Supplementary New Product Information (SNPI)

TEAC

# NT-503 USB DAC/Network Player


## A versatile Network Player/Dual-monoaural DAC that allows you to explore music and experience it at the highest standard of fidelity

### ■ Main Features

- Dual AK4490 D/A Converters from Asahi Kasei Microdevice process 11.2MHz DSD and 384kHz/32-bit PCM
- USB DAC supports 11.2MHz DSD and 384kHz PCM Hi-Res Audio Streaming from PC via USB Cable
- Supports 5.6MHz DSD and 192kHz WAV/FLAC Hi-Res Audio Streaming via Ethernet or USB Flash Memory
- Bluetooth® aptX® delivers high-quality Wireless Music Streaming from Smartphone and Tablet
- Supports Subscription Music Services such as Spotify connect and Deezer, and Internet Radio Stations
- Dual-monaural Circuit Design, and Balanced Analog Audio Output with XLR Connectors
- Up-conversion to 12.2MHz DSD and 384kHz PCM
- “TEAC-HCLD” Enhanced-current Buffer Amplifiers, and “TEAC-QVCS” High-precision Volume Control Circuits
- High-precision Onboard Clocks (44.1kHz-system and 48kHz-system), and 10MHz External Clock Input
- Compact Full-metal Body in A4 size
- “TEAC HR Remote” Free Remote Apps for iOS/Android
- “TEAC HR Audio Player” Free Hi-Res Audio Player Software for Windows/Mac



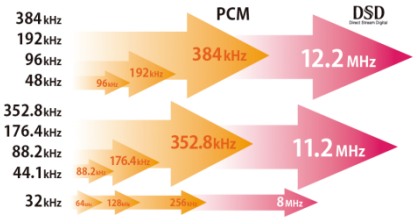
| | | |
|---|---|---|
| Brand | TEAC | |
| Series | Reference series | |
| Model | NT-503-B | NT-503-S |
| EAN Code | 4907034219469 | 4907034219476 |
| Announcement Date | September 2015 | |
| Main Unit Dimensions/NW<br>W x H x D | 290 x 81.3 x 248.7 / 4.2 (mm/kg)<br>11.4 x 3.2 x 9.8 / 9.3 (inch/lbs) | |
| Package Dimensions/GW<br>W x H x D | 438 x 181 x 339 / 5.3 (mm/kg)<br>17.3 x 7.5 x 13.4 / 11.9 (inch/lbs) | |
| Qty. per Master Carton | 1 pc. | |

# Supplementary New Product Information (SNPI)

**High-quality Audio Circuits that convey the texture of music**

The NT-503 employs an identical DAC section to that used in the UD-503, TEAC's flagship D/A converter unit. In order to reproduce Hi-Res Audio sound on both left and right channels precisely and independently, the dual-monaural circuit NT-503 accommodates a pair of toroidal-core power transformers, dual DAC chipsets, and symmetrically laid out output stages. A "TEAC-HCLD" circuit which consists of four discrete enhanced-current buffer amplifiers acting on both positive and negative phases on both left and right channels, is employed in the analog line amplifier section in order to enhance transient character and precisely render dynamics in music.

The NT-503 also applies Up-conversion to all incoming digital audio signals, based on a fluency algorithm that processes more natural interpolation points than conventional Up-conversion methods. Any incoming digital audio signals can be transformed into 12.2MHz or 384kHz PCM (the maximum value achievable depends on the original digital audio data.). Missing audio data at frequencies higher than 20kHz is reproduced by an analogue-like interpolation algorithm that brings the final sound as close as possible to the original.



