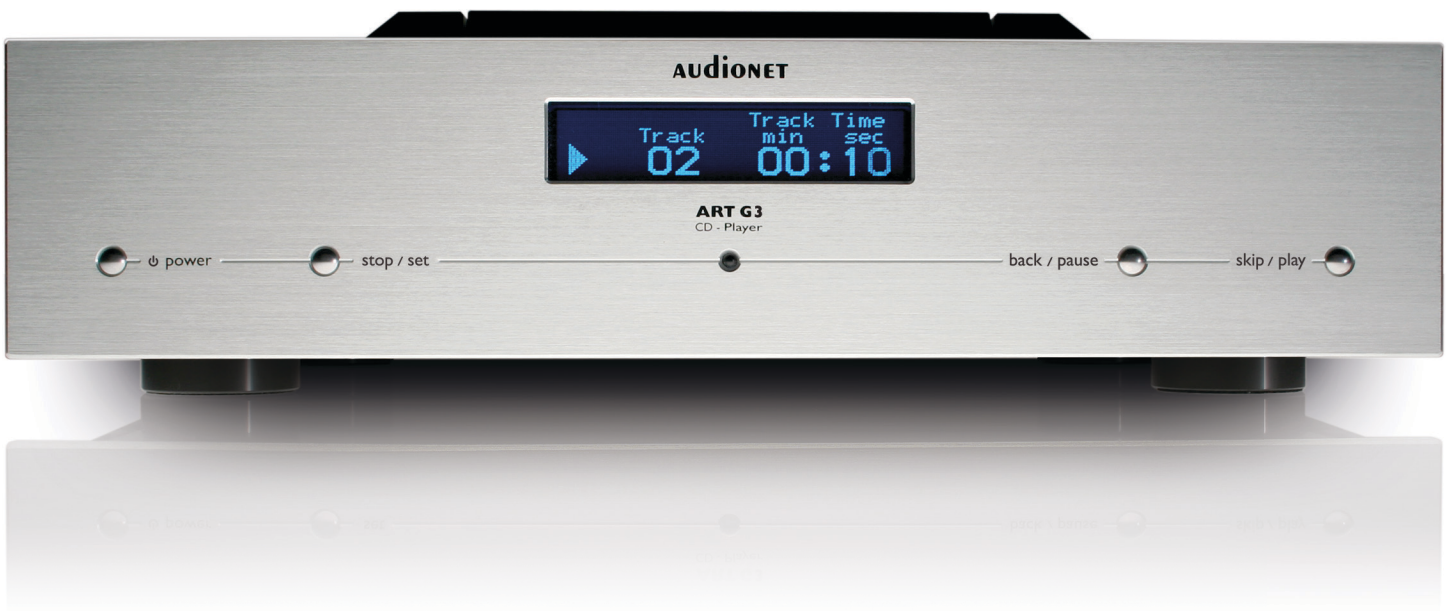
AUDIONET

Scientific magic.

ART G3

The Mother of all CD Players



This is a scientific paper.
For holographic images and optimal resolution please do visit your audionet expert dealer.
Thanks very much. We're glad you are with us.

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For all of you aficionados who waited for this to happen: here's the third generation of Audionet's famed high performance CD player. The new ART G3 (Generation 3) is nothing less than Audionet's final statement on the perfect transmogrification of the classical compact disc. At the same time, it also represents a thoroughbred high-end D/A converter. Its marvelous sound capabilities can thus be used for all your digital systems, especially computers, via optical and electrical digital inputs.

