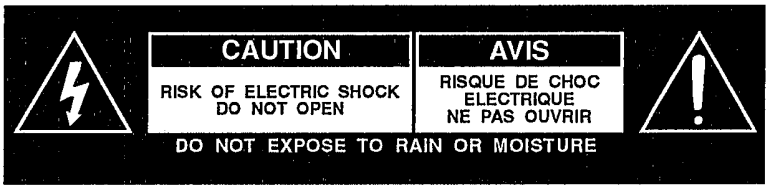
MODEL 1531X

Switchable Stereo/Mono
GRAPHIC EQUALIZER

dbx®

OPERATION MANUAL

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CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure — voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Read the manual.

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QUICK SETUP is on the following page.

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QUICK SETUP

To get your unit up and running as quickly as possible, do the following steps. For more detailed information, refer to the specified pages.

- ☐ Unpack and Inspect the 1531X Package. Page 3
- ☐ Complete the Registration Card. Page 3
- ☐ Mount Unit in a Rack (OPTIONAL). Page 13
- ☐ Connect Audio Inputs and Outputs. Page 13
- ☐ Connect Power. Page 17
- ☐ Set Controls as needed. Page 8

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INSPECTION

1. Unpack and Inspect the 1531X package.

Your dbx 1531X was carefully packed at the factory in a protective carton. Nonetheless, be sure to examine the unit and the carton for any signs of damage that may have occurred during shipping. If obvious physical damage is noticed contact the carrier immediately to make a damage claim. (Note that you must save the carton and packing material to make a damage claim.)

Verify that the 1531X package contains the following:

☐ 1531X Unit

☐ Operation Manual

☐ Warranty Certificate/Registration Card

2. Please complete the Registration Card and return it.

Please fill in the Registration Card, detach it from the Warranty Certificate, and send the card to us today.

The Registration Card enables us to inform you of new applications and performance improvements as they are developed. It also helps us respond promptly to warranty claims without having to request a copy of your bill of sale or other proof of purchase.

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INTRODUCTION

Congratulations on choosing the dbx Model 1531X Graphic Equalizer. We recommend that you take a moment and read through the manual as it provides information that will assist you in using your unit to its fullest potential.

Your dbx 1531X unit is a versatile, compact, one rack-space equalizer. A rear panel MONO/STEREO Mode switch selects operation either as a 31-band 1/3 octave EQ or as a dual 15-band 2/3 octave EQ. In either mode, the filters feature a constant-Q topology which reduces interaction between adjacent bands to ensure close correlation between the filter settings and the actual frequency response of the 1531X. The metal-shaft faders have an unusually long throw for a single rack-space EQ, and are switch-selectable to produce either 15dB or 7.5dB boost and cut.

Designed for professional applications, the 1531X features balanced inputs and outputs and switch-selectable high-pass filters to suppress low frequency rumbles, room resonances, etc. Master attenuators are provided for each channel. The single/dual capability allows you to buy a single 1531X now and use it as a top quality dual 15-band, then later purchase a second 1531X and use both units as single 31-band EQs. In situations where another channel of EQ is suddenly needed (e.g., for an extra monitor or feed), that channel is available by simply converting the 1531X from 31-band use to dual 15-band use.

Features

The 1531X features:

- ☐ Selectable 2/3-octave two channel 15-band or 1/3-octave mono 31-band operation
- ☐ Constant-Q, symmetrical peak/dip filters, selectable range (±7.5dB/±15dB)
- ☐ Compact, single rack unit size
- ☐ Selectable high-pass filtering
- ☐ Balanced/unbalanced XLR and ¼″ phone jack inputs; Balanced XLR outputs and unbalanced ¼″ phone jack outputs

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Applications

The 1531X can be used in recording studios, live sound reinforcement, and broadcast. Because the 1531X employs constant-Q precision symmetrical peak/dip filters, repeatable setups can be enjoyed if the audio production is moved to an off-site location.

Studio Applications

The 1531X is an effective tool for compensation of acoustical anomalies that exist in most studio control rooms where the frequency response of the playback system must be flat for critical listening. Once the 1531X is set, there should be no need for further adjustment unless any of the components in the listening chain are altered or changed. The 1531X can also be employed to enhance single instruments such as guitar, drums and keyboards that tend to get lost during mixdown or it can be used to remove hum or buzz from electrical instruments.

Sound Reinforcement

In permanent sound reinforcement installations such as clubs and churches, the 1531X can be adjusted to smooth out inconsistencies in the frequency response caused by poor acoustics, reflections, etc., for the main house speakers and for the onstage monitor systems. In live sound reinforcement where the stage volume levels can get quite high, feedback can become a menacing problem for the monitor mixer. Use the 1531X to remove, or "notch out" the frequencies that are causing the feedback.

Broadcast

In the broadcast studio, the 1531X can aid in tailoring the voice of the DJ, enhance the sonic quality of poorly recorded carts, or remove the hum and buzz from insufficiently grounded equipment.

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UNDERSTANDING EQUALIZATION

1/3-Octave Equalization

The human ear works in many respects like a 1/3-octave filter bank operating over 20Hz - 20kHz, Some audio aficionados have proposed that the ear is capable of better resolution than this bandwidth and that finer measurements and finer equalization are necessary. 1/3-octave analysis and equalization are the most cost-effective means that current technology supports and that most applications actually call for. If you wish to test for yourself whether the ear requires higher-resolution technology, take your 1531X and slightly boost or cut one given 3rd-octave band while listening to music to see what you detect. Concentrate on the 1kHz - 4kHz region, where the ear is most sensitive.

For many applications, you may find that 2/3-octave equalization (using the 1531X in its stereo mode) is all that you require.