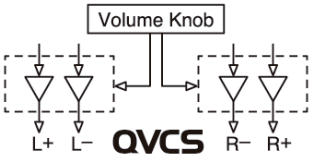

**Versatile Connectivity – Wide variety of Input formats and devices (EUR model)**

The NT-503 provides high-quality music playback from several input sources including LAN, Bluetooth® and USB. Just like the UD-503, NT-503 supports Hi-Res audio playback (up to 11.2MHz DSD and 384kHz/32-bit PCM) from PC via USB cable, as well as 5.6MHz DSD and 192kHz/24-bit music streaming via LAN supporting DLNA1.5, or USB Flash Memory. Furthermore, the Bluetooth® wireless connection, with aptX® and AAC codec support, allows you to enjoy high-quality music streaming wirelessly. Our free apps for iOS/Android ("TEAC HR Remote") allow you to subscribe Internet Radio stations and premium online music services like Spotify and Deezer.

**Pre-amplifier circuits that deliver a fully-balanced output**


Three types of output level modes are available: Fixed (0dB), Fixed (+6dB) and Variable, via both balanced and unbalanced analog outputs. This means the NT-503 can be combined with either a conventional Stereo Integrated Amplifier, or a Power Amplifier to create a high quality hi-fi system.

Like the volume section of the UD-503, the NT-503 incorporates "TEAC-QVCS", a high-precision volume control system that's operated by simultaneously controlling four variable-gain amplifier circuits. As a result, the NT-503 delivers crystal clear sound with excellent channel separation achieved by maintaining total independence between both positive and negative phases, on both left and right channels.




## ■ High-quality Audio Circuits that render the texture of music

- **High-performance VERITA AK4490 DACs support 11.2MHz DSD and 384kHz/32-bit PCM**

As befits a device that will be the heart of a digital audio system, the NT-503 employs VERITA AK4490 DACs, designed by Asahi Kasei Microdevices Corporation for use in high-end audio equipment.* The VELVET SOUND architecture of the AK4490 is capable of producing a finely-detailed and expressive sound at frequencies audibility, necessary for Hi-Res Audio playback. And newly developed Low Distortion Technology achieves 112dB of S/(N+D) which is the highest level in the industry for a 120dB-class DAC.

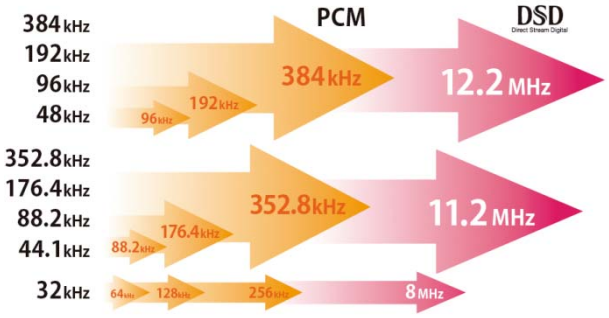
As well as 11.2MHz DSD Native playback, the NT-503 also supports wide variety of Hi-Res Audio sources, including 384kHz/32-bit PCM, and delivers on Hi-Res Audio's promise of smooth, ultra-detailed sound and an outstanding soundstage.

*The AK4490 is a product in the Audio4pro™ family brand, developed by Asahi Kasei Microdevices Corporation specifically for professional audio equipment and high-end digital audio applications.

# Supplementary New Product Information (SNPI)

- **DSD and 8x PCM Up-conversion breathes new life into your Digital Libraries (including CDs)**

The NT-503 is also equipped with TEAC's in-house designed FPGA (programmable IC) which employs a fluency algorithm to smoothly augment digital audio signals, in addition to standard 2x, 4x and 8x PCM Up-conversion processing. DSD Up-conversion is also supported (up to 12.2MHz). Thanks to this unique system, the NT-503 upconverts 44.1kHz/16-bit data from a conventional CD into 11.2MHz DSD (greater than 256 times the resolution of the original). What's more, any missing audio data that's present at higher than 20kHz is produced by an interpolation algorithm (with analogue characteristics) in order to produce a natural sound that's as close in character to the original one as possible. You will experience the dense sense of 'air' that the DSD format inherently has, even when listening to CD or MP3.




