

Owner's Manual

DC-1

Digital Controller
Base & THX Versions

lexicon

Important Safety Instructions

Save these instructions for later use.

Follow all instructions and warnings marked on the unit.

Always use with the correct line voltage. Refer to the manufacturer's operating instructions for power requirements. Be advised that different operating voltages may require the use of a different line cord and/or attachment plug.

Do not install the unit in an unventilated rack, or directly above heat producing equipment such as power amplifiers. Observe the maximum ambient operating temperature listed in the product specification.

Slots and opening on the case are provided for ventilation; to ensure reliable operation and prevent it from overheating, these openings must not be blocked or covered. Never push objects of any kind through any of the ventilation slots. Never spill a liquid of any kind on the unit.

Never attach audio power amplifier outputs directly to any of the unit's connectors.

To prevent shock or fire hazard, do not expose the unit to rain or moisture, or operate it where it will be exposed to water.

Do not attempt to operate the unit if it has been dropped, damaged, exposed to liquids, or if it exhibits a distinct change in performance indicating the need for service.

This unit should only be opened by qualified service personnel. Removing covers will expose you to hazardous voltages.

This triangle, which appears on your component, alerts you to the presence of uninsulated, dangerous voltage inside the enclosure... voltage that may be sufficient to constitute a risk of shock.



This triangle, which appears on your component, alerts you to important operating and maintenance instructions in this accompanying literature.

Adhere to all warnings on the unit and in the operating instructions.

Take precautions not to defeat the grounding or polarization of the unit's power cord.

Do not overload wall outlet, extension cords or integral convenience receptacles, as this can result in a risk of fire or electrical shock.

Route power supply cords so that they are not likely to be walked on or pinched by items placed on or against them, paying particular attention to cords at plugs, convenience receptacles, and the point at which they exit from the unit.

The unit should be cleaned only as recommended by the manufacturer.

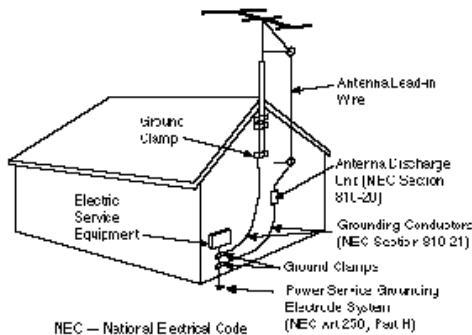
Communications Notice

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designated to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer with respect to the receiver
- Move the computer away from the receiver
- Plug the computer into a different outlet so that the computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to identify and Resolve Radio/TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.



Outdoor Antenna Grounding

If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See figure below.

Power Lines An outside antenna should be located away from power lines.

Acknowledgements

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Lexicon, Inc. • 3 Oak Park • Bedford, MA 01730 USA • Tel 781-280-0300 • Fax 781-280-0490
www.lexicon.com

Dansk

Vigtig information om sikkerhed

Gem denne vejledning til senere brug.

Følg alle anvisninger og advarsler på apparatet.

Apparatet skal altid tilsluttes den korrekte spænding. Der henvises til brugsanvisningen, der indeholder specifikationer for strømforsyning. Der gøres opmærksom på, at ved varierende driftsspændinger kan det blive nødvendigt at bruge andre lednings- og/eller stiktyper.

Apparatet må ikke monteres i et kabinet uden ventilation eller lige over andet udstyr, der udvikler varme, f.eks. forstærkere. Den maksimale omgivelsestemperatur ved drift, der står opført i specifikationerne, skal overholdes.

Der er ventilationsåbninger i kabinettet. For at sikre apparatets drift og hindre overophedning må disse åbninger ikke blokeres eller tildækkes. Stik aldrig noget ind igennem ventilationsåbningerne, og pas på aldrig at spilde nogen form for væske på apparatet.

Udgangsstik fra audioforstærkere må aldrig sættes direkte i apparatet.

Apparatet må ikke udsættes for regn eller fugt og må ikke bruges i nærheden af vand for at undgå risiko for elektrisk stød og brand.

Apparatet må aldrig bruges, hvis det er blevet stødt, beskadiget eller vådt, eller hvis ændringer i ydelsen tyder på, at det trænger til eftersyn.

Dette apparat må kun åbnes af fagfolk. Hvis dækslet tages af, udsættes man for livsfarlig højspænding.



Denne mærkat på komponenten advarer om uisoleret, farlig spænding i apparatet ... høj nok til at give elektrisk stød.



Denne mærkat på komponenten advarer om vigtig drifts- og vedligeholdelsesinformation i den tilhørende litteratur.

Suomi

Tärkeitä turvallisuusohjeita

Säilytä nämä ohjeet tulevaa käyttöä varten.

Seuraa kaikkia yksikköön merkittyjä ohjeita ja varoituksia.

Käytä aina oikeaa verkkojännitettä. Tehovaatimukset selviävät valmistajan käyttöohjeista. Huomaa, että eri käyttöjännitteet saattavat vaatia toisenlaisen verkkojohdon ja/tai -pistokkeen käytön.

Älä asenna yksikköä telineeseen jossa ei ole tuuletusta, tai välittömästi lämpöä tuottavien laitteiden, esim. tehovahvistimien, yläpuolelle. Ympäristön lämpötila käytössä ei saa ylittää tuotespesifikaation maksimilämpötilaa.

Kotelo on varustettu tuuletusreillä ja -aukoilla. Luotettavan toiminnan varmistamiseksi ja ylläampemisen välttämiseksi näitä aukkoja ei saa sulkea tai peittää. Mitään esineitä ei saa työntää tuuletusaukoihin. Mitään nesteitä ei saa kaataa yksikköön.

Älä kytke audiotehovahvistimen lähtöjä suoraan mihinkään yksikön liittimeen.

Sähköiskun ja palovaaran välttämiseksi yksikkö ei saa olla sateessa tai kosteassa, eikä sitä saa käyttää määrässä ympäristössä.

Älä käytä yksikköä jos se on pudonnut, vaurioitunut, kostunut, tai jos sen suorituskyky on huomattavasti muuttunut, mikä vaatii huoltoa.

Yksikön saa avata vain laitteeseen perehtynyt huoltohenkilö. Kansien poisto altistaa sinut vaarallisille jännitteille.



Tämä kolmio, joka esiintyy komponentissasi, varoittaa sinua eristämättömän vaarallisen jännitteen esiintymisestä yksikön sisällä. Tämä jännite saattaa olla riittävän korkea aiheuttamaan sähköiskuvaaran.



Tämä kolmio, joka esiintyy komponentissasi, kertoo sinulle, että tässä tuotedokumentoinnissa esiintyy tärkeitä käyttö- ja ylläpito-ohjeita.

Norsk

Viktig informasjon om sikkerhet

Ta vare på denne veiledningen for senere bruk.

Følg alle anvisningene og advarslene som er angitt på apparatet.

Apparatet skal alltid anvendes med korrekt spenning. Produktbeskrivelsen inneholder spesifikasjoner for strømkrav. Vær oppmerksom på at det ved ulike driftsspenninger kan være nødvendig å bruke en annen ledning- og/eller støpseltype.

Apparatet skal ikke monteres i skap uten ventilasjon, eller direkte over varmeproduserende utstyr, som for eksempel kraftforstærkere. Den maksimale romtemperaturen som står oppgitt i produktbeskrivelsen, skal overholdes.

Apparatet er utstyrt med ventilasjonsåpninger. For at apparatet skal være pålitelig i bruk og ikke overopphetes, må disse åpningene ikke blokeres eller tildekkes. Stikk aldri noe inn i ventilasjonsåpningene, og pass på at det aldri søles noen form for væske på apparatet.

Utgangspluggene fra audioforstærkere skal aldri koples direkte til apparatet.

Unngå brannfare og elektrisk støt ved å sørge for at apparatet ikke utsettes for regn eller fuktighet og ikke anvendes i nærheten av vann.

Apparatet skal ikke brukes hvis det har blitt utsatt for støt, er skadet eller blitt vått, eller hvis endringer i ytelsen tyder på at det trenger service.

Dette apparatet skal kun åpnes av fagfolk. Hvis dekslet fjernes, utsettes man for livsfarlig høyspenning.



Komponenten er merket med denne trekanten, som er en advarsel om at det finnes uisolert, farlig spenning inne i kabinettet ... høy nok til å utgjøre en fare for elektrisk støt.



Komponenten er merket med denne trekanten, som betyr at den tilhørende litteraturen inneholder viktige opplysninger om drift og vedlikehold.

Svenska

Viktiga säkerhetsföreskrifter

Spara dessa föreskrifter för framtida bruk.

Följ alla anvisningar och varningar som anges på enheten.

Använd alltid rätt nätspänning. Se tillverkarens bruksanvisningar för information om effektkrav. Märkväl, att andra matningsspänningar eventuellt kräver att en annan typs nätsladd och/eller kontakt används.

Installera inte enheten i ett oventilerat stativ, eller direkt ovanför utrustningar som avger värme, t ex effektförstärkare. Se till att omgivningens temperatur vid drift inte överskrider det angivna värdet i produktspecifikationen.

Behållaren är försedd med hål och öppningar för ventilering. För att garantera tillförlitlig funktion och förhindra överhettning får dessa öppningar inte blockeras eller täckas. Inga föremål får skuffas in genom ventilationshålen. Inga vätskor får spillas på enheten.

Anslut aldrig audioeffektförstärkarutgångar direkt till någon av enhetens kontakter.

För att undvika elstöt eller brandfara får enheten inte utsättas för regn eller fukt, eller användas på ställen där den blir våt.

Använd inte enheten om den har fallit i golvet, skadats, blivit våt, eller om dess prestanda förändrats märkbart, vilket kräver service.

Enheten får öppnas endast av behörig servicepersonal. Farliga spänningar blir tillgängliga när locken tas bort.



Denna triangel, som visas på din komponent, varnar dig om en oisolerad farlig spänning inne i enheten. Denna spänning är eventuellt så hög att fara för elstöt föreligger.



Denna triangel, som visas på din komponent, anger att viktiga bruksanvisningar och serviceanvisningar ingår i dokumentationen i fråga.

Deutsch
Wichtige Sicherheitsanweisungen

Heben Sie sich diese Sicherheitsanweisungen auch für später auf.
Befolgen Sie alle auf der Vorrichtung stehenden Anweisungen und Warnungen. Immer nur mit der richtigen Spannung verwenden! Die Gebrauchsanweisungen des Herstellers informieren Sie über die elektrischen Anforderungen. Vergessen Sie nicht daß bei verschiedenen Betriebsspannungen ggf. auch verschiedene Leitungskabel und/oder Verbindungsstecker zu verwenden sind.
Stellen Sie die Vorrichtung nicht in ein unbelüftetes Gestell oder unmittelbar über wärmeerzeugende Geräte wie z.B. Tonverstärker. Halten Sie die in den Produktspezifikationen angegebene maximale Umgebungstemperatur bei Betrieb ein.
Schlitze und Öffnungen im Gehäuse dienen der Belüftung; um verlässlichen Betrieb sicherzustellen und Überheizen zu vermeiden dürfen diese Öffnungen nicht verstopft oder abgedeckt werden. Stecken Sie nie irgend einen Gegenstand durch die Belüftungsschlitze. Vergießen Sie keine Flüssigkeiten auf den Apparat.
Schließen Sie nie Tonverstärker unmittelbar an einen Anschluß des Apparates an.
Um elektrischen Schlag oder Feuer zu vermeiden, setzen Sie den Apparat weder Regen noch Feuchtigkeit aus und betreiben Sie ihn nicht dort wo Wasser eindringen könnte.
Versuchen Sie nicht den Apparat zu betreiben falls er fallen gelassen, beschädigt, oder Flüssigkeiten ausgesetzt wurde, oder falls sich seine Arbeitsweise derart ändert daß daraus ein Bedarf nach Reparatur zu schließen ist.
Dieser Apparat sollte nur von qualifizierten Fachleuten geöffnet werden. Das Abnehmen von Abdeckungen setzt Sie gefährlichen Spannungen aus.



Dieses Dreieck auf Ihrem Apparat warnt Sie vor nicht-isolierter, gefährlicher Spannung im Gehäuse ... stark genug um eine Berühungsgefahr darzustellen.



Dieses Dreieck auf Ihrem Apparat bedeutet daß wichtige Betriebs- und Wartungsanweisungen in der mitgelieferten Dokumentation zu finden sind.

Español
Instrucciones importantes de seguridad

Guarde estas instrucciones para uso posterior.
Utilice siempre el voltaje correcto. Diríjase a las instrucciones de operación del fabricante para obtener las especificaciones de potencia. Esté al tanto de que voltajes de operación distintos requieren el uso de cables y/o enchufes distintos.
No instale esta unidad en un estante sin ventilación, ni tampoco directamente encima de equipos que generen calor tales como amplificadores de potencia. Fíjese en las temperaturas ambientales máximas de operación que se mencionan en las especificaciones del producto.
Las aperturas y ranuras del chasis sirven para proveer la ventilación necesaria para operar la unidad con seguridad y para prevenir sobrecalentamiento, y por lo tanto no pueden ser obstruidas o cubiertas. No introduzca objetos de ningún tipo a través de las ranuras de ventilación, y nunca deje caer ningún líquido sobre la unidad.
Nunca conecte ningún tipo de salida de amplificadores de sonido directamente a los conectores de la unidad.
Para prevenir descargas eléctricas o incendios, mantenga la unidad alejada de la lluvia, humedad o cualquier lugar en el que pueda entrar en contacto con agua.
No trate de hacer funcionar la unidad si se ha caído, está dañada, ha entrado en contacto con líquidos, o si nota cualquier cambio brusco en su funcionamiento que indique la necesidad de hacerle un servicio de mantenimiento.
Esta unidad deberá ser abierta únicamente por personal calificado. Si usted quita las coberturas se expondrá a voltajes peligrosos.



Este triángulo que aparece en su componente le advierte sobre la existencia dentro del chasis de voltajes peligrosos sin aislantes ... voltajes que son lo suficientemente grandes como para causar electrocución.



Este triángulo que aparece en su componente lo alerta sobre las instrucciones de operación y mantenimiento importantes que están en los materiales de lectura que se incluyen.

Français
Instructions de Sécurité Importantes

Gardez ces instructions pour référence future.
Observez toutes les instructions et tous les avertissements marqués sur l'appareil.
Branchez uniquement sur un réseau de tension indiquée. Consultez le manuel d'instruction du fabricant pour les spécifications de courant. N'oubliez pas que différentes tensions peuvent nécessiter l'utilisation de câbles et/ou de fiches de connexion différents.
N'installez pas l'appareil en un compartiment non-aéré ou directement au-dessus d'équipements générateurs de chaleur, tels qu'amplificateurs de courants, etc. Ne dépassez pas la température ambiante maximale de fonctionnement indiquée dans les spécifications du produit.
Des fentes et ouvertures sont prévues dans le boîtier pour l'aération; Pour assurer le bon fonctionnement et pour prévenir l'échauffement, ces ouvertures ne doivent pas être couvertes ou bloquées. N'insérez pas d'objets dans les fentes d'aération. Empêchez tout liquide de se répandre sur l'appareil.
Ne connectez jamais d'amplificateurs audio directement aux connecteurs de l'appareil.
Pour empêcher les chocs électriques et le danger d'incendie, évitez d'exposer l'appareil à la pluie ou à l'humidité, et ne le mettez pas en marche en un endroit où il serait exposé aux éclaboussures d'eau.
N'essayez pas de faire fonctionner l'appareil s'il est tombé à terre, a été endommagé, exposé à un liquide, ou si vous observez des différences nettes dans son fonctionnement, indiquant la nécessité de réparations.
Cet appareil ne doit être ouvert que par un personnel de service qualifié. En enlevant les couvercles vous vous exposez à des tensions électriques dangereuses.



Ce triangle, sur votre appareil vous avertit de la présence de tension dangereuse, non-isolée à l'intérieur du boîtier...une tension suffisante pour représenter un danger d'électrocution.



Ce triangle sur votre appareil vous invite de suivre d'importantes instructions d'utilisation et d'entretien dans la documentation livrée avec le produit.

