

## hm-112 & hm-212 Features

- Neodymium HF compression driver with 4" (100 mm) voice coil and Truextent® beryllium diaphragm for exceptional high frequency clarity and output
- Integrated electro-acoustic system with rack mount V4 Systems Engine that provides specially configured dsp and massive power output for quick setup and zero performance compromises
- Optimized coverage for real world stage monitoring use
- Full network monitoring and control via SystemVUE software.
- Very low-profile and rugged birch ply-hardwood enclosure with 12-layer coating Dura-Coat LX finish provides clear sight lines and years of reliable service

## hm-112 & hm-212 Applications

- Touring sound
- Concert broadcasting
- Theatrical sound reinforcement
- Portable and installed audio-visual systems
- Themed entertainment venues
- Houses of worship



Subject to the same "No Compromises" design philosophy behind our flagship h-Class systems, the new hm monitors leverage VUE's most advanced technologies to deliver exceptional output and definition from a compact and highly durable package.

From their precision transducers with cutting-edge diaphragm and suspension components, to the companion rack-mount V4 Systems Engine, all aspects of the hm monitors work in perfect harmony to deliver unparalleled output and fidelity for the most demanding fold-back applications.

## Cutting Edge Transducers

It all begins at their core, where the hm monitors combine either one (hm-112) or two (hm-212) precision-engineered, 12-inch LF transducers with a horn-loaded compression driver that features VUE's revolutionary Truextent® beryllium diaphragm. Thanks to beryllium's extremely high stiffness-to-mass ratio, this unique compression driver delivers dramatically more HF definition, intelligibility and output than more conventional aluminum or titanium-based designs. Both drivers feature massive voice coils and magnet assemblies designed to minimize power compression while ensuring consistent fidelity and feedback stability right up to maximum output.

## Rugged and Purposeful Enclosure Design

The precision-engineered transducers are housed in a rugged and extremely low-profile enclosure that ensures clear sight lines from

audience (or camera) to performers, while providing a large sweet spot for talent—whether directly over the monitor or down stage.

Durability is ensured thanks to a rugged, 12-step DuraCoat LX finish and a heavily braced, powder coated grill capable of surviving the most dramatic lean-ins, stomps, or occasional "axe" bludgeoning.

## Powerful Amplification and DSP

The hm monitors are a fully integrated electro-acoustic system that includes the companion V4 Systems Engine, a 2-in/4-out rack-mount processor/amplifier that provides two mixes and four discrete channels of amplification for more than enough "oomph" for two hm-212 systems, or up to four hm-112 systems.

When bundled with the hm monitors, the V4 Systems Engine's highly sophisticated digital signal processor is optimized specifically for on-stage environments and the unique transducer and cabinet geometry of each hm model. As a result, users can quickly assemble a perfect artist reference system that delivers absolute fidelity across the stage and zero feedback.

## Networking Capabilities are Standard

The V4 Systems Engine provides networking and remote management capabilities as standard. There's no need for additional cards or retrofitting. Right out of the box, users can easily assemble expanded networks and use the intuitive SystemVUE software (Mac and Windows) for remote monitoring and control of each element or device on that network. And, since VUE's network technology relies on standard IP protocols, setup is a breeze.

