HIGH QUALITY AUDIO

Cygnis-Gold High Performance Loudspeaker

Technical Specifications

FREQUENCY RESPONSE	25Hz - 30Khz +/- 6db (35Hz - 28KHz +/- 3db).
SENSITIVITY	92db 1m/1w.
NOMINAL IMPEDANCE	8 Ohms (minimum 5.1 Ohms).
CROSSOVER	Full 3 way crossover, acoustically isolated in dedicated box. Hand built with Laminated and Air cored Inductors, Polypropylene capacitors and Silver plated OFC wiring.
CROSSOVER FREQ.	Tw-Mid 3250Hz, Mid-Bass 300Hz
TWEETER	29mm Centre and Edge damped Polyester soft Dome Low resonant frequency with Rear cavity damping Exceptionally flat frequency response to 38Khz
MIDRANGE	165mm woven glass fibre diaphragm with vented cast chassis and shielded double magnet. 15 litre enclosure of advanced composite material with Kapex foam core, with a high gloss piano black finish. Asymmetrically shaped to reduce standing waves.
BASS	417mm Honeycomb 2 x layer Kevlar diaphragm with vented cast chassis with double magnet motor system. Extensively braced, acoustically isolated 117 litre enclosure with QB3 port reflex loading. 2pi driver position for more accurate LF 'in room' performance.
AMPLIFIER POWER	15 Watts -300 Watts.
DIMENSIONS	Height 1130 x Width 460 x Depth 478
WEIGHT (each)	55kgs

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Design Features

Cabinets

The Bass Enclosure is constructed of 25mm thick MDF, with a crossbrace from the Bass Drive unit magnet. This enclosure has radius corners to reduce acoustic defraction, and has the Drive unit placed specifically to ensure 2ii radiation. This will mean the loudspeaker will have a better acoustic interface with the listening environment. The Bass Drive unit is acoustically loaded, by a QB3 Bass Reflex tuned port system. The QB3 Bass port alignment gives the best performance to obtain the lowest distortion (as a full Reflex) but with the attack and speed of an Infinite Baffle (closed Box). Acoustic Foam sound absorbent material is used inside the Bass enclosure, to reduce any unwanted standing waves.

The Midrange Enclosure is made of an Advanced Laminated Polyester Resin Composite with a Kapex foam core, to reduce any panel resonance. This Enclosure also has no 'parallel surfaces', to reduce any internal standing waves. The success of the shape and the construction material, means there is only a very small amount of acoustic sound Absorbent material required on the inside of the enclosure. This in turn improves the speed of attack and does not impair the acoustic output from the Drive unit. The shape of the Baffle also ensures no specific frequency is emphasized by the Baffle size (which is a common problem in loudspeakers with a set size Baffle). The Baffle is also 'tilted' at 5 deg, to ensure correct 'Time alignment' of the Drive units, which in turn gives minimum phase distortion at the Crossover Frequency. Again as in the Bass Enclosure, the outside of the Enclosure has Radii on the edges, to reduce the acoustic defraction from the Enclosure.

Crossover

Crossover design is one of the most important areas in the performance of a High Quality Loudspeaker system. A minimum component Assymetric slope 'minimum phase' design was chosen as the best option to realise the required optimum performance.

REVOLVER
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Design Features Cont.

The latest research into the different sound of components, indicates not only using the best components, but also to keep any vibration from the Loudspeaker away from the Crossover components. Therefore again for best performance, a completely separate Crossover Module using three sets of Input Connectors (Tri-Wired) is used. Capacitors are all Polypropylene types with all their lead out wires consisting of Solid Silver (for the Tweeter) and Chord Silver Plated OFC for the Midrange and the Bass. Two types of Inductor are used, specially chosen for their specific frequency responses and power handling properties. No Inductors are used on the Midrange. All internal Cabinet wiring from Crossover to Drive units is Chord Silver Plated OFC.

Drive units

A 15" (417mm) Bass Drive unit is used to obtain the lowest frequencies and the high Power-Handling required in the audio band of a 'no-compromise' loudspeaker design. The Drive unit has a Cast Vented Chassis, with a shielded Double Magnet system using a 3" (75mm) voice coil with a very low Resonant frequency of 20 Hz. A 'long-throw' rubber roll surround with a Laminated Honeycomb 2 layer Kevlar Cone, gives the required low frequency performance expected from a very high performance loudspeaker system.

The Midrange Drive unit, is a 6.5" (165mm) using a Cast Vented Chassis with a Shielded Double Magnet System. A 155mm woven Glass Fibre diaphragm fitted with a Positive roll rubber surround and a 1" (25mm) voice coil, has been designed to give a controlled 'cone breakup' mode, so therefore does not require any Crossover Inductor to give the desired frequency rollout slope.

The 29 mm Tweeter Dome is made of a Textile Polyester material, and has a special Centre & Edge Damping system. This reduces the waves colliding at the apex of the Dome, and then being reflected back down the Dome, giving the normally seen uneven frequency responses of normal Dome Tweeters. There is also a rear damped cavity. A low resonant frequency makes sure the Tweeters resonance is at least 2 octaves below the Crossover frequency. For best top end performance, by extending the frequency response into 'Alpha Wave' or Super audio territory, a better sound is generally perceived. So the upper frequency response is 38KHz.