Italiano
Importanti norme di sicurezza

Conservare le presenti norme per l'utilizzo futuro.
Osservare tutte le istruzioni e le avvertenze apposte sull'unità.
Utilizzare esclusivamente con la tensione di rete corretta. Consultare le istruzioni operative fornite dal fabbricante per i dati riguardanti la tensione e l'assorbimento di corrente. Potrebbe essere necessario l'uso di cavi di rete e/o di spine diverse a seconda della tensione utilizzata.
Non installare l'unità in uno scaffale privo di ventilazione oppure direttamente sopra una fonte di calore, come, ad esempio, un amplificatore. Non superare la temperatura ambientale massima di funzionamento riportata nei dati tecnici del prodotto.
Le fessure e le altre aperture nella scatola servono alla ventilazione. Per un funzionamento affidabile, e per evitare un eventuale surriscaldamento, queste aperture non vanno ostruite o coperte in nessun modo. Evitare in tutti i casi di inserire oggetti di qualsiasi genere attraverso le fessure di ventilazione. Non versare mai del liquido di nessun tipo sull'unità.
Evitare sempre di collegare le uscite dell'amplificatore audio direttamente ai connettori dell'unità.
Per prevenire il pericolo di folgorazione e di incendio non esporre l'unità alla pioggia o ad un'umidità eccessiva; evitare di adoperare l'unità dove potrebbe entrare in contatto con acqua.
Evitare di adoperare l'unità se la stessa è stata urtata violentemente, se ha subito un danno, se è stata esposta ad un liquido o in caso di un evidente cambiamento delle prestazioni che indichi la necessità di un intervento di assistenza tecnica.
Ogni intervento sull'unità va eseguito esclusivamente da personale qualificato. La rimozione della copertura comporta l'esposizione al pericolo di folgorazione.



Il presente triangolo impresso sul componente avverte della presenza di tensioni pericolose non isolate all'interno della copertura... tali tensioni rappresentano un pericolo di folgorazione



Il presente triangolo impresso sul componente avverte l'utente della presenza nella documentazione allegata di importanti istruzioni relative al funzionamento ed alla manutenzione.

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Contents

1	Introduction to the DC-1	1
	Introduction	1
	Unpacking and Inspection	3
	Using the Documentation	3
	System Overview	4
	Glossary of Terms	4
	DC-1 Block Diagram	5
2	Installation and Calibration	7
	Controls and Indicators	7
	The Front Panel	7
	The Rear Panel	8
	The Remote Control	9
	Remote Control ACCY Functions	
	Connection	11
	Location Considerations	11
	AC Connections	11
	Wiring Considerations	12
	Audio/Video Cables • Speaker	
	Connections	
	Audio/Video Connections	12
	Connecting the DC-1 as a preamp	13
	Video Connections	14
	Digital Audio Connections	14
	Recording a Digital Source Using the	
	DC-1 D/A Converter	14
	Digital Input Status Detection	15
	RECORD/ZONE 2 Operation	15
	System Configuration	17
	LCD Adjustment	17
	The Video On-Screen Display	18
	System Setup	21
	Input Configuration	
	Setting the Speaker Configuration	22
	Setting Output Levels	24
	Setting Rear and Center Delays	26
	Rear Delay • Center Delay	
	Calibrate Panorama	27
	Customization	29
	Locking Settings	29
	Assign Custom Name	29
	Equalization (THX)	30

Contents, cont'd.	3	DC-1 Effects	31
		Customizing Effects	31
		Comparing a modified Effect to the factory preset version • Restoring the original parameter values of an Effect • Naming your custom Effect • Restoring the original Effect Name • Listening to only the DC-1 Effect	
		Panorama	33
		Nightclub	35
		Concert Hall	36
		Church	37
		Cathedral	38
		Music Logic and Music Surround (THX)	39
		TV Matrix	41
		Logic 7 (THX)	42
		Mono Logic	44
		Pro Logic	45
		THX Cinema (THX)	46
		Party	47
		Two Channel	47
	4	Troubleshooting	49
	5	Specifications	53
		Installation Documentation	

Introduction

More than just a surround processor, the DC-1 is a digital control center with state-of-the-art performance and flexibility. A superb line level preamp, the DC-1 provides 8 audio, 5 video (3 S-VHS), and 4 digital (2 coaxial, 2 optical) inputs. The video and digital inputs can be assigned to any of the audio inputs for custom configuration. The digital inputs are processed through true 20-bit D/A converters, providing a level of performance not found in most stand alone converters. Built-in digital crossovers make it possible to tailor the output to match any speakers in a system. There is also a second set of pre-outs with independent volume and source selection to accommodate music in a separate zone.

A great deal of effort went into designing an instrument which would be flexible enough to satisfy the most critical listeners and yet be simple to operate. Essentially, the DC-1 is a signal processing computer that can be custom-programmed for any specific system. Once installed, it can be operated easily via a remote providing effects tailored for your specific listening environment, and complete control of every aspect of operation.

The Lexicon DC-1-Digital Controller has a single goal: to draw you, the listener, more deeply into a musical performance or a film. For music the DC-1 uses true stereo digital processing to recreate the original recording space or to create a new one of your choosing. For films it offers an extremely accurate version of Dolby Pro Logic surround decoding with all of the enhancements of the LucasFilm Home THX® Cinema system and Lexicon's proprietary enhancement for film soundtracks. The increase in impact of a musical performance or film when heard with the DC-1 is incredible.

To recreate the experience of being at a live musical performance the DC-1 draws on recent studies of concert-hall acoustics, and applies this research to home listening rooms. Our auditory sense is quite adept at interpreting clues about our physical environment. Even with your eyes closed, it is possible to get a good mental picture of the room or hall you are in by listening to the ambience, or reflected sound energy, in the room. We are not aware of our auditory sense in everyday life because it confirms what our eyes identify as the environment. When we listen to recorded music, however, there are no visual clues and we rely completely on our sense of hearing. The introduction of two-speaker stereo systems over thirty years ago brought dramatic improvement to high fidelity music reproduction. With a carefully-designed system, and good recording, it became possible to produce a good sonic picture of the original event. Unfortunately, our listening rooms do not approximate the acoustics of a good concert hall, an intimate jazz club, or a magnificent cathedral — our ears tell us where we really are. The Lexicon DC-1 is designed to overcome this fundamental limitation to two-speaker reproduction and bring us closer to the ultimate goal of transporting ourselves to the original musical event. The object is to increase the sideways-moving sound in a room, thus increasing Spatial Impression, or *SI*. The DC-1 increases *SI* by either extracting it from the original recording, using the Panorama or Surround effects, or by generating a new acoustic environment such as a Concert Hall, a Nightclub or a Cathedral.

When a listener is in the correct spot the Panorama effect provides an almost ideal recreation of the original recording space. It works by using digital signal processing to cancel the crosstalk between the listener's ears, effectively spreading the sound from the two front loudspeakers in a wide arc in front of the listener. With the optional addition of rear speakers, Panorama can be startling in its realism.

The Nightclub, Concert Hall, Church and Cathedral effects transform the listening room into a new acoustic space, letting you choose an environment which matches your music or your mood. Unlike most ambience processors, the DC-1 provides full stereo processing, preserving the critical SI information in the recording and expanding upon it. The Nightclub and Concert Hall effects generate the side and rear reflection patterns of idealized rooms and concert halls. The larger spaces add the true depth and realism of a concert hall to classical and popular music, while the smaller spaces are ideal for jazz and rock. The Church and Cathedral effects are similar, but place more emphasis on rich, dense reverberant decay than on early reflections. These effects are especially good for simulating large, highly reverberant spaces such as churches, stadiums, and cathedrals.

The requirements for processing sound for home theater are quite different than those for music. Lexicon invented the technology that permits the most accurate reproduction of film sound in the same system that is used for music listening, and the software-based DC-1 is optimized for each of these unique tasks. The Music Surround mode is specifically designed to optimally play conventional stereo music through any system which includes side or side-located rear speakers. Additionally, the DC-1 is able to perform automatic analysis and error correction to compensate for problems in the source material.

For films encoded with Dolby Surround, Lexicon has incorporated the Lucasfilm Home THX Cinema processing into the THX-equipped version of the DC-1. This utilizes a patented, completely digital Dolby Pro Logic Surround decoder, and is the only one with automatic correction of inter-channel phase and channel-balance errors (the most common audio problems in currently available video releases of films).

A Stereo Surround feature extracts five channels of surround information from a standard 4-2-4 matrix-encoded soundtrack (Dolby Surround, Ultra*Stereo, etc.) This feature, available in the THX equipped version, allows the stereo music in soundtracks to be reproduced with a full stereo spread, unencumbered by the relatively narrow separation of the front speakers. Left-to-surround, and right-to-surround pans are also enhanced. Instead of sound jumping from a front channel to both surrounds, the left and right side speakers can function independently to facilitate smooth and fluid pans. Sounds directed to hard left and hard right (the main left and right speakers) will *not* appear in the side surrounds.

This technique overcomes the limitation of the monaural sound channel inherent in these formats, while remaining true to the front hemisphere directional cues. The audio imaging tracks the picture image in a way which fulfills the intent of the sound mixer. The drama of this effect is most noticeable with strong stereo music soundtracks.

The DC-1 also provides effects for expanding monaural film sound tracks (Mono Logic), general TV viewing (TV Matrix), background music (Party) and, of course, Two Channel stereo playback.

Designed with an eye toward the future, the DC-1's open architecture allows upgrades to expanding technologies such as Dolby AC-3 via simple modifications which can be performed by any Lexicon dealer. With its blend of performance and flexibility, the DC-1 will deliver the full potential of music and movies for years to come.

After unpacking the DC-1, save all packing materials in case you ever need to ship the unit. Thoroughly inspect the DC-1 and packing materials for signs of damage. Remove the adhesive protective film from the DC-1 front-panel lens and remote control. Report any shipment damage to the carrier at once; report equipment malfunction to your dealer.

Unpacking and Inspection

Because the DC-1 is designed to be customized for your system and your listening space, the information required for installation is extensive.

Using the Documentation

This manual describes both the DC-1 base system and the THX version. Some of the features described are available only in the THX version. To upgrade a base system, contact your dealer, or Lexicon. In most cases, upgrading can be accomplished very easily and rapidly.

The Owner's Manual is designed to assist you in installing, calibrating and operating the DC-1. It should be used in conjunction with the Remote Control when configuring the system to perform optimally in your environment. This manual was written with the underlying assumption that the installer is familiar with audio/video system installation.

An Installation worksheet is provided in Chapter 5 of the Owner's Manual for documentation of the settings arrived at during the calibration procedure.

Whether you are performing the installation, or simply using the system, we hope that you will read the Theory and Design booklet. Understanding the goals of DC-1 design will make sense of each step in the setup procedure, and will help you make the most of the operating features.

System Overview

Although the DC-1 performs very complex signal processing, a great deal of effort has gone into making the technology behind the effects as transparent as possible to the user. To understand the overall organization of the unit, it is helpful to define those few terms which are unique to the DC-1.

Glossary of Terms

Effect An *effect* is a configuration that determines how the DC-1 will process an input signal. The base unit contains 11 effects: *Panorama, Nightclub, Concert Hall, Church, Cathedral, Music Logic, TV Matrix, Mono Logic, Pro Logic, Party and Two Channel*. The THX version of the DC-1 contains these effects as well as *Music Surround, THX and Logic 7*.

Parameter Each Effect has a set of *parameters* (controls) that uniquely characterize it. The settings of the parameters can be changed to customize each Effect.

Effect Parameter values are stored/recalled with each Effect. Some examples are: Rolloff, Sub Bass Boost, etc.

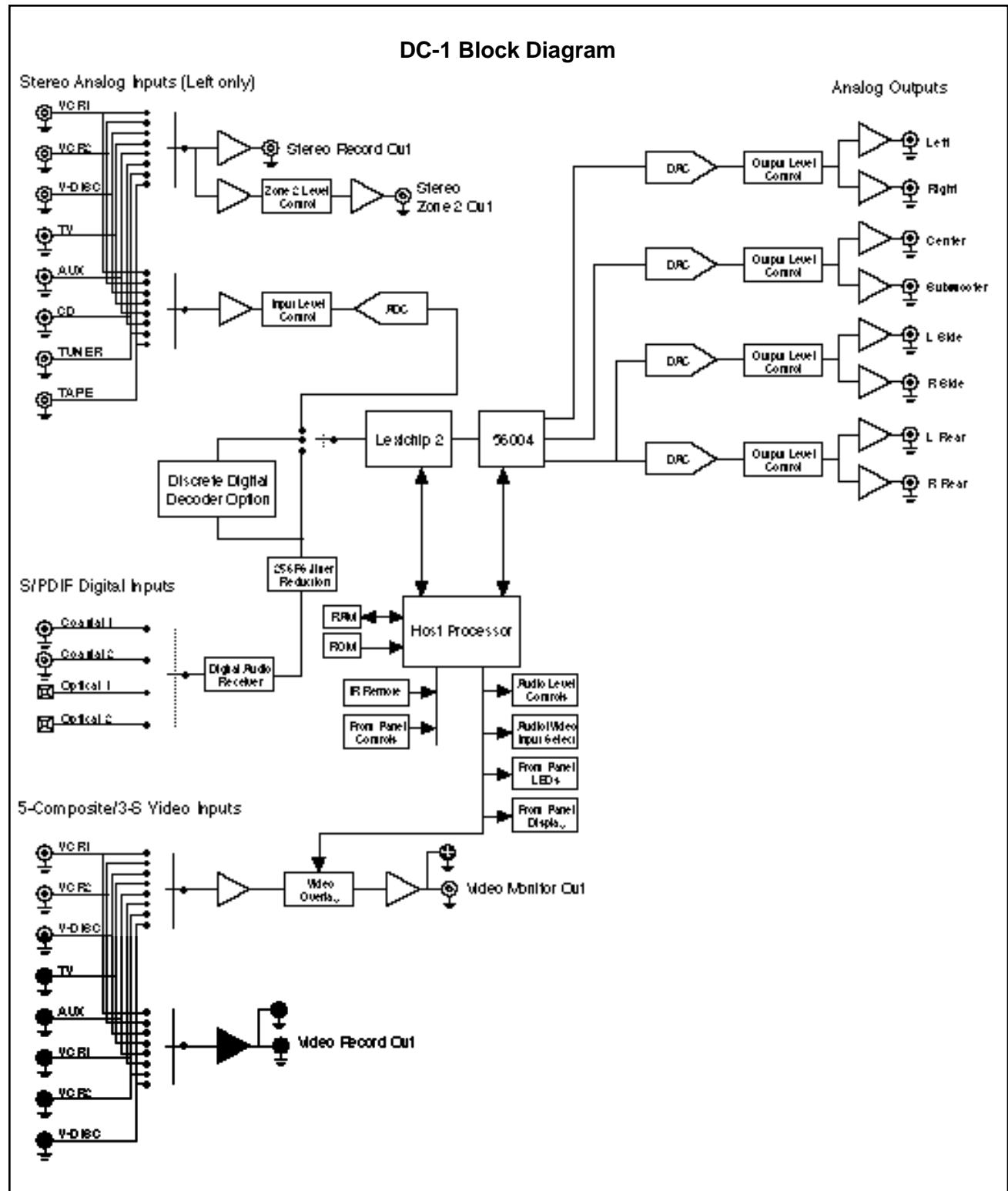
System parameter values are not associated with a particular Effect and their values do not change when a new Effect is loaded. Examples are: display contrast, volume, etc.

Presets The DC-1 contains a set of Effects with factory-set parameters. You can use these Effects as is, or make changes to the parameters to suit your own needs. The factory parameter settings are permanently stored in memory where they can be accessed for comparison with your own versions, or restored.

Essentially, the DC-1 can be thought of as a line level preamp D/A converter with three audio-only, five audio/video, and four digital inputs. It behaves as the master processor for your system, controlling system volume, EQ, balance, source selections, output selections for audio and video, and acoustical environments specifically designed for music and movies.

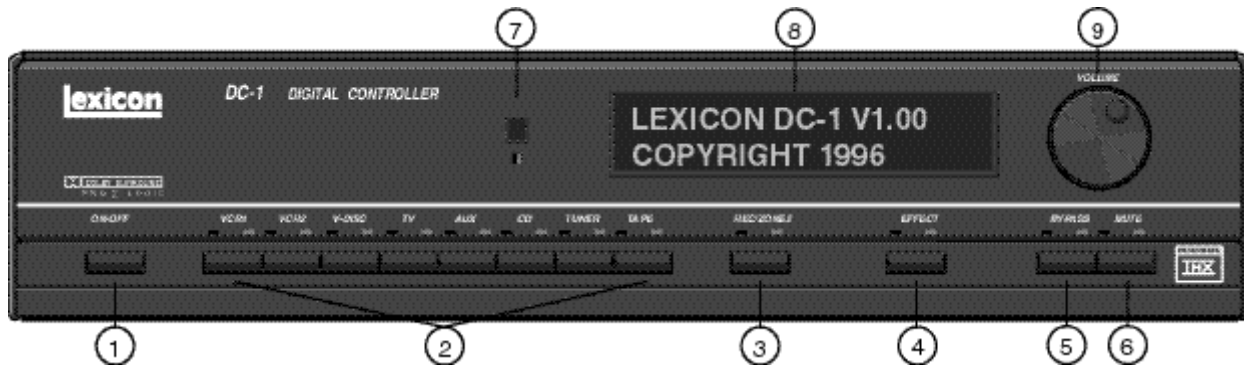
The remote control provided with the DC-1 is designed for simple daily use, as well as for use in configuring the DC-1 to work optimally with your system. The remote gives you access to setup controls and parameter menus for all of the DC-1 Effects.