- **High-precision 44.1kHz and 48kHz On-board Internal Clocks, and 10MHz External Clock Input**


When in PC Streaming mode via USB cable an asynchronous transfer mode, referenced to a high-precision and noiseless internal clock, is employed, instead of the imprecise and noisy clocks typically generated within a PC. The NT-503 accommodates two on-board internal clocks operated by low phase-noise type high-precision crystal oscillators for 44.1kHz and 48kHz signals. Either the 44.1kHz clock or 48kHz clock is applied to incoming digital audio signals (with integral multiple sampling frequency) thus eliminating sound-corrupting jitter noise and reproducing the original sound.
In addition, a 10MHz external clock input allows the NT-503 to be synchronised with an more precise external master clock generator, if required, for yet further enhanced sound quality.

- **PCM/DSD Filters for subtle sound reproduction from a single unit**

In addition to four types of PCM digital filters (and an OFF mode) the unit has two types of DSD digital filters, so you can choose the best filter for the input file format and type of music. That means you can enjoy the subtly different sound nuances of different filters without needing to connect different USB DACs.

| | | |
|---|---|---|
| PCM | FIR SHARP | An FIR filter with a steep roll-off sharply cuts signals outside the audio band. * |
| | FIR SLOW | An FIR filter with a slow roll-off gently cuts signals outside the audio band. * |
| | SDLY SHARP | A short delay filter with a steep roll-off sharply cuts signals outside the audio band. * |
| | SDLY SLOW | A short delay filter with a slow roll-off gently cuts signals outside the audio band. * |
| DSD | CUT OFF 50kHz | A cut-off filter at 50kHz |
| | CUT OFF 150kHz | A cut-off filter at 150kHz |

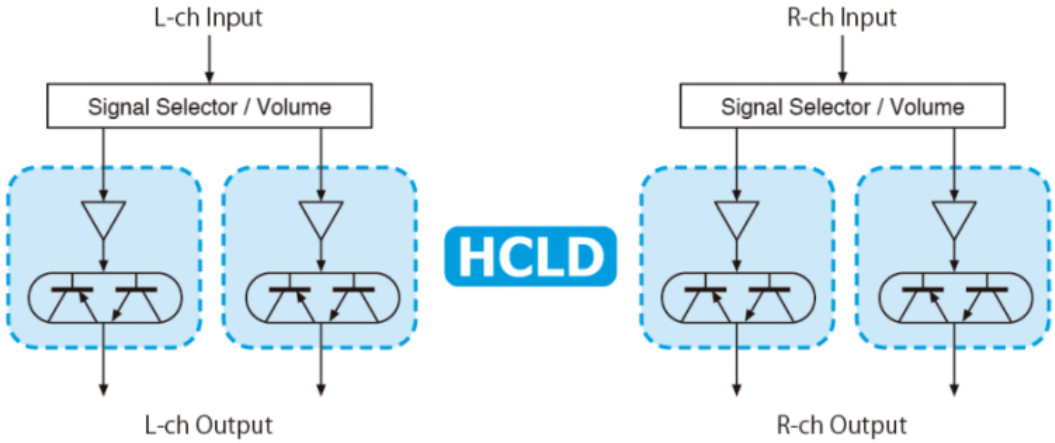
* These filters are applicable to all PCM data except 352.8kHz and 384kHz.

- **All-new Dual-monaural Circuit Design for Outstanding Performance**

Behind the NT-503's classy fascia, an all-new, highly specified, dual-monaural circuit design concept is employed throughout – that includes the power supply, DACs, and analog output stages. High-efficiency toroidal-core power transformers, and high-performance DAC chips VERITA AK4490 allow each channel to function as a single monaural circuit, and prevents left and right audio signals from mutually interfering with one another.

- **"TEAC-HCLD" Quad enhanced-current Output Buffer Circuits convey the Dynamics of Music**

  Drawing from TEAC's decades of experiences in high-end audio design, the analog amplifier section employs a pair of discrete enhanced-current buffer amplifier "TEAC-HCLD" (High Current Line Driver) circuits on each channel. Each pair of buffer amplifier sections enhances transient character by processing a differential drive in balanced output mode, and parallel drive in unbalanced output mode. As result, the NT-503 delivers the wide dynamic range that the original Hi-Res Audio has, without losing the dynamism of music.