Equalizing Tips

We do not recommend liberally boosting the 20Hz - 40Hz and 16Hz - 20kHz ranges. Most speaker systems (and tape decks) cannot handle it, especially if their job is to fill a large space. Also, generally it is not necessary: most music usually doesn't go this low or this high, and boosts in these regions make little or no audible difference. But you are putting your equipment at risk for infra- and ultrasonic garbage (equipment hum and rumble, amp and grounding problems, feedback, MIDI grunge, RFI, stray fields, etc.), as well as for those rare but potent musical moments of ultra-low and ultra-high frequencies. You can achieve a more professional room equalization if you have access to a good quality 1/3-octave real-time analyzer (that can give a good representation of the spectrum of music whose balance you need to alter) and a microphone(s) designed for this application. Don't aim for "flat" response at the frequency extremes unless your system can handle it.

Phase

In the past, some equalizers were said to ring or not ring in the presence of a transient, to have phase shift, or to be of minimum-phase topology. Such rhetoric is by and large meaningless today. All modern equalizers can be fully characterized by their frequency response(s), since virtually all are minimum-phase.

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Constant-Q

The letter Q refers to the shape of a filter — the slope of its initial rolloff. Constant-Q designs, in which dbx has been a leader, mean that the filter shape is the same steepness irrespective of boost or cut level. Spectrally, the EQ change is always steep. Conventional designs, which are most common in consumer equalizers, may look like a broad low rise (e.g., centered on 1kHz, but spreading from 300kHZ - 3kHz) at low boost/cut levels, but have a steeper rise at maximum and minimum levels, where you are least likely to use them. They cover much too broad a range in most usages. With these designs, you don't know where you are in terms of frequencies. With the 1531X, you can be precise.

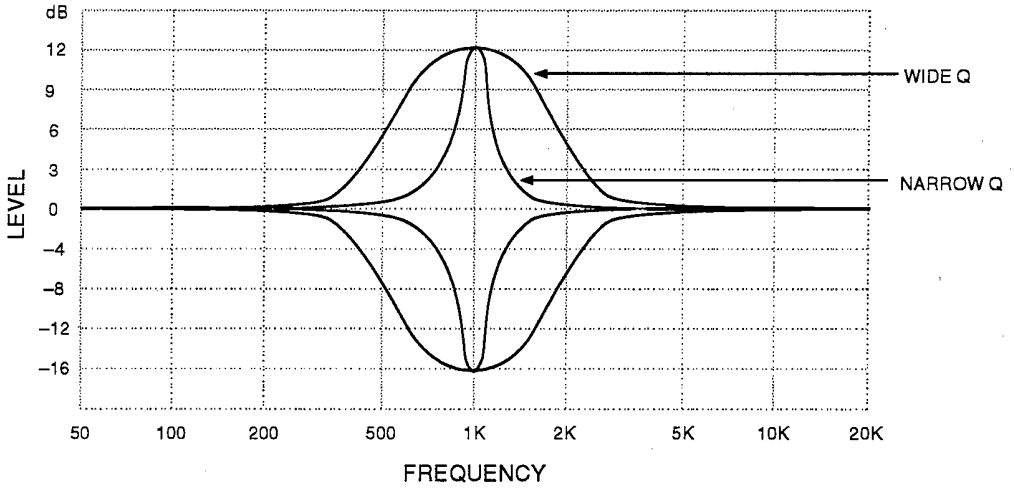


Figure 1: Constant-Q Boost/Cut Curves

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OPERATION

Front Panel

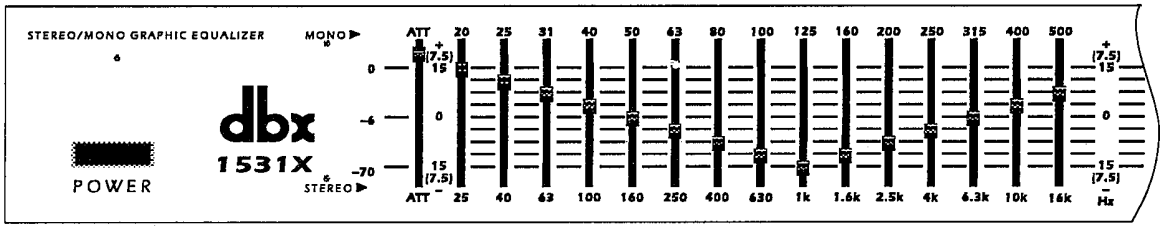


Figure 2: Front Panel

POWER Button and LED : The POWER button turns the unit On and Off when the unit is plugged into an AC power source. The Red POWER LED illuminates when the unit is On.

MONO and STEREO LEDs: These Red LEDs show the channel and filter-bandwidth configuration — MONO 1/3 octave or STEREO 2/3 octave — as set with the rear panel MONO/STEREO switch

ATTenuation Sliders: These sliders set the overall "throughput" level in dB from unity gain (0) through –6 down to virtually full off (–70). In MONO Mode, the right Attenuation slider becomes the 20kHz boost/cut control, while the left one stays as is.

SLIDER FREQUENCIES: The frequency values (in Hz) listed *above* each slider represent the frequency controls available in MONO Mode. The frequency values (in Hz) listed *below* each slider represent the frequency controls available in STEREO Mode.

RANGE button and LEDs: This button changes the boost/cut range of the sliders from over 15dB maximum to 7.5dB maximum. The 7.5dB setting allows more resolution, as noted above (see Boost/Cut Calibrations below). Except for the potential maximum at the extreme settings, the sonic behavior of the 1531X does not change much with this switch; constant-Q filters have the same overall shape (skirt steepness) in dB/octave regardless of the amount of boost or cut.