In many systems, a universal, or learning remote, may take the place of the DC-1 remote. If you are using one of these, we strongly suggest that the types of operating controls we have provided be adapted into the universal remote. We have found these controls enhance the listening/viewing experience while keeping the technology transparent.



Controls and Indicators

The Front Panel



1. ON/OFF

ON/OFF alternately puts the DC-1 into and out of standby mode. Turning the DC-1 off with this button (or with the remote) deactivates the unit while leaving power to the signal processing circuitry to keep it at optimum operating temperature. Turning the DC-1 on with this button (or the remote) will restore the previous operating state.

2. Input Selection

Pressing any of these buttons (VCR1, VCR2, V DISC, TV, AUX, CD, TUNER, TAPE) selects the input at the corresponding rear panel connector as the current input selection and lights a green LED.

3. REC/ZONE 2

Selects and deselects the current input source for the RECORD and ZONE 2 outputs. When the REC/ZONE 2 function is engaged, the red LEDs are lit on the REC/ZONE 2 button and on the selected source input button. To change the REC/ZONE 2 source, press and hold down REC/ZONE 2 while pressing another input selector.

The RECORD video and audio outputs, as well as the ZONE 2 audio outputs are enabled with REC/ZONE 2. Some specific record sources are disallowed because of the potential for feedback loops. By default these are TAPE and VCR1. If a prohibited source is selected, an error message is displayed. The prohibited REC/ZONE 2 source choices can be changed in the Setup menu.

4. EFFECT

Displays the current effect, then steps through all available effects.

5. BYPASS

Toggles the selected effect on and off. The stereo analog or digital inputs are fed unprocessed to the front left and right and subwoofer outputs while all other amplifier outputs are muted. A front panel LED will light yellow and screen messages indicate bypass is engaged.

6. MUTE

Attenuates all audio outputs except for RECORD or ZONE 2, lights a red LED, and displays a screen message to indicate mute is engaged. The attenuation level can be set in the Setup menu.

7. IR Receiver and LED

The IR receiver has an associated activity LED that lights green when valid IR signals are received, and an LED that lights red to indicate an overload condition at the inputs or within the DSP path. An IR input jack is available on the rear panel for a remote mounted IR receiver. The green activity LED remains illuminated when the unit is placed in Standby.

8. Display

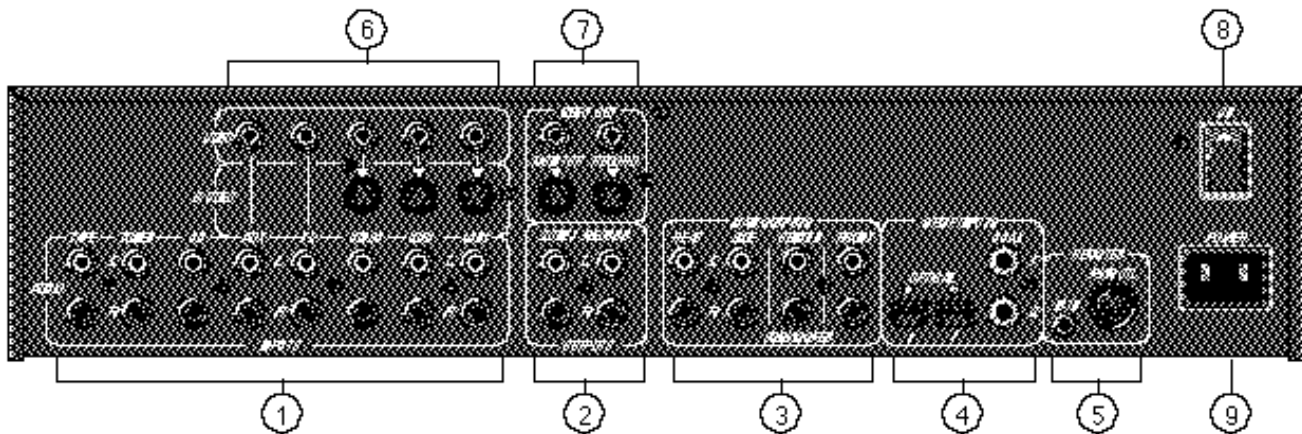
A 2x20 backlit amber LCD displays the result of user action and the current status.

9. VOLUME

A position independent rotary encoder provides volume adjustment of all outputs, except for RECORD or ZONE2. Screen displays show a volume bar and level in dB, as well as the current volume setting.

The Rear Panel

CAUTION: Never make or break any connections to the DC-1 with the rear-panel power ON. Make sure any associated amplifiers have been turned off for at least one minute before turning this master power switch on or off.



1. AUDIO INPUTS

Eight stereo analog audio inputs are switched with corresponding video inputs and fed to the Monitor outputs. Inputs are nominally labeled as originating from an audio tape player, tuner, CD player, an unspecified auxiliary source, a TV tuner, a Laser or Video Disc player, a secondary, and a primary VCR.

2. ZONE2 and RECORD

Each pair of stereo audio outputs supplies the same signal according to the record input selection. ZONE2 signal levels can be controlled independently for use with a second set of amplifiers and speakers in another room. ZONE2 can also be used as a second record output. When the output for ZONE2 is set to 0dB (unity gain), it has the same output level as RECORD. RECORD can be expanded to two outputs using standard Y-connectors. Both outputs are muted in standby.

3. MAIN OUTPUTS

Three stereo amplifier outputs are provided for front, side and rear speakers. Single monaural outputs are provided for the center speaker and the subwoofer. The audio outputs are muted in standby.

4. S/PDIF INPUTS

Two coaxial RCA connectors and two optical connectors are provided for digital audio in the S/PDIF format at a 44.1kHz \pm 1000 ppm sample rate.

5. REMOTES: IR IN, PWR CTL

The IR input is a miniature phone jack connector for input of modulated IR receiver data from an externally mounted IR LED receiver. Data is retransmitted by an IR LED mounted near the front panel IR receiver.

To prevent a feedback loop with the record outputs, VCR1 and TAPE are normally restricted from assignment as record outputs. TAPE, TUNER, and CD default to VCR1 as a video input. Any input label and its default status can be changed in the Setup menu.

The Power Control port is a 5-Pin DIN connector. Pins 1 and 2 are ground, pin 3 is high when unit is on, low in standby or Off. High is indicated by either +5VDC or +12VDC, selectable via an internal jumper. Pin 5 can be enabled (high) or disabled (low) for specific input selections in the Setup menu.

6. VIDEO INPUTS

Five video input sources are provided. VCR1, VCR2 and V DISC, have both composite and S-video capabilities. (S-video is selected in preference to the composite signal.) AUX and TV accept composite only. Video inputs are selected with their corresponding audio inputs and fed to the selected monitor output jack. Record output jacks can be selected independently.

7. VIDEO OUTPUTS

RCA (composite) and S-video connectors are provided for monitor and record. If an S-video input is used, both S-video and composite are available at each output. If the video input is composite, only composite is available at each output. The monitor output incorporates the on-screen video overlay. Unless RECORD is enabled, the record output follows the monitor output selection without the on-screen display feature. Both outputs are blanked in standby.

8. Power On/Off

Master power switch disconnects the AC Mains. This switch is intended to be left On during regular use. Whenever cables are connected or disconnected, or when the unit is not going to be used for an extended period of time, this switch should be set to Off.

9. POWER

AC power connector: 2-wire, 10 Amp, IEC 320.

1. OFF and ON

Separate OFF and ON buttons are provided for learning remotes, so that an automated key sequence does not require information regarding the current on/off status of the unit. OFF puts the unit into standby with audio muted, video blanked, the LCD and all LEDs, except for IR activity, turned off. The IR LED remains illuminated and the IR receiver remains active. The selected input, record status, current effect, volume and balance settings, and bypass state are saved. ON unmutes audio and restores the unit to the state it was in prior to standby.

2. EFFECT Up and Down

Display the current effect, then step through all available effects. In standby, pressing either button turns the unit on, puts it into its last known state, and loads the last effect used.

3. BYPASS

Puts the front left and right outputs into stereo bypass. The stereo analog or digital inputs are fed unprocessed to the front left/right amplifier outputs while all other amplifier outputs are muted. A front panel LED will light yellow and screen messages indicate bypass is engaged.

4. MUTE

Attenuates all audio outputs except for RECORD or ZONE 2, lights a red LED, and displays a screen message. Attenuation level can be set in the Setup menu. In standby, turns the unit on and puts it into its last known state.

5. VOLUME Up and Down

Display the current volume setting, then adjust all outputs, except RECORD and ZONE 2. Screen displays show a volume bar and level in dB. In standby, pressing either button turns the unit on and puts it into its last known state.

6. BALANCE Front/Rear and Left/Right

Display, then adjust the Front/Rear and Left/Right level balances. Front and Rear controls change the level balance between the front (Left, Center, Right) and rear (L&R Side, L&R Rear) outputs.

Left and Right controls change the level balance between the left and right Front, Side and Rear outputs. In standby, pressing any BALANCE button restores operation.

7. Input Selection

Individual buttons select from 8 inputs and activate a corresponding green LED on the front panel. Depending on the Setup configuration, selection may also load a new effect. In standby, pressing any Input Selection button turns the unit on, selects the source and loads the assigned effect, or restores the last known state.

8. RECORD/ZONE 2

Selects and deselects the current input source for RECORD and ZONE2 outputs. When the REC/ZONE2 function is engaged, red LEDs are lit at the front panel REC/ZONE2 button and at the selected source input button. To modify the ZONE 2 output without affecting other output levels, press and hold RECORD/ZONE2 while adjusting VOLUME.

Press MUTE while holding down RECORD/ZONE2 to fully attenuate the ZONE2 outputs. The ZONE2 mute status will be indicated by a screen message. The attenuation level of the ZONE2 output mute is not user adjustable. Repeat to cancel MUTE.

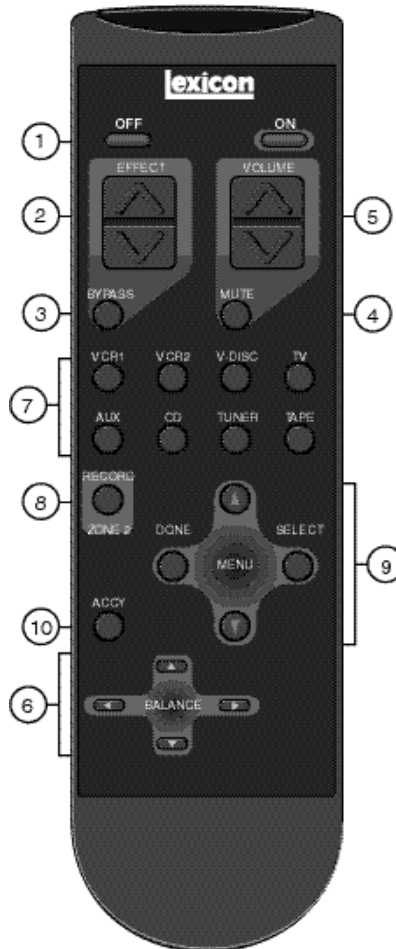
9. MENU:

SELECT, ▲, ▼ and DONE
Allow access to and adjustment of all displayed menu items. (Volume, Bypass, Balance and Mute functions remain active in menu mode.) MENU ▲ and ▼ step a display cursor through listed menu items. SELECT displays submenus, or chooses a menu item for adjustment. The ▲ and ▼ buttons alter the settings of selected parameters. DONE saves the current changes.

Press one of the EFFECT buttons, any Input Selector, RECORD/ZONE2, or any BALANCE button to exit. Press OFF to exit the menu and enter standby.

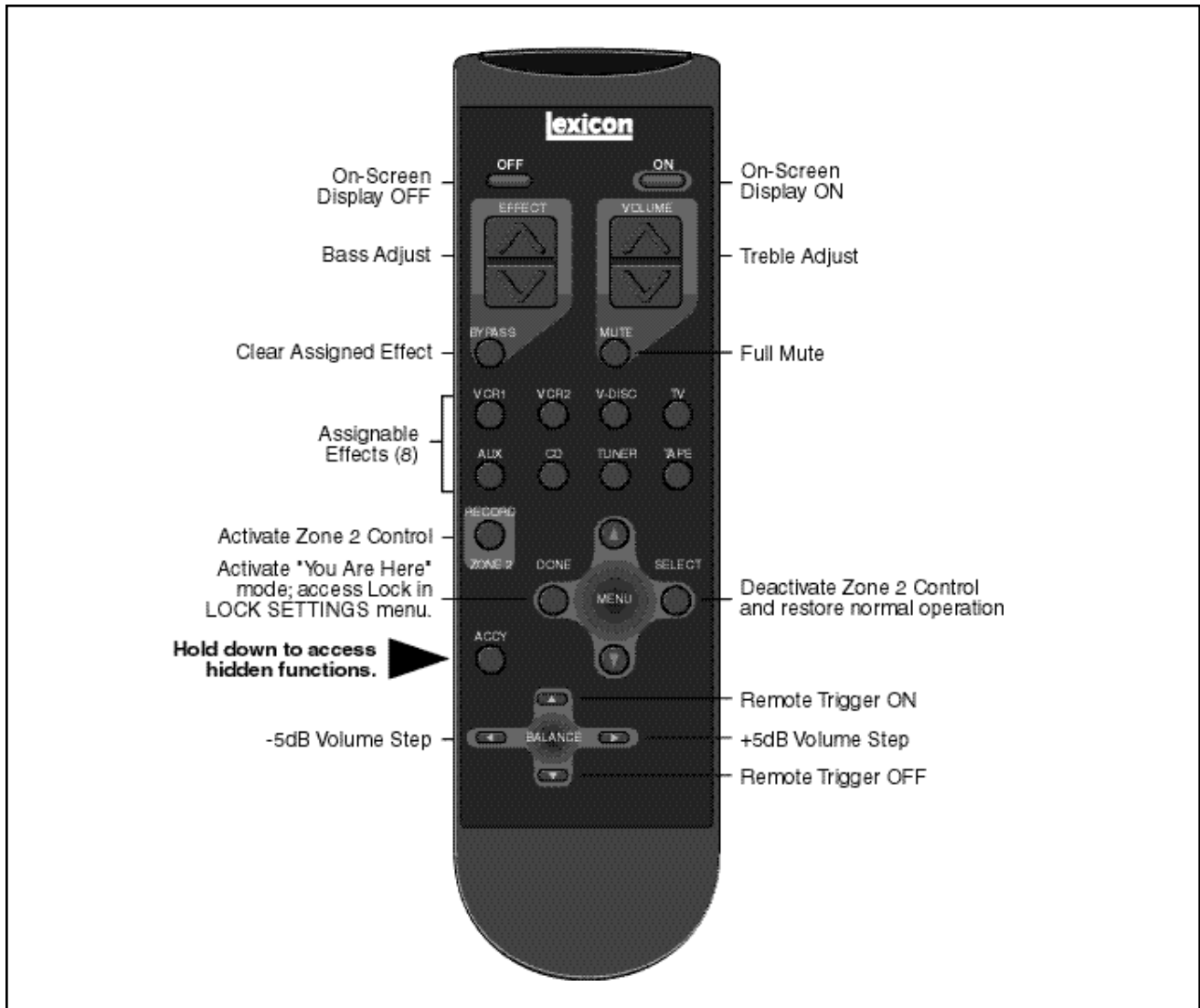
10. ACCY

Provides accessory functions when pressed in conjunction with other remote buttons. (See following page.)



The Remote Control

**Remote Control
ACCY Functions**



Press and hold ACCY while pressing DONE to activate a "You Are Here" mode which:

- Disables mute
- Sets volume to -30dB
- Centers Balance controls
- Loads the Pro Logic Effect
- Selects the VCR1 input
- Activates On-Screen display with 2 second timeout
- Sets Remote Trigger ON
- Sets all tone controls to 0dB or OFF

Connection

The DC-1 is a highly specialized signal processing computer and requires special care during installation to ensure optimum performance.

