

QUAD

Lite

L Series

Intensive Theatre Experience

Multi-Channel Sound System

Owner's Manual

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CAUTION!
RISK OF ELECTRIC SHOCK
DO NOT OPEN



TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK)
NO USER-REMOVABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL

ADVERTISSEMENT: RISQUE DE CHOC ELECTRIQUE-
NE PAS OUVRIR



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.



This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

IMPORTANT SAFETY INFORMATION

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Do not use this apparatus near water.

Clean only with dry cloth.

Do not block any ventilation openings.

Install in accordance with the manufacturer's instructions.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Use only attachments/accessories specified by the manufacturer.



Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Warning: To reduce the risk of fire or electrical shock, do not expose this product to rain or moisture. The product must not be exposed to dripping and splashing and no object filled with liquids such as a vase of flowers should be placed on the product.

No naked flame sources such as candles should be placed on the product.

Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this device.

Warning: The mains power switch for the Lite subwoofer is located on the rear panel. To permit free access to this switch, the apparatus must be located in an open area without any obstructions.

NOTE: The Quad-Lite subwoofer has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful 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 or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

IMPORTANT NOTICE TO UK USERS

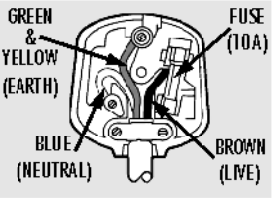
The Quad Lite subwoofer power cord is terminated with a UK approved mains plug fitted with a 10A fuse. If the fuse needs to be replaced, an ASTA or BSI approved BS1362 fuse rated at 10A must be used. If you need to change the mains plug, remove the fuse and dispose of this plug safely *immediately* after cutting it from the cord.

Connecting a Mains Plug

The wires in the power cord are coloured in accordance with the code: Blue: NEUTRAL Brown: LIVE: Green and Yellow: Earth. As these colours may not correspond to the coloured markings identifying the terminals in your plug, proceed as follows:

The BLUE wire must be connected to the terminal marked with the letter N or coloured BLUE or BLACK. The BROWN wire must be connected to the terminal marked with the letter L or coloured BROWN or RED. The

GREEN & YELLOW wire must be connected to the terminal marked with the letter E or coloured GREEN or GREEN & YELLOW or marked with the Earth Symbol ⚡



Quad-Lite Subwoofer

(Measurements made with 230V supply)

Bass Drive Unit	250 mm (10") Tri-lam
Amplifier Power Output	300 W RMS
Line Input Sensitivity	250mV for 100W
Frequency Range (Boundary Position)	25 Hz - 95 Hz
Max Power Output (SPL at 1 Metre)	108dB
Low Pass Filter Range	35 Hz - 85 Hz (plus bypass) (in 10 Hz increments)
Input Impedance (Line input)	10 k Ω
Phase Adjustment	0° - 180° switchable
Dimensions (H x W x D mm)	485 x 288 x 425 (plus connectors)
Weight	
Gross	28.5 Kg
Net	26 Kg

System Weight

Gross	46Kg
Net	40 Kg

The right is reserved to alter all performance and specifications as required

COMPLIANCE

Quad products comply with the relevant clauses enshrined in the following standards and directives in force at the time of the introduction of the product.

EU

Directives: 89/336/EC, 72/23/EEC

Safety: EN60065 (CB Scheme)

Emissions: EN55013, EN61000

Immunity: EN55020:2002.



USA: UL 6500:2002.

Approved under the verification provision of FCC Part 15 as a Class B Digital Device.

CANADA: CAN/CSA-E60065-00

MAIN SERVICE CENTRES IN THE UK, USA AND CANADA

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QUAD

Lite

L SERIES INTENSIVE THEATRE EXPERIENCE

USER GUIDE

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EXPANDING YOUR SYSTEM

Dolby Labs, DTS and THX all offer a range of 6.1 and 7.1 formats which extend the 5.1 principle by adding one or two extra rear effects channels.

