

# SCREEN CHANNEL LOUDSPEAKERS



Acheron Designer

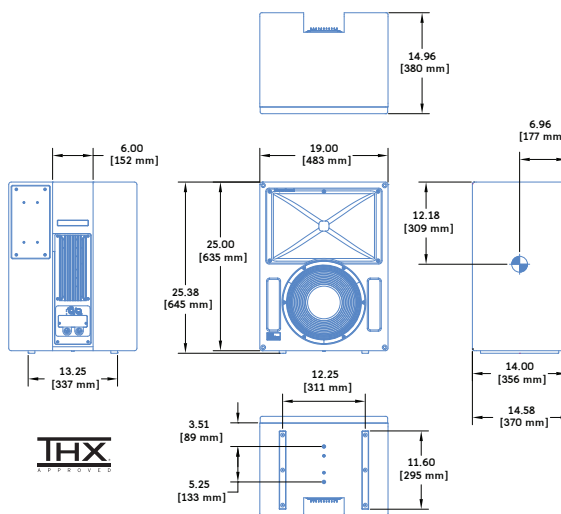
Acheron Studio

Acheron System

# ACHERON® DESIGNER : Screen Channel Loudspeaker



*Shown without optional grille frame*



<b>Dimensions</b>	19.00" w x 25.38" h x 14.58" d (483 mm x 645 mm x 370 mm) without optional grille frame
<b>Weight</b>	76 lbs (34.5 kg) without optional grille frame
<b>Enclosure</b>	Premium birch plywood
<b>Finish</b>	Low gloss, black textured
<b>Protective Grille</b>	Attachment points on cabinet front corners for optional grille frame with black cloth
<b>Rigging</b>	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

ACOUSTICAL		Operating Frequency Range <sup>1</sup> 37 Hz – 18 kHz Frequency Response <sup>2</sup> 38 Hz – 17 kHz ±4 dB Phase Response 230 Hz – 17 kHz ±30° Maximum Peak SPL <sup>3</sup> 130 dB Dynamic Range >110 dB
COVERAGE		80° horizontal x 50° vertical
CROSSOVER <sup>4</sup>		680 Hz
TRANSDUCERS		Low Frequency 12" low-frequency cone driver Nominal impedance: 2 Ω Voice coil size: 4" High Frequency 4" compression driver Nominal impedance: 8 Ω Voice coil size: 4" Diaphragm size: 4" Exit size: 1.5"
AUDIO INPUT		Type Differential, electronically balanced Maximum Common Mode Range ±5 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 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 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, Class-D Output Power <sup>5</sup> 700 W (1 x 550 W, 1 x 250 W) Total Output <sup>6</sup> 1400 W peak THD, IM, TIM <.02% Load 2 Ω low channel; 8 Ω high channel Cooling Convection, with recessed heat sink
AC POWER		Connector PowerCon® loop output 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 0.23 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>7</sup> 3.1 A rms (115 V AC); 1.4 A rms (230 V AC); 3.6 A rms (100 V AC) Ultimate Short-Term Peak Current Draw 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)		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.



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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.

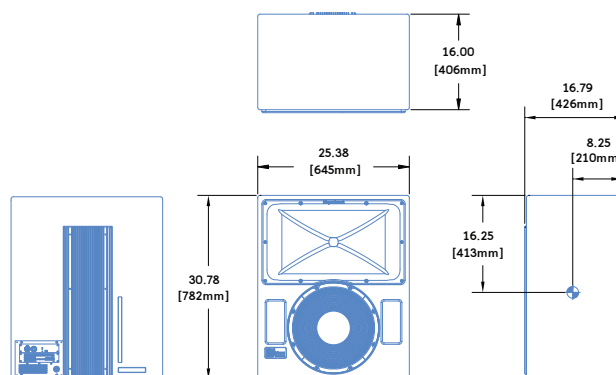
The AC power connector shall be a PowerCon locking connector with loop output.

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.