The DC-1 may be installed on a shelf or in a standard 19" equipment rack, using rack-mounting hardware available from Lexicon. Observe the following precautions:

- Select a dry, well-ventilated location out of direct sunlight.
- Do not stack the DC-1 directly above heat-producing equipment such as power amplifiers.
- Avoid placing the DC-1 near unshielded TV or FM antennas, cable TV decoders, or other receivers. The DC-1 may interfere with some FM tuners if it is placed immediately above or below them. Some products, particularly power amplifiers, may cause hum in the DC-1 if they are in close proximity.
- Make sure the DC-1 front panel IR receiver window is unobstructed. The remote control must be in line-of-sight to this receiver for proper operation. If line-of-sight is impractical, an infrared remote repeater can be used with the rear panel IR connector. The DC-1 may be placed in a glass-doored cabinet but smoked glass will make the front panel Liquid Crystal Display (LCD) difficult to read and will reduce the sensitivity of the IR receiver.

The DC-1 is designed to be connected to an uninterrupted AC power line in the same manner as a VCR or aTV with a clock in it. Like all computers, the DC-1 is sensitive to voltage fluctuations. We therefore recommend the use of an AC line filter to protect against line surges, or the installation of a line conditioner to protect against under voltage (brownouts) as well as over-voltage conditions.

The DC-1 has a master power switch on the rear panel above the IEC standard AC power receptacle. This switch may be left ON continuously when the unit is in regular use. When the DC-1 will not be used for an extended period of time, or whenever you are connecting or disconnecting any cables to the unit, this switch should be turned OFF.

Connect the power cable to the DC-1, then plug the power cord into a wall outlet or into an unswitched outlet on a surge protector. Be sure that the power cord is firmly seated in the connector on the rear panel of the DC-1.

Location Considerations

AC Connections

Wiring Considerations

Audio/Video Cables

There is controversy over the audible effects of different types of interconnects. Good engineering practices have minimized the effect that cables might have on the inputs and outputs of the DC-1 — but feel free to evaluate different interconnects in your system. If you want to do some tweaking, be conscious of the mechanical stress from repeated insertion and overly tight connectors, and the possibly corrosive nature of some contact-enhancing fluids.

Note that the use of standard audio cables for video or digital audio applications may cause signal degradation, and is not recommended. For these connections, please use only cables that are designed for the application — these have different impedance characteristics than cables approved for analog audio applications.

Both audio and video cables should be kept as short as possible.

Speaker Connections

In general, speaker cables should be kept short, and low-impedance wire should be used throughout to assure efficient power transmission and avoid audible distortion. Recommended wire lengths are given in the table below. Although these examples can be used as a general guide, your system manuals should provide detailed information specific to your components.

Wire Lengths	
Length	AWG Size
up to 12 feet	16 gauge
up to 18 feet	14 gauge
up to 29 feet	12 gauge
up to 51 feet	10 gauge

Audio/Video Connections

Before making any connections, turn off ALL audio and video components, including individual power amplifiers. (Unplug any preamps and power amps that don't have power switches.)

The DC-1 is designed to function as the control center of the system, selecting inputs and controlling the volume of all speakers in the system. There are several ways to integrate the DC-1 into the system, but they basically fall into two categories: those where the DC-1 is connected directly to all of the amplifiers in the room, and those where the DC-1 is connected into a tape or signal processor loop of a preamp or receiver.

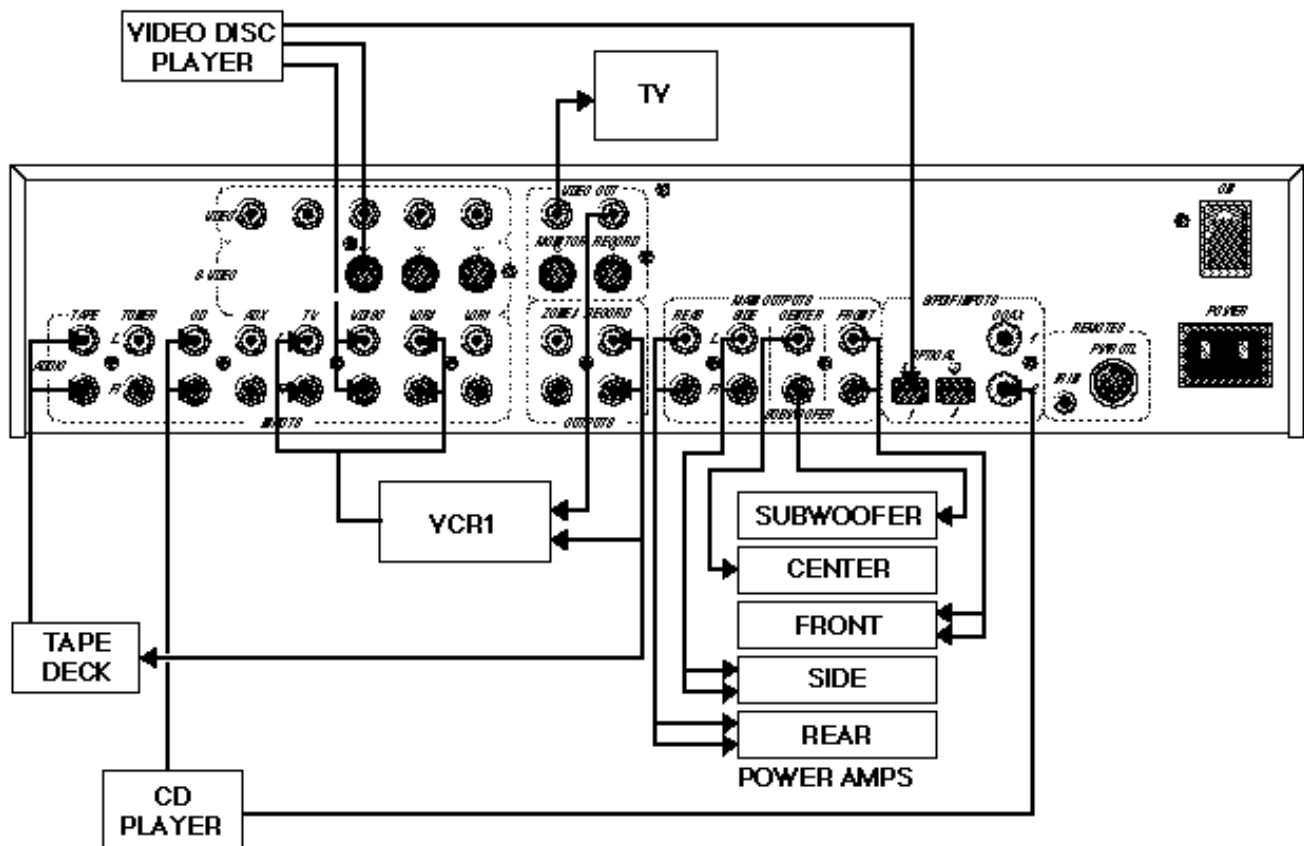
You may choose to connect the DC-1 in the tape monitor, or external processor loop of a preamp, allowing you to completely bypass the DC-1. This, however, will make the system somewhat more complicated to operate, and adds a gain stage (the preamp) that is not needed.

Input sources can each be connected directly to the DC-1 inputs. A typical system might use the TV, VCR1, V-DISC and CD and TUNER (output through a preamp). Since TAPE, TUNER and CD are audio only, the video output will default to the video signal from VCR 1. This feature allows TV or other video source viewing while different audio is playing.

**Connecting the
DC-1 as a preamp**

Connect your main stereo amplifier to the DC-1 FRONT outputs. Connect any additional amplifier/speaker combinations to the remaining outputs on the DC-1: side amplifiers to the SIDE outputs, rear amplifiers to the REAR outputs, center-channel amplifier to the CENTER output and the subwoofer amp to the SUB WOOFER output. If you are using THX-type dipolar surround speakers, the amplifier driving them should be connected to the DC-1 SIDE outputs.

Whenever possible, connect both analog and digital outputs of digital sources.



Note the use of Y-connectors to feed the DC-1 Record output to both the VCR and the tape deck. In this example, Y-connectors are also used to direct the VCR audio output to both the TV and VCR inputs on the DC-1 so that the VCR can be used as a TV tuner.

Video Connections

The DC-1 has five composite video inputs, three of which also support S-Video. Connection to an S-Video input will override any standard composite signal connected via the RCA-type connector. Note that an S-Video input will be output on both the composite and S-Video outputs. The reverse is not true — composite input signals will not be output as S-Video.

You can assign any video source to any (or all) of the eight DC-1 inputs via the Input Configuration submenu of the Setup menu. This can be very useful in systems which use a VCR as the tuner for TV viewing, as the video feed from the VCR can be assigned to both the VCR and TV inputs. Audio can be fed to both inputs with Y-connectors. (Do not use Y-connectors on video signals.) This allows the video signal from the VCR to be used for both TV and VCR viewing.

You can also assign it to audio-only sources such as an AM/FM tuner, to enjoy music from another source while viewing the TV.

It is important to remember that the impedance characteristics of composite video and digital audio are different from analog audio. You should only use cables specifically designed for video and digital audio. Consult your dealer for recommendations.

Digital Audio Connections

Like the video inputs, the digital inputs can be set up to be selected with any of the eight inputs via the Setup menu. Two coaxial (RCA) and two optical (TOSLINK™) inputs are provided. No default assignments are made for the coaxial or optical inputs.

Using the digital inputs will always provide better performance. Whenever possible, connect the analog outputs as well, as some older laser discs do not contain digital soundtracks (and, therefore, require an analog connection). The analog connection is normally used for the RECORD and ZONE 2 outputs.

Recording a Digital Source Using the DC-1 D/A Converter

For recording purposes, it is advisable to connect the analog outputs of your digital source, as the record outputs do not have dedicated D/A converters. (There are already eight in the DC-1!) It is possible to use the internal D/A converters in the DC-1 for recording. The DC-1 must be in the Effect bypass mode. Select the input you want to record, then press the REC/ZONE2 button until the display reads SELECTED FOR RECORD.

If digital audio input is selected without a valid source, or if a digital error state which affects audio performance is detected, all audio outputs are muted and an error message is displayed. Muting is also activated on receipt of digital data encoded as “non-audio data”. While audio is muted, the message OUT OF LOCK ERROR or NON-AUDIO DATA is displayed for two seconds. The associated input on the front panel will display a blinking red LED while the error condition persists. When valid data is restored, the error message is cleared and the unit returns to normal operation. Whenever Emphasis is detected within the incoming digital audio channel status bits, de-emphasis is automatically applied.

Digital Input Status Detection

The DC-1 offers independent input selection and level control for the Main and Zone 2 outputs. Three different methods of control are described below. (Note that Record and Zone 2 outputs are in parallel, so input selection for Zone 2 will effect identical changes at the Record outputs.)

RECORD/ZONE 2 Operation

Zone 2 controls available during normal operation

In normal operation, pressing RECORD/ZONE 2 on the remote control or the front panel will assign the current input selection to the Record/ Zone 2 outputs without affecting the Main outputs. Holding down RECORD/ZONE 2 allows Zone 2 adjustment of VOLUME and MUTE without affecting the Main outputs. To de-assign the Record/Zone 2 outputs, simply press and hold RECORD/ZONE 2 again.

For example:

VCR2 is selected for the Main outputs and its associated green front panel LED is illuminated. Pressing and holding down the front panel REC/ZONE 2 button will light the red LEDs above the REC/ZONE 2 button and the currently selected input (in this example, VCR2). The display will show:

VCR2
SELECTED FOR RECORD

Pressing REC/ZONE 2 again will cause the red LEDs to go out, and will display:

RECORD OUTPUT
DISABLED

To assign a different input via the front panel, simultaneously press REC/ZONE 2 and the desired input selector. To change the input assignment via the remote, first de-assign the current input by holding down the RECORD/ZONE 2 key, then press the desired input selector. This will change the input assignment for the Main outputs. Assign this new input to the Record/Zone 2 outputs by pressing and holding RECORD/ZONE 2.

As protection against feedback, the TAPE and VCR1 inputs are normally blocked from being used as sources for the Record and Zone 2 outputs. This default condition can be changed in the Setup menu.

Zone 2 Remote Control

The remote control can be placed into an exclusive Record/Zone 2 control mode during normal operation by holding down ACCY while pressing RECORD/ZONE 2. This will display the message:

ZONE 2 IR REMOTE
MODE ENABLED

In this mode, the Volume, Mute, Input selection and L/R Balance controls will directly control the Zone 2 outputs with no effect on the Main outputs. Pressing any other keys will display the message:

ZONE 2 MODE ENABLED
KEY INVALID

To exit Zone 2 Remote mode and return the remote control to normal operation, press and hold ACCY while pressing SELECT. The message:

NORMAL IR REMOTE
MODE ENABLED

will be displayed to confirm that normal operation has been restored.

Exclusive Zone 2 Control

The DC-1 can also be used as an exclusive Zone 2 controller, allowing remote use of the system while the local room (the room in which the DC-1 is located) remains muted. To use the DC-1 in this manner, turn on the DC-1 by pressing the RECORD/ZONE2 key on the remote. The unit will power up with the System Mute and Effect Bypass activated. The remote will default to Zone 2 IR Remote mode as described above, with Volume, Mute, Input Selection and L/R Balance controlling only the Record and Zone 2 outputs. To return to normal operation, simply press OFF, then ON.

Digital audio inputs can be selected for the Record/Zone 2 outputs under the following conditions:

- The digital input must be assigned to an input via the Setup menu.
- The input must have Record/Zone 2 operation enabled. (TAPE and VCR1 are normally "BLOCKED", but can be changed in the Setup menu.)
- The input must be selected for Main outputs.
- Effect Bypass must be enabled.

System Configuration

Although the DC-1 memory is cleared before it leaves the factory, it is good practice to reset the unit before programming it. The following procedure resets the unit to factory condition:

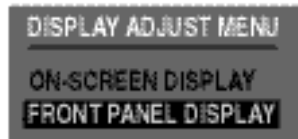
Turn the DC-1 OFF with either the front panel switch or the remote. Turn the unit back ON and immediately press BYPASS. (Make sure you do not block the infrared receiver on the DC-1 front panel.) The display will read:

FACTORY PRESETS MENU
EXIT
RESTORE DEFAULTS

Use MENU ▲ or ▼ to highlight RESTORE DEFAULTS, then press SELECT. This will clear and reload all preset effects and all factory settings of Volume, Balance, Contrast, Configuration, etc. When the message FACTORY DEFAULTS RESTORED is displayed, press DONE to return to normal operation.

Depending on the location of the DC-1 in your room, you may need to adjust the front panel Liquid Crystal Display (LCD) for optimum viewing. To adjust this display, press the MENU ▲, ▼ or SELECT buttons on the Remote to enter the Main Menu. Press MENU ▼ twice to select DISPLAY ADJUST.

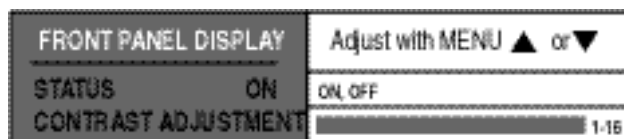
Press SELECT to highlight the Display Adjust Menu. Press MENU ▼ to select FRONT PANEL DISPLAY.



LCD Adjustment



To adjust LCD contrast, use SELECT to highlight CONTRAST ADJUSTMENT, and MENU ▲ or ▼ to set the contrast of the display to its maximum as seen from your listening chair. Press DONE twice to return to the main menu.



If you want to turn the front panel display off, use SELECT to highlight STATUS, then use MENU ▲ or ▼ to select OFF. Press DONE twice to return to the main menu.

The Video On-Screen Display



In addition to the front-panel LCD, the DC-1 contains a character generator for a video overlay display on television sets. Since the on-screen display is capable of showing the full menu of options available at any point, calibration of the system is faster and easier if the DC-1-video output is connected to a video input on a television monitor.

Adjustments to the on-screen display are made from the Display Adjust menu. To display this menu, press the MENU ▲, ▼ or SELECT buttons on the Remote to enter the Main Menu. Press MENU ▼ twice to select DISPLAY ADJUST.

Press SELECT to enter the Display Adjust menu. Press SELECT to open the On-Screen Display menu.