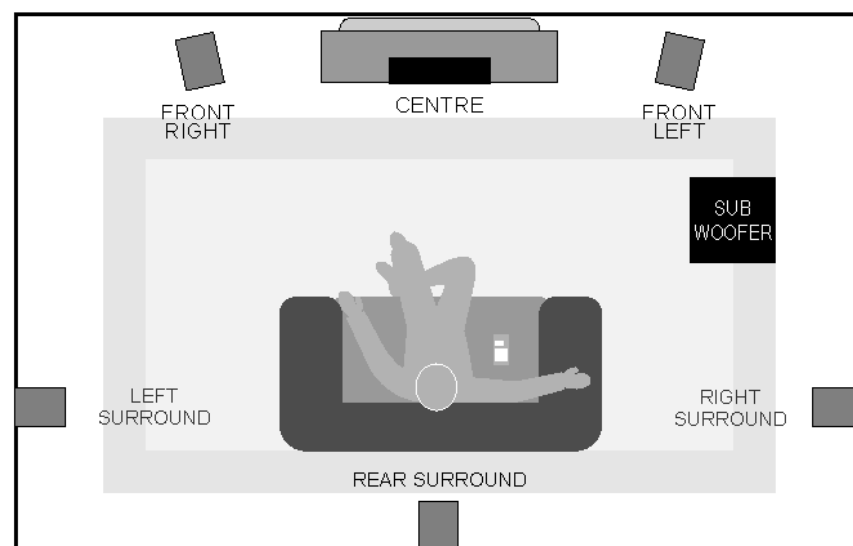
To enable you to take advantage of these formats, the Quad-Lite satellite speakers are available from your dealer in single packs (1) as well as pairs.

Although the precise configuration of these systems will depend on the capabilities of your processor and you should be guided by those instructions, we would make some observations.

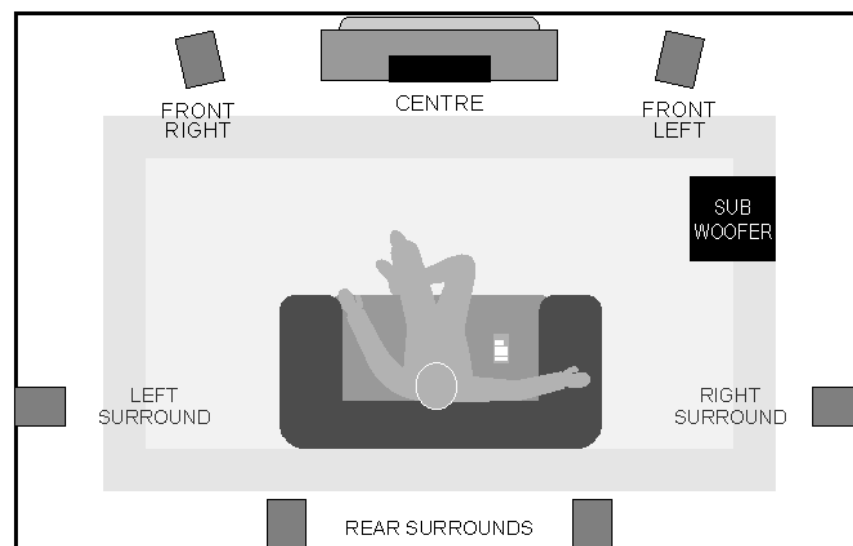
For most 6.1 and 7.1 formats, and especially Dolby ES, to work properly, the listening seat should not be too close to the rear wall.

Optimising the time delay so that information from all speakers arrives at the listening seat coherently is critical if the benefits of these systems are to be fully realised. THX adjustments in particular need to be followed to the letter.

6.1 SYSTEM



7.1 SYSTEM



PRELIMINARIES

The Quad-Lite System consists of:

- Four Quad-Lite satellite loudspeakers
- One Quad-Lite centre loudspeaker
- One Quad-Lite Powered Subwoofer
- Instruction Manual
- Warranty Registration Form
- Cardboard carton and packing materials

Consult the dealer from whom you purchased the equipment if any of these items are not present.

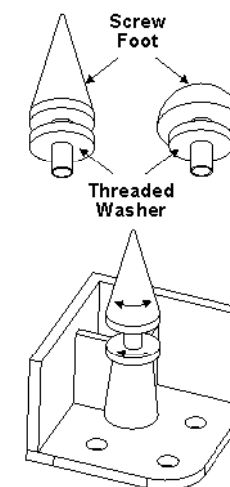
Unpacking

Open the cartons and remove all the top packing pieces. Lift the loudspeakers out taking care not to damage the cabinet. When lifting a unit from the carton support it from the bottom. DO NOT attempt to lift the loudspeakers out of the carton using the polythene bag. The units, and especially the subwoofer are heavy; if you cannot manage to lift them easily, get someone to assist you.

Remove the polythene bag from each speaker. Retain the packing materials for future use or return them to your dealer. If you decide not to keep the packing, please dispose of it with regard to all recycling regulations in your area.