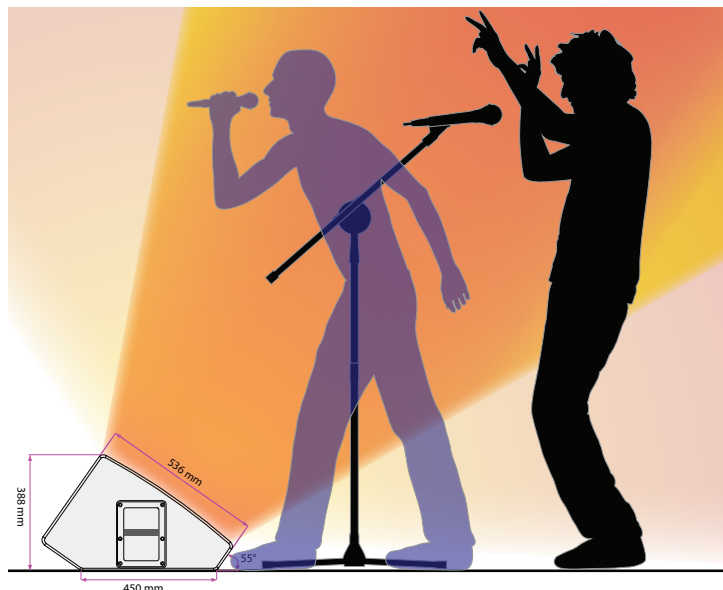
## Road Tested and Stage Ready

The hm monitors are designed as our consummate high definition stage monitor systems. They benefit from Design Chief Michael Adams' more than 30 years of working with world-class artists in demanding live and broadcast applications. Leveraging his extensive real-world experience, Michael has addressed everything from coverage and directivity, to system and floor geometry. The goal? To ensure that the VUE hm-112 and hm-212 deliver unsurpassed consistency, whether directly overhead (hand held), or upstage.

But all that only scratches the surface. Thoughtful cabinet design ensures that the hm monitors offer minimal visual intrusion between audience and performer. Their uniquely low profile ensures that coveted sight lines are preserved for set designers and video producers alike, while also reducing required truck space when it's time to pack up and go.

In addition, the hm monitors offer exceptionally clean and wide dynamic range – allowing monitor engineers to place solos or vocals in the front of the mix, exactly where they belong.

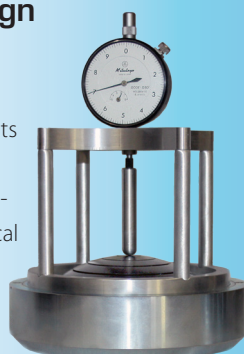
Finally, the hm-112 and hm-212 benefit from sophisticated DSP via the companion V4 Systems Engine. This ensures minimal reflections and optimal tuning to avoid the typical hurdles that plague less sophisticated



monitor systems. Thanks to Michael Adams' real-world perspective, hm monitors arrive from the factory fully ready to rock, with minimal tweaking.

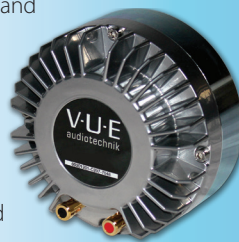
## Cutting-Edge Transducer Design

The hm-112 and hm-212 both employ a unique, VUE-designed compression driver that features a revolutionary Truextent beryllium diaphragm at its core. Beryllium outperforms both aluminum and titanium thanks to an extremely high stiffness-to-mass ratio, which dramatically reduces mechanical deformation (breakup) and shifts resonant frequencies outside the audible range. The net result is a more defined HF at much higher SPLs than more conventional materials. HF performance is further enhanced thanks to a 5-slit phase plug (above) and a powerful, lightweight neodymium magnetic circuit.

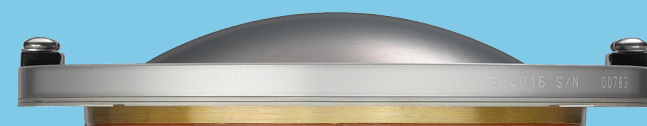


*The distance from the phase plug to the diaphragm is very precisely maintained to ensure maximum HF response.*

The unique compression driver is mated to either one (hm-112) or two (hm-212), LF transducers that were also designed and manufactured by VUE specifically for the hm systems. This precision-engineered 12-inch transducer utilizes a large, 4-inch (100 mm) voice coil to dramatically increase power handling while minimizing power compression losses. An impregnated linen surround, curvilinear cone and



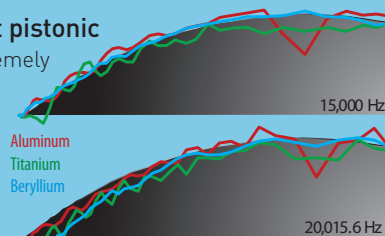
high coercivity ferrite magnet bring exceptional durability and ensure years of reliable service under the most severe conditions.



