

# Precision Monitor Series



# Introduction

**Four decades in pursuit of High-End audio idealism has taken us from the drawing board to the recording venue and back once again to the workshop. From the beginning our credo was simple, “always speak the musical truth”. The experience of the musicians performing live while the recording was being made has always been our template, with the challenge being to translate as much as we heard and felt through our designs.**

It began with inventing the first high mass, constrained multi-layered cabinets for our Ascent loudspeakers, recognising the essential role of time and phase, resolution and dynamics, while presenting it all on a three-dimensional soundstage. We named it ‘Sonic Holography’; it is the essential hallmark of each Avalon Acoustics loudspeaker.

Research is the bedrock of technical innovation, being always mindful of preserving the delicate subtleties so easily destroyed in the process of transduction from electrical signal to physical acoustic waveform. The laboratory taught us that point-source accuracy and purely-pistonic driver behavior was essential

to tightly focused imaging, with baffle shape and eigenmode cabinet resonances dictating lobe dispersion characteristics. Perfecting a new family of all-pass phase networks and low noise circuits was necessary for presenting correct stage depth information. Dynamic contrasts, both macro and micro, could only be realised if the impedance structure comprising the driver/network combination was non-reactive. Most importantly, each technical achievement needed to transport us to the time and place the performers inhabited, to witness the emotion and expression of people in the act of musical creation.

Emulating old world craftsmanship, we insisted upon beauty and elegance in the aesthetic appearance of the loudspeaker itself, perfecting the labor-intensive process of unique natural wood veneering for each cabinet form.

Our journey continues to this day through our Precision Monitor and Signature Series transducers. Each is a distillation of the quintessential qualities of their heritage brethren. Each represents a unique slice of artistry and technical innovation, achieved through years of dedication to unwavering scientific principles, always in service to the music.



“There is profound beauty in truth, connecting the story that is music to the poetry and prose long written in our souls.”

Neil Patel

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# Precision Monitor 1.2

The design goal of the PRECISION MONITOR series is to present transparent sound-staging through preservation of the most subtle reverberation and decay detail. A flat frequency response and accurate phase/time behaviour combine with minimalist energy-storage techniques to deliver an engaging and visceral musical experience. Proprietary low-noise circuitry and coherent-phase network technologies dictate each driver's performance envelope, creating an accurate 3-dimensional reproduction of the original event. Focused images and transient dynamics are paramount, providing macro and micro-energy contrasts to each instrument and voice within the breadth and depth of the soundstage.

PRECISION MONITOR 1.2 is a high-efficiency floor-standing monitor, designed specifically for generating maximum dynamic contrast and convincing sound pressure levels from a compact chassis.

All-new network/driver control sections provide significantly lower noise-floor levels, rendering blacker soundstage backgrounds and improved transient speed. Exceptional phase and timing accuracy create a broad and tall presentation, unheard of in a modest sized transducer.

## AVALON PRECISION MONITOR 1.2 FEATURES

- Proprietary Silent Inert Cabinet material/process
- Advanced light weight driver diaphragm materials minimise energy storage and time-domain distortion.
- Each driver individually tested and matched for optimum performance.
- Smooth, wide polar response for superlative imaging capabilities.
- Exceptional impedance characteristic allows for ideal interface with any amplifier.
- Crossover circuitry is hard-wired with surface-only conductors, eliminating deleterious sonic effects of printed-circuit boards.
- Maximum energy transfer from low power amplification.
- Careful crossover control of all magnetic field interaction.
- Proprietary magnetics technology increases energy transfer and reduces the noise floor.
- Constrained-mode damping system absorbs cabinet vibrations.
- Three and one-quarter inch thick front panel supplies acoustically inert wave-launch platform.
- Proprietary phase-linear filter and damping networks
- Distinctive faceted cabinet design provides optimal polar characteristics.

## NEW PM 1.2 FEATURES

- All new, in-house custom designed drive units with updated crossover to complement.
- A faster, deeper transient response, further enhancing the already legendary listening experience offered by the outgoing PM1
- All internal cabling custom designed by Avalon
- New Dark Polychrome finish available in matt and high gloss options

# Specifications

Driver Complement	(1) 1" High-energy phase aligned tweeter (2) 7" Fiberglass Composite Woofers
Sensitivity	94 dB
Impedance	4 Ohms Nominal
Frequency Response	28 Hz to 25 kHz
Recommended Amplifier Power	15 to 200 Watts
Wiring Methods	Two position binding post
Dimensions	37" (94 cm) H, 10" (25 cm) W, 13" (33 cm) D
Weight	54 Pounds (25 kg) each
Finish options	<b>Standard finishes:</b> Birdseye Maple, Satin Dark Polychrome <b>Premium wood finishes:</b> Quilted Cherry, Curly Maple, Figured Walnut.  All above options are available in a Premium Deep Gloss finish.