Please retain the user manual and the information concerning the date and place of purchase of this equipment for future reference. If you transfer this equipment to a third party, please ensure all the instructions are passed on with the product.

Fitting the feet and levelling the subwoofer.



Carefully invert the subwoofer. Protect the top by placing it on a soft surface such as a towel. Open the polythene bag and slide it part-way down the cabinet.

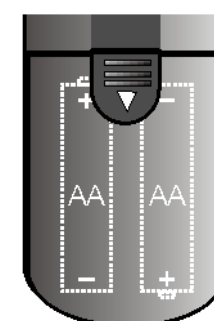
Two sets of adjustable screw feet are provided - regular and spiked. Choose one set only - do not use a mixture of spiked and regular feet.

Screw the threaded washer over each foot as shown. Screw a foot part-way into the threaded hole at the bottom of each leg of the subwoofer and hand-tighten the washer. When all four screw feet have been fitted, stand the subwoofer upright and remove the bag.

With the aid of a spirit level, screw each foot in and out until the subwoofer is level (side to side and front to back) and firmly supported on all four feet. Tighten the washer with a suitable wrench to lock the assembly in position.

Note: When using spiked feet take care not to drag the subwoofer and be careful not to pierce objects or cables which may be hidden under carpets, etc. Spikes are not suitable for use with stone floors and can cause damage to wood floors, so consider carefully before deciding which feet to use.

Installing batteries in the subwoofer remote handset



The handset operates on two LR6 (AA) batteries which are supplied. The battery compartment is located at the rear of the handset.

Unwrap the batteries and slide the cover off the handset. Place the batteries in the handset observing the polarity. The correct orientation is shown on the diagram. When the batteries are installed, replace the cover.

Important Note: The batteries supplied with the handset should be treated with care and not punctured, damaged or exposed to rain or moisture. Used batteries should be disposed of in full conformity with recycling regulations in your area. NEVER dispose of batteries in a fire or in the general rubbish.

SETTING UP YOUR SYSTEM

Please read these setup notes together with your processor manual. For a full treatment of subwoofer setup refer to the Lite subwoofer manual, Pages 11ff.

Setting up should be performed with a wide spectrum of music and tone controls and filters set 'flat'.

Large or Small?

Most digital AV Processors ask you to specify the size of speakers in the various channels. These are usually 'Large' or 'Small'. This sets the bass management for the system. You should choose 'Small' for **all** channels, so that all the bass from these channels will be directed to the subwoofer. Set the 'Subwoofer' option on the processor to 'On' or 'Yes'.

Loudspeaker Phasing

It is absolutely essential for all speakers to be connected correctly with the RED + and BLACK - terminals of the speakers connected to the corresponding RED + and BLACK - terminals of the AV amplifier ('in phase'). This is particularly important if speakers are bi-wired. If the sound is not as clear as it could be, check all speaker connections carefully before proceeding further. Correctly connected front channel loudspeakers give a definite centre sound source with full bodied tenor and bass registers.

Setting the Phase of the Subwoofer

Phase at very low frequencies is not straightforward to detect. Initially we suggest you temporarily set the phase to 0° and play some bass heavy music in Stereo through the main speakers and the subwoofer. From the listening position, switch the phase between 0° and 180°. The setting which appears to give the greater bass output is correct. Now follow the instructions for setting the low pass filter.

Subwoofer Low Pass Filter

If you are using a digital AV processor the initial setting should be 75Hz. After experimenting with various sources you may need to adjust the LPF. If you choose too low a setting there will be a 'hole' in the bass response. Choose too high a frequency and the bass will appear bloated with loss of definition.

Setting System Levels

Once the loudspeaker settings have been finalised, put the AV amplifier into its "Test" mode (see instructions supplied with your processor.) Adjust the levels until all channels are reproduced at equal loudness as perceived from the seated position.

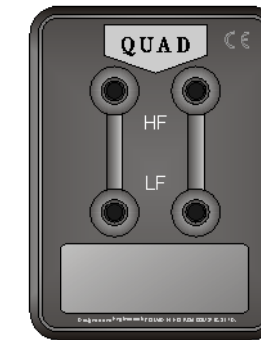
When adjusting the subwoofer output level avoid setting too high a level or you will swamp the sound with bass which may limit the subwoofer's ability to respond to large bass transients. Set a sensible level going *into* the subwoofer from the processor. The volume display should be around 50 at normal listening levels.

