
MOON
by SIMAUDIO
The performance of a lifetime
Training Guide
Certified Sales Training Book

MOON by Simaudio

Dear partners,

At Simaudio, our products reproduce sounds that are so pure and authentic, they bring a newfound proximity to the performer. As you never want those intimate moments with the artist to end, all MOON products are built to be enjoyed over a lifetime.

MOON: An exceptional range of products and emotions.

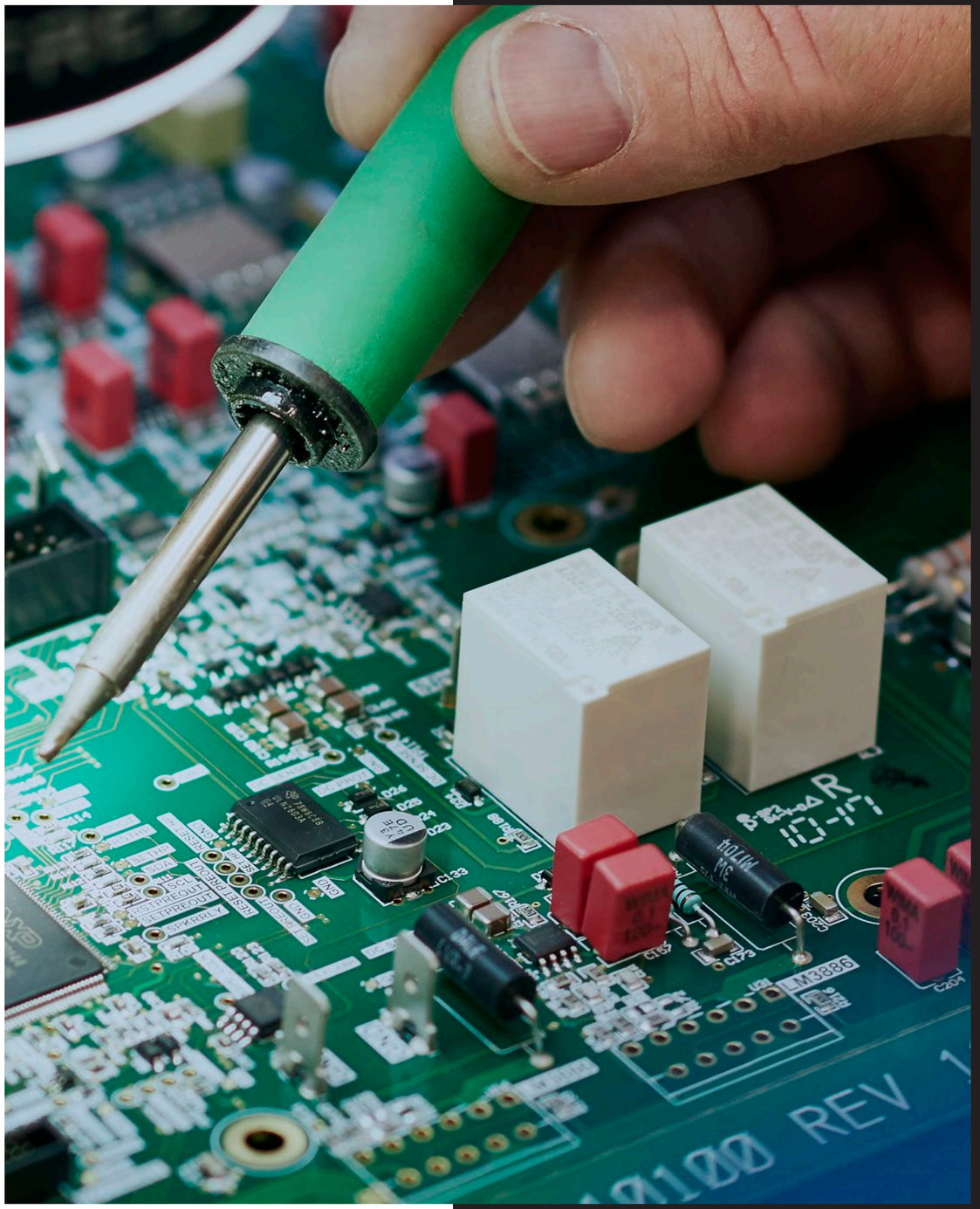
Since 1980, we have been dedicated to more than just our products; we also wanted to create a solid brand that is well respected throughout the world. Our brand is as valuable as our products. Together, we will boost our brand recognition in our competitive market. Our customers should always recognize and admire our brand, our communications and products.

For this reason, we are delighted to share with you our new Training Guide. It also includes our new products such as the **780D v2, the 700i v2** and the **860A v2**.

If you have any questions or specific needs regarding our products or our brand, do not hesitate to contact us.

I would like to take the opportunity to thank you for your support and loyalty to the MOON brand.

Louis Lemire, President
MOON by Simaudio



Who we are

Experienced audiophiles and music lovers, our specialists believe in the power of music. That is why, since 1980, our engineers and designers have been obsessed with surpassing the limits of sound purity and redefining the impossible.

Our mission

To convey the spirit and emotion of music through products of distinction.

Our values

Our respect for artists and musicians is matched only by our devotion to our customers. Dedicated to surprising and delighting both, our consistent creativity and innovation have been redefining the industry.

World-class customer experience

Our renowned customer service is professional and personalized thanks to our passionate team, which is committed to your long-term satisfaction. No matter where you are located in the world, MOON will deliver the best sound experience to you.

Respect for sound and proximity

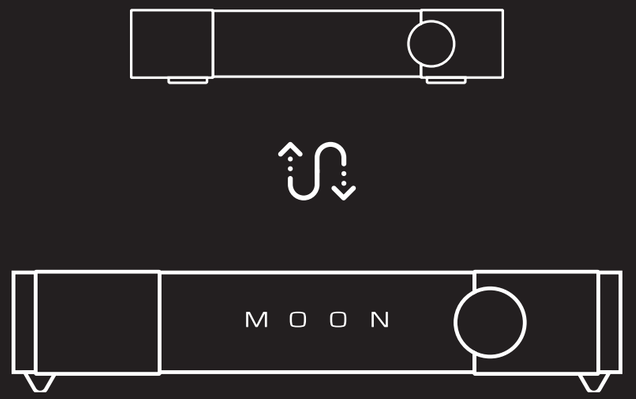
The pure sound of the instruments, the timbre of the voice, the bated breath. At Simaudio, we believe that nothing should stand between the authenticity at the time of recording and the listener. This proximity is our goal; this intimacy is our passion.

Against obsolescence

At Simaudio, we are proud to build products that are sustainable, imparting a minimal impact on the environment. That is why we have the confidence to offer a 10-year warranty on all our products. We favour responsible suppliers and subcontractors who share our philosophy in reducing our carbon footprint.

Trade-Up Program

"From entry level to high-performance to exquisite luxury to the very finest available, our unique trade-up program gives you long-term security and joy."



We want our customers to be so completely enamored with the purchase of a MOON product that they'll yearn for more. In fact, we want to entice them to upgrade! That's why we created the "Reach for the MOON" Trade-Up Program. Designed to protect our customer's investment should they consider stepping up to a better model, they can upgrade with as little as zero depreciation on a current model. We believe music matters. It's not only about great sound; it's also about simple ways to improve your life.

418
awards

MOON has won the most in the industry

★★★★★
544
reviews

from audiophile experts of music

10-year
warranty
on products

38 years
of highest
quality

100% made
in Canada

Music Services

Tidal Deezer Qobuz

MOON ACE

The ACE is A Complete Experience offering our simplest setup for Hi-Fi music listening. Simply hook up a pair of speakers, connect to the Internet and you are ready to enjoy your music!

50W *Per Channel*

32-bit *PCM Resolution*

roon *Roon Ready*

MQA *MQA Streaming*

MiND *Streamer*

Qualcomm aptX *Wireless Input*

Wi-Fi *Network Ready*

MM Phono *Input*

USB *Asynchronous*

All-in-One Music Player

ACE

HIGHLIGHTS

- Convenient All-in-One HiFi system; just add speakers
- Streaming Flexibility : USB, MiND 2 and Bluetooth
- Integrated music services
- Full Control via mobile application

FEATURES

- Bluetooth aptX
- 50W AB-class amplification
- Phono input
- Home theater pass thru

TECHNICAL SPECIFICATIONS

Configuration	Stereo
Power Supply Transformer	250VA
Power Supply Capacitance	20,000µF
Class Of Operation – Amplifier	Class A/B
Single-ended inputs	2 (RCA) pairs
Mini-jack input	1 (1/8")
Input Sensitivity	370mV – 3.0V RMS
Input Impedance	22,100Ω
Preamplifier / Subwoofer output	1 (RCA) pair
Headphone output	1 (1/4" Stereo TRS)
Output Device Type – Amplifier	Bipolar
Output Power @ 8Ω	50W per channel
Output Power @ 4Ω	85W per channel
Gain	37dB
Signal-to-noise Ratio	100dB @ full power
Frequency Response	10Hz - 80kHz +0/-3.0dB
Crosstalk @ 1kHz	-100dB
Intermodulation Distortion	0.005%
Total Harmonic Distortion (20Hz-20kHz @ 1W)	0.02%
Total Harmonic Distortion (20Hz-20kHz @ 50W)	0.02%
Remote Control	Full-Function (CRM-3)
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	24lb / 11kg
Dimensions (W x H x D, in / cm)	16.9 x 3.5 x 14.4 / 42.9 x 8.9 x 36.6

M O O N

MiND 2 Technology

FEATURES

- Roon Ready
- Tidal, with Tidal Masters support
- Deezer, with Deezer Hi-Fi support
- Qobuz, with Qobuz Sublime+ support
- Radios Internet via TuneIn
- HRA Music Service Support
- Music Services fully integrated in MiND Network Player and application
- UPnP Compatibility
- Play queue mixing multiple sources capability (tracks from various services and local tracks)
- Multi-room synchronized playback
- MQA decoding in DAC products (ACE, 280D, 380D, 390, 680D, 780D)
- DSD decoding in DAC products (ACE, 280D, 380D, 390, 680D, 780D)
- Up to 32 bits/384 kHz sampling rate support on wired connection
- Up to DSD 256 sampling rate support on wired connection
- SimLink communication channel to control other MOON components
- Retrofit capability on original MiND products for upgrade
- Software based technology for better future upgradeability
- Gapless Playback
- Local Playlists

TECHNICAL SPECIFICATIONS

Supported file formats (lossless)	WAV, FLAC, FLAC HD, ALAC, AIFF, MQA
Supported file formats (lossy)	AAC, MP3, WMA-9, OGG Vorbis
Supported file formats (DSD)	DFF, DSF

MUSIC ACCESS

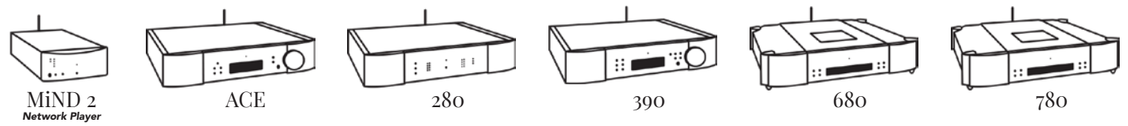
MiND (MOON intelligent Network Device) streams music from a digital music library to an audio system. The digital library can consist of music stored on a computer, on a Network Attached Storage (NAS) and on music services, such as Tidal, Deezer and Qobuz. It can also access all Internet radio stations from TuneIn.

PROPRIETARY APP

The control center of a MiND is our proprietary application running on an iPad, iPhone, or Android device. Not only does MiND 2 allow to access, browse and play the music you care for, it also gives you the control of your MOON Hi-Fi system for ultimate ease of use. This is what streaming music is all about!

UPGRADABILITY

MOON products equipped with the MiND module can be upgraded to MiND 2.



Music Services

Tidal Deezer Qobuz

MiND 2
Network Player

The MiND 2 Network Player provides the perfect link between digital music libraries and your Hi-Fi system in the most efficient way.

Streamer · Wireless Input · Roon Ready · MQA Streaming · iOS · OS

HIGHLIGHTS

- Tidal Masters, Deezer Hi-Fi & Qobuz Sublime+ support
- Roon Ready device
- Software based technology for better future upgradeability
- SimLink™ communication channel to control other MOON components

FEATURES

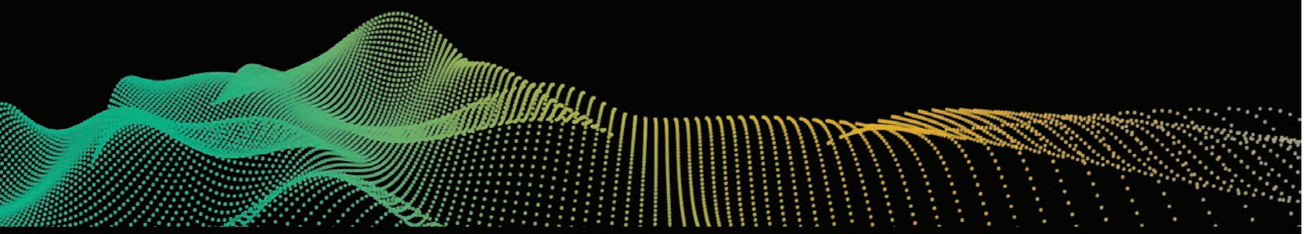
- Control via intuitive MiND app on iOS & Android devices
- Multi-room synchronized playback
- Play queue mixing multiple sources capability (tracks from various services)
- Up to 32 bits/384 kHz sampling rate support on wired connection (Digital output limited to 24bits/192kHz (downsampled if required) – standard SPDIF format limitations applies)
- DSD converted to DOP output on SPDIF (Requires DOP-DSD capable DAC – standard SPDIF format limitations applies)

TECHNICAL SPECIFICATIONS

Supported file formats (lossless)	WAV, FLAC, FLAC HD, ALAC, MQA
Supported file formats (lossy)	AIF, AAC, , MP3, WMA-9, OGG Vorbis
Supported file formats (DSD)	DFF, DSF
Digital outputs	SPDIF, TosLink & AES/EBU
Remote Control	Full-Function CRM-3
Shipping weight	7lb / 3.1kg
Dimensions (W x H x D, in / cm)	7.0 x 3.0 x 11.0 / 17.8 x 7.6 x 28.0

MOON
260D

The MOON 260D with optional 32-bit DAC combines high-performance, USB input and CD playback all into one chassis.



COMPACT disc DIGITAL AUDIO *Transport* | 24-bit *Resolution* | Balanced *Output* | USB *DAC Input* | MQuattro *Gel Suspension*

CD Transport / Optional DAC
260D

HIGHLIGHTS

- Like two products in one (CD player and standalone DAC)
- Warm and open sound clarity
- Highly flexible with USB input
- Available as a transport only for DAC owners (T version)

FEATURES

- Proprietary CD drive system mounted on our M-Quattro gel-based 4-point floating suspension
- Oversized power supply with up to 13 stages of voltag regulation (5 for Transport and 8 for the DAC)
- True 32-bit asynchronous Digital-to-Analog converter
- Four (4) digital inputs (S/PDIF x 2, TosLink x 1 & USB x 1) allowing for use with virtually any digital source

TECHNICAL SPECIFICATIONS

Configuration	Single-Ended
Digital Outputs (2)	S/PDIF (RCA), AES/EBU (XLR)
Remote Control	Full-Function CRM-3
Power Consumption in Standby	0.5W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	16lb / 7.5kg
Dimensions (W x H x D, in / cm)	16.9 x 3.4 x 13.1 / 42.9 x 8.6 x 33.3

With Optional 32-bit DAC:

Digital Filter / Digital-to-Analog Converter	32-bit
Frequency Response (full range)	2Hz - 100kHz +0/-3dB
THD @1kHz, 0dBFS (A-weighted)	< 0.005%
Intermodulation Distortion	< 0.005%
Dynamic Range	> 120dB
Signal-to-noise Ratio	> 120dB @ full output
Channel Separation	> 116dB
Intrinsic Jitter	1 picosecond RMS
Analog Outputs – Balanced / Single Ended	1 pair XLR / 1 pair RCA
Analog Output Impedance - XLR / RCA	75Ω
Analog Output @ 0dBFS - XLR / RCA	2.0V
Bit-depth range / Sampling Frequency	16 to 24 bits / 44.1kHz to 192kHz
Digital Inputs (4)	2x S/PDIF (RCA), 1x TosLink, 1x USB

Music Services

Tidal Deezer Qobuz

MOON 280D

The MOON 280D is a high performance fully asynchronous DSD 256 / 32-bit DAC with versatility, including Bluetooth and our MiND 2 module.

