

**AUDIONET**

Scientific magic.

# PRE | G3

A Wide Grin at the Touch of a Button



This is a scientific paper.

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Thanks very much. We're glad you are with us.

Scientific magic.

## A Wide Grin at the Touch of a Button

The Audionet PRE I G3 combines opulent equipment with a brilliant sound. It is difficult to describe the sound it produces: spacious yet subtle, transparent and sleek, powerful and unshakeable. The PRE I G3 plays music in all its facets naturally and effortlessly.

With six inputs and two outputs which can be labelled with individual names, a bypass mode for integration into a home cinema system, two subwoofer outputs, level offset for the inputs, a headphone output, monitor switching for accessories, automatic mains phase recognition and trigger output, two Audionet links and an additional earth connector. Optionally, the PRE I G3 can be extended with our high-quality phono preamplifier board.

The technically unique complex circuitry is radically realized. Distortion and noise are almost non-detectable across the entire frequency and dynamic range. With a modern assembly, shortest signal paths and a capacitively and inductively optimized construction provide optimal

“... Crème de la Crème of high-end amplifiers ...”

(i-fidelity.net)

high-frequency characteristics. Volume and balance adjustment is performed using a unique, electronically switched precision resistance network which is realized in real time, ensuring a constant dynamic and distortion-free operation across the entire control range.

We use only selected high-quality components such as the fast discrete voltage regulator with a low-noise gallium arsenide precision voltage references, high audio-grade electrolyte capacitors with a silk dielectric and selected high-current film capacitors with the lowest possible loss angle and gold-plated silver internal cabling.

The unit is controlled using a high-performance microcontroller with separate power supply. It enables operator-friendly access of comprehensive functions. A large display shows all the operating states and settings.



## Architecture

In order to optimize the high-frequency attributes, circuit size has been radically reduced. The remaining signal paths are kept to a minimum, and are free of sound-critical components such as coils or chokes. Gold-coated precision-relays switch the input signal and earth. Ground wires run in a star shape towards one central point. The design has been capacitively and inductively optimized. All in all, distortions have been reduced to a barely detectable minimum.

The input buffer is a cascoded, bootstrapped, monolithic double-FET, offering virtually infinite input impedance. This unique concept makes the PRE I G3 independent of unwanted influences extra to the source. Only the pure music signal will be processed. A DC-coupled driver stage amplifies the signal distortion free for the following

circuitry. Volume and balance are set by an electronically switched, real time linearized high precision resistor network. The output driver combines high-speed bipolar opamps with discrete realized A/B-drivers with high bias current. The voltages for the input and output stage are additionally smoothed by two discrete and ultra-fast bipolar regulators.

An encapsulated 50 VA toroid core transformer and high audiograde electrolyte capacitors with a capacity of 30,000  $\mu\text{F}$  provide the supply voltage. These voltages are smoothed by two fast bipolar regulators.

“... outstanding finish and very agile sound. A real reference ...”

(Stereoplay, Germany)



## Exclusive Materials

Every sound-critical point in the Pre I G3 is fitted exclusively with the finest components available worldwide, many of which are custom-made for Audionet. The selected filter capacitors, for example, or the bulk of our high audiograde electrolyte capacitors with a dielectric made of silk. We use mica capacitors, insert selected high voltage foil capacitors and deploy high-quality silver-gold alloys for our internal wiring.

“... one of the best solutions for a preamplifier at all ...”

(AV Extreme, Greece)

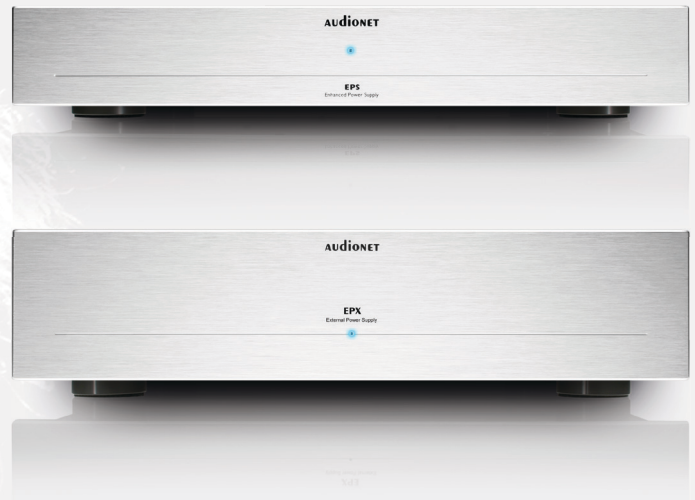
## Features

A flashable microprocessor controls and regulates the whole system. The digital section has its own power supply. The digital control is physically and electrically separated. The software of the PRE I G3 allows many new and comfortable functions. For example the two subwoofer outputs can be used as left and right signal for two subs or as summed signal of both channels for one subwoofer. The headphone output can be switched on and off electronically, the home cinema mode offers a by-pass function to integrate a home cinema system. Six signal sources, two power amplifiers and one recorder can be connected. Furthermore a high-quality monitor loop is present. Other devices can be remotely activated via an Audionet link. A two-row display provides information about the system state. The inputs are nameable and their input sensitivity can be modified for different signal source levels.