LFE

In domestic A/V processors, where any speakers are set to 'Small', the LFE channel is combined with the bass from those channels and fed into the subwoofer. When you set the LFE level from your AV processor, use care as the LFE channel contains powerful low frequencies which, although normal in a cinema, may overload a domestic subwoofer. If, during a programme, you hear popping or thumping noises from the subwoofer, turn the AV Processor volume level down and back off the LFE level. If this does not cure the problem, lower the subwoofer volume level.

The subwoofer **must** be on when the system is playing or there will be no bass!

Loudspeaker Connectors and Terminals



Quad Lite Crossover Networks

Quad Lite crossovers separate the treble and bass networks into two sections. This enables the treble and bass units to be separately driven for optimum performance. The upper terminals are connected to the treble network and the lower pair to the bass network. As supplied, the treble terminal pair is connected to the bass terminal pair by removable metal straps. **These should be left in place for standard wiring installations** (see below).

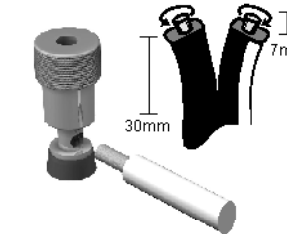
Choosing and Preparing Cable

Specialist audio cable will usually offer better performance than general purpose 'bell' or 'zip' wire. Audio cable is polarised, with two cores of different colours, or often, in the case of twin cable, a coloured tracer or ridge along one wire to indicate polarity.

Choose a cable of suitable diameter - cable that is too thin will limit the dynamics of the sound and may impair the bass response. Split the twin cores to a depth of about 30-40mm. Carefully strip the insulation from each end, leaving about 7-10mm of bare wire. If the cable is stranded, lightly twist to gather any loose strands.

Connecting Speaker Terminals

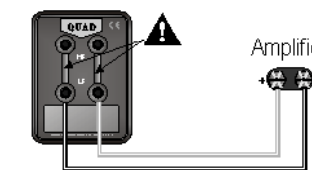
Unscrew the terminal. Thread the bared end of each cable through the hole in the bottom of the terminal post. Ensure that there are no loose strands which may touch adjacent terminals. Retighten the terminal securely.



Standard and Bi-Wiring Connections

You can connect Quad-Lite loudspeakers to an amplifier in one of two ways.

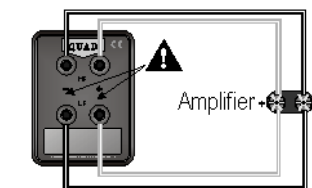
Standard Wiring



The straps connecting the upper and lower terminal pairs are left in place and the loudspeaker is connected to the amplifier by a single two-core cable. The cable may be connected to upper or lower terminal pairs.

Bi-Wiring

Most of the signal going to the speakers drives the bass units. Where one cable feeds bass and treble units, heavy bass current can modulate the high frequencies. Using separate cables for treble and bass improves headroom and clarity.



Partially unscrew each terminal and remove the straps. The upper pair of terminals on the crossover panel feeds the treble units and the lower terminals feed the bass unit. Connect two cables between the amplifier and the loudspeakers as indicated and re-tighten all the terminals securely. Where feasible, we strongly advocate bi-wiring.

Subwoofer Rear Panel

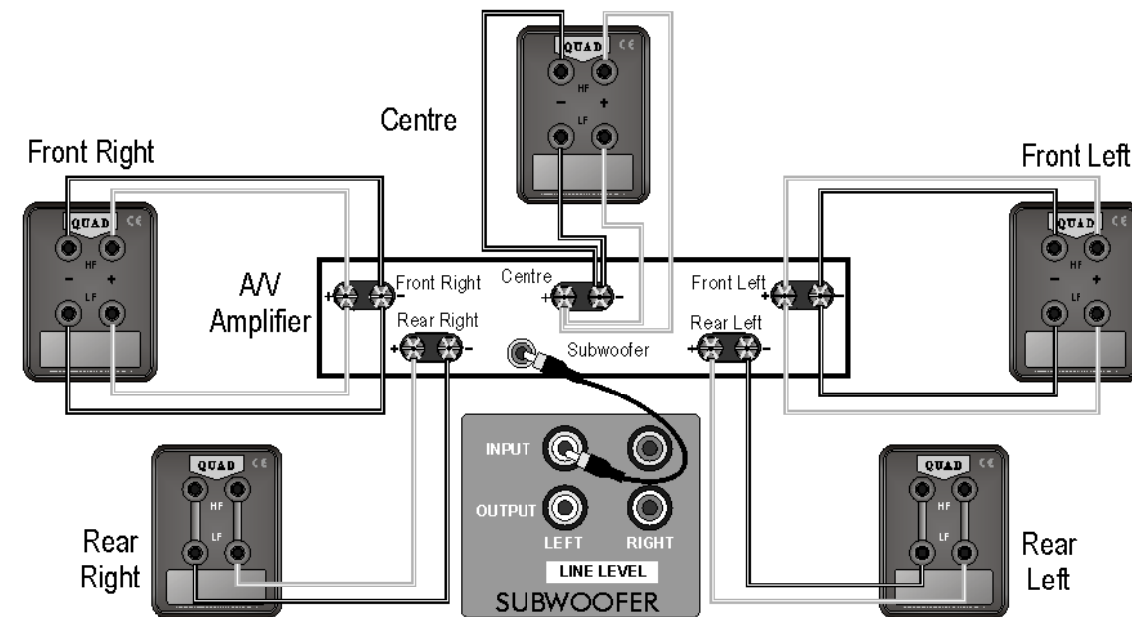
To connect the subwoofer to your A/V processor you will need a single RCA phono interconnect. Ensure you obtain a well screened quality cable.