# ACHERON® STUDIO : Screen Channel Loudspeaker



<b>Dimensions</b>	25.38" w x 30.78" h x 16.79" d (406 mm x 782 mm x 426 mm)
<b>Weight</b>	113 lbs (51.26 kg)
<b>Enclosure</b>	Premium birch plywood
<b>Finish</b>	Low gloss, black textured
<b>Rigging</b>	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 <sup>1</sup> Frequency Response <sup>2</sup> Phase Response Maximum Peak SPL <sup>3</sup> Dynamic Range	37 Hz – 18 kHz 38 Hz – 17 kHz ±4 dB 700 Hz – 17 kHz ±30° 134 dB >110 dB
COVERAGE			80° horizontal x 50° vertical
CROSSOVER <sup>4</sup>			580 Hz
TRANSDUCERS		Low Frequency  High Frequency	15" low-frequency cone driver Nominal impedance: 2 Ω Voice coil size: 3" Power handling capability: 400 W (AES) <sup>5</sup>  4" compression driver Nominal impedance: 8 Ω Voice coil size: 4" Diaphragm size: 4" Exit size: 1.5" Power handling capability: 250 W (AES) <sup>5</sup>
AUDIO INPUT		Type Maximum Common Mode Range Connectors Input Impedance Wiring  DC Blocking CMRR RF Filter TIM Filter Nominal Input Sensitivity  Input Level	Differential, electronically balanced ±15 V DC, clamped to earth for voltage transient protection Female XLR input with male XLR loop output 10 kΩ differential between pins 2 and 3 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 Differential DC blocking up to the maximum common mode voltage >50 dB, typically 80 dB (50 Hz – 500 Hz) Common mode: 425 kHz; Differential mode: 142 kHz Integral to signal processing (<80 kHz) 10 dBV (3.2 V rms, 4.5 V peak) continuous is typically the onset of limiting for noise and music 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  Output Power <sup>6</sup> Total Output THD, IM, TIM Load Cooling	Two-channel complementary MOSFET output stages (class AB/bridged) 700 W (1 x 550 W, 1 x 250 W) 1400 W peak <.02% 2 Ω low channel; 8 Ω high channel Convection
AC POWER		Connector Voltage Selection Safety Agency Rated Operating Range Turn-on and Turn-off Points Current Draw: Idle Current Maximum Long-Term Continuous Current (>10 sec) Burst Current (<1 sec) <sup>7</sup> Ultimate Short-Term Peak Current Draw Inrush Current	PowerCon® Automatic, continuous range from 90 V AC to 265 V AC 100–240 V AC, 50/60 Hz 90 V AC on, no turn-off, only fuse-protect above 265 V AC 0.340 A rms (115 V AC); 0.227 A rms (230 V AC); 0.387 A rms (100 V AC) 2.2 A rms (115 V AC); 1.1 A rms (230 V AC); 2.5 A rms (100 V AC) 2.9 A rms (115 V AC); 1.5 A rms (230 V AC); 3.3 A rms (100 V AC) 7.4 A peak (115 V AC); 3.7 A peak (230 V AC); 8.5 A peak (100 V AC) 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 kOhm 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.

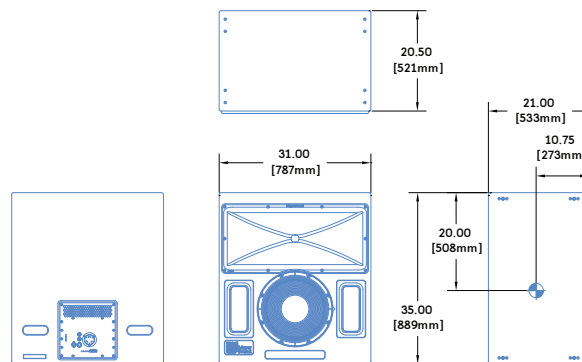
The loudspeaker shall be the Meyer Sound Acheron Studio.



