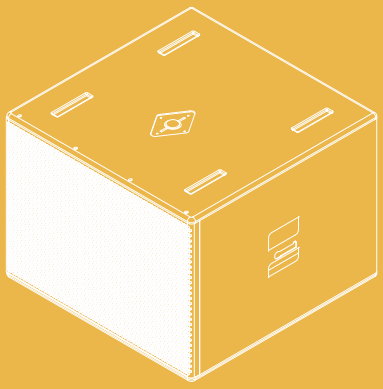
Quest engineering

Qmotion

User Manual

MODEL: QM18SA



Contents

Safety Precautions

Please read the instructions in this section carefully before use.

Ensure all instructions in this manual are observed as all information contained within is very important.

It is also highly recommended that this manual is retained for future reference.

Safety Symbol and Message Conventions

The safety symbols described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating this product, please read this manual first, in full so you that you are thoroughly aware of any risks.

WARNING Indicates a potentially hazardous situation which, if mishandled, could result in serious personal injury or death.

General Caution

• Do not expose the unit to any moisture whether rain, water or other liquids. Exposure to moisture could result in damage to the internal components, corrosion of the steel protective grill or electrocution\circuit failure.

• Do not install or place signal, power cables or devices near heaters, high traffic areas or any area where the cables or devices can be damaged.

• Avoid installing or mounting speaker boxes, amplifiers, electronics or cabling in unstable locations.

• When flying or installing speakers only use the hardware specifically designed for this product and install to a secure wall.

• In the event of storms and\or lightning, ensure all devices are disconnected from power supplies in order to prevent damage to any of the units in the system.

• When cleaning the unit, ensure it has been disconnected from any power source and that only a dry cloth is used. Do not use any aerosol or liquid based cleaners.

• Ensure all electronics are electronically grounded (earthed) to a safety ground terminal in order to avoid electric shock. Do not ground any device to a gas pipe as this may result in disaster.

• The QM18SA contains no rigging points or mounts for brackets. It is intended for ground installation only. If mounting or hanging the speaker a fully encompassing bracket structure is required. Never hang a speaker from only one rigging point. Always use multiple points and attach a safety line to a point rated highly enough to support the weight of the speaker box and any brackets.

• Ensure all installation, flying and/ or rigging is carried out by licensed professionals and adheres to your countries safety standards.

• Servicing of all electronics should only be carried out by a certified Quest technician. Please consult your original place of purchase to find the location of your nearest Quest service centre.

When the unit is in operation

• Ensure all amplifiers and mixers are turned down before switching the system on.

• If there is no sound, ensure all cabling in the signal path is correct and where applicable, the XLR connectors are locked into place correctly.

Should any of the following irregularities be found during use, immediately switch off all electronics, disconnect all power supplies and contact your original place of purchase:

• If you detect smoke or a burning smell coming from any device

• If the unit is physically damaged in any way

• If the unit is malfunctioning (eg: failing switches or intermittent operation etc.)

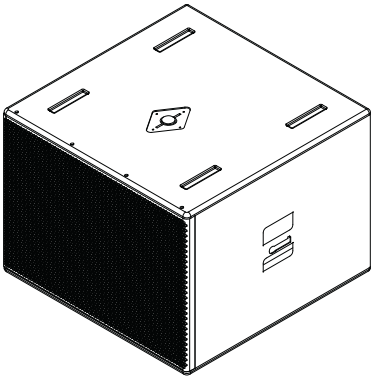
Make no further attempt to operate the unit if it is found to be in any of the above conditions as this may result in fire or electric shock.

NOTE: Quest Engineering is not responsible for any incorrectly flown, installed or poorly positioned devices.

Product Overview

The QM18SA is a versatile powered system and can be integrated into any of the Quest family of speakers or any third party powered speaker if connected and set up correctly.

(When using with third party powered speakers, see the section “Adjusting the System Phase ”)



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Best Practice Operation

Running In

Your subwoofer will benefit from being run in. Running in the speaker should be performed before operating the system at or near maximum levels. Running in the speaker will help to condition surrounds and voice coils to perform at optimum levels. Environmental conditions will determine how much running in is necessary. In very cold climates to run in a subwoofer we recommend playing music with deep bass for a number of hours at a moderate volume. Any time you use your subwoofer in very cold conditions it is best procedure to operate the device at moderate volume for at least 5 minutes before turning up to high output levels.