Rear Panel Connections

- ① Mains Input
- ② Mains Fuse
- ③ Mains Power Switch
- ④ Speaker Level Inputs
- ⑤ Line Level Outputs
- ⑥ Line Level Inputs

CONNECTING THE SPEAKERS



Front, Centre and Rear Channels

Connect the Front, Centre and Rear loudspeakers as shown above. Ensure that the **red**, positive, (+) terminal on each speaker is connected to the corresponding **red** (+) terminal on the amplifier and the same for the **black**, negative, (-) terminals. Connections should be firm with no loose strands touching adjacent terminals.

The preferred scheme is to use bi-wiring connections for the front and centre channels. This will produce the best performance from the system. The rear channels in an A/V system receive a restricted signal and little is to be gained by bi-wiring these speakers, though you may certainly do so if you wish.

Alternatively, the complete system may be standard wired if required.

Connecting the Lite Subwoofer

Before connecting check the voltage marked on the amplifier panel is correct for your mains supply. If you are in any doubt consult your dealer.

If your AV processor has a line level or LFE subwoofer output connection: you should use this connection. You will need to purchase a 'single mono' screened RCA phono lead from your dealer. Connect this lead from the Subwoofer output of the processor to the Left line input of the Lite subwoofer.

If your equipment does not have a line level LFE or subwoofer connection: refer to the supplied Lite subwoofer manual for full details of alternative connections.

Use of correct connectors and cables

You should ensure that cables which are used with Quad equipment are properly terminated and appropriate to the task. This is particularly important with loudspeaker cables and connections. If you are in any doubt consult your dealer.

To minimise hum and mains interference ensure that low level (line level) signal cables are well screened. Avoid routing low-level signal cables close to or parallel with mains power wiring.

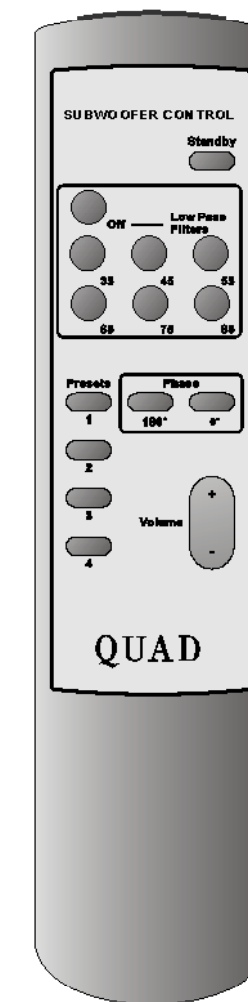
When routing any cables to loudspeakers do not run them across open floor spaces where they may cause danger to people and pets. Route them safely, around room boundaries if necessary.

OPERATION

Switching On

Check that all the connections to the subwoofer and all speakers have been properly made. Set the system volume control to minimum. Plug the power cord into the mains socket on the rear panel. Plug the mains plug into the wall socket and switch the power on. Now switch the subwoofer on with the rest of your system. The subwoofer on/off switch has a rocker action; press the upper part to switch the equipment on and the lower part to switch it off. When switched on the light above the power switch will glow and the subwoofer will be operational.

Subwoofer Operation - Controls and Functions.



