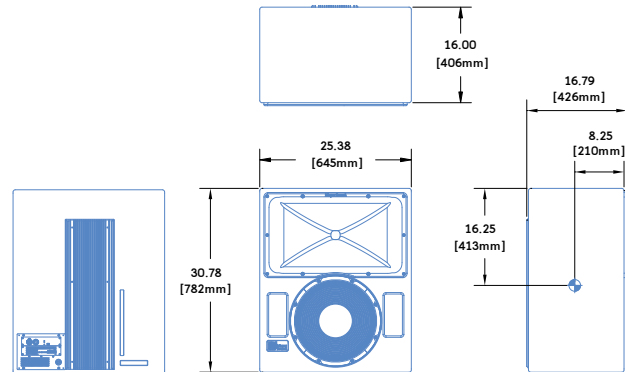


ACHERON® STUDIO : Screen Channel Loudspeaker



| | |
|-------------------|--|
| Dimensions | 25.38" w x 30.78" h x 16.79" d (406 mm x 782 mm x 426 mm) |
| Weight | 113 lbs (51.26 kg) |
| Enclosure | Premium birch plywood |
| Finish | Low gloss, black textured |
| Rigging | Optional version of the Acheron Studio available with side attachment points and MYA-AST mounting yoke |

At the heart of Meyer Sound's EXP line of cinema products are the Acheron™ high-performance screen channel loudspeakers. The Acheron Studio is a compact version of the Acheron 80, making it ideal for small theatres, re-recording stages, and postproduction facilities. Optimized for installation behind perforated screens, the two-way loudspeaker combines the advantages of self-powered technology and innovative horn design to deliver exceptional, precise coverage for the left, center, and right sound channels for cinema. Offering the same 38 Hz to 17 kHz frequency response as the Acheron 80, as well as a generous peak output with very low distortion, the Acheron Studio stands up to the most demanding of digital soundtracks, maintaining a wide dynamic range and full fidelity.

The Acheron Studio uses the same horn technology (patent pending) developed for the Acheron 80.

Designed specifically for cinema use, the horn features a very soft roll-off outside its extremely well behaved 80-degree horizontal by 50-degree vertical coverage pattern. The horn is fixed within the enclosure to ensure an accurate acoustic crossover, phase response, and an incredibly consistent vertical pattern. The 580 Hz crossover point places most of the dialog in the horn, which is ideal for cinema applications.

Designed and manufactured at Meyer Sound's headquarters in Berkeley, California, the Acheron Studio's drivers include one 15-inch low-frequency cone driver and one high-frequency 4-inch diaphragm compression driver. Both drivers yield uncompromising quality and full bandwidth and are powered by sophisticated onboard amplification. The proprietary Meyer Sound power amplifier is a two-channel, class AB/bridged amplifier with complementary MOSFET

output stages that yields a total output of 700 W (1,400 W peak). Built-in signal processing includes an electronic crossover and correction filters — to achieve a flat phase and frequency response — along with driver protection circuitry. The self-powered design not only ensures consistent results but also simplifies installation in both new and existing rooms.

The optional RMS™ remote monitoring system allows comprehensive monitoring of system parameters on a Windows®-based computer.

Constructed of premium birch plywood, the Acheron Studio enclosure is coated with a low-gloss, black-textured finish. An optional version of the loudspeaker is available with side rigging attachment points and the MYA-AST mounting yoke.

FEATURES & BENEFITS

- High peak power output with ultralow distortion
- Exceptional fidelity and extended high-frequency performance
- Constant-Q horn yields uniform response throughout coverage area

- Extraordinarily flat amplitude and phase response for tonal accuracy
- Seamless integration with HMS-10 surround loudspeakers and X-800C subwoofer

APPLICATIONS

- Small theatres
- Custom, private theatres
- Re-recording stages
- Mixing for postproduction facilities