DSD256 — *DSD Resolution*

32-bit 384kHz — *PCM Resolution*

roon — *Roon Ready*

MQA — *MQA Streaming*

MiND — *Streamer*

Balanced — *Output*

Wi-Fi — *Network Ready*

Qualcomm aptX — *Wireless Input*

USB — *Asynchronous*

HIGHLIGHTS

- Highly versatile with USB input, MiND 2 streamer and Bluetooth convenience
- Tidal Masters, Deezer Hi-Fi & Qobuz Sublime+ support
- Roon Ready device
- Fully asynchronous DAC supports up to 32 bits/384 kHz and DSD 256 sampling rate support

FEATURES

- MiND 2 (MOON intelligent Network Device) module
- Eight (8) digital inputs including Bluetooth aptX support
- Four (4) digital inputs: S/PDIF x2, TosLink x1 & USB
- The entire analog stage is a fully balanced differential circuit for increased dynamic range and improved signal-to-noise ratio

TECHNICAL SPECIFICATIONS

Configuration	Balanced Differential
Digital Filter / Digital-to-Analog Converters	Fully asynchronous 32-bit
Frequency Response (full range)	2Hz - 100kHz +0/-3dB
THD @1kHz, 0dBFS (A-weighted)	< 0.001%
Intermodulation Distortion	< 0.002%
Dynamic Range	> 120dB
Signal-to-noise Ratio	> 118dB @ full output
Channel Separation	> 116dB
Intrinsic Jitter	1 picosecond RMS 32-bit
Analog Output @ 0dBFS - XLR / RCA	2.0V – Fixed Level
Analog Output Impedance - XLR / RCA	100Ω
DSD Data Rates	(2.8224MHz), Double (5.6448MHz) & Quadruple (11.2896)
DSD Sample Rates	DSD 64, DSD 128 & DSD256 via USB only
PCM Bit-depth range	16 - 32 bits (32-bit via USB only)
PCM Sampling Frequency Rates	44.1 - 384kHz (352.8 & 384kHz via USB only)
Remote Control	Full-Function CRM-3
Power Consumption @ idle	10W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	16lb / 7.5kg
Dimensions (W x H x D, in / cm)	16.9 x 3.4 x 13.1 / 42.9 x 8.6 x 33.3

Music Services

Tidal Deezer Qobuz

MOON 390

The MOON 390 is multi-function crossover type product: modern network player (MiND 2), DAC, preamplifier, headphone amplifier and phono stage.

32-bit 384kHx *PCM Resolution*

roon *Roon Ready*

MQA *MQA Decoding*

MiND *Streamer*

Wi-Fi *Network Ready*

Qualcomm aptX *Wireless Input*

USB *Asynchronous*

HIGHLIGHTS

- High End ESS DAC PRO chipset
- Up to 32-bits / 384kHz sampling rate (USB)
- Multi-room synchronized playback
- HDMI 2.0 switcher (4k, HDCP 2.2)
- OLED screen
- MHP (MOON Hybrid Power – Universal Power Supply)

FEATURES

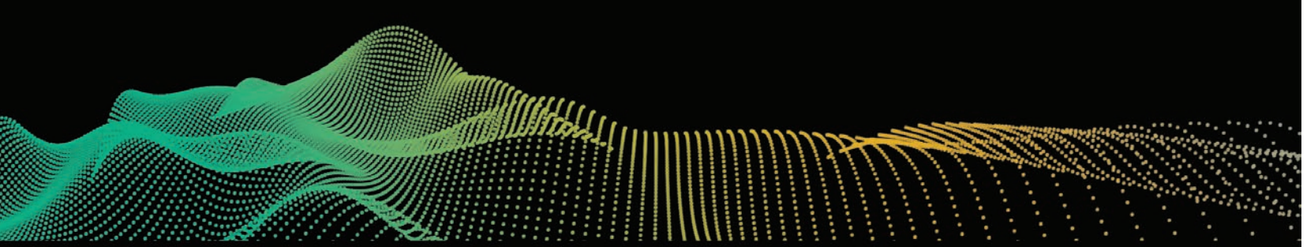
- ROON Ready device
- Tidal Masters, Deezer Hi-Fi and Qobuz Sublime+ Music Services
- MQA and DSD decoding
- Stream local source to other zones
- Menu-configurable MM/MC phono stage

TECHNICAL SPECIFICATIONS

Analog Input Impedance	22kΩ
Max Analog Input	5V RMS
Maximum Gain	10dB
Output Impedance	50Ω
Crosstalk @ 1kHz	-116dB
Frequency Response	10Hz - 200kHz +0.5/-3.0dB
Signal-to-noise Ratio	125dB
Total Harmonic Distortion	0.0004%
Intermodulation Distortion	0.0003%
Headphone output power (600Ω / 300Ω / 50Ω)	100mW / 200mW / 0.8W
Headphone output THD	0.005%
Headphone output IMD	0.005%
Power Consumption @ Idle	25W
Power Consumption @ Standby	20W
Power Consumption @ low power Standby	4W
AC Power Requirements	100-240V / 50-60Hz
Shipping Weight	22lb / 10kg
Dimensions (W x H x D, in / cm)	16.9 x 3.5 x 13.1 / 42.9 x 8.9 x 33.3

MOON 650D

The MOON 650D combines a high performance DAC with the versatility of a CD Transport, which use a proprietary CD drive system mounted on our M-Quattro gel-based 4-point floating suspension.



COMPACT disc DIGITAL AUDIO	24-bit	32-bit	MAJiC32	USB	MQuattro
Transport	*Resolution*	*Hyperstream32 DAC*	*Jitter Elimination*	*DAC Input*	*Gel Suspension*

HIGHLIGHTS

- Amazing detail retrieval giving outstanding sound clarity
- Analog-like rich sound giving listening pleasure
- Like two products in one (CD Player + 32-bit DAC)

FEATURES

- True 32-bit asynchronous Digital-to-Analog converter
- ESS Technology SABRE32 Ultra DAC / Digital Filter (ES9016) working in Hyperstream™
- Digital Audio Signal Processing with MAJiC[32] (MOON Asynchronous Jitter Control in 32-bit mode)
- Proprietary CD drive system mounted on our MQuattro gel-based 4-point floain suspension for vibration damping

TECHNICAL SPECIFICATIONS

Configuration	Fully balanced
Transport Mechanism	Proprietary Design
Digital Filter / Digital-to-Analog Converters	ESS ES9016 Sabre[32] 32-bit Hyperstream™
Frequency Response (audible)	20Hz - 20kHz +0/-0.1dB (internal CD transport)
Frequency Response (full range)	2Hz - 100kHz +0/-3dB (external digital source)
THD @ 1kHz, 0dBFS (A-weighted)	< 0.001%
Intermodulation Distortion	< 0.001%
Dynamic Range	> 120dB
Signal-to-noise Ratio	> 120dB @ full output
Channel Separation	> 116dB
Intrinsic Jitter	1 picosecond RMS
Analog Outputs – Balanced	1 pair XLR
Analog Output @ 0dBFS - XLR	2.0V
Analog Output Impedance - XLR	100Ω
Analog Outputs – Single Ended	1 pair RCA
Analog Output @ 0dBFS - RCA	2.0V
Analog Output Impedance - RCA	100Ω
Bit-depth range / Sampling Frequency	16 to 24 bits / 44.1kHz to 192kHz
Digital Inputs (4)	AES/EBU (XLR), S/PDIF (RCA), TosLink, USB
Digital Outputs (2)	S/PDIF (RCA), AES/EBU (XLR)
Digital Input/ Output Impedance - S/PDIF	75Ω (0.5V p-p)
Digital Input/ Output Impedance - AES/EBU	110Ω (3.7V p-p)
Remote Control	All Aluminum Full-Function (FRM-3)
Display Type	8 character dot matrix LED
Power Consumption @ idle	25W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	35lb / 16kg
Dimensions (W x H x D, in / cm)	18.75 x 4.0 x 16.8 / 47.6 x 10.0 x 42.7

Music Services

Tidal Deezer Qobuz

MOON 680D

The MOON 680D is, in a way, the prodigal little brother to the 780D v2.
With our latest generation of DAC and the technology of its older brother,
it redefines the listening experience in every possible sense.

DSD256 *DSD Resolution*
32-bit *PCM Resolution*
roon *Roon Ready*
MQA *MQA Streaming*
MiND *Streamer*
MHP *Hybrid Power*
Qualcomm aptX *Wireless Input*
USB *Asynchronous*

HIGHLIGHTS

- Sophisticated, future proof, audiophile design
- Astounding detail retrieval and musicality
- Built-in MiND 2 network streaming module

FEATURES

- Roon Ready Device
- Full MQA decoding from all inputs
- Native DSD decoding up to DSD256
- PCM decoding up to 32bits/384kHz
- MHP (MOON hybrid power) power supply
- FPGA Reclocking

TECHNICAL SPECIFICATIONS

Frequency response (full range)	2Hz - 100kHz +0/-3dB
THD @ 1kHz, 0dBFS (A-weighted)	< 0.0005%
Intermodulation distortion	< 0.0003%
Dynamic Range	> 123dB
Signal-to-noise Ratio	> 123dB @ full output
Channel Separation	> 120dB
Intrinsic Jitter	1 pico second RMS
Analog Output @ 0dBFS	2.0V
Analog output impedance	100Ω
PCM Bit-depth range	16 - 32 bits
PCM sampling frequency rates	44.1 - 384kHz
DSD sample rates	DSD64, DSD128 & DSD256
Shipping weight	38lb / 19kg
Dimensions (W x H x D, in / cm)	18.75 x 4.0 x 16.8 / 47.6 x 10.2 x 42.7

Music Services

Tidal Deezer Qobuz

MOON 780D v2

Our reference DAC redefines the listening experience in every possible sense. As the state-of-the-art, the MOON 780D v2 reaches the pinnacle of digital audio playback.

DSD256 *DSD Resolution*

32-bit *PCM Resolution*

roon *Roon Ready*

MQA *MQA Streaming*

MiND *Streamer*

MHP *Hybrid Power*

Femto Second *Clock*

Qualcomm aptX *Wireless Input*

USB *Asynchronous*

HIGHLIGHTS

- The finest digital source for better appreciation of the music
- Sophisticated, future proof, audiophile design
- Convenient MiND 2 network player and Bluetooth integration
- Astounding detail retrieval and musicality

FEATURES

- Dual mono DAC
- Femto second clocking system
- Roon Ready Device
- Full MQA decoding from all inputs
- Native DSD decoding up to DSD256
- PCM decoding up to 32bits/384kHz
- MHP (MOON hybrid power) power supply
- FPGA Reclocking

TECHNICAL SPECIFICATIONS

Frequency response (full range)	2Hz - 100kHz +0/-3dB
THD @ 1kHz, 0dBFS (A-weighted)	< 0.0001%
Intermodulation distortion	< 0.0001%
Dynamic Range	> 124dB
Signal-to-noise Ratio	> 124dB @ full output
Channel Separation	> 120dB
Intrinsic Jitter	150 femto seconds RMS
Analog Output @ 0dBFS	2.0V
Analog output impedance	100Ω
PCM Bit-depth range	16 - 32 bits
PCM sampling frequency rates	44.1 - 384kHz
DSD sample rates	DSD64, DSD128 & DSD256
Shipping weight	38lb / 19kg
Dimensions (W x H x D, in / cm)	18.75 x 4.0 x 16.8 / 47.6 x 10.2 x 42.7

MOON 240i

With complete digital and analog connectivity, including a phono input for vinyl record lovers, the MOON 240i is a proper start into Hi-Fi music system.

50W
Per Channel

32-bit
384kHz
PCM Resolution

MM
Phono
Input

USB
Asynchronous

HIGHLIGHTS

- Versatile integrated with digital and analog inputs
- Most affordable MOON integrated amplifier with DAC
- Ideal for high fidelity custom installation (Control4 driver available)

FEATURES

- 50W AB-class amplification
- Phono input
- Home theater pass thru
- Headphone output on ¼" TRS jack

TECHNICAL SPECIFICATIONS

Configuration	Stereo
Power Supply Transformer	250VA
Power Supply Capacitance	20,000µF
Class Of Operation – Amplifier	Class A/B
Single-ended inputs	2 (RCA) pairs
Mini-jack input	1 (1/8")
Input Sensitivity	370mV – 3.0V RMS
Input Impedance	22,100Ω
Preamplifier / Subwoofer output	1 (RCA) pair
Headphone output	1 (1/4" Stereo TRS)
Output Device Type – Amplifier	Bipolar
Output Power @ 8Ω	50W per channel
Output Power @ 4Ω	85W per channel
Gain	37dB
Signal-to-noise Ratio	100dB @ full power
Frequency Response	10Hz - 80kHz +0/-3.0dB
Crosstalk@ 1kHz	-100dB
Intermodulation Distortion	0.005%
Total Harmonic Distortion (20Hz-20kHz @ 1W)	0.02%
Total Harmonic Distortion (20Hz-20kHz @ 50W)	0.02%
Remote Control	Full-Function (CRM-3)
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	24lb / 11kg
Dimensions (W x H x D, in / cm)	16.9 x 3.5 x 14.4 / 42.9 x 8.9 x 36.6

MOON

250i

A classic integrated amplifier that delivers Hi-Fidelity and seductive musical performance.