## The Truextent® Beryllium Advantage

### Beryllium's near-perfect pistonic motion

results from its extremely high stiffness-to-mass ratio, dramatically reducing mechanical deformation (breakup) and shifting resonant frequencies outside the audible range.

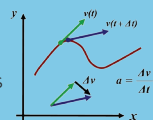


Klippel SCN laser scanner, geometric and vibration scans of compression driver domes

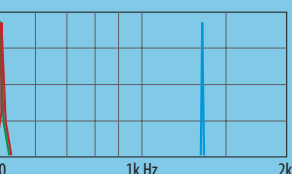
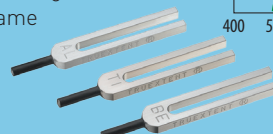
### Lower Mass Equals

**Greater Acceleration** – Beryllium has the lowest density-to-mass ratio of any metal used for compression driver diaphragms.

Acceleration is the rate of change of velocity. Density measures mass per unit volume. A lower overall mass allows for greater acceleration, which increases both efficiency and frequency extension.



**Beryllium resonance is 2.6 times higher than titanium or aluminum** of the same size, as shown by this plot of machined tuning forks of exactly the same dimensions.



Aluminum fork 55.7 g - 510 Hz  
Titanium fork 93.7 g 505 Hz  
Beryllium fork 38.5 g 1340 Hz

# hm-112 & hm-212

## h-Class High Definition Stage Monitor Systems

### V4 Systems Engine

- Massive power: LF 2 x 2,500 W - HF 2 x 350 W rms
- 64-bit digital processing including EQ, time alignment, crossover management, and speaker protection
- Ultra-premium converters provide 118 dB of dynamic range
- LCD display and network computer support for easy user interface
- Maximum input level of +23 dBu for the most demanding applications
- Latency < 1 ms (Typical 640 microseconds)
- 2 Mix - 2x4 configuration in a compact 2U rack-mount chassis

The 2U-sized V4 Systems Engine is a 2-in/4-out configuration providing four discrete channels of amplification with more than enough "oomph" to bi-amp as many as four hm112 enclosures, or two hm-212 enclosures per V4 rack-mount unit.



Inside each V4 chassis are four dedicated amplifiers supplying two channels at 1600 W each for the low frequency, and two channels at 550 W each for the high frequency. And that's clean, pure sine wave power rather than the "peak burst" measurement our competition prefers to use.

In addition to amplification, the V4 Systems Engine also handles all system processing and management functions, including speaker protection as well as system-optimized alignment of EQ, time and crossover functions. Rear panel signal connections include dual XLR and AES/EBU inputs, with a pair of NL4 connectors for loudspeaker outputs.

### SystemVUE Network

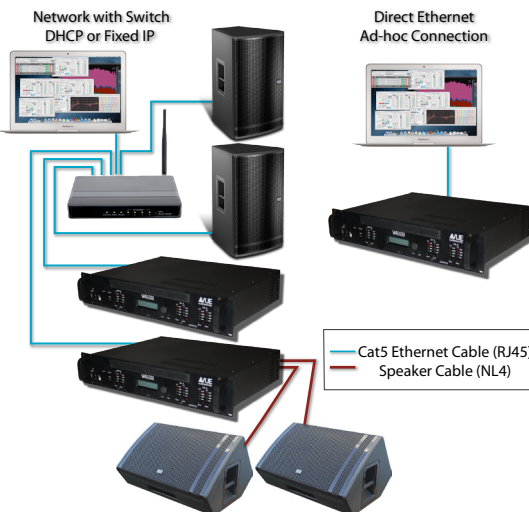
The SystemVUE networking technology enables easy monitoring and control of a single powered VUE system, or entire network of them, through our highly-intuitive SystemVUE software.

The V4 Systems Engine ships with SystemVUE networking capabilities already onboard. There's no need for additional cards or retrofitting. In addition, the V4's powerful DSP is optimized for use with VUE systems, including the hm-Class monitors. hm-Class factory presets ensure synergy at every level. From transducers, amplifiers and DSP, all the way out to the SystemVUE software, everything works in perfect harmony to enable precise control and easy operation.

