44 x 280 mm)

### Weight

Net 5.5 lbs (2.5 kg); shipping 8 lbs (3.6 kg)



All specifications subject to change without notice

# Lexicon

60 Turner Street, Waltham, Massachusetts 02154  
 (617) 891-6790 TELEX 92 3468  
 Export: Gotham Export Corporation, New York, NY

*Just when you thought the future  
couldn't shock you any more.*

Introducing the Lexicon PCM 70, our extraordinary new digital effects processor with dynamic MIDI. Designed, creatively speaking, to thrust you into the future.

To begin with, the PCM 70 gives you access to the same astonishing Lexicon digital effects used by the world's top artists and studios. With complete, variable parameter control, and registers that let you create and store your own programs.

Now, about dynamic MIDI. With this pioneering Lexicon development, you can vary any PCM 70 parameter through a MIDI keyboard while you're actually playing. Just imagine being able to vary the wet-dry mix, for example, through finger pressure on the keys. Or by your choice of other controls, like the modulation wheel. Or even by a computer.

There's more. The Lexicon PCM 70 digital effects processor is also a full-fledged digital reverb, with a complete selection of Lexicon reverb programs. And the price? Shockingly reasonable.

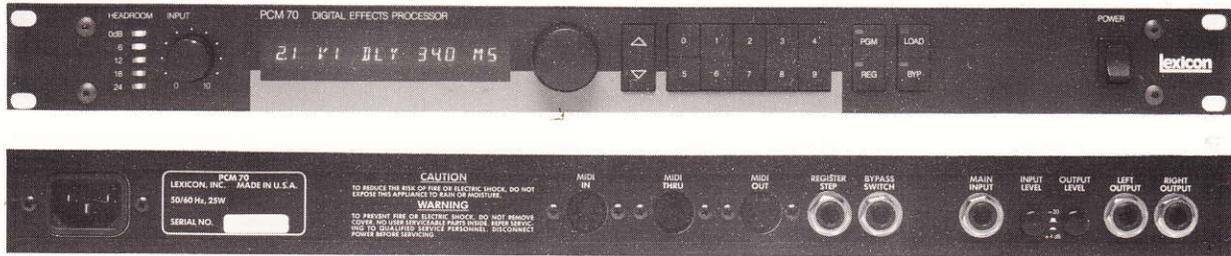


You'll want our detailed PCM 70 brochure. At your Lexicon dealer, or contact us. Lexicon Inc., 60 Turner Street, Waltham, MA 02154, USA. (617) 891-6790. Telex: 923468. Lexicon International, P.O. Box 122, 8105 Regensdorf, Switzerland. Telex: 59222.

Come to the future.

**lexicon**

# Lexicon PCM 70 Digital Effects Processor



## Specifications

**Variable Parameters.** Minimum of 39 per program.

**Factory Programs.** More than 40.

**User Registers.** 50.

**Frequency Response.** Processed Signal: 20 Hz to 15 kHz,  $\pm 1$  dB. Direct Signal: 20 Hz to 20 kHz,  $\pm 0.25$  dB.

**Dynamic Range.** Processed Signal: 80 dB, 20 Hz to 20 kHz noise bandwidth.

**Total Harmonic Distortion (THD) and Noise.** Processed Signal:  $< 0.05\%$  @ 1 kHz and full level. Direct Signal:  $< 0.025\%$  @ 1 kHz @ 3 V out.

**Audio Input.** Levels: +4 dB; -8 to +18 dBV balanced -20 dB; -23 to +3 dBV unbalanced. Impedance: +4 dB; 40 kilohms, paralleled with 150 pF, balanced -20 dB; >500 kilohms, paralleled with 150 pF, unbalanced. Connector:  $\frac{1}{4}$  in. tip/ring/sleeve phone jack.

**Audio Outputs.** Two: Left and Right. Levels: +4 dB; +10 dBV into 600 ohms, +16 dBV into >10 kilohms. -20 dB; -8 dBV into >10 kilohms. Impedance: 600 ohm; unbalanced. Connectors:  $\frac{1}{4}$  in. tip/ring/sleeve phone jack.

**Electronic Remote Bypass.**  $\frac{1}{4}$  in. tip/sleeve phone jack; Use with momentary footswitch (Lexicon 750-02834).

**Remote Register Select.**  $\frac{1}{4}$  in. tip/sleeve phone jack. Use with momentary footswitch.

**Displays.** FIP: 16 digit, 14 segment alphanumeric fluorescent display. LEDs: 5 segment headroom indicator with 24 dB range. Bypass, Program, Register, Load, Row, and Column button indicators.

