

Last Updated on: April 21, 2014

Supplemental to New Product Information (SNPI) **TEAC**

AI-301DA Pre-main Amplifier fitted with Bluetooth®, USB and a Digital-to-analog Converter



This product signals the beginning of a new chapter for TEAC, with both high-resolution audio and Bluetooth® playback in a single-box product

■ Main Features

- A compact (215mm width) pre-main amplifier with USB input and built-in digital audio converter
- Compatible with 2.8MHz/5.6MHz DSD native playback and 32bit/192kHz high-resolution sound sources
- High sound quality wireless playback compatible with the Bluetooth® aptX® codec
- Built-in BurrBrown PCM1795 digital-to-analog converter, compatible with a variety of digital sources
- Fitted with 40W + 40W Class-D power amplifier module manufactured by ICEpower
- Full metal housing provides both excellent vibration control and classy looks, in a compact enclosure, making it easy to accomodate on a desktop



Brand	TEAC
Series	Reference 301
Model	AI-301DA-B
Announcement Date	February 5, 2014
Estimated Delivery Date	April 2014
UPC Code	043774030705
EAN Code	4907034218745
Overall Dimensions/NW W x H x D	215 x 61 x 254 / 2.1 (mm/kg) 8.5 x 2.4 x 10 / 4.6 (inch/lbs)
Package Dimensions/GW W x H x D	391 x 150 x 396 / 3.0 (mm/kg) 15.4 x 5.9 x 15.6 / 6.6 (inch/lbs)
Qty. per Master Carton	n/a

Brand	TEAC
Series	Reference 301
Model	AI-301DA-S
Announcement Date	February 5, 2014
Estimated Delivery Date	April 2014
UPC Code	043774030712
EAN Code	4907034218752
Overall Dimensions/NW W x H x D	215 x 61 x 254 / 2.1 (mm/kg) 8.5 x 2.4 x 10 / 4.6 (inch/lbs)
Package Dimensions/GW W x H x D	391 x 150 x 396 / 3.0 (mm/kg) 15.4 x 5.9 x 15.6 / 6.6 (inch/lbs)
Qty. per Master Carton	n/a

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■ Compact, with USB input and fully compatible with high-resolution DSD

● Capable of 5.6MHz DSD native playback

The USB input facility allows DSD native playback which converts 5.6MHz DSD files directly into analog signals without needing first to convert it to PCM. It supports both the ASIO2.1 and DoP (DSD over PCM) conversion methods. Using the AI-301DA in conjunction with the TEAC HR Audio Player* high-resolution playback computer software application, anyone can easily explore the world of high-rez digital audio, including 5.6MHz DSD or 32bit/192 kHz PCM files, without struggling to have to understand complex settings etc.

* TEAC HR Audio Player can be downloaded for free from the TEAC website.



● Asynchronous mode-capable USB input

When receiving digital audio signals from a computer via USB cable, the unit can operate in asynchronous mode, controlling the timing of the input signal using the UD-301's internal clock (which is identical to the one used in the UD-501). With asynchronous transmission over USB, signal compromising jitter is effectively eliminated, allowing digital audio signals to be transmitted in a pure, unadulterated state.



● Coaxial and optical digital inputs offer versatility

Besides its a USB audio input, the AI-301DA is also fitted with S/PDIF inputs for maximum compatibility. The coaxial digital input supports up to 24bit/192kHz while the optical digital input supports up to 24bit/96kHz digital audio.

● Wireless playback at high sound quality via Bluetooth® using the aptX® codec

The AI-301DA supports the aptX® codec which offers high sound quality wireless playback capability via Bluetooth® hardware. Besides high quality sound, the aptX® codec also offers low latency and an excellent error recovery function, both crucial features for achieving the best audio performance.



● High-performance BurrBrown PCM1795 digital-analog converter

The BurrBrown PCM 1795 D/A converter converts 5.6MHz DSD or 32bit/192kHz PCM digital data into analog form. The analog signal, which is derived from huge digital audio data files (far larger than those used by CD) delivers a finely etched sound, with a great sense of depth.

● ICEpower high sound quality Class-D amp circuit

The power amplifier stage is based upon a tried and tested Class-D amp, manufactured by ICEpower of Denmark.

It converts a high-resolution sound source into high-definition speaker signals using a feedback loop between a hybrid feedback controlled oscillating modulator (HCOM) which faithfully amplifies the signal, and a multivariable enhanced cascade control (MECC). The efficient design of the 40W + 40W (4 ohms) amplifier creates very little heat, eliminating any need for a cooling fan, thus affording a quiet environment that's ideal for musical appreciation.



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- **CCLC circuits provide high-quality headphone output**

The 100mW + 100mW output (at 32 ohms load) headphone amplifier uses CCLC (Coupling Capacitor Less Circuit) technology. In ordinary headphone output circuits, a capacitor is used for output-stage coupling, and so the sound is unavoidably colored. When the capacitor is combined with a high-pass filter this often results in phase lags, or low frequency level degradation. With CCLC the negative impact of capacitors on sound quality is eliminated, providing full low-frequency sound and a responsive headphone listening environment with great spatiality.

- **Well-engineered aluminum enclosure, compact proportions**

Following on from our development of the 501 series concept (small high-performance audio components that can be fitted on a desktop) we decided, at the outset, that the 301 series would be an even more compact design. Now, the casework has been shrunk to just 215mm wide, allowing greater freedom in positioning the amplifier. External highlights include aluminum panels and a motor-driven volume knob with the tactile feel you'd expect from controls found in high end full-size hi-fi components. At the same time, the solid enclosure underpinned by the metal chassis, is impressively inert, minimizing the effects of vibration on the unit's sound quality.