100W
4Ω
Power Per Channel

50W
8Ω
Power Per Channel

MOON
Bipolar
Transistors

Integrated Amplifier
250i

HIGHLIGHTS

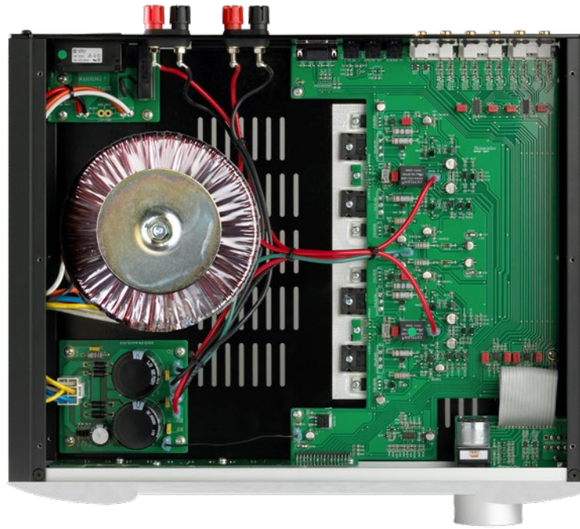
- All analog MOON traditional amplification
- Open and punch above its weight sonics
- Makes a great duo with the 280D for complete MOON system
- Can drive difficult loudspeakers surprisingly well for its power rating

FEATURES

- Oversized power supply using a custom toroidal transformer design
- 6 line-level inputs including a front-mounted 1/8" mini-jack for personal media players
- Proprietary MOON Bipolar output transistors with unprecedented gain linearity
- Headphone output on 1/4" TRS jack located on the front panel

TECHNICAL SPECIFICATIONS

Configuration	Stereo
Power Supply Transformer	320VA
Power Supply Capacitance	20,000µF
Class Of Operation – Amplifier	Class A/B
Single-ended inputs	5 (RCA)
Mini-jack input	1 (1/8")
Input Sensitivity	370mV – 3.0V RMS
Input Impedance	11,000Ω
Preamplifier output	1 (RCA)
Headphone output	1 (1/4" Strereo TRS)
Output Device Type – Amplifier	MOON Bipolar
Output Power @ 8Ω	50W per channel
Output Power @ 4Ω	100W per channel
Gain	37dB
Signal-to-noise Ratio	101dB @ full power
Frequency Response	10Hz - 100kHz +0/-3.0dB
Crosstalk @ 1kHz	-78dB
Intermodulation Distortion	< 0.05%
Total Harmonic Distoritionn (20Hz-20kHz @ 1W)	< 0.015%
Total Harmonic Distoritionn (20Hz-20kHz @ 50W)	< 0.02%
Remote Control	Full-Function (CRM-3)
AC Power Requirements	120V / 60Hz ou 240V / 50Hz
Shipping Weight	22lb / 10kg
Dimensions (W x H x D, in / cm)	16.9 x 3.5 x 14.4 / 42.9 x 8.9 x 36.6



Product availability depends on location.

MOON
340i X

Combining sonic finesse and superb versatility, the award-winning MOON 340i X is offered with optional DAC and phono stage.

200W 4Ω	100W 8Ω	MOON Bipolar	No Feedback	32-bit	MM/MC Phono	Balanced Input
Power Per Channel	*Power Per Channel*	*Transistors*	*Amplification*	*Optional DAC*	*Optional Module*	*Optional Module*

Integrated Amplifier
340i X

HIGHLIGHTS

- The swiss army knife of integrated amplifiers
- DAC and phono option for high integration convenience (340i D3PX)
- Shares the "no global feedback" design seen on higher end models for amazing sound
- Our best seller

FEATURES

- Massive oversized power supply using a custom toroidal transformer design
- One audio input which functions as a "pass-through" bypassing the gain stage to accommodate a component such as a home-theater processor, whose own volume control is used instead
- Proprietary MOON Bipolar output transistors with unprecedented gain linearity
- Headphone output on 1/4" TRS ack located on the front panel

TECHNICAL SPECIFICATIONS

Configuration	Stereo
Power Supply Transformer	400VA
Power Supply Capacitance	40,000µF
Class Of Operation – Amplifier	Class A/B
Single-ended inputs	4 (RCA)
Mini-jack input	1 (1/8")
Optional Balanced inputs	1 (XLR)
Input Sensitivity	370mV – 3.0V RMS
Input Impedance	11,000Ω
Preamplifier output	1 (RCA)
Headphone output	1 (1/4" Stereo TRS)
Output Device Type – Amplifier	MOON Bipolar
Output Power @ 8Ω	100W per channel
Output Power @ 4Ω	200W per channel
Gain	37dB
Signal-to-noise Ratio	110dB @ full power
Frequency Response	2Hz - 90kHz +0/-3.0dB
Crosstalk @ 1kHz	< -88dB
Intermodulation Distortion	< 0.03%
Total Harmonic Distorition (20Hz-20kHz @ 1W)	< 0.015%
Total Harmonic Distorition (20Hz-20kHz @ 100W)	< 0.05%
Remote Control	Full-Function (CRM-3)
AC Power Requirements	120V / 60Hz ou 240V / 50Hz
Shipping Weight	28lb / 13kg
Dimensions (W x H x D, in / cm)	16.9 x 3.5 x 14.8 / 42.9 x 8.9 x 37.6

MOON

600i v2

Based on the MOON 600i's award-winning reputation, the v2 pushes the envelope with an even more natural and musical sound.

Dual Mono	250W 4Ω	125W 8Ω	mVOL2
Architecture	*Power Per Channel*	*Power Per Channel*	*Volume Control*

Integrated Amplifier

600i v2

HIGHLIGHTS

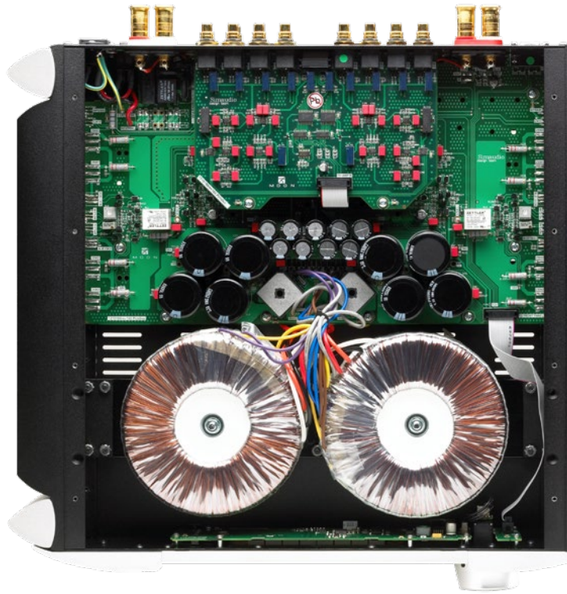
- Gateway to the Evolution series
- Open and detailed sonics
- Slim and compact given performance level
- Feature rich : input labelling, gain offset

FEATURES

- No overall feedback design
- M-eVOL2 volume control circuit using MDAC's
- Fully configurable to be "home-theater ready"
- Custom proprietary toroidal transformer design with lower magnetic, electrical and thermal loss

TECHNICAL SPECIFICATIONS

Configuration	Fully balanced, dual-mono
Power Supply Transformers	2 x 400VA
Power Supply Capacitance	80,000µF
Balanced inputs (XLR)	1 pair
Single-ended inputs (RCA)	4 pairs
Input Impedance	23,700Ω
Input Sensitivity	490mV – 6,0V RMS
Preamplifier line-level output (RCA)	1 pair @ 50Ω
Output Device Type – Amplifier	Proprietary MOON BiPolars - 4 per channel
Output Power @ 8Ω	125W per channel
Output Power @ 4Ω	250W per channel
Volume Steps	0.5dB from 0-30 abd 0.1dB from 30-80
Gain Control	M-eVOL2
Gain	37dB
Signal-to-noise Ratio (Preamplifier/Amplifier)	120dB (20-20kHz) / 105dB @ 125W
Frequency Response	10Hz – 100kHz +0/-0.1dB
Crosstalk @ 1kHz	- 100dB
Intermodulation Distortion	0.02%
THD (20Hz - 20kHz @ 1W)	< 0.015%
THD (20Hz - 20kHz @ 125W)	< 0.04%
Remote Control	All Aluminum Full-Function (FRM-3)
Display Type	8 character dot matrix LED
Power Consumption @ idle	45W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	48lb / 21kg
Dimensions (W x H x D, in / cm)	18.75 x 4.0 x 18.1 / 47.6 x 10.0 x 46.0



MOON
700i v2

The MOON 700i v2 is the ultimate integrated amplifier. Intended to meet the needs of the most demanding music connoisseurs, it is offering authority, finesse and transparency.

Dual Mono	350W 4Ω	175W 8Ω	meVOL2	Lynx
Architecture	*Power Per Channel*	*Power Per Channel*	*Volume Control*	*Circuitry*

HIGHLIGHTS

- Ultimate one box amplification
- Effortless, open and detailed sonics
- Can drive any but the most exotic and inefficient loud speakers
- Feature rich : input labelling, gain offset

FEATURES

- Shielded low noise toroidal transformer
- The preamplifier section is mounted on its own dedicated circuit board resulting in lower crosstalk
- M-eVOL2 volume control circuit using MDAC's
- Fully configurable to be "home-theater ready" giving outstanding sound clarity

TECHNICAL SPECIFICATIONS

Configuration	Fully balanced, dual-mono
Power Supply Transformers	2 x 500VA, 1 x 25VA
Power Supply Capacitance	68,000µF
Input Impedance	23,700Ω
Input Sensitivity	490mV – 6,0V RMS
Preamplifier line-level output (RCA)	1 pair @ 50Ω
Output Device Type – Amplifier	Proprietary MOON BiPolars – 6 per channel
Output Power @ 8Ω	175W per channel
Output Power @ 4Ω	350W per channel
Volume Steps	0.5dB from 0-30 abd 0.1dB from 30-80
Gain Control	M-eVOL2
Gain	37dB
Signal-to-noise Ratio (Preamplifier/Amplifier)	120dB (20-20kHz) / 105dB @ 125W
Frequency Response	10Hz – 100kHz +0/-0.1dB
Crosstalk @ 1kHz	100dB
Intermodulation Distortion	0.02%
THD (20Hz - 20kHz @ 1W)	< 0.015%
THD (20Hz - 20kHz @ 175W)	< 0.04%
Remote Control	All Aluminum Full-Function (FRM-3)
Display Type	8 character dot matrix LED
Power Consumption @ idle	50W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	62 lb / 28 kg
Dimensions (W x H x D, in / cm)	18.75 x 5.5 x 18.1 / 47.6 x 14.0 x 46.0

MOON 740P

The MOON 740P is a dual-mono fully balanced differential design, following in the footsteps of the reference 850P preamplifer.

Fully Balanced
Architecture

Independant Buffered
Outputs (3)

External PSU
Upgrade Path

meVOL2
Volume Control

i2DCf
DC Filtering

HIGHLIGHTS

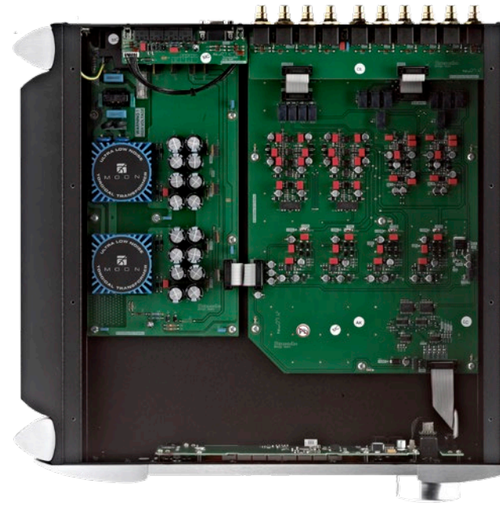
- Ultimate one box line stage
- Transparent, open and detailed sonics
- Music emerges from black background
- Feature rich : input labelling, gain offset

FEATURES

- Oversized power supply using 2 toroidal transformers in conjunction with 5 stages of DC voltage regulation and extensive choke filtering
- M-eVOL2 volume control circuit using MDAC's
- Power supply voltage regulation includes i²DCf (Independent Inductive DC Filtering); 24 stages in all

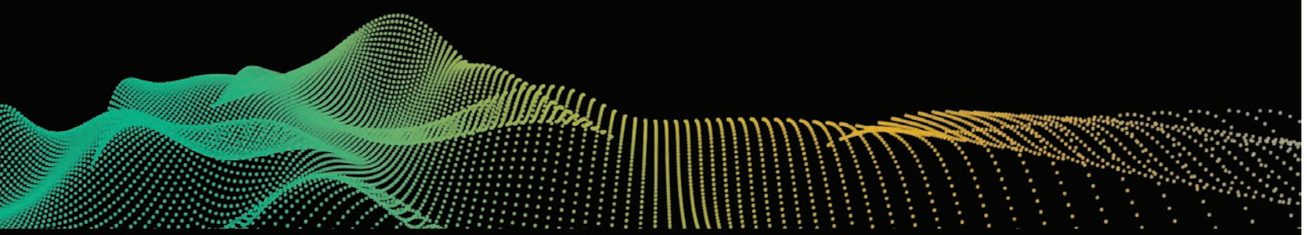
TECHNICAL SPECIFICATIONS

Configuration	Fully balanced, dual-mono
Balanced inputs (XLR)	2 pairs
Single-ended inputs (RCA)	3 pairs
Input Impedance	22,000Ω
Input Sensitivity	200mV – 4,0V RMS
Balanced outputs (XLR)	1 pair
Single-ended outputs (RCA)	2 pairs (fixed and variable)
Output Impedance	50Ω
Gain Control	M-eVOL2
Gain	9dB
Signal-to-noise Ratio	120dB @ full output
Frequency Response	5Hz - 100kHz +0/-0.1dB
Crosstalk @ 1kHz	116dB
Intermodulation Distortion	0.0003%
THD (20Hz - 20kHz)	< 0.001%
Remote Control	All Aluminum Full-Function (FRM-3)
Display Type	8 character dot matrix LED
Power Consumption @ idle	20W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	35lb / 16kg
Dimensions (W x H x D, in / cm)	18.75 x 4.0 x 16.5 / 47.6 x 10.0 x 41.9



MOON 850P

The MOON 850P is the most advanced MOON preamplifier to date.



130dB	Fully Balanced	mOCTAVE	mRay	Dual Chassis
Signal/Noise Ratio	*Architecture*	*Gel Suspension*	*Volume Control*	*Design*

Reference Preamplifier
850P

HIGHLIGHTS

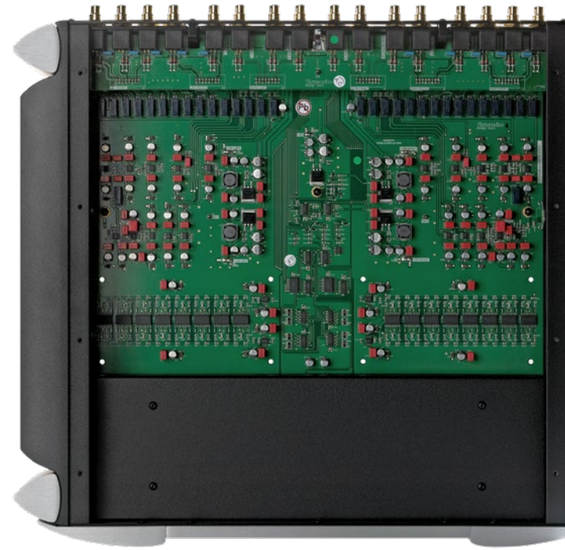
- The ultimate analog preamplifier
- Sophisticated two chassis design; audio circuits are isolated within a second box for better signal accuracy
- Suspension for complete microphonic annihilation giving incredibly lifelike natural sound
- Feature rich : input labelling, gain offse

FEATURES

- M-Ray volume control based on the R-2R resistor array configuration using metal film surface mount resistors with 0.1% tolerances
- Fully differential, no global feedback circuit topology, using absolutely no capacitors anywhere in the audio signal path
- Fully configurable to be “home-theater ready”

TECHNICAL SPECIFICATIONS

Configuration	Fully balanced, dual-mono
Balanced inputs (XLR)	3 pairs
Single-ended inputs (RCA)	5 pairs
Monitor Loop (RCA)	1 pair
Input Impedance	11,000Ω
Input Sensitivity	200mV – 4,0V RMS
Balanced outputs (XLR)	2 pairs
Single-ended outputs (RCA)	2 pairs (fixed and variable)
Output Impedance	50Ω
Gain Control	M-Ray (Fully Discrete R-2R circuit)
Gain	9dB
Signal-to-noise Ratio	130dB @ full output
Frequency Response	5Hz - 100kHz +0/-0.1dB
Crosstalk @ 1kHz	130dB
Intermodulation Distortion	0.0001%
THD (20Hz - 20kHz)	< 0.0005%
Remote Control	All Aluminum Full-Function (FRM-3)
Display Type	8 character dot matrix LED
Power Consumption @ idle	25W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	151lb / 67kg
Dimensions - each chassis (W x H x D, in / cm)	18.75 x 4.0 x 16.5 / 47.6 x 10.0 x 41.9



MOON 330A

The MOON 330A Power Amplifier is a combination of high-performance and an elegant package.