Pure in sound, superior in function, clear in form – the PRE I G3 preamplifier combines outstanding versatility with musical charm.

## Optional: External Precision Power Supply EPS G2 or EPX

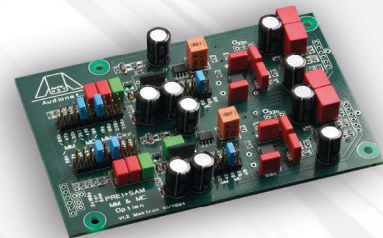
Our high performance external precision power supplies EPS G2 or EPX are improving the qualities of connected equipment tremendously indeed.



## Optional: Phono Module

We do offer an excellent phono module for MM and MC cartridges for our preamplifier Pre I G3.

It is possible to setup load resistance, load capacitance and gain on the phono module to achieve the best match to your phono cartridge based on output and electrical impedance.



## Finish

Front panel:

Brushed aluminium, black anodized, light grey printing

Brushed aluminium, silver anodized, black printing

Display:

Red or blue

Top cover:

Brushed Aluminum, black anodised

Chassis:

Sheet steel, black varnished



“...The dynamic range is unlimited. They exceed the magic border. ...”

(Sat Audio Video, Poland)

## Function

Microprocessor controlled preamplifier.

## Special Features

- Input buffer with a virtual infinite input impedance
- Electronically switched, real time linearised high precision resistor network for volume and balance
- Volume adjustment for each channel
- Discrete realized output drivers
- Signal path and controller optically separated
- Completely DC-coupled, no capacitors in the signal path
- Optional AC-coupled via active DC-servo
- Home cinema mode for home cinema integration
- Two subwoofer outputs
- Dynamic volume control
- Headphones output electronically switchable
- Monitor loop
- Trigger output
- Mains phase recognition



## In- and Outputs

Analogue audio inputs: 5 pair RCA line, gold plated, teflon insulated  
1 pair XLR symmetric, gold plated  
1 pair RCA Monitor in, gold plated, teflon insulated

Analogue audio outputs: 1 pair RCA line, gold plated, teflon insulated  
1 pair XLR, gold plated  
2 RCA Subwoofer, gold plated, teflon insulated  
1 pair RCA Record out, gold plated, teflon insulated  
1 pair RCA Monitor out, gold plated, teflon insulated

Additional in- and outputs: 2 optical Audionet Link out (TosLink) for remote operation, Link 2 electronically switchable  
3.5 mm socket trigger output with 12V switching voltage (optional 5V)  
5-pole precision socket for optional power supply EPS  
6.3 mm socket for headphones, electronically switchable screw for additional grounding, gold plated

## Technical Data

Bandwidth:	0 – 3,000,000 Hz (-3 dB), DC-coupled
THD+N:	-110 dB @ 20 Hz to 20 kHz @ Vin=4.5 Vrms
SNR:	120 dB @ 1kHz @ Vin, max
Slew Rate	10 V/μsec
Channel separation:	channels: 100 dB @ 20 kHz inputs: 108 dB @ 20 kHz
Input voltage:	max. 5 Vrms
Input impedance:	line 82 kOhm real XLR 15 kOhm real
Output voltage:	line max. 8 Vrms XLR max. 16 Vrms headphones max. 8 Vrms (max. gain 6dB)
Output impedance:	line, XLR 22 Ohm real headphones 47 Ohm real
Mains:	220...240 Volt / 50...60 Hz or 110...120 Volt / 50...60 Hz
Power consumption:	< 1 W stand by, max. 50 W
Dimensions:	width 430 mm height 70 mm depth 310 mm
Weight:	6 kg



## Scientific Breakthroughs: Audionet Key Technologies

### Audionet-Ultra-Linear-Amplifier ULA

Audionet's worldwide respected and award-winning ULA (Ultra Linear Amplifier) technology is of fundamental importance for our outstanding technology. This highly complex circuit topology, initially conceived with medical engineering in mind, delivers metrological results which mark a limit of feasibility. Even under the most severe strain or in other stress situations signal impurities are barely traceable, and the high return loss guarantees that even the most demanding loudspeakers will perform faultlessly up to their utmost limits.