# ACHERON® : Screen Channel Loudspeaker System



Acheron 100



<b>Dimensions</b>	31.00" w x 35.00" h x 20.50" d (787 mm x 889 mm x 521 mm)
<b>Weight</b>	173 lbs (78.47 kg)
<b>Enclosure</b>	Premium birch plywood
<b>Finish</b>	Low gloss, black textured
<b>Mounting</b>	3/8" threaded points on side corners for optional bracket adapters, which allow the Acheron to be mounted to floors with uptilt or downtilt, as well as on top of the Acheron LF (also with uptilt or downtilt)

THX

At the heart of Meyer Sound's EXP line of cinema products is the Acheron high-performance screen channel loudspeaker. 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, right, and center sound channels for cinema.

The Acheron loudspeaker is available in two full-range models: the Acheron 100, with a 100-degree horizontal by 50-degree vertical horn, which is ideal for wide theatres; and the Acheron 80, with an 80-degree horizontal by 50-degree vertical horn, which is suitable for more narrow theatres and re-recording stages.

The Acheron horn (patent pending) was specifically designed for cinema use and features a very soft roll-off outside the extremely well behaved coverage angle. The horn is fixed within the enclosure to ensure an accurate acoustic crossover, phase response, and an incredibly

consistent vertical pattern between the low and high frequencies. The Acheron's 580 Hz crossover point places most of the dialog in the horn, which is ideal for cinema applications.

Boasting a frequency response of 38 Hz to 17 kHz at  $\pm 4$  dB, as well as a generous peak output of 139 dB with very low distortion, the Acheron stands up to the most demanding of digital soundtracks, maintaining a wide dynamic range and full fidelity. Designed and manufactured at Meyer Sound's headquarters in Berkeley, California, the Acheron's drivers include one 15-inch low-frequency neodymium magnet cone driver and one high-frequency 4-inch diaphragm compression driver. The drivers yield uncompromising quality and full bandwidth, making the Acheron suitable for small and medium theatres, re-recording stages, and production and postproduction facilities.

The Acheron's sophisticated onboard amplification produces consistent and predictable results

in any system design. The proprietary Meyer Sound power amplifier is a two-channel, class AB/H amplifier with complementary MOSFET output stages that yields a total output of 1685 W (3370 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.

Strategically placed 3/8-inch threaded points on the side corners of the Acheron cabinet allow the unit to be fixed to floors with uptilt or downtilt using optional mounting brackets. The Acheron can also be mounted on top of the Acheron LF loudspeaker, also with uptilt or downtilt, using optional stacking brackets.

## FEATURES & BENEFITS

- Exceptional fidelity and extended high-frequency performance
- Constant-Q horn yields uniform response throughout the coverage area
- Extraordinarily flat amplitude and phase response for tonal accuracy

- Wide horn coverage available for larger, wider rooms with the Acheron 100
- Narrow, focused coverage available for smaller rooms with the Acheron 80
- Seamless integration with the Acheron LF loudspeaker and HMS-10 surround loudspeaker

