

**SCM0.1/15 AND SCM0.1/12 SL ACTIVE SUBWOOFER**  
**USER GUIDE**

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**LOUDSPEAKER TECHNOLOGY LTD.**

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# SAFETY INSTRUCTIONS



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. **Heed warnings** – all warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow instructions** – all operating and other instructions should be followed.
5. **Water and moisture** – the appliance should not be used near water, for example near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement or near a swimming pool etc..
6. **Ventilation** – the appliance should be situated so that its location or position does not interfere with its proper ventilation. For example the appliance should not be situated on a bed, sofa, rug or similar surface that may block the ventilation openings. Similarly, the appliance should not be built into an installation, such as a bookcase or cabinet, that may impeded the flow of air through the ventilation openings.
7. **Heat** – the appliance should be situated away from heat sources such as radiators, stoves or other appliances that produce heat.
8. **Power sources** – the appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
9. **Power cord protection** – power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles and the point where they exit the appliance.
10. **Cleaning** – the appliance should be cleaned only as recommended by the manufacturer.
11. **Unattended periods** – the power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
12. **Object and liquid entry** – care should be taken so that objects do not fall into and liquids not spilled into the inside of the appliance.
13. **Damage requiring service** – the appliance should be serviced by qualified service personnel when:
  - i. the power supply cord or the plug has been damaged
  - ii. objects have fallen or liquid has been spilled into the appliance
  - iii. the appliance has been exposed to rain or other serious liquid exposure
  - iv. the appliance does not appear to operate normally or exhibits a marked change in performance
  - v. the appliance has been dropped or the cabinet damaged
14. **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.
15. **Grounding or polarisation** – the precautions that should be taken so that the grounding or polarisation means for the appliance is not defeated.



Welcome to the world of ATC monitors, they are a result of many years research and development and given the right opportunity will deliver exceptional audio performance. Please read the following manual carefully – it will help you realise their full potential.

Founded in 1974, ATC has had one objective and that is to build the finest loudspeakers money can buy. Bill Woodman, the company's founder and Managing Director, originally had the idea for our monitors in 1970. He felt that both HI-FI loudspeakers and studio monitors needed improvement. The best HI-FI loudspeakers have reasonable sound quality and limited dynamic range, while studio monitors have plenty of dynamic range but relatively poor sound quality. This was true then and still today.

The ATC system will equal, or better, the acoustic performance of the best HI-FI, and has the dynamic range of big horn loaded studio monitors.

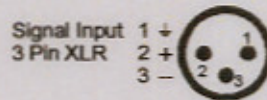
To achieve this requires some of the world's most expensive and highly specified hand made drive units, and the sympathetic design of appropriate audio electronics. All major components are designed and manufactured by ATC.

ATC monitors have been available in recognisable form since 1980, followed by a breakthrough in 1985 when the top end systems became active, with the introduction of the active amplifier pack developed by Tim Isaac. Although it is generally accepted that active systems have the potential for superior audio performance, they have been slow to catch on in HI-FI circles where considerable sums of money have been spent on amplifiers.

The active approach allows the use of one amplifier for each loudspeaker drive unit. The amplifier is rated according to the drive unit it is attached to, allowing the amplifier to be set to run class A to high levels. The filter networks within the amplifier which process the signal present no additional loading on the signal. Other features include a momentary gain reduction circuit which prevents clipping by rounding the waveform, this circuit protects the drive unit from damage and will cause less stress to the amplifier. Since this circuit is very fast it only introduces harmonic distortion at the instant it operates, it is normally undetectable. Many users of conventional amplifiers will be aware of amplifier clipping when playing at high levels. It is therefore relevant to note that high levels of output are obtained without the audio cue of clipping.



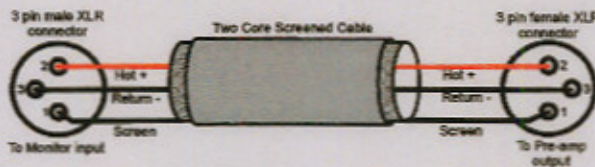
Either two or three connections per monitor are required, one for main power and one or two for the signal. The mains connection should only be made with the cable provided, this cable meets the approved standard for the region to which the monitor is supplied. **NOTE: The mains connection Must Always be Earthed.** The signal cable(s) (not necessarily supplied) should be of a good quality XLR balanced configuration (unbalanced configuration is explained later). The XLR pin configuration is shown above. If two signal connections are supplied to the subwoofer (usually a stereo pair) then these signals will be summed and then amplified. This increases the total sensitivity by 6dB.



