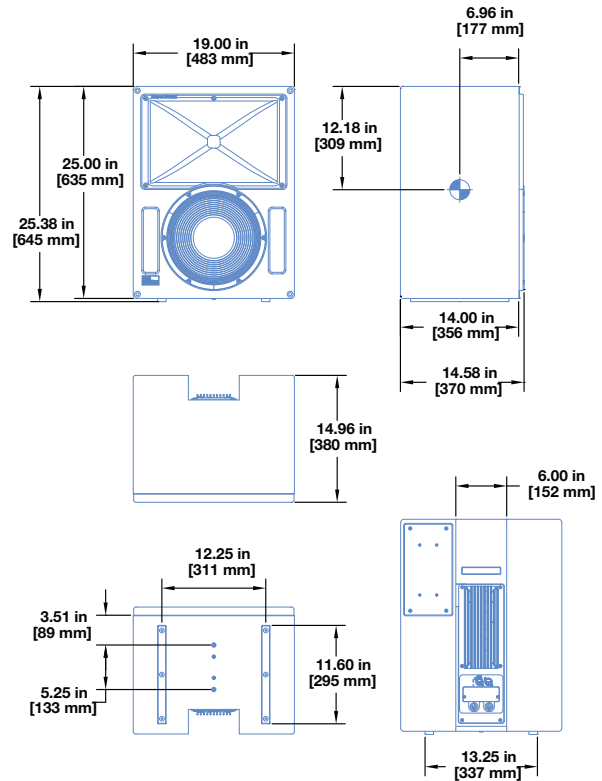


# Acheron Designer Screen Channel Loudspeaker



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 theaters, and small commercial theaters. 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 patented 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 systems.

Designed specifically for cinema, the Acheron horn features a very soft roll-off beyond its 80° horizontal by 50° 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 loudspeaker parameters from a Mac® or Windows®-based computer running Compass® Control Software.

The Acheron Designer enclosure is constructed of premium multi-ply birch and coated with a slightly textured black 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 AND BENEFITS

---

- High peak power output with ultra-low distortion
- Exceptional fidelity and extended high-frequency performance
- Uniform response throughout coverage area due to the Constant-Q horn
- Extraordinarily flat amplitude and phase response for tonal accuracy
- Seamless integration with HMS-10 surround loudspeakers and the X-800C subwoofer

## APPLICATIONS

---

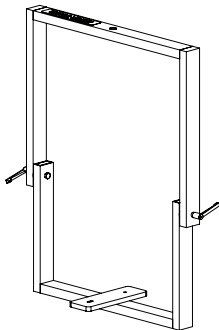
- Sound design suites
- Small theaters
- Custom, private theaters
- Re-recording stages
- Mixing for postproduction facilities

## ACCESSORIES AND ASSOCIATED PRODUCTS

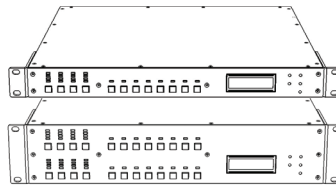
---

**MYA-DES Mounting Yoke:** Cradle-style mounting yoke that suspends a single Acheron Designer loudspeaker and supports a wide range of horizontal and vertical adjustment.

**Galileo GALAXY Network Platform:** The Galileo GALAXY Network Platform provides state-of-the-art audio control technology for loudspeaker systems with multiple zones. With immaculate sonic performance, it provides a powerful tool set for corrective room equalization and creative fine-tuning for a full range of applications.