- **Isolated Grounds for Digital and Analog Sections**

  Between the digital and analog sections, the NT-503 employs a Digital Isolator to completely isolate each power supply path and the ground. So all digital noise coming from digital sources, particularly from PCs, is prevented from entering the analog section through the power supply path or the ground. An isolation circuit offers significant benefits particularly when playing back Hi-Res Audio sources that have a higher sampling frequency.

- **Dual toroidal-core Power Transformers for Each Channel**

  The NT-503 incorporates a high-capacity toroidal-core power transformers for both left and right channels, to supply clean and stable current independently, on the dual-monaural design concept. Each power unit enables a stable current supply to each channel without being influenced by the changes in current consumption due to processing of the other channel's signal. It's a concept that's normally employed in much larger high-end audio products so TEAC is proud to have brought it to such a small form-factor.

- **OLED Volume Display for Excellent Visibility**

  The organic electroluminescent display (OLED) with a 4-level dimmer provides high contrast and excellent visibility. The use of a large-sized font allows you to check the volume level even from distant locations like the couch!


## ■ Versatile Connectivity – Wide variety of Input formats and devices

- **Hi-Res Audio Playback from PC via USB Cable**

  Hi-Res Audio data such as 11.2MHz DSD and 384kHz/32-bit PCM can be played back via USB without the need to make complicated alterations to settings. TEAC offers free music apps called "TEAC HR Audio Player", in Windows and Macintosh versions, that support the creation of playlists. A simplified interface allows you to just drag-and-drop music files to the playlist window on your computer.

  * A separate driver is required for Windows.

- **High-res Audio Streaming via a Network**

# Supplementary New Product Information (SNPI)

The NT-503 is a versatile network player that offers DLNA 1.5(*) compatible network audio capability, allowing Hi-Res Audio formats such as 5.6MHz DSD and 192kHz/24-bit WAV/FLAC to be played back from PC or NAS (Network Attached Server) using the free apps for iOS/Android “TEAC HR Remote”.

- **High-quality Wireless Streaming via Bluetooth®**

  The NT-503 also supports Bluetooth® wireless connection with advanced codec technologies aptX® and AAC, as well as the conventional SBC codec. All the ingredients, in short to allow high-quality music streaming from your smartphone or tablet.

  * The NT-503 does not support wireless audio transmission to Bluetooth® Wireless Headphones.

- **Front USB port for Hi-Res Audio Playback**

  The NT-503's front-panel USB port supports 5.6MHz DSD and 192kHz PCM files stored on a USB Flash Memory, as well as conventional MP3 and WMA files. The free apps ("TEAC HR Remote" for iOS/Android) turn your smartphone and tablet into a touch-screen remote controller to browse and select music files on the USB Flash Memory.

- **Music Streaming from your iOS/Android Devices (EUR model, NT-503)**

  With free apps "TEAC HR Remote" for iOS/Android, the NT-503 allows you to subscribe on-line music services like Spotify connet, and Deezer, as well as TuneIn Internet radio portal that provides over 100,000 radio stations and 4 million podcasts all over the world at free of charge. Since the NT-503 directly receives those streaming signals from the Internet, – not via your smartphone or tablet – its ringtone, should you receive a call, will not be played over the music.

## ■ Pre-amplifier circuits supporting full-balanced output

- **Carefully Designed Pre-amplifier Circuit Draws Finer Details of DSD**

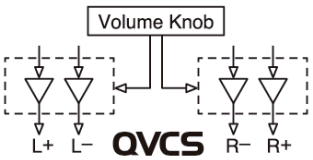
  The NT-503's high-quality analog output, achieved by the combination of dual-monaural design and the “TEAC-HCLD” circuit, makes it an ideal Pre-amplifier unit, supporting a wide range type of music format and input sources. The NT-503 delivers both balanced and unbalanced audio signal at "Fixed (±0dB)", "Fixed (+6dB)" which is optimized for DSD source, or "Variable", allows you to connect a power amplifier unit directly, to establish a high quality hi-fi system.