ACHERON STUDIO SPECIFICATIONS

| | | |
|-------------------------------|--|--|
| ACOUSTICAL | | Operating Frequency Range ¹ 37 Hz – 18 kHz Frequency Response ² 38 Hz – 17 kHz ±4 dB Phase Response 700 Hz – 17 kHz ±30° Maximum Peak SPL ³ 134 dB Dynamic Range >110 dB |
| COVERAGE | | 80° horizontal x 50° vertical |
| CROSSOVER ⁴ | | 580 Hz |
| TRANSDUCERS | | Low Frequency 15" low-frequency cone driver Nominal impedance: 2 Ω Voice coil size: 3" Power handling capability: 400 W (AES) ⁵ High Frequency 4" compression driver Nominal impedance: 8 Ω Voice coil size: 4" Diaphragm size: 4" Exit size: 1.5" Power handling capability: 250 W (AES) ⁵ |
| AUDIO INPUT | | Type Differential, electronically balanced Maximum Common Mode Range ±15 V DC, clamped to earth for voltage transient protection Connectors Female XLR input with male XLR loop output Input Impedance 10 kΩ differential between pins 2 and 3 Wiring Pin 1: Chassis/earth through 220 kΩ, 1000 pF, 15 V clamp network to provide virtual ground lift at audio frequencies Pin 2: Signal + Pin 3: Signal – Case: Earth ground and chassis DC Blocking Differential DC blocking up to the maximum common mode voltage CMRR >50 dB, typically 80 dB (50 Hz – 500 Hz) RF Filter Common mode: 425 kHz; Differential mode: 142 kHz TIM Filter Integral to signal processing (>80 kHz) Nominal Input Sensitivity 10 dBV (3.2 V rms, 4.5 V peak) continuous is typically the onset of limiting for noise and music Input Level Audio source must be capable of producing +20 dBV (10 V rms, 14 V peak) into 600 Ω to produce the maximum peak SPL over the operating bandwidth of the loudspeaker |
| AMPLIFIER | | Type Two-channel complementary MOSFET output stages (class AB/bridged) Output Power ⁶ 700 W (1 x 550 W, 1 x 250 W) Total Output 1400 W peak THD, IM, TIM <.02% Load 2 Ω low channel; 8 Ω high channel Cooling Convection |
| AC POWER | | Connector PowerCon® Voltage Selection Automatic, continuous range from 90 V AC to 265 V AC Safety Agency Rated Operating Range 100–240 V AC, 50/60 Hz Turn-on and Turn-off Points 90 V AC on, no turn-off, only fuse-protect above 265 V AC Current Draw: Idle Current 0.340 A rms (115 V AC); 0.227 A rms (230 V AC); 0.387 A rms (100 V AC) Maximum Long-Term Continuous Current (>10 sec) 2.2 A rms (115 V AC); 1.1 A rms (230 V AC); 2.5 A rms (100 V AC) Burst Current (<1 sec) ⁷ 2.9 A rms (115 V AC); 1.5 A rms (230 V AC); 3.3 A rms (100 V AC) Ultimate Short-Term Peak Current Draw 7.4 A peak (115 V AC); 3.7 A peak (230 V AC); 8.5 A peak (100 V AC) Inrush Current 11 A peak (115 V AC); 18 A peak (230 V AC); 13 A peak (100 V AC) |
| RMS NETWORK (OPTIONAL) | | Equipped with two-conductor twisted-pair network, reporting all operating parameters of amplifiers to system operator's host computer |

NOTES:

1. Recommended maximum operating frequency range. Response depends on loading conditions and room acoustics.
2. Free field measured with 1/3-octave frequency resolution at 4 meters.
3. Measured with music, free field, referred to 1 meter.
4. At this frequency, the transducers produce equal sound pressure levels.
5. Power handling is measured under AES standard conditions: transducers driven continuously for two hours with a band limited noise signal having a 6 dB peak-average ratio.
6. Amplifier wattage rating based on the maximum unclipped burst sine-wave rms voltage the amplifier will produce into the nominal load impedance: low-frequency channel, 33 V rms (46 V peak) into 2 ohms; high-frequency channel, 33 V rms (46 V peak) into 8 ohms.
7. AC power cabling must be of sufficient gauge so that under burst current rms conditions, cable transmission losses do not cause the voltage to drop below the specified operating range at the loudspeaker.



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ARCHITECT SPECIFICATIONS

The loudspeaker shall be a self-powered, full-range system; the transducers shall consist of a 15-inch diameter cone driver and a 4-inch diaphragm compression driver on an 80-degree horizontal by 50-degree vertical horn. The loudspeaker system shall incorporate internal processing electronics and a two-channel amplifier, one channel for each driver. Processing functions shall include frequency and phase correction, signal division, and protection for the low- and high-frequency sections. The crossover point shall be 580 Hz.

Each amplifier channel shall be class AB/bridged with complementary MOSFET output stages. Burst capability for the low-frequency channel shall be 550 watts total with a nominal 2-ohm resistive load and 250 watts for the high-frequency channel with a nominal 8-ohm resistive load. Total burst power shall be 700 watts (1400 watts peak). Distortion (THD, IM, TIM) shall not exceed 0.02%. Performance specifications for a typical

production unit shall be as follows, measured at 1/3-octave resolution: operating frequency range shall be 37 Hz to 18 kHz; phase response shall be ±30° from 700 Hz to 17 kHz; maximum peak SPL shall be 134 dB at 1 meter, free field.

The audio input shall be electronically balanced with a 10 kΩ impedance and accept a nominal 10 dBV (3.2 V rms, 4.5 V peak) signal. Connector shall be XLR (A-3) type female with parallel looping male. RF filtering shall be provided, and CMRR shall be greater than 80 dB from 50 Hz to 500 Hz.

The internal power supply shall perform automatic voltage selection, EMI filtering, soft current turn-on, and surge suppression. Power requirements shall be nominal 100, 110, or 230 V AC line current at 50 or 60 Hz. UL and CE operating voltage range shall be 100 to 240 V AC. Maximum peak current draw during burst shall be 2.9 A at 115 V AC, 1.5 A at 230 V AC

and 3.3 A at 100 V AC. Current inrush during soft turn-on shall not exceed 11 A at 115 V AC, 18 A at 230 V AC, and 13 A at 100 V AC. AC power connector shall be PowerCon.

The loudspeaker system shall provide facilities for installing Meyer Sound's optional RMS remote monitoring system.

All loudspeaker components shall be mounted in an acoustically vented enclosure constructed of premium birch plywood with a low-gloss, black-textured finish. Dimensions shall be 25.38" wide x 30.78" high x 16.79" deep (787 mm x 919 mm x 521 mm). Weight shall be 113 lbs (51.26 kg). An optional version of the loudspeaker shall include side rigging attachment points and the MYA-AST mounting yoke.

The loudspeaker shall be the Meyer Sound Acheron Studio.