250W 4Ω	125W 8Ω	MOON Bipolar	No Feedback	Slim
Power Per Channel	*Power Per Channel*	*Transistors*	*Amplification*	*Design*

HIGHLIGHTS

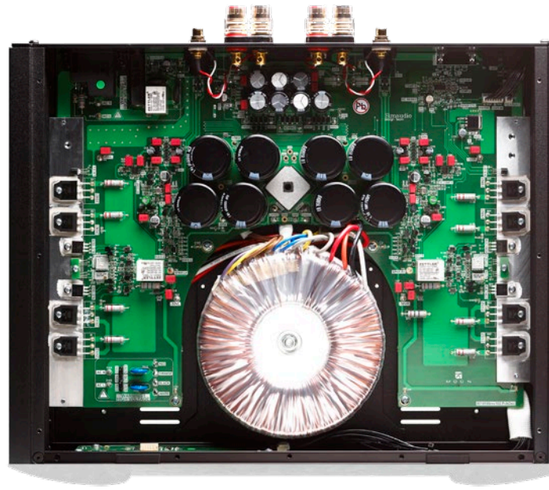
- Entry point of separates amplification from MOON
- Compact for easy placement in the wife's living room
- Superb sonics, like a 340i on steroids
- 125W per channel

FEATURES

- A "no overall feedback" design resulting in genuine real-time amplification
- Proprietary toroidal transformer design with lower magnetic, electrical and thermal loss, yielding an improved power transfer and lower regulation factor
- Balanced differential circuitry
- Precision matched proprietary MOON Bipolar output transistors with unprecedented gain linearity

TECHNICAL SPECIFICATIONS

Configuration	Balanced Differential
Power Supply Transformer	400VA
Power Supply Capacitance	85,000µF
Class Of Operation	A/AB
Input Impedance	47,500Ω
Input Sensitivity	800mV
Output Device Type	MOON Bipolar
Output Power @ 8Ω	125W per channel
Output Power @ 4Ω	250W per chananel
Output Power – Bridged Mono @ 8Ω	400W
Frequency Response	10Hz – 125kHz +0/-3.0dB
Gain	31dB
Signal-to-noise Ratio	> 100dB @ full power
Intermodulation Distortion	0.02%
Total Harmonic Distoritian (20Hz-20kHz @ 1W)	< 0.02%
Total Harmonic Distoritian (20Hz-20kHz @ 125W)	< 0.05%
Power Consumption @ idle	36W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	33lb / 15kg
Dimensions (W x H x D, in / cm)	16.9 x 3.5 x 14.0 / 42.9 x 8.9 x 35.6



MOON 400M

The MOON 400M is the entry point of monoblock amplification.

650W 4Ω
Power Per Channel

4005W 8Ω
Power Per Channel

MOON Bipolar
Transistors

No Feedback
Amplification

Slim
Design

HIGHLIGHTS

- Entry point of monoblock amplification from MOON
- Especially compact for its power rating and easy placement in the wife's living room
- Can drive effortlessly any but the most exotic and inefficient loudspeakers
- 400W per channel

FEATURES

- A "no overall feedback" design resulting in g enuine real-time amplification
- Proprietary toroidal transformer design with lower magnetic, electrical and thermal loss, yielding an improved power transfer and lower regulation factor
- A high damping factor for superior musical dynamics, improved signal speed and refined timbre accuracy
- Fully balanced differential circuitry

TECHNICAL SPECIFICATIONS

Configuration	Fully Balanced Differential, Mono
Power Supply Transformer	400VA
Power Supply Capacitance	85,000µF
Class Of Operation	A/AB
Input Impedance	47,500Ω
Input Sensitivity	800mV
Output Device Type	MOON Bipolar
Output Power @ 8Ω	400W
Output Power @ 4Ω	650W
Frequency Response	10Hz – 125kHz +0/-3.0dB
Gain	36dB
Signal-to-noise Ratio	> 106dB @ full power
Intermodulation Distortion	0.02%
Total Harmonic Distoritien (20Hz-20kHz @ 1W)	< 0.02%
Total Harmonic Distoritien (20Hz-20kHz @ 400W)	< 0.05%
Power Consumption @ idle	36W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	33lb / 15kg
Dimensions (W x H x D, in / cm)	16.9 x 3.5 x 14.0 / 42.9 x 8.9 x 35.6

MOON 760A

In a nutshell, the MOON 760A will amplify music with all the harmonic accuracy, richness and dimensionality of a live musical performance.

Slim	260W 4Ω	130W 8Ω	MOON Bipolar	No Feedback
Design	*Power Per Channel*	*Power Per Channel*	*Transistors*	*Amplification*

HIGHLIGHTS

- Entry point of separates in the Evolution series
- Very compact for easy placement
- Ideal for multi-amplification configuration
- Seductive warm sound

FEATURES

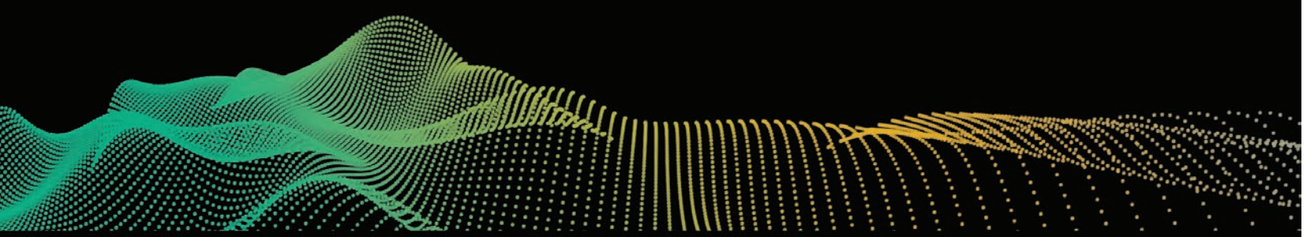
- A "no overall feedback" design resulting in genuine real-time amplification, a more accurate musical reproduction with respect to tonality, virtually non-existent intermodulation distortion and the elimination of commonphase errors resulting from feedback
- Precision matched and fully decoupled proprietary MOON Bipolar output transistors with unprecedented gain linearity resulting in improved bass response and even moreaccurate sonic reproduction
- Self-diagnostic system that detects both over heating and the presence of DC in the input signal

TECHNICAL SPECIFICATIONS

Configuration	Fully balanced differential, dual-mono
Power Supply Transformers	2 x 0.5kVA
Power Supply Capacitance	80,000µF
Class Of Operation	A/AB
Input Impedance	47,500Ω
Input Sensitivity	900mV
Output Device Type	MOON Bipolars - 4 per channel
Output Power at 8Ω	130W per channel
Output Power at 4Ω	260W per channel
Output Power – Bridged Mono at 8Ω	500W
Frequency Response	10Hz - 200kHz +0/-3dB
Gain	31dB
Signal-to-noise Ratio	> 104dB @ full power
Crosstalk @ 1kHz	102dB
Intermodulation Distortion	0.01%
THD (20Hz - 20kHz @ 1W / 130W)	< 0.015% / < 0.04%
Power Consumption @ idle	35W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	45lb / 20kg
Dimensions (W x H x D, in / cm)	8.75 x 4.0 x 18.1 / 47.6 x 10.2 x 46.0

M O O N
860A v2

Transparency and soundstage are exceptional, despite this amplifier's high power rating. Ultimately, the MOON 860A v2 will mate seamlessly with any loudspeaker allowing it to reach its full sonic potential, regardless of its load.



750W	450W 4Ω	225W 8Ω	MOON Bipolar	No Feedback
Monoral Power	*Power Per Channel*	*Power Per Channel*	*Transistors*	*Amplification*

HIGHLIGHTS

- Seducing warm sound
- No global feedback for fast and lifelike musicality
- Can drive any but the most exotic and inefficient loud speakers
- 225W per channel

FEATURES

- Lynx circuitry which is a "no overall feedback" design
- Precision matched and fully decoupled proprietary MOON Bipolar output transistors with unprecedented gain linearity
- High damping factor for superior musical dynamics, improved signal speed and refined timbre accuracy
- Configurable Monaural Mode

TECHNICAL SPECIFICATIONS

Output Power at 8Ω	225 W per channel
Output Power at 4Ω	450 W per channel
Output Power - Monaural mode at 8Ω	750 W
Input Sensitivity	1.2V
Input Impedance	47,500Ω
Power Supply Transformers	2x 1.2 kVA
Signal-to-noise Ratio	110dB @ full power
Shipping weight	90lb/40kg
Gain	31dB
THD (20Hz - 20kHz @ 1W)	0.005%
THD (20Hz - 20kHz @ 200W)	0.03%
Intermodulation distortion	0.006%
Crosstalk @ 1kHz	-110dB
Power Supply Capacitance	240 000 uF
Frequency response (full range)	10Hz - 100kHz +0/-3dB
Dimensions (width x height x depth)	18.75 x 7.5 x 17.5 in / 47.6 x 19.2 x 44.5 cm

MOON
888

Bold in visual appearance.
Prodigious in power output. Unrelenting in its musical accuracy.
The MOON 888 is State-of-the-Art taken to the extreme.

1776W 4Ω	888 W 8Ω	MOON Bipolar	No Feedback
Power Per Channel	*Power Per Channel*	*Transistors*	*Amplification*

HIGHLIGHTS

- Cost no object design
- 1.2hp (888W) of rated output power
- No global feedback for fast and lifelike musicality
- Designed for the best loudspeaker

FEATURES

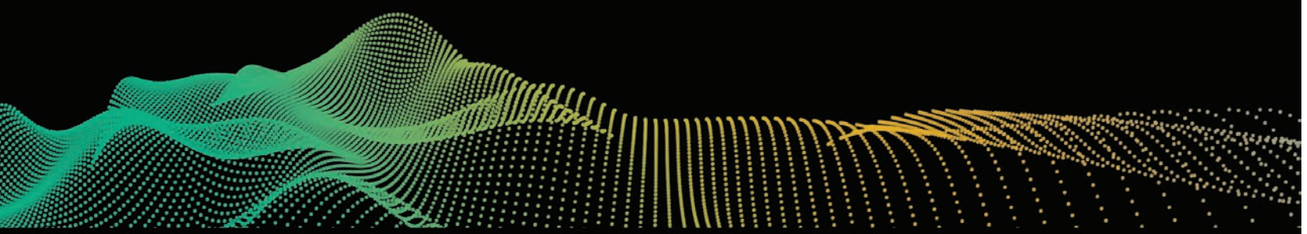
- Massive single-piece cast aluminum heatsink manufactured using the same processes as high performance racing engine
- Selectable AC or DC coupling
- Shielded custom proprietary toroidal power transformers
- Precision matched and fully decoupled proprietary MOON bipolar transistors with unprecedented gain linearity
- Finest rhodium plated heavy-duty speaker connectors

TECHNICAL SPECIFICATIONS

Configuration	Fully balanced differential, mono
Class of operation	A/AB
Output Power at 8Ω	888W (1.2HP)
Output Power at 4Ω	1776W (2.4HP)
Input Sensitivity	2.4V RMS
Input Impedance	24kΩ
Gain	31dB
Signal-to-Noise Ratio	120dB @ full power
Frequency Response	10Hz - 200kHz +0/-3.0dB
THD (20Hz - 20kHz @ full power)	0.04%
Intermodulation Distortion	0.006%
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	300lb / 136kg
Dimensions (W x H x D, in / cm)	22 x 14 x 27 / 55.9 x 35.6 x 68.6

MOON
230HAD

The MOON 230HAD is a headphone amplifier, a DAC
and a line-stage preamplifier all housed in one very stylish package.



DSD256	32-bit	1W	Preamp	USB	Trans-conductance
DSD Resolution	*PCM Resolution*	*Headphone Amp*	*Output*	*Asynchronous*	*Amplification*

Headphone
Amplifier
230HAD

HIGHLIGHTS

- Compact
- Powerful
- Amazing sound / Extraordinary value
- Trickled-down from the 430HAD

FEATURES

- Pure analog amplifier includes a transconductance circuit topology
- Oversized power supply using a toroidal transformers in conjunction with 8 stages of DC voltage regulation
- Supports DSD64, DSD128 and DSD256 (USB input only); Supports PCM 16/44.4kHz to 4/192kHz (all inputs) and up to PCM 32/384kHz (USB input only)
- Outputs include a 1/4" TRS headphone jack on the front panel, as well as, both fixed and variable line-level single-ended RCA stereo pairs in the rear

TECHNICAL SPECIFICATIONS

Configuration	Single-Ended
Headphone Impedance	20 - 600Ω
Power Supply Transformers	1 x 10VA
Power Supply Capacitance	13,200µF
Type of Amplification	Transconductance
Single-ended inputs (RCA)	1 pair
Mini-jack input	1 (1/8")
Input Impedance	22,000Ω
Output Device Type	Bipolar
Single Ended Headphone Output	1/4" Stereo TRS
Single Ended Preamp Outputs (RCA)	2 pairs (fixed and variable)
Output Power @ 600Ω	100mW
Output Power @ 300Ω	200mW
Output Power @ 50Ω	1W
Audible Frequency Response	20Hz-20kHz ±0.1dB
Full-range Frequency Response	5Hz - 100kHz +0/-3.0dB
Output Impedance	1.25Ω
Signal-to-noise Ratio (20Hz-20kHz)	115dB @ full output
Crosstalk @ 1kHz	- 80dB
Total Harmonic Distortion (20Hz-20kHz)	0.005%
Intermodulation Distortion	0.005%
Remote Control	Full-Function (CRM-3)
Power Consumption @ idle	10W
Power Consumption @ Standby	0.5W
AC Power Requirements	120V / 60Hz ou 240V / 50Hz
Shipping Weight	6.2lb / 2.8kg
Dimensions (W x H x D, in / cm)	7.0 x 3.0 x 11.0 / 17.8 x 7.6 x 28.0

MOON 430HA

The MOON 430HA is the new reference for headphone amplifiers offering genuine and acclaimed world-class performance.

8W	Fully Balanced	Hideable XLRs	Preamp	X-Feed	32-bit 384kHz
Headphone Amp	*Circuitry*	*Outputs*	*Output*	*Circuit*	*Optional DAC*

HIGHLIGHTS

- The ultimate headphone amplifier with worldwide recognition
- Refined, hidden behind window XLR connectors for balanced headphones
- Drive effortlessly any headphones
- Sophisticated 32-bit & DSD DAC option (430HAD)

FEATURES

- A "no overall feedback" design resulting in genuine real-time amplification
- M-eVOL2 volume control circuit using MDAC's (operating in a current steering R-2R configuration)
- Optional DAC with four (4) digital inputs (S/PDIF x 2, TosLink x 1 & USB x 1)
- 4 stages of our M-LoVo (MOON Low Voltage) DC regulation circuit; a highly sophisticated circuit that is virtually free of noise, yielding an exceptionally fast, precise, and stable DC voltage

TECHNICAL SPECIFICATIONS

Configuration	Fully balanced differential
Headphone Impedance	20 - 600Ω
Power Supply Transformers	2 x 25VA
Power Supply Capacitance	35,000µF
Type of Amplification	Transconductance
Input Impedance	22,000Ω
Output Device Type	Bipolar
Output Power @ 600Ω	667mW
Output Power @ 300Ω	1.33W
Output Power @ 50Ω	8W
Audible Frequency Response	20Hz-20kHz ±0.1dB
Full-range Frequency Response	5Hz - 100kHz +0/-3.0dB
Output Impedance	1.25Ω
Signal-to-noise Ratio (20Hz-20kHz)	120dB @ full output
Crosstalk @ 1kHz (w/o crossfeed)	- 110dB
Gain - Selectable	14dB or 20dB
Total Harmonic Distorition (20Hz-20kHz)	0.005%
Intermodulation Distortion	0.005%
Remote Control	Full-Function (CRM-3)
Power Consumption @ idle	15W
Power Consumption @ Standby	0.5W
AC Power Requirements	120V / 60Hz ou 240V / 50Hz
Shipping Weight	22lb / 9.5kg
Dimensions (W x H x D, in / cm)	16.9 x 3.5 x 13.8 / 42.9 x 8.9 x 35.1

M O O N

110LP v2

Analog reproduction with world-class performance.
Yet very easy to use and very affordable.