### Audionet Operational Amplifier

Audionet operational amplifiers (OP) are used in our devices at most sound-critical parts of the circuit design to deliver the very best tonal results. Usual operational amplifiers, available in different quality and price ranges on the global market, can't satisfy our core demands for perfect sound quality. Even the most expensive ones with the best results on paper aren't perfect. That's why we have designed our own operational amplifier technology. Any single Audionet OP contains at least 86 parts and components, and our topology ensures an impressive gain-bandwidth-product of 1 GHz.

### Asynchronous Upsampling

With the D/A conversion we've focused our highest attention on eliminating jitter, the wobbling of digital signal slopes. Jitter faults curtail the sound reproduction in every respect: imaging, stage and depth rendition will be impaired. The conversion is done using Audionet's Intelligent Sampling Technology which guarantees an absolutely flawless recovery of the analogue signal from the digital bit stream. For this purpose the data are sent through a sophisticated, two-stage filtering and decoupling procedure. First the input data are filtered with Audionet's proprietary software using a powerful signal processor and upsampled synchronously. The filters have been designed under audiophile aspects with regard to an optimised transient and frequency response. The thus optimised data are then resolved through an asynchronous upsampling procedure at 192kHz/24bit. Hereby the bit stream is completely isolated from its input clock and its associated jitter. The data are then fed to high-performance converters, which are clocked by special ultra-precision quartz crystals, and individually processed per channel into analogue signals. This method ensures that jitter faults are

almost entirely eliminated in the analogue signal. No information gets lost and every bit of information will be processed at the right time, bringing forth an unmatched clarity, room depth and stage imaging.

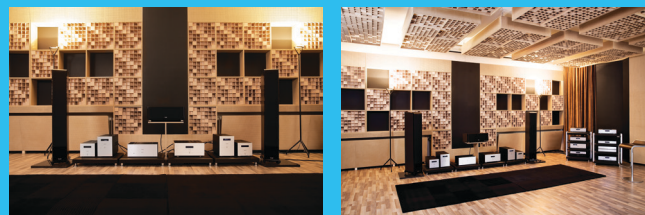
### Double-Precision-Bassmanager and Parametric Equalizer

The digital signal processing is accomplished with efficient signal processors and our proprietary Audionet software which was developed and continuously improved exclusively under audiophile aspects in more than 15 years of painstaking scientific labour.

### Audionet Listening Room

Listen and be enlightened!

In Audionet's quite incomparable listening room.



The double precision bass management uses a 48bit resolution at all sampling frequencies. Even the very lowest frequencies are therefore precisely reproduced and accurately processed. The bass manager offers freely selectable cutoff frequencies, filter Q factors and subwoofer phases. Thus you can perfectly integrate your subwoofers into the system and into the room.

The digital parametric equalizer uses Minimum Phase Equalizers (MPE) both for the main channels and subwoofer channels. For each MPE the filter type, frequency, gain and Q factor can be selected within an unusually wide adjustment range and disturbing room interference and tonal annoyances efficiently compensated. In combination with CARMA, our computer aided room acoustics measurement system, it is possible even for non-professionals to reach nearly professional results.

The delay manager has an adjustment range of up to 7 m and automatically calculates the delay times from the distances.

## Reference

i-fidelity.net:

“You sit in your armchair, listen to Pink Floyds ‘The Wall’ and be pleased about the helicopter (the whistling of the helicopters turbines brings also 30 years after appearance of the album still large pleasure), and then you get suddenly goosebumps. ... The Audionets deal regular with amplifiers of the competition; they need however in best Klitschko manners rarely more than three rounds, in order to knock the opponent out. ... There’s simply nothing to beef about: plenty of power, smallest distortions and absolutely first-class signal-to-noise ratios. These two Audionets belong to the Crème de la Crème of high-end amplifiers.”

Stereoplay, Germany

“Universal, microprocessor-controlled preamplifier with outstanding finish and very agile sound. A real reference.”

Sat Audio Video, Poland:

“PRE I G2 / EPS open the door to musical dynamic. The dynamic range is unlimited. They exceed the magic border. Audionet PRE I G2 / EPS sound warm, cold, soft, analytic, bright, dark. One can find everything that defines music.”

Stereo, Germany

“Sometimes the evolution has no mercy: The new PRE I G2 is actually in every respect better than his certainly good predecessor. ... The G2 plays with grip, precisely dry and lively and marks within his class the state-of-the-art.”

[en.audionet.de](http://en.audionet.de)

 [Audionet](https://www.facebook.com/Audionet)

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Errors and omissions excepted. Specifications and design are subject to changes without prior notice.

### Sources

PLANCK  
VIP G3  
ART G3



### Integrated Amplifiers

WATT  
SAM G2



### Preamplifiers

STERN  
PRE G2  
PRE I G3  
PAM G2



### Power Amplifiers

HEISENBERG

MAX  
AMP  
AMP I V2



### Network Components

DNP  
DNA 2.0  
DNA I  
DNC



### Power Supplies

AMPERE  
EPX  
EPS G2