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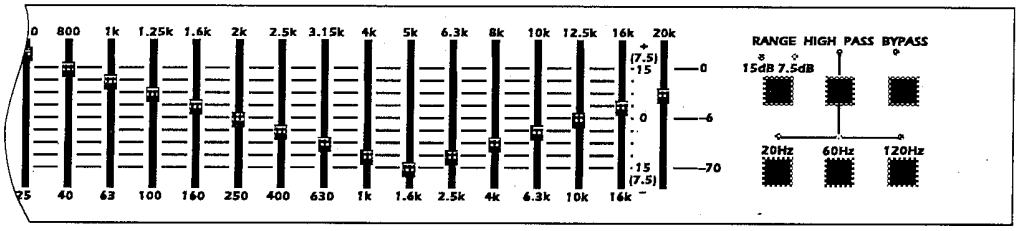


Figure 3: Front Panel

Boost/Cut Calibrations: Actual dB values (as defined by the boost/cut range setting of the RANGE Button) are as follows, for 15dB range: ±2.5dB for the first incremental line, ±9dB for the second, and ±13dB for the third; for 7.5dB range: ±1dB for the first, ±4.5dB for the second, and ±6.75dB for the third.

HIGHPASS Button and LED and 20/60/120Hz (–3dB point) buttons and LEDs: This set of buttons lets you use the 1531X as a partial crossover as well as an equalizer, with three steep low-cut (high-pass) frequency choices. The rolloff is 18dB/octave. It is wise to use the 20Hz setting at all times, as an infrasonic ("subsonic") filter to prevent power-robbing inaudible frequencies from getting to your amps and speakers. The other two settings may be called for with biamped/triamped PA systems.

BYPASS Button and LED: This is a balanced hardwire bypass, for instantaneous comparisons of EQ/no-EQ conditions, or in case of 1531X power loss.

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Rear Panel

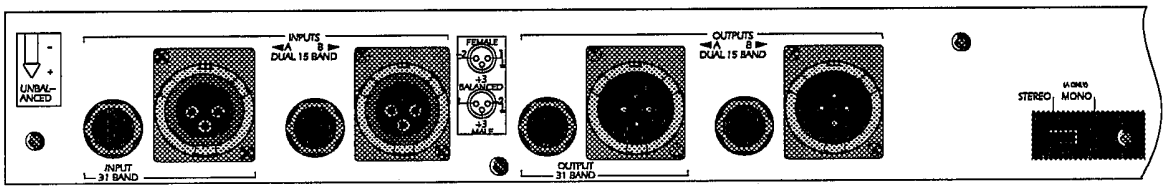


Figure 4: Rear Panel

XLR INPUT Jacks: The 3-pin XLR INPUT female jacks accept either balanced or unbalanced signals. Nominal input signal level is 0dBu and clip level is +18dBu. Input impedance is 16kΩ. The XLR INPUT jacks accept XLR-type connectors. They are wired pin 3 HOT (+) and pin 2 COLD (–). Pin 1 is connected to 1531X chassis ground.

XLR OUTPUT Jacks: The 3-pin XLR OUTPUT male jacks of the 1531X are driven by active-balanced amplifiers. Do not ground pin 2 or 3. If driving an unbalanced load, float pin 2 or use the ¼″ output. The XLR OUTPUT jacks are wired pin 3 HOT (+), pin 2 COLD (–) and pin 1 chassis GROUND and accept XLR-type connectors.

¼″ Phone INPUT Jacks: The two ¼″ Phone INPUT jacks accept either balanced or unbalanced signals. They are wired in parallel with the XLR INPUT Jacks. Nominal input signal level is 0dBu and clip level is typically +18dBu. Input impedance is 16kΩ. The INPUT jacks accept TRS or standard ¼″ Phone plugs.

¼″ Phone OUTPUT Jacks: The two ¼″ Phone OUTPUT jacks of the 1531X are unbalanced, drive a nominal –10dBV into 10kΩ, and have a clip level of +20dBV. The OUTPUT jacks accept TRS or standard ¼″ Phone plugs.

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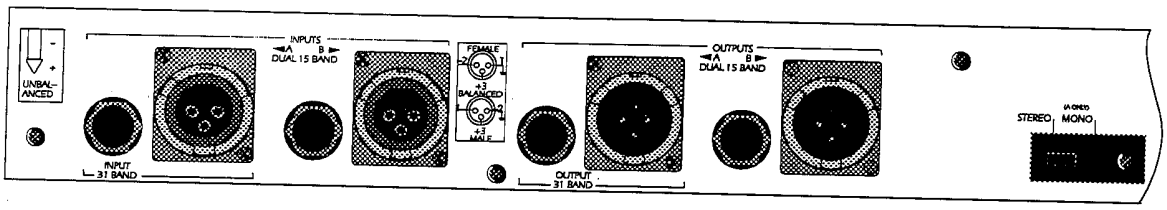


Figure 5: Rear Panel

MONO/STEREO Mode Switch: This rear panel slide switch sets the unit for MONO or STEREO operation. In MONO Mode, the 1531X is a single-channel 1/3-octave equalizer. In STEREO Mode, the 1531X is a dual channel 2/3-octave equalizer.

AC POWER Cable: Connect this cable to any AC power source of the correct frequency and line voltage as indicated on the rear panel. The 1531X consumes a maximum of 15 Watts AC power.

WARNING: Be sure to verify both your actual line voltage and the voltage for which your Model 1531X was wired, as indicated on the rear panel of your unit. Connection to an inappropriate power source may result in extensive damage which is not covered by the warranty.

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CONNECTING THE 1531X TO YOUR SYSTEM

Basic Connection

The 1531X can be connected to your audio system via XLR and/or ¼" Phone jacks for either mono or stereo operation.