MM/MC
Selectable

Gain
Settings

Impedance
Settings

Phono
Preamplifier
110LP v2

HIGHLIGHTS

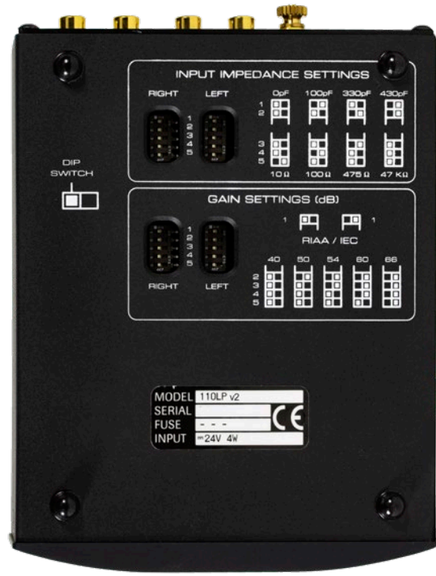
- MOON's Entry point for analog LP records playback
- Affordable and compact
- Configurable for MM/MC
- Enhanced sound quality over any low budget phono

FEATURES

- Two-layer PCB tracings using pure copper for low impedance characteristics. The advantages include better circuit layouts resulting in a much shorter signal path and a vastly improved signal-to-noise ratio
- Accurate matching of military-grade components with ultra-tight tolerances using surface-mount technology for extremely short signal paths
- Inductive DC Filtering for a significantly lower noise floor
- Compact, rigid all-aluminum chassis with gold-plated RCA connectors.

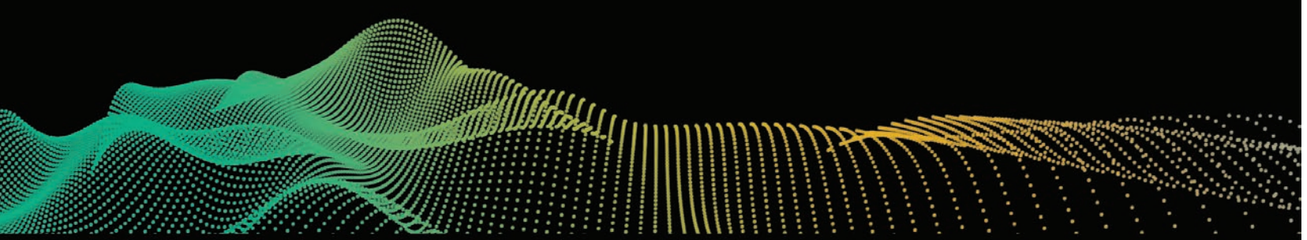
TECHNICAL SPECIFICATIONS

Circuit Layout	Mirror-image symmetrical circuit
Output impedance	75Ω
Input Impedance - Adjustable	10, 100, 475 and 47kΩ
Input Capacitance - Adjustable	0, 100, 330 and 430pF
Gain Level – Adjustable	40, 50, 54, 60 and 66dB
Signal-to-noise Ratio (full scale @40dB gain)	104dBr
Signal-to-noise Ratio (full scale @60dB gain)	87dBr
Overload margin @ 40 dB gain	22 dB (20 Hz - 20 kHz)
Overload margin @ 66 dB gain	18 dB (20 Hz - 20 kHz)
Frequency Response	20Hz - 20kHz (±0.5dB)
Crosstalk @ 1kHz	-100dB
Intermodulation Distortion	< 0.002%
THD (20Hz - 20kHz)	< 0.002%
Power Consumption @ idle	2W
AC Power Requirements	100V / 50Hz or 240V / 60Hz
Shipping Weight	3.3lb / 1.5kg.
Dimensions (W x H x D, in / cm)	5.0 x 1.65 x 6.5 / 12.7 x 4.2 x 16.5



MOON 310LP

Breathtaking analog reproduction combined with well-rounded flexibility.



MM/MC	RIAA / IEC	Up to 72dB	Balanced
Selectable	*Selectable*	*Gain Setting*	*Output*

HIGHLIGHTS

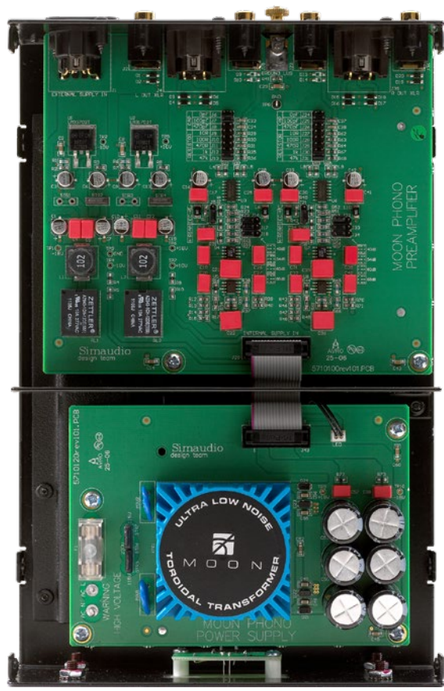
- Amazing price/performance ratio
- Multiple award winning for better sound from LP records
- Great level of input optimization for any cartridge

FEATURES

- Power supply voltage regulation includes i²DCf (Independent Inductive DC Filtering); There is one inductordedicated to each integrated circuit type component (DAC, Op-Amp, etc.) in the audio circuit's signal path; 2 stages in all
- Single-ended RCA and Balanced XLR outputs
- 4-Layer printed circuit boards with pure copper tracings for a much shorter signal path; This results in greater sonic accuracy and a dramatically improved signal-to-noise ratio

TECHNICAL SPECIFICATIONS

Circuit Layout	Mirror-image symmetrical circuit
Single-ended inputs	1 pair (RCA)
Input Impedance - Adjustable	47, 100, 470, 1k, and 47kΩ
Input Capacitance - Adjustable	0, 100, and 470pF
Single-ended output	1 pair (RCA)
Balanced output	1 pair (XLR)
Gain – Adjustable (for single-ended outputs)	40, 54, 60 and 66 dB
Gain – Adjustable (for balanced outputs)	46, 60, 66 and 72dB
Input overload @ 40dB gain	58mV RMS
Input overload @ 54dB gain	11mV RMS
Input overload @ 60dB gain	6mV RMS
Input overload @ 66dB gain	3mV RMS
Signal-to-noise Ratio (full scale @ 40dB gain)	110dBr
Signal-to-noise Ratio (full scale @ 66dB gain)	88dBr
Frequency Response – RIAA & IEC Curve	20Hz - 20kHz (±0.5dB)
IEC Curve Effect	-7dB @ 10Hz
Crosstalk @ 1kHz	-100dB
Intermodulation Distortion	< 0.009%
THD (20Hz - 20kHz)	< 0.001%
Power Consumption	6W
AC Power Requirements	120V or 240V, 60Hz or 50Hz
Shipping Weight	7lb / 3.1kg
Dimensions (W x H x D, in / cm)	7 x 3 x 11 / 17.8 x 7.6 x 28



MOON 610LP

Featuring a dual-mono, fully balanced differential circuit layout, the MOON 610LP is a purist design heavily based on the reference grade MOON 810LP.

MOON Caps	RIAA / IEC	Balanced	64 Impedance	16 Capacitance	16 Gain
Custom Made	*Selectable curve*	*Input*	*Settings*	*Settings*	*Settings*

HIGHLIGHTS

- Trickled down technology from the world's best phono preamp, the 810LP
- Incredible level of input optimization for any cartridge
- Music emerges from deep black background
- Balanced operation

FEATURES

- Oversized power supply producing a DC signal with a noise floor of -140dB related to 1.0V, DC-100kHz
- Selectable equalization curves for both the RIAA and the IEC standards
- Power supply featuring a "pi-type" filter comprised of 40,000uF of capacitance and dual choke inductance
- Customized parts include metallized polypropylene film capacitors with very tight tolerances of 1%the presence of DC in the input signal

TECHNICAL SPECIFICATIONS

Configuration	Fully balanced differential, dual-mono
Power Supply Transformers	25VA
Power Supply Capacitance	40,000µF
Input Impedance - Adjustable	64 settings from 12.1Ω to 47kΩ
Input Capacitance - Adjustable	16 settings from 0pF to 1120pF
Gain Level – Adjustable	16 settings from 40dB to 70dB
Input overload @ 40dB gain	200mV RMS (XLR) / 100mV RMS (RCA)
Input overload @ 55.5dB gain	30mV RMS (XLR) / 15mV RMS (RCA)
Input overload @ 60dB gain	20mV RMS (XLR) / 10mV RMS (RCA)
Input overload @ 65dB gain	10mV RMS (XLR) / 5mV RMS (RCA)
Input overload @ 70dB gain	5mV RMS (XLR) / 2.5mV RMS (RCA)
Signal-to-noise Ratio (full scale @ 40dB gain)	112dBr
Signal-to-noise Ratio (full scale @ 55.5dB gain)	106dBr
Signal-to-noise Ratio (full scale @ 60dB gain)	103dBr
Signal-to-noise Ratio (full scale @ 65dB gain)	98dBr
Signal-to-noise Ratio (full scale @ 70dB gain)	93dBr
Frequency Response – RIAA & IEC Curve	20Hz - 20kHz (±0.1dB)
Output Impedance	50Ω
IEC Curve Effect	- 7dB @ 10Hz
Crosstalk @ 1kHz	- 106dB
Intermodulation Distortion	< 0.002%
THD (20Hz - 20kHz)	< 0.001%
Power Consumption @ idle	6W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	40lb / 18kg
Dimensions (W x H x D, in / cm)	18.75 x 4.0 x 16.8 / 47.6 x 10.2 x42.7

MOON 810LP

A true purist design that is destined to become the new reference for analog playback. Astonishing analog reproduction combined with unsurpassed flexibility!

MOON Caps	mOCTAVE	RIAA / IEC	Balanced	64 Impedance	16 Capacitance	16 Gain
Custom Made	*Gel Suspension*	*Selectable curve*	*Input*	*Settings*	*Settings*	*Settings*

HIGHLIGHTS

- The ultimate phono preamplifier
- Incredible level of input optimization for any cartridge
- Suspension which eliminate microphonics for absolute best analog sound
- Balanced operation

FEATURES

- Dedicated audio circuit board mounted on a 5-point gel-based Floating suspension derived from our M-Octave Damping technology
- 4 stages of our M-LoVo (MOON Low Voltage) DC regulation circuit
- Selectable equalization curves for both the RIAA and the IEC standards
- Customized parts include metallized polypropylene film capacitors with very tight tolerances of 1%the presence of DC in the input signal

TECHNICAL SPECIFICATIONS

Configuration	Fully balanced differential, dual-mono
Power Supply Transformers	25VA
Power Supply Capacitance	40,000µF
Input Impedance - Adjustable	64 settings from 12.1Ω to 47kΩ
Input Capacitance - Adjustable	16 settings from 0pF to 1120pF
Gain Level – Adjustable	16 settings from 40dB to 70dB
Input overload @ 40dB gain	200mV RMS (XLR) / 100mV RMS (RCA)
Input overload @ 55.5dB gain	30mV RMS (XLR) / 15mV RMS (RCA)
Input overload @ 60dB gain	20mV RMS (XLR) / 10mV RMS (RCA)
Input overload @ 65dB gain	10mV RMS (XLR) / 5mV RMS (RCA)
Input overload @ 70dB gain	5mV RMS (XLR) / 2.5mV RMS (RCA)
Signal-to-noise Ratio (full scale @ 40dB gain)	115dBr
Signal-to-noise Ratio (full scale @ 55.5dB gain)	108dBr
Signal-to-noise Ratio (full scale @ 60dB gain)	105dBr
Signal-to-noise Ratio (full scale @ 65dB gain)	100dBr
Signal-to-noise Ratio (full scale @ 70dB gain)	95dBr
Frequency Response – RIAA & IEC Curve	20Hz - 20kHz (±0.1dB)
Output Impedance	50Ω
IEC Curve Effect	-7dB @ 10Hz
Crosstalk @ 1kHz	- 106dB
Intermodulation Distortion	< 0.001%
THD (20Hz - 20kHz)	< 0.0008%
Power Consumption @ idle	10W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	40lb / 18kg
Dimensions (W x H x D, in / cm)	18.75 x 4.0 x 16.8 / 47.6 x 10.2 x42.7

MOON 820S

In order to constantly push the limits of sound purity,
the power supply MOON 820S was created through painstaking R&D
and a passion for perfection.

mR2S
Circuitry

Power
2 Units
Simultaneously

HIGHLIGHTS

- Impressive performance upgrades
- Can power up to two units
- Flexible for digital or analog products
- Ideal upgrade for 650D, 780D, 740P, 610LP and 810LP

FEATURES

- Two custom proprietary toroidal transformers with lower magnetic, electrical and thermal loss, yielding an improved power transfer and lower regulation factor
- The analog and digital supplies each have 4 stages of our M-R2S circuit
- Special "pi-type" filters - 2 each for the analog & digital supplies - after the inital voltage rectification stage that reduce AC transmission noise, using 40,000uF of capacitance and Dual choke inductance (2x 20mH)