  In addition, there's an "Off" setting which disables all audio signals coming from the rear connectors, to further enhance performance via headphone output.

- **Pre-amp Circuits now Use “TEAC-QVCS” High-precision Volume Control**

  In the pre-amp section, the NT-503 employs the “TEAC-QVCS” (Quad Volume Control System), which is a fully-balanced circuit design operating at the outputs of the D/A Converters and Volume Amplifier section. Control signals transmitted from the volume knob precisely control four independent variable-gain amplifiers simultaneously — positive and negative on both left and right channels. With this circuit design, audio signal paths are simplified, and the independence of the left and right channels and positive and negative phases is preserved, and clear sound quality achieved, together with outstanding channel separation. (TEAC-QVCS does not operate on the unbalanced analog input.)

  “TEAC-QVCS” also provides 256 steps or 0.5dB steps of volume control, allowing precision control throughout the effective range between -95dB and +24dB. This allows you to adjust both line output and headphone volume to the exact level you wish with a remote control, which is hard to do with a motorized volume control. This is a useful feature if a user regularly connects several types of headphones that have different impedances.

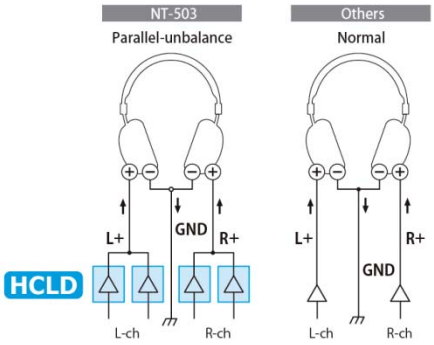



- **Headphone Amplifier Uses the “TEAC-HCLD” Circuits for High-quality Headphone Listening**

# Supplementary New Product Information (SNPI)

Just as on the UD-503, the NT-503 also employs a high-performance headphone amplifier that delivers 500mW+500mW of output power. The “TEAC-HCLD” circuit, comprising four output transistors used in parallel-drive mode, drives conventional single-end headphones powerfully and precisely.

In addition, a uniquely designed class-AB amplifier, with an extended class-A operational range, allows the NT-503 to process most of the amplification process in class-A mode, and thereby maximizes the sonic potential of a wide range of headphones, including 600 ohms high-impedance models.




## ■ Features at-a-glance

- USB DAC supporting 11.2MHz DSD Native Playback and 384kHz/32-bit PCM, from PC via a single USB Cable
- 5.6MHz DSD and 192kHz/24-bit WAV/FLAC Streaming Playback via LAN (DLNA1.5 Compatible Remote Playback, and Home Media Playback)
- 5.6MHz DSD and 192kHz/24-bit WAV/FLAC Playback from USB Flash Memory
- High-quality Wireless Playback via Bluetooth® supporting aptX®, AAC and SBC Codec
- Access to Internet Radio Stations
- Access to the on-line music services; Spotify and Deezer (EUR model)
- Free Remote App for iOS and Android
- Free Music Playback App for Windows/Mac, supporting 11.2MHz DSD
- Dual D/A Converters AK4490 from Asahi Kasei Microdevices Corporation
- DSD and PCM Filters for Multifaceted Personality on a Single Unit
- 10MHz External Clock Input for more precise clock operation (Applicable for USB Asynchronous Mode only)
- High-precision On-board Clocks for 44.1kHz system and 48kHz system (Applicable for USB Asynchronous Mode only)
- Up-conversion to 12.2MHz DSD and 384kHz PCM for finer detail
- "TEAC-HCLD" Quad Buffer Amplifier Circuits for enhanced current
- "TEAC-QVCS" High-precision Volume Control Circuits
- XLR Balanced and RCA Unbalanced Line Outputs with Fixed (0dB, +6dB) or Variable Output Level Settings
- Switchable XLR Polarity (2:HOT or 3:HOT)
- USB B-type Port for PC Streaming, Ethernet Port for Network Streaming, and Coaxial and Optical Digital Inputs
- Coaxial/Optical Digital Input on Front for Connection with Portable Digital Audio Player
- Discrete Headphone Amplifier with 500mW + 500mW Output Power supports Parallel Unbalanced Drive
- Large Volume Display on Multi-function OLED with Excellent Visibility (4-step Dimmer incl. Display-Off)
- Low Power Consumption with Auto Power Saving
- Robust Full-metal Body Eliminates Exogenous Noise with Elegant Appearance
- Complied with RoHS