Powering the System Correctly

Before switching on any part of the system, ensure the mixer and any other signal processors are turned on. The power input and output for the QM18SA are lockable Powercon in/out connectors. Firstly, connect the power supply cable and then the XLR signal cable. Before turning on the internal sub amplifier, set the volume control to the minimum level. It is important that the mixer is already on before turning on the speaker. This will avoid damage to the speakers and possible loud noises on start up.

It is best practice to switch on powered speakers last and turn them off first when packing down and the loudspeaker should always be switched off before disconnecting the Powercon cable.

Once the signal path has been checked and all volume controls are set to zero, turn on the speaker then adjust the volume control to the desired level if necessary.

Setting Levels and Operating Tips

A speaker system sounds best when there is no distortion occurring. All parts of the system need to be set so that they are operating within their designed operational range. This means no part of the signal chain is showing red clip lights or is likely to have sudden large volume changes.

To make certain this is the case, firstly ensure there are no overloaded inputs. At the mixer side, it is best practice to set the levels so the channel and master volumes at the input gain are at a level that will provide ample headroom before clipping. This will allow for large volume changes at the signal input side.

Do not run the system with the mixer and/or speaker showing peaks lighting (usually red lights on or flashing) while the box is turned down.

Once there are red clip lights on in the signal chain, the system is operating beyond full power. Increasing volume at either the input or output side of the system will only risk causing damage.

The QM18SA has an input limiter to help protect the system however even these protection mechanisms can be driven too hard. Like any speaker system, if they are driven into continuous distortion, there is a real risk of damaging the system.

Using the Bass Crossover

The Quest QM18SA has two outputs. The output labelled “Line Out” will provide an unprocessed output to link to other sub bass speakers like a second QM18SA. The output labelled “110Hz HPF Out” will provide an output for a mid high cabinet and has been filtered below the 110Hz threshold. If using the sub with a mid high cabinet like the QM450A then it is best to utilise the 110Hz HPF out as this will be the most efficient connection method. There are no complicated controls to adjust, the QM18SA sub output has been optimised by the Quest Engineers to provide the best output.

Adjusting the System Phase (Polarity)

The QM18SA has a phase reversal switch. The switch is labelled as 0 or 180 degrees. In most cases it will work best by being in the 0 position.

A simple method of checking the polarity of your mid high speakers can be carried out as follows:

1. Turn down both the QM18SA and the mid high speaker.

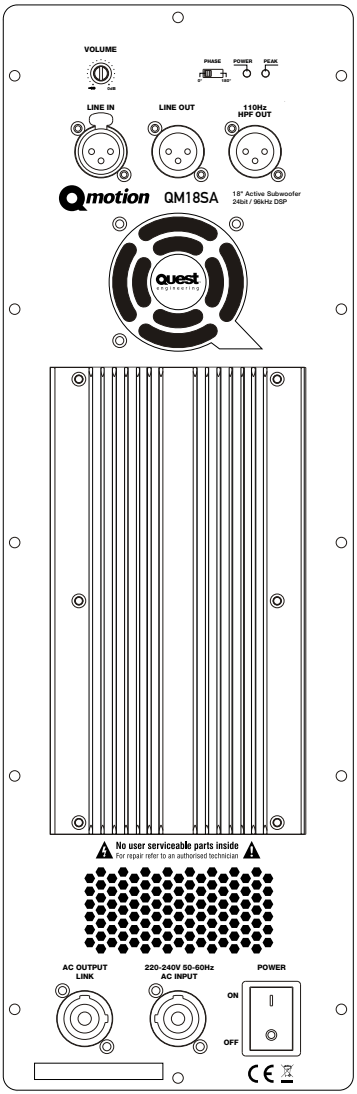
2. Place a mid high speaker next to the QM18SA and connect it to the 110Hz output on the sub.