For all connections, refer to the following steps:

A. Turn Off all equipment before making any connections.

B. Make connections via XLR and ¼" Phone jacks according to your requirements.

C. Plug in the AC power cable and depress the front panel POWER button to power on the unit.

D. Verify that the rear panel MONO/STEREO Mode switch is set correctly for your usage.

With the MONO/STEREO Mode switch set to MONO (1/3-octave, single-channel) operation, channel A is the working connection; channel B is inoperative.

For more specific installation information, refer to Installation Considerations, page 13.

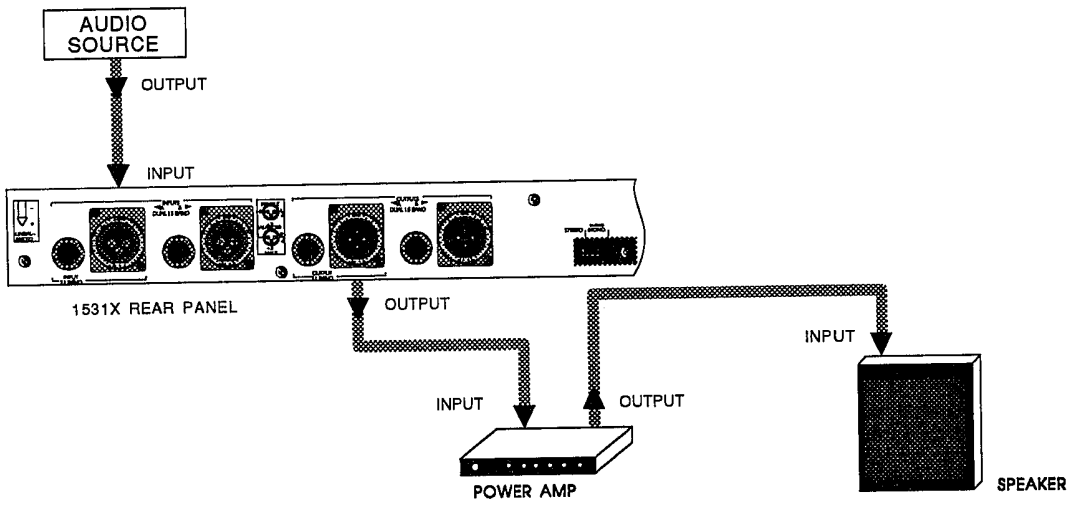


Figure 6: Basic Connection

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INSTALLATION CONSIDERATIONS

Mounting the 1531X in a 1U Rack Space

The 1531X requires one rack space (height) and one rack space (width). It can be mounted above or below anything that doesn't generate excessive heat, since it requires no special ventilation. Ambient temperatures should not exceed 113°F (45°C) when equipment is powered.



Caution: Never remove the cover. There are no user-serviceable parts inside, and you run the risk of an electric shock.

Input/Output Cable Configurations

Hookups and Cabling

The 1531X is designed for nominal 0dBu levels at its XLR jacks and ¼" Phone jacks. Inputs can be used with either balanced or unbalanced sources and outputs can be used with either balanced or unbalanced loads, provided you use proper cabling.

A balanced line is defined as two-conductor shielded cable with the two center conductors carrying the same signal but of opposite polarity with respect to ground. An unbalanced line is generally a single-conductor shielded cable with the center conductor carrying the signal and the shield at ground potential.

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Connect Audio Inputs

Figures 7 and 8 show cables for connecting balanced and unbalanced signal sources to the 1531X audio inputs. Refer to the type of operation and connectors you are using.

The XLR input connectors of the 1531X can be driven with either balanced or unbalanced signal lines up to +18dBu maximum with excellent results. The input impedance is 16kΩ.

The XLR input connectors, which are in phase with the XLR output connectors, are wired pin 3 HOT (+) and pin 2 COLD (–) with respect to the ¼″ input and output connectors.

NOTE: For best hum rejection, start by grounding the shield(s) [Pin 1 on the XLR, Sleeve on a ¼″ TRS] only at the output(s). If hum persists, try grounding the shield(s) at the input(s) as well.

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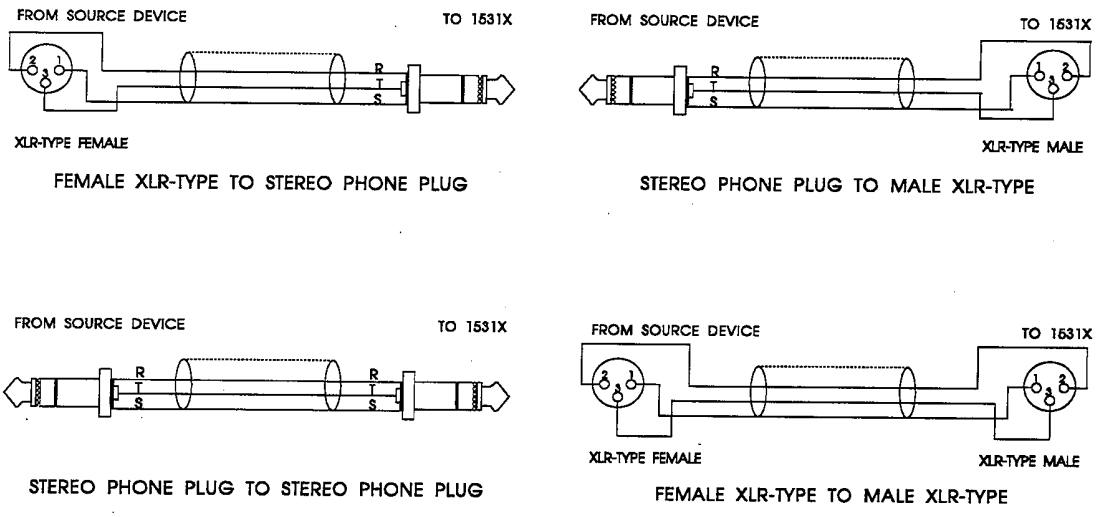