ON-SCREEN DISPLAY		Adjust with MENU ▲ or ▼
STATUS	2 SECONDS	ALWAYS ON, 2 SECONDS, ALWAYS OFF
POSITION	TOP	TOP, CENTER, BOTTOM
FORMAT	NTSC	NTSC, PAL, SECAM
COLOR	ENABLED	ENABLED, DISABLED

This menu allows you to choose the position and duration of items displayed on-screen during normal operation, as well as the options of color or black and white display and conformance to local broadcast format.

Adjusting the position allows you to move the DC-1 display items to a location where they will not interfere with any other video overlays your system may generate.

The STATUS option allows you to choose to have the on-screen display always off, always on, or on for a two-second duration. Note that if you choose to have the display "time out", this will not affect the display of the main menu. Note also that parameter changes will still be performed when you make adjustments with MENU ▲ or ▼, even if the display is inactive. If you choose ALWAYS OFF, you will not be able to use the video overlay, and even setup will have to be done using only the front-panel LCD.

COLOR allows you to have the on-screen display presented in monochrome or color. FORMAT allows you to select NTSC, PAL or SECAM formats. (Note that SECAM format is available only in monochrome).

Press DONE twice to return to the main menu.

Video Input Selection and the On-Screen Display

When using the Video Monitor output with the On-Screen Display, the DC-1 automatically puts up a blue or grey background when no video signal is present.

Occasionally, an incoming video signal may be so weak that it is recognized as essentially no signal, triggering the background overlay. If this occurs, simply reselect the input.

The DC-1 Setup menu allows you to customize the system defaults to suit a wide range of possible system configurations. Each of the five entries in the Setup menu will be discussed in detail in this section.

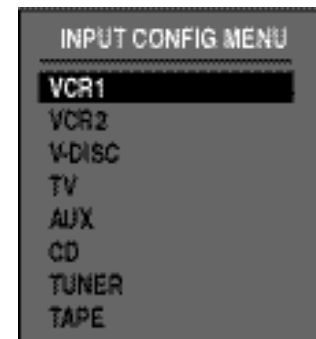
Select SETUP from the main menu to display the Setup menu. Use MENU ▲ and ▼ to step the cursor through the Setup menu selections. Once an item is highlighted, pressing SELECT will display a sub-menu for that item. With the sub-menu displayed, MENU ▲ and ▼ once again highlight menu items. Press SELECT, then use MENU ▲ and ▼ to adjust the settings of any item over its available range. Press DONE to exit any sub-menu; press DONE again to return to the Setup menu.

System Setup



The DC-1 has eight analog stereo audio inputs, each of which can be associated with any of the five video and four digital audio inputs. Selecting Input Configuration from the Setup menu displays a sub-menu which lists these inputs and allows you to select them individually for adjustment. Each input has an identical parameter sub-menu. VCR 1 is shown below as an example.

Input Configuration



INPUT CONFIG	VCR1	Adjust with MENU ▲ or ▼
GAIN	+00dB	AUTO On/Off or MANUAL -18to +12dB
NAME	VCR1	RESTORE DEFAULT or EDIT NAME
EFFECT	THX CINEMA	Any DC-1 Effect
DIGITAL	NONE	Sources: NONE, COAX 1-2, OPTICAL 1-2
VIDEO	VCR1	Sources: NONE, VCR 1-2, V-DISC, TV, AUX
REC/ZON	BLOCKED	Record Output: Enable or Block
TRIGGER	ENABLED	External Trigger Output: Enable/Disable

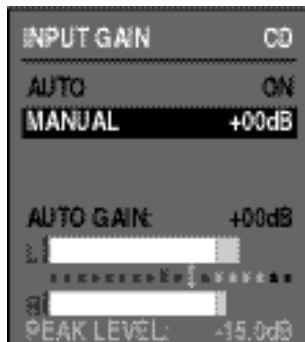
Input Gain

For optimal performance, the unit must be driven to its full input level without overloading. Despite industry attempts at standardization, different sources have a wide range of output levels. To compensate for this, each of the eight DC-1 analog inputs can be assigned a different input gain, assuring optimum performance and consistent volume, regardless of the source. For use with a Dolby calibration tone, the Dolby reference point is indicated by an enlarged tick mark on the on-screen level meters.

Auto Input Level

The DC-1 has an auto level function which monitors the analog input level and automatically optimizes the input gain (AUTO). When activated, this feature controls the input gain. If the signal level is too high and causes an input overload, input gain is automatically decreased to a point which does not cause an overload. When the signal level remains low (>12dB below clipping for 2.5 minutes), the input gain is incremented in 1dB steps to maximize dynamic range.

Although you are given the option of defeating the auto level system by selecting MANUAL, this is not recommended. When MANUAL is selected, the display shows the last auto level setting. (If the auto level feature has not been used, the display shows the last manually entered level.) The auto level setting indicates the optimum input level value as determined by the unit. The MENU ▲ and ▼ buttons increase or decrease the input gain in 1dB increments for the selected input over a range of -18dB to +12 dB. The setting is displayed in dB along with horizontal bargraph meters on the on-screen display to indicate incoming signal level.



The input level meters are displayed when you select the GAIN parameter for an active input which has been selected in the Setup menu.

Input Level Meters

When GAIN is selected, two on-screen horizontal bar meters display peak incoming signal level. The highest peak level is shown in dB in a separate text line, and as an arrow in the the meter display. White, yellow and red sections of the bar meter show increasing levels. The white portion is shown in 3dB increments, the yellow and red portions are shown in 1.5dB increments. An enlarged block at -21dB indicates the reference level used with a Dolby calibration tone source.

The peak level display can be refreshed by pressing DONE to exit, then pressing SELECT to return to the display.

Input Name

Each input has an associated name which is displayed during normal operation whenever the input is selected. The default names are non-abbreviated versions of the corresponding labels on the DC-1 remote control and the front and rear panels. These names can be customized to more accurately reflect your system configuration.

To assign a new name (up to 14 characters) for an input, select NAME from the Input Configuration menu, and EDIT INPUT NAME from the sub-menu. The display will show the current name with a cursor marking the character position to be modified. Use the MENU ▲ and ▼ buttons to select a new character for that position, and SELECT to move the cursor to another position. Press DONE twice to return to the Input Configuration menu.

Restore Input Name

This control allows you to restore the factory name for the currently selected input. Pressing SELECT displays the message PRESS SELECT TO RESTORE INPUT NAME. Pressing SELECT again restores the name and exits to the Input Configuration menu.

Input Effect Assignment

Each input has an associated effect that is automatically loaded when the input is selected. This control allows you to assign a different effect (or no effect) to the selected input. (When an input with no effect assigned is selected, the DC-1 will keep the previous effect loaded.) The default selections for input assignments:

	Base Version	THX Version
VCR1	PRO LOGIC	THX CINEMA
VCR2	PRO LOGIC	PRO LOGIC
V-DISC	PRO LOGIC	THX CINEMA
TV	TV MATRIX	TV MATRIX
AUX	PARTY	PARTY
CD	MUSIC LOGIC	MUSIC SURROUND
TUNER	NIGHTCLUB	CONCERT HALL
TAPE	CHURCH	CHURCH

Digital Audio Input Assignment

The four DC-1 digital audio inputs include two coaxial (RCA) and two optical connectors. For maximum configuration flexibility, each of the four digital inputs can be assigned to any (or all) of the source selections. No default assignments are made for the digital inputs.

NOTE: Some laser discs do not contain digital audio tracks. You will not hear audio when playing these discs if you have selected a digital input as the V-DISC source.

Video Input Assignment

The analog inputs labeled VCR1, VCR2, V-DISC, TV, and AUX normally have corresponding video inputs. The analog inputs labeled CD, TUNER, and TAPE do not have associated video inputs, and default to the video input VCR1. For maximum configuration flexibility, each of the five video inputs can be assigned to a different source selector. If the assigned video input has both S-Video and composite jacks, the S-video signal takes priority whenever a cable is plugged into the appropriate S-video connector.

NOTE: S-Video input signals will be output on both the composite and S-Video jacks. The reverse, however, is not true. If you are only connecting to the monitor via the S-Video connector, composite video only sources will not be displayed.

Record/Zone2 Output Blocking

This feature provides feedback protection when selecting a record source. BLOCKED input sources cannot be selected for the record outputs, thus disabling the record function. Normally, the record outputs are disabled for only the TAPE and VCR1 inputs. This sub-menu allows you to alter these defaults for other configurations.

Remote Trigger Assignment

This menu item assigns the status for the remote trigger voltage that appears on pin 5 of the Power Control DIN jack on the DC-1 rear panel. +12VDC is provided for controlling ancillary equipment or functions. This signal can be assigned as ENABLED or DISABLED for the selected input. The factory default is ENABLED (high) for A/V inputs and DISABLED (low) for audio only inputs. (+5VDC is available via internal jumper. Contact your dealer or Lexicon Customer Service to perform this change.)

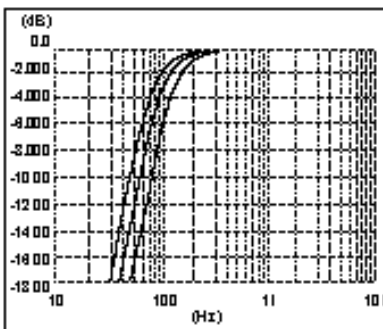
Setting the Speaker Configuration



The Speaker Configuration menu allows a wide range of choices in speaker placement and room setups to provide optimal performance in almost any room with virtually any speaker system. The menu allows you to set the system for performance with center, sides, rear or subwoofer speakers. An adjustable crossover is provided for systems with small center speakers, and an 80, 100 or 125Hz, 24dB/octave rolloff crossover is available for the subwoofer, as well as a complementary highpass filter for all other speakers.

Press SELECT to access the selections for any highlighted menu item.

SPEAKER CONFIG MENU		Adjust with MENU ▲ or ▼
FRONT HPF	80Hz	OFF, 80Hz, 100Hz, 125Hz
CENTER	LARGE	LARGE, SMALL, NONE
SIDES	DIPOLE	STANDARD, DIPOLE, NONE
REARS	TWO	TWO, ONE, NONE
SUBWFR	YES	YES, NO

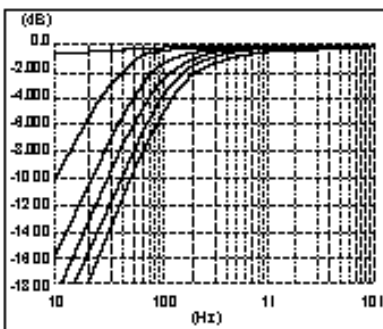


High Pass Filter

The high pass filter attenuates low frequencies at 12dB per octave. The values given are for the -3dB point.

Front High Pass Filter

This 12dB per octave filter is useful for systems with small speakers, as it removes low frequency content from the front left, center and right outputs. Choices of 80, 100 and 125 Hz are available for the -3dB point. This filter should be used if you are using THX-certified speakers. You may also want to turn this control ON if you are using small satellite, or in-wall speakers throughout the system.



Bass Split

Bass Split rolls off frequencies at 6dB per octave. The values given are at the -3dB point of attenuation from the center speaker.

Center

Systems that utilize a full-range center speaker should select LARGE to direct center information to the center output with a full frequency response.

Select SMALL for installations where the center speaker is smaller than the two main stereo speakers. This will automatically engage the Bass Split feature which takes the low frequency content from the center, and distributes it to the left and right front speakers, reducing the risk of damage to a small center speaker without loss of bass information. When SMALL is highlighted, press SELECT to display and adjust the crossover point for the low frequency redistribution. Available crossover points are: 35, 60, 90, 115, and 145Hz, or Bass Split OFF. Press DONE to return to the Speaker Configuration menu.

Sides

This menu sets the system for your particular side speaker configuration. Systems with side speakers should be designated as STANDARD or DIPOLE. DIPOLE indicates a THX speaker configuration, and causes the unit to mute the rear outputs when the THX effect is used. When STANDARD or DIPOLE is highlighted, press SELECT to display and adjust the highpass filter for the side outputs. Choices are: OFF, 80, 100 or 125Hz.

Selecting NONE mutes the side outputs and disables any effect parameters related to side speakers.

Rears

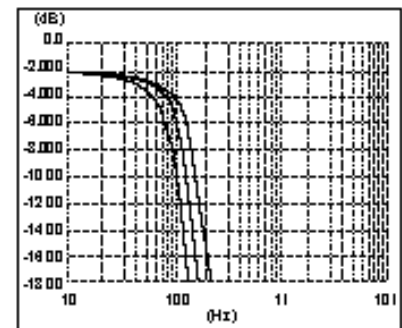
This menu allows the unit to be configured for the correct number of rear speakers. ONE causes the rear outputs to be summed to mono and made available only at the left rear output. TWO sends decorrelated or stereo signals to the rear outputs. When TWO or ONE is highlighted, press SELECT to display and adjust the high pass filter for the rear outputs. Choices are: OFF, 80, 100 or 125Hz.

Selecting NONE mutes the rear outputs and disables any effect parameters related to rear speakers.

Subwoofer Output

Use of the subwoofer output is specified here. Selecting YES, then pressing SELECT allows you to display and adjust the crossover frequency for the subwoofer output. The subwoofer output is created by summing the left, center, right and surround outputs, followed by a 24dB/octave lowpass filter. For the tragically technical, this is a Linkwitz-Riley lowpass filter. Both the summing and the crossover are performed in the digital domain. You can select three different crossover points (80, 100 or 125Hz) for the subwoofer. Although you can also elect to bypass the crossover and run a full range output if your subwoofer has an internal crossover, it is generally best to use the crossover in the DC-1.

NO mutes the subwoofer output and disables the Sub Bass Boost parameter.

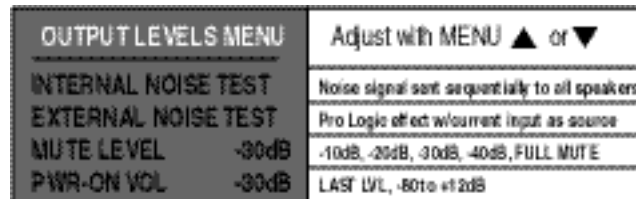


Subwoofer Frequency Response

Setting Output Levels

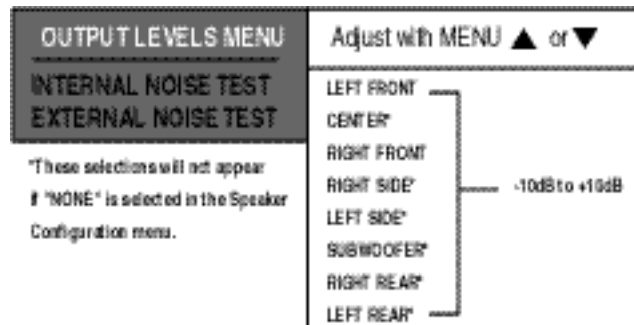


When DC-1 input and output levels are set properly, the entire system will be calibrated to play films at the level intended by the director. Setting the output levels is easy, particularly if a Sound Pressure Level (SPL) meter is used. Using an external source, such as the THX "WOW!" disc or "The Surround Spectacular" disc from Delos (DE-3179), or the DC-1's internally generated calibration signal, adjust the level of each output to the same relative level.



Select INTERNAL NOISE TEST or EXTERNAL NOISE TEST from the Output Levels menu. The INTERNAL NOISE TEST automatically disconnects all audio and video inputs, disables any EQ functions, centers the Balance controls, loads the Pro Logic effect, and sets the system volume to 0dB. The test signal circles the room according to the speaker configuration you have defined in the Speaker Configuration menu. For a full complement of speakers, the order is: Left Front, Center, Right Front, Right Side, Left Side, Subwoofer, Right Rear, Left Rear. The EXTERNAL NOISE TEST loads the Pro Logic effect and uses the signal from the currently selected input for calibration.

Once a test source is selected, a sub-menu showing each output level is displayed. Use the MENU ▲ and ▼ buttons to highlight an output for adjustment. Press SELECT to stop the cycling of the noise signal, then use MENU ▲ and ▼ to adjust the selected output level in precise 0.5dB increments from -10dB to +10dB.



NOTE: If any of the amplifiers in your system have gain (volume) controls, their level settings will affect the balance of the DC-1 outputs. Generally, the gain controls of these amps should be set at or near maximum. You should record the values of these controls for later reference.

Using a Sound Pressure Level Meter such as Radio Shack 33-2050 or 33-2055, set the weighting to *C* and the response to *Slow*. Adjust all output levels to achieve 75dB at the listening position.