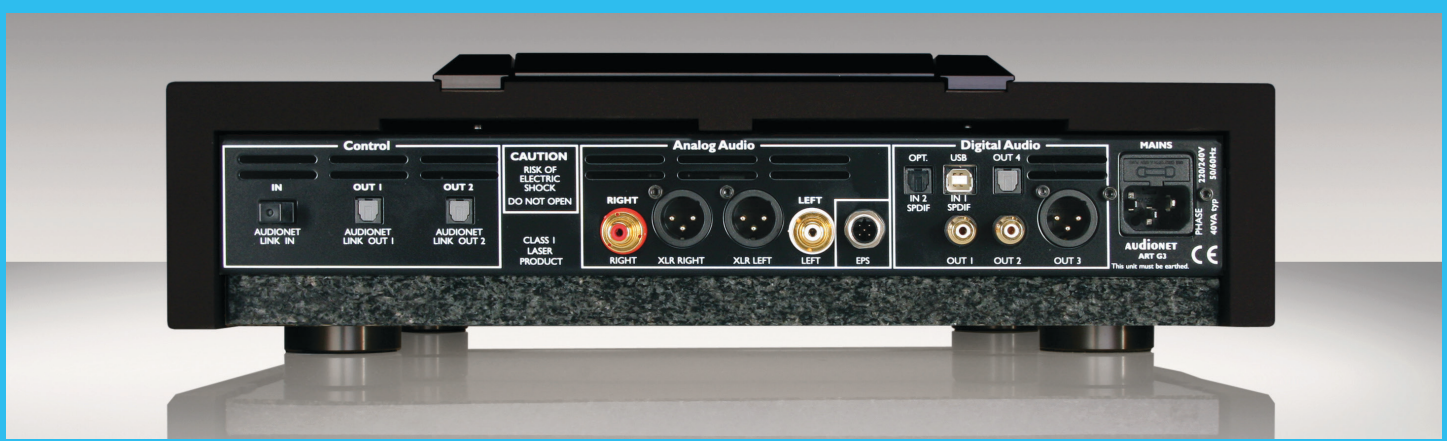
> " ... the new reference player ... "
>
> (av-magazin.de)

The new ART G3 redefines the hitherto undreamt-of potential of CDs to produce a really involving and fascinating listening experience. It literally conquers unexplored sound dimensions, transforming your music into an unprecedented, wholly satisfying experience for the senses. The very best hifi critics have "built a virtual pedestal for this top-notch instrument in (their) editorial office", as have our very own scientists for their own use at home.

> " ... the best CD player ever to have presented itself at i-fidelity.net ... "
>
> (i-fidelity.net)

Our development team has re-engineered both the housing and circuitry, subjecting every detail of the machine to stringent checks. The new ART G3 combines an innovative construction and circuitry with the insights gained from the development of the new Audionet pre- and power amplifier generation.

Our 20 years of experience at the forefront of audiophile science bring you an authentic reproduction so good almost nobody would actually suppose a cd as the source. For critical praise and acclaim, please refer to the Reference section.



Architecture

ART G3 is an entirely new construction, based on an uncompromising concept and implemented with maximum attention to detail. Every phase of retrieval and playback was subjected to rigorous testing and optimisation.

Aligned Resonance Technology

The new ART G3 houses the silver disks with the precision and safety of – a safe, away from all external influences. The housing is an elaborate mixture of amorphous granite, steel, aluminium and low-resonance MDF. The ART G3 is also fitted with an ingenious noise-free ventilation concept.

Audionet Aligned Resonance Technology (ART) decouples the read-out unit and the control board from the housing. A mounting system ensures that damaging movement energy is dissipated in a targeted fashion and that the read-out process is subject to a minimum of disturbance. The reading module is a solid tape deck fitted in full aluminium, dampened with heavy foil, sitting on acoustically friendly brass pins. Developed for professional use, the new drive has an exceptionally robust mechanical and electronical construction. It guarantees the highest read-out quality and stability as well as excellent CD acceptance both in terms of surface quality as well as copy protection procedures. Further innovations are the puck and its cylindrical receiver. These two precision rotation parts fit together exactly without any play.

The reduced contact surface and the low revolution impulse work together with an exceptionally strong, ring-formed magnet to produce a strong and even contact pressure. The pre-load guarantees an exceptionally stable and smooth disc run.

A solid slider plate isolates the drive from external influences. The slide runs equally and deeply in strong aluminium rails. Together with the machined aluminium ventilation lid of the MDF cover bowl this provides additional stability.

Sound Data Processing

Only the use of the best-quality materials enables the hih performance quality of reproduction achieved by the new ART G3. The first sound-relevant point is the current flowing through a special fuse at the network entrance of the ART G3, made of rhodium and copper. We use exclusively pure silver for the current feed to the separately structured analogue and digital network components. This produces a significantly calmer and more spacious sound. A generously-sized network filter and push-pull I-core coils strengthen the ART G3 in the mid and subwoofer area.