Figure 7: Input Connections (Fully Balanced Operation)

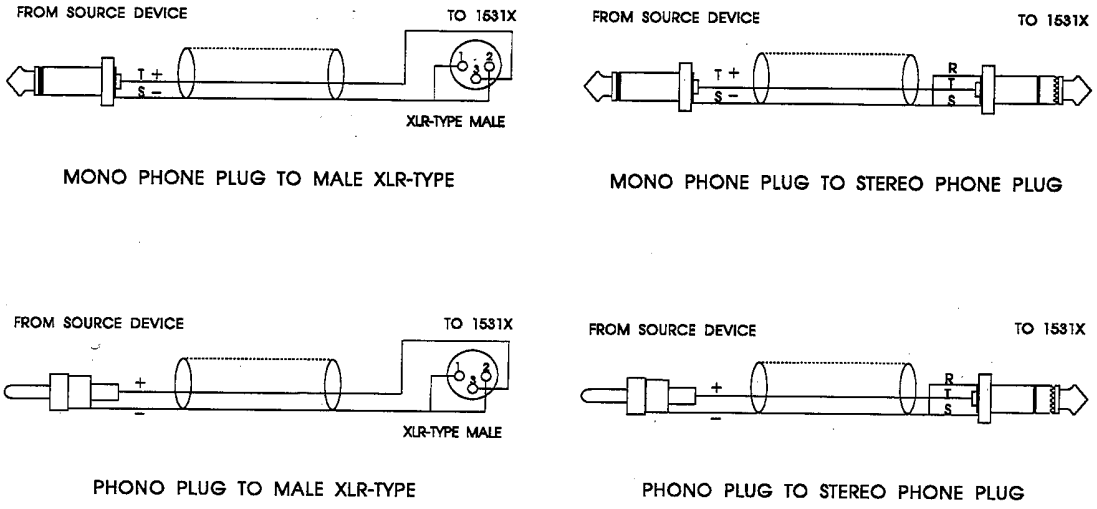


Figure 8: Input Connections (Unbalanced Operation)

NOTES for using ¼" Mono Phone Plugs:

Connect the Sleeve to the cable's shield.

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Connect Audio Outputs

Figures 9 and 10 show cables for connecting the 1531X audio outputs to balanced and unbalanced loads. Refer to the type of operation and connectors you are using.

The XLR output connectors of the 1531X can drive either balanced or unbalanced lines with excellent results. Typical driving capability into a balanced 600Ω load is +21dBu, and into an unbalanced 600Ω load is +20dBu. In either case, output impedance is 22Ω. The XLR output connectors, which are in phase with the XLR input connectors, are wired pin 3 HOT (+) and pin 2 COLD (–) with respect to the ¼" input and output jacks.

NOTE: For best hum rejection, start by grounding the shield(s) [Pin 1 on the XLR, Sleeve on a ¼" TRS] only at the output(s). If hum persists, try grounding the shield(s) at the input(s) as well.

The ¼" output jacks of the 1531X are unbalanced, meaning the outside conductor is electrically connected to the circuit ground of the 1531X. The remaining conductor is HOT (+) and therefore in phase with pin 3 of the XLR connectors. Output impedance is 22Ω.

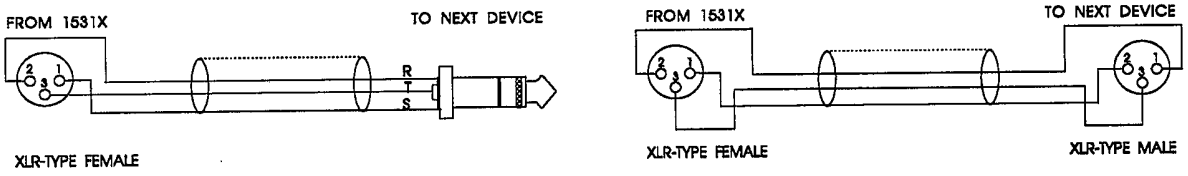


Figure 9: Output Connections (Fully Balanced Operation)

NOTES for using ¼" Stereo Phone Plugs:

If the 1531X is wired into a patchbay, never insert a mono phone plug into the patchbay.

The Ring conductor is never connected to anything when the 1531X is driving single-ended inputs. Leave it floating.

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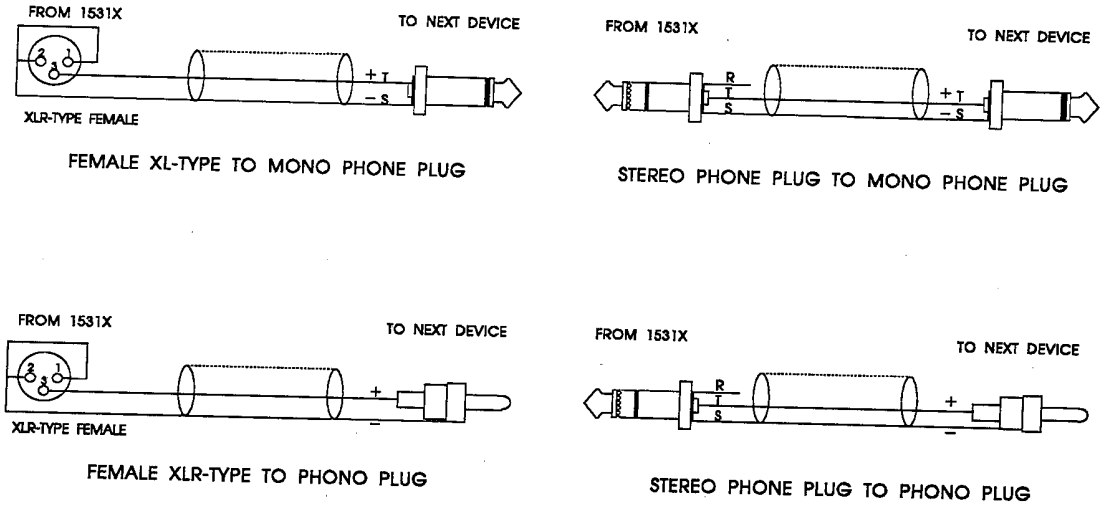


