

L Studio Series

Active Electrodynamic Loudspeakers

USER MANUAL

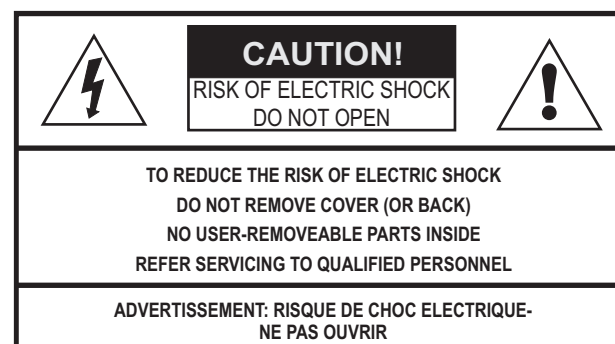
11L Studio

12L Studio

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L Studio Series

User Cautions



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 this appliance 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.

IMPORTANT NOTICE TO UK USERS

The power cord may be supplied with a plug incorporating a fuse, the value of which is indicated on the pin face of the plug. Should the fuse need to be replaced, an ASTA or BSI approved BS1362 fuse must be used of the same rating. If the plug is cut off it must NOT be re-used. Dispose of any such plug safely. There is a danger of electric shock if a cut-off plug is inserted into a mains socket.

Connecting a Mains Plug

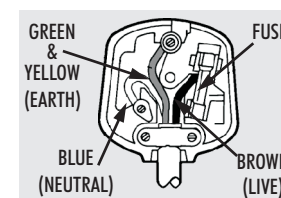
The wires in the mains lead are coloured in accordance with the code:-

Blue: NEUTRAL, Brown: LIVE, Green/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 coded GREEN or marked with the Earth Symbol.



Service and Warranty

Warranty and Product Registration

Quad equipment is warranted 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 and the USA and Canada are listed below. 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.

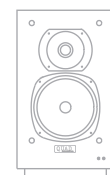
Authorised QUAD Service Centres in the U.K. and North America

U.K.	USA
QUAD Electroacoustics Ltd.	Taiga LLC
IAG House, Sovereign Court,	310 Tosca Drive
Ermine Business Park,	Stoughton,
Huntingdon,	MA 02072
Cams PE29 6XU,	Tel: 781-341-1234
England.	Fax: 781-341-1228
Tel: +44 (0)1480 447700	Email: service@taigallc.com
Fax: +44 (0)1480 431767	

A worldwide distributor list is available on the QUAD website: www.quad-hifi.co.uk

L Studio Series

Specifications



	11L Studio	12L Studio
Passive Components		
Transducer Complement	2 Way	2 Way
Cone Bass driver	5" 125mm	6.5" 170mm
Soft Dome Tweeter	1" 25mm	1" 25mm
Bass driver	D688	D689
Tweeter	D695	D695B
Active Components		
Bass Power Amplifier	60W	60W
Treble Power Amplifier	40W	40W
Active Crossover Network	1.8 kHz	1.8 kHz
System Performance		
Frequency response +/- 6dB	45Hz-24kHz (unfiltered)	45Hz-24kHz (unfiltered)
Bass Filter	-6dB/Octave (rel. 100Hz)	-6dB/Octave (rel. 100Hz)
Short-term Peak SPL (@ 1m)	102dB	110dB
Upper frequency limit -10dB	32kHz	32kHz
Input Impedance @ 1 KHz	10K Ohms	10K Ohms
Input Sensitivity	0.775V (0dBu)	0.775V (0dBu)
Signal/Noise Ratio	>100dB	>100dB
System Fb	55Hz	50Hz
Magnetic Screening	Yes	Yes
Mains Voltage	230V or 110V available	230V or 110V available
Power Consumption	22W idle; 120W max.	22W idle; 120W max.
Physical Characteristics		
Balanced signal input socket	XLR - 1/4" TRS jack combo	XLR - 1/4" TRS jack combo
Unbalanced signal input socket	RCA phono (cinch)	RCA phono (cinch)
Mains input connector	3 pin IEC fused	3 pin IEC fused
Enclosure type	Ported	Ported
Enclosure construction material	15 & 25mm MDF	15 & 25mm MDF
Product dimensions H x W x D	326 x 190 x 284 mm	357 x 205 x 308 mm
Net Weight	8.2Kg	9.7Kg
Finish	Piano finish wood veneers of cherry, birds eye maple: plus piano black and piano silver	

Introduction



For over 60 years Quad Electroacoustics has produced the most accurate and neutral amplifiers and loudspeakers in the world.

The L Series has achieved universal acclaim among audiophiles - the levels of detail, clarity and perspective that the L series provide, are a revelation and source of continuing delight to all music lovers.

Quad power amplifiers needs no introduction. Quad's innovative electronics technology, widely acknowledged the world over, offers unparalleled levels of clarity and realism while at the same time minimising componentry, size and heat.

The L Studio Series are active loudspeakers that bring together the strengths of both Quad technologies. Based on the award-winning 11 and 12L loudspeakers each Studio Monitor features two low-distortion power amplifiers and an electronic cross-over. A 60 Watt amplifier drives the bass unit and a 40 Watt amplifier drives the treble unit. Each amplifier is precisely matched and coupled to its partnering drive unit - the electronic crossover eliminates inductors and other passive components from the loudspeaker path removing time delays and other response anomalies while hugely improving damping. The results are pin-point clarity and astonishing transient performance far outweighing conventional loudspeakers but without compromising the natural sound that is uniquely the hallmark of all QUAD products.