**Power.** Nominal: 100, 120, 220, 240 Vac (-10%, 5%) switch-selectable; 50 to 60 Hz, 25 W max.

**RFI Shielding.** Meets FCC Class A computer equipment requirements.

**Protection.** Mains fused; internal voltage and current limiting.

**Environment.** Operating: 0 to 35 degrees C (32 to 95 F). Storage: -30 to 75 degrees C (-22 to 167 F). Humidity: 95% maximum (without condensation).

**Dimensions.** Standard 19 in. rack mount: 19" w  $\times$  1 $\frac{3}{4}$ " h  $\times$  13.5" d (483  $\times$  45  $\times$  45  $\times$  344 mm).

**Weight.** 10.7 lb (4.9 kg); shipping: 12.5 lb (5.7 kg)

*Specifications subject to change without notice.*

**lexicon**

Printed in USA

Lexicon Inc.  
60 Turner Street  
Waltham, MA 02154  
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(617) 891-6790  
Telex: 923468

**Lexicon International**  
P.O. Box 122  
8105 Regensdorf  
Switzerland  
(01) 840 0144  
Telex: 59222

# lexicon

Thank you for your inquiry on our Professional Audio Products.  
Literature on the item you requested and a price list are enclosed.

Lexicon has one of the most comprehensive lines of digital audio delay products in the industry. As specialists with more than 10 years experience in digital audio processing Lexicon provides a mix of technological expertise and functional design that offers you the cost effective model best suited to your needs.

In the reverberation line, our 224X is now even more powerful and easier to use than ever - thanks to the new Lexicon Alphanumeric Remote Console (LARC). We have also recently introduced the Model 200 which now puts Lexicon-quality reverb within the reach of all studio budgets.

Please return the enclosed card for additional assistance or information. If your needs are more pressing and you wish a demonstration, or an on-site evaluation, please contact us at Lexicon or your nearest Lexicon representative.

Sincerely,

*Virginia Casale*  
Virginia Casale  
Manager, Marketing Services

**lexicon**

Lexicon Inc.  
60 Turner Street  
Waltham, MA 02154  
USA  
(617) 891-6790  
Telex: 923468

**PROFESSIONAL AUDIO PRODUCTS SUGGESTED RETAIL PRICE LIST  
EFFECTIVE SEPTEMBER 1, 1985**

**PCM Digital Delays**

PCM-41	0.8-sec delay	\$715.00
PCM-42	2.4-sec delay	\$1,000.00
PCM-42 MEO	4.8-sec delay	\$1,235.00

**Prime Time II Digital Delay**

Model 95 Standard	1.92-sec delay	\$1,980.00
Model 95 MEO-1	3.84-sec delay	\$2,200.00
Model 95 MEO-2	7.68-sec delay	\$2,500.00

**Super Prime Time Programmable Digital Delay**

Model 97 Standard	0.96-sec delay	\$3,170.00
Model 97 MEO	1.92-sec delay	\$3,390.00

**NEW****Digital Effects Processor**

PCM-70		\$2,295.00
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**Digital Reverberation Systems**

PCM-60		\$1,495.00
Model 200		\$4,800.00
Model 224XL		*

**Accessories****PCM-41, PCM-42, Model 95, Model 97, PCM-70, and Model 200**

A-FS-97 Single Footswitch		\$18.00
A-FS-41 Dual Footswitch		\$38.00
A-CP-41 Control Pedal		\$42.00
LARC Field Retrofit Kit for 224X		\$800.00

\*Consult your local Lexicon Advanced Product Dealer.

Specifications and prices subject to change without notice.

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60 Turner Street  
Waltham, MA 02154  
USA  
(617) 891-6790  
Telex: 923468

**BROADCAST PRODUCTS SUGGESTED RETAIL PRICE LIST  
EFFECTIVE SEPTEMBER 1, 1985**

	<b>Price</b>
<b>Model 1300 Series Digital Audio Delay Synchronizers</b>	
Model 1300 mono with 683 ms delay	\$3,700.00
4096 ms delay	\$4,500.00
Model 1300S stereo with 341 ms delay	\$4,200.00
2048 ms delay	\$4,995.00
Specify Model 1300 Control Module: Video, Pulse or Serial	
<b>Model 1200 Series Digital Audio Time Compressor/Expanders</b>	
1200C	\$9,500.00
1200CMS Stereo System	\$15,995.00
<b>Upgrades</b>	
1200B to 1200CMS Stereo System	\$10,795.00
1200C to 1200CMS Stereo System	\$8,990.00
<b>Factory Retrofits</b>	
2 1200C to Stereo System	Consult the factory
1200C to current REV	Consult the factory
1200B to 1200C	Consult the factory

Specifications and prices subject to change without notice.