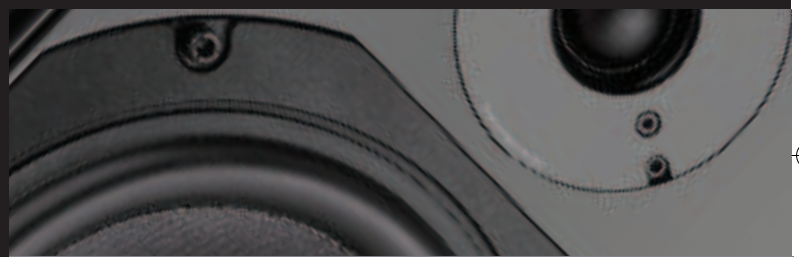
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SCM12 Pro & SCM12i Pro



user manual

ACOUSTIC ENGINEERS

PRO SERIES

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pro loudspeak

In selecting ATC you have chosen an example of the finest audio engineering available.

Since its very beginning ATC has kept steadfastly to its founders' aim of building, mostly by hand,

loudspeakers which employ the most effective of modern engineering principles.

That has meant striving to make loudspeakers as near perfection as it is possible to make them.

In order to get the very best from ATC equipment careful and thoughtful installation is essential,

so please read the manual fully to understand your ATC monitor and realize

the very best performance it has to offer.

Please contact ATC with any questions or issues that arise during installation

or use and we will do our very best to help.

ATC (Acoustic Transducer Company) was founded in London in 1974 by Australian Billy Woodman who still heads the company today. An enthusiastic jazz pianist and engineer he was naturally drawn to loudspeaker design. After working for ROLA in Melbourne Billy, in 1970, travelled to England and worked in R&D at Goodmans in Wembley (the training ground of many well-known British loudspeaker engineers) before starting ATC.

The philosophy upon which ATC began the development of its studio products is a simple one: that at their best, hi-fi loudspeakers are detailed and accurate but limited by dynamic range, whilst professional monitor loudspeakers have plenty of dynamic range but lack the clarity and accuracy.

ATC bridged this gap by developing, in house, unique drive units of exceptionally low coloration performance

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peaker series

and large dynamic range. There is therefore no differentiation technically between an ATC hi-fi product and professional monitor other than the way it is packaged. A high fidelity loudspeaker is a high fidelity loudspeaker whether it is for home or work.

ATC is best known for its active professional Studio Control Monitors and in most cases this is the most economic and highest performance solution available to the professional engineer. Passive loudspeakers, however, still have their place and offer an excellent alternative to active in small 2-way systems. The latest professional passive loudspeakers in the ATC range are the SCM12 Pro and SCM12i Pro (install version) which are perfectly partnered by the ATC P1 Pro, 150 watts/channel professional power amplifier.

ATC is also a long established audio electronics manufacturer. It all started in 1982 with the EC23 stereo, 3 way electronic crossover incorporating phase correction and momentary gain reduction which is pre-set to prevent the power amplifier from clipping at high drive levels and so protect the drive units.

This technology was incorporated into the 3 way Ampack developed for the SCM50A first produced in 1985.

ATC has been in continuous manufacture of electronic products ever since.

From modest beginnings ATC has grown to become one of the very few manufacturers successful across both domestic and professional audio. By selecting ATC you join a group of music lovers, professional audio engineers, educators, studios and musicians across the world that understand the value of the engineering that goes into every ATC product.

1 : Description

The SCM12 Pro is a high performance 2-way passive nearfield monitor. The monitor is equipped with a "bi-wire" connection panel to enable separate amplification of mid/bass and high frequency drivers if required.

The SCM12i Pro is an install variant of the SCM12 Pro featuring fixing points for wall/ceiling mounting, when partnered with the appropriate bracket.

The acoustic performance of both SCM12 Pro and SCM12i Pro models is identical.

2 : Safety Warnings

Safety information for both SCM12/12i Pro models is as follows. **Please note:** Before installation of the SCM12i Pro, Section 7 within this document MUST BE READ IN FULL.

