



THE INNER EAR REPORT

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Angstrom Loudspeakers & Subwoofer Models Legato & Forza

Source: *Angstrom Loudspeakers*

Price: \$1,300.00 Cdn./pair Legato & \$1,200.00 Cdn., sub/Forza

Rating: ♪♪♪



Regular readers of TIER will recall our earlier evaluations of the Obligatos, the Omega 5s and the Trinity Project Series II of this Canadian loudspeaker manufacturer. Since its inception, this company has introduced a number of models which not only offer excellent design, but also are remarkably cost efficient. The latest models, under review here, have been engineered to accommodate those who have little space in the room, but wish to achieve full-bodied sound from small loudspeakers with the help of a subwoofer. This system

addresses audiophiles on a budget or/and aspiring home theatre enthusiasts. The Legato/Forza system – reviewed here for audio application – can be supplemented with three more Legatos for a complete 5-channel HT system with a matching sub, the Forza. By the way, Forza is an Italian musical term meaning “force” or “vigour” while Legato means “smoothly” (as opposed to staccato).

Appearance:

The Legatos are solid, compact enclosures measuring 17.8cm x 35cm x 26.5cm (7" x 14" x 10") but,

for their size, are rather formidable performers. They are available in solid cherry and cherry veneer over ¾" MDF with Angstrom's unique Acoustic-roc™ front baffle. The cabinets have rounded corners and boast a hand-polished finish. They come with removable grilles and their appearance is rather exquisite, offering an attractive addition to any listening room décor.

The subwoofer – Forza – is also rather small and matches the appearance of the Legatos. It measures 14 1/8 inches high, 19 ¾ inches wide, 20 ¾ inches deep and weighs only 59 pounds or 26.8 kilograms.

The cabinet construction boasts two solid, laminated, ¾" pieces of aforementioned acoustic-roc. The lamination creates a resonance isolation barrier, 1 ½ inches thick and vibration free. This is particularly important where extremely low frequencies are being reproduced. The cabinet is finished with ¾ inch MDF with solid cherry and cherry veneer. The hardwood, rounded corners, and hand polished finish match the elegant appearance of the Legatos.

Technology:

First, the Legato system design. As noted above, the enclosures are compact, featuring a 5 inch Angstrom designed woofer. Its cone is a woven Kevlar material, known for its strength, flexibility and density. The cone's surround is butyl and it operates in a cast aluminum basket with double venting. A solid aluminum phase plug is centered in the cone. Incidentally, this is the same driver used in the previously reviewed \$3,900 Obbligatos.

The 1 inch coated tweeter is made in Denmark. Its diaphragm is made of fabric and silk. It's ferrofluid cooled and features an enclosed rear chamber. Made to handle oodles of power, it's dispersion characteristics are impressive. On the enclosures' rear, Angstrom uses a flared, tuned port which is terminated flush with the cabinet. This reduces turbulence and eliminates port noise. The Legatos can be bi-wired or bi-amplified and Angstrom recommends that the Legatos be at least bi-wired. The four terminals on each enclosure are gold plated, five way binding posts machined from solid brass.

A few words about the Acoustic-roc used in this design. It's formulated from 70% St. Laurent cement and 30% cellulose fibre and is 3/4" thick. Employed here to overcome resonance problems with which all enclosures are plagued, the material virtually eliminates vibration and it also acts as a resonance isolation barrier in this design (Acoustic-roc is also used in the Obbligato design).

Now to the Forza subwoofer. It's a powered low frequency transducer powered by a class D (digital) switching amplifier, barely the size of a deck of cards. At 140 watts RMS, this amplifier provides peak power in excess of 400 watts. A special 10 inch dual voice coil woofer with peripheral voice coil venting employs a ribbed paper cone, laminated with polymer and operating in a tuned, ported enclosure. As in the Legatos, there is a flared port on the unit's rear to reduce turbulence and prevent port noise.

The Forza amplifier offers both low level and high level inputs. It's

equipped with variable frequency cross-over points as well as an independent gain control which allows infinite adjustments to any room. It's frequency response is from 30hz to 150Hz. The crossover is a variable 4th order low-pass filter with a fixed 6th order and an alternate slope beyond 300Hz. The high level output/input is a fixed 3rd order high-pass filter @ 100Hz.

The Sound:

We used our in-house high-end Topaz, a previously reviewed Parasound 3500, an OCM 800 and a Bryston 8B ST driven by the Wyetech Opal preamplifier. Additionally, we connected the Angstrom system to a Celeste Moon integrated amplifier and the Magnum receiver, reviewed in this issue. Thus we had a sophisticated 18 watts, a powerful 350 watts, 300 watts and 450 watts respectively. The Moon offers 60 watts/channel, while the Magnum receiver offers 100 watts/channel. These two components were used to check the Angstrom's sonic quality when used with what we believe is a good price match. Of course, all these amplifiers have their unique sonic signature and served to establish the Angstroms' merits when connected to a variety of different components. With the Wyetech Lab Topaz, the Angstrom system sounded much better than one might expect from medium priced loudspeakers. In fact, they "vanished", creating the impression for listeners of a wide and deep sound stage with outstanding focal information. The highs were as smooth as silk, the mids were entirely clear and the bass was as solid as a rock, with resolution to boot.

The Bryston introduced a chiseled image, solid and resolute bass, but somewhat more hard-sounding highs when compared to the Topaz. The OCM resulted in beautifully reproduced highs, somewhat softer sounding mids than with the Bryston, though not quite as lucid as with the Topaz. Bass was full-bodied, though not as resolute. The Parasound introduced the best mid-bass, exemplary highs, but a slightly darker sounding midrange. The Celeste Moon rendered immaculate

inner detail, somewhat hotter sounding highs, but coherent midrange and upper bass information. The Magnum receiver sounded very much the same as the Celeste Moon (its amp section is made by Celeste) but offers more smooth sounding highs and more authoritative midrange and upper bass. All amps managed to transcend the speakers' position, disclosing the Angstroms' knack to conjure a sound stage with imaging usually found only in loudspeakers at twice the price. The system's high degree of sonic neutrality allowed all of our amplifiers to reveal their sonic personalities and also disclosed the merit of various speaker cables used for these auditioning sessions (Straightwire, Nordost and Ultralink cables). Used on their own, without the subwoofer, the Legatos, though lean in the bass region, are a very respectable pair of speakers which offer musical correctness in all but the deep bass zone.

Synopsis & Commentary:

It's important to realize any system set-up, involving the use of a subwoofer, is important if the best integration of sound is to be achieved. Subwoofers should be placed several feet behind the main or satellite speakers. If front-to-back imagery is important to the listener, the satellites should be placed four or five feet away from the back wall and on solid stands. Good integration can also be achieved if the sub is placed a few feet in front of the speakers, but only experimentation and careful listening can determine correct placement in the listening space. Needless to say, the sub's gain (volume) needs to be adequately adjusted as well – it's best to have a friend help you. The Legato Forza system is a surprisingly impressive design that can handle high-end, medium priced and lower priced electronics. It provides exceptional sound with all kinds of gear and can be used under various conditions. That's compatibility, cost efficiency and musicality, all wrapped in a wonderfully compact package. Find a dealer and listen for yourself.

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