### Zero Configuration Networking for Easy Setup

To make setup easier, SystemVUE automatically creates a usable TCP/IP based network without requiring manual operator intervention or special configuration servers.

This means that any h-Class model will automatically recognize and connect to virtually any kind of IP configuration including DHCP based networks, a fixed IP network, or even an Ad Hoc network (directly connecting to a computer via Ethernet cable). Whatever the configuration, just plug in and the devices are instantly recognized. It just works.



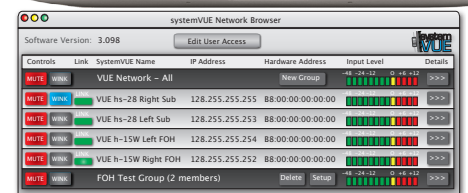
### SystemVUE Software

Think of SystemVUE Software as command central for the SystemVUE network.

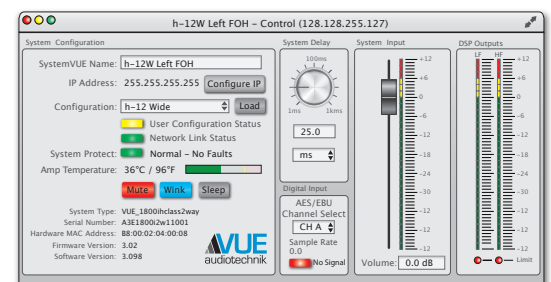
Elegantly simple, and deceptively powerful, SystemVUE software combines system and device-level control and monitoring capabilities with a highly intuitive user interface that's fully compatible with both Macintosh OSX and Windows operating systems.



Most importantly, SystemVUE software was designed with significant input from installers and system integrators. So unlike other applications that were developed from the perspective of the DSP or electronics engineer, SystemVUE software takes a practical, real-world approach and puts the most critical functions right up front and within easy reach.

