SERIES 200

T+A
DAC 200

Meter Type | QPPM

METER   WIDE   OVS
        INV

USB HD

VOL-60

ANALOG   USB   S/P-DIF
        1|2   3|4

PHONES

T+A
Engineering Emotion

For me the Series 200 is a labour of love:
I felt a very personal need for a system com-
bining the appearance of a MiDi system with
the power, versatility and exuberance of a large
High End system. And that is my vision for the
Series 200.

Siegfried Amft, Founder and Managing
Director

Series 200

Is High End compatible with the MiDi format? Doesn't a small system necessarily in-
volve a loss of performance and functionality in favour of external appearance?
Our vision for the Series 200 is that it overcomes these contradictions.
With its DSD 1024 capability, an output of 250 Watts per channel and our distinctive
and convenient method of control using the T+A MusicNavigator App, the Series 200
combines different worlds without relinquishing performance within each specialised
area - whether the units are used as individual devices or combined in a system.
The DAC 200, HA 200, MP 200 and A 200 celebrate music, technology and the sheer
pleasure of enjoying music.

Series 200
External appearance: High End, highly compressed

Each unit of the Series 200 is instantly recognisable as a T+A device. The reason behind this is a design language that we have refined over more than forty years, whose progressive nature is based on the principle of reduction. The double chamfer of the front panels softens the vertical format, and creates the illusion of a flowing transition between the front panel and the main body, without diminishing the devices' crisp appearance.

The shoulder lines extend the Series 200 and give the units a compact silhouette which helps further to mask their actual dimensions in visual terms.

Design details such as VU meters and cooling fins underline the potential performance of the Series 200 even when at rest; once switched on, these features graphically celebrate every Watt of power in an impressive manner, as well as delivering additional information regarding the system's status.


Series 200 SYS-LINK
Better as a team

The Series 200 also represents a break with another paradigm: the devices have been developed with the aim of providing impressive performance both alone and as a system. Our in-house T+A SYS-Link system forms the basis for communication and data transfer within the series. Each individual device also gains in versatility as part of a network.

Every one of our thoughts and actions is aimed at reproducing sound to the highest possible standard. The SYS-Link prevents unwanted digital signals in the analogue signal path, allowing the music to sound out with the same authenticity, precise presence as the artists conceived and recorded it.

DAC 200 D/A Converter-Pre-amplifier
Idea

The DAC 200 continues the tradition of T+A High End converters and pre-amplifiers. Starting with the T+A True 1-bit converter, through the galvanic separation of its individual sections, and ending with its analogue volume control, it is a pioneer of the new generation of T+A converters, which display our joint commitment to science and music. From computer USB right up to HDMI (opt.)

the DAC 200 is capable of converting an impressive range of digital signals into natural analogue signals, which are in turn passed either to its discreetly designed high performance headphone amplifier or to an external power amplifier. Within the Series 200 the MP 200 is the obvious choice as top-quality partner, while the A 200 excels as the final link in the chain for loudspeaker users.
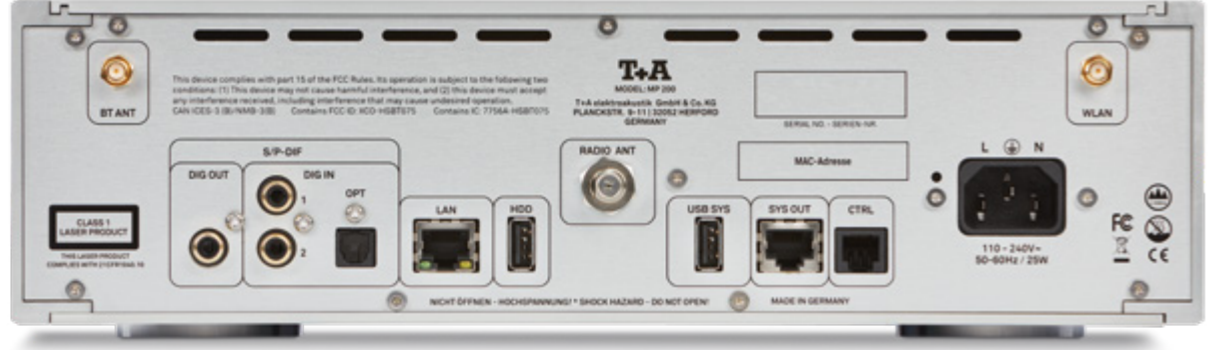
MP 200 Multi Source Player
Idea