## ■ Specifications

**Supported Formats**

| | |
|---|---|
| USB (Rear, USB B-type) | |
| DSD | 2.8 / 5.6 / 11.2 MHz |
| PCM | 44.1 / 48 / 88.2 / 96 / 176.4 / 192 / 358.4 / 384 kHz, 16 / 24 / 32-bit |
| Coaxial Digital | |
| DSD | 2.8 MHz (by 176.4kHz/24-bit DoP Transmission) |
| PCM | 32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192 kHz, 16 / 24-bit |
| Optical Digital | |
| DSD | 2.8 MHz (by 176.4kHz/24-bit DoP Transmission) |
| PCM | 32 / 44.1 / 48 / 88.2 / 96 / 176.4 / 192 kHz, 16 / 24-bit |
| DLNA Remote Play | |
| DSD | 2.8 / 5.6 MHz (.dsf のみ) |
| LPCM | 44.1 / 48 kHz, 16-bit |

| | |
|---|---|
| WAV | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 / 64 / 88.2 / 96 / 176.4 / 192 kHz, 8 / 16 / 24-bit |
| FLAC | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 / 64 / 88.2 / 96 / 176.4 / 192 kHz, 8 / 16 / 24-bit |
| AAC | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 / 64 / 88.2 / 96 kHz, 8k to 320kbps and VBR |
| Apple Lossless | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 / 64 / 88.2 / 96 kHz, 16 / 24-bit |
| WMA Lossless | 44.1 / 48 / 88.2 / 96 kHz, 16 / 24-bit |
| WMA DRM Lossless | 44.1 / 48 / 88.2 / 96 kHz, 16 / 24-bit |
| WMA Standard | 8 / 11.025 / 16 / 22.05 / 32 / 44.1 / 48 kHz, 5k to 320kbps and VBR |
| WMA DRM Standard | 8 / 11.025 / 16 / 22.05 / 32 / 44.1 / 48 kHz, 5k to 320kbps and VBR |
| OGG Vorbis | 8 / 11.025 / 16 / 22.05 / 32 / 44.1 / 48 kHz, 32k to 500kbps and VBR |
| MP3 | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 kHz, 8k to 320kbps and VBR |
| Home Media | |
| DSD | 2.8 / 5.6 MHz (.dsf only) |
| WAV | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 / 64 / 88.2 / 96 / 176.4 / 192 kHz, 8 / 16 / 24-bit |
| FLAC | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 / 64 / 88.2 / 96 / 176.4 / 192 kHz, 8 / 16 / 24-bit |
| AAC | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 / 64 / 88.2 / 96 kHz, 8k to 320kbps and VBR |
| Apple Lossless | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 / 64 / 88.2 / 96 kHz, 16 / 24-bit |
| WMA Lossless | 44.1 / 48 / 88.2 / 96 kHz, 16 / 24-bit |
| WMA Standard | 8 / 11.025 / 16 / 22.05 / 32 / 44.1 / 48 kHz, 5k to 320kbps and VBR |
| OGG Vorbis | 8 / 11.025 / 16 / 22.05 / 32 / 44.1 / 48 kHz, 32k to 500kbps and VBR |
| MP3 | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 kHz, 8k to 320kbps and VBR |
| USB (Front, USB A-type) | |
| DSD | 2.8 / 5.6 MHz |
| WAV | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 / 64 / 88.2 / 96 / 176.4 / 192 kHz, 8 / 16 / 24-bit |
| FLAC | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 / 64 / 88.2 / 96 / 176.4 / 192 kHz, 8 / 16 / 24-bit |
| AAC | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 / 64 / 88.2 / 96 kHz, 8k to 320kbps and VBR |
| Apple Lossless | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 / 64 / 88.2 / 96 kHz, 16 / 24-bit |
| WMA Lossless | 44.1 / 48 / 88.2 / 96 kHz, 16 / 24-bit |
| WMA Standard | 8 / 11.025 / 16 / 22.05 / 32 / 44.1 / 48 kHz, 5k to 320kbps and VBR |
| OGG Vorbis | 8 / 11.025 / 16 / 22.05 / 32 / 44.1 / 48 kHz, 32k to 500kbps and VBR |
| MP3 | 8 / 11.025 / 12 / 16 / 22.05 / 24 / 32 / 44.1 / 48 kHz, 8k to 320kbps and VBR |