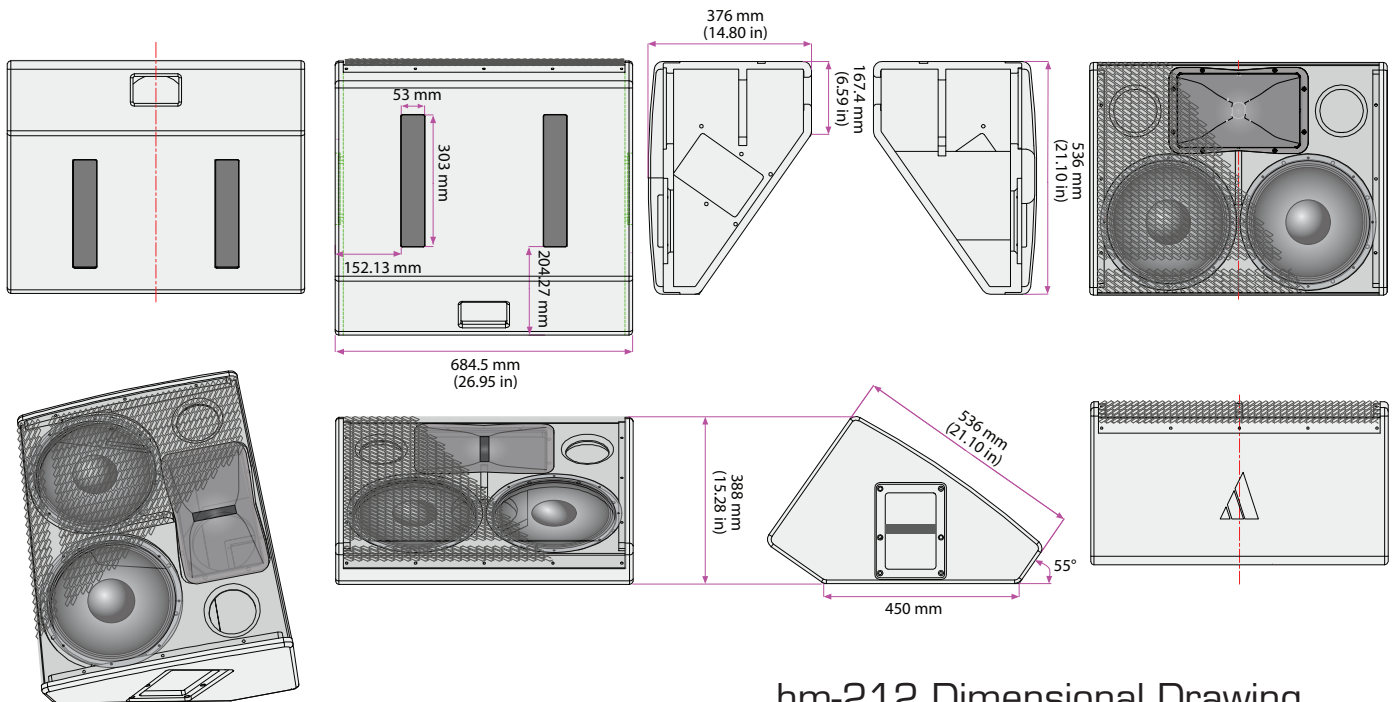


SystemVUE software's browser window shows every VUE device connected to the network