The newly-developed, multiple-layer, impedance-linearized circuit board layout makes the ART G3 even more broad-band and low-resistance. The energy flow is homogenous and unlimited over the entire frequency spectrum.

Audionet's intelligent sampling technology ensures an entirely clean analogue signal recovery from the digital data flow. In doing so, PCM data is run through an elaborate, two-stage filtering and decoupling procedure. The output data is filtered and upsampled simultaneously in a high-performance signal processor using Audionet software. The filters are set for optimal impulse and frequency faithfulness under audiophile criteria. Optimized in this manner, the data is then unlocked with an asynchronous 192 kHz/24 bit upsampling procedure and decoupled from its input cycle. The PCM data is then transferred to two high-performance converters and processed to an analogue signal in separate channels.

Jitter

Since the presentation of the first source drive 13 years ago, we have worked continually to reduce jitter, i.e. tremors in digital signal flanks. Jitter errors restrict the sound reproduction in every possible manner, affecting the reproducibility, stage and depth of performance.

In developing the new ART G3 we were able to reduce the jitter of the individual circuitry elements to an almost immeasurable minimum, using a unique structural achievement. For example, our engineers have effectively reduced the jitter of the D/A convertor to a unique 60 picoseconds sigma. To deflect sound-impairing oscillations, the dampened precision tact generator for the sampling convertor and the DACs are located in the read-out unit swinging in the Z direction.

There is no information loss, and all data is processed at the correct time. This enables a unique clarity, depth offset and platform lighting.

Analogue preparation is effected via a differential current/-voltage converter and an extremely complicated filter/amplification circuit. The switches are set on an extremely impulse faithful and high border frequency and thus established on the best individual components. The newly-developed Audionet operational amplifier employed here uses the finest tolerated, high audiograde film capacitors. The decoupling stage works internally with a triple degenerative feedback mechanism and an even higher current drive capacity. Overall distortion and internal malfunctions in the new ART G3 have been reduced to an absolute minimum.

Finish

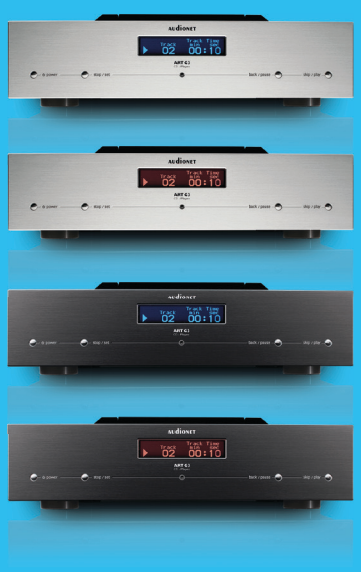
Front panel:
Brushed aluminium, black anodized, light grey printing
Brushed aluminium, silver anodized, black printing

Display:
Red or blue

Cover:
MDF, Nextel coated, grey

Slider:
Aluminium, 10 mm, black anodised

Chassis:
Granite, sheet steel, black



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Data Transmission

The digital audio data transmission also represents a unique development: Audonet's intelligent sampling technology prepares and decouples the PCM information, transmitting it to a high-performance output transmitter via a low-jitter LVDS data transmission system absolutely resistant to interspersion. In its HighBit mode, all data is made available on Audionet's proprietary HighBit interface with 192kHz/24 bit, on the AES/EBU output with 96 kHz/24 bit and on the optical output with 44.1 kHz/16 bit. In its LowBit mode, the digital outputs are provided with 44.1 kHz/16 bit. Thus in digital mode, the best possible PCM output data is always available.

User-Friendly

The ART G3 can be controlled simply and easily with the ergonomically-formed Audionet system remote control Harmony One included in the scope of delivery. All functions can be accessed easily and can be read-off from the well-illuminated colour display. An attractive row of hard keys and the background illumination enable easy control even in dimmed rooms. The remote control is preprogrammed for all Audionet components and can be programmed for up to 15 devices. A recharging cradle and a lithium ion battery are also included in the scope of delivery.