The MP 200 is capable of combining compact dimensions and versatility like few other devices. From the classic reproduction of CD and radio right up to the very latest streaming sources and Bluetooth, the unit exploits to the full the potential of every source. In technical terms the MP 200 is based on our own Modular High End Architecture (MHA) whose components were first introduced in

our celebrated HV and R series. The MP 200, as a classic multi-source player, forms the heart of every system, passing on the source signals and the commands of the MusicNavigator App. It harmonises perfectly with the DAC 200 or HA 200.

A 200 Power Amplifier
Idea

Ultra-high audiophile power – for many people a contradiction in terms, but we see it as a challenge. The A 200 offers a continuous output of 2 x 250 Watts at 4 Ohms, without compromising on finely drawn resolution and detail dynamics. Its heat-sinks provide an impressive indication of its potential power as well as ensuring efficient heat dissipation - even at full load.

The A 200 output stage operates as a high-performance complement to existing systems. In conjunction with the Series 200 it transforms the analogue signals from the DAC 200 into very high power for loudspeakers.

HA 200 Headphone Amplifier
Idea

The HA 200 is T+A's first amplifier to be developed exclusively for headphones. Our enormous know-how and decades of experience in the development of amplifiers and converters is evident in the discreet preamplifiers and high-performance output stages developed to meet the very specific requirements of headphones. The result is an unprecedented device of its type, representing a completely new standard in respect of sound quality, performance, connection facilities and external appearance.

The HA 200 combines the requirements of professional users versed in studio technology with those of audiophile music lovers who wish to operate multiple headphones from a single device.

Converter

Every T+A device aims to provide a perfectly authentic music experience, and the design of the converter is crucial to this. The designer's aim is to eliminate even the tiniest of interfering influences. De-Jitter Master-clocking, as developed by T+A, removes these electronic jitter artefacts in a multi-stage process at the end of which the jitter is reduced by a factor of 4. Instead of just one oscillator, the DAC 200 features separate oscillators for each clock range. Overkill, many would say; a logical, scientifically based audiophile development, we would claim. It is our belief that nothing must be allowed to have an adverse influence on the music, even if the factors concerned appear to be insignificant. And that is the reason behind our decision not to employ a shared converter to process PCM and DSD signals, but instead

to develop optimum converters for each digitising method. Alongside the unique T+A True 1-bit converter we installed a supplementary converter reserved exclusively for DSD signals. This is the only means of reproducing native DSD signals without introducing additional conversion processes which would be unnecessarily detrimental. PCM signals, in contrast, are converted into analogue signals using our outstanding quadruple converter. They have their own converter section which is capable of reducing background noise by a further 6 dB. Our filters - another in-house development - are based on Bezier polynomials, and ensure an individually optimum experience to suit every musical taste.

Connections

Specialised versatility: that was our goal at the development stage of the DAC 200, and its back panel reflects this credo: S/P-DIF, TOS Link, AES/EBU and USB inputs accept and display the vast range of digital sources: the DAC 200's performance is not dependent upon the input source, as it extracts the maximum possible from every source.

The DAC 200 supplies its balanced and unbalanced outputs via a double mono „State of the Art" output stage, which receives its signals from a Class A pre-amplifier that is discreetly designed using HV-Technology.

MP 200

Streaming

Back in 2007 we were the first High End manufacturer bold enough to integrate digital streaming sources in our products. From this we have developed a holistic streaming architecture with the streaming client - another in-house development - at its core. This unit's network-capable processor board acts as contact with the outside world, and processes incoming WLAN or LAN signals. Developed from the ground up in Herford, the streaming client is designed to reproduce high-quality streaming sources such as Tidal, Internetradio and even USB mass storage devices.

Control

The MP 200 acts as command centre for the Series 200. The T+A MusicNavigator App for Android and iOS makes these sources even more accessible. The MusicNavigator App provides access to streaming services and radio stations as well as all the operating instructions for the Series 200. The T+A MusicNavigator App was developed in its entirety here in Herford, and it aims to make access to music as intuitive as possible. If the App is not used, all the relevant functions can be controlled easily from the devices' front panels, whose operating architecture offers an intelligent combination of buttons and rotary / pressure controls for swift and easy access.