# Precision Monitor 2.2

PRECISION MONITOR 2.2 is a full range reference monitor designed specifically for superlative tonal and spatial accuracy. Recovery of fine low-level detail, without exaggeration or aggressive high frequency etching, was our specific design goal. Accurate tracing of all waveform parameters within a dynamic energy field is the hallmark of PM 2.2, the immersion in a holographic performance of transparency and energy.

## AVALON PRECISION MONITOR 2.2 FEATURES

- Proprietary Silent Inert Cabinet material/process
- Meticulous tracking of power response, amplitude response, phase response, and transient response for unparalleled ambience retrieval and natural tonality
- Purely pistonic wavefront generation with smooth open lobing characteristics
- Stored energy elimination (SEE) technology produces clear stable imaging and black backgrounds even under heavy SPL demands
- Entirely resistive and finite loading from 10 Hz to 250 kHz minimising amplifier perturbation effects
- Advanced light weight driver diaphragm materials minimise energy storage and time-domain distortion
- Each driver individually tested and matched for optimum performance
- Smooth, wide polar response for superlative imaging capabilities
- Moderate impedance characteristic allows for ideal interface with any amplifier
- Crossover circuitry is hard-wired with surface-only conductors, eliminating deleterious sonic effects of printed-circuit boards
- Proprietary all-phase crossover topologies
- Careful crossover control of all magnetic field interaction
- Proprietary magnetics technology increases energy transfer and reduces the noise floor
- Constrained-mode damping system absorbs cabinet vibrations

## NEW PM 2.2 FEATURES

- All new, in-house custom designed drivers with updated crossovers to complement.
- A faster, deeper transient response, further enhancing the already legendary listening experience offered by the outgoing PM2
- All internal cabling custom designed by Avalon
- New Dark Polychrome finish available in matt and high-gloss options

# Specifications

Driver Complement	1" Convex Beryllium dome/Neodymium tweeter 3 1/2" cone/high BL Neodymium midrange 2 × 7.5" Ultra-Linear Neodymium Woofers
Sensitivity	89 dB
Impedance	4 Ohms Nominal
Frequency Response	24 Hz to 50 kHz
Recommended Amplifier Power	25 to 400 Watts
Wiring Methods	Two position binding post
Dimensions	44" (112 cm) H, 10" (25 cm) W, 16" (41 cm) D
Weight	86 Pounds (39 kg) each
Finish options	<b>Standard finishes:</b> Birdseye Maple, Satin Dark Polychrome <b>Premium wood finishes:</b> Quilted Cherry, Curly Maple, Figured Walnut.  All above options are available in a Premium Deep Gloss finish.













# Precision Monitor 3.2

PRECISION MONITOR 3.2 is Power. The goal was to create the most dynamically impressive high energy capability from a transducer of nominal size.

With network topologies derived from our Signature Series transducers, we have achieved a low frequency reproduction standard never before attained in a loudspeaker of this size. Impedance is absolutely flat below 200 Hz, creating a non-reactive load with no back EMF seen by the driving amplifier. The result is a clear and powerful low frequency presentation without group-delay error. The resultant phasing accuracy produces consistent staging stability throughout the frequency spectrum, with focused and vivid imagery, regardless of volume.

## AVALON PRECISION MONITOR 3.2 FEATURES

- Proprietary Silent Inert Cabinet material/process
- Meticulous tracking of power response, amplitude response, phase response, and transient response for unparalleled ambience retrieval and natural tonality
- Purely pistonic wavefront generation with smooth open lobing characteristics
- Stored energy elimination (SEE) technology produces clear stable imaging and black backgrounds even under heavy SPL demands
- Entirely resistive and finite loading from 10 Hz to 250 kHz minimising amplifier perturbation effects
- Advanced light weight driver diaphragm materials minimise energy storage and time-domain distortion.
- Each driver individually tested and matched for optimum performance.
- Smooth, wide polar response for superlative imaging capabilities.
- Exceptional impedance characteristic allows for ideal interface with any amplifier.
- Crossover circuitry is hard-wired with surface-only conductors, eliminating deleterious sonic effects of printed-circuit boards.
- Proprietary all-phase crossover topologies
- Careful crossover control of all magnetic field interaction.
- Proprietary magnetics technology increases energy transfer and reduces the noise floor.
- Constrained-mode damping system absorbs cabinet vibrations.