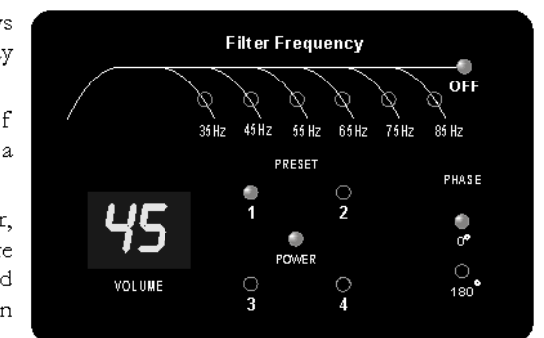
All control functions are carried out using the remote handset. The handset must be pointed at the subwoofer and be in line of sight for it to operate.

Standby: Operating the Standby key brings the subwoofer in and out of Standby.

The drawing on the right shows a typical front panel display during operation.

The preset light will not light if no preset has been set up or if a preset has been over-ridden.

In Standby, the Volume, Filter, Preset and Phase indicators are extinguished. The POWER and the rear panel lights remain on to show the unit is powered.



Volume: Press the Volume + key to increase the volume level. Press the Volume - key to decrease the volume level of the subwoofer. The volume range on the front panel display varies from 00 (minimum) to 99 (maximum).

Low Pass Filters: Pressing the appropriate filter key will select the frequency at which the subwoofer rolls off. The filter has steps at Off and 35Hz-85Hz in 10 Hz increments. When 'OFF' is selected the subwoofer operates over its full designed range. Pressing other keys lowers the maximum operating frequency. The Low Pass Filter value should be chosen having regard to the nature of the Front speakers and the programme material. See next page

Phase: This key toggles the subwoofer between 0° and 180° phase shift.

Presets: Four different settings of level, low pass filter frequency and phase can be stored. Press and hold any of the preset keys on the remote for 3 seconds to store the current settings in that preset. The display will show the preset number and then flash the preset number once to show it has stored the preset.

To change from one preset to another, press a preset key on the remote for less than 3 seconds to recall the settings of that preset. The display will show the preset number.

If you select a preset and then alter any aspect of the setup, the preset light will extinguish (as the setup no longer matches the preset).

Note: When brought out of standby for the first time, the subwoofer will display the factory presets. Thereafter, bringing the unit out of standby will revert it to the operational state last used. If you switch the power on and off at the rear panel while the unit is in standby, the unit will power up to a normal operating state (i.e. not in standby). To enter standby, again press the Standby key.

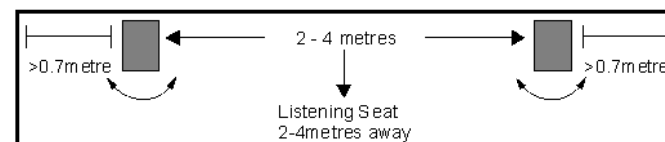
INSTALLATION

Positioning the Subwoofer

Although the unit may be placed almost anywhere in the room, we recommend that it be placed in front of the listener and as central to the listening position as possible. The subwoofer should not be operated within 450mm of a television set as the magnet may distort the picture. There should be line of sight between the listening position and the front of the subwoofer to operate the remote functions.

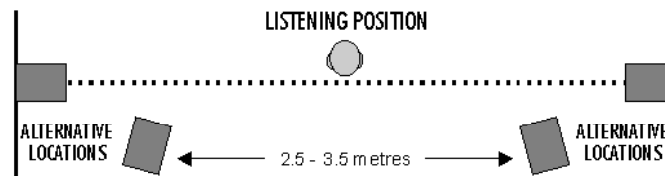
We suggest you initially position the subwoofer about 20cm (8 inches) from the wall. Placing the unit close to the wall will enhance the bass; placing it across the corner of the room will increase the bass further, possibly at the expense of clarity. Do not place the subwoofer close to surfaces or objects that may rattle. The floor under the subwoofer should be sound with no loose floorboards, etc. You should expect to experiment with a variety of locations and sources before making a final decision. (See Page 11 and 12 of the Quad-Lite subwoofer manual)

Positioning the Front Loudspeakers



The Quad-Lite speakers are intended for wall, stand or shelf mounting. Their bass extension depends on proximity to a wall, though they should be kept away from room corners. Ideally they should be mounted 1-2 metres above the floor and 2-4 metres apart, central to the listening position.

Positioning the Rear Loudspeakers

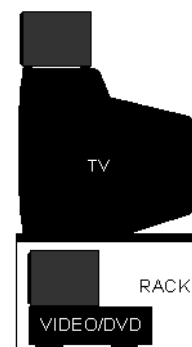


The Lite satellites should ideally be sited 600 mm-1.5 metres above the listening position and 2.5-3.5 metres apart, central to the listener and either on a rear wall or on opposite side walls but **always** behind the listening position.

