

# TECHNICAL INFORMATION

## HR824 MK2 Specifications

### Enclosure

#### Materials and Construction:

¾-inch (19 mm) thick MDF cabinet construction with internal bracing to add to cabinet stiffness.

Piano-black gloss finish.

Die-cast aluminum exponential wave guide for controlled, wide dispersion from high-frequency driver and Zero Edge Baffle™ to minimize diffraction around the cabinet edges.

Open cell adiabatic “foam fill” acoustical damping material absorbs internal reflections, preventing delayed sound coloration.

Flush-mount connector system allows monitor to be placed against a wall without need for connector clearance.

### Transducers

#### Low-frequency driver:

Diameter:	8.75 inches (222mm)
Sensitivity (2.83V, 1 m):	91 dB SPL
Nominal Impedance:	4 ohms
Voice Coil Diameter:	1.6 inches (40 mm)
Frame:	Die-cast magnesium
Magnet:	Ferrite
Fully shielded:	Ferrite opposing magnet

#### High-frequency driver:

Sensitivity (2.83V, 1m):	91 dB SPL
Nominal Impedance:	6 Ω
Power Handling (Long Term/Program):	20/50 watts
Frequency Range:	1.6 kHz to 22 kHz
Diaphragm/Suspension:	Titanium with polymer suspension
Voice Coil Diameter:	1.0 inch (25.4 mm)
Magnet:	Neodymium
Bucking Magnet:	Ferrite opposing magnet

#### Passive Radiator:

6-inch x 12-inch (152mm x 305mm) mass-loaded elliptical flat piston with variable thickness filleted edge rubber surround.

### Crossover Section

#### Crossover Type:

Modified Linkwitz-Riley, 24 dB/octave @ 1900 Hz

### Amplifier Section

#### Low-frequency power amplifier

Rated Power (at 1 kHz with 1% THD):

150 watts

Rated Load Impedance: 4 ohms

Burst Power Output: 350 watts

Rated THD (1W to -1 dB of rated power):

0.1 %

Slew Rate: 35V/μS

Distortion (THD, SMPTE IMD, DIM 100):

< 0.035%

#### Signal-to-Noise

(20Hz-20kHz, unweighted, referenced to 150W into 4Ω):

> 102 dB

Cooling: Convection

Design: Class AB, Parametric Servo Feedback

#### High-frequency power amplifier

Rated Power(at 1 kHz with 1% THD):

100 watts

Rated Load Impedance: 6 ohms

Burst Power Output: 210 watts

Rated THD (1W to -1 dB of rated power):

0.1 %

Slew Rate: 35V/μS

Distortion (THD, SMPTE IMD, DIM 100):

< 0.035%

#### Signal-to-Noise

(20 Hz-20 kHz, unweighted, referenced to 100 W into 6 ohms):

> 102 dB

Cooling: Convection

Design: Conventional Class AB

### System Specifications

Input Type:	Balanced Differential (XLR and 1/4" TRS) Unbalanced (RCA)
Input Impedance:	20 kΩ Balanced 10 kΩ Unbalanced
Input Protection:	RFI and Level Protected
Maximum Input Level:	+20 dBu
Low Frequency Filter:	-3 dB @ 37 Hz, 2nd-order transitional high-pass filter -3 dB @ 47 Hz, 4th-order Chebyshev high-pass filter -3 dB @ 80 Hz, 4th-order Butterworth high-pass filter

HF Equalization: ±2 dB @ 10 kHz, shelving

#### Acoustic Space:

A position: -4 dB @ 50 Hz, shelving

B position: -2 dB @ 50 Hz, shelving

C position: Flat

#### Compressor:

Independent high and low frequency overload detection

Low Line Voltage Shut Down: 60% of Nominal Line

Thermal Protection: Amplifier Shut-Down, Auto Reset

Muting: 5 seconds at turn-on

Driver Protection: Independent LF and HF Detection

Overall Compression

## Graphs

### Acoustic Section

Free-Field Frequency Response:  
 $\pm 1.5$  dB, 37 Hz to 20 kHz  
 Lower cutoff frequency: -3 dB @ 35 Hz  
 Upper cutoff frequency: -3 dB @ 22 kHz  
 Sound Pressure Level at 1 meter,  
 -7.5 dBu into balanced input: 100 dB SPL @ 1m  
 Maximum peak SPL per pair: 120 dB SPL @ 1m  
 Maximum short term SPL on axis,  
 half space 80 Hz to 2.5 kHz: 111 dB SPL @ 1m  
 Residual noise (maximum gain, 600 $\Omega$  source,  
 20 Hz-20 kHz bandwidth): < 8 dB SPL @ 1m

