

THE
GRYPHON



THE GRYPHON TRIDENT REFERENCE LOUDSPEAKER SYSTEM

Gryphon Trident Reference Standard Loudspeaker System

*Trident - Three-pronged spear
wielded by the god of the seas in
Greek mythology*

Features

- Three-way loudspeaker with onboard bass amplifier
- Constant Phase crossover for perfect phase at all frequencies at all times
- System response 16 - 40,000 Hz, -3 dB (depending on Q setting and room size)
- Remote control for Q setting, Bass Level and Low Cut
- Time-aligned front baffle curvature for identical arrival time from all drivers at the listening position
- 14 customized, extensively modified Danish drive units
- Special cone surround termination to eliminate edge reflections
- Symmetrical vertical driver array for ideal point source presentation
- Four 8" bass drivers for extreme speed and precision with massive air displacement
- Custom designed Gryphon bass amplifiers capable of delivering 500 Watts continuously (8 ohms) per channel
- Integrated Linkwitz-Greiner Q Controller with preset and custom Q settings for ideal low frequency integration in any room
- Hand-adjusted passive mid/high crossover network
- Triple-magnet bass/midrange driver motor system for maximum force and precise focus
- Scan Speak Revelator ring radiator high frequency driver in specially developed 1 kg. Gryphon aluminum housing
- Sealed enclosures with extensive internal bracing
- Combination of pure wool and synthetic interior damping materials
- Stylish string grille for driver protection
- Virtually unlimited custom finish options
- Designed and built in Denmark

Innovation comes naturally at Gryphon Audio Designs where we take equal pleasure in pure, groundbreaking research and in the unalloyed joy proud users the world over derive from the fruits of our labors.

The Gryphon Trident Reference loudspeaker system is the latest breakthrough from the team of acoustic engineers that created the award-winning Cantata Reference stand-mounted monitor system and the monumental Gryphon Poseidon four-tower system. Conceptual and industrial design is as always by Flemming E. Rasmussen.

By implementing a unique configuration of dedicated bass power amplifier in conjunction with heavily modified drivers, handmade crossover components, proprietary Q Control room integration and a non-resonant enclosure, the Gryphon Trident elegantly sidesteps the electrical and mechanical problems which plague lesser systems consisting of randomly assembled stock components.

The Gryphon Trident incorporates specially developed constant phase technologies to ensure that all drivers are in phase at all frequencies at all times. Only three loudspeakers can truthfully make this claim and they are all made by Gryphon.

Inspiration and Motivation

As was once the norm in High End audio, Gryphon Audio Designs is still run by enthusiasts able and willing to take risks and push back boundaries out of sheer curiosity as to what awaits in uncharted territories where no one has gone before.

This is the wellspring of inspiration and motivation that brings the Gryphon Trident to life.

The result is a dramatic increase in dimensionality, a heightened sense of freedom in the bass and enhanced presence and focus.



Gryphon's loudspeaker systems are based on Steen Duelund's "phase coherent filter theory"



As any acoustician will attest, this is quite simply a staggering achievement.

Fortunately, it is also an achievement that any music lover can immediately appreciate, as it effectively prevents any veiling or smearing in the temporal domain, allowing the Gryphon Trident to re-create the original acoustic event with laser-sharp clarity, alacrity and precision.

Thanks to this exceptional level of musical performance and ingenious engineering, Gryphon was immediately accepted as a loudspeaker manufacturer of the first rank and praised for tackling the endeavor with the same innovative flair that has firmly established Gryphon as a major international player with amplification components and CD players widely regarded as among the very best in the esoteric world of High End audio.

Capable of delivering stunning audio quality in rooms of virtually any dimensions, the Gryphon Trident excels in spaces too large for the Cantata or too small for the Poseidon, making it a perfect addition to the Gryphon range. While constant phase has been acknowledged as a theoretical ideal for several decades, making that lofty goal a practical reality

demanding lateral thinking and numerous labor-intensive, custom-built components specially designed by Gryphon in close collaboration with the manufacturers of some of the world's finest drivers.

From Theory to Practice

In order to live up to the uncompromising design goal of perfect phase all the time at all frequencies, the Gryphon Trident enclosure incorporates a concave curved front to form a direct angled, time-aligned system with identical distance from the acoustic center of each driver to the listener.