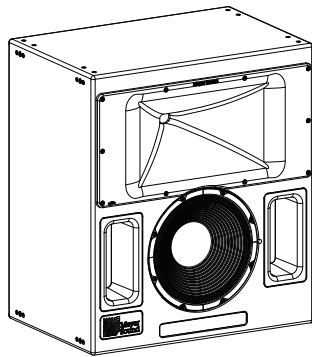
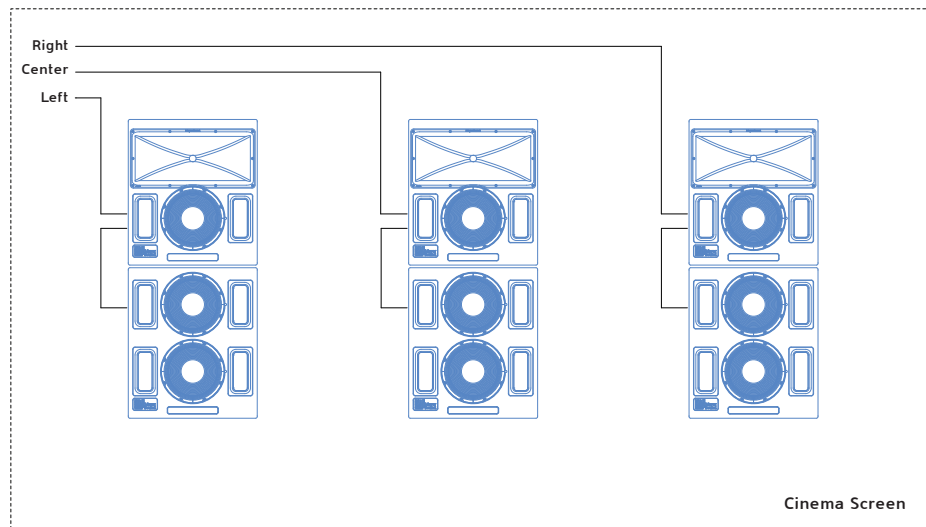
## APPLICATIONS

- Small to medium-sized theatres
- Larger theatres with use of Acheron LF
- Re-recording stages
- Production and postproduction studios

## ACHERON LCR SYSTEM WITH ACHERON LF

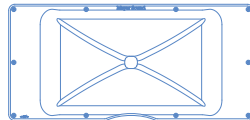
To meet the SPL requirements for large rooms, the Acheron 80 and Acheron 100 can be daisy-chained with the Acheron LF loudspeaker, which has been carefully designed so its frequency and phase responses compliment the Acheron.

The Acheron LF has the same low end frequency response as the Acheron (38 Hz) and rolls off at 320 Hz to avoid any interference in the crossover region of the Acheron. This coupling is optimized to allow a single parametric filter to achieve a flat frequency response with approximately 10 dB more of headroom in the low frequencies (depending on the room acoustics and loading conditions).

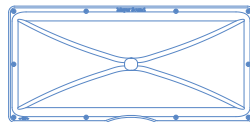


Acheron 80

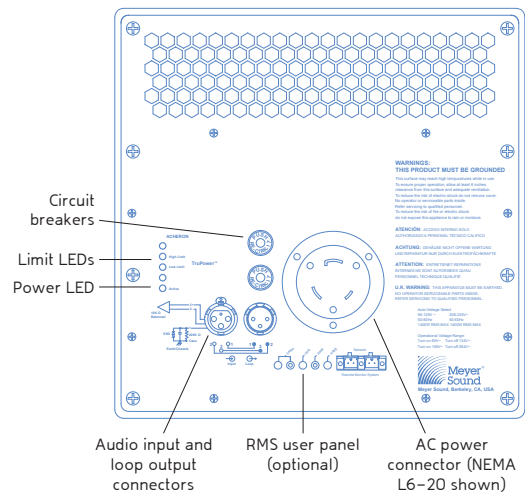
**Acheron 80 Horn**  
80-degree horizontal by  
50-degree vertical coverage



**Acheron 100 Horn**  
100-degree horizontal by  
50-degree vertical coverage



### Acheron Rear Panel



## ACHERON 80/100 ARCHITECT SPECIFICATIONS

The loudspeaker shall be a self-powered, full-range system; the transducers shall consist of a 15-inch diameter cone driver and 4-inch diaphragm compression driver. Two horn options shall be available: 80-degree horizontal by 50-degree vertical, and 100-degree horizontal by 50-degree vertical. 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/H with complementary MOSFET output stages. Burst capability for the low-frequency channel shall be 1125 watts total with a nominal 4-ohm resistive load and 560 watts for the high-frequency channel with a nominal 8-ohm resistive load. Total burst power shall be 1685 watts (3370 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  $\pm 30^\circ$  from 700 Hz to 17 kHz; maximum peak SPL shall be 139 dB at 1 meter, free field.