Notes on Wall Mounting

The Lite satellites come with a standard threaded insert that will accept the majority of available fixing brackets. When wall mounting the speakers ensure that the wall and the brackets can support the weight of the speakers. Always follow all instructions that are supplied with the brackets in full.

Positioning the Centre Loudspeaker



The loudspeaker should be positioned centrally between the loudspeakers close to the television and mounted either above or below the screen. Locate the loudspeaker on a stable flat surface to avoid any danger of the cabinet moving when it is vibrated by high sound levels. If you mount the unit on top of the television, move it forward so that the front grilles are level with or slightly in front of the screen. This will reduce reflections from the screen and the top of the cabinet. Although you may place the centre channel loudspeaker under the TV monitor, this should be regarded as second best. The preferred position is above the monitor, as shown.

Delay Settings

Many AV processors feature adjustable delay settings to enable surround and dialogue information to arrive at the listener at the same time as the Front channels, even when the listening seat is in a non-ideal position.

Rear Delay: If the listening position is equidistant from the Front and Rear speakers, a low delay setting should be set. The closer the listener is to the Rear speakers the higher should be the delay setting used,

Centre Delay: If the Centre speaker is level with (or slightly behind) the Front speakers, set the delay to zero. If the Centre speaker is forward of the Front speakers, increase the delay.

THE 5.1 ENVIRONMENT

Front Channels: The front channel loudspeakers are placed on either side of the television screen, 2.5 to 3.5 metres apart. The speakers should be angled slightly so they are aimed towards the listeners.

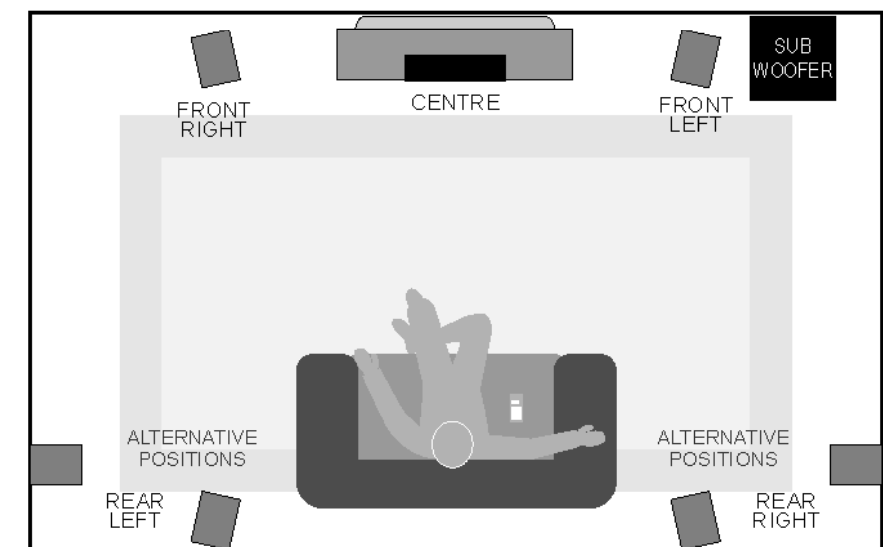
Rear Channels: As the rear channels are the “effects” channels the reproduced sound should be as room filling as possible. To aid this we recommend placing the speakers in a high position, slightly behind the listener’s head. Angled towards the listener and positioned high, the rear speakers give a good rear perspective combined with a diffused sound field. Two possible placements are indicated in the diagram.

Note: If the rear wall is more than 1 metre behind the listening seat, the side wall position should be used. If the side or rear walls are inconveniently located, consider stand mounting the loudspeakers.

Centre Channel: In the cinema most of the dialogue comes from the middle loudspeaker. This ensures that the speech appears to originate from the actors’ mouths and not displaced to one side.

For best results the front and centre channel speakers should be operated at the same height. For this reason the centre channel speaker should normally be operated on top of the television monitor. Ideally the front faces of the centre and surround loudspeakers should be in line, though this may not be practicable in many cases.

Subwoofer: As the ear is unable to detect the direction from which deep bass originates, this allows freedom in positioning the subwoofer. Varying the distance from the wall will alter the amount of bass, the level increasing as the unit is moved closer to the wall. Some prefer to place the subwoofer against a corner of the room. This arrangement gives more bass at the possible expense of clarity.