A 200

Power

In our search to achieve the optimum blend of sound quality, power and efficiency, we have developed a completely new circuit topology which combines T+A's unique HV and High-Frequency sine-wave mains power supply technology with that of the PURIFI Eigentakt™ output stages. By this means we have succeeded in converting raw power into unsurpassed audiophile performance.
In the voltage amplifier stage our HV circuit technology, which is unique in the world, ensures outstandingly natural linearity, and at the same time eliminates harsh negative feedback.

The sine-wave mains power supply delivers huge quantities of current with no inertia, while the Class D PURIFI output stages effortlessly supply 2 x 250 Watts of continuous power to the loudspeaker terminals into 4 Ohms, without any trace of distortion or background noise. The frequency response is totally linear, and - in contrast to conventional Class D amplifiers - remains so entirely independent of load. Thanks to special input and output circuitry, bi-amping, whether horizontal or vertical, represents no obstacle.

Control

The output stages are designed with a broad bandwidth, and are capable of handling even the frequencies up to 60,000 Hertz. This design ensures that the output stage provides ample capacitance for the transmission of typical music signals without prematurely approaching its own limits.
The function of the mains section is similar to that of a sports car's suspension: in itself it is almost invisible, but it is nonetheless crucial to overall performance. That is why our T+A high-frequency sine-wave mains sections operate at double the frequency of conventional mains

sections, and in a pure sine cycle. Detrimental induced interference in the audible range, which is usually a problem, is effectively eliminated in this way. To remove the last trace of interference from the signal, T+A reservoir capacitors are recharged 100,000 times per second - 2,000 times faster than standard capacitors.
So much power in such a small space is monitored by the T+A Intelligent Safe Control circuit, which intelligently regulates the output as soon as there is a threat of excessive temperature, overload or clipping.

HA 200
Inputs & Outputs

The HA 200 provides facilities for connecting up to three headphones in all, each of them via a high-quality XLR 4-pin socket and a 4.4 mm Pentaconn socket as well as a classic 6.3mm barrel connector. Each output is switchable, and its impedance can be selected from six stages in the menu. The impedance affects the damping of the transducer, allowing very fine adjustment of the sound of the individual headphones.

A supplementary stereo output stage can be connected to the XLR 4-pin output. In addition to its classic high-quality analogue inputs the HA 200 offers a wide range of professional digital inputs, enabling it to act as a stand-alone command centre in a High-End system.