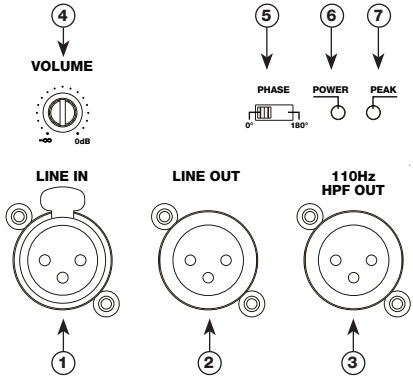
3. Run some music into the sub input and turn up the volume.

4. Turn up the mid high speaker. If the bass is louder, the system is in phase. If the bass drops in level or sounds unusual, adjust the phase reversal button on the sub amplifier and listen again. If the bass level increases, the system is now in phase.

Once the phase relationship between the sub and satellite boxes has been established, adjust the sub master volume control to the desired level and then the mid high speaker to suit. If using additional speakers copy the volume settings to all speakers.

Rear Panel Input / Output





1. Full Range Input

Female XLR-type connector that accepts a balanced line-level signal from a mixing console or other signal source.

2. Balanced Output

Male XLR-type connector to either daisy-chain multiple QM18SA together or for the connection of self powered satellite speakers running full range.

3. Mid/High Output

Male XLR-type connector to connect to self powered speakers using the in built x-over function.

4. System Volume

This recessed control adjusts the volume of the sub as well as the mid high speaker if connected.

5. Phase

This switch reverses the polarity of the mid high speaker in relation to the sub.

6. Power on Indicator

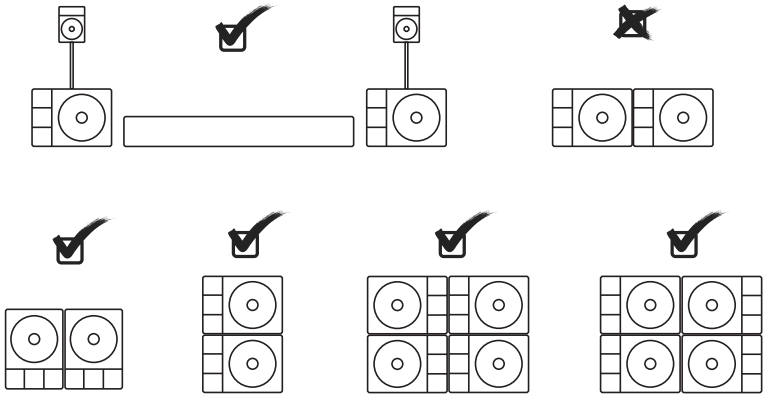
Indicates when the subwoofer is turned on.

7. Peak Indicator

Indicates when the input signal is too high. If light is constantly lit, volume should be decreased before damage occurs.

Using multiple QM18SA

When using more than one QM18SA per side of stage it is important to take care to position the subs in a way that they combine their output. Because the sub is ported with vents down one side it should never be positioned so that the vents are aligned with an adjoining speaker, they should be aligned with other vents or stacked vertically.



Castor Installation

The QM18SA has threaded inserts on its base to allow the installation of casters. The thread size suits an M8 and a caster bolt pattern of approximately 80 x 60mm.

Specifications

Freq. Range (-10dB):	36Hz~140Hz
Max Calculated SPL:	133dB
Frequency Response (-3dB)	52.5Hz - 92.5Hz
Amplifier Power:	1000W
LF Transducer:	18”/450mm
Crossover Frequency:	110Hz Preset and Optimised
Input Connector:	Female XLR
Output Connector:	Male XLR
AC Input:	AC220~240V 50Hz/60Hz
Net Weight:	38.5kg
Shipping Weight:	43kg
Dimensions (WxHxD):	700mm x 530mm x 700mm
Carton Size (WxHxD):	790mm x 620mm x 800mm

MANUAL ADDENDUMS

For reference to manual addendums, please refer to the online version available at www.questengineering.com.au/downloads/

REGISTER YOUR PRODUCT

Thank you for choosing Quest Engineering. Please take the time to complete your product registration.

Registering your Quest Engineering product will:

- CONFIRM YOUR WARRANTY
- REGISTER YOUR PRODUCT
- PROTECT YOUR NEW PRODUCT

Register online at www.questengineering.com.au/registration

SPARE PARTS & SERVICE

For spare parts & service, contact your local authorised Quest Engineering dealer.

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