In the absence of an SPL meter, it is possible to set the output level by ear. Use the internal noise generator in the DC-1 to adjust all volumes to be the same as they cycle around the various speakers. Depending on timbre variations between your speakers, this may be difficult to judge — get as close as you can. The system should be reasonably well balanced, although not actually calibrated for precise playback and level matching. With the system volume at 0dB, the internal noise source should be at the same level at which film dialog sounds comfortable.

Mute Level

This menu allows you to set the level of attenuation used whenever the DC-1 MUTE function is engaged. In the Output Levels menu, select attenuation levels of -10dB, -20dB, -30dB, -40dB, and FULL

Power On Volume

This control in the Output Levels menu allows you to select the volume at which the DC-1 will power on. You can choose from a range of -80 to +12dB, or elect to have the system power on at the level it was at when powered off (LAST LVL).

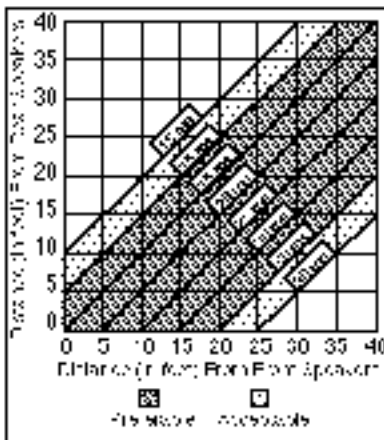
Setting Rear and Center Delays

The Listener Position menu is used for setting the rear and center delays and calibrating the Panorama effect.



LISTENER POSITION		Adjust with MENU ▲ or ▼	
REAR DELAY	20ms	15 to 30ms	
CENTER DELAY	+0.0ms	5.0 to 95 ms	
CALIBRATE PANORAMA		CAL NOISE	OFF, LEFT ONLY, LEFT AND RIGHT, RIGHT ONLY, OFF
		SPEAKER ANGLE	20° - 92°
		LISTENER POS	L127..CNTR..R127

Rear Delay



Rear Delay Settings

When presented with several similar sounds (as in the case of surround sound) we tend to localize on the first sound we hear. Because rear speakers are often closer to the listening area than the main speakers, occasional leakage of the front channel sound into the surround speakers can be audible and distracting. Delaying the sound from the rear speakers gives the sound from the front speakers a chance to reach the listener before the surrounds kick in. The REAR DELAY control in the Listener Position menu allows the user to set the rear delay between 15 and 30 milliseconds in one millisecond increments. The best setting will depend on the distance between the main listening area and the front speakers as well as the distance between the main listening area and the surround speakers. This global rear delay setting is used by surround effects that do not have their own rear delay setting.

In most setups, although the left and right speakers are about the same distance from your listening position, the center speaker is often closer to you, causing the sound from the center speaker to reach the listening position earlier than the sound from the left and right. Equalizing the distance to your ear from the three front speakers in the system will improve the image. The CENTER DELAY parameter allows you to electronically time align the center channel with your main speakers. The delay (relative to the main left and right channels) can be adjusted between -5.0ms and +9.5 ms in 0.5 ms increments. To get the correct setting by ear, listen for a strong improvement in the imaging and stability of the soundstage.

Alternatively, you can measure the path length difference, and calculate the correct setting. To do this, measure the distance (in feet) from the tweeter(s) of your main speakers to your primary listening position. Average these two numbers. Measure the path length from the center speaker to your listening position, and subtract this distance from the average path length of the main speakers. Set CENTER DELAY to the same number of milliseconds as the number of feet of path length difference. For example, if the path length of your main speakers is 14', and the path length of your center speaker is 12', set the delay to +2ms. If the path length of the center speaker is 15.5', set the delay to -1.5ms. This adjustment globally affects all modes which use a center channel.

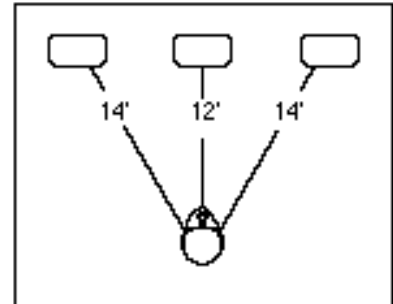
Panorama works by canceling the sound going from each speaker to the opposite ear. Its effectiveness is highly dependent on the geometry of your front loudspeakers, the room and your listening position. The correct timing of the canceling signal varies with the relative angle between your main speakers.

Find a mono source, such as an announcer on FM radio or a mono film, and listen for a tightly focused center image of speech or singing. If the image is off-center, adjust the DC-1's input balance controls. (The more centered the monaural image, the better Panorama will work.)

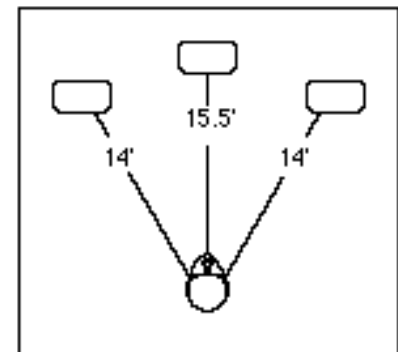
Select CALIBRATE PANORAMA from the Listener Position menu to display a sub-menu that allows you to turn on a calibration noise source, configure the speaker angle, and adjust the listener position.

CAL NOISE is a special digitally generated signal to aid in calibrating the Speaker Angle and Listener Position parameters. Note that in all cases, sound will actually be produced by both front loudspeakers. The adjustments affect the *perceived* directionality of the sound.

Center Delay

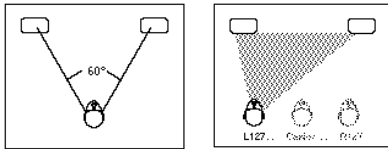


Set CENTER DELAY to 2ms.



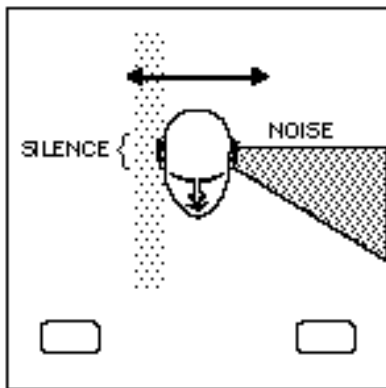
Set CENTER DELAY to -1.5ms.

Calibrate Panorama



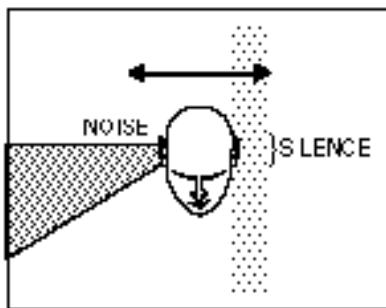
SPEAKER ANGLE is the angle between the main speakers as seen from the listening position — here it is about 60°. **LISTENER POS** allows you to adjust for an offset listening position.

The **SPEAKER ANGLE**, displayed in degrees, adjusts for wide or narrow speaker spacing (relative to the listening position). For the two canceling signals to arrive at both ears at the same time you must be centered precisely between the speakers. It will be easiest to calibrate this parameter if you start equidistant from the two front speakers, even if this is not your normal listening position. Once you have heard the effect and set the speaker angle, the **Listener Position** parameter will allow you to “move” the effect to your customary listening position.



Move your head from side to side to find the position where the noise is full left, and the right ear hears near total silence.

To set the **Speaker Angle**, center yourself symmetrically between the two front speakers. Turn **CAL NOISE** on and select **LEFT ONLY**. The test signal should sound as though it is coming from off to your left side, well beyond the left speaker, with near-total silence in your right ear. Still facing forward, move your head from side to side until the effect is strongest. When you have found this *sweet spot* you will notice an almost physical sensation of silence in your right ear.

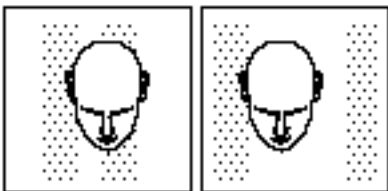


When calibrating right, if your left ear is in the silent band, the speaker angle is correct.

Now, select **RIGHT ONLY**. Again, shift your head from side to side to find the sweet spot, this time looking for the point where the sound is strongest in your *right* ear. Select **LEFT AND RIGHT** to determine if the sweet spots from the left and right tests coincide. If they do not coincide, return to the **SPEAKER ANGLE** display. If the first sweet spot is to the *left* of the second, press **MENU ▲**; if it is to the *right*, press **MENU ▼**.

If your normal listening position is not centered between your two front speakers, once you have corrected the speaker angle setting, you can “move” the sweet spot to that position. To do this, select **LISTENER POS** and use **MENU ▲** and **MENU ▼** to move the effect. As you adjust the position, the display will indicate motion to the left of center (L001,L002,L003...L127), **CENTER**, or to the right of center (R001,R002,R003...R127). The numbers represent approximately 1/3”, but are provided primarily as a general reference.

Panorama is now calibrated. Press **DONE** repeatedly to step back to the main setup menu.



If the two silent bands are too close, lower the **Speaker Angle**; if they are too far apart, raise the **Speaker Angle**.

After you have calibrated and customized the DC-1, there are two additional steps recommended to safeguard the settings. First, document your adjustments. Second, consider locking the settings so that they cannot be inadvertently changed. The last item in the Setup menu allows you to lock the DC-1 settings, as well as to change the name displayed during power up.

Locking the settings allows full operation of the unit but prohibits the ability to change effect parameters or setup values. Specifically, with the settings locked, the unit will allow any Parameter or Setup menu to be displayed, but attempting to select any item for adjustment will display the message: **SETTINGS ARE LOCKED**.

In order to prevent accidental changes, select the **SETTINGS** parameter and use **MENU ▲** to select **LOCKED**. A higher level of security can be achieved by simultaneously pressing the **ACCY** and **DONE** keys on the remote while setting **LOCKED** to **ON**. To release lock, select **SETTINGS** and hold down **ACCY** and **DONE**. **MENU ▲** and **▼** will once again select **LOCKED** or **UNLOCKED**.

When the DC-1 is first turned on, it displays a copyright notice with the current software version. You can choose to have it display **CUSTOMIZED FOR DEMONSTRATION** with the word **DEMONSTRATION** scrolled in from right to left.

The word **DEMONSTRATION** can be replaced by a custom name of as many as 20 characters. To assign a new name, use **MENU ▲** and **▼** to highlight **CUSTOM NAME**. Press **SELECT** and press **MENU▲** to turn this function **ON**, then press **DONE**.

You will return to the Lock Settings menu with **ASSIGN CUSTOM NAME** highlighted. Pressing **SELECT** will display the current name with a cursor indicating which character position can be modified. Use **MENU ▲** and **▼** to select a new character. Use **SELECT** to move the cursor to a new position. Press **DONE** to save the new name.

Customization



Locking Settings

Assign Custom Name

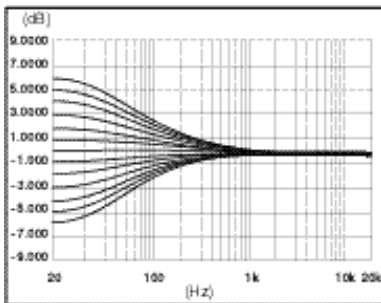
Equalization (THX)

The THX version of the DC-1 provides Equalization controls as a selection in the Main Menu.



Press SELECT to open the Equalization menu which contains Bass and Treble level controls and a Loudness parameter.

EQUALIZATION MENU		Adjust with MENU ▲ or ▼
BASS LEVEL	-0.5dB	-6.0to +6.0dB
TREBLE LEVEL	+0.0dB	-6.0to +6.0dB
LOUDNESS	ON	ON, OFF



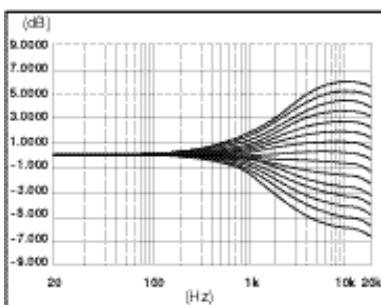
Bass Tone Control Frequency Response

Bass and Treble Level

Bass and Treble level controls are provided to compensate for inconsistencies in source material, rather than variations in room conditions. The BASS LEVEL control allows a boost or cut of as much as 6dB below 250Hz. The TREBLE LEVEL control allows a boost or cut of 6dB above 1.5kHz.

To select either control for adjustment, use MENU ▲ or ▼ to select the control, press SELECT, and use MENU ▲ or ▼ to adjust the setting.

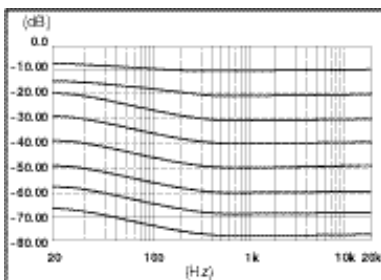
These controls do not affect the sound of rear or side speakers.



Treble Tone Control Frequency Response

Loudness

A Loudness Contour parameter which boosts bass information, provides more balanced reproduction at low volume listening conditions. Once you have calibrated DC-1 output levels, you can assume a specific acoustic level for a given volume setting and set the LOUDNESS parameter ON to provide the ideal amount of boost for any given volume setting. This parameter does not affect the sound in rear or side speakers.



Loudness vs DC-1 Volume control
(front left)

When EFFECT ADJUST is selected from the Main menu, the on-screen display shows a list of parameters specific to the current effect, as well as the current value of each parameter. (The front panel display shows one parameter at a time). Press the MENU ▲ and ▼ buttons to move through the displayed list. Press SELECT to activate a two-line display which allows you to use the ▲ and ▼ buttons to alter the selected parameter's value. Press DONE to confirm the change and move on to the next menu item. Each DC-1 Effect and its parameter menu is described in the following section.

Although the list of available parameters will vary with different effects, the last item in each menu is always CUSTOM. Selecting CUSTOM calls up a sub-menu which allows you to name your custom effects, to compare your version with the original preset, or to restore the preset versions of the Effect name and parameter values.

When first shipped, the DC-1 has a set of default values assigned to each Effect. These values have been determined to be generally suitable for initial listening. As every installation has its own unique characteristics, and listeners have distinctly different preferences, you will want to tailor the Effects to suit your own requirements. To allow easy customization, any parameter changes you make take effect instantly, and automatically become a part of the Effect. You can even change the name that appears on-screen. Once you have made the changes you want, the Effect will remain as you have set it unless you alter it again, or deliberately restore the factory preset parameter values.

Selecting CUSTOM from any Effect Adjust menu will give you access to the controls listed to the side and described below. Use MENU ▲ and ▼ to highlight any menu item, then press SELECT to open the submenu.

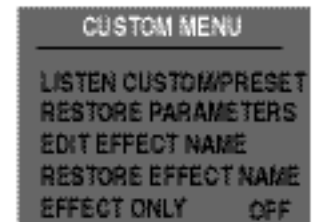
LISTEN CUSTOM PRESET lets you compare your edited version of an Effect with the original version as set at the factory. When this control is selected, MENU ▲ and ▼ allow you to alternate between the "preset" and your modified version ("custom"). The display will confirm whether you are LISTENING TO CUSTOM or PRESET.

Note that this function is available, even if you have not made any changes to an Effect. Until you make parameter changes to create a custom version of a preset, the LISTEN TO CUSTOM option will contain an exact duplicate of the preset Effect.

DC-1 Effects



Customizing Effects



Comparing a modified Effect to the factory preset version

**Restoring the original
parameter values
of an Effect**

The RESTORE PARAMETERS function allows you restore the currently selected Effect to its factory preset state.

When you select this function, you will be prompted to reconsider erasing your changes. — If you *don't* want to erase your versions, press DONE to exit the menu. Pressing SELECT in response to the displayed query will restore all of the factory preset values to the Effect.

Naming your custom Effect

EDIT EFFECT NAME allows you to assign a new name, of as many as 12 characters, to your Effect. With EDIT EFFECT NAME highlighted, press SELECT to display the current name with a cursor indicating which character position can be modified. SELECT moves the cursor to a new position. MENU ▲ and ▼ scroll through the available character set. Press DONE to save the new name.

**Restoring the original
Effect name**

RESTORE EFFECT NAME allows you to restore the original factory name of an Effect, without changing any of your modified parameter settings. When you select this function, the message PRESS SELECT TO RESTORE EFFECT NAME allows you to reconsider erasing your custom name. — If you *don't* want to erase your version, press DONE to exit the menu. Pressing SELECT in response to the displayed query will restore the factory preset name.

**Listening to only
the DC-1 Effect**

Selecting EFFECT ONLY allows you to listen to only the effects added by the DC-1 to the currently loaded program. With this function selected, use MENU ▲ and ▼ to turn this function on or off.