The audio input shall be electronically balanced with a 10 kOhm impedance and accept a nominal 10 dBV (3.2 V rms, 4.5 V peak) signal. Connectors shall be XLR (A-3) type male and female. RF filtering shall be provided, and CMRR shall be greater than 50 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 V, 110 V, or 230 V AC line at 50 or 60 Hz. UL and CE operating voltage ranges shall be 100 to 240 V AC. Maximum peak current draw during burst shall be 6.4 A at 115 V AC, 3.2 A at 230 V AC, and 7.2 A at 100 V AC. Current inrush during soft turn-on shall not

exceed 7 A at 115 V AC, 7 A at 230 V AC, and 10 A at 100 V AC. AC power connectors shall be locking NEMA L6-20 male inlet or IEC 309 male inlet.

The loudspeaker system shall include support for the optional RMS remote monitoring system module.

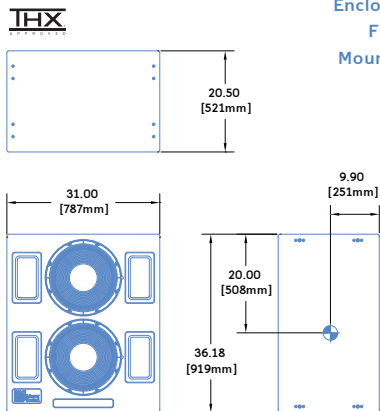
All loudspeaker components shall be mounted in an acoustically vented enclosure constructed of premium birch plywood with a black textured finish. Dimensions shall be 31.00" wide x 35.00" high x 20.50" deep (787 mm x 889 mm x 521 mm). Weight shall be 173 lbs (78.47 kg). Optional bracket adapters shall allow the Acheron to be fixed to floors, as well as on top of the Acheron LF, with uptilt or downtilt.

The loudspeaker shall be the Meyer Sound Acheron.

# ACHERON LF LOUDSPEAKER



Acheron LF



Dimensions	31.00" w x 36.18" h x 20.50" d (787 mm x 919 mm x 521 mm)
Weight	185 lbs (83.91 kg)
Enclosure	Premium birch plywood
Finish	Low gloss, black textured
Mounting	3/8" threaded points on side corners for optional bracket adapters, which allow the Acheron LF to be mounted to floors; The Acheron 100 and Acheron 80 can be mounted on top of the Acheron LF with uptilt or downtilt

The Acheron LF loudspeaker can be paired with the Acheron 80 or Acheron 100 screen channel loudspeaker to deliver the low-frequency headroom required by larger theatres. The self-powered Acheron LF with dual 15-inch drivers boosts the headroom on the LCR channels by converting each Acheron loudspeaker to a system with three low-frequency drivers in an aligned column.

The unique multi-way, gradated design offers smooth coverage and maximum low-frequency impact with all drivers active at the lowest frequencies and each rolling off, one at a time, via the integral active crossover. This technique eliminates interference between drivers that would otherwise occur at shorter wavelengths, enabling the system to maintain ideal polar, phase, and frequency responses throughout the low and low-mid operating

ranges. As a result, the system can deliver the necessary power to completely fill a large theatre with rich, clean sound, thereby ensuring that the full intensity and nuance so carefully crafted into today's movie soundtracks reach every listener without compromise.

The Acheron LF was designed exclusively for use with Acheron loudspeakers. The Acheron LF's 37 Hz to 370 Hz operating frequency range and 136 dB maximum peak SPL were carefully chosen to compliment the Acheron. The Acheron LF also features the same high-power 15-inch cone driver used in the low frequency section of the Acheron. Engineered to deliver optimum performance, the high-excursion, back-vented drivers include 4-inch voice coils and are housed in a tuned, vented enclosure that shares the same rectangular footprint as the Acheron.

The Acheron LF is powered by an onboard two-channel class AB/H amplifier with complementary MOSFET output stages. Total output power is 2250 W (4500 W peak) and provides the system with enough headroom to easily accommodate the extreme demands of digital soundtracks.