INTRODUCTION

The Quad-Lite system is a multi-channel home theatre loudspeaker system intended for use with very high quality sound reproducing systems in the home. The system is supplied in a basic 5.1 configuration but can be extended for use in 6.1, 7.1 or larger systems by the purchase of additional Quad-Lite satellites.

Quad subwoofers are very heavy and robust. Remember to check that any surface on which you place the subwoofer is stable and able to support this weight.

INFORMATION TO THE USER

Good Practice

- Switch off the amplifier and all sources before making connections to your sound system. When you switch on the system or change sources, set the volume control to minimum and turn up the level gradually.
- The position of the Volume Control is NOT a reliable guide as to the maximum capabilities of your sound system. Playing the system at extreme settings of volume and tone controls may damage the amplifier and loudspeakers.
- Do not connect loudspeaker terminals to the mains supply.
- Ensure that your loudspeakers are correctly wired and are in phase.
- Do not subject your loudspeakers to excessive cold, heat or sunlight.
- If you play loudspeakers with the grilles removed protect the drive units from children and pets.
- Do not use makeshift stands. Always fit a manufacturer's approved stand or mounting bracket using the instructions and the fixings provided. Your dealer will advise you.
- Do not attempt to dismantle the loudspeaker. There are no user serviceable parts inside and you will invalidate the warranty.
- Site subwoofers at least 0.5m away from TV sets and magnetic storage media. The satellites and centre are screened and may safely be operated close to a TV.

Guarantee and Product Registration

Quad equipment is guaranteed against any defect in material and workmanship for one year from the date of purchase (proof of purchase is required). We ask that you complete and return the enclosed Warranty Registration Form. Within the guarantee period, Quad will undertake replacement of defective parts free of charge provided that the failure was not caused by misuse, accident or negligence. Your statutory rights within the territory in which you purchased the equipment are not affected by this guarantee.

There are no user replaceable or serviceable parts inside Quad units. Unauthorised attempts to service or modify Quad products will invalidate the warranty.

Service Arrangements

Equipment for servicing should be returned to the supplying dealer, or to the appointed service agents for your area. The addresses of Service Agents for the UK, USA and Canada are listed at the rear of this manual. If you are abroad and there is no suitable dealer in your area, please contact the distributor for the country in which it was purchased or Quad Electroacoustics Ltd.

Equipment returned for service should use the original packing. Please enclose a brief note with your name and address and the reason for returning the unit.

Care and Cleaning

The cabinets and non-electrical parts of the equipment may be cleaned with a barely damp cloth provided the power has been switched off or unplugged at the mains. Solvent based cleaners should not be used.

TROUBLESHOOTING

If your system is not working properly please work through this checklist before returning a unit to your dealer. Before investigating a problem, always switch off the system at the mains.

Symptom	Possible Cause
No Sound	System not switched on; Speaker cables shorting terminals out; Wrong source selected
Sound lacks bass content Bass reproduction indistinct	Front loudspeakers out of phase Subwoofer not switched on; Subwoofer phase incorrect; Subwoofer crossover control too low; Incorrect preset; Subwoofer drive unit obstructed
Excessive bass distortion at low volumes	Subwoofer level set too high; LFE level set too high; Subwoofer incorrectly wired
Excessive or distorted bass at high levels	System level set too high; Bass control set too high; Speakers too close to room corners
Distorted or rattling sounds at high levels	System level too high; Objects on speakers/subwoofer; Objects too close to subwoofer; unstable/loose flooring below subwoofer
Popping or thumping from the subwoofer	System level set high; Subwoofer level set too high; LFE level set too high
Indistinct sound; Poor localisation of effects. Poor localisation of dialogue	One or more loudspeakers is out of phase (Read the manual for correct connection procedure)
Television picture colour is distorted	Subwoofer too close to TV. (Switch off system and TV. Move units away. Leave 15 mins. Switch on)

SPECIFICATIONS

	QUAD-Lite Satellite	QUAD-Lite Centre
Bass Unit	100mm	2 x 100mm
Treble Unit	25mm Dome	25mm Dome
Rec. Amplifier Power	30 - 120 W	30 - 150 W
Nominal Impedance	6 Ohms	6 Ohms
Sensitivity (2.83V @ 1M)	86 dB	87 dB
Frequency Response	70Hz - 24kHz	80Hz - 24kHz
Crossover Frequency	2.2kHz	2.5kHz
Frequency Fb	70Hz	75Hz
Size mm (H x W x D)	225 x 135 x 160	135 x 340 x 160