TECHNICAL SPECIFICATIONS

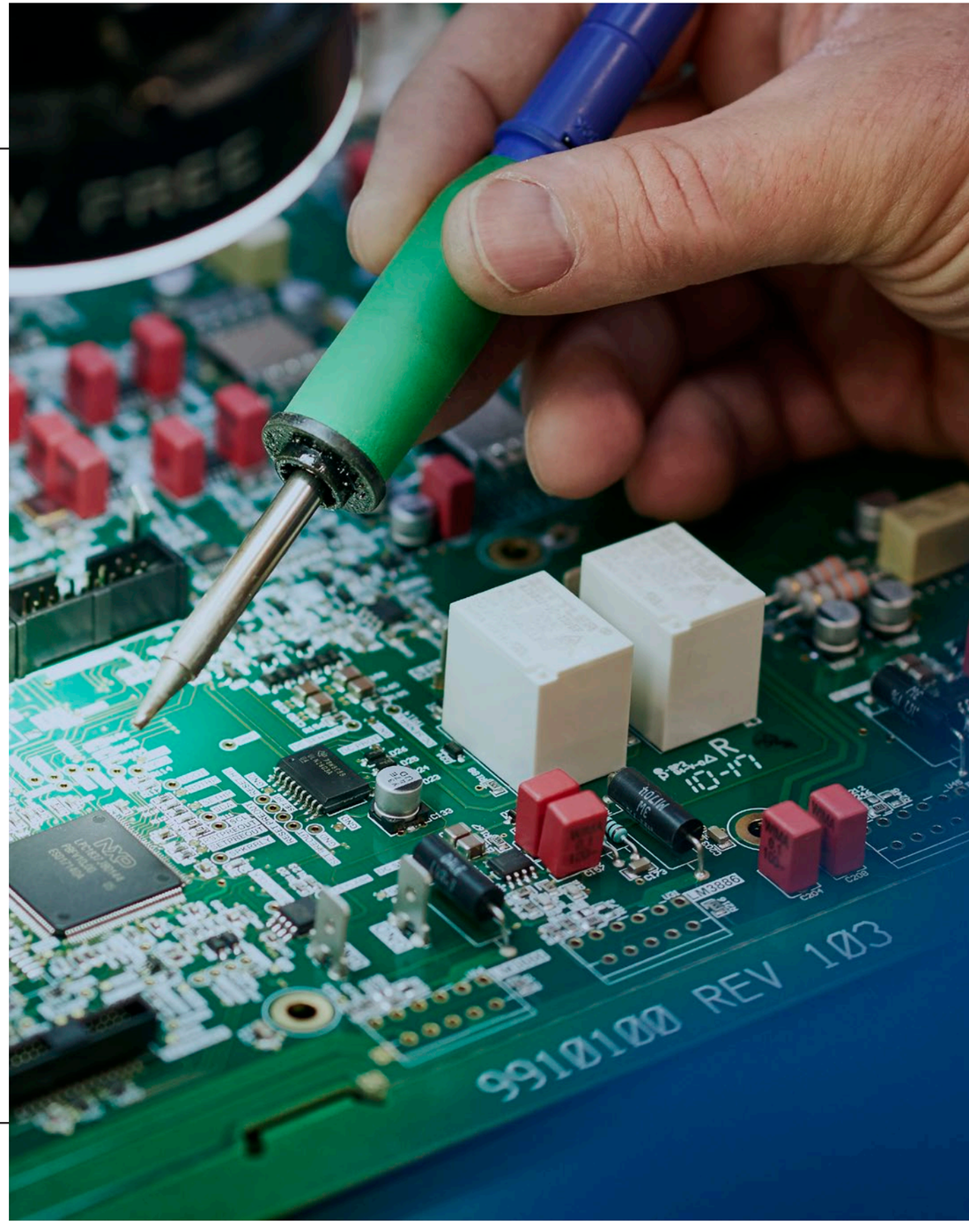
Transformers	2 x 0 25VA
Total Capacitance	80,000µF
Total Inductance	80mH
Output Voltage (analog supply output 1)	±20V
Output Voltage (digital supply output 2)	+14V
Power Consumption @ idle	25W
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	40lb / 18kg
Dimensions (W x H x D, in / cm)	18.75 x 4.0 x 16.8 / 47.6 x 10.2 x42.7

Technologies

Our never ending passion for music and film is deeply rooted in our corporate culture. We go to excessive lengths to achieve perfect audio reproduction because its our profound desire. As a result, numeous advanced technologies are found in all MOON products, many which are either of a proprietary nature or well established, having proven themselves worthy from many years of use. We've either developed or chosen them for a multitude of reasons, the most compelling being that:

- They allow all MOON products to exceed the competition's offerings in countless aspects.
- They provide for the long-term reliability of all MOON products.
- They offer ease-of-use for all MOON products.
- They allow all MOON products to maintain the same sonic character over their entire life span.

The following pages explain, in great detail, all the virtues and benefits of using these technologies. Whenever possible, a definitive comparison with a lesser alternative will be depicted.



MOON BIPOLARS TRANSISTORS

Transistors in an amplifier's output stage perform what can be best described as electrical gain of the music signal. Higher quality transistors will yield an amplified signal with greater integrity. In addition, since each channel of an output stage uses numerous transistors, they must all be accurately matched to each other to maintain this integrity.

MOON amplifiers have always used bipolar transistors in their output stages for several significant reasons. When compared to other types of amplification transistors, bipolars offer:

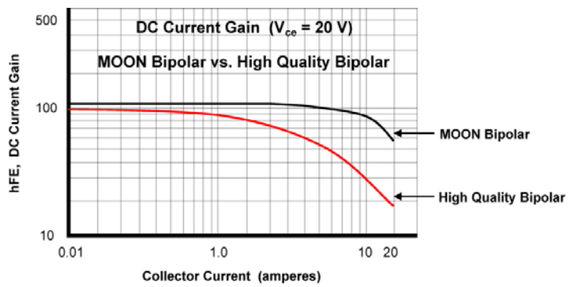
- Wider bandwidth
- Lower distortion
- Excellent reliability and a longer life span
- High resistance to ESD (electrostatic discharge)

We have managed, at a great expense, to have bipolar transistors manufactured to our own exceedingly high standards and specific requirements. When compared to more readily available high quality bipolars for use in audio amplifiers, MOON Bipolars offer the following advantages:

- Unprecedented gain linearity
- Lower noise
- Even wider bandwidth
- Improved bass response
- Greater signal integrity
- Even greater reliability at higher output levels
- A more consistent hFE (the DC current gain of a transistor) which allows for more accurate and easier matching of multiple Bipolars.

The exceptional gain linearity of MOON Bipolars is very significant in the sense that it results in many of these aforementioned advantages. To illustrate the significant effect of this gain linearity when compared to a quality bipolar transistor found in a high-performance audio amplifier, refer to figure 1 below which shows the difference in DC current gain as a function of the transistor's output current:

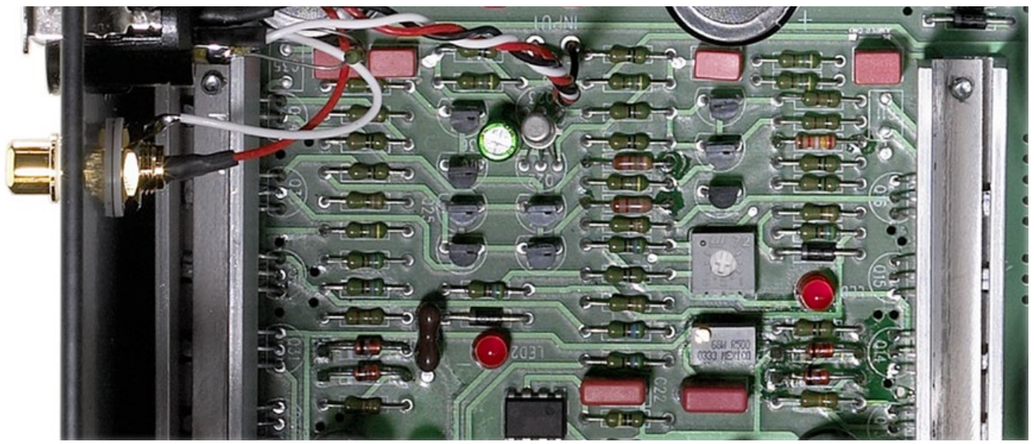
Figure 1



Optimal sonic performance is always achieved regardless of the amplifier's output level.

DC COUPLED AMPLIFIER DESIGN

Without the blocking capacitors at the amplifier's input, sound quality is improved as the phase-shift caused by these capacitors is eliminated. Frequency response in the bass region approaches 0Hz. As well, by removing all capacitors from the direct audio signal path, ultimate soundstage focus is attained with less "smear' or "blur".



Deeper, more accurate and articulate bass...
You will clearly distinguish between a double-bass and an electric bass in a heartbeat.

Figure 2

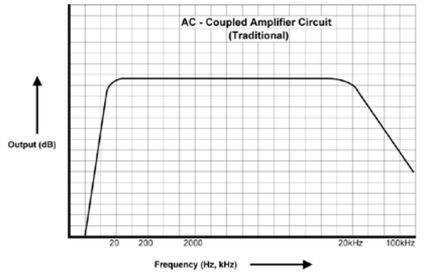
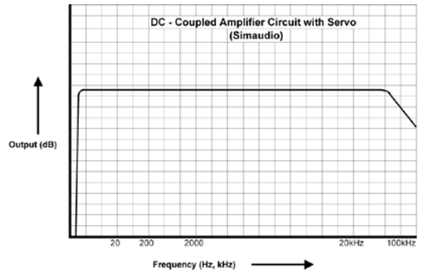


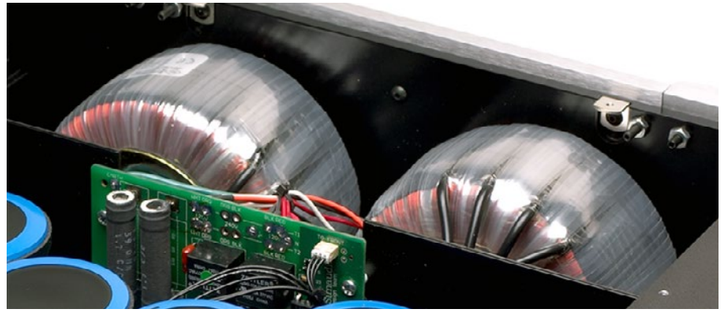
Figure 3



The frequency response curve in figure 3 is virtually flat throughout, and beyond, the entire audible range as a result of the DC-Coupled circuit employed on our MOON amplifiers. Conversely, the frequency response curve of a traditional AC-Coupled amplifier design is far from perfect, as seen in figure 2; both low and high frequencies in the audible range are noticeably diminished.

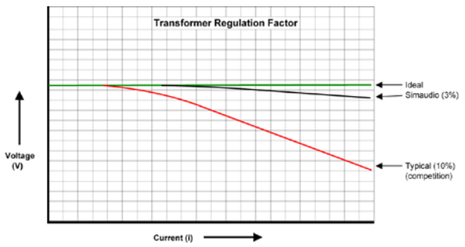
TOROIDAL TRANSFORMERS WITH A VERY TIGHT REGULATION FACTOR

A power supply transformer with a tight regulation (low) factor assures that power into more difficult speaker loads will be delivered closer to the theoretical ideal. These transformers are significantly more expensive, but are the only way to assure stability and consequently excellent sound quality under all conditions.



The three response curves in figure 4 demonstrate (i) a theoretically perfect transformer regulation factor of 0% (green), whereby voltage remains stable regardless of the current draw, (ii) a remarkably low regulation factor of 3% (black), found in MOON amplifiers, where the voltage drops very slightly as the current draw increases and (iii) a typical regulation factor of 10% (red), whereby, as the current draw increases, power supply voltage drops significantly, as found in most competing amplifier designs.

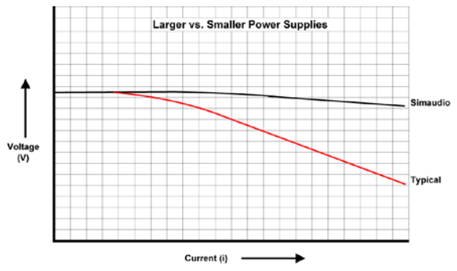
Figure 4



OVER-SIZED POWER SUPPLIES

With a typical power supply, as the current draw increases the available voltage decreases. However, an oversized power supply, common to all MOON products, will minimize this inverse relationship, yielding a voltage level that barely decreases as the demand for current increases. This allows for significantly improved performance. Essentially, a greater power reserve results in a more effortless sonic character.

Figure 5



Powerful musical passages are faithfully and thoroughly reproduced in an effortless manner.

For additional insight into how we accomplish this, please refer to the section entitled «Common Technologies: Customized Toroidal Transformers»

HIGH DAMPING FACTOR

The output section of all MOON power amplifiers possess a high damping factor that ensures an excellent "grip" on woofer cone motion. This reduces overshoot and unwanted oscillations. A high damping factor also greatly improves the immunity to variations in both the quality and the length of speaker cables used.

Significantly better dynamics result in a much more powerful and authoritative bottom-end... The immense energy of a full symphony orchestra comes to life in your own home.

A great deal more energy from a power amplifier is required to reproduce musical information below 400Hz as shown in figure 6a. Amplifiers with a low damping factor (and higher output impedance) have to work harder produce this energy. The majority of power amplifiers possess a damping factor in the range of 200 (red), as shown in figure 6b. Our amplifiers operate with very low output impedances (typically <0.01 ohms), therefore yielding a damping factor that exceeds 800 in the all-important sub-400Hz range.

Figure 6A

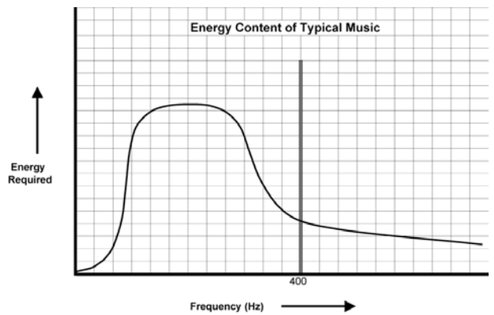
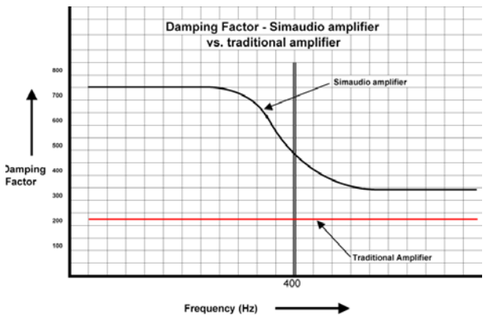


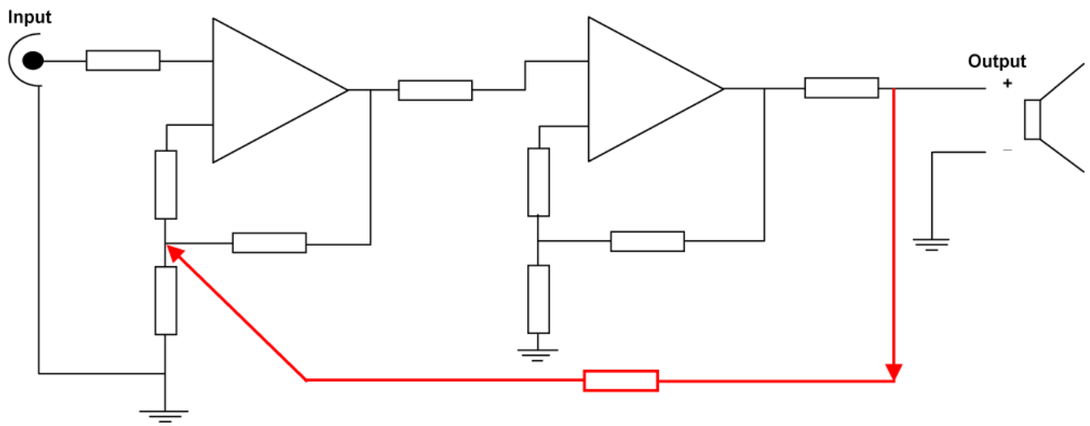
Figure 6B



ADVANCED RENAISSANCE CIRCUITRY (PROPRIETARY TECHNOLOGY)

Introduced in 1998 with the MOON W-5, and found in all MOON amplifiers since, this circuit topology features a no overall feedback design, also known as "Zero Global Feedback". By eliminating the need for signal correction, amplifier speed is greatly increased. Simaudio amplification designs allows for superb performance into difficult loads, which further improves sound quality.

Figure 7



Power amplifiers employing feedback have additional circuitry (feedback loop in red) which takes a sample of the audio signal from the amplifier's output stage, applying it as negative feedback to the gain stage of the amplifier as shown in figure 7. The sole purpose being to reduce the amount of Total Harmonic Distortion (THD) the more feedback used, the greater the reduction in the amount of measurable distortion.