Special Features

- Top loader with damping MDF, aluminium and granite casing construction, solid aluminium cover (10mm), run on Teflon bearings
- Audionet "Aligned Resonance Technology", decouples transport unit, boards and the clock generator
- Reference CD drive VAU 1254/31LF
- Disc stabilizer (puck) and its cylindrical receiver made of POM
- Separate power supplies for read-out and converter unit
- Completely DC-coupled, no capacitors in the signal path
- Discrete, extremely fast and stable filter and output stages
- D/A converter function with USB/SPDIF digital input and optical TosLink input
- Audionet HighBit-Interface with 192 kHz/24 bit output
- AES-EBU output with 96 kHz/24 bit
- Digital outputs can be switched off
- Professional operating concept
- Audionet system remote control RC1

Function

Compact Disc Player and D/A converter function for audio- and pc-data.

In- and Outputs

Analogue audio outputs:	1 pair RCA line, gold-plated 2 XLR balanced, gold-plated
Digital audio outputs:	2 RCA, 600 mVs into 75 ohms, gold-plated 1 AES/EBU, 110 Ohm, gold-plated 1 optical (TosLink)
Digital audio inputs:	1 USB, for USB-Audio and SPDIF 1 optical (TosLink, 32–96 kHz/24 bit)
Remote activation:	1 Audionet-Link in, optical (TosLink) 2 Audionet-Link out, optical (TosLink)
External power supply:	5-pin input

Standards

CD, CD-R, CD-RW (finalized and non finalized disks)
Disc sizes 80 und 120 mm according to IEC 908

Conversion

Stereo channels:	92kHz/24 bits, Dual-Mono-DAC, Multibit-Delta-Sigma
Sampling rates:	44.1kHz

Technical Data

Laser system:	Semiconductor laser, 780 nm wave length
Bandwidth:	0 – 90,000 Hz (-3 dB) analog
THD + N:	typ. 100 dB; (A weighted) @ -60 dBFs
SNR:	>110 dB
Channel separation:	> 130 dB @ 10 kHz
Output impedance:	33 Ohm real
Max. output voltage:	3.5 Veff.
Power consumption:	< 1 W stand-by, max. 40 W
Mains connection:	120 or 230 V, 50…60Hz
Dimensions:	width 430 mm height 120 mm depth 360 mm
Weight:	22 kg

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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.

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Reference

AV-Magazin.de:

"As we have come to expect from Audionet, the ART G3 presents itself in an immaculate, elaborate form leaving nothing to be desired. It's reproduction quality unearths previously hidden pearls in the music, releasing previously unimagined potential from the common or garden CD. With its convincing quality, the ART G3 significantly exceeds the sound produced by its predecessor. The Bochum manufacturers have once again defended their position at the top of the audiophile tree. The new reference player for us at av-magazin.de is called Audionet ART G3."

i-fidelity.net

"Over the last few weeks, our colleague Olaf Sturm enthused our readers for the new Audionet integrated amplifier SAM G2, establishing a virtual pedestal for this top-notch instrument in our editorial office. Having heard its output, I understand fully what moved him to do so. The clarity and precision produced by the ART G3 matched only by the almost quaffable yet lucid tonal substance makes it into the best CD player ever to have presented itself at i-fidelity.net. The immense musical competence with which this new ART G3 draws us into the world of sound only serves to underscore our decision to declare the Audionet ART G3 as our new reference point."

Pro High End Russia

"Magnificent player. Such designs do not appear as a result of the development budget or as a planned pro-program to update the lineup. This is a consequence of sleepless nights in a creative workshop. Splash engineering and design potency. […] Audionet ART G3 – clearly the work of a true master. […] And a fine selection of not only those who love and appreciate the real music, but also those who love and hears music in itself."

en.audionet.de

Audionet

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Technologieberatung GmbH & Co.
Entwicklungs- und Produktions-KG

Herner Straße 299
44809 Bochum
Germany

Phone +49 (0) 234 507 27 0
Fax +49 (0) 234 507 27 27
kontakt@audionet.de

Sources
VIP G3
ART G3

Integrated Amplifier
SAM G2

Preamplifier
PRE G2
PRE I G3
MAP I
PAM G2

Power Amplifier
MAX
AMP
AMP VII
AMP I V2
AMP V
AMP IV
AMP III

Network Components
DNP
DNA 2.0
DNA I
DNC

Power Supply
EPX
EPS G2