All inputs are separately switchable using the front panel or the FM 8 remote control handset.
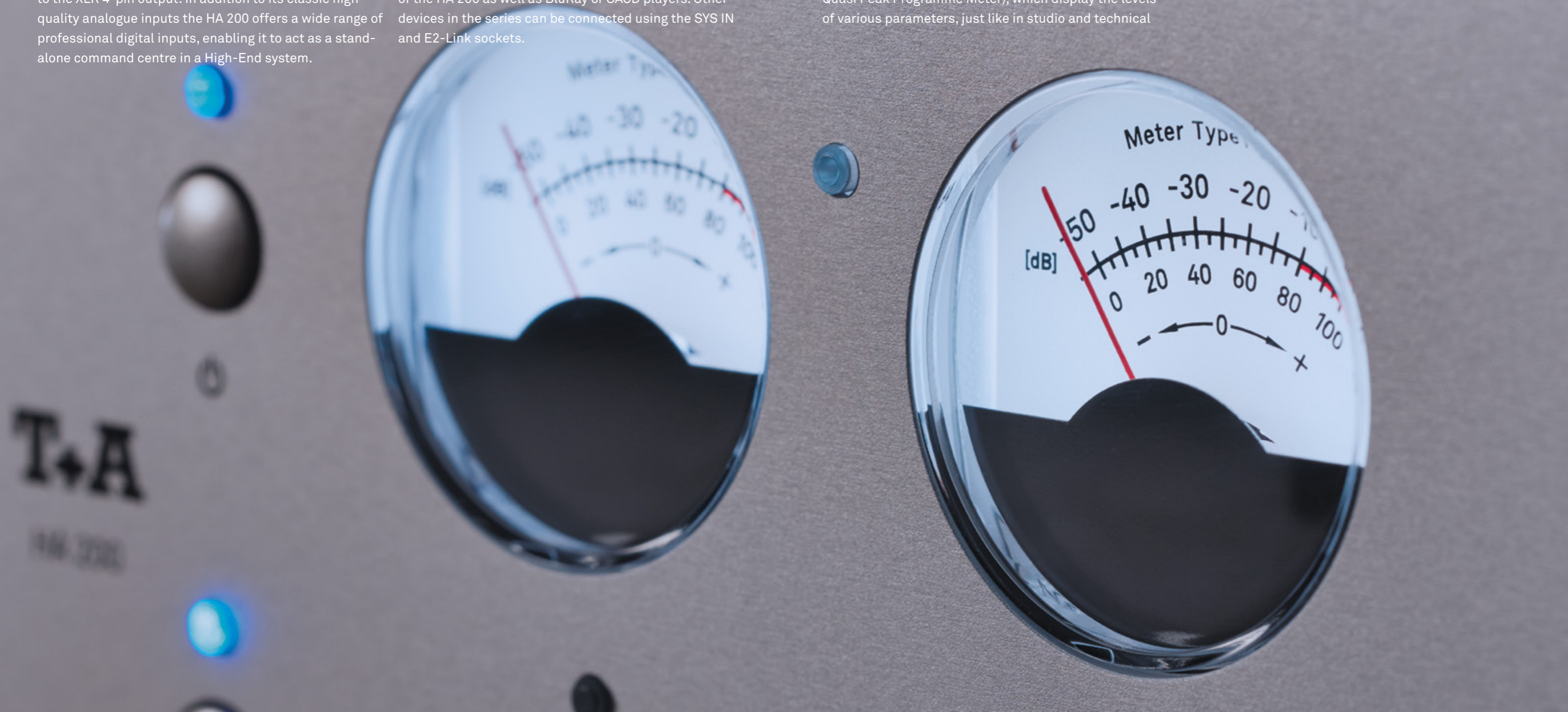
For digital sources the device provides professional AES/EBU and BNC inputs, two Cinch sockets together with two S/P-DIF optical inputs and Bluetooth. The USB IN socket is intended for the connection of PCs, streamers or network adapters (NAA), while the USB-SYS socket caters for the connection of future source devices. Even TV sets can be connected to the optional HDMI module of the HA 200 as well as BluRay or SACD players. Other devices in the series can be connected using the SYS IN and E2-Link sockets.
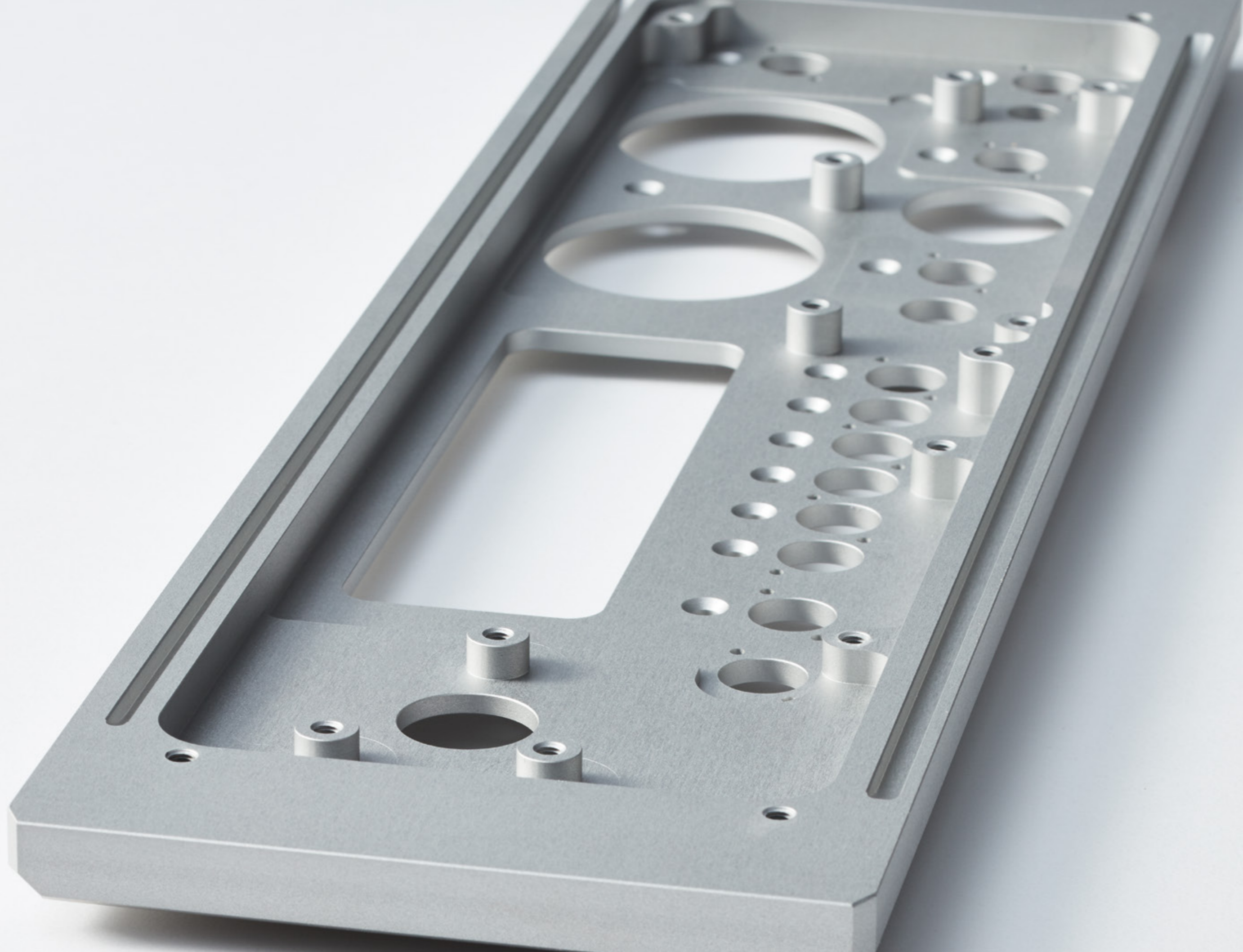
Control