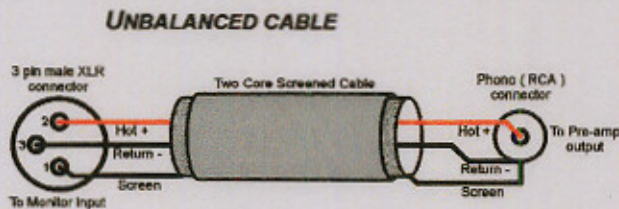
- pin 1 → Screen
- pin 2 → Signal+ (hot)
- pin 3 → Signal - (return)

SIGNAL CABLE OPTIONS

The two figures below show the normal connections for a balanced and an unbalanced configuration. A balanced XLR to XLR connection will have very few problems. With an unbalanced XLR to Phono connection, it is possible that there may be problems with earth loops causing hum. There are many ways to eliminate this problem. A good starting point is to disconnect the screen from the phono end. This may help on pre-amps that are double insulated (ie: have no earth). OR disconnect the screen at the monitor XLR, This will make the pre-amp the reference for the earthing.



BALANCED CABLE



UNBALANCED CABLE

With an unbalanced XLR to Phono connection, it is possible that there may be problems with earth loops causing hum. There are many ways to eliminate this problem. A good starting point is to disconnect the screen from the phono end. This may help on pre-amps that are double insulated (ie: have no earth). OR disconnect the screen at the monitor XLR, This will make the pre-amp the reference for the earthing.

SUPER LINEAR TECHNOLOGY

SL Technology represents a major breakthrough in drive unit design. The culmination of 2 years research and development, the Super Linear technology has enabled the noise floor of the



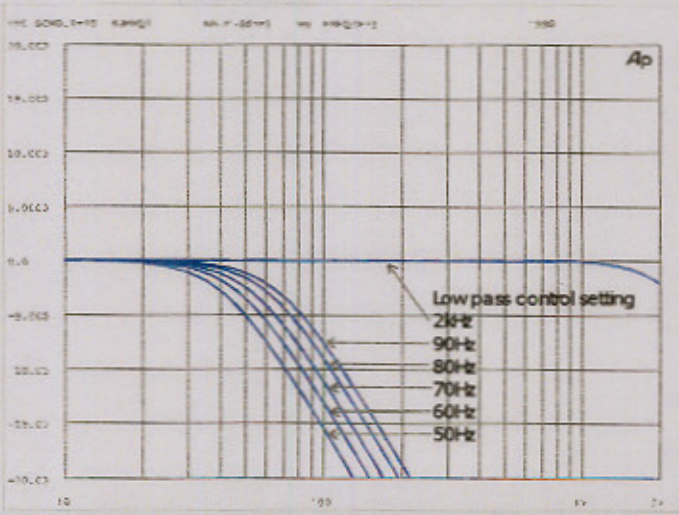
SCM0.1 SL subs to be dropped by a clear 15 – 20 dB across the band. The principle is straightforward – damp the eddy currents which circulate in the metal parts of the driver, and the harmonic distortion produced as a result of the eddy currents will also be reduced. In order to achieve this goal, the metal surrounding the voice coil is replaced by an electrically insulating, but magnetically permeable material, allowing the field from the permanent magnet to pass through and thus energise the coil, but restricting the flow of the eddy currents. The end result is an unveiling of a new level of detail and transparency, with a demonstrative effect over the whole band.

## PLACEMENT

Perfection is not an option here, generally speaking the monitors will be installed in rooms which are comfortable to sit and talk in. A mixture of carpets, curtains and soft furnishings will see to it that the higher frequencies are reasonably well controlled. There may however be low frequency problems, either too much or too little bass. To avoid or minimise these effects the subwoofer should be kept away from corners or walls – start with 1 metre from the side walls and 2 metres from the back. If you find that there is too little bass then the subwoofer should be moved closer to the corner. All rooms vary and it is a good idea to experiment with both the listening and speaker position until a good compromised is reached.

