

MAX

The Über Block Busters



This is a scientific paper.

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

Scientific magic.

The Über Block Busters

The at the same time diminutive and unsurpassable name of our majestic power amp reference reference MAX doesn't just refer to the physical size of these gigantic mono block(s). But rather merrily evokes the ultimate high performance capabilities nature and our scientists – not exactly in this order – have endowed it with.



Resting on one's laurels is a) not truly comfortable and b) not really satisfying, scientifically speaking. Actually, we do much prefer to push the boundaries of the possible again and again in order to reach better and better results with each and every attempt and generation. It's probably genetic. The Mendel thing. A birth defect German scientists are often born with.

“... More soul! Top to bottom ...
Any given day I would chose one ...”

(AVShowrooms, USA)

Our Ultimate Statement Amplifier

The MAX always plays with a both fascinating and formidable ease, stunningly elemental, tonal accuracy and with striking macro- and micro-dynamical precision. Imposing performance goes hand in hand with compelling authority, awesome musicality and technical specifications almost no-one on this planet gets close to.

Our refined amplifier-technology results in a linearity and loudspeaker control not to be found in any other piece of equipment anywhere. Distortion is kept to such a low level that it's almost undetectable even with the most sophisticated laboratory-equipment. In a nutshell: No other amplifier has better loudspeaker control. Plus, the MAX performs so well, that it is very difficult to imagine a situation which it would not master. All this at your fingertips. And with a comprehensive user interface

“... I have found my next reference ...”

(Positive Feedback, USA)

informing you about all going-ons on a wide format display.

Ultra-Linear-Amplifier

Our MAX mono-blocks represent Audionet's latest internationally acclaimed ULA (Ultra-Linear-Amplifier) technology. This highly complex circuit topology, which we originally invented for medical engineering, delivers results that nudge the boundaries of what is feasible with current measuring techniques. Even under conditions of maximum strain or in other borderline situations, any incidence of signal impurity remains almost undetectable, while the outstanding feedback damping ensures that the loudspeakers crisply perform to the limits of their capacity.

The Cream of the Crop

The efficiency and precision of MAX is such that even the sound properties of components and materials are clearly audible. As a result, every sound-critical point in the MAX is exclusively fitted with the finest components obtainable worldwide, in many cases custom-made for Audionet. Equipped with a silk dielectric, our High Audiograde electrolytic capacitors come from Japan. Our low-loss capacitors are made of mica, a silicate made for us in India and China.

We deploy selected high-current foil capacitors with a minimal loss angle, high-quality silver-gold alloys for our internal wiring and use the very best connector systems available from Furutech. Even the MAX's fuses are made of – gold!



During the manufacturing process of every single mono-block, all the relevant components are re-checked again and again, meticulously measured and then perfectly matched in optimal pairs in order to guarantee optimum performance.

Architecture

To guarantee absolute channel separation, MAX is designed as a mono amplifier. The magnetically and capacitatively optimized assembly of the mono-blocks largely eliminates all feedback from electrical interference as well as from reciprocal influences between the amplification channels during the amplification process. The massive aluminium cabinet eradicates any effects of the dreaded subsonic noise.

In order to optimize its high-frequency attributes and velocity, we indulged in an orgy of minimalization. The signal paths have been kept to a minimum and contain no sound-impairing components such as coils, chokes or power relays.

MAX comes equipped with RCA and XLR inputs, which are electronically switched over gold-plated precision relays. The input stage is configured as a cascaded and bootstrapped differential amplifier with a low-noise, monolithic dual FET, thus electrically decoupling the end amplifiers from the input signal and avoiding harmful interaction with source. A special double cascade decouples the source signal from the driving and output stage. The driving stage linearizes distortion of the output circuit locally with a unique, cross-linked correction circuit in real time. The input and driving stage are separately powered by an oversized 80 VA toroid-core transformer with separate windings for positive and negative operating voltage.



The output stage is equipped with eight hand selected power MOSFETs with actively controlled bias current amounting to 0.6 A. The supply voltage is stabilized as rapidly as inhumanly possible by optimized discrete MOSFET regulators. To reach optimal performance, the negative and positive operating voltage is decoupled entirely. Two individual 1000-VA toroid-core transformers feed the positive and the negative half-cycles of the mains. Four special, fast and impulse-resistant high-current capacitors with a total filtering capacity amounting to 156,000 μF serve as an accumulator.