**DAC section**

| | |
|---|---|
| D/A Converter | Asahi Kasei Microdevices AK4490 x 2 |
| Up-conversion | x8, x4, x2, Off (Max. 384kHz), DSD (Max. 12.2MHz) |
| Supported OS | |
| Windows | Windows 8.1, Windows 8, Windows7 |
| Macintosh | Yosemite (OS X10.10), Mavericks (OS X10.9), Mountain Lion (OS X 10.8), Lion (OS X 10.7) |

**Network section**

| | |
|---|---|
| Connector | 100Base-T |
| Supported Protocol | DLNA Remote Play (DLNA1.5 compatible), Home Media |

**On-line Music section**

| | |
|---|---|
| Internet Radio Access | TuneIn Internet Radio Portal |
| Supported On-line Services | Deezer, Spotify (EUR model) |

**Bluetooth® section**

| | |
|---|---|
| Bluetooth® Version | V2.1 +EDR |
| Bluetooth® Class | Class 2 (Range: approx. 10m/33ft.) |
| Supported Profile | A2DP, AVRCP |
| Supported Codec | aptX®, AAC, SBC |

**Audio Inputs/Outputs**

| | |
|---|---|
| Digital Inputs (Rear) | |
| USB | USB B-type x 1 |
| Recommended App | TEAC HR Audio Player (Windows, Macintosh) |
| Coaxial RCA Pin x 1 | |

| | |
|---|---|
| Input Level | 0.5Vp-p |
| Input Impedance | 75 ohms |
| Optical TOS-link x 1 | |
| Input Level | -24.0dBm to -14.5dBm peak |
| Digital Inputs (Front) | |
| Coaxial | 1/8” (3.5mm) Mini Jack x 1 (compatible with Mini Optical Jack) |
| Input Level | 0.5Vp-p |
| Input Impedance | 75 ohms |
| Optical | Mini Optical Jack x 1 (compatible with Coaxial Mini Jack) |
| Input Level | -24.0dBm to -14.5dBm peak |
| USB | USB A-type x 1 |
| Version | USB2.0 |
| Supported Media | USB Flash Memory |
| Analog Outputs (Rear) | |
| Balanced | XLR 3-32 x 1 pair |
| Output Mode | Fixed (±0dB), Fixed (+6dB), Variable, Off |
| Max. Output Level | |
| Fixed (±0dB) | 2.0Vrms (1kHz, Full-scale, 10k ohms loaded) |
| Fixed (+6dB) | 4.0Vrms (1kHz, Full-scale, 10k ohms loaded) |
| Variable | 12.0Vrms (1kHz, Full-scale, 10k ohms loaded) |
| Output Impedance | 188 ohms |
| Polarity | 2:HOT, 3:HOT (selectable) |
| Unbalanced | RCA x 1 pair |
| Output Mode | Fixed (±0dB), Fixed (+6dB), Variable, Off |
| Max. Output Level | |
| Fixed (±0dB) | 2.0Vrms (1kHz, Full-scale, 10k ohms loaded) |
| Fixed (+6dB) | 4.0Vrms (1kHz, Full-scale, 10k ohms loaded) |
| Variable | 6.0Vrms (1kHz, Full-scale, 10k ohms loaded) |
| Output Impedance | 150 ohms |
| External Clock Input (Rear) | BNC x 1 |
| Input Frequency | 10MHz |
| Input Impedance | 50 ohms |
| Input Level | TTL Level or equivalent |
| Headphone Output (Front) | 1/4” (6.3mm) Stereo Jack x 1 |
| Output Power | 500mW + 500mW (32 ohms loaded) |
| Supported Impedance | 16 to 600 ohms |