## OPERATION

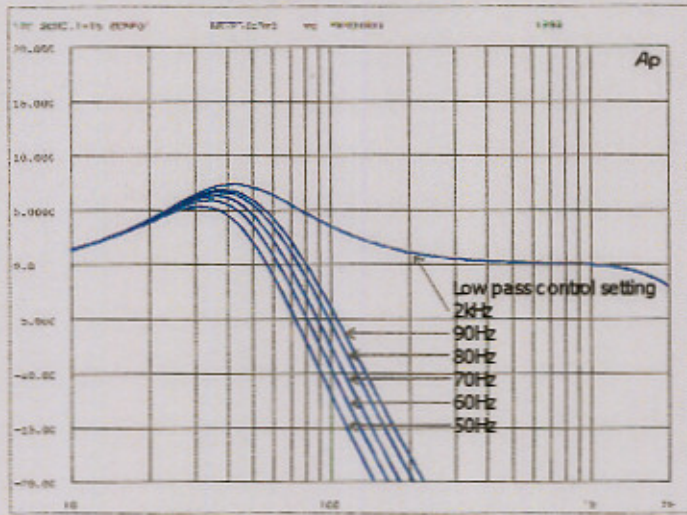
The SCM0.1 amplifier offers a range of filter adjustments and a phase reversal facility to aid in the combination with satellite speakers. There is also a simple level control. These features are explained in the diagrams below.



explained in the diagrams below. With the CONTOUR control set to the Flat+ position the frequency response is flat and the Low Pass control changes the crossover frequency as indicated on the panel. Change the CONTOUR control to Flat- and the same frequency response is achieved but with a reversal of the phase, which may give better summing of the acoustic wave from the satellite speakers and the subwoofer depending on their relative positions and other room considerations. With the CONTOUR control in the Lift+ position the frequency response



is more like the graph below. This setting is designed to give a more demonstrative performance for use with audio/visual material. The Flat setting is recommended for music but the room characteristics may enter the equation. Again the Lift-position retains the frequency response but reverses the phase.



The gold badge located on the lower front of the cabinet incorporates an indicator, this indicator shows the status of the amplifier



**Green** → the amplifier is healthy and powered

**Red** → overdrive

The brief change from green to red indicates the amplifier has reached the full available output. Constant or long indication of red shows the limiting circuits within the amplifier are in operation.  
NOTE : any operation causing the amplifier to limit will affect the audio output.

## CARE AND MAINTENANCE

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

Heavy soiling can be remedied using an almost dry cloth that has been slightly moistened with a non-abrasive household cleaner.

There are no components within the speaker that could 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.

In the unfortunate event of any malfunction, as there are no user replaceable parts within the speaker, 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; please consult your local dealer or importer for applicable warranty terms.

# SPECIFICATIONS



	SCM0.1/15 SL	SCM0.1/12 SL
DRIVER	375MM (15 INCH)	314MM (12 INCH)
CUT-OFF FREQUENCIES (-3dB FREE STANDING)	18Hz – 2kHz	18Hz – 2kHz
MAX CONTINUOUS SPL @ 1 METRE	115dB SPL	112dB SPL
INPUT CONNECTORS	MALE XLR	
INPUT SENSITIVITY	1V BALANCED	
INPUT IMPEDANCE	>10K OHMS	
COMMON MODE REJECTION	>90dB	
HARMONIC DISTORTION (AMPLIFIERS)	BETTER THAN 0.01%	
AMPLIFIER OUTPUT	650 WATTS CONTINUOUS RMS 1000 WATTS DYNAMIC	
OVERLOAD PROTECTION	ACTIVE FET MOMENTARY GAIN REDUCTION	
GAIN CONTROL RANGE	12dB	
THEATRE EQUALISER	40 – 60 Hz 6dB BOOST	
FILTER CHARACTERISTICS	50Hz, 60Hz, 75Hz & 90Hz LOW PASS 2 <sup>ND</sup> ORDER CRITICALLY DAMPED	
POWER REQUIREMENTS	700VA MAX, 60VA MIN AT 50/60 Hz VOLTAGE FACTORY SET FOR REGION	
DIMENSIONS (H x W x D)	550 x 631 x 550 MM	582 x 500 x 500 MM
OVERALL WEIGHT	64 KG	54 KG