The unit's wide range of connection facilities requires a very sophisticated control system portraying the system as a whole. An ingenious combination of operating buttons and menu control system enables the user to operate the HA 200's huge range of functions with intuitive ease. All its operating states are visible at a glance. The brightness of the screen, the LEDs and the VU meters is user-variable, and adjustable in colour.

Our VU meters are accurate display instruments (QPPM = Quasi Peak Programme Meter), which display the levels of various parameters, just like in studio and technical measuring equipment. The screen can display the levels at the D/A converter and at the amplifier output, as well as the temperature and stream quality. This information enables the user to monitor the cables or data quality on the device itself. The pin-sharp screen shows the selected operating modes, such as output impedance, volume, data rate, type of oversampling filter, crossfeed and much more besides.
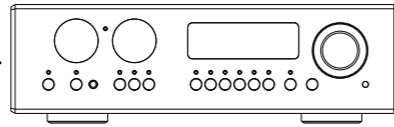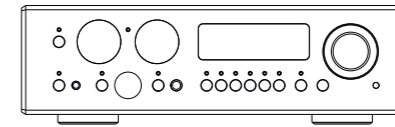
Specifications

DAC 200
D/A Converter-Pre-amplifier

Analogue section	
Frequency response +0/−3 dB	0,1 Hz – 200 kHz
Signal / noise ratio	110/114 dB
THD / Intermodulation	< 0,001 % / < 0,001 %
Channel separation	> 108 dB
Volume control	Gold contact relays controlled in 1 dB steps, - 90 dB to 0 dB
Pre-amplifier outputs variable fixed	High level (RCA) 0...2,5 V_{eff} / 22 Ohms, balanced (XLR) 0...5,0 V_{eff} / 22 Ohms High level (RCA) 2,5 V_{eff} / 22 Ohms, balanced (XLR) 5,0 V_{eff} / 22 Ohms discreetly designed Class A-HV-output stage in Double-Mono-Circuitry
Headphone output	4.4 mm Pentaconn, discreetly designed high performance output stage, Class A operation up to 200 mA, 6 Ohms output impedance