**MYA-DES Mounting Yoke**



**GALAXY Network Platform**

## SPECIFICATIONS

ACOUSTICAL <sup>1</sup>	
Operating Frequency Range <sup>2</sup>	37 Hz – 18 kHz
Frequency Response <sup>3</sup>	38 Hz – 17 kHz $\pm$ 4 dB
Phase Response	230 Hz – 17 kHz $\pm$ 30°
Linear Peak SPL <sup>4</sup>	<b>128 dB with 18 dB crest factor (M-noise)</b> , 125.5 dB (Pink noise), 129 dB (B-noise)
COVERAGE	
Horizontal Coverage	80°
Vertical Coverage	50°
TRANSDUCERS	
Low Frequency	12-inch cone driver; 2 $\Omega$ nominal impedance
High Frequency	4-inch diaphragm compression driver; 8 $\Omega$ nominal impedance
AUDIO INPUT	
Type	Differential, electronically balanced
Maximum Common Mode Range	$\pm$ 5 V DC, clamped to earth for voltage transient protection
Connectors	3-pin XLR female input with male loop output
Input Impedance	10 k $\Omega$ differential between pins 2 and 3
Wiring	Pin 1: Chassis/earth through 1 k $\Omega$ , 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
Nominal Input Sensitivity	10 dBV (3.2 V rms) continuous is typically the onset of limiting for noise and music
Input Level	Audio source must be capable of producing of +20 dBV (10 V rms) into 600 $\Omega$ to produce the maximum peak SPL over the operating bandwidth of the loudspeaker.
AMPLIFIER	
Type	Two channel, Class-D
Total Output Power <sup>5</sup>	1400 W peak
THD, IM, TIM	< 0.02%
Cooling	Convection, with recessed heat sink
AC POWER	
Connector	powerCON 20 input with loop output
Automatic Voltage Selection	90–265 V AC
Safety Rated Voltage Range	100–240 V AC, 50–60 Hz
Turn-on and Turn-off Points	90 V AC turn-on, no turn-off; internal fuse-protection above 265 V AC
CURRENT DRAW	
Idle Current	0.23 A rms (115 V AC); 0.19 A rms (230 V AC); 0.24 A rms (100 V AC)
Maximum Long-Term Continuous Current (>10 sec)	1.58 A rms (115 V AC); 0.83 A rms (230 V AC); 1.78 A rms (100 V AC)
Burst Current (<1 sec) <sup>6</sup>	3.1 A rms (115 V AC); 1.4 A rms (230 V AC); 3.6 A rms (100 V AC)
Maximum Instantaneous Peak Current	12.0 A peak (115 V AC); 8.0 A peak (230 V AC); 12.4 A peak (100 V AC)
Inrush Current	25 A peak (115 V AC); 54 A peak (230 V AC); 20 A peak (100 V AC)
RMS NETWORK (OPTIONAL)	
	Two-conductor twisted-pair network that reports all operating parameters of amplifiers to system operator's host computer.

## SPECIFICATIONS, CONT'D.

PHYSICAL	
Dimensions	W: 19.00 in (483 mm) x H: 25.38 in (645 mm) x D: 14.96 in (380 mm)
Weight	76 lb (34.5 kg)
Enclosure	Premium multi-ply birch with slightly textured black finish
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

## NOTES

- Loudspeaker system predictions for coverage and SPL are available in Meyer Sound's MAPP System Design Tool.
- Recommended maximum operating frequency range. Response depends on loading conditions and room acoustics.
- Free-field, measured with 1/3 octave frequency resolution at 4 m.
- Linear Peak SPL** is measured in free-field at 4 m referred to 1 m. Loudspeaker SPL compression measured with M-noise at the onset of limiting, 2-hour duration, and 50 °C ambient temperature is < 2 dB.  
**M-noise** is a full bandwidth (10 Hz–22.5 kHz) test signal developed by Meyer Sound to better measure the loudspeaker's music performance. It has a constant instantaneous peak level in octave bands, a crest factor that increases with frequency, and a full bandwidth Peak to RMS ratio of 18 dB.  
**Pinknoise** is a full bandwidth test signal with Peak to RMS ratio of 12.5 dB.  
**B-noise** is a Meyer Sound test signal used to ensure measurements reflect system behavior when reproducing the most common input spectrum, and to verify there is still headroom over pink noise.
- Peak power based on the maximum unclipped peak voltage the amplifier will produce into the nominal load impedance.
- AC power cabling must be of sufficient gauge so that under burst current rms conditions, cable transmission losses do not cause the loudspeaker's voltage to drop below the specified operating range.

## ARCHITECTURAL 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° horizontal by 50° 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.

Each amplifier channel shall be Class-D. Peak power shall be 1400 W. 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 230 Hz to 17 kHz  $\pm 30^\circ$ ; linear peak SPL shall be 128 dB with 18 dB crest factor, measured with M-noise, free-field at 4 meters and referred to 1 meter.

The audio input shall be electronically balanced with a 10 k $\Omega$  impedance and accept a nominal 10 dBV (3.2 V rms) signal. Connector shall be 3-pin XLR female with parallel looping male.

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. Maximum instantaneous 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 multi-ply birch plywood with a slightly textured black finish. An optional grille frame with protective, black cloth shall be available. Dimensions shall be W: 19.00 in (483 mm) x H: 25.38 in (645 mm) x D: 14.96 in (380 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.