Figure 10: Output Connections (Unbalanced Operation)

NOTES for using ¼" Mono Phone Plugs:

If you are using a Stereo phone plug at the tape machine or console, tie the Ring and Sleeve together, and connect the sleeve to the wire's Shield. This is equivalent to a cable with ¼" Mono Phone plugs on both ends.

NOTES for using ¼" RCA Phono Plug with Stereo Phone Plug:

The Ring conductor on the ¼" RCA Phono Plug is never connected to anything when the 1531X is deriving single-ended inputs. Leave it floating.

Connecting Power

A. Check the line voltage.

The 1531X is shipped for 115V or 230V, 50 or 60Hz operation. Refer to the unit's rear panel to verify your unit's precise line voltage.



B. Connect the 1531X's power cord to an appropriate AC power source.

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MAINTENANCE, TROUBLESHOOTING

The 1531X is an all-solid-state product with components chosen for high performance and excellent reliability. Each 1531X is tested, burned in and calibrated at the factory and should require no adjustment of any type throughout the life of the unit. We recommend that your 1531X be returned to the factory should circumstances arise which necessitate repair or recalibration.

TECHNICAL SUPPORT, FACTORY SERVICE

Technical Support

If you require technical support, contact dbx customer service. Be prepared to accurately describe the problem. Know the serial number of your unit — this is printed on a sticker attached to the rear panel.

Telephone:	(1) 510/351-3500
or Fax:	(1) 510/351-1001
or Write:	dbx Professional Products a division of AKG Acoustics, Inc. 1525 Alvarado Street San Leandro, CA 94577 USA ATTN: Customer Service Department

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Factory Service

Before you return a product to the factory for service, we recommend you refer to the manual. Make sure you have correctly followed installation steps and operation procedures. If you are still unable to solve a problem, contact our Customer Service Department for consultation. Often, a problem is relatively simple and can be quickly remedied after telephone consultation. If you need to return a product to the factory for service, include a letter describing the problem.

Please refer to the terms of your Limited Two-Year Standard Warranty, which extends to the first end-user. After expiration of the warranty, a reasonable charge will be made for parts, labor, and packing if you choose to use the factory service facility. In all cases, you are responsible for transportation charges to the factory. dbx will pay return shipping if the unit is still under warranty.

Use the original packing material if it is available.

Mark the package with the name of the shipper, and with these words in red:

DELICATE INSTRUMENT, FRAGILE!

Insure the package properly. Ship prepaid, not collect. Do not ship parcel post.

Warranty

The warranty, which can be enjoyed only by the first end-user of record, is stated on the separate Warranty Certificate packed with this manual. Save it for future reference. Details on obtaining factory service are provided above.

SCHEMATICS

The schematic for the 1531X is provided on the rear inside cover.

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SPECIFICATIONS

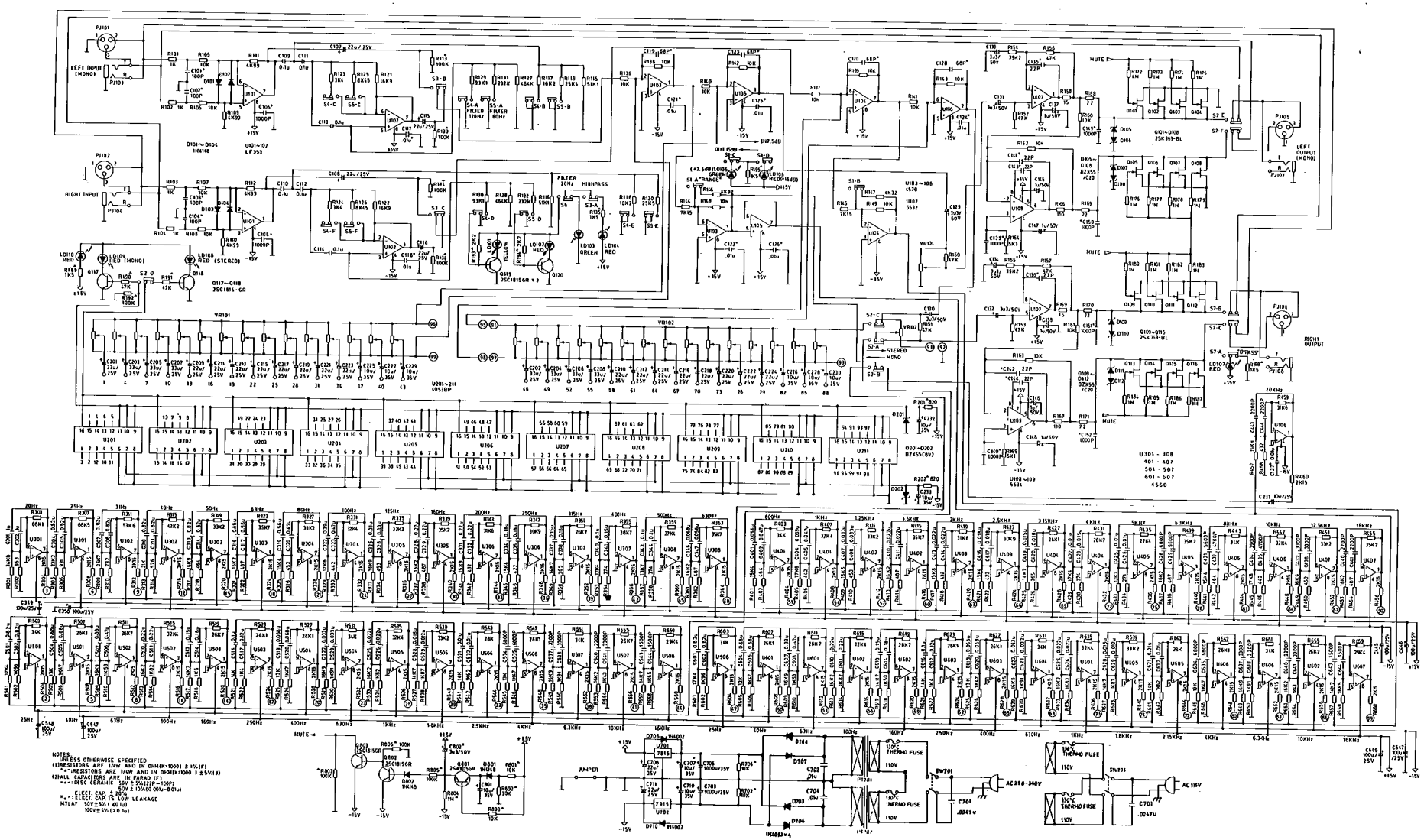
(NOTE: 0dBV = 1.0VRMS; 0dBu = 0.775VRMS)