1. Read instructions – all the safety and operating instructions should be read before the appliance is operated.
2. Retain these instructions – the safety and operating instructions should be retained for future reference.
3. Follow instructions – all operating and other instructions should be followed.
4. Water and moisture - the appliance should not be exposed to dripping or splashing and no objects such as vases, should be placed on the appliance.
5. Heat – the appliance should be situated away from heat sources such as radiators, stoves or other appliances that produce heat.
6. Cleaning – the appliance should be cleaned only as recommended by the manufacturer.
7. Servicing – the user should not attempt to service the appliance beyond those measures described in the operating instructions. All other servicing should be referred to qualified service personnel.

3 : Unpacking & Handling

- The SCM12 Pro and SCM12i Pro are heavy items and should be handled with care. Unpacking is best carried out on the floor or a large low table, with adequate open space around the carton, preferably close to their final position.
- Open the carton and remove all loose items, leaving the packing foam in place.
- Up-end the carton so the open end is facing down.
- Lift the carton off the contents (speaker & foam 'end-caps').
- Lift the upper foam end cap off.
- Lift each loudspeaker out of the foam end cap, remove from the bag and position in the listening/control room.

4 : Monitor Placement

The subjective performance of any monitor loudspeaker will be influenced by the acoustic character of the room in which it is used and its position within the room. Most often, monitors are installed in rooms which are comfortable to sit and talk in. A mixture of carpets, curtains and soft furnishings will help ensure that the middle and high frequencies are reasonably well controlled. There may, however, be low frequency problems; either too much or too little bass. To minimise low frequency problems:

- Try to position speakers away from walls
- Try to position speakers away from corners
- Try not to position speakers exactly 1/4, 1/3, 1/2, 2/3, 3/4 between parallel walls

In professional installations, try to avoid placing the loudspeakers on the console/desk meter bridge. Typically, this compromises the frequency balance of the loudspeaker, especially in the lower mid range. Mounting the speakers on stands behind the console/desk usually gives better results.

If the balance is bass light the monitors can be moved towards the back walls. If the balance is bass heavy try moving the monitors away from walls/corners.

Stereo Listening.

The loudspeakers should be positioned so they form an equilateral triangle with the listening position (see **Fig. 1**). Loudspeaker stand height should be chosen so the acoustic axis is at ear level (see **Fig. 2**). For most seating positions in professional scenarios, a suitable stand would be 900 - 1000mm or 35½" - 39¾" tall. Suitable stands should be heavy, rigid and resonance free.

If the loudspeakers have to be positioned so the acoustic axis is above ear level, they can be tilted downwards.

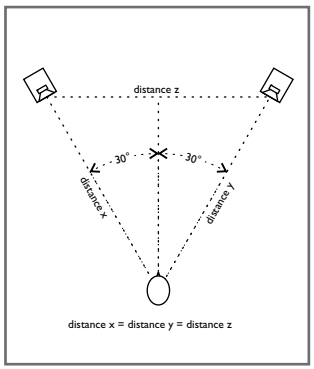


Fig. 1
Stereo Loudspeaker Positioning

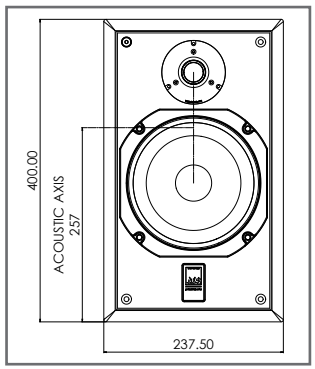


Fig. 2
Acoustic Axis

For surround positioning please see overleaf.

4 : Monitor Placement (contd.)

5.1 or 7.1 Surround Positioning.

All loudspeakers should be equidistant from the listening position – see **Fig. 3**: distance L=C=R=LS=LR=RR=RS. For 5.1 systems, position the surround speakers between110° and 150° degrees (ITU spec. is 110°). If ideal positioning isn't possible, position loudspeakers as close as possible to ideal. Try to avoid placing subwoofers in corners, very close to walls, and on the midpoint between two parallel walls

All rooms vary, and it is a good idea to experiment with both listening and speaker position until a good compromise is reached. For professional installations the requirements are often very specific. Please consult an experienced professional acoustician if necessary.