- **Simple operation with Auto Power On**

The AI-301DA has a well-conceived Auto Power On function which automatically switches on the unit's power when it senses a digital signal input. When the amplifier is connected to optical digital audio output from a television set, just switching on the television turns on the power of the AI-301DA, enabling you to immediately enjoy high-quality sound without having to adjust any other settings. This facility makes life very convenient allowing users to switch on the TV and instantly listen to music or a soundtrack.

- **Combine with the LS-301 speakers to create a simple high-resolution system**

Combining the AI301-DA, with its high-performance engineering packed into a compact body, and the LS-301 coaxial speaker, specifically developed to match it, creates a system that does full justice to any high-resolution audio source.

What's more, the AI301-DA has been fitted with a sub-woofer pre-out plug so that the user can, if they wish, also employ the equally compact 2.1ch LS-WH01 satellite/subwoofer system, making for an extraordinarily compact 2.1ch system that can easily be placed on a desktop or next to a TV set.

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■ Features at-a-glance

- ICEpower 50ASX2-SE Class-D power amp
- 40W + 40W (4 ohms) high output
- 2.8MHz/5.6MHz DSD native playback (via USB input)
- 32bit/192kHz PCM file playback
- Asynchronous mode capability
- BurrBrown PCM1795 digital-to-analog converter
- Bluetooth® playback with aptX codec
- Memory capacity for up to a maximum of eight Bluetooth® device pairings
- CCLC headphone output circuit
- Full metal housing
- One USB input (USB-B type)
- One coaxial digital input
- One optical digital input
- Two RCA stereo line inputs
- Screw-type speaker terminals (banana plugs, AWG8 guage cable compatible)
- Headphone output (standard stereo jack)
- Subwoofer output (RCA)
- Aluminum motor-driven volume control
- Three-pin IEC AC power socket
- Customized remote control included
- Auto Power On function (activated by digital signal sensing)
- Auto Power Save function

■ Specifications

Compatible Formats

USB input	
DSD	2.8/5.6MHz
PCM	16/24/32bit, 32/44.1/48/88.2/96/176.4/192kHz
Coaxial digital input	
PCM	16/24bit, 32/44.1/48/88.2/96/176.4/192kHz
Optical digital input	
PCM	16/24bit, 32/44.1/48/88.2/96kHz

Digital/Analog Converter (DAC) Section

D/A Converter	BurrBrown PCM1795
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Bluetooth® Section

Bluetooth® version	V2.1 + EDR
Output	Class 2
Compatible profiles	aptX®, A2DP, AVRCP

Audio Input & Output Capacity

USB input	USB B-type, USB2.0, asynchronous mode
Recommended application	TEAC HR Audio Player (Windows, Macintosh)
Coaxial digital input	RCA
Input level	0.5Vp-p
Input impedance	75 ohms
Optical digital input	TOS-link
Input level	-24 to -14.5dBm peak
Analog input	RCA
Speaker output	Screw-type (banana terminal plugs, AWG8 guage loudspeaker cable compatible)
Maximum output	40W + 40W (4 ohms, 1kHz, THD 10%, JEITA)
	20W + 20W (8 ohms, 1kHz, THD 10%, JEITA)
Effective output	28W + 28W (4 ohms, 1kHz, THD 1%, JEITA)
	15W + 15W (8 ohms, 1kHz, THD 1%, JEITA)
Compatible speaker impedance	4 ohms to 8 ohms

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Headphone output	6.35mm (1/4") stereo standard jack
Maximum output	100mW + 100mW (with 32 ohms load, 1kHz)
Distortion rate	0.005%

Audio Performance

Frequency response	2Hz to 100kHz (-5dB)
S/N comparison (LINE Input)	95dB (IHF-A/LPF 20kHz 1kHz 2V Input)
Distortion rate	0.01% (1kHz, 8 ohms, 1W)

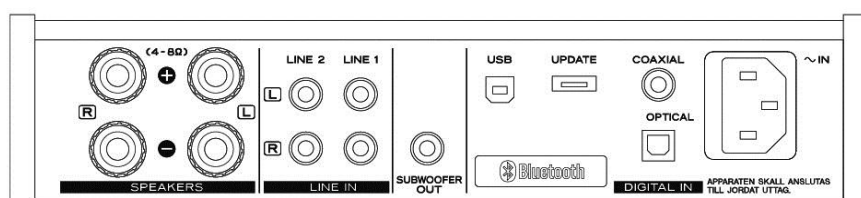
Driver-Compatible Operating Systems

Windows	Windows 8.1 (32bit version, 64bit version), Windows 8 (32bit version, 64bit version) Windows 7 (32bit version, 64bit version), Windows Vista (32bit version, 64bit version), Windows XP (32 bit version)
Macintosh	Mavericks (OS X 10.9), Mountain Lion (OS X 10.8), Lion (OS X 10.7), Snow Leopard (Mac OS X 10.6.4 and onwards)

General

Electric power supply	AC 100V, 50/60Hz
Power consumption	38W
Overall dimensions	215 W x 61 H x 254 D mm 8.5" W x 2.4" W x 10" W
Weight	2.1kg / 4.6 lbs.
Included accessories	Power cord, remote control (RC-1313), AAA batteries for remote control x 2, User Manual (including Warranty)

■ Rear Panel



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