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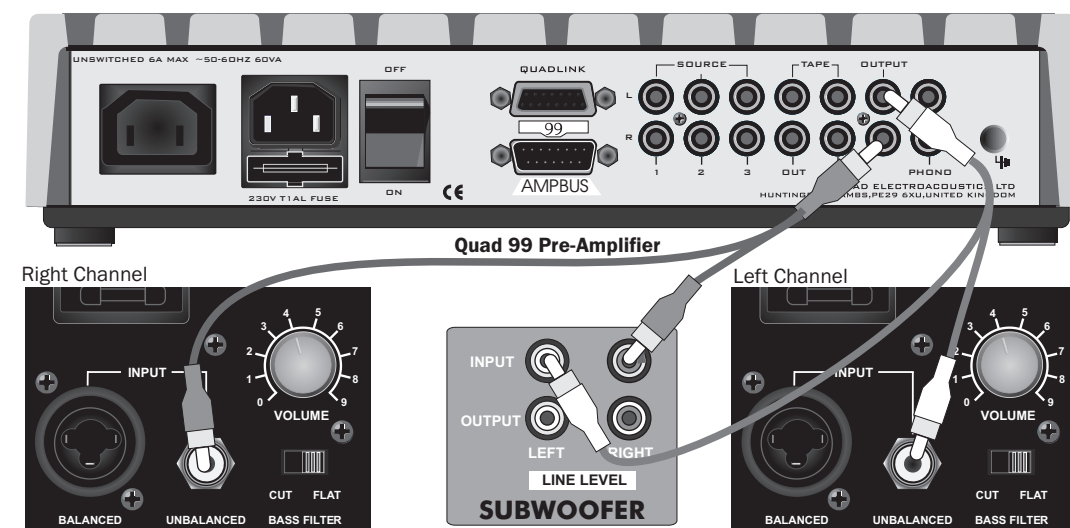
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Adding a subwoofer

Under normal circumstances a subwoofer will be used in a multichannel A/V system and connected via a dedicated subwoofer output on the A/V processor. However, using active monitors in Stereo makes it very straightforward to add one or two subwoofers to enhance low bass performance. Quad L series subwoofers are able to accept stereo or mono inputs so you can expand your system with one subwoofer and at a later stage add another.

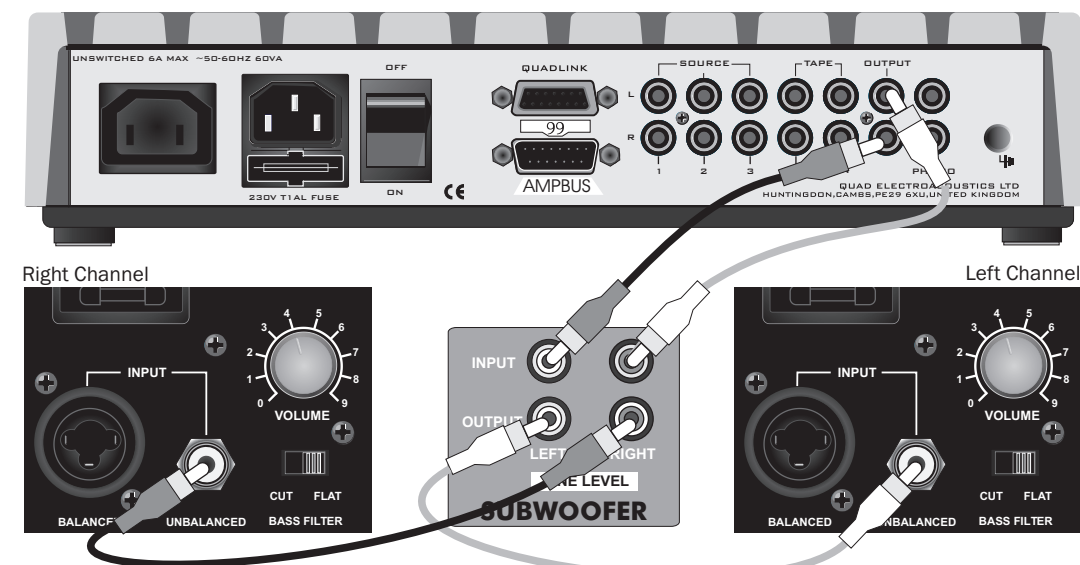
Method A

The simplest way is as shown below. You will need to purchase two doublers. Just connect the input of the subwoofer in parallel with the input of the monitor and follow the setup instructions in your subwoofer manual.



Method B

The above method may involve long runs of cable. If (as is likely) the subwoofer is close to the monitor, you can use the system below. Connect the pre-amplifier to the Input sockets of the subwoofer. Connect each monitor to the relevant output of the subwoofer and follow the instructions in your subwoofer user manual.



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Good Practice Guide

Before connecting and using your loudspeakers, please bear the following points in mind:

- 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 system volume control to minimum and turn up the level gradually.
- The position of your Volume Control is NOT a reliable guide as to the maximum capabilities of your sound system. Playing the system with extreme settings of volume and tone controls may damage the amplifier and loudspeakers.
- The signal input to these loudspeakers should only be connected to a line level output.
- Ensure that your pre-amplifier or other source component has an output greater than 0.775 Volts and an impedance low enough to drive the 10K Ohm input of the loudspeakers. Some valve (tube) units may be unsuitable - refer to the relevant handbook or your dealer if you are in any doubt.
- Do not subject your loudspeakers to excessive cold, heat or sunlight.
- 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 - must be placed on the product. Do not place heavy objects on top of loudspeaker cabinets.
- Allow a space between the heatsink of the loudspeaker and the back wall for good ventilation and proper operation of the loudspeaker ports.
- If you play the loudspeakers with the grilles removed be careful to protect the drive units from children and pets.
- Do not use makeshift stands. Always fit a manufacturer's approved stand 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 regular loudspeakers at least 0.5m away from TV sets and magnetic storage media. The L2 Studio loudspeakers are screened and may safely be operated close to a TV set.
- If your source equipment features balanced outputs, use the balanced input connection in preference to the regular unbalanced input.
- Signal connecting cables must be high quality interconnects with low capacitance and fully screened. Cheap audio cables usually have very poor screening. Avoid these completely. If you have any doubt, ask your dealer to make you up suitable cables.
- DO NOT run the loudspeaker signal cables parallel to mains cables. Preferably, power the mains from points sited close to the loudspeakers. If signal cables have to cross mains cables, cross them at right angles. In this way there will be minimal interference from mains sources.
- When connecting your loudspeakers, do not run cable across areas of open floor where they may be a source of danger.

