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DENON PMA 2500NE

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Kategorija prozivoda: Integrisana Pojačala
Proizvođač: DENON

Cena: 335.880,00 rsd

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Advanced UHC-MOS Single Push Pull Circuit
To achieve impeccable balance between delicate details and vigor in sound, the PMA-2500NE employs Ultra High Current MOS (UHC-MOS) FETs, capable of producing ample current in a single push-pull configuration which deliver superior linearity in the output stage throughout the sonic range from musical details to robust current. The technique of driving multiple amplifier devices in parallel to secure robust current has solved the problem of muddiness in sound caused by uneven performance among the devices. And to achieve musical expression filled with the delicate nuances of sound, Denon has continued to focus on amplification performed by one pair of devices. The PMA-2500NE is endowed with high-voltage, large-capacity UHC-MOS FETs (peak current of 210A). In addition, the Dual FET + cascade bootstrap connection maintains a constant voltage for the UHC-MOS while improving temperature stability, to reliably bring out the superior acoustic characteristics of UHC-MOS.

High Gain Amp Construction
The amplifier circuitry has been changed from the conventional two-stage configuration to a high-gain power amp in a single-stage configuration for a more direct signal path. A highly pure sound has been made possible by reducing the number of devices through which audio signals pass and shortening signal paths to an absolute minimum. The protection circuitry for the power amp output stage has also been considerably improved. The current limiter has been eliminated in favor of a system that monitors power transistor temperature changes in real time, and the current capacity of driver stage transistors has been boosted to 2.0A from 1.5A. As a result, the instantaneous current supply capability of the amp has been more than doubled (110A) compared to conventional designs and speaker drivability has been dramatically improved (damping factor: greater than 700, 20 Hz – 20 kHz).
High Speed Thermal Feedback Circuitry
In addition to the UHC-MOS of the power amp and temperature