

SCM10-2 ACTIVE MONITOR (DOMESTIC VERSION)

USER GUIDE



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.



**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



INTRODUCTION



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.

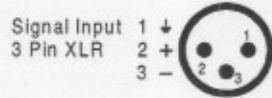
To achieve this requires some of the world's most expensive and highly specified hand made drive units, and the sympathetic design of appropriate audio electronics. All major components are designed and manufactured by ATC.

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. One each for the tweeter and the bass, each amplifier is rated according to the drive unit it is attached to, allowing the tweeter and bass amplifier to be set to run class A to high levels. The filter networks within the amplifier process the signal for each output amplifier and present no additional loading on the signal. Included into the design of the amplifier is the adjustment for phase of the bass amplifier, thus ensuring that the system is in phase at the crossover point (impossible in a passive system). Other features include momentary gain reduction circuits which prevent clipping by rounding the waveform, these circuits protect the drive units from damage and will cause less stress to the amplifier. Since these circuits are very fast they only introduce harmonic distortion at the instant they operate, they are 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.



Only two connections per monitor are required, one for main power and one for the input 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 (not necessarily supplied) should be of a good quality XLR balanced configuration (unbalanced configuration is explained later). The XLR pin configuration is :



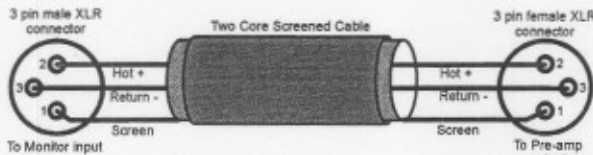
- pin 1 → Screen
- pin 2 → Signal+ (hot)
- pin 3 → Signal - (return)

SIGNAL CABLE OPTIONS

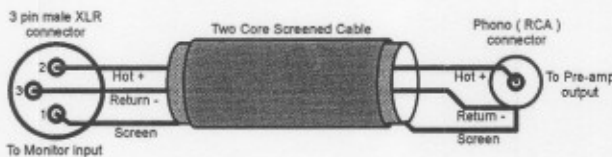
The two figures below show the normal connections for a balanced and an unbalanced configuration. A balanced XLR to XLR connection will have very few problems. With an unbalanced XLR to Phono connection, it is possible that there may be problems with earth loops causing hum.

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



- ◆ **Mains Inlet** – a standard IEC mains power lead, suitable for the country of use, should be attached here ensuring that the correct voltage for the device is being supplied. The correct voltage for the device is displayed in blue on the product identification panel.
- ◆ **Fuseholder** – in the event of a device malfunction, the fuse holder cover should be prised out with a small flathead screwdriver and the fuse inspected for damage. If required, a spare fuse is supplied in the body of the cover, although it must be stressed that fuses often blow because of serious electrical faults. If this is the case then simply replacing the fuse will only result in another blown fuse. The speaker should be returned to the factory for service if the second fuse blows.
- ◆ **Power switch** – to provide power to operate the device. Due to the nature of the electronics in ATC active loudspeakers it is quite normal for a sound to be heard from the speaker when the power is applied or disconnected. The noise heard will not damage the speaker and is quite normal. Although ATC uses the highest-grade components, some users will hear a different noise from each speaker due to slight tolerance variations in the amplifier components.
- ◆ **Balanced input** – facilitates the transmission of the music signal from the source (CD player, mixing desk etc.) to the speaker with less dependence on the cable quality, cable length, environmental electromagnetic interference and quality of source hardware than conventional phono connectors. Input sensitivity is 1V.

PLACEMENT

Perfection is not an option here, often 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 middle and high 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 monitors should be kept away from corners or walls – start with 1 metre from the side walls and 2 metres from the back. All rooms vary and it is a good idea to experiment with both the listening and speaker position until a good compromise is reached. For professional installations the requirements are often very different. Please consult with an experienced acoustician.

CARE AND MAINTENANCE

High technology 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.



S P E C I F I C A T I O N S

| | | |
|---|------------|---|
| DRIVERS | | |
| | HF | 25MM (1 INCH) |
| | MF/LF | 125MM (5 INCH) |
| AMPLITUDE LINEARITY ±2dB | | 70Hz – 17KHZ |
| CUT-OFF FREQUENCIES (-6dB FREE STANDING) | | 45Hz – 22KHZ |
| DISPERSION | | |
| | HORIZONTAL | ±80° COHERENT |
| | VERTICAL | ±10° COHERENT |
| MAX CONTINUOUS SPL @ 1 METRE | | 105dB SPL |
| CROSSOVER FREQUENCY | | 2.8KHZ |
| INPUT CONNECTOR | | MALE XLR |
| INPUT SENSITIVITY | | 1V BALANCED |
| INPUT IMPEDANCE | | > 10K OHMS |
| AMPLIFIER OUTPUT | | |
| | HF | 50 WATTS RMS |
| | LF | 200 WATTS RMS |
| POWER REQUIREMENTS | | |
| | VOLTAGE | 100, 115, 230 (FACTORY SET) |
| | FREQUENCY | 50/60 HZ |
| | POWER | NOMINAL 50 WATTS, DRIVEN 250 WATTS |
| OVERLOAD PROTECTION | | ACTIVE FET MOMENTARY GAIN REDUCTION |
| MATCHED RESPONSE | | ±0.5 dB |
| DIMENSIONS (H X W X D) | | 390 x 230 x 310MM |
| OVERALL WEIGHT | | 15.5KG |
| STANDS/BRACKETS | | OPTIONAL FLOOR STANDS AND WALL BRACKETS ARE AVAILABLE |