Trident cabinets are massively braced and considerable care has gone into the contouring of the baffle and driver surrounds to eliminate diffraction.

All drivers are custom designed for low Q and minimal dynamic compression and built by an internationally respected Danish



driver manufacturer willing to assemble drive units to Gryphon's strict specifications. Highly focused, ultra-linear triple-magnet systems ensure total control of cone motion in the mid-range and bass drivers. Specially developed surrounds match the geometry of the driver diaphragm and the fiberglass cone material is layer damped. Dust caps are non-deformable, low-mass and highly rigid.

Two 5" fiberglass coned midrange drivers and 4 8" bass units are precisely tilted in a symmetrical vertical array above and below the acclaimed



ScanSpeak Revelator ring radiator high-frequency driver driven by a powerful neodymium magnet motor system.

Gryphon has brought this legendary driver to its full potential by adding our exclusive carefully sculpted 1 kg sub-baffle, milled from solid aluminum for perfect time alignment and minimal diffraction.



The Trident crossover network, based on wax-impregnated air-core inductors wound from copper foil and stacked foil capacitors potted in epoxy to resist mechanical interference, ensures undetectable, smooth transitions across the audible range.

28 V DC bias is applied to the capacitors, eliminating crossover distortion at zero electric potential for audibly enhanced stability and substantial gains in body, timbral color and image coherence.

Ideal In-Room Response

When it comes to loudspeaker-room interaction, most manufacturers cross their fingers and hope for the best. Rather than view the room as an enemy to be overcome, the Gryphon Trident is designed to work with the room, employing Gryphon's innovative room-adaptive technology to interface with the listening space via the onboard Q Controller. Active Q control as a theoretical concept was introduced in the 1950's by Linkwitz and Greiner, but never successfully implemented until now.

Gryphon Q Control exploits what others narrowly regard as a problem: an acoustical phenomenon known as room gain, the fact that in the room, the enclosed space will reinforce frequencies below the room's resonant frequency.

With room gain well defined and with the knowledge that a sealed loudspeaker's response rolls off below its resonant frequency, it is possible to calculate complementary resonance and Q values for the loudspeaker and for the room to achieve resonance-free bass response from the speaker in a real room.

The Trident Q Controller features pre-set and custom settings to seamlessly match the bass response of the speaker to the characteristics of virtually any room. Set-up of the Q Controller via remote control from the listening position is simplicity itself. Phase coherent Trident bass is deep and solid, retaining all the natural tactile and textural qualities of live music.

The built-in bass amplifier features the finest Sanken transistors and custom developed parts. Ultra-wide bandwidth and zero negative feedback contribute to the amplifier's extreme speed and unconditional stability.



Trident active bass amplifier and Q Controller



Gryphon driver inspection



Bipolar bass amplifier modules

Trident Key Specifications

Woofer/Amplifier Section:

Input Impedance, balanced (20-20,000Hz): 40k Ω
 Input Impedance, single-ended (20-20,000Hz): 20k Ω
 Output Power:
 500 W RMS @ Trident drivers
 Bass Amplifier Bandwidth (-3dB): 0.1Hz to 250kHz
 Gain:
 +38dB
 Frequency Response:
 0.1Hz - 250Hz, -3dB
 Volume Range: -
 100 to +6dB (0.5 dB increments)
 Low Cut (Selectable):
 16Hz, 12 dB per octave
 Q Settings:
 Q1 - 0.30, Q2 - 0.35, Q3 - 0.40

Midrange/Tweeter Section:

Crossover Frequency: 250Hz and 2kHz
 Sensitivity: 94 dB

Trident System Specifications:

Total Frequency Response:
 16Hz - 40,000Hz, -3dB

Dimensions:
 W 35 x H 170 x D 70 cm
 Weight:
 195 kg per cabinet



Trident display and remote control



Cabinet inspection

Gryphon Gryphon Audio Designs is proud to offer to the privileged few Gryphon Trident, a direct connection to the souls of the performers.



Gryphon Audio Designs

Industrivej 9
 8680 Ry, Denmark
 Phone + 45 8689 1200
 Fax: + 45 8689 1277
 email@gryphon-audio.dk
 www.gryphon-audio.com