



Obbligato Renaissance

Operating Instructions

Congratulations on your choice of The Angstrom *Obbligato*.



Designed, engineered and manufactured in Canada to exacting standards, these loudspeakers will give outstanding performance for years to come. We recommend that you take the time to read these instructions carefully. They will provide valuable information that can improve the musical performance of your entire audio system.

Turn off your Amplifier/Receiver

Turning off your Amplifier/Receiver when connecting your loudspeakers prevents short circuits which can damage your system. You should NEVER change any connection without turning off your Amplifier/Receiver.

Use dedicated loudspeaker cables

Loudspeakers are normally excited by fairly low voltages (typically less than 40 volts), but the current they receive, which is measured in amperes, is quite high. Therefore, the cables that connect your Angstrom loudspeakers to the receiver or amplifier should be dedicated loudspeaker cables.

Loudspeaker cables are designed to operate with pulsating signals of widely varying voltage, current and frequency, and should be designed specifically as loudspeaker cable. When choosing cables, careful considerations should be given to the technical design of the amplifier/receiver, the distance between the amplifier/receiver and the loudspeaker, and last but not least, the impedance of the loudspeaker. We suggest you consult your reseller to ensure a correct audio match.

We recommend that you 'bi-wire' your *Obbligatos*. Bi-wiring facilitates more sonic detail. Loudspeakers are normally connected by means of a 'twin-lead' cable or wire, (i.e. with one side for plus signals and one for minus signals).

However, as loudspeakers also consume widely varying currents in the bass, mid-range and treble, it is advantageous to connect separate cables to the loudspeaker's respective inputs. By so doing, the current drawn is distributed across twice the sectional area, and the cable with current destined for delicate high frequencies need not simultaneously supply current to more power hungry bass drivers. The result is an audibly purer musical reproduction with greater precision in the breadth and depth of the stereo image. These very special cables should be kept as short as possible.

Bi-wiring also makes it possible to select larger diameter cables with particularly good conducting capabilities to the mid bass, whereas the choice of silver cables for the treble is a more advantageous one; experience has shown that silver cables ensure a subtler, more "liberated" reproduction of delicate overtones in the music.

Making the proper connection

Left and right loudspeakers operate together to reproduce audio signals that should appear in a stereo image with depth, breadth and height.

Both loudspeakers must play in unison, they should also reproduce a positive electrical pulse as high pressure, and a negative pulse as low pressure. In other words, the loudspeakers must be correctly 'phased' and to this end they are supplied with colour-coded terminals. "Plus" is marked in red and "minus" in black. The terminals on your receiver/amplifier are colour-coded in the same way.

All quality loudspeaker cables are marked to ensure correct loudspeaker 'phasing' during installation. Typically, one of the leads will be colour-coded, marked or will have a ridge in the insulation. You should connect the lead that is marked to "plus" on the amplifier and to the "plus" (red terminal) on your *Obbligato* loudspeakers. The other lead should be connected to "minus" (black). Gold plated 'banana plugs' fit easily into the holes on the loudspeaker terminals and provide good electrical connection. They are highly recommended.

Positioning is important

It really does pay to experiment with the positioning of your *Obbligato*. The difference between “acceptable” and “fantastic” audio reproduction is often only a question of a few simple adjustments to the room’s acoustics, and to the positioning of the loudspeakers.

In general, loudspeakers should be positioned so that the tweeter drive units are approximately at ear level when you are seated in your favorite listening position. The distance between the two loudspeakers should be approximately 80% of the distance between the loudspeakers and the listening position. The loudspeakers may be turned slightly inwards. This will give better focus and precision to the audio signals in the center of the stereo image.

The *Obbligato* S (stand version) should be mounted on a mass loaded stand. We suggest the matching Angstrom US-24NC stand.

Adjusting the bass level

These loudspeakers perform best when they are placed somewhere between 80 cm and 150 cm from the nearest wall. It is also important to remember that loudspeakers should be allowed to radiate the sound, without hindrance, through the air and towards your listening position. Therefore, upholstered furniture and similar objects should never be placed immediately in front of the loudspeakers or in front of the side firing woofers as this will damp the treble and upper mid-range, muddy the low frequencies and will render the sound inarticulate. The stereo image will lose its precision.

Some listening rooms are plagued by problems of ‘standing waves’ which cause a rumbling, distorted low bass response. In this case the *Obbligato* should be placed a good distance (up to 2 metres, 6 feet) away from the end and side walls, so that the omnidirectional low frequencies are able to be radiated unhindered. By following this procedure, the bass level is reduced by a few decibels but the output is controlled. The bass response will be tighter and more dynamic. Experiment, your listening room is the most important part of the listening puzzle.

The addition of two Angstrom *Profundos* or two Angstrom *Foyas*, low frequency transducers will complete your audio system. The addition of only one of our low frequency transducers will transform your audio experience from just fantastic to truly “unbelievable”. Two will bring realism to new heights.

Spikes

Your *Obbligato* F (floor version) has been fitted with brass inserts, brass carpet spikes and brass wafers for use on hard floor surfaces.. If you place the *Obbligato* F on carpet, we recommend that you replace the brass wafers with the supplied brass carpet spikes.

Loudspeakers must be run in

Just as a new car engine has to be 'run in', so do the moving parts of a loudspeaker before the system is able to perform optimally. The edge suspension of the diaphragms and the spiders are manufactured from materials that will stand up to many years of mechanical stress. While the loudspeakers are new, however, these parts are still stiff and perform sluggishly. They tend to restrict the movement of the diaphragm and the loudspeakers will not yet perform at their best. A few hours of playing at moderate levels will remedy this problem and the loudspeakers will begin to deliver a more subtle and impelling performance.

Loudspeakers will continue to improve in performance until their parts are mechanically stabilized. After a 'break in period' of approximately 200 hours, they will continue to play optimally for many years providing that they are not over-driven or overloaded.

NB: *It is practically impossible to wear out a pair of Angstrom **Obbligato** loudspeakers. Only continuous overloading (caused by excessive volume levels and/or amplifier clipping) will ruin their performance capability and shorten their life.*

We welcome your comments

The *Obbligato Renaissance Series* is not a mass produced, cookie cutter product. Natural wood and hand finishing take time and effort to manufacture. No two cabinets are the same, just as no two trees are the same. Every effort is made to produce a perfect product and every *Obbligato* is checked and tested before it leaves our factory.

The *Obbligato Renaissance* loudspeaker is covered by a 5 year transferable warranty from the date of your retail purchase. One year for amplifiers in Low Frequency Transducers. Please retain your original 'bill of sale' as proof of purchase and the shipping carton in case the loudspeaker must be shipped by common carrier.

We welcome any comments that you may have, be these positive or negative. Your opinions will help us to produce even better products. Therefore, if you do have anything to tell us, please write, e-mail or fax us at the following address:



391 Marwood Drive, Unit 6, Oshawa, Ontario, Canada L1H 7P8

Tel: 416-988-8806

e-mail: info@angstromloudspeakers.com

web: www.angstromloudspeakers.com