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Setting Up a Home Theatre System

Placement

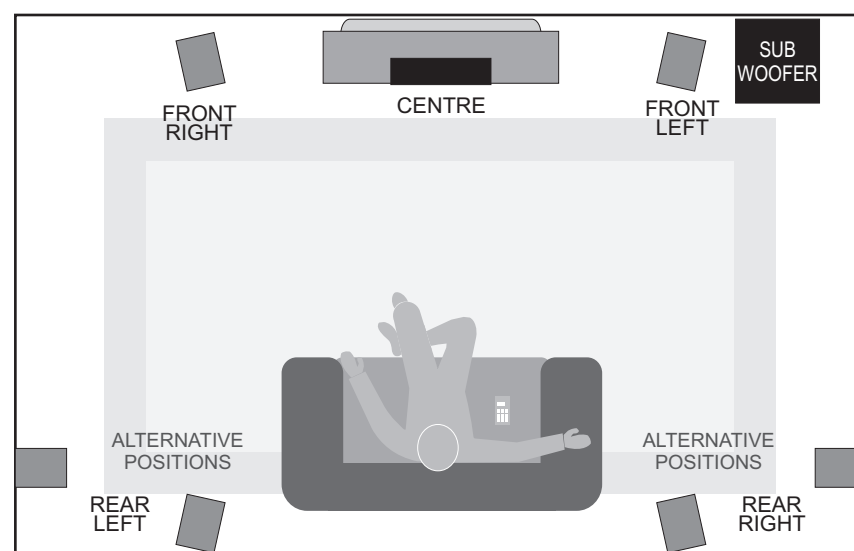
Front And Effects Channels

The front loudspeakers are placed on either side of the television screen, 2 to 3 metres apart. The speakers should be angled slightly so they are aimed towards the listeners.

We recommend placing the rear effects speakers in a high position, behind the listener's head. If the rear or side walls are a long way from the listening seat, consider stand mounting the loudspeakers. If the centre loudspeaker is very high or low, angle it towards the listener's ear level. The front faces of the centre and surround loudspeakers should also be in line as far as possible.

Subwoofer

As the ear is unable to detect the direction from which deep bass originates, this allows you freedom to position the unit. Varying the distance from the wall alters the bass. Placing the subwoofer across a corner boosts the bass but may impair clarity. The performance of Home Theatre systems can often be enhanced by using a pair of subwoofers.



Setting Loudspeaker Sizes

Many digital AV Processors ask you to specify the size of speakers in all channels - usually 'Large' or 'Small'.

If you are not using a subwoofer: Set the Front Speakers to 'Large'. Set the 'Subwoofer' option on the processor to 'Off' or 'No'. The Front channels will now receive all the system bass.

If you are using a subwoofer: Set the Monitors to "small". Other loudspeakers may be set to 'Large' or 'Small' - as recommended in your User Guide. Those loudspeakers which are set to 'Small' will have their bass diverted into the subwoofer. Those loudspeakers which are set to 'Large' will reproduce the full range.

NOTE: The Bass Filter on the Monitors should be switched OFF as Bass management will now be carried out from the A/V processor.

Once the loudspeaker settings have been finalised, put the AV amplifier into its "Test" mode (see instructions supplied with your processor). Adjust the level of each channel until all channels are reproduced at equal loudness.

You may need to adjust the subwoofer output level. Avoid setting too high a level or you will swamp the sound with bass and may limit the subwoofer's ability to respond to large bass transients. You should also set a sensible level going into the subwoofer from the AV processor.

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Positioning the loudspeakers

Stereo positioning

However good the loudspeaker, the final results will depend on the acoustic characteristics of the listening room and the position of the loudspeakers in it. Do not be afraid to experiment with both position and orientation and make a point of trying some of the less obvious as well as the more obvious positions. The benefits obtained from the time spent doing this can be very rewarding. The subject of room acoustics is complex and beyond the scope of this manual. It is assumed that the loudspeakers will be used in a room with moderate reverberation, neither too bright nor over damped. Furnishings can alter the acoustic characteristics of the listening room, and here common sense is the best guide.

When experimenting, it is preferable to use good recordings or works with which you are familiar in the concert hall or good quality speech. When used for Stereo and as the Front Loudspeakers in a Home Theatre system your active monitors should ideally be placed on stands and angled slightly inward towards a central listening position. The ideal distance will be found by experimentation but as a guide the speakers should be as far apart from each other as each speaker is from the listener.

Stand mounted loudspeakers should be placed at least 20cm (8") from the rear wall of the listening room. Placing the loudspeakers close to the rear walls will increase the bass response but may introduce colouration at low and low-mid frequencies. To preserve the outstanding polar response of these loudspeakers, the rear wall should be solid, preferably plastered brick.

As a general rule the centre of the tweeters should be at ear level to a seated listener. It is not advisable to operate the loudspeakers across corners, in alcoves or behind furniture.

If stand placement is not possible the loudspeakers may be mounted on sturdy shelves or wall brackets. Whether you use stand mounting or an alternative, make sure that the rear of the speakers are well clear of the wall for adequate ventilation.

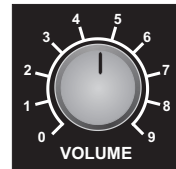
The illustration below shows the front channels of a Home Theatre system using a pair of L Series Monitors and the Quad L2 Centre speaker. Although a dedicated Centre speaker will usually provide superior localisation of dialogue and other effects, there is no reason why an L series monitor may not be used. If this is the case, we suggest that the loudspeaker is operated in the normal position, not on its side. To minimise heat problems, consider mounting the monitor above the TV screen.