Input	
Rear Panel	Balanced: 30kΩ; Unbalanced: 18.5kΩ
Maximum Input Level	+18dBu
Connector Type	¼" TRS Phone Jacks and XLR Connectors
Output	
Rear Panel	Balanced, 22Ω
Minimum Load Impedance	>600Ω
Maximum Output Level	Balanced: +21dBu into >600Ω; Unbalanced: +20dBu into >600Ω;
Connector Type	¼" TRS Phone Jacks and XLR Connectors
Distortion	
THD	<0.01% @ 0dBu Input
IMD	<0.05% SMPTE
Equivalent Input Noise	–100dBu A-Weighted
Dynamic Range	124dB
Equalization Range	Selectable ±15, ±7.5dB Boost or Cut
Gain Adjustment Range	0 to –70dB
Frequency Response	20Hz to 20kHz (±0.25dB)
Filters	⅓ Octave, Switchable ⅔ Octave on ISO Centers Constant-Q, Symmetrical Peak/Dip Filters Switch-Selectable HP Filtering –3dB @ 20Hz, 60Hz, 120Hz; +18dB/Octave
Operating Voltage	DO: 90 - 130VAC; 50/60Hz EU: 200 - 250VAC; 50/60Hz 20W
Operating Temperature	0°C to 45°C
Dimensions (H x W x D)	1.75" x 19" x 12" 4.45cm x 48.3cm x 30.5cm)
Rack Space	1 Rack Unit (1U High)
Weight	Net Weight: 10 lbs; 4.5 kg Shipping Weight: 13 lbs; 5.9 kg
Warranty	dbx standard two-year warranty

Specifications are subject to change.

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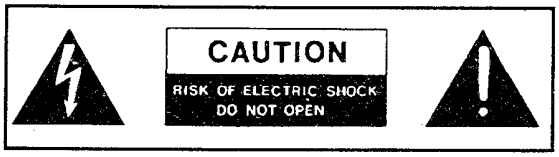


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TITLE: SCHEMATIC 1531X

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Safety Instructions



CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure — voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Read the manual.

Detailed Safety Instructions

All the safety and operating instructions should be read before the appliance is operated.

Retain Instructions: The safety and operation instructions should be retained for future reference.

Heed Warnings: All warnings on the appliance and in the operating instructions should be adhered to.

Follow Instructions: All operation and user instructions should be followed.

Water and Moisture: The appliance should not be used near water (e.g., near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.).

Ventilation: The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

Heat: The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

Power Sources: The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

Grounding or Polarization: Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

Power-Cord Protection: Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

Cleaning: The appliance should be cleaned only as recommended by the manufacturer.

Non-use Periods: The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

Object and Liquid Entry: Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

Damage Requiring Service: The appliance should be serviced by qualified service personnel when:
The power supply cord or the plug has been damaged; or
Objects have fallen, or liquid has been spilled into the appliance; or
The appliance has been exposed to rain; or
The appliance does not appear to operate normally or exhibits a marked change in performance; or
The appliance has been dropped, or the enclosure damaged.

Servicing: The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

The Appliance should be used only with a cart or stand that is recommended by the manufacturer.

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Safety Instructions (European)

Notice For U.K. Customers
WARNING: THIS APPLIANCE MUST BE EARTHED.

The cores in the mains lead are coloured in accordance with the following code:

GREEN and YELLOW - Earth BLUE - Neutral BROWN - Live

As colours of the cores in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The core which is coloured green and yellow must be connected to the terminal in the plug marked with the letter E, or with the earth symbol, (⏚), or coloured green, or green and yellow.

The core which is coloured blue must be connected to the terminal marked N or coloured black.

The core which is coloured brown must be connected to the terminal marked L or coloured red.

Power Considerations: Connecting Power.

A☐ Check the line voltage.

The unit is shipped for 230V, 50 or 60Hz operation. Refer to the unit's rear panel to verify your unit's precise line voltage.

B☐ Connect the unit's power cord to an appropriate power source.