Benefits resulting from Advanced Renaissance Circuitry:

- Real-time amplification
- More accurate musical reproduction w.r.t tonality
  - no colorations
- Elimination of common phase errors
- With this circuit topology, the speaker cannot send back its counter-reaction, to the amplifier, after a musical impulse which normally leads to a reduction in clarity of the music, a lack of tonal accuracy and the feeling of the live performance being lost
- Improved dynamic range
- More dynamic and at ease with virtually any known speaker load, short signal paths, very little signal resistance and degradation
- An amplifier which is much less affected by a loudspeaker's non-linear electro-mechanical properties

BETTER TRANSPARENCY...

The realistic separation and space between instruments in complex musical passages results in the recovery of the faintest of musical notes.

LYNX CIRCUITRY (PROPRIETARY TECHNOLOGY)

Introduced in 2005 with the MOON W-8, and later on in the MOON W-7, MOON W-7M and 700i, the main difference from the "Advanced Renaissance Circuit" is power supply distribution; a more accurate delivery for the individual active devices in the amplification circuit is realized. This is achieved by i) the very close proximity of the gain circuit to output circuit and ii) decoupling the output stage devices from each other. Current amplifiers using Lynx include the MOON 700i, 860A, 870A and 880M.

Benefits when compared to the "Advanced Renaissance Circuit" include:

- Even faster
- More accurate reproduction
- More dynamic
- Larger output reserves
- Shorter signal path

32-BIT PROCESSING

The digital-to-analog conversion process uses bits of digital information to produce an analog waveform, represented as a sine wave (in this example only a part of a sine wave is shown) to produce a music signal. When more digital information is made available, the result is a more accurate and detailed music signal. A higher bit-depth (or a higher resolution) yields smaller, finer and more accurate steps in the reconstruction of this sine wave (grey) as seen in the figures below. A 32-bit (blue) data stream contains significantly more information than a 24-bit (green) or 16-bit (red) data stream.

Figure 8A

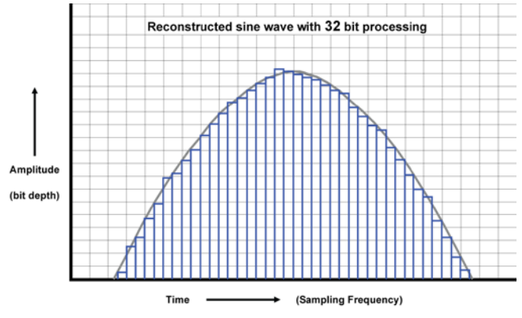


Figure 8B

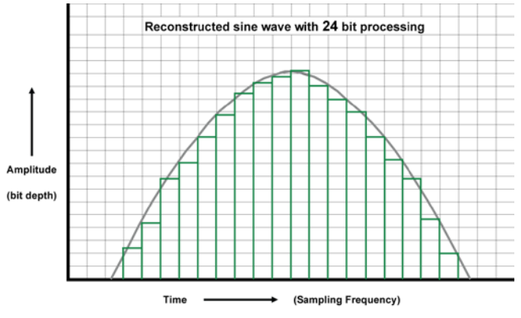
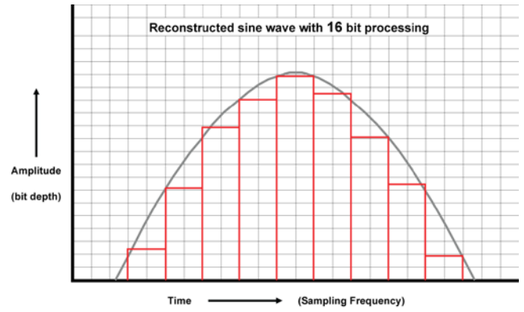


Figure 8B



The advantage of using this 32-bit process to reconstruct a 16-bit digital signal (i.e. Redbook CD) is simple; This process interpolates the digital information more accurately by calculating the finer steps with 32-bit resolution that were lost during the analog-to-digital 16-bit mastering process. The result is, after the D-to-A conversion, a more realistic waveform that is incredibly analog sounding; Each musical note's harmonic decay is restored more accurately than with a 16-bit or 24-bit process, creating a uniquely life-like sound that was previously inaccessible from digital audio until now. In the past, the poor restoration of harmonic decay was a major contributor in what gave digital audio that cold and uninvolving feeling.

As a general rule, increased processing power is directly proportional to resolution: For each additional bit of resolution,the number of available levels will double, as shown in the following table:

Bit Depth	Steps
16	65,536
20	1,048,576
24	16,777,216
32	4,294,967,206

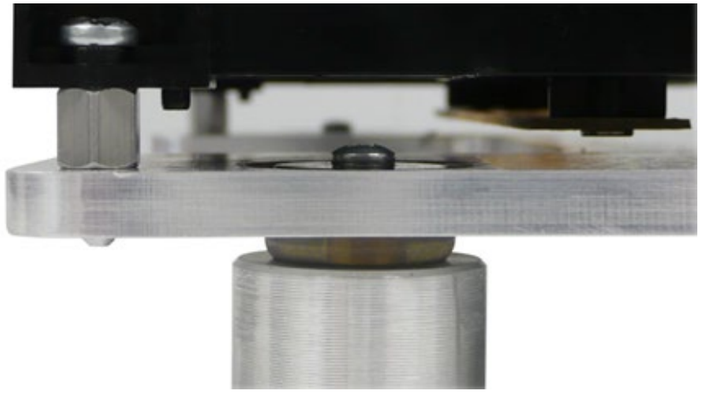
To summarize, the higher the resolution of the data, the smaller the steps will be. This results in more detail as each individual step covers a smaller section of the waveform. More detail in the digital domain leads to a much more accurate analog signal at the end of the conversion process.

Another major benefit of this 32-bit process is smaller data truncation errors. These errors result from the extensive mathematical calculations performed during upsampling & sampling rate conversion, prior to the D-to-A process. These truncation errors - shown in the figures 8a, 8b and 8c above, occur when the data sample rises outside (or above) the grey curve - will be signifcantly smaller as bit-depth increases due to finer and more accurate calculations. As well, because of the sheer processing power that's readily available at 32-bits, the errors will not impede the circuit's ability to accurately recreate the music waveform.

When digital meets analog...
you will have to suspend disbelief that
you're actually listening to a digital music source.

DELTA & M-QUATTRO SUSPENSIONS (PROPRIETARY TECHNOLOGY)

These suspensions acts as a decoupling device between the drive and the CD player's chassis. It is accomplished through the use of a special gel based transport mount that provides for exceptionally accurate mechanical grounding. The main goal here is to dampen the vibrations resulting from both the transport mechanism and the disc's rotation, keeping in mind that the majority of CD's aren't perfectly centered when they are manufactured. The result is virtually total immunity from all external vibrations. Furthermore, this allows the player to better handle errors on the disc, such as gaps in the data, much more efficiently.

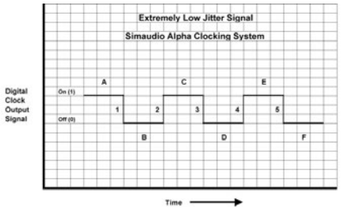


Ambient and spatial cues in your recordings will come to life as you never heard them before.

MOON ALPHA CLOCKING SYSTEM (PROPRIETARY TECHNOLOGY)

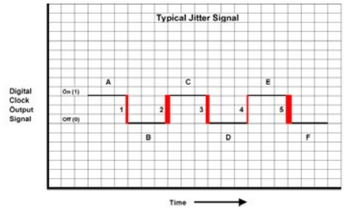
Featuring PLL syncronization, this clocking system achieves extremely accurate phasing and much better than average recovery of information from the compact disc. As well, digital clock-signal integrity is dramatically improved. The result is extremely low jitter in the order of less than 10 picoseconds RMS which means the elimination of digital fatigue in the high-frequency region, and therefore a more analog-like, yet very realistic sonic signature. The significant differences, with respect to jitter, between a digital clock signal from the MOON Alpha Clocking system (figure 9a) and a typical digital clock signal (figure 9b):

Figure 9A



When the width of the digital impulses (A, B, C, D, E, F) are identical, then the phasing between the impulses (1, 2, 3, 4, 5) will all have same width, resulting in extremely low phase errors.

Figure 9B



When the width of the digital impulses (A, B, C, D, E, F) are not equal, then the phasing between the impulses (1, 2, 3, 4, 5) will vary noticeably in width, resulting in significant phase errors.

M-OCTAVE DAMPING (PROPRIETARY TECHNOLOGY)

The M-Octave Damping system isolates the preamplifier's audio circuitry from acoustically induced airborne vibrations (sound waves) which typically originate from the system's loudspeakers. These vibrations find their way to the preamplifier's chassis and can also pass through openings that surround the rear-panel connectors, ultimately causing havoc to the audio signal. Intense acoustic sound waves can produce very small but measureable amounts of higher frequency electrical noise through what is known as the "microphonic effect".

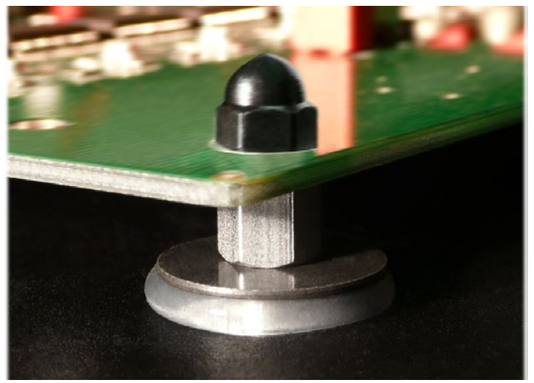
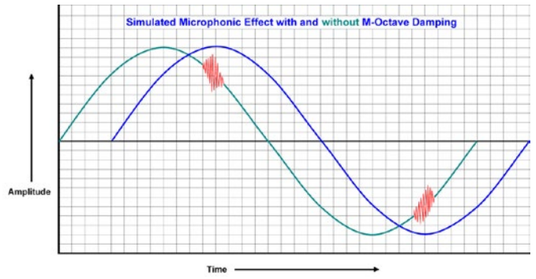


Figure 13



The main audio circuit board of the preamplifier is mounted to its ultra-rigid all-aluminum chassis using our M-Octave 8-point floating suspension. This decouples the circuit board from the chassis, thereby isolating it from external airborne vibrations. M-Octave Damping also desensitizes the circuit board from significant air-pressure variations, caused by soundwaves, outside the chassis that pass through the aforementioned openings. Conversely, the four cone shaped footers (made from a specific metallic alloy) which are mounted to the bottom of all Evolution series preamplifiers are designed to eliminate solid surface vibrations, as opposed to the aforementioned airborne vibrations.

These external airborne vibrations typically cause electronic components to generate very small electrical signals which are not present in the audio signal at the preamplifier's input. M-Octave virtually eliminates this from occurring. More specifically, this apparatus substantially reduces microphonic effects on capacitors and inductors, resulting in lower levels of distortion. This is illustrated in the following sine-wave graph where the green waveform represents an audio signal with distortion induced spuriae (red) resulting from airborne vibrations. The blue waveform shows the exact same audio signal, benefitting from M-Octave Damping.

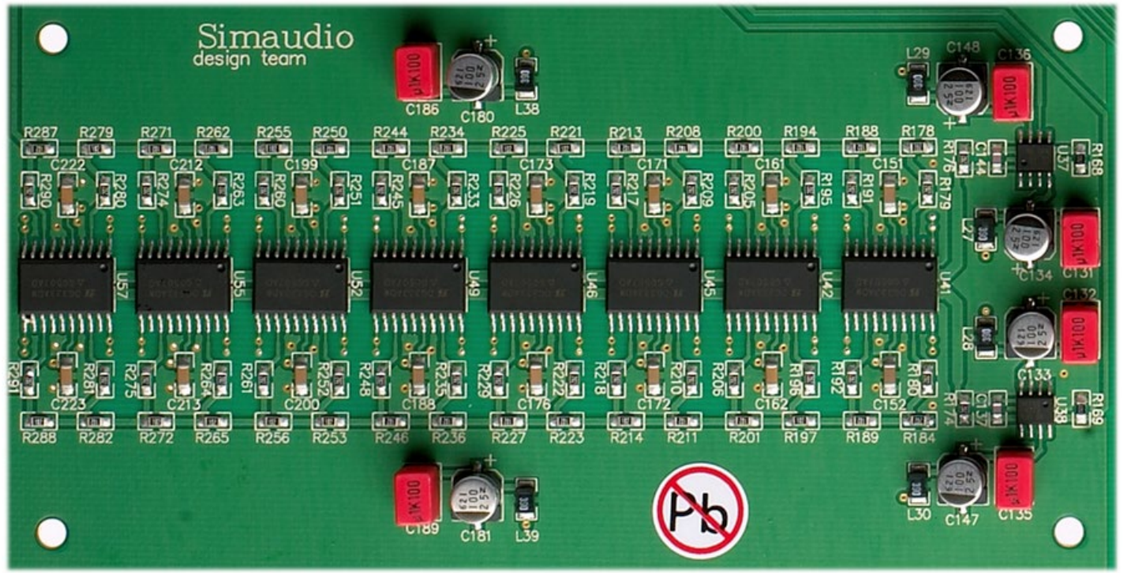
Since all audio connectors are mounted directly to the main audio circuit board, a dual-layered rear panel is used to accommodate the M-Octave Damping system, whereby the outer layer is mounted to the preamplifier's chassis and the inner layer is mounted to the circuit board. These two layers are completely independant of each other and may only come into physical contact with each other when either connecting or disconnecting cables.

Introduced in the MOON 850P Preamplifier, M-Octave Damping allows the audio circuit to operate in a more inert fashion. The result, in sonic terms, is less smearing of images, a more liquid-like natural presentation and the true sense of an effortless musical performance.

The ultimate in damping brings you closer to the music by keeping out external artitfacts and maintaining the purity of the audio signal.

M-RAY VOLUME (PROPRIETARY TECHNOLOGY)

This volume control circuit is based on the R-2R resistor array configuration and uses high-quality thin metal film surface mount resistors with 0.1% tolerances. The entire process is microcomputer controlled via a discrete relay network. The audio signal is never converted to digital, nor is it processed in any way. As well, with this type of circuitry, we can physically place the gain section at the optimal spot on the circuit board, regardless of the actual location of the volume control, thus shortening the overall length of the signal path. This is a fully discrete circuit design and one of the contributing factors to the MOON 850P Preamplifier 's 2-chassis design.

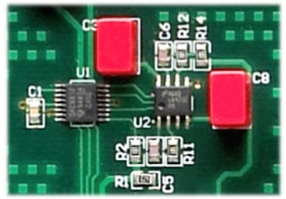


The M-Ray circuit provides for 0.1dB incremental adjustments and is considered amongst the most accurate volume control in the marketplace today. Providing absolutely no sonic degradation of the audio signal regardless of the chosen volume setting resulting, it also adds no colorations whatsoever. Two additional benefits of this volume control circuit are a previously unattainable signal-to-noise ratio and a plethora of unique volume settings – a staggering 530 unique steps in the case of the MOON 850P. Since there are no internal moving parts as is the case with potentiometers, whose internal contacts and moving parts eventually oxidize, long-term reliability is beyond any mechanical volume control circuit.

M-EVOL 2 (PROPRIETARY TECHNOLOGY)

The M-eVOL2 volume circuit uses Multiplying Digital-to-Analog Converters (MDAC's) to vary the amplitude of the music signal based on the chosen volume setting. Since it is used in a dual-mono circuit topology, there is one MDAC for each channel. As well, the audio signal ALWAYS remains in the analog domain and is never degraded at any volume setting.

Each MDAC (a Texas Instruments DAC8812) uses a pair of current steering R2-R ladder DACs that allows for operation in a fully balanced differential mode. Like the M-Ray volume circuit, it provides incremental adjustments in 0.1dB steps, yielding a total of 530 unique volume steps.