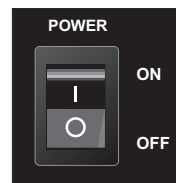
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Operation

Switching On For the First Time



Set the levels on each monitor midway. There is a centre indent to help you locate the control on the right place.



Check that all connections to the loudspeaker have been properly made. Set the main volume control at minimum. Plug the supplied power cord into the mains socket on the rear panel. Plug in the mains plug and switch the power on. Now switch on the rest of your system. Finally, switch the loudspeakers on. The 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 blue operation light will glow and the equipment will be operational.

Setting levels

Set the balance control midway (or to "0"). If your pre-amplifier has a mono switch, set the unit temporarily to mono. Play some solo music or speech and turn the system volume control up to a moderate level. Adjust the input level on each monitor so that the sound appears to come from a point midway between the two loudspeakers. When setting the input level to the monitor, make sure that the main system volume level operates over the greater part of its range. If the level at the monitor is turned up too high, the main volume control operation will be scrunched up at the lower end, and vice versa if you have set the level at the monitor too low. Once the correct level is established the system is ready for use.

Switch on routine in normal use

- Make sure the ON/OFF switch on the Monitor is OFF.
- Check the system volume control is in the full counter clock-wise, or lowest position.
- Switch on the rest of your system first
- Turn on power to the monitor and check the power LED is illuminated on the front panel.
- Allow a short period for the amplifiers to warm up.
- With the signal source running, slowly increase the volume control level and confirm proper operation.

Bass Filter



The Bass Filter is a 6dB per octave filter designed to control low frequency buildup caused by the speaker's interaction with room boundaries. Think of the walls as low frequency mirror affecting the bass spectrum. If you believe you are likely to get excessive low frequency boost we recommend you use the bass filter. Again, experimentation is important. Listen and experiment using program material you are familiar with. If you are stand mounting the monitors and there is free space around them, it is unlikely that you will need to use the Bass Filter. In this case you should set it to FLAT. If you are using a subwoofer you may, if you wish, set the Bass Filter to CUT

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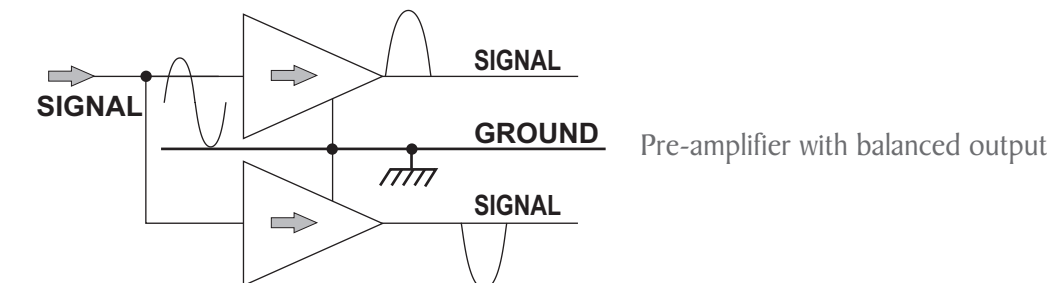
Input connectors and cables

Signal cables should be properly terminated and fully screened to minimise hum and noise. As the cable between your control unit or processor and the monitor could be quite long screening is particularly important.

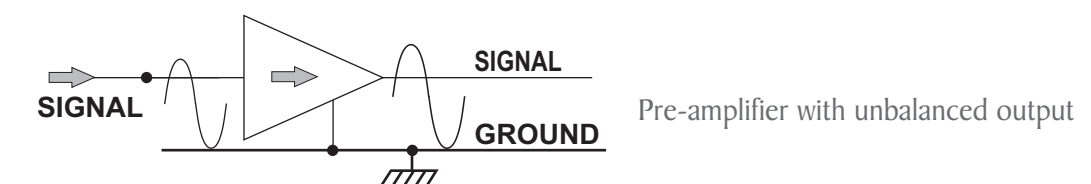
When routing any cables to loudspeakers do not run them across open floor spaces. Route them safely.

Balanced and unbalanced connections

In a balanced connection the signal and return lines are split or "balanced" with respect to Ground (Earth). Hum and noise interference affect all conductors in a cable. Since the signal conductors in a balanced line are of opposite polarity, noise and hum induced along the cable cancel out when they reach their destination. Professional audio equipment nearly always features balanced connections. Needless to say, balanced connections feature three connectors



In an unbalanced connection there are two cables, signal and return, which is also the ground return. Any hum or interference introduced into the system or picked up by the connecting cables will be amplified along with the signal.

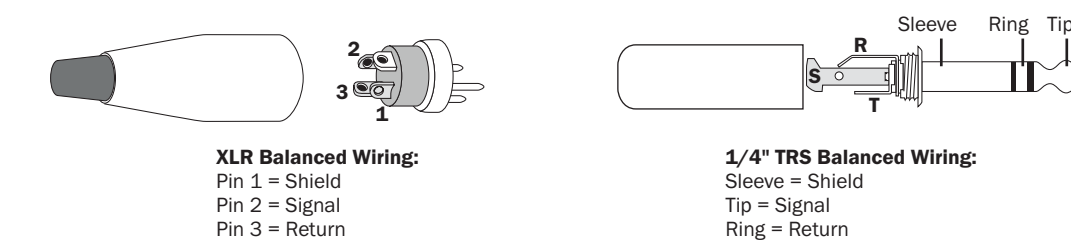


Standard Quad equipment uses unbalanced connections. This is done for simplicity and ensures compatibility with the vast majority of other audio equipment which also uses unbalanced connections. Additionally, over the short runs used in conventional audio systems there is no advantage to be gained from the extra complexity and cost inherent in balanced systems.