The power cord is terminated in a CEE7/7 plug (Continental Europe). The green/yellow wire is connected directly to the unit's chassis. If you need to change the plug and if you are qualified to do so, refer to the table below.



WARNING: If the ground is defeated, certain fault conditions in the unit or in the system to which it is connected can result in full line voltage betweeen chassis and earth ground. Severe injury or death can then result if the chassis and earth ground are touched simultaneously.

CONDUCTOR		WIRE COLOR	
		Normal	Alt
L	LINE	BROWN	BLACK
N	NEUTRAL	BLUE	WHITE
E	EARTH GND	GREEN-YELLOW	GREEN

AC Power Cord Color Coding

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Gerät nur an der am Leistungsschild vermerkten Spannung und Stromart betreiben.

Sicherungen nur durch solche, gleicher Stromstärke und gleichen Abschaltverhaltens ersetzen. Sicherungen nie überbrücken.

Jedwede Beschädigung des Netzkabels vermeiden. Netzkabel nicht knicken oder quetschen. Beim Abziehen des Netzkabels den Stecker und nicht das Kabel enfassen. Beschädigte Netzkabel sofort auswechseln.

Gerät und Netzkabel keinen übertriebenen mechanischen Beaspruchungen aussetzen.

Um Berührung gefährlicher elektrischer Spannungen zu vermeiden, darf das Gerät nicht geöffnet werden. Im Fall von Betriebsstörungen darf das Gerät nur Von befugten Servicestellen instandgesetzt werden. Im Gerät befinden sich keine, durch den Benutzer reparierbare Teile.

Zur Vermeidung von elektrischen Schlägen und Feuer ist das Gerät vor Nässe zu schützen. Eindringen von Feuchtigkeit und Flüssigkeiten in das Gerät vermeiden.

Bei Betriebsstörungen bzw. nach Eindringen von Flüssigkeiten oder anderen Gegenständen, das Gerät sofort vom Netz trennen und eine qualifizierte Servicestelle kontaktieren.

On s'assurera toujours que la tension et la nature du courant utilisé correspondent bien à ceux indiqués sur la plaque de l'appareil.

N'utiliser que des fusibles de même intensité et du même principe de mise hors circuit que les fusibles d'origine. Ne jamais shunter les fusibles.

Eviter tout ce qui risque d'endommager le câble seceur. On ne devra ni le plier, ni l'aplatir. Lorsqu'on débranche l'appareil, tirer la fiche et non le cäble. Si un cäble est endommagé, le remplacer immédiatement.

Ne jamais exposer l'appareil ou le cäble ä une contrainte mécanique excessive.

Pour éviter tout contact averc une tension électrique dangereuse, on n'oouvrira jamais l'appareil. En cas de dysfonctionnement, l'appareil ne peut être réparé que dans un atelier autorisé. Aucun élément de cet appareil ne peut être réparé par l'utilisateur.

Pour éviter les risques de décharge électrique et d'incendie, protéger l'appareil de l'humidité. Eviter toute pénétration d'humidité ou fr liquide dans l'appareil.

En cas de dysfonctionnement ou si un liquide ou tout autre objet a pénétré dans l'appareil couper aussitôt l'appareil de son alimentation et s'adresser à un point de service aprésvente autorisé.

Hacer funcionar el aparato sòlo con la tensiòn y clase de corriente señaladas en la placa indicadora de caracteristicas.

Reemplazar los fusibles sòlo por otros de la misma intensidad de corriente y sistema de desconexiòn. No poner nunca los fusibles en puente.

Proteger el cable de alimentaciòn contra toda clase de daños. No doblar o apretar el cable. Al desenchufar, asir el enchufe y no el cable. Sustituir inmediatamente cables dañados.

No sometar el aparato y el cable de alimentaciòn a esfuerzo mecànico excesivo.

Para evitar el contacto con tensiones eléctricas peligrosas, el aparato no debe abrirse. En caso de producirse fallos de funcionamiento, debe ser reparado sòlo por talleres de servicio autorizados. En el aparato no se encuentra ninguna pieza que pudiera ser reparada por el usuario.

Para evitar descargas eléctricas e incendios, el aparato debe protégerse contra la humedad, impidiendo que penetren ésta o liquidos en el mismo.

En caso de producirse fallos de funcionamiento como consecuencia de la penetraciòn de liquidos u otros objetos en el aparato, hay que desconectarlo inmediatamente de la red y ponerse en contacto con un taller de servicio autorizado.

Far funzionare l'apparecchio solo con la tensione e il tipo di corrente indicati sulla targa riportante i dati sulle prestazioni.

Sostituire i dispositivi di protezione (valvole, fusibili ecc.) solo con dispositivi aventi lo stesso amperaggio e lo stesso comportamento di interruzione. Non cavallottare mai i dispositivi di protezione.

Evitare qualsiasi danno al cavo di collegamento alla rete. Non piegare o schiacciare il cavo. Per staccare il cavo, tirare la presa e mai il cavo. Sostituire subito i cavi danneggiati.

Non esporre l'apparecchio e il cavo ad esagerate sollecitazioni meccaniche.

Per evitare il contatto con le tensioni elettriche pericolose, l'apparecchio non deve venir aperto. In caso di anomalie di funzionamento l'apparecchio deve venir riparato solo da centri di servizio autorizzati. Nell'apparecchio non si trovano parti che possano essere riparate dall'utente.

Per evitare scosse elettriche o incendi, l'apparecchio va protetto dall'umidità. Evitare che umidità o liquidi entrino nell'apparecchio.

In caso di anomalie di funzionamento rispettivamente dopo la penetrazione di liquidi o oggetti nell'apparecchio, staccare immediatamente l'apparecchio dalla rete e contattare un centro di servizio qualificato.

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