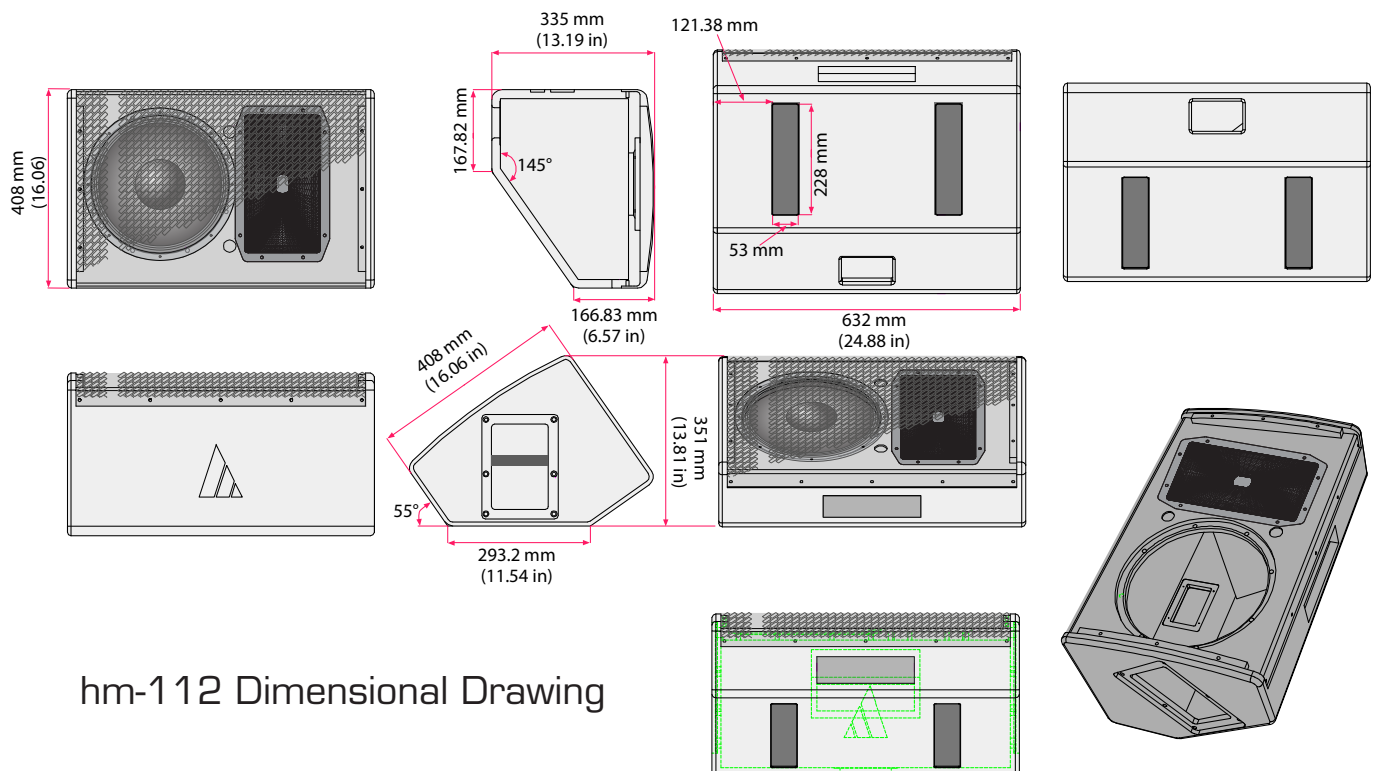


The h-12 control window in the SystemVUE software enables easy setup, optimization and monitoring





hm-212 Dimensional Drawing



hm-112 Dimensional Drawing

# PRELIMINARY SPECIFICATIONS

Model	hm-112	hm-212
Description	Single 12-in	Dual 12-in
Acoustic Data		
Frequency Response $\pm 3\text{dB}$	50 – 21 k Hz	50 – 21 k Hz
Efficiency (1W/1m Equivalent over operating band)	96 dB	99 dB
Max SPL $\uparrow$		
Average (band limited pink noise 6 dB crest factor)	125 dB SPL @ 1m	131 dB SPL @ 1m
Transient Peak (Program Material)	134 dB SPL @ 1m	141 dB SPL @ 1m
Max SPL Long Term		
(AVG SPL @ 1 M before protection band limited pink noise)	119 dB SPL	125 dB SPL
Coverage Horizontal	70 degrees - 6 dB	60 degrees - 6 dB
Coverage Vertical	45 degrees - 6 dB	40 degrees - 6 dB
Amplifier Data (hm + V4)		
Amplifier Power	LF: 830 watts rms (4x hm-112 LF)	LF: 1640 watts rms (2x hm-212 LF)
(Long Term Sine Wave before protection)	HF: 275 watts rms (4x hm-112 HF)	HF: 275 watts rms (2x hm-212 HF)
Amplifier Power	LF: 1,250 watts rms (2x hm-112 LF)	LF: 2,500 watts rms (2x hm-212 LF)
( Per Monitor @ 1% THD)	HF: 350 watts rms (2x hm-112 HF)	HF: 350 watts rms (2x hm-112 HF)
Amplifier Protection	Input limiter, short circuit protection, DC protection of output, under & over voltage protection, intelligent mains fuse protection, power stage overload protection, temperature protection of transformers and heat-sinks	
Operational Voltage	Universal Mains, 85-268V (dual voltage auto selection). UREC™ power supply integrated amplifier modules provide universal mains operation for 120 V and 230 V, eliminating the need for market specific self-powered loudspeakers and related reliability issues.	
THD+N (typical)	< 0,05 % (20 Hz - 20 kHz, 3 dB below rated power)	
DSP	96k Hz sample rate, mixed-mode 64-bit digital processing, 120 dB dynamic range, less than 600 microseconds latency	
Network	Ethernet / IP DHCP (or fixed IP) for remote monitoring and control	
Transducer Data		
LF Driver Description	12", paper cone, cloth surround, 4" (100 mm) voice coil, ferrite, 8 Ohms	Two 12", paper cone, cloth surround, 4" (100 mm) voice coil, ferrite, 8 Ohms
HF Driver Description	4in (100mm) voice coil Neo Truextent® beryllium diaphragm	
Inputs	Female XLR input with male XLR loop output for both analog input and AES EBU digital input (default digital AES channel 1, channel 2 selectable remotely via software). If clock is present system uses AES digital input. System will fall back on analog input if clock is not present.	
Cabinet Material	Multi-ply wood birch hardwood	
Cabinet Surface	Black 12 step Dura-Coat LX coating	
Dimensions (H x W x D)	16.06 x 24.88 x 13.90 in 408 x 632 x 335 mm	21.10 x 26.95 x 14.80 in 536 x 684.5 x 376 mm
Weight	TBD	TBD

<sup>†</sup> Long Term Max SPL is recommended for system design purposes and represents the average peak output before protection and after power compression. In accordance with common industry practice, Peak Data is provided for comparison purposes.