Panorama extracts the natural ambience from recorded music and moves it outward from the speakers, producing greater width and depth of image and a feeling of enhanced spaciousness. This mode adds no additional sound but expands the existing stereo image. Panorama also works with Dolby Stereo movies, bringing the surround track outward into the room.

Panorama

The location of the front speakers and the listening position are crucial to Panorama's effectiveness and for best results your system and the DC-1 together should be set up and calibrated according to the procedure in Chapter 2. The strength of the Panorama effect drops off as you move away from the prime listening position, especially to the sides. Video systems with the main loudspeakers spaced closely on either side of a TV screen will produce a usable effect over a somewhat wider area than set-ups with a large included angle between the speakers.

Parameter	Initial Value	Range
INPUT BALANCE	(Centered)	Full Left-Full Right
LF WIDTH	0	-25 to +25
REAR LEVEL	25	1-32
REAR ROLLOFF	4.9kHz	453Hz-20.0kHz
REAR DELAY	10ms	0-32ms
CENTER LEVEL	4	0-15
BASS CONTENT	MONO	STEREO, MONO, BINAURAL
SUB BASS BOOST	+0dB	-05 to +05dB
EFFECT LEVEL	62	0-62
CUSTOM		

Panorama Parameters

INPUT BALANCE allows you to compensate for the occasional source with audible channel imbalance. When selected, screen graphics indicate the relative left/right position.

LF WIDTH allows you to apply low-frequency spatial correction to the signal. Positive values of LF Width indicate that the *difference* signal (L-R) has additional energy below 500Hz, while the *sum* (L+R) has correspondingly less. Negative settings of LF WIDTH can compensate for recordings with too much of this property. This control can add needed spaciousness and warmth to classical recordings made with coincident or near-coincident microphones.

REAR LEVEL adjusts the loudness of the signals sent to the rear channels. This control should be set so that the rear is audible without calling attention to itself. Numerical values and screen graphics are displayed during adjustment. In systems configured without rear speakers, the settings affect the level of the *side* outputs.

REAR ROLLOFF sets the frequency above which the rear-channel sound is attenuated. The appropriate setting will vary with the program material. It should be set high enough to give presence and airiness to the rear sound without placing distracting instrumental overtones or other sounds behind you. In systems configured without rear speakers, the settings affect the *side* outputs.

REAR DELAY adjusts the amount of time between the appearance of a signal in the front channels and its emergence from the rear. Generally, the correct delay is about 16 milliseconds, but the setting depends on speaker set-up and source material. In general, the delay should be low enough so that the rear sound does not become identifiable as a distinct source. In systems configured without rear speakers, the settings affect the *side* outputs.

CENTER LEVEL adjusts the output level from the center speaker.

BASS CONTENT allows you to modify the bass content for Mono, Stereo or Binaural recordings. The **BINAURAL** setting turns the rear level parameter off and activates special low-frequency compensation. This feature is offered specifically for true binaural recordings made with a dummy head.

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

EFFECT LEVEL adjusts the loudness of the side and rear speakers. When there are no side speakers, it adjusts the amount of ambient signal mixed into the main loudspeakers.

The Nightclub Effect generates the appropriate early reflections for stereo simulation of many different intimate spaces, and sends the reflections to the side and rear speakers.

Nightclub

Parameter	Initial Value	Range
HALL SIZE	4 Meters	4-17 Meters
LIVENESS	4	0-6
ROLLOFF	9.7kHz	453Hz-20.0kHz
SPEECH DETECT	OFF	ON/OFF
CENTER LEVEL	9	0-15
SUB BASS BOOST	+0dB	-5 to +5dB
EFFECT LEVEL	+02dB	-30 to +05dB
CUSTOM		

Nightclub Parameters

HALL SIZE allows you to select room sizes of lengths ranging from 4-17 meters.

LIVENESS adjusts the amount of recirculation within the effect. Higher values mimic more reflective surfaces in the simulated space and increase the amount of time it takes the sound to decay. At very high values, the decay is audibly less smooth than in the Church and Cathedral Effects, which are more effective at simulating very live spaces.

ROLLOFF mimics the absorption of the air in the hall and, typically, should begin with a low frequency to simulate large spaces.

SPEECH DETECT activates a circuit that distinguishes monaural speech from other inputs. Essentially, this control turns down the effect to make speech clearer. Whenever stereo signals are present, the right and left input channels are used independently as inputs to the ambience synthesis. If there is a strong monaural speaking voice present at the same time, this component of the input to the Nighclub effect is reduced while the stereo component is increased.

If the input signal is pure monaural speech the input is almost entirely attenuated. SPEECH DETECT is a real benefit to some popular music (where spoken voice, such as rap, occurs along with the music), stereo television and early stereo movies. Any stereo material which was not carefully mixed for Surround is a good candidate for playing through the Nightclub Effect with speech detect on.

CENTER LEVEL adjusts the output level from the center speaker.

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

EFFECT LEVEL adjusts the loudness of the side and rear speakers. When there are no side speakers, it adjusts the amount of ambient signal mixed into the main loudspeakers.

Concert Hall

The Concert Hall Effect generates the appropriate early reflections for stereo simulation of many different halls, and sends the reflections to all channels in addition to the direct signal in the main speaker. This Effect is not appropriate for highly percussive music.

Concert Hall Parameters

Parameter	Initial Value	Range
HALL SIZE	30 Meters	20-30 Meters
LIVENESS	4	0-6
ROLLOFF	3.3kHz	453Hz-20.0kHz
SPEECH DETECT	ON	ON/OFF
CENTER LEVEL	8	0-15
SUB BASS BOOST	+0dB	-5 to +5dB
EFFECT LEVEL	-01dB	-30 to +05dB
CUSTOM		

HALL SIZE allows you to select room sizes of lengths ranging from 20-30 meters (in increments of 4 meters).

LIVENESS adjusts the amount of recirculation within the effect. Higher values mimic more reflective surfaces in the simulated space and increase the amount of time it takes the sound to decay. At very high values, the decay is audibly less smooth than in the Church and Cathedral Effects, which are more effective at simulating very live spaces.

ROLLOFF mimics the absorption of the air in the hall and, typically, should begin with a low frequency to simulate large spaces.

SPEECH DETECT activates a circuit that distinguishes monaural speech from other inputs. Essentially, this control turns down the effect to make speech clearer. Whenever stereo signals are present, the right and left input channels are used independently as inputs to the ambience synthesis. If there is a strong monaural speaking voice present at the same time, this component of the input to the Concert Hall effect is reduced while the stereo component is increased.

If the input signal is pure monaural speech the input is almost entirely attenuated. SPEECH DETECT is a real benefit to some popular music (where spoken voice, such as rap, occurs along with the music), stereo television and early stereo movies. Any stereo material which was not carefully mixed for surround is a good candidate for playing through the Concert Hall effect with Speech Detect on.

CENTER LEVEL adjusts the output level from the center speaker.

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

EFFECT LEVEL adjusts the loudness of the side and rear speakers. When there are no side speakers, it adjusts the amount of ambient signal mixed into the main loudspeakers.

The Church Effect uses a reverberation algorithm, which differs from ambience in that it does not simulate the reflections of specific halls, but emphasizes rich, smooth reverberant decay in small and medium spaces. It works well for simulating a space with a long reverberation time relative to its size, such as a reverberant chamber, or a church.

Church

Parameter	Initial Value	Range
MID RT	1.89 sec	.89-13.42 sec
BASS RT	2.36 sec	0.7, 1.0, 1.25xMID RT
HALL SIZE	30 Meters	4-30 Meters
PRE-DELAY	24ms	0-88ms
ROLLOFF	4.9kHz	453Hz-20.0kHz
SPEECH DETECT	ON	ON/OFF
CENTER LEVEL	7	0-15
SUB BASS BOOST	+0dB	-5 to +5dB
EFFECT LEVEL	-01dB	-30 to +05dB
CUSTOM		

Church Parameters

MID RT (midrange reverberation time) is the time required for midrange sounds to decay 60dB in level.

BASS RT (low frequency reverberation time) depends on MID RT and is expressed as a multiplier. BASS RT should be set to 1.0 x MID RT for a more natural effect in smaller spaces.

HALL SIZE allows you to select hall sizes of lengths ranging from 4-30 meters (in increments of 2 meters).

PRE-DELAY increases the delay between the direct sound and the onset of reverberation. Because some pre-delay is inherent in the program material, a value of 0 is usually a good starting point. Increasing the pre-delay value will make the hall sound larger.

ROLLOFF mimics the absorption of the air in the hall and, typically, should begin with a low frequency when simulating larger spaces.

SPEECH DETECT activates a circuit that distinguishes monaural speech from other inputs. Essentially, this control turns down the effect to make speech clearer. Whenever stereo signals are present, the right and left input channels are used independently as inputs to the ambience synthesis. If there is a strong monaural speaking voice present at the same time, this component of the input to the Church effect is reduced while the stereo component is increased.

If the input signal is pure monaural speech the input is almost entirely attenuated. **SPEECH DETECT** is a real benefit to some popular music (where spoken voice, such as rap, occurs along with the music), stereo television and early stereo movies. Any stereo material which was not carefully mixed for surround is a good candidate for playing through the Church effect with Speech Detect on.

CENTER LEVEL adjusts the output level from the center speaker.

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

EFFECT LEVEL adjusts the loudness of the Effect.

Cathedral

The Cathedral Effect uses a reverberation algorithm which emphasizes rich, smooth reverberant decay in large spaces. As its name indicates, it works well for simulating a space with a long reverberation time relative to its size, such as a cathedral.

Cathedral Parameters

Parameter	Initial Value	Range
MID RT	3.90 sec	.59-17.04 sec
BASS RT	4.87 sec	0.7, 1.0, 1.25xMID RT
HALL SIZE	38 Meters	20-38 Meters
PRE-DELAY	40ms	0-88ms
ROLLOFF	2.6kHz	453Hz-20.0kHz
SPEECH DETECT	ON	ON/OFF
CENTER LEVEL	7	0-15
SUB BASS BOOST	+0dB	-5 to +5dB
EFFECT LEVEL	-01dB	-30 to +05dB
CUSTOM		

MID RT (midrange reverberation time) is the time required for midrange sounds to decay 60dB in level.

BASS RT (low frequency reverberation time) depends on MID RT and is expressed as a multiplier. BASS RT should be set to 1.0 x MID RT for a more natural effect in smaller spaces.

HALL SIZE allows you to select hall sizes of lengths ranging from 20-38 meters (in increments of 2 meters).

PRE-DELAY increases the delay between the direct sound and the onset of reverberation. Because some pre-delay is inherent in the program material, a value of 0 is usually a good starting point. Increasing the pre-delay value will make the hall sound larger.

ROLLOFF mimics the absorption of the air in the hall and, typically, should begin with a low frequency when simulating larger spaces.

SPEECH DETECT activates a circuit that distinguishes monaural speech from other inputs. Essentially, this control turns down the effect to make speech clearer. Whenever stereo signals are present, the right and left input channels are used independently as inputs to the ambience synthesis.

If there is a strong monaural speaking voice present at the same time, this component of the input to the Cathedral effect is reduced while the stereo component is increased.

If the input signal is pure monaural speech the input is almost entirely attenuated. SPEECH DETECT is a real benefit to some popular music (where spoken voice, such as rap, occurs along with the music), stereo television and early stereo movies. Any stereo material which was not carefully mixed for surround is a good candidate for playing through the Cathedral effect with Speech Detect on.

CENTER LEVEL adjusts the output level from the center speaker.

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

EFFECT LEVEL adjusts the loudness of the side and rear speakers. When there are no side speakers, it adjusts the amount of ambient signal mixed into the main loudspeakers.

Music Logic and Music Surround are surround effects developed specifically for music listening. They make full use of additional loudspeakers placed at the center, sides and rear of the room. Music Logic provides a slight degree of steering for the front channels whereas Music Surround (available in the THX version of the DC-1) passes unprocessed left and right information directly to the front left and right speakers.

Music Logic and Music Surround (THX)

Parameter	Initial Value	Range
CENTER LEVEL	13	0-30
FRONT STEERING	1/4	1/4, 1/2, Full, Off
SIDE LEVEL	+3dB	-5 to +5dB
SIDE ROLLOFF	9.7kHz	453Hz20.0kHz
REAR ROLLOFF	6.9kHz	453Hz20.0kHz
SUB BASS BOOST	+0dB	-5 to +5dB
EFFECT LEVEL	+00dB	-30 to +05dB
CUSTOM		

Music Logic Parameters

Parameter	Initial Value	Range
CENTER LEVEL	15	0-30
SIDE LEVEL	+0dB	-5 to +5dB
SIDE ROLLOFF	8.2kHz	453Hz20.0kHz
REAR ROLLOFF	6.9kHz	453Hz20.0kHz
SUB BASS BOOST	+0dB	-5 to +5dB
EFFECT LEVEL	+00dB	-30 to +05dB
CUSTOM		

Music Surround Parameters

CENTER LEVEL attenuates the level of the center channel and can turn it off completely.

FRONT STEERING (available only in Music Logic) allows you to adjust the amount of steering in the front channels. When this control is set to **FULL**, the effect is identical to Dolby Pro Logic. At the $1/2$ and $1/4$ settings, steering is reduced to accommodate the wide range of television programming. Selecting **OFF** steers the signal to both the left and right channels.

SIDE LEVEL controls the volume level of the side speakers. Although we have selected a default value, the correct setting will vary with each recording, the room, and your personal taste.

SIDE ROLLOFF provides a high frequency cutoff for the side speakers. The optimal setting for this control will vary widely with the source material.

REAR ROLLOFF sets the cutoff frequency of a low pass filter in the rear-channel. Frequencies above this setting are attenuated. This control should be set high enough to give presence and airiness to the rear sound without placing distracting instrumental overtones or other sounds behind you. In systems configured without rear speakers, the settings affect the *side* outputs.

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

EFFECT LEVEL adjusts the loudness of the side and rear speakers. When there are no side speakers, it adjusts the amount of ambient signal mixed into the main loudspeakers.

The TV Matrix effect provides surround effects for television viewing of monaural, stereo, and stereo synthesized programs.

TV Matrix

Parameter	Initial Value	Range
AUTO AZIMUTH	ON	ON/OFF
FRONT STEERING	FULL	1/4, 1/2, Full, Off
REAR ROLLOFF	20.0kHz	453Hz-20.0kHz
DOLBY B NR	ON	ON/OFF
RE-EQUALIZER	OFF	ON/OFF
SIDE ASSIGN	SIDE	Front/Side, Front/Rear*
SIDE LEVEL	+0dB	-5 to +5dB
SUB BASS BOOST	+3dB	-5 to +5dB
EFFECT LEVEL	+00dB	-30 to +05dB
CUSTOM		

TV Matrix Parameters

* Dependent on speaker configuration

AUTO AZIMUTH is short for auto azimuth error correction/automatic input balance. Auto Azimuth should be set to ON for films, and OFF for music. When ON, special patented algorithms continually monitor the input signal and adjust both the relative level and time offset of the two channels to keep the dialog properly centered and special effects properly localized. This automatic feature is the reason the unit does not need an input balance control for Dolby Surround decoding.

FRONT STEERING The essence of the TV MATRIX Effect is that dialog, music, and surround effects are dynamically directed to the output channels, a process called steering. The FRONT STEERING control allows you to adjust the amount of steering in the front channels. When this control is set to FULL, the steering is identical to Dolby Pro Logic. At 1/2, steering is reduced to accommodate the wide range of television programming. Selecting OFF will steer the center signal to both the left and right channels. This parameter is automatically set to OFF for systems configured without a center speaker.

REAR ROLLOFF sets the cutoff frequency of a low pass filter in the rear-channel. Frequencies above this setting are attenuated. This control should be set high enough to give presence and airiness to the rear sound without placing distracting instrumental overtones or other sounds behind you. In systems configured without rear speakers, the settings affect the *side* outputs.

DOLBY B NR is used in Pro Logic and THX effects for the surround channels according to Dolby specifications. Because Dolby Surround encoded program material is generally listened to with the unit set for Pro Logic or THX, this parameter is normally off.

RE-EQUALIZER equalizes the left, center, and right channel outputs to match the overall frequency balance of the original recording. Without this re-equalization, many films and some television programs will sound too bright.

SIDE ASSIGN determines whether the information fed to the side speakers is from the front left and right or rear outputs. Availability of selections varies according to your speaker configuration.

SIDE LEVEL controls the volume level of the side speakers. Although the default value is 0, the correct setting will vary with each recording, the room, and your personal taste.

