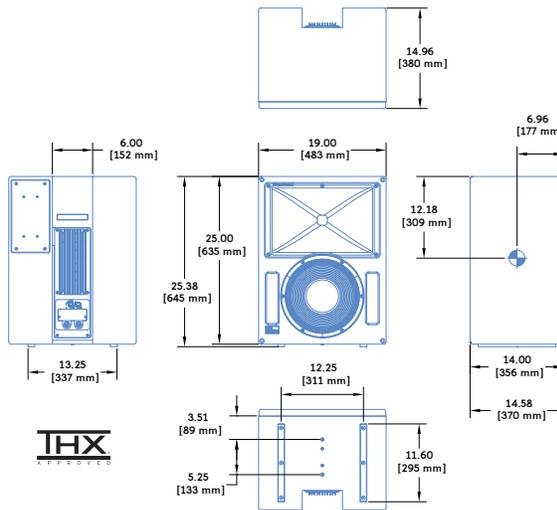


ACHERON® DESIGNER : Screen Channel Loudspeaker



Shown without optional grille frame



- Dimensions** 19.00" w x 25.38" h x 14.58" d (483 mm x 645 mm x 370 mm) without optional grille frame
- Weight** 76 lbs (34.5 kg) without optional grille frame
- Enclosure** Premium birch plywood
- Finish** Low gloss, black textured
- Protective Grille** Attachment points on cabinet front corners for optional grille frame with black cloth
- Rigging** Two threaded M6 attachment points on cabinet bottom for optional MYA-DES cradle-style yoke

At the heart of Meyer Sound's EXP line of cinema products are the Acheron® high-performance screen channel loudspeakers. The Acheron Designer is the most compact of the Acheron models, making it an excellent choice for sound design suites, screening rooms, private theatres, and small commercial theatres. Optimized for installation behind perforated screens, the Acheron Designer combines the advantages of self-powered technology and innovative horn design to deliver exceptional, precise coverage for the left, right, and center sound channels for cinema.

The Acheron Designer uses the same patent-pending horn technology and high-frequency compression driver as the other Acheron models, delivering the same 38 Hz to 17 kHz frequency response. This consistency of fidelity between Acheron models ensures that soundtracks monitored with the Acheron Designer translate accurately when played back in larger rooms with the Acheron 100, Acheron 80, Acheron Studio, or other calibrated cinema system.

Designed specifically for cinema, the Acheron horn features a very soft roll-off beyond its 80-degree horizontal by 50-degree vertical coverage pattern. The extremely well-behaved horn ensures an accurate acoustic crossover and consistent vertical coverage pattern through the critical crossover range between the low- and high-frequency drivers. The optimized 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 Designer's drivers include one 12-inch low-frequency cone driver, housed in an optimally tuned, ported enclosure, and one high-frequency 4-inch diaphragm compression driver. The drivers yield uncompromising quality and are powered by sophisticated onboard amplification. The self-powered design ensures consistent results and simplifies installations in both new and existing rooms.

A proprietary two-channel, Class-D amplifier powers each driver channel independently. Onboard processing includes driver protection circuitry, an electronic crossover, and correction filters, ensuring flat frequency and phase responses. The rear-mounted, recessed heat sink yields efficient convection cooling, and allows the unit to be placed flat against walls, when necessary.

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

The Acheron Designer enclosure is constructed of premium birch plywood and coated with a low-gloss, black-textured finish. The cabinet is fitted with two attachment points on the bottom for the optional MYA-DES cradle-style yoke, allowing the unit to be suspended from a single hanging point. An optional, black cloth grille frame is available for installations where the Acheron Designer is not placed behind a screen.