Analogue inputs	
High level (RCA)	250 mV$_{eff}$ ... 4,5 V$_{eff}$ / 10 kOhms

Digital inputs	
	1 x AES-EBU 32...192 kHz / 16-24 Bit
	S/P-DIF: 2 x Standard Coax, 2 x optical TOS-Link 32...192 kHz / 16-24 Bit and DoP DSD64 (0x05/0xFA Marker)
	1 x BNC 32...192 kHz / 16-24 Bit,
	2 x USB DAC: Device-Mode 44,1 ... 768 kSps (PCM) and up to DSD1024*, supports asynchronous data transfer.
	*DSD 512 and DSD 1024 with Windows PC and appropriate driver installed or Linux PC with Kernel 4.4 or higher only. Supports DoP up to DSD 256 (0x05/0xFA Marker).
	2 x HDMI IN, 1 x HDMI OUT with ARC (as an option)

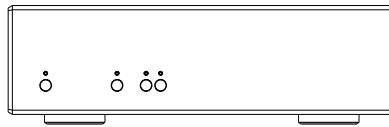| D/A converter section	
PCM	Double-Differential-Quadruple-Converter with four 32-Bit Sigma-Delta D/A converter per channel, 705,6 / 768 kSps conversion rate
DSD	T+A-True-1Bit DSD D/A converter, up to DSD 1024 (49,2 MHz), native bitstream
Upsampling	T+A signal-processor – synchronous upsampling with four selectable oversampling algorithms. FIR short, FIR long, Bezier/IIR, Bezier, NOS (non-oversampling)
Analogue filter	Phase-linear Bessel filter 3rd order, switchable with 60 or 120 kHz cut of frequency
Mains	200 – 240 V, 50 – 60 Hz, 30 Watts
Standby	< 0,5 Watts
Dimensions (H × W × D)	10 × 32 × 34 cm, 4 x 12.6 x 13.4 inch
Accessories	Remote control FM200, power cord, USB cable 2.0 for DAC, RCA cable
Weight	6,2 kg, 13.7 lbs
Finishes	Alu silver anodized (43), Alu black anodized (42)

HA 200
Headphone Amplifier

Analogue section	
Frequency response +0/−3 dB	0,1 Hz – 200 kHz
Signal / noise ratio	110/114 dB
THD / Intermodulation	< 0,001 % / < 0,001 %
Channel separation	> 108 dB
Class A operation	up to 700 mA
Volume control	Gold contact relays controlled in 1 dB steps, - 90 dB to 0 dB
Loudness	switchable, adjustable on the speaker efficiency
Sound control	switchable, channel separated, Bass and treble -6 dB to + 8 dB
Headphone outputs	6.3 mm plug, 4.4 mm Pentaconn, XLR-4 pin
	discreetly designed high performance output stage, Impedances: 8, 12, 18, 25, 40, 80 Ohms

Analogue inputs	
High level (RCA) / balanced (XLR)	250 mV$_{eff}$ ... 4,5 V$_{eff}$ / 10 kOhms | 500 mV$_{eff}$ ... 9 V$_{eff}$ / 20 kOhms

Digital inputs	
	1 x AES-EBU 32...192 kHz / 16-24 Bit S/P-DIF: 2 x Standard Coax, 2 x optical TOS-Link 32...192 kHz / 16-24 Bit, 1 x BNC 32...192 kHz / 16-24 Bit, 2 x USB DAC: Device-Mode 44,1 ... 768 kSps (PCM) and up to DSD1024*, supports asynchronous data transfer.
	*DSD 512 and DSD 1024 with Windows PC and appropriate driver installed or Linux PC with Kernel 4.4 or higher only. Supports DoP up to DSD 256 (0x05/0xFA Marker).
	2 x HDMI IN, 1 x HDMI OUT with ARC (as an option)
Bluetooth	A2DP (Audio), AVRCP 1.4 (Control) / aptX® HD , SBC, AAC

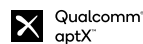| D/A converter section	
PCM	Double-Differential-Quadruple-Converter with four 32-Bit Sigma-Delta D/A converter per channel, 705,6 / 768 kSps conversion rate
DSD	T+A-True-1Bit DSD D/A converter, up to DSD 1024 (49,2 MHz), native bitstream
Upsampling	T+A signal-processor – synchronous upsampling with four selectable oversampling algorithms. FIR short, FIR long, Bezier/IIR, Bezier, NOS (non-oversampling)
Analogue filter	Phase-linear Bessel filter 3rd order, switchable with 60 or 120 kHz cut of frequency
Mains	100 – 120 V or 200 – 240 V, 50 – 60 Hz, 100 Watts
Standby	< 0,5 Watts
Dimensions (H × W × D)	10 × 32 × 34 cm, 4 x 12.6 x 13.4 inch
Accessories	Remote control FM8, power cord, USB-cabel for charging RC, USB cabel 2.0 for DAC, RCA cabel
Weight	6,5 kg, 14.4 lbs
Finishes	Alu silver anodized (43), Alu black anodized (42)