Even if you are using the unbalanced connection, by using quality screened cables and taking the few simple precautions outlined on Page 3 you can reduce hum, noise and interference to negligible levels.

Balanced connectors

The balanced input on the Monitor is a combination socket. You may connect either a XLR 3 pin plug or a standard 6mm (1/4") three pole jack sometimes known as a TRS (Tip, Ring, Sleeve) jack.



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AC Mains Connections

Make sure your mains power supply is clean and properly grounded. Wherever possible use short runs of cable. At high sound levels poor mains wiring may be heard as soft or weak bass and may cause noise and interference through poor grounding or insufficiently good contacts. Running your audio equipment on a separate mains spur or own its own ring will yield sonic benefits.

NEVER share an audio mains circuit with fluorescent lights, dimmers or domestic appliances.

THIS PRODUCT MUST BE CONNECTED TO A MAINS SUPPLY WITH A GOOD GROUNDING (EARTH) CONNECTION.

Checking the AC power supply

Quad L Studio Monitors are supplied in versions suitable for connection to 230V or 110V AC power supplies. Before connecting to the AC power supply, check that the voltage range marked on the back corresponds with that of the supply. Please check with the dealer if you have any doubt as to the voltage in your area or intend to use the equipment in regions which use other mains voltages.

Fuses

The mains supply fuse of the subwoofer is accessible on the rear panel after the IEC mains plug has been removed. In the rare event that it has broken, you should first check for any obvious cause before replacing the fuse with one of the correct rating and type. The correct fuse values are:

220 - 240V (UK, Korea, etc.) T 1 AL 20mm Slow Blow

100- 120V (USA, Japan, etc.) T 2 AL 20mm Slow Blow

You should switch off the equipment and remove the connection to the mains power outlet before changing the fuse.

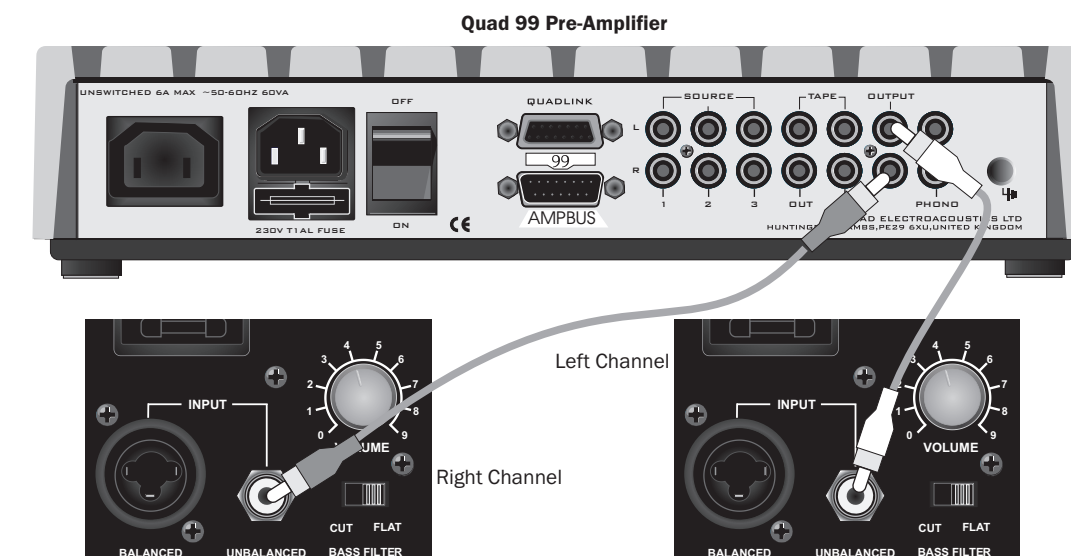
Before connecting the loudspeaker:

- o Switch off your amplifier and all connected source units at the mains.
- o Unplug the power cords to all system components if necessary.
- o Make sure the Monitor is disconnected from the mains and that the ON/OFF switch is OFF.
- o Before re-connecting your system to the AC power supply, check that all the connections are properly made.

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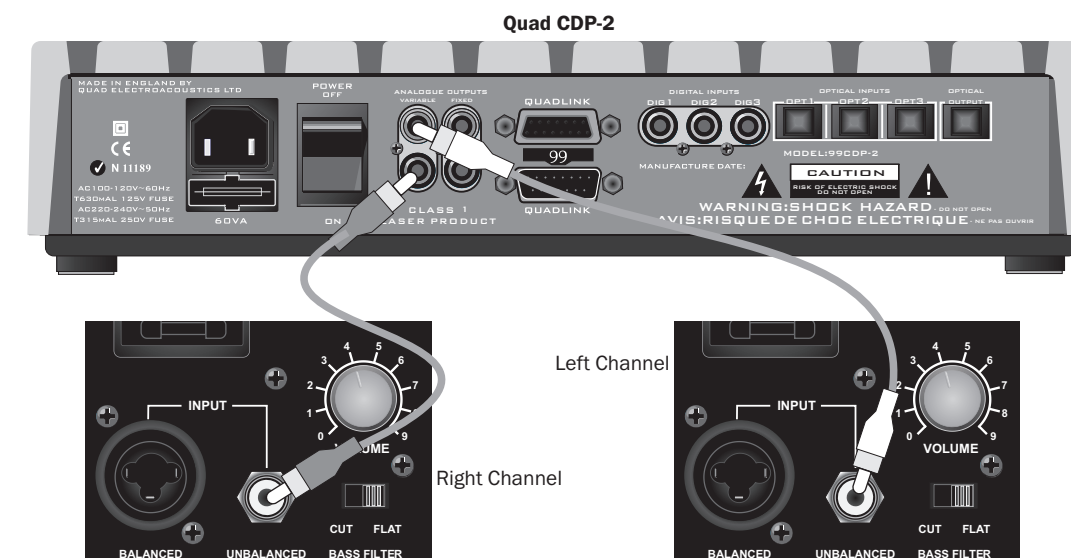
Connecting the Monitors to a Stereo Pre-amplifier

Connect each pre-amplifier output to the relevant input of the Monitor. The output used must be controlled by the Volume Control. Even though the Monitors feature variable input level controls, these should be regarded as "set and forget" controls and are not recommended for continuous use.