A microprocessor unit controls all functions and permanently monitors DC, HF, temperature and overload. In the case of a fault, it disconnects the MAX from the mains supply. A large, two-line display indicates fault sources in plain text. An Audionet-Link provides optical remote activation and signal-dependence in three sensitivity ranges. The control unit has a separate power supply from a transformer.

Finish

Front panel:

Brushed aluminium, black anodized, light grey printing

Brushed aluminium, silver anodized, black printing

Display:

Red or blue

Cover:

Brushed aluminium, 6 mm, black anodised

Sides:

Brushed aluminium, 4 mm, black anodised

Chassis:

Sheet steel, 2 mm, black varnished



Function

Microprocessor controlled mono reference amplifier.

Special Features

- Audionet ULA technology (Ultra-Linear-Amplifier)
- Magnetically and capacitatively optimized construction
- Signal paths are kept to a minimum
- No capacitors and electromechanical components in the signal path
- Completely DC coupeld
- Four separate power supplies for controller, input and driving stage and positive and negative operating voltage for the power stage
- Toroid transformer with 80 VA for the input and driving stage with separate windings for positive and negative operating voltage
- Two toroid transformer with 1,000 VA for positive and negative operating voltage for the power stage
- Four impulse-stable high-current capacitors with filtering capacity totalling 156,000 μ F
- Discrete, extremely fast and stable driver and output stages
- Bi-wiring terminal with two pairs of Furutech Rhodium connectors
- Remote activation over Audionet Link (optical waveguide) and via input signal (3 switchable sensitivities)
- Timer
- Large-size, two-line VDF-display
- Screen saver
- Automatic mains phase detection
- Microprocessor unit controls all functions and permanently monitors DC, HF, temperature and overload

In- and Outputs

Audio inputs:	1 Furutech RCA line, gold-plated, teflon insulated 1 XLR balanced, gold-plated
Loudspeaker outputs:	2 pairs Furutech 4mm-jacks, rhodium-plated
Remote activation:	2 Audionet Links, optical (in- and output)

Technical Data

Output:	400 W into 8 ohms 700 W into 4 ohms 1,100 W into 2 ohms
Frequency Response:	0 – 500,000 Hz (-3 dB)
Damping Factor:	> 1,800 @ 10 kHz > 10,000 @ 100 Hz
Harmonic Spectrum:	k2 typ. -117 dB for 25 W @ 4 Ohm k3 typ. -123 dB for 25 W @ 4 Ohm
Intermodulation:	< -110 dB SMPTE 100 Hz : 20 kHz, 4 : 1, 50 W @ 4 Ohm
THD + N:	> -106 dB at 1 kHz, 25 W to 700 W @ 4 Ohm
SNR:	> 125 dB
Input Impedance:	RCA: 37 kOhm, 100 pF XLR: 3 kOhm, 100 pF
Power Consumption:	max. 2,000 W
Mains connection:	120 or 230 V, 50..60 Hz
Dimensions:	width 215 mm height 285 mm depth 500 mm
Weight:	38 kg/mono block



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

AVShowrooms:

“More soul! Top to bottom. This is the first time I’ve ever heard a KEF Blade – disappear. Any given day I would chose one.”

Positive Feedback:

“Beyond a dynamic range and thrust power that is the envy of the competition-dynamic prowess doesn’t get any better than this – the MAX amps plumb the hidden depths of your favorite CDs and LPs. With the MAX you experience refinements offered only by the top models from the major players. The MAX join a very select group of top-tier components, but the MAX get you there for a fraction of the price. I’m not saying they’re cheap, but they do meet the definition of a bargain. Nit-pickers will look high and low in vain, because the MAX do everything right. I have found my next reference.”

Area DVD:

“The three adjectives ‘easy’, ‘airy’ and ‘fleet-footed’ don’t describe a new pizza dough, but characterize the high frequency reproduction of the test equipment in the best way ... Although the required clarity, fine design as well as sound transparency provide best performances and bring unimaginable musical details to life, no inappropriate aggressiveness disturbs the connection between men and technology. Even in the mid-range, the highly precise rendition proves to be a source of pleasure of the special sort. ... Due to the already described characteristics regarding the tonal balance and the fast modelling result a sound reproduction of realistic physical existence with impressive detail depth. ... To put it in a nutshell, one can certify without exception best performances to the bass representation, where in each aspect of rendition absolute benchmarks are set.”

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

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 IV2
AMP V
AMP IV
AMP III



Network Components

DNP
DNA 2.0
DNA I
DNC



Power Supply

EPX
EPS G2