**Audio Settings**

| | |
|---|---|
| Up-conversion | x8, x4, x2, Off |
| Digital Filters | |
| PCM Digital Filters | FIR Sharp, FIR Slow, Short-delay Sharp, Short-delay Slow (not applicable to 352.8kHz and 384kHz PCM) |
| DSD Filters | Cut-off 50kHz, Cut-off 150kHz |
| Line Output | RCA, XLR2 (2:HOT), XLR3 (3:HOT) |
| Line Output Mode | Fixed (±0dB), Fixed (+6dB), Variable, Off |

**Audio Performance**

| | |
|---|---|
| Frequency Response | 5Hz to 80kHz (+1dB, -3dB) |
| Signal-to-Noise Ratio | |
| Balanced Output | 112dB (A-weighted, 1kHz) |
| Unbalanced Output | 110dB (A-weighted, 1kHz) |
| Total Harmonic Distortions | 00015% (1kHz, LPF: 20Hz to 20kHz) |

# Supplementary New Product Information (SNPI)

TEAC

**General**

| | |
|---|---|
| Power: | AC 230V 50Hz (UK/Europe) |
| Power Consumption | 18Watts (0.4Watts at Standby, 3Watts at Network Standby) |
| Overall Dimensions (W x H x D) | 290 x 81.3 x 248.7 mm / 11.4” x 3.2” x 9.8” |
| Weight: | 3.9 kg / 8.6 lbs. |
| Accessories: | Power Cord,<br>Remote Control (RC-1320),<br>AAA Batteries x 2,<br>Owner's Manual (including Warranty Card) |
| Required Driver Software | |
| Windows | TEAC Driver (complementary from TEAC, Available on TEAC Website) |
| Macintosh | none (no driver software required) |
| Optional Remote Apps | |
| iOS | TEAC HR Remote for iOS (complementary from TEAC, Available on App Store) |
| Android | TEAC HR Remote for Android (complementary from TEAC, Available on Google Play) |
| Optional Hi-Res Audio Playback Apps | |
| Windows | TEAC HR Audio Player for Win (complementary from TEAC, Available on TEAC Website) |
| Macintosh | TEAC HR Audio Player for Mac (complementary from TEAC, Available on TEAC Website) |

## ■ Up-conversion Table

| | | Out-going Digital Signal to DAC | | | | |
|---|---|---|---|---|---|---|
| Up-conversion Settings | | Off | 2Fs | 4Fs | 8Fs | DSD |
| Incoming Digital Signal | 384kHz | 384kHz | 384kHz | 384kHz | 384kHz | 12.2MHz |
| | 352.8kHz | 352.8kHz | 352.8kHz | 352.8kHz | 352.8kHz | 11.2MHz |
| | 192kHz | 192kHz | 192kHz | 192kHz | 384kHz | 12.2MHz |
| | 176.4kHz | 176.4kHz | 176.4kHz | 176.4kHz | 352.8kHz | 11.2MHz |
| | 96kHz | 96kHz | 96kHz | 192kHz | 384kHz | 12.2MHz |
| | 88.2kHz | 88.2kHz | 88.2kHz | 176.4kHz | 176.4kHz | 11.2MHz |
| | 48kHz | 48kHz | 96kHz | 192kHz | 384kHz | 12.2MHz |
| | 44.1kHz | 44.1kHz | 88.2kHz | 176.4kHz | 352.8kHz | 11.2MHz |
| | 32kHz | 32kHz | 64kHz | 128kHz | 256kHz | 8.0MHz |

352.8kHz and 384kHz supported on the rear USB Port only.

No Up-conversion processed