A 200
Power Amplifier

Nominal power per channel	250 Watts @ 4 Ohms
	125 Watts @ 8 Ohms
Frequency response + 0 / − 3 dB	1 Hz – 60 kHz
Signal to noise ratio	113 dB
THD / Intermodulation	< 0,002 % / < 0,002 %
Channel separation	> 103 dB
Damping factor	> 800 / DF LO > 70
Input sensitivity nominal	High level (RCA) 800 mV$_{eff}$ / 5,8 kOhms
	Balanced (XLR) 1,6 V$_{eff}$ / 20 kOhms
Mains	200 – 240 V, 50 – 60 Hz
Power consumption	max. 600 Watts
	25 Watts while power on and idling with no signal
Standby	< 0,5 Watts
Dimensions (H × W × D)	10 × 32 × 34 cm, 4 x 12.6 x 13.4 inch
Accessories	Power cord, E2-Link-cable
Weight	5 kg, 11 lbs
Finishes	Alu silver anodized (43), Alu black anodized (42)

TIDAL   deezer   qobuz   WiFi CERTIFIED   airable

Technical modifications reserved

MP 200
Multi Source Player
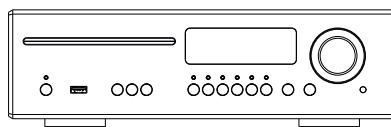
CD-Player

Formats	CD/DA, CD-R, CD-RW, CD-text
Frequency response and dynamic range	2 Hz – 20 kHz / 100 dB

Streaming Client

Formats / standards	MP3, AAC, FLAC, OGG-Vorbis, FLAC, WAV, AIFF, ALAC
Data rates	PCM 32 … 192 kHz, 16/24 Bit; MP3 bis 320 kBit
Supported media servers	UPnP 1.1, UPnP AV and DLNA kompatible Server, Microsoft Windows Media Connect Server WMDRM10, DLNA compatible servers
Features	Auto Network Config., Internet Radio Station database (automatic updates)
Interfaces	LAN: Fast Ethernet 10/100 Base-T, WLAN: 2,4 GHz,+20 dBm (100 mW), IEEE 02.11 b/g/n 2 x USB 2.0 Master mode

Tuner (FM)

Frequency range	FM Radio 87,5 – 108 MHz (Europa / US); 76 – 90 MHz (Japanese version))
Sensitivity	Mono (26dB S/N) 0,9 µV, Stereo (46 dB S/N) 40 µV
Overload margin	103 dB µV
Stereo channel separation	50dB
RDS Functions	Stationname, Radio text

Tuner (DAB)

Reception standard	DAB, DAB+
Freqency band	168 – 240 MHz (Band III)
Overload margin	103 dB µV
Sensitivity (BER = 10 – 4)	2,5 µV

Bluetooth

Supported audio formats	aptX® HD, MP3, AAC, SBC
Freqency band	2,4 GHz: 2042Mhz … 2480Mhz Max. transmission power ‹10 dBm (EIRP)
RC protocol	AVRCP
Inputs	SP/DIF (16-24bit): 2x coax (192kHz), 1x TOS-Link (96kHz)
Outputs	Digital output coax (IEC 60958), SYS-LINK and USB-SYS output
Mains in	200 – 240 V, 50 – 60 Hz, 25 Watts
Normal operation (max.)	25 W
Standby (ECO)	‹ 0,50 W
Automatic power down	After 90 Minutues without music signal
Dimensions (H x W x D)	10 × 32 × 34 cm, 4 x 12.6 x 13.4 inch
Accessories	Remote control handset FM200, Mains cord, USB-SYS-cable and RJ-45 SYS-Link-cable for connection of a DAC 200 or HA 200, WLAN and Bluetooth antenna
Weight	4,4 kg, 9.7 lbs
Finishes	Alu silver anodized (43), Alu black anodized (42)

T+A