Object Based Surround and Immersive Audio Systems.

Due to the number of possible object based surround and immersive audio loudspeaker configurations, the topic is beyond the scope of this manual. For specific system advice it is recommended that you contact a representative from one of the format developers, typically Dolby, DTS or Auro Technologies.



Fig. 3
5.1 and 7.1 Surround Loudspeaker Positioning

5 : Connection

SCM12/12i Pro monitors are equipped with a "bi-wire" connection panel to enable separate amplification of the bass/mid driver and tweeter. The connection panel is shown in **Fig. 4**.

If not bi-wiring, connect your speaker cable to either the upper or lower horizontal pair of terminals. Should you wish to take advantage of the bi-wire facility remove the linking bars, between vertical pairs of terminals. The upper horizontal pair of terminals are connected to the tweeter. The lower horizontal pair are connected to the bass driver.

Terminals can accommodate either stripped bare cable ends, 4mm banana plugs or spade terminals. Do not use crimps on the bare wire ends as the difficulty in compressing them can cause poor link bar connection.

Always use a good quality speaker cable with 2.5mm^2 minimum cross sectional area per conductor (79 strand). For cable runs longer than 5 metres use a significantly heavier gauge cable. Consult your dealer or consultant for specific cable recommendations.

Ensure that the positive and negative terminals on each connection panel are connected to the corresponding positive and negative terminals on the amplifier.

A lack of bass output and very wide unstable stereo image is most likely caused by the left and right loudspeakers being connected out of phase. If the system displays these characteristics, please check the polarity of the wiring.

6 : Amplification

The choice of partnering amplifier for the monitors will have significant influence on the performance of the system. Consider the following when selecting the amplifier:

- With any passive loudspeaker there is a trade off between low frequency extension and sensitivity. These monitor's extended low frequency response means the sensitivity is relatively low. It is therefore advisable to select a power amplifier of relatively high power output capabilities. Typically, best performance comes with use of amplifiers capable of >150W continuous into 8ohms.

- Use of an underpowered amplifier will result in the premature distortion of the system and increased risk of damage due to voice coil overheating

- Valve or solid state amplifiers with high output impedances should be auditioned carefully, to establish that their characteristic reduced damping factor at low frequencies is acceptable.

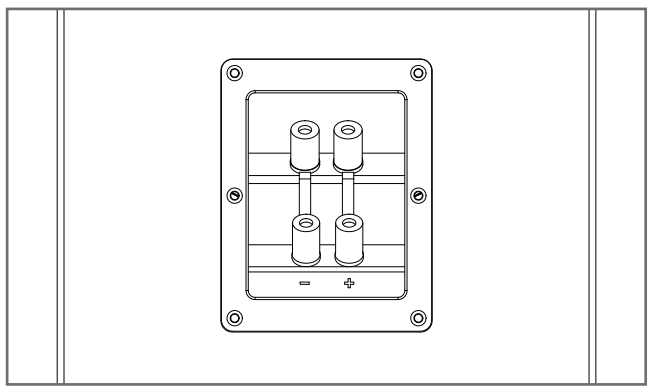


Fig. 4
SCM12/12i Pro Passive Input Panel

7 : SCM12i Pro Installation

IMPORTANT

The SCM12i Pro is fitted with 4 x M8 mounting points in the rear face. These are positioned in standard 69.9mm x 127mm/ 2¾″ x 5″ rectangular pattern. These points are fitted with M8 x 30 Button Head fasteners which should be used when fixing to your chosen mounting bracket. The pitch of the fixing points is illustrated in **Fig. 5**. The fixings are compatible with (but not limited to) the following widely available mounting brackets and adapter panels:

Adaptive Technologies

MM-018 Multimount® Pan & Tilt Ceiling Speaker Mount
MM-022-BT Multimount® Pan & Tilt Speaker Wall Mount
MM-060 Multimount® Pan & Tilt Bottom & Rear Speaker Mount

König & Meyer (K&M)

24352 Adapter Panel 1
24481 Speaker Wall Mount (can also be using on ceiling)
24496 Speaker Ceiling Mount

- Ensure that all mounting hardware is rated for loads greater than **15kg/33lbs**.
- Mounting and/or suspension of any loudspeaker should be carried out by an experienced professional. Improperly installed loudspeakers can result in damage, personal injury and/or liability to the installing contractor.
- The SCM12i is fitted with a safety anchor point, in the form of a single M8 eyebolt situated at the top rear corner as illustrated in **Fig.6**.

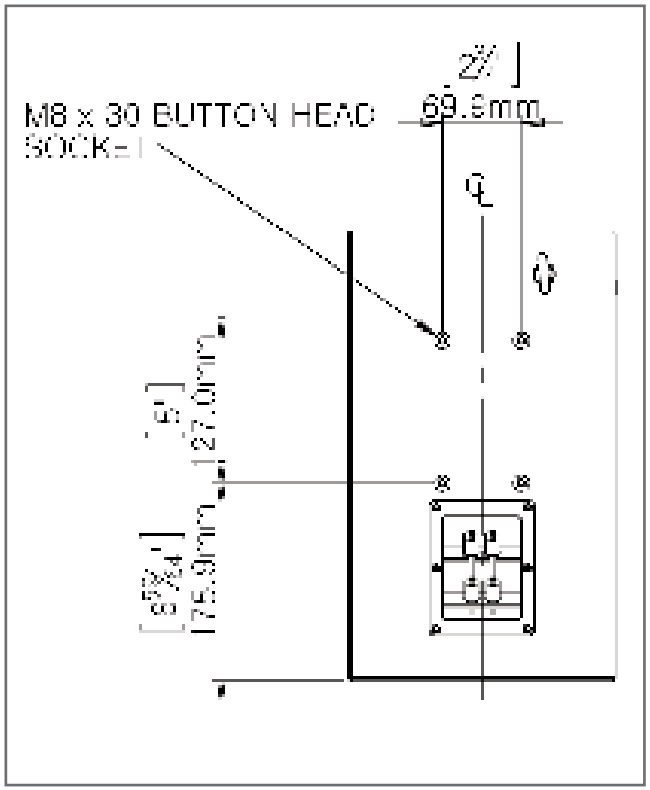


Fig. 5
SCM12i Pro Primary Fixing Point Position

In addition to the primary mounting fixings, this eyebolt **MUST** be tethered to an appropriate safety point in all installations, without exception.