### Rated Line Input Voltage and Power:

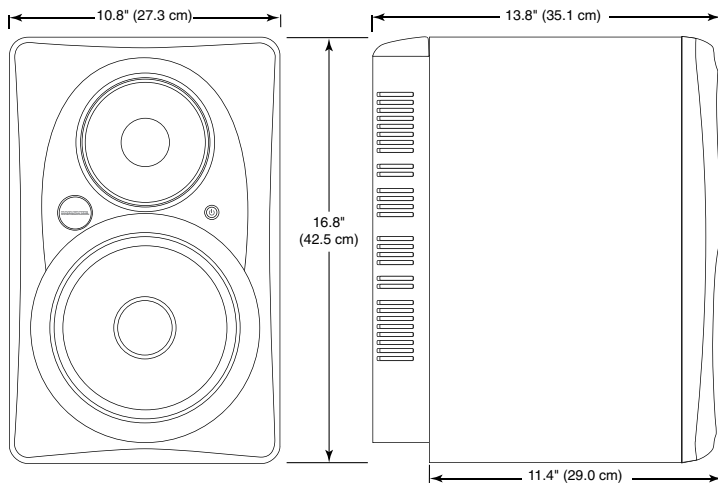
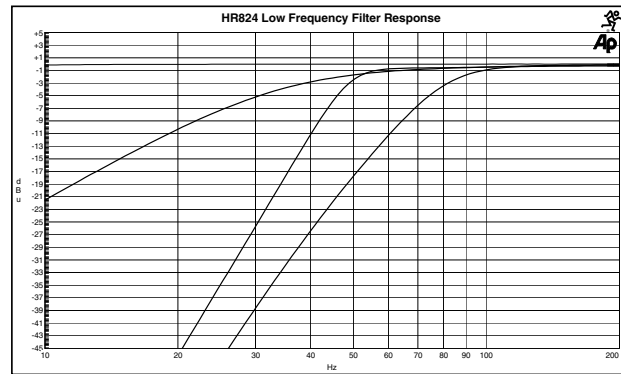
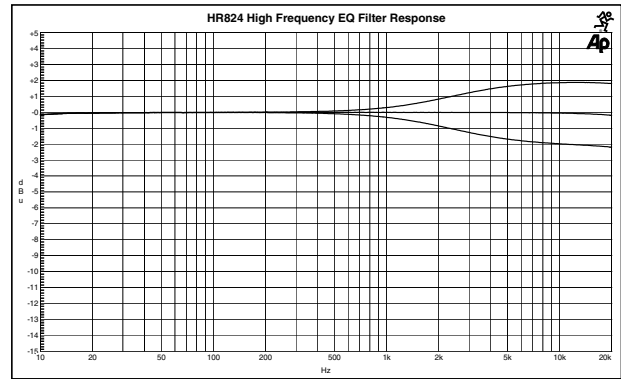
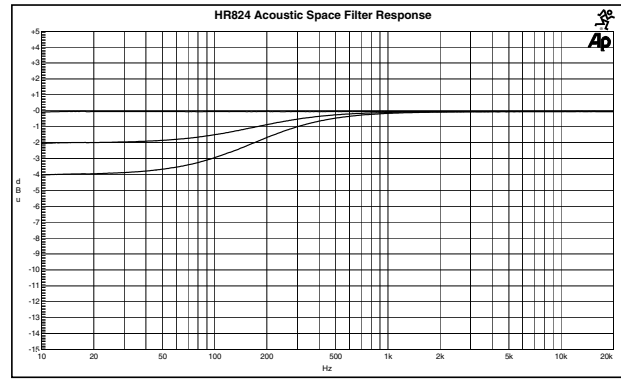
Power consumption:  
 Standby mode: 8 watts  
 Quiescent (idle): 18 watts  
 Musical Program, Loud mix: 135 watts

US: 120 VAC, 60 Hz  
 Europe: 240 VAC, 50 Hz  
 Korea: 220 VAC, 60 Hz  
 Japan: 100 V, 50-60 Hz  
 Rated Power  
 (For UL-6500, CSA-E65-94, EN-60065):  
 150 watts