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

Strategically placed 3/8-inch threaded points on the side corners of the Acheron LF cabinet allow the unit to be mounted to floors with optional mounting brackets. The Acheron 100 and Acheron 80 can be mounted on top of the Acheron LF with uptilt or downtilt with optional stacking brackets.

## ACHERON LF ARCHITECT SPECIFICATIONS

The loudspeaker shall be a self-powered bass system. The transducers shall consist of two 15-inch cone drivers (with 4-inch voice coils), each rated to handle 1200 AES\* watts.

The loudspeaker shall incorporate internal processing electronics and a two-channel amplifier. Each amplifier channel shall be class AB/H with complementary MOSFET output stages. Burst capability shall be 1125 watts total with a nominal 4-ohm resistive load. Total burst power shall be 2250 watts (4500 watts peak). Distortion (THD, IM, TIM) shall not exceed 0.02%. The audio input shall be electronically balanced with a 10 kOhm impedance and accept a nominal 10 dBV (3.2 V rms, 4.5 V peak) signal. Connectors shall be XLR type male and female. RF filtering shall be provided, and CMRR shall be greater than 50 dB (50 Hz – 500 Hz). 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 370 Hz; phase response shall be  $\pm 30^\circ$  from 60 Hz to 230 Hz; maximum peak SPL shall be 136 dB at 1 meter, free field.

The internal power supply shall perform automatic voltage selection, EMI filtering, soft current turn-on, and surge suppression. Power requirements shall be nominal 100 V, 110 V, or 230 V AC line 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 19.0 A at 115 V AC, 9.5 A at 230 V AC, and 22.0 A at 100 V AC. Current inrush during soft turn-on shall not exceed 7 A at 115 V AC, 7 A at 230 V AC, and 10 A and 100 V AC. AC power connectors shall be locking NEMA L6-20 male inlet or IEC 309 male inlet.

The loudspeaker system shall include support for the optional RMS remote monitoring system module.

All loudspeaker components shall be mounted in an acoustically vented enclosure constructed of premium birch plywood with a black textured finish. Dimensions shall be 31.00" wide x 36.18" high x 20.50" deep (787 mm x 919 mm x 521 mm). Weight shall be 185 lbs (83.91 kg). Optional bracket adapters shall allow the Acheron LF to be fixed to floors.

The loudspeaker shall be the Meyer Sound Acheron LF.

\*Driven continuously for two hours with a band-limited noise signal having a 6 dB peak-average ratio.