Direct connection to a source unit

You can connect the Monitor to any source unit equipped with a line output (or even a headphone socket) producing 0.775 V or thereabouts. This includes CD and other sources, computers, laptops, etc. The only caveat is that the source must have its own volume control. Line outputs from some sources may not develop enough voltage to drive the monitors - consult your handbook. By using a pair of monitors connected to a Quad CDP2 a minimalist system of spectacular performance can be built up at modest cost. Because the CDP2 features digital input switching, suitably equipped sources such as a DAB radio can be relayed through the CD player in the digital domain, offering outstanding performance.



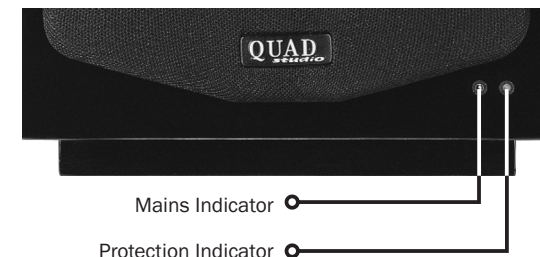
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Controls and connectors

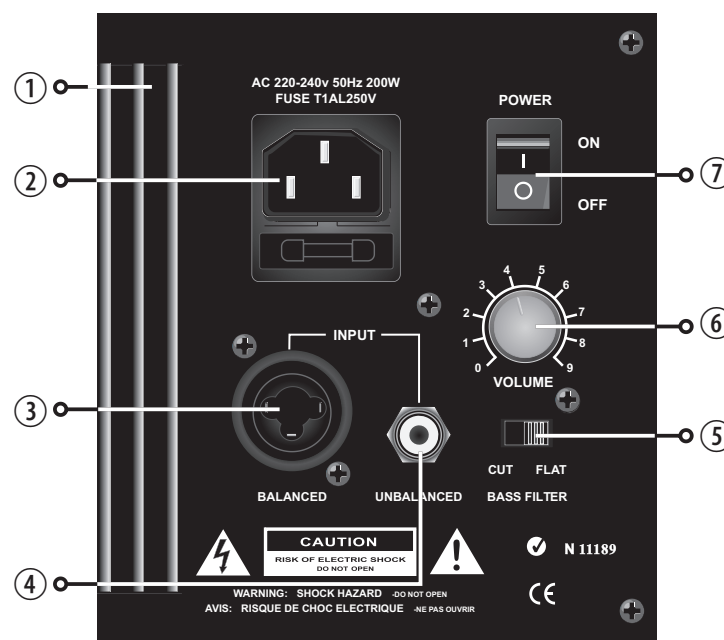


Rear View

Front View



Detailed View - amplifier panel



- ① Amplifier Heatsink
- ② IEC Mains Input
- ③ Balanced Input Combination XLR-1/4" TRS Jack
- ④ Unbalanced Input RCA Phono
- ⑤ Bass Filter LF Contour Switch
- ⑥ Input Level Control
- ⑦ Mains ON/OFF Switch

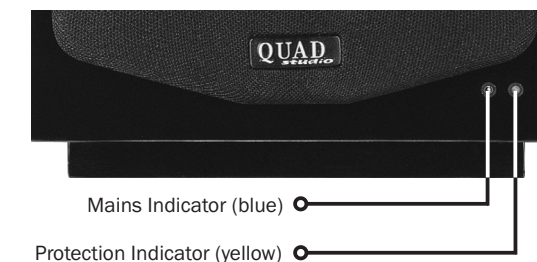
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Further Information

During normal operation the heat sink will become warm; over long periods at sustained high levels it may even become relatively hot.
Make sure that the heat sink has adequate air flow and is clear of obstructions.
The rear ports are a carefully designed part of the operation of the speaker and contribute significantly to the low frequency extension and accuracy of the product. Make sure these are not too close to a wall or other obstructions.

Overload Indications

When mains power is applied to the loudspeaker the blue operation light will glow. If you turn the sound up excessively loud, the amplifiers have built-in protection to avoid damage to the drive units. If this occurs the yellow protection light will come on. If this occurs, lower the Volume **immediately** to restore normal operation. In normal operation it is very unlikely that you will trigger the protection circuit.



Switch off routine after use

- Set the system volume control to full counter clock-wise, or lowest position.
- Set the ON/OFF switch on the Monitor to OFF.
- Now switch off the rest of your system.
- NEVER leave the amplifiers in your monitors switched on for long periods without any signal input. In particular you should not have the monitors switched on if the rest of the system is switched off. Doing so may leave the equipment vulnerable to switching noises from domestic appliances and other sources of interference. This is particularly important if the loudspeakers are connected with long runs of unbalanced cable.

Cleaning and maintenance

Cleaning and maintenance should be carried out with the loudspeakers switched off and unplugged from the mains.
The high quality piano lacquer finish on your loudspeakers needs no special care or attention. Occasionally wipe the surfaces with a clean lint-free duster. Fingerprints, etc. can be removed with a barely damp cloth and then buffed with a soft duster. There is no need for sprays or polishes. Do not use abrasives or abrasive materials to clean the enclosure since the finish may be marred. Never use water on or near electrical equipment.
The front grilles can occasionally be brushed out with a soft brush. If you remove the grilles, be especially careful to avoid touching the drive units which are easily damaged.
The amplifier heat sink should be checked occasionally and obstructions - lint, fluff or anything that might cause overheating - should be cleared with a soft brush.
Check that input connections are tight. Occasionally unplug and re-plug the connectors. The wiping action caused by so doing will keep the connections clean.