Introduced in the MOON 600i and 700i Integrated Amplifiers, the benefits of the M-eVOL2 volume circuit, when compared to the original M-eVOL, include:

- A blacker background
- An improvement in signal-to-noise-ratio of +10dB in magnitude
- Improved signal matching between the left and right channels
- Much more precise incremental volume adjustments (0.1 db vs. 0.5dB)
- Increased bandwidth
- Closely approaches the performance of the M-Ray volume circuit

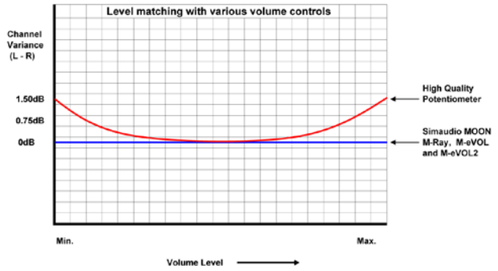
The M-eVOL2 volume is also found in the MOON 740P preamplifier and MOON 430HA Headphone Amplifier.

All three of these proprietary volume control circuits yield virtually perfect signal level matching between the left and right channels as well as staggeringly low crosstalk levels.

Signal Level Matching:

All volume control circuits suffer from imperfect level matching between the left and right channels, especially at low and high output levels. In simple terms this means that the actual volume level is not identical for both channels at various settings:

Figure 14



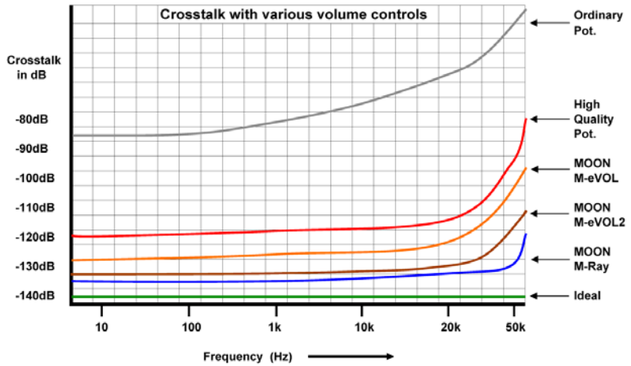
A very high quality volume circuit using a potentiometer will typically have a variance of as much as 1.5dB (red) between the left and right channels at the volume extremities as shown in figure 14. All three of our volume circuits, M-Ray, M-eVOL and M-eVOL2 maintain an extremely low and consistent variance of less than 0.05dB (blue) across the entire volume range.

Perfect level matching between channels that no other volume control can achieve... Recorded music heard as it was intended to be: pure, natural and uncolored.

Crosstalk:

Crosstalk typically increases as a function of frequency; the higher the frequency, the greater the amount of crosstalk. This is a behavioural characteristic common to all volume controls, regardless of the circuit topology. Higher quality volume circuits will have a significantly lower crosstalk measurement throughout the entire bandwidth as demonstrated below in figure 15:

Figure 15



The perfect scenario would have an identical crosstalk measurement of -140dB (green) across the entire frequency spectrum, but this is not realistic. The fully discrete M-Ray volume circuit found in the MOON 850P Preamplifier yields an astonishing -135dB (blue) at 1kHz. The M-eVOL2 circuit, found in the preamplification section of both the MOON 600i and 700i Integrated amplifiers, measures an incredible -130dB (brown) of crosstalk at the same frequency. The discontinued MOON P-7 Preamplifier with our M-eVOL circuit, produced a remarkably low -126dB (orange) of crosstalk at 1kHz. Finally, a very high quality potentiometer based volume circuit will have a crosstalk level -118db (red) at best and a ordinary poteniometer circuit may reach -82dB (grey).

As crosstalk increases in the upper frequencies, the width of the soundstage becomes compromised and consequently diminishes the accuracy of sonic reproduction.

Virtually perfect soundstage reproduction...

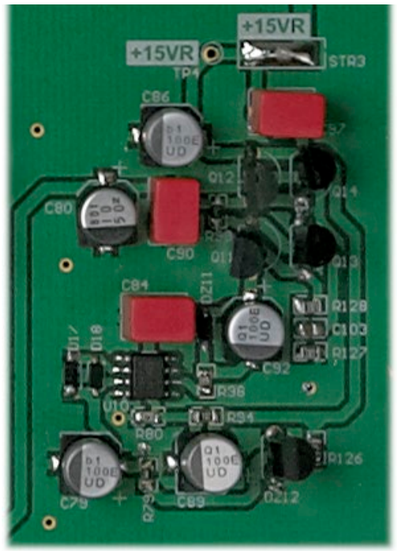
A genuine sense that the musicians are playing right in front of you.

MOON LOW VOLTAGE REGULATION (PROPRIETARY TECHNOLOGY)

MOON Low Voltage Regulation (M-LoVo) is a highly sophisticated circuit that is free of any noise, producing an exceptionally fast, precise and stable DC voltage. The result is a power supply with a virtually unmeasureable noise floor. Essentially a fully discrete voltage regulator, the M-LoVo circuit was designed specifically for MOON line level and phono preamplifiers where noise-free gain is critical.

M-LoVo is found in dual mono balanced differential circuits, therefore always requiring 4 stages in a single component, including the MOON 810LP Phono Preamplifier, 740P Line-Level Preamplifier and MOON 430HA Headphone Amplifier.

Noise-free DC Power that results in a pure music signal.



MOON ELECTROLYTIC CAPACITORS:

These custom electrolytic capacitors offer improved long term reliability from both the use of better grade of materials and a higher temperature rating. The end result is a much lower electrolyte loss.

Other benefits include improved performance of the power supply due to lower ESR (Equivalent Series Resistance) which yields lower noise in the component and, in
thecase of power amplifiers and integrated amplifiers, better dynamics especially when listening to music with dramatic and large scale swings.

HIGHEST QUALITY PARTS

Circuit design is a key factor to getting the best possible sonic performance, but only when the design employs the highest quality parts possible, can this goal be achieved. Parts of this caliber allow MOON components to have a very long life span – upwards of 25 years - and therefore no forced obsolescence. As well, the sonic signature will remain constant for many many years.

MHP (MOON HYBRID POWER)

This power supply is much more efficient than traditional power supplies and can be classified as Eco-friendly. MHP uses very high quality parts throughout, including conductive polymer capacitors with ultra low ESR and better thermal stability. A cleverly designed linear regulated output yields "cleaner" DC power with ultra-low noise that feeds the 780D. The result is superior sonic performance.

MHP has an input voltage range from 100 to 240VAC, allowing for universal usage. Finally, this entire power supply circuit is shielded with a heavy cage steel enclosure.

MHP was introduced in the MOON Evolution 780D Streaming DAC and will appear in future evolution series source components and preamplifiers.

INDEPENDENT INDUCTIVE FILTERING (PROPRIETARY TECHNOLOGY)

Referred to as I2DCf, this unique type of DC voltage regulation was initially developed for the MOON Evolution series of components

One stage of I2DCf represents a unique and specialized circuit. It eliminates all the glitches resulting from the DC power feeding the electronic parts found in a component's audio signal path and isolates these parts from each other. For example, the MOON 750D DAC and MOON 850P Preamplifier, have a total of 56 and 24 separate stages respectively of I2DCf. Shown at the right is an example with 8 stages.

This unique voltage regulation circuit achieves better noise filtering, substantially lower THD, improved channel separation and lower crosstalk, a reduction in jitter for CD players, and more consistent DC voltage throughout the entire circuit (figure 12a).

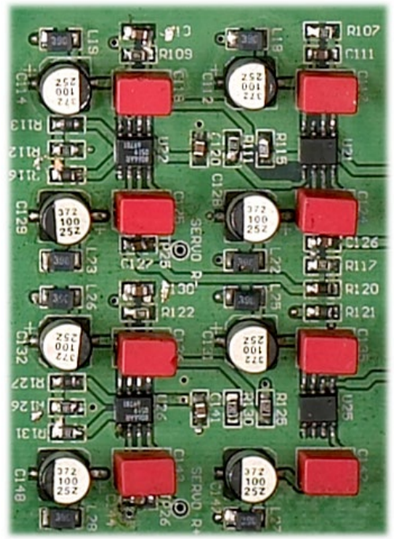
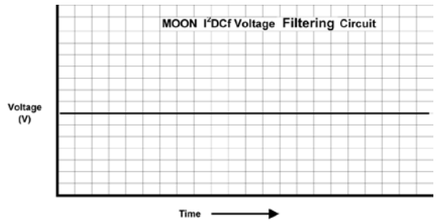


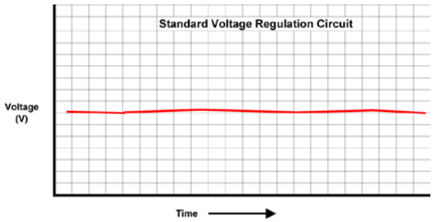
Figure 16A



An audio component using I²DCf circuitry has a dramatically reduced noise floor, a dead quiet "black" background, a more realistic 3D portrayal of the recording and perfect signal level matching between channels.

Audio components not using I²DCf circuitry can suffer from imperfect voltage regulation. This often results in various inefficiencies such as a lower signal-to-noise ratio, increased crosstalk, unneccessary CD jitter and a less realistic sonic landscape.

Figure 16B



Sheer realism... the genuine impression that the musical performance is taking place in your very own listening space... your audio system will feel as as if its effortlessly running on its own, without any electricity.

SIMLINK™ (PROPRIETARY TECHNOLOGY)

This in-house developed protocol provides for communication between MOON components, allowing you to control various functions of several components from just one place. For example, if you switch one component into standby mode, all linked components will also go into standby mode; When you adjust the brightness level of one component's digital display, the linked component's displays will adjust accordingly. SimLink™ provides for genuine ease-of-use. Most MOON components also come equipped with additional communications facilities; The RS-232 port for full unsolicited bidirectional feedback in custom installation setups and firmware updates; The IR input for external control.

SIMLINK™ with MiND 2

Volume control, automatic input selection and standby of the whole "Simlinked" chain of MOON audio components all become available for control via MiND mobile app.

THICK EXTRUDED ALUMINIUM FOR ULTRA RIGID CHASSIS CONSTRUCTION

Meticulous attention is paid to mechanical isolation, chassis materials used, and vibration control. These factors contribute to increased resolution and accurate reproduction of details, without any harmonic alternation of the original music signal. For example; cones provide minimal point of contact and triangular pillars provide great strength and support for heavy chassis'. This results in exceptional mechanical grounding and the reduction of negative sonic effects of external vibrations.

Precision fit, high tolerance, extruded aluminum chassis parts exhibit significantly reduced mechanical resonances and provide for a more rigid construction which contributes to uncolored sonic performance. As well, aluminum doesn't corrode which helps to extend the product's life expectancy. Aluminum also provides excellent shielding from RF and EMI, both major causes of audio signal degradation.

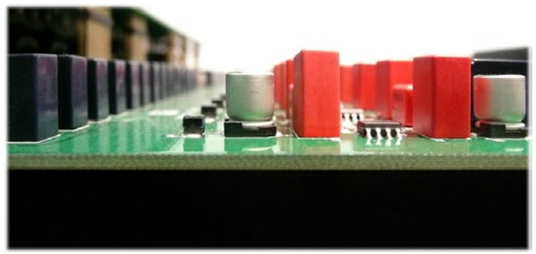
4-LAYER PCB'S WITH PURE COPPER TRACINGS

All MOON Evolution Series Preamplifiers, Disc Players and DAC/CD Transports use a main audio PCB comprised of 4 unique layers, each using pure copper tracings. The four layers are oriented as follows: The left and right channel audio signals occupy the first and third layers respectively; The ground plane occupies the second layer, and the bottom layer is for power supply circuitry. The advantages of this type of circuit board include more efficient ground and power supply circuit layouts with extremely low impedance characteristics, as well as a much shorter signal path.

All MOON Evolution Series Power Amplifiers and select Integrated Amplifiers features a gain circuit that is mounted on a four-layer printed circuit board using pure copper traces.

This four layer topology significantly reduces the physical size of the circuit board, allowing for a more efficient ground plane which passes through all four layers.

Measured impedance is slashed to extremely low levels, consequently lowering the noise level and virtually eliminating the possibility of sonic colorations from the PCB. At the same time, a shorter signal path is also realized, which is sonically more accurate, effectively minimizing potential signal loss, as well as diminishing noise levels even further.

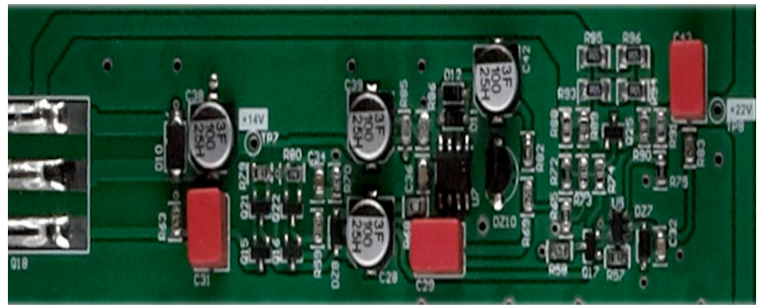


Due of their smaller size, each gain board can be mounted directly to its respective output circuit board, further reducing the length of the amplification circuit's signal path – an integral aspect of the aforemntioned proprietary Lynx Circuitry for amplification.

Unlike the four layer PCB used in a preamplifiers, disc players and DAC/transports, there are no surface-mount type electronics parts used and none of the layers serve a specific purpose – its all about (i) reducing the physical size of the circuit board, (ii) reducing the length of the signal path and (iii) increasing the efficiency of the ground plane.

MOON REFERENCE REGULATION SYSTEM (PROPRIETARY TECHNOLOGY)

Originally developed for the Evolution series 820S power supply with the goal of elevating the performance of both the 610LP and 810LP phono preamplifiers, 650D and 750D DAC/CD Transports, and 740P line-stage preamplifier, all of which have their own built-in superlative power supplies. M-R2S is a fully discrete voltage regulation circuit that uses a "precision reference" feeding an amplifier comprised of numerous IC's and transistors, as opposed to a single voltage regulation chip. M-R2S outputs pure DC power that is exceptionally fast, very precise, has a virtually unmeasureable noise level, as well as absolute stable voltage.



The astonishing sheer "blackness" of the musical background must be heard to be believed.

BALANCED DIFFERENTIAL AUDIO CIRCUITRY

When using an unbalanced interconnect, the audio signal runs through both the center wire and the shield/ground wire. Any noise picked up by this interconnect (ie. nearby magnetic fields such as an AC power cord) will be reproduced by the amplifier and heard through the loudspeakers. Conversely, a balanced interconnect has three separate conductors; one for the ground and two for the actual signal. These two signals are identical except that one is 180 degrees out of phase with the other. The audio information is not transmitted by either of these two signals, but in reality is the difference in the voltage between them. When these two inverted signals on a balanced line are input into a differential power amplifier (i.e. MOON 860A & 880M), any noise picked up by the interconnect will be eliminated since a differential circuit amplifies only the difference between these two signals: Noise on a balanced interconnect will be equal on both conductors and therefore not be processed.

A balanced differential audio circuit will only be effective when properly implemented. This means identical circuit layouts – essentially a mirror image of each other - each using the exact same electronic components with very low tolerances, for the two phases of the audio signal; A very costly proposition but worthwhile expense. The end result will be an overall increase in dynamic range, increased headroom at all frequencies, better signal-to-noise ratio and much higher resolution.

A balanced XLR connector on the rear panel of a MOON component will always have a genuine balanced differential audio circuit on the inside; not some “faux” circuit using op-amps that pretends to be balanced.

Notes:

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MOON by SIMAUDIO