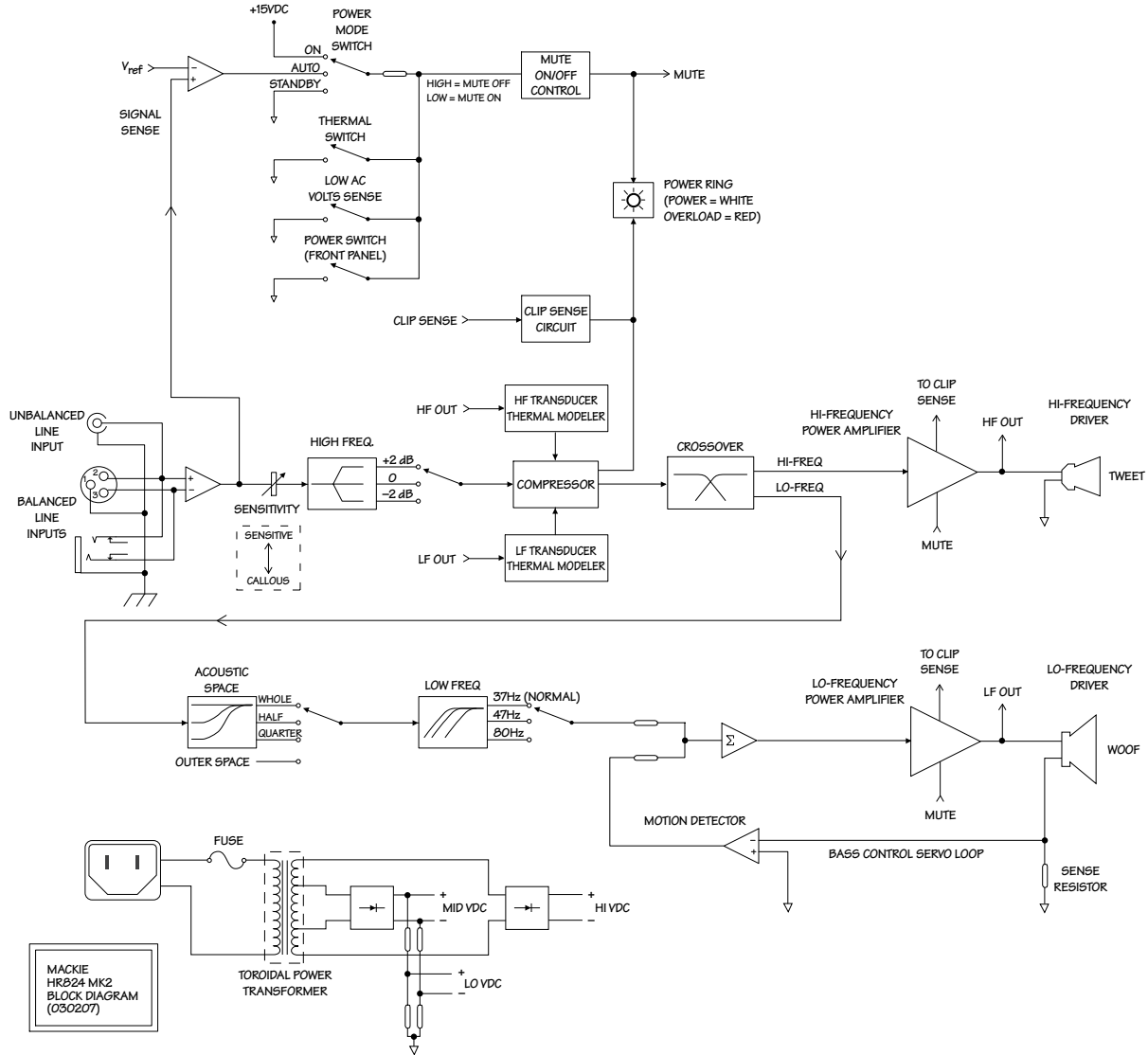
### Physical Properties

Height: 16.8 in/42.5 cm  
 Width: 10.8 in/27.3 cm  
 Depth Enclosure: 11.4 in/29.0 cm  
 Depth Overall: 13.8 in/35.1 cm  
 Weight: 34.6 lb/15.7 kg

LOUD Technologies is always striving to improve our products by incorporating new and improved materials, components and manufacturing methods. Therefore, we reserve the right to change these specifications at any time without notice.



# HR824 MK2 Block Diagram



MACKIE  
HR824 MK2  
BLOCK DIAGRAM  
(030207)

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HR824 MK2 design protected under the following patent: DES. 387,351

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