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

EFFECT LEVEL adjusts the loudness of all channels except for the center.

Logic 7 (THX)

Available only in DC-1's equipped with THX processing, this film sound mode reproduces musical material with maximum separation at all times, whether or not directional material is being steered. In addition, Logic 7 uses intelligent steering to extract wide bandwidth stereo surround channels.

If both side and rear speaker pairs are available, signals may be steered between the left side and left rear, or between the right side and right rear. It is also possible for a signal to be steered fully to the rear speakers, with the side surround speakers 6dB lower than the rears to provide subjective rear imaging.

Logic 7 Parameters

Parameter	Initial Value	Range
AUTO AZIMUTH	ON	ON/OFF
FRONT STEERING	FULL	1/4, 1/2, Full, Off
REAR ROLLOFF	20.0kHz	453Hz-20.0kHz
DOLBY B NR	ON	ON/OFF
RE-EQUALIZER	ON	ON/OFF
SIDE ASSIGN	SIDE	Front/Side, Front/Rear*
SIDE LEVEL	+0dB	-5 to +5dB
SUB BASS BOOST	+3dB	-5 to +5dB
EFFECT LEVEL	+00dB	-30 to +05dB
CUSTOM		

* Dependent on speaker configuration

AUTO AZIMUTH is short for auto azimuth error correction/automatic input balance. Auto Azimuth should be set to ON for films, and OFF for music. When ON, special patented algorithms continually monitor the input signal and adjust both the relative level and time offset of the two channels to keep the dialog properly centered and special effects properly localized. This automatic feature is the reason the unit does not need an input balance control for Dolby Surround decoding.

FRONT STEERING In the LOGIC 7 Effect, dialog, music, and surround effects are dynamically directed to the output channels, a process called steering. The FRONT STEERING control allows you to adjust the amount of steering in the front channels. When this control is set to FULL, the steering is identical to Dolby Pro Logic. At 1/2, steering is reduced to accommodate the wide range of television programming. Selecting OFF will steer the center signal to both the left and right channels. This parameter is automatically set to OFF for systems configured without a center speaker.

REAR ROLLOFF sets the cutoff frequency of a low pass filter in the rear-channel. Frequencies above this setting are attenuated. This control should be set high enough to give presence and airiness to the rear sound without placing distracting instrumental overtones or other sounds behind you. In systems configured without rear speakers, the settings affect the *side* outputs.

DOLBY B NR directs effects for the surround channels according to Dolby specifications.

RE-EQUALIZER equalizes the left, center, and right channel outputs to match the overall frequency balance of the original recording. Without this re-equalization, many films and some television programs will sound too bright.

SIDE ASSIGN determines whether the information fed to the side speakers is from the front left and right or rear outputs. Availability of selections varies according to your speaker configuration.

SIDE LEVEL controls the volume level of the side speakers. Although the default value is 0, the correct setting will vary with each recording, the room, and your personal taste.

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

EFFECT LEVEL adjusts the loudness of all channels except for the center.

Mono Logic

Mono Logic takes a monaural soundtrack and sends music and sound effects to the sides and rear through a room simulator mode while keeping the dialog in the center.

Mono Logic Parameters

Parameter	Initial Value	Range
ROLLOFF	3.3kHz	453Hz to 20.0kHz
ACADEMY FILTER	ON	ON/OFF
MAIN LEVEL	8*	0-16
SUB BASS BOOST	+0dB	-5 to +5dB
EFFECT LEVEL	-04dB	-30 to +05dB
CUSTOM		

* 15 if configured with no center speaker

ROLLOFF regulates the treble cut in the side and rear channels. The optimal setting for this parameter will vary widely with the age, quality, and condition of the source material.

ACADEMY FILTER is provided to recreate the proper tonal balance of older monaural films that were recorded with much narrower and duller frequency response than current films.

MAIN LEVEL controls the level of the mono signal that is reproduced by the main speakers. When a center speaker is part of the configuration many films may sound better when this control is set between 6-12. This spreads the film sound out around the screen and can be more pleasant than restricting the dialog and much of the other film sound to the center speaker.

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

EFFECT LEVEL adjusts the loudness of the side and rear speakers. When there are no side speakers, it adjusts the amount of ambient signal mixed into the main loudspeakers.

This Effect provides Dolby Pro Logic Surround decoding designed for any Dolby Surround encoded movies, music, or television programs.

Pro Logic

Parameter	Initial Value	Range
AUTO AZIMUTH	ON	ON/OFF
SUB BASS BOOST	+0dB	-5 to +5dB
EFFECT LEVEL	+00dB	-30 to +05dB
CUSTOM		

Pro Logic Parameters

AUTO AZIMUTH is short for auto azimuth error correction/automatic input balance. Auto Azimuth should be set to ON for films, and OFF for music. When ON, special patented algorithms continually monitor the input signal and adjust both the relative level and time offset of the two channels to keep the dialog properly centered and special effects properly localized. This automatic feature is the reason the unit does not need an input balance control for Dolby Surround decoding.

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

EFFECT LEVEL adjusts the loudness of all speakers except the center channel. This can be extremely useful in compensating for soundtracks in which the dialog level is too low (decrease EFFECT LEVEL) or when you want to make the surround presentation more spectacular (increase EFFECT LEVEL).

THX Cinema (THX)

This Effect, available only in DC-1's equipped with THX processing, provides Home THX Cinema surround decoding for any Dolby surround encoded movies, music or television programs.

THX Cinema Parameters

Parameter	Initial Value	Range
AUTO AZIMUTH	ON	ON/OFF
SURROUND EFFECT	DECORR	STEREO, DECORR
RE-EQUALIZER	ON	ON/OFF
SUB BASS BOOST	+0dB	-5 to +5dB
CUSTOM		

AUTO AZIMUTH is short for auto azimuth error correction/automatic input balance. Auto Azimuth should be set to ON for films, and OFF for music. When ON, special patented algorithms continually monitor the input signal and adjust both the relative level and time offset of the two channels to keep the dialog properly centered and special effects properly localized. This automatic feature is the reason the unit does not need an input balance control for Dolby Surround decoding.

SURROUND EFFECT selects the type of surround decoding used by the DC-1. STEREOPHONIC provides extraction of five channels of surround information from a standard 4-2-4 matrix-encoded soundtrack (Dolby Surround, Ultra*Stereo, etc.) The drama of this effect is dependent on the source material and is most noticeable with strong stereo music soundtracks. The DECORRELATED setting electronically scrambles the monaural surround channel to provide added spaciousness and envelopment.

RE-EQUALIZER equalizes the left, center, and right channel outputs to match the overall frequency balance of the original recording. Without this re-equalization, many films and some television programs will sound too bright.

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

The Party effect allows unprocessed stereo signals to be played over all speakers for background music or for maximum acoustical output of the system.

Party

Parameter	Initial Value	Range
HIGH PASS	40Hz	OFF, 40-725Hz
CENTER LEVEL	15	0-15
SUB BASS BOOST	+0dB	-5 to +5dB
EFFECT LEVEL	+0dB	-30 to +05dB
CUSTOM		

Party Parameters

HIGH PASS sets the level of a filter which removes low frequencies from the center, side, and rear outputs. This is useful if the system is being used at high volumes where low frequencies might damage smaller speakers.

CENTER LEVEL attenuates the level of the center channel as much as 15 dB. A numerical value and horizontal bar are shown by the front panel and on-screen displays during adjustment.

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

EFFECT LEVEL adjusts the loudness of the center, side and rear speakers.

The Two Channel effect allows you to use your system for two channel stereo playback.

Two Channel

Parameter	Initial Value	Range
SUB BASS BOOST	+0dB	-5 to +5dB
CUSTOM		

Two Channel Parameters

SUB BASS BOOST boosts or cuts the subwoofer output level. Although the normal subwoofer level is set during the calibration procedure, with some recordings it may be desirable to increase or decrease this deep bass level.

If you encounter a problem, please review the items in the following checklist. Also be sure to thoroughly check all other connected components such as speakers, receiver/amplifier/preamp, VCR, TV, CD player, etc.

Troubleshooting

Problem	Possible Cause and Solution
Power does not come on	Check line cord to ensure good connection to the AC outlet and to the receptacle on the DC-1 rear panel. Check to make sure that the DC-1 rear panel power switch is ON.
No audio	Check input and output connections. They may be reversed relative to the IN and OUT jacks of your receiver/amplifier/preamp or other source.
Remote control not working	Check batteries to be certain that they are inserted correctly with proper polarity. Make sure that the infrared sensor on the DC-1 front panel is not obstructed. See "If all else fails..." on the following page.
No output	<p>Make sure that signal is coming into the DC-1. Increase VOLUME using the remote control and check Front/Back and Left/Right BALANCE.</p> <p>Check the DC-1-MUTE controls to make sure they are not engaged.</p> <p>Check all other equipment settings and connections and verify that the amplifiers being fed by the DC-1 are operational.</p> <p>Remember that the DC-1 mutes the output to any speakers which are not configured in the Setup menu. If speakers are added to (or removed from) your system, the Speaker Configuration menu must be altered accordingly.</p>
Center Channel only plays	Check to see if your HiFi VCR has dropped out of tracking — readjust. Your VCR Stereo/Mono/L-R switch may be in the wrong position — set it to Stereo.
Muffled sound in L&R channels	When no center channel is used, CENTER must be configured for NONE in the Setup Speaker Configuration menu.
Center channel sound muffled	The center channel amp may be connected to the subwoofer jack on the DC-1 rear panel. Reconnect to Center Output jack.
No Input Level Meters	The meters will only appear when adjusting the Gain parameter of a selected, active input.

Problem	Possible Cause and Solution
Hum	<p>Finding and eliminating audio hum in a complex installation can be a very frustrating task. Often, the easiest way to identify the culprit(s) is to systematically eliminate devices from the audio chain. If Cable TV is connected to any component in the system, start by unplugging the Cable completely, preferably right at the wall jack. If this eliminates, or greatly reduces the hum, it is worth a call to your Cable company. A quick fix, assuming your cable is round 75Ω wire, is to attach a 75-300Ω transformer to the end, then attach a 300-75Ω transformer to that, so that the end is back to a round 75Ω wire. There are commercially available antenna lead isolators which may provide additional insulation from electrical surges.</p>
Interference with Radio or TV	<p>The DC-1 does generate minimal amounts of RF energy and is in compliance with FCC rules and CE standards. If some interfering noise is noted, move AM loop and FM "T" type antennas away from the DC-1 and reorient them as necessary. Use shielded cable for FM and TV antenna feeds.</p>
Erratic recall of modes	<p>Severe power surges or sags can confuse the DC-1 memory. To correct, or if you simply want to start over, restore the factory defaults with the procedure described at the end of this section.</p>
If all else fails...	<p>Turn off all amplifiers. Turn the master power switch on the DC-1 rear panel OFF, wait 10 seconds, then turn it ON again. This causes the unit to run a diagnostic self-test routine which takes a couple of seconds. If the DC-1 LCD displays normally at the end of this test, no problems have been found with the DC-1 circuitry. If the internal tests fail, the LCD may display an error message, or no message at all. If this happens, contact Lexicon.</p> <p>If you find that your custom settings are routinely being corrupted, the lithium battery in the DC-1 may be faulty. This part is not field-replaceable — contact Lexicon.</p> <p>If the unit is still behaving erratically, perform the Restore Defaults procedure described on the following page.</p>

Other than occasional replacement of the batteries in the remote control units, the DC-1 requires minimal maintenance. Use a soft, lint-free cloth slightly dampened with warm water and a mild detergent to clean the exterior surfaces of the unit.

**Do not use alcohol, benzene or acetone-based cleaners
or any strong commercial cleaners.**

Avoid using any abrasive materials such as steel wool or metal polish. If the unit is exposed to a dusty environment, a vacuum or *low-pressure* blower may be used to remove dust from the DC-1 exterior.

Routine Maintenance

If severe power surges or sags cause problems with DC-1 memory storage, or you simply want to start with a clean slate, you can restore all of the factory defaults with the following procedure.

**This will erase any programs you have stored,
as well as all setup and calibration values.**

Note any settings you want to re-use before proceeding.

Restoring Defaults

Turn the DC-1 OFF with either the front panel switch or the remote. Turn the unit back ON and immediately press BYPASS. (Make sure you do not block the infrared receiver on the DC-1 front panel.) The on-screen display will read:

FACTORY PRESETS MENU

EXIT

RESTORE DEFAULTS

If you want to resume normal operation *without* restoring all defaults, this is your last chance. Use MENU ▲ or ▼ to highlight EXIT, then press SELECT.

To restore defaults, use MENU ▲ or ▼ to highlight RESTORE DEFAULTS, then press SELECT. This will clear and reload all preset effects and all factory settings of Volume, Balance, Contrast, Configuration, etc.

When the message FACTORY DEFAULTS RESTORED is displayed, press DONE to return to normal operation. All of the adjustable parameters in the DC-1 have now been reset to the values assigned when it cleared final Quality Control at the factory.

If you cannot solve functional problems through these procedures, consult your dealer or Lexicon/Customer Service Department.

**DO NOT OPEN THE UNIT.
DOING SO WILL VOID YOUR WARRANTY,
AND MODIFICATIONS MAY RENDER THE UNIT UNSERVICEABLE.**

Installation Worksheet

Model/Serial # _____ / _____

Installed by _____ Phone _____ Date _____

Inputs					
VCR1	Gain _____	Name _____	Effect _____	Digital _____	Video _____
	Rec/Zone2	<input type="checkbox"/> enabled <input type="checkbox"/> blocked	Trigger	<input type="checkbox"/> enabled <input type="checkbox"/> disabled	
VCR2	Gain _____	Name _____	Effect _____	Digital _____	Video _____
	Rec/Zone2	<input type="checkbox"/> enable <input type="checkbox"/> blocked	Trigger	<input type="checkbox"/> enabled <input type="checkbox"/> disabled	
V-DISC	Gain _____	Name _____	Effect _____	Digital _____	Video _____
	Rec/Zone2	<input type="checkbox"/> enabled <input type="checkbox"/> blocked	Trigger	<input type="checkbox"/> enabled <input type="checkbox"/> disabled	
TV	Gain _____	Name _____	Effect _____	Digital _____	Video _____
	Rec/Zone2	<input type="checkbox"/> enabled <input type="checkbox"/> blocked	Trigger	<input type="checkbox"/> enabled <input type="checkbox"/> disabled	
AUX	Gain _____	Name _____	Effect _____	Digital _____	Video _____
	Rec/Zone2	<input type="checkbox"/> enabled <input type="checkbox"/> blocked	Trigger	<input type="checkbox"/> enabled <input type="checkbox"/> disabled	
CD	Gain _____	Name _____	Effect _____	Digital _____	Video _____
	Rec/Zone2	<input type="checkbox"/> enabled <input type="checkbox"/> blocked	Trigger	<input type="checkbox"/> enabled <input type="checkbox"/> disabled	
TUNER	Gain _____	Name _____	Effect _____	Digital _____	Video _____
	Rec/Zone2	<input type="checkbox"/> enabled <input type="checkbox"/> blocked	Trigger	<input type="checkbox"/> enabled <input type="checkbox"/> disabled	
TAPE	Gain _____	Name _____	Effect _____	Digital _____	Video _____
	Rec/Zone2	<input type="checkbox"/> enabled <input type="checkbox"/> blocked	Trigger	<input type="checkbox"/> enabled <input type="checkbox"/> disabled	

- OSD Position** bottom center top
- Display Time** always on 2 sec. time out always off

Speaker Configuration (circle selection)

FRONT HPF	80Hz	100Hz	125Hz	OFF
CENTER	LARGE	SMALL	NONE	
SIDES	STANDARD	DIPOLE	NONE	
REARS	TWO	ONE	NONE	
SUBWFR	YES	NO		

Listener Position

Speaker Listener Angle _____°

Listener Position _____

Rear Delay _____ milliseconds

Center Delay _____ milliseconds

Output Levels

<p style="text-align: center;">Wiring comments</p> <p>Left Front _____ dB _____</p> <p>Center _____ dB _____</p> <p>Right Front _____ dB _____</p> <p>Right Side _____ dB _____</p>	<p style="text-align: center;">Wiring comments</p> <p>Left Side _____ dB _____</p> <p>Subwoofer _____ dB _____</p> <p>Right Rear _____ dB _____</p> <p>Left Rear _____ dB _____</p>
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Lexicon, Inc.
3 Oak Park
Bedford, MA 01730 USA
Tel 781-280-0300
Fax 781-280-0490
www.lexicon.com