VANDERSTEEN

THE MODEL 2Ce **Signature II**

TRUE TO SCIENCE AND MUSIC

Since 1977, Vandersteen Audio has designed and built innovative loudspeakers using advanced concepts such as minimum-area baffles for driver mountings that virtually eliminate cabinet edge and grille diffraction anomalies and mass alignment of driver elements to insure proper time arrival. Vandersteen Audio was the first loudspeaker manufacturer to use the Gen-Rad 2512 FFT (Fast Fourier Transform) Computer Analyzer originally developed for the aerospace industry, for in-house research and development and remains a leader in interfacing complex computerized analysis of loudspeaker parameters and performance with practical design and engineering.

The Model Two benefits from our years of experience designing and building loudspeakers of unparalleled value and performance. It couples proven technology with advanced materials, construction and design for a speaker system that is always true to both science and music.

THE ACTIVE COMPONENTS

The components used in the Model Two combine classic strength and durability with innovative design and construction. The alloy dome tweeter is a dual-chamber design to improve range and linearity. It is critically damped to extend the high frequencies past audibility without the excessive ringing associated with open or underdamped metal dome tweeters. The alloy used for the dome was chosen for its superior strength and resistance to break-up.

The midrange and woofer use costly cast-metal baskets rather than the more common stamped baskets. The cast-metal baskets' inherent rigidity and superior vibration control increase cone movement accuracy and reduce sympathetic resonances for cleaner and more natural sound. Both drivers use filled polycones to insure high stiffness, superior internal dampening and greater neutrality than metal alloy, woven plastic or treated paper cones. The stiff, low weight polycones resist flexing under all drive conditions for lower distortion and increased detail. The midrange driver features special construction and advanced acoustical techniques to significantly reduce internal diffraction.

The active acoustic coupler accurately complements the woofer to reduce box loss, thermodynamic loss and active/passive transfer nonlinearities. This novel Electro-Mechanically Optimized Woofer System provides powerful, detailed and extended bass response as the Model Two operates much more closely to the ideal than any conventional ported or passive designs.

THE CROSSOVER

The crossover in the Model Two is comprised of transient-perfect, first-order networks designed to preserve the phase integrity of the music. Phase and impedance compensation allow the drivers to operate in absolute phase with each other for more precise and stable imaging than in conventional multi-way speakers using out-of-phase drivers. The crossover's computer-grade components, including low impedance air-core inductors and high-quality film capacitors in the signal path, are hand soldered on a double-sided, plated-through PC board for enhanced consistency and reliability. Each completed crossover is tested to insure less than 0.1dB deviation from a reference circuit. Like all Vandersteen Signature Products, each crossover is hand tweaked with the speaker in an anacoic chamber into matched pairs. Custom 6N wire with polypropylene dielectric is used for internal wiring to maximize signal transfer.

The crossover is engineered for bi-wiring with a stereo amplifier or passive vertical bi-amplification with two identical stereo amplifiers. Inputs are barrier strips for optimum gas tight interface (spade lug maximum width 7/16 inch # 10 screw).

THE CONSTRUCTION

The baffles holding the drivers on the Model Two are as small as possible to eliminate virtually all of the early reflections that affect dynamic speakers with conventional baffles. The edges of the baffles are curved to reduce diffraction. These low-diffraction, minimum baffles improve the imaging and enhance the openness and transparency of the speaker as baffle induced interference is reduced.

With conventional speaker enclosures, the transmission of resonances from the drivers causes secondary vibrations in the enclosure that negatively affect the

quality of reproduction. These enclosure vibrations compromise the frequency response, imaging and resolution of the speaker.

The Model Two's enclosure is constructed entirely of MDF, a pressure-formed material that effectively resists vibration and controls cabinet resonances. An accelerometer interfaced with an FFT computer was used to determine the size, shape and thickness of each enclosure part and the placement of the extensive internal bracing. Broad-spectrum, low-Q resonances are controlled so as to cancel rather than become additive. Enclosure vibrations and resonances are prevented from interfering with the music.

To be compatible with your decor, hand-matched, natural oiled wood veneers are used exclusively. An acoustically transparent grille structure envelops the internal components of the Model Two.

THE ALIGNED DYNAMIC DESIGN

The Model Two uses the proven Vandersteen Aligned Dynamic Design to optimize the dispersion and transient accuracy of the drivers while maintaining the input signal's time and phase integrity. The drivers, their positioning and their associated minimum-area baffles were developed with the aid of FFT computer analysis to minimize diffraction, cone break-up, multi-driver interference and out-of-band phase irregularities. The construction, alignment and positioning of the drivers allow a point-source wave front and maximize the phase coherence of the loudspeaker at the listening position.