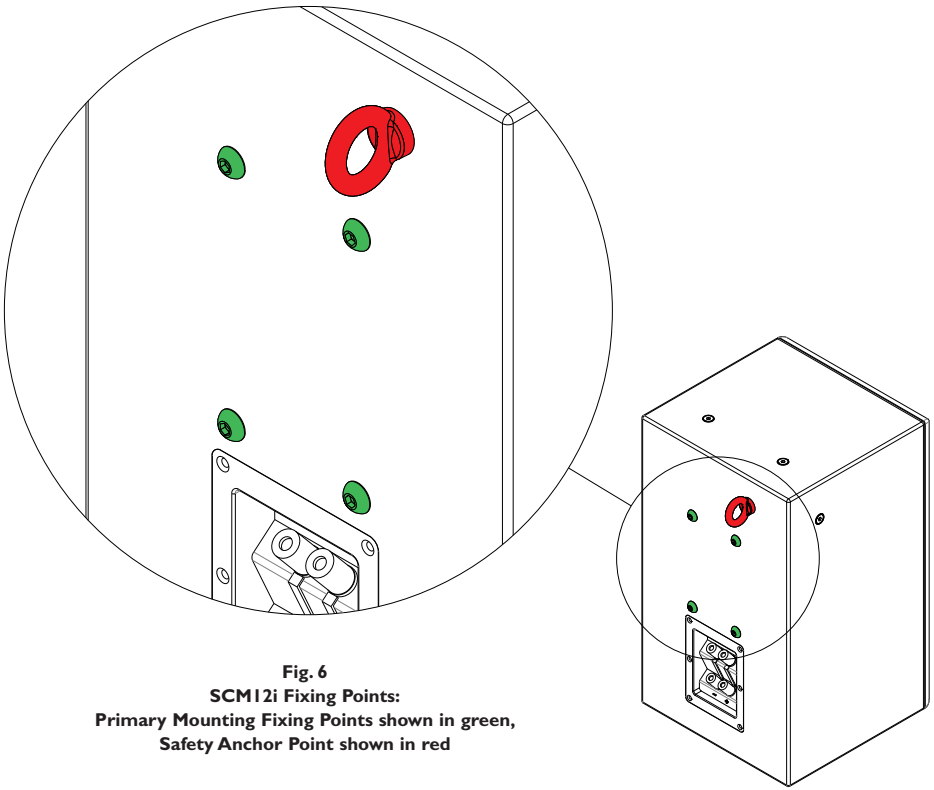


Fig. 6
SCM12i Fixing Points:
Primary Mounting Fixing Points shown in green,
Safety Anchor Point shown in red

8 : Listening

The ear and brain tend to interpret distorted sound as loudness and thus underestimate the actual level of undistorted sound. The SCM12/12i Pro, like all ATC monitors, demonstrate very much lower levels of distortion than conventional systems of a similar size. It is therefore advisable to begin listening at an artificially low level and carefully increase the volume. It is also possible for the SCM12 Pro to produce sufficient sound pressure levels for your ears themselves to become a source of distortion and make the sound appear harsh. Any audible distortion indicates that either the system or your ears are being overloaded and that volumes should be reduced. The user should also bear in mind that the monitoring level in a professional environment can change the way certain sounds are perceived and that for consistent high quality results, consistent and moderate monitoring levels should be used.

9 : Care & Maintenance

High technology material finishes are used in this product. The surfaces are durable and with a little care can be kept as good as new even under conditions of heavy use. Normally, a dry duster will be all that is required to keep the finishes clean.

Heavy soiling can be cleaned using a cloth slightly moistened with a non-abrasive household cleaner.

There are no components within the speakers that can be considered expendable, or that would benefit from regular maintenance. There is no requirement for any kind of routine service work and there is no schedule for preventative maintenance. There are no user-replaceable parts within the speaker and, in the unfortunate event of any malfunction, repair should be referred to either the supplying dealer or consultant, the relevant importer, or ATC.

ATC has every confidence in the quality of each product that it manufactures.

10 : Specifications

Drivers

HF ATC 1″/25mm dual suspension Soft Dome (SH25-76 6 Ohm)

LF ATC 6″/150mm Constrained Layer Damping (CLD) (SB50-150CLD 8 Ohm)

Amplitude Linearity

80Hz - 16kHz (+/-2dB)

Cut Off Frequencies

56Hz - 22kHz (-6dB freestanding)

Dispersion

±80° Coherent Horizontal, ±10° Coherent Vertical

Maximum Continuous SPL

108dB (per pair @ 1m)

Crossover Frequency

2.2kHz

Recommended Power Amplifier

75 to 300 Watts

Nominal Impedance

8 Ohm

Connectors

Binding Posts/4mm Plugs, bi-wire

Cabinet Dimensions (HxWxD)

400x238x235mm/15¾ x 9⅜ x 9¼″

Weight (Per Cabinet)

SCM12 Pro 11kg/24lbs, SCM12i Pro 15kg/33lbs

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11 : Warranty & Contact

All ATC products are guaranteed against any defect in materials or workmanship
for a period of two years from the date of purchase.
Within this period we will supply replacement parts free of charge
provided that the failure was not caused by misuse, accident or negligence.

Purchasers who complete and return the Warranty Card
will have their warranty period extended up to a period of six years
from the date of purchase.

This guarantee does not limit statutory rights.

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