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

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

## ACHERON DESIGNER SPECIFICATIONS

<b>ACOUSTICAL</b>	<b>Operating Frequency Range</b> <sup>1</sup> 37 Hz – 18 kHz <b>Frequency Response</b> <sup>2</sup> 38 Hz – 17 kHz ±4 dB <b>Phase Response</b> 230 Hz – 17 kHz ±30° <b>Maximum Peak SPL</b> <sup>3</sup> 130 dB <b>Dynamic Range</b> >110 dB
<b>COVERAGE</b>	80° horizontal x 50° vertical
<b>CROSSOVER</b> <sup>4</sup>	680 Hz
<b>TRANSDUCERS</b>	<b>Low Frequency</b> 12" low-frequency cone driver Nominal impedance: 2 Ω Voice coil size: 4" <b>High Frequency</b> 4" compression driver Nominal impedance: 8 Ω Voice coil size: 4" Diaphragm size: 4" Exit size: 1.5"
<b>AUDIO INPUT</b>	<b>Type</b> Differential, electronically balanced <b>Maximum Common Mode Range</b> ±5 V DC, clamped to earth for voltage transient protection <b>Connectors</b> Female XLR input with male XLR loop output <b>Input Impedance</b> 10 kΩ differential between pins 2 and 3 <b>Wiring</b> Pin 1: Chassis/earth through 1 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 <b>DC Blocking</b> Differential DC blocking up to the maximum common mode voltage <b>CMRR</b> >50 dB, typically 80 dB (50 Hz – 500 Hz) <b>RF Filter</b> Common mode: 425 kHz; Differential mode: 142 kHz <b>TIM Filter</b> Integral to signal processing (<80 kHz) <b>Nominal Input Sensitivity</b> 10 dBV (3.2 V rms, 4.5 V peak) continuous is typically the onset of limiting for noise and music <b>Input Level</b> 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
<b>AMPLIFIER</b>	<b>Type</b> Two-channel, Class-D <b>Output Power</b> <sup>5</sup> 700 W (1 x 550 W, 1 x 250 W) <b>Total Output</b> <sup>6</sup> 1400 W peak <b>THD, IM, TIM</b> <.02% <b>Load</b> 2 Ω low channel; 8 Ω high channel <b>Cooling</b> Convection, with recessed heat sink
<b>AC POWER</b>	<b>Connector</b> PowerCon® loop output <b>Voltage Selection</b> Automatic, continuous range from 90 V AC to 265 V AC <b>Safety Agency Rated Operating Range</b> 100–240 V AC, 50/60 Hz <b>Turn-on and Turn-off Points</b> 90 V AC on, no turn-off, only fuse-protect above 265 V AC <b>Current Draw: Idle Current</b> 0.23 A rms (115 V AC); 0.19 A rms (230 V AC); 0.24 A rms (100 V AC) <b>Maximum Long-Term Continuous Current (&gt;10 sec)</b> 1.58 A rms (115 V AC); 0.83 A rms (230 V AC); 1.78 A rms (100 V AC) <b>Burst Current (&lt;1 sec)</b> <sup>7</sup> 3.1 A rms (115 V AC); 1.4 A rms (230 V AC); 3.6 A rms (100 V AC) <b>Ultimate Short-Term Peak Current Draw</b> 12.0 A peak (115 V AC); 8.0 A peak (230 V AC); 12.4 A peak (100 V AC) <b>Inrush Current</b> 25 A peak (115 V AC); 54 A peak (230 V AC); 20 A peak (100 V AC)
<b>RMS NETWORK (OPTIONAL)</b>	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. 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 into 2 ohms; high-frequency channel, 33 V rms into 8 ohms.
6. Peak power output based on the maximum unclipped peak voltage the amplifier will produce into the nominal load impedance: low-frequency channel, 46 V peak into 2 ohms; high-frequency channel, 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.



Acheron Designer –  
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## ARCHITECT SPECIFICATIONS

The loudspeaker shall be a self-powered, full-range system; the transducers shall consist of a 12-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 680 Hz.

Each amplifier channel shall be Class-D. 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 percent. 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 degrees from 230 Hz to 17 kHz; maximum peak SPL shall be 130 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. Current draw during burst (<1 sec) shall be 3.1 A at 115 V AC, 1.4 A at 230 V AC and 3.6 A at 100 V AC. Ultimate short-term peak current draw shall be 12.0 A at 115 V AC, 54 A at 230 V AC, and 12.4 A at 100 V AC.

The AC power connector shall be a PowerCon locking connector with loop output.

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. An optional grille frame with protective, black cloth shall be available. Dimensions shall be 19.00 inches wide by 25.38 inches high by 14.58 inches deep (483 mm x 645 mm x 370 mm) without the optional grille frame. Weight shall be 76 lbs (34.5 kg) with the optional grille frame. The cabinet bottom shall include protective, plastic skids, as well as two M6 attachment points for the optional MYA-DES cradle-style yoke.

The loudspeaker shall be the Meyer Sound Acheron Designer.