## NEW PM 3.2 FEATURES

- All new, in-house custom designed drivers with updated crossovers to complement.
- A faster, deeper transient response, further enhancing the already legendary listening experience offered by the outgoing PM3
- All internal cabling custom designed by Avalon
- New Dark Polychrome finish available in matt and high-gloss options

# Specifications

Driver Complement	1" Convex Beryllium dome/Neodymium tweeter 3 1/2" cone/high BL Neodymium midrange 2 x 9" Composite/low Q magnetic structure woofers
Sensitivity	90 dB
Impedance	4 Ohms Nominal
Frequency Response	20 Hz to 50 kHz
Recommended Amplifier Power	25 to 400 Watts
Wiring Methods	Two position binding post
Dimensions	46" (125 cm) H, 11" (30 cm) W, 17" (43 cm) D
Weight	105 Pounds (48 kg) each
Finish options	<b>Standard finishes:</b> Birdseye Maple, Satin Dark Polychrome <b>Premium wood finishes:</b> Quilted Cherry, Curly Maple, Figured Walnut.  All above options are available in a Premium Deep Gloss finish.











# Precision Monitor 4

PRECISION MONITOR 4 is a full range reference monitor designed specifically for superlative tonal and spatial accuracy. Recovery of fine low-level detail, maximum resolution, transient accuracy, and exceptional dynamic contrast were our specific design goals. Accurate tracing of all waveform parameters, without exaggeration or artifact is the hallmark of the Precision Monitor 4, a transparent window into the heart of recorded music.

## AVALON PRECISION MONITOR 4 FEATURES

- Proprietary Silent Inert Cabinet material/process
- Meticulous tracking of power response, amplitude response, phase response, and transient response for unparalleled ambience retrieval and natural tonality
- Purely pistonic wavefront generation with smooth open lobing characteristics
- Stored energy elimination (SEE) technology produces clear stable imaging and black backgrounds even under heavy SPL demands
- Entirely resistive and finite loading from 10 Hz to 250 kHz minimising amplifier perturbation effects
- Advanced light weight driver diaphragm materials minimise energy storage and time-domain distortion
- Each driver individually tested and matched for optimum performance
- Smooth, wide polar response for superlative imaging capabilities
- Moderate impedance characteristic allows for ideal interface with any amplifier
- Crossover circuitry is hard-wired with surface-only conductors, eliminating deleterious sonic effects of printed-circuit boards
- Proprietary all-phase crossover topologies
- Careful crossover control of all magnetic field interaction
- Proprietary magnetics technology increases energy transfer and reduces the noise floor
- Constrained-mode damping system absorbs cabinet vibrations.

PM4 internal cabinet construction is uniquely designed with a combination of sealed chambers and multiple labyrinth pathways. Developed over our 30 years of experience into resonance elimination and utilisation, PM4 employs both a multi-layered constrained damping platform for the main baffle, along with carefully tuned cavity resonances for eigenmode reinforcement and control. In simple terms, the cabinet functions like a finely made violin or guitar, stiff and non-resonant at the point of sound propagation, with tuned in-phase overtones.

Each driver was specifically developed or tuned for the PM4 application. The entire system is purely pistonic; there are no driver break-up modes within 70db of the signal. The extremely stiff Nomex/Kevlar woofer diaphragms are driven by an exclusive dual magnetic structure. Energy storage is kept to a minimum, revealing dynamic contrasts without compression. The midrange diaphragm is an eggshell-thin ceramic material, driven by our unique dynamic magnetic structure. The neodymium magnetic structure of the tweeter energizes a diamond diaphragm. Its entirely in-phase output extends beyond 50 kHz with no flexing or bending distortions.

The key to integrating the physical and drive elements resides in the electrical networks. As stated previously, these proprietary high-current circuits are derived directly from Tesseract. Absolute inter-driver phase linearity and low noise floor are maintained regardless of dynamic demand, ensuring image stability and black backgrounds even with the most demanding program material.



# Specifications

Driver Complement	1" Concave Pure Diamond Tweeter 3 1/2" Concave Ceramic Dome Midrange 11" Nomex Kevlar Composite Cone Woofer
Sensitivity	89 dB
Impedance	4 Ohms Nominal
Frequency Response	24 Hz to 100 kHz
Recommended Amplifier Power	25 to 400 Watts
Wiring Methods	Two position binding post
Dimensions	49" (125 cm) H, 12" (30 cm) W, 17" (43 cm) D
Weight	134 Pounds (61 kg) each
Finish options	<b>Standard finishes:</b> Birdseye Maple, Satin Dark Polychrome <b>Premium wood finishes:</b> Quilted Cherry, Curly Maple, Figured Walnut.  All above options are available in a Premium Deep Gloss finish.







# Precision Monitor Series