The Aligned Dynamic Design is used for the Model Two due to its many potential advantages:

- Precise, more dimensional imaging and a wider listening area.
- A greater flexibility of placement options within the listening room and better transient response.
- A high level of genuine transparency and detail typical of planar speakers without the distortions and response variations of multi-directional dynamic loudspeakers.
- A stable impedance, assuring complete compatibility with any amplifier or receiver.
- Increased efficiency and improved dynamic range.

QUALITY CONTROL

Each Vandersteen Audio Model Two undergoes rigorous testing and retesting during each phase of construction. Each driver and crossover is tested for proper operation and computer matched to within 0.1dB. After final assembly, each pair is high-power sweep tested for structural integrity and FFT computer analyzed for correct response and performance compared to a model reference. This intense commitment to product quality and reliability is unsurpassed in the audio industry.

DIMENSIONAL PURITY

Music is pure in its dimensions. Vandersteen loudspeakers are true to the original dimensions of the music. They preserve its carefully crafted proportions and weight. They accurately convey the composition, shading and timing that build an involving experience. They reveal the power, the authority, the subtlety and the intimacy of the music.

This dimensional purity is the essence of the Model Twos. It allows them to recreate the music's original scope and passion. You hear deeper into the music and better understand the feelings forming its foundation. You become more involved in the music as its complex inner structure is revealed with increased clarity and realism.

At Vandersteen Audio, we believe that these qualities are fundamental to your enjoyment of your music. We are pleased to have embodied these qualities in a speaker whose simple, but elegant, physical presence complements the decor of your listening room. We are devoted to continue building distinguished loudspeakers that make a statement about the importance of music in your life.

DRIVERS

- ACTIVE ACOUSTIC COUPLER:
  10" critically damped long-fiber cone
  Heavy-duty 1 1/2" four-layer voice coil with ventilated aluminum former
  40 oz focused-gap magnet structure
  Range of operation: 26Hz - 35Hz

- WOOFER:
  8" die-cast basket and curvilinear polycone
  1 1/2" two-layer voice coil with ventilated aluminum former
  40 oz. focused-gap magnet structure
  Range of operation: 35Hz - 600Hz

- MIDRANGE:
  4 1/2" die-cast basket with linear surround and curvilinear polycone
  Ferrofluid voice coil cooling
  Range of operation: 600Hz - 5kHz

- TWEETER:
  1" critically damped metal alloy dome (Mode 3A)
  Dual-chamber design
  Ferrofluid voice coil cooling
  Range of operation: 5kHz - 30kHz

SPECIFICATIONS

Even with advanced test equipment and complex computer analysis,

loudspeaker design remains an incomplete science. No measurements currently available can fully convey the sound of a speaker or provide a meaningful comparison between differing designs.
The truth is in the listening.

- IMPEDANCE:
  7 ohms nominal 4 ohms minimum.

- SENSITIVITY:
  86dB with 2.83 volts of pink noise input at 1 meter on axis.

- RECOMMENDED AMPLIFICATION:
  40 to 160 watts per channel into 8 ohms.

- FREQUENCY RESPONSE:
  29Hz to 29kHz 3dB
  32Hz to 21kHz 1.5dB
  By FFT step function.

- DISPERSION:
  29Hz to 16kHz 3dB 30 degrees off axis.

- CROSSOVER FREQUENCIES:
  600Hz and 5kHz. First-order, 6dB per octave
  Dual inputs allow bi-wiring with a single stereo amplifier or
  passive vertical bi-amplification with two identical stereo amplifiers.

- INPUT CONNECTIONS:
  4 Terminal Barrier Strips
  (spade lug maximum width 7/16 inch #10 screw).

- CABINET FINISH:
  Hand-matched and finished natural oiled wood veneers.

- VIDEO APPLICATIONS:
  Main or surround speakers
  The Model Two is not magnetically shielded and should be positioned at least 10 inches away from a direct view television set.

- PHYSICAL SPECIFICATIONS:
  39.75" high x 16" wide x 10.25" deep 70# gross, 60# net.

- WARRANTY:
  One year, extendable to five years by registering the free optional warranty within 30 days of purchase.

Specifications and design are subject to change without notice due to our ongoing research and development program.

Please contact Vandersteen Audio for complete product information and performance graphs.