L Studio Series

Preliminaries

What's in the box?

The packaging contains the following items:

- o One L Series Studio Monitor
- o One IEC mains connector suitable for your area
- o This Instruction Manual
- o Warranty Registration Form
- o One pair of cotton gloves

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

Unpacking

Before you unpack the loudspeakers, ensure that you have a large and completely clear area of floor on which to work. Remove or protect any fragile carpets, etc to avoid any damage.

Remove the top packing. Lift each loudspeaker from the packaging. Do NOT lift the loudspeakers with the protective bag - support the loudspeaker properly.

Now remove the bag.

Two people may be needed to lift and manoeuvre the loudspeakers into position. If you cannot manage the task unaided, enlist the help of a friend.

Always use the supplied cotton gloves when handling exposed surfaces.

Please 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 having regard to any recycling regulations in force in your area.

Please retain the user manual and the information concerning the date and place of purchase of this equipment for future reference. In the unlikely event that you pass this product on to a third party, please include all the accessories and this instruction manual.

L Studio Series

Delay and LFE Settings

The purpose of delay is to enable surround and dialogue information to arrive at the listener's ears 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.

LFE: In domestic systems the LFE channel typically feeds into the subwoofer. Where no subwoofer is used, the LFE signal is combined with Front Channel information. When you set the LFE level at your AV processor, use care as the powerful low frequencies can overload domestic loudspeakers.

If you hear popping or thumping noises coming from the front loudspeakers or subwoofer, immediately turn the AV Processor's volume level down and then back off the LFE level. This should cure the problem. If it does not, back off the volume level at the subwoofer (if you are using one) until the problem disappears.

Please read the relevant sections of your AV amplifier manual and familiarise yourself with the various issues. If you are unsure, consult your dealer for help.

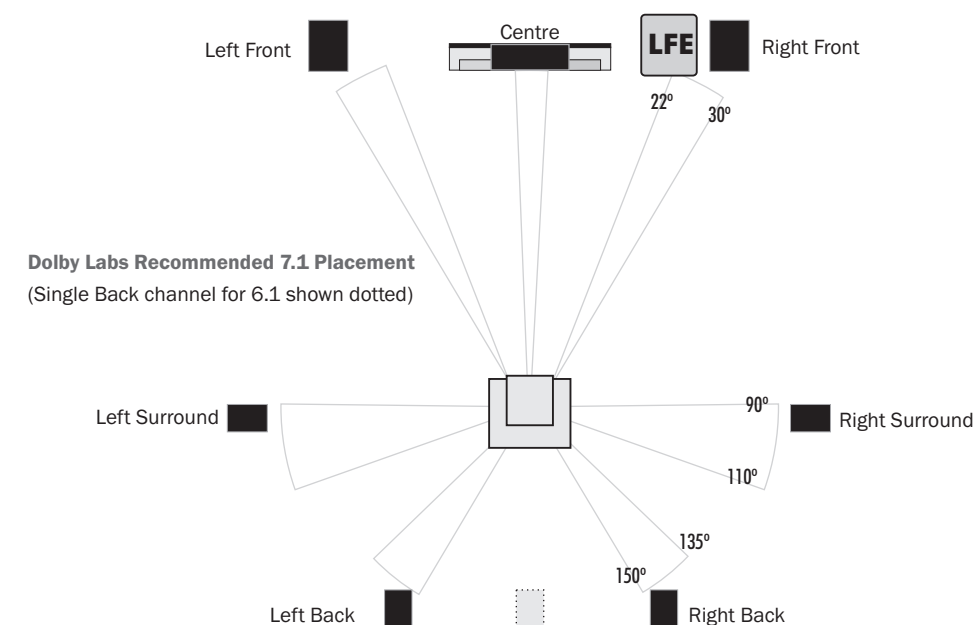
Expanding the System

Dolby Labs, DTS and THX offer 6.1 and 7.1 formats which extend the 5.1 principle by adding one or two extra rear effects channels. Many A/V processors have 6.1 and 7.1 capability and if you have such a processor with a 5 channel amplifier, adding one or two monitors is an attractive way to expand the capability of your system.

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 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.



L Studio Series

About your loudspeaker

Quad Monitor Loudspeaker Systems are accurate, low distortion, very high quality, self amplified loudspeaker systems designed and optimized for duty in high quality audio systems, recording and reference monitoring.

In the studio, for accurate decisions to be made at the time of recording the engineer must have reference source loudspeakers that are smooth and neutral, image accurately, have inherently low distortion, and offer dynamic stability throughout the operating envelope.

In the home, loudspeakers must have an elegant finish, with good dispersion, wide frequency response and outstanding dynamic range.

The Quad L Series Monitor is designed understanding all these requirements, and performs exceptionally well in all situations. We are confident you will find these speakers not only revealing and transparent, but musical and involving. This is true both for two channel (stereo) as it is in mixing for 5.1 multichannel applications.

Conventional wisdom recommends that for 5.1 Multichannel applications, all 5 channels should be the same loudspeaker. Critically, the three front channels should have the same sonic character and coverage. Quad Studio monitors are designed to partner the L2 series of passive loudspeakers – any combination of loudspeakers from the L2 series (including the Quad L-ite2 series) will exhibit the same sonic thumbprint, thus enhancing compatibility in any likely application.

Construction and components

Your Quad L Series Monitor is a full range two way direct radiating, ported loudspeaker system in a compact and well damped enclosure. All components are specifically designed for the system. The loudspeaker is biamplified with an active crossover. All components were designed for optimum performance as a system. Magnetic shielding is provided on the transducers to allow their use in close proximity to CRT displays.