## ACHERON SPECIFICATIONS

ACOUSTICAL		Acheron 80/100	Acheron LF
	Operating Frequency Range <sup>1</sup> Frequency Response <sup>2</sup> Phase Response Maximum Peak SPL <sup>3</sup> Dynamic Range	37 Hz – 18 kHz 38 Hz – 17 kHz ±4 dB 700 Hz – 17 kHz ±30° 139 dB ≥110 dB	37 Hz – 370 Hz 38 Hz – 340 Hz ±4 dB 60 Hz – 230 Hz ±30° 136 dB <sup>4</sup> ≥110 dB
COVERAGE		Acheron 80: 80° horizontal x 50° vertical Acheron 100: 100° horizontal x 50° vertical	N/A
CROSSOVER		580 Hz <sup>5</sup>	200 Hz <sup>6</sup>
TRANSDUCERS	Low Frequency	One high-power 15" cone driver with neodymium magnet Nominal impedance: 4 Ω Voice coil size: 4" Power handling: 1200 W (AES) <sup>7</sup>	Two high-power 15" cone drivers with neodymium magnets Nominal impedance: 4 Ω Voice coil size: 4" Power handling: 1200 W (AES) <sup>7</sup>
	High Frequency	One 4" compression driver Nominal impedance: 8 Ω Voice coil size: 4" Diaphragm size: 4" Exit size: 1.5" Power handling: 250 W (AES) <sup>7</sup>	N/A
AUDIO INPUT	Type Maximum Common Mode Range Connectors Input Impedance Wiring  DC Blocking CMRR RF Filter TIM Filter Nominal Input Sensitivity  Input Level	Differential, electronically balanced ±15 V DC, clamped to earth for voltage transient protection Female XLR input with male XLR loop output 10 kΩ differential between pins 2 and 3 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 None on input, DC blocked through signal processing ≥50 dB, typically 80 dB (50 Hz – 500 Hz) Common mode: 425 kHz; Differential mode: 142 kHz Integral to signal processing (×80 kHz) 10 dBV (3.2 V rms, 4.5 V peak) continuous is typically the onset of limiting for noise and music 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	Complementary MOSFET output stages (class AB/H)	Complementary MOSFET output stages (class AB/H)
	Output Power <sup>8</sup>  Total Output THD, IM, TIM Load Capacity  Cooling	1685 W 1125 W low channel 560 W high channel 3370 W peak ≤0.02% 4 Ω low channel 8 Ω high channel Forced air cooling, two internal fans (one ultra low-speed fan, one reserve fan)	2250 W 1125 W low channels  4500 W peak ≤0.02% 4 Ω low channels  Forced air cooling, two internal fans (one ultra low-speed fan, one reserve fan)
AC POWER	Connector Automatic Voltage Selection Safety Agency Rated Operating Range Turn-on and Turn-off Points  Current Draw: Idle Current Max. Long-Term Continuous Current (>10 sec) Burst Current (<1 sec) <sup>9</sup> Ultimate Short-Term Peak Current Inrush Current  Current Draw: Idle Current Max. Long-Term Continuous Current (>10 sec) Burst Current (<1 sec) <sup>9</sup> Ultimate Short-Term Peak Current Inrush Current	250 V NEMA L6–20 (twistlock) inlet or IEC 309 male inlet Automatic, two ranges, each with high–low voltage tap (uninterrupted) 95–125 V AC; 208–235 V AC, 50/60 Hz 85–134 V AC; 165–264 V AC  Acheron 80/100 0.71 A rms (115 V AC); 0.38 A rms (230 V AC); 0.79 A rms (100 V AC) 5.8 A rms (115 V AC); 2.8 A rms (230 V AC); 6.3 A rms (100 V AC) 6.4 A rms (115 V AC); 3.2 A rms (230 V AC); 7.2 A rms (100 V AC) 26 A peak (115 V AC), 14 A peak (230 V AC), 28 A peak (100 V AC) 7 A peak (115 V AC), 7 A peak (230 V AC), 10 A peak (100 V AC)  Acheron LF 0.64 A rms (115 V AC); 0.32 A rms (230 V AC); 0.85 A rms (100 V AC) 8.8 A rms (115 V AC); 4.4 A rms (230 V AC); 10.0 A rms (100 V AC) 19.0 A rms (115 V AC), 9.5 A rms (230 V AC), 22.0 A rms (100 V AC) 39 A peak (115 V AC), 20 A peak (230 V AC), 45 A peak (100 V AC) 7 A peak (115 V AC), 7 A peak (230 V AC), 10 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. Measured free field with 1/3–octave frequency resolution at 4 meters.
3. Measured free field with music referred to 1 meter.
4. SPL for the Acheron LF calibrated to complement the Acheron 80/100 in the common frequency range.
5. At this frequency, the transducers for the Acheron 80/100 produce equal sound pressure levels.
6. Below this frequency, both Acheron LF transducers are active. Above this frequency, one transducer rolls off to avoid interaction in the higher frequencies (shorter wavelengths) of the Acheron 80/100.
7. Power handling measured using AES standards: transducers driven continuously for two hours with a band–limited noise signal having a 6 dB peak–average ratio.
8. 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, 67 V rms (95 V peak) into 4 ohms; high frequency channel, 67 V rms (95 V peak) into 8 ohms.
9. AC power cabling must be of sufficient gauge so that under burst current rms conditions, cable transmission losses do not drop below the loudspeaker's specified operating voltage range.



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