The driver complement consists of a 25mm soft dome high frequency driver, and a 100mm or 165mm woofer. The woofer uses a sophisticated Kevlar® cone material specially formed to give exceptional rigidity with low mass. The cone design gives excellent low frequency stiffness for long excursions under very high drive levels from the voice coil, yet at the same time exhibits low mass so that the cone can remain truly pistonic at extended low frequencies.

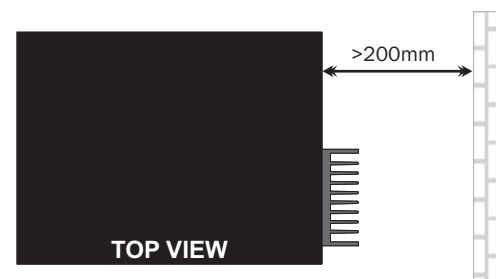
The monitor has independent power amplifiers, each optimised to its specific requirement. The low frequency amplifier is outputs 60 Watts RMS to match the woofer. The high frequency power amplifier outputs 40 Watts. Both amplifiers are carefully designed to provide enhanced headroom with extremely graceful overload characteristics. An internal active crossover at 1.8kHz allows the drive units to integrate seamlessly with outstanding vertical integration and image stability.

General operational requirements

The loudspeaker has ports on the rear panel, the input and power connections and importantly the heat sink assembly. Make sure the heat sink has sufficient clearance to allow reasonable airflow. This will, to some extent, be dependent on the power levels and duty cycles under which one is operating the system. The loudspeaker is designed to operate in "portrait" mode. Operating the speaker horizontally will affect the dispersion characteristics and interfere with the airflow necessary to cool the heatsink.

Horizontal positioning is certainly possible, but you will not get the full benefit of this outstanding design.

Operating distance from wall - Plan View

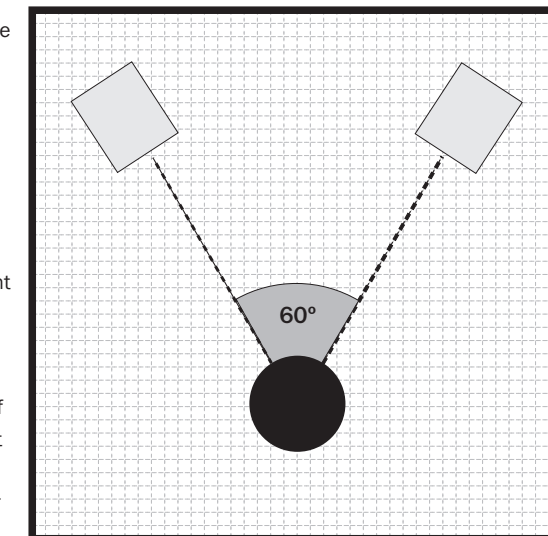


L Studio Series

Studio Topics

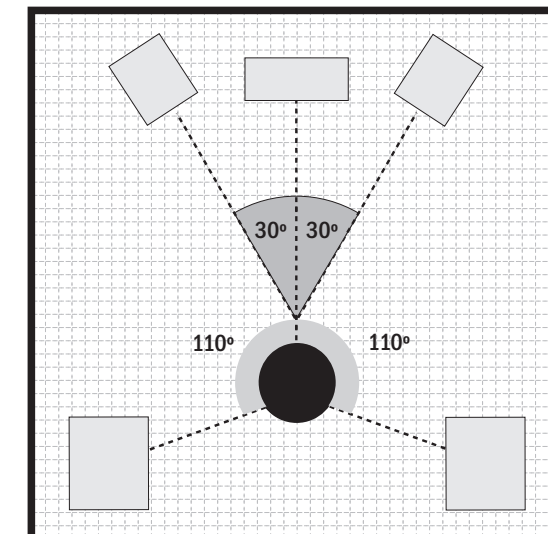
Stereo Near Field Monitoring

Ideal placement is for you and the two speakers to make the three corners of an equilateral triangle. The typical distance of your head (plus or minus reasonable movement back and forth) from the speaker position line, will dictate the width. This places the speakers at 60 degrees. The speaker central axis should point at head height. Although Quad monitors are relatively insensitive to the height of the listener, a nominal central aiming point is recommended. Again, experiment and find a comfortable median position. Height placement should not be from below, nor too high. Be sensitive to early reflections from control surfaces. Careful placement can reduce the destructive effects of reflections, diffraction etc. Be aware of placements that can excite cavity resonances, and look for symmetry in placement from left to right. The acoustic conditions for both speakers should ideally be the same.



5channel set-up

The Left and Right monitors should be placed at 30 degrees either side of the centre line of the set up. The rears should be placed at 110 degrees either side of this line. The centre should be the same distance from the central monitoring point as the left and right channels. This can be achieved through time delay in many processors or through set-up where possible. Levels to all channels should be either identical, or with the Left and Right Surround Channels down set 3dB.



Near Field Monitoring and Equalisation

In the overwhelming majority of applications EQ is not done well or effectively.

Even if you have the skills and equipment, it is still essential that EQ is used as a last resort. Only when the system is well integrated to the environment should you consider EQ. Reflections and resonances should be tamed at source and not compensated destructively with an equaliser. Fix acoustic problems acoustically, and electrical problems electrically! Take time, listen, look and analyse.

Room EQ is not necessary with a good Near Field Monitoring (NFM) system, since the whole principle of NFM is to remove the influence of room interactions through the placement of speakers close to the monitoring position. In NFM applications the close proximity of the speakers means that any room returns are late, thus ignored! Your Quad monitor is naturally balanced with smooth, low Q, changes in radiation pattern over its operating range. All the transducers were purpose built and integrated into the design. The natural balance of the speaker should render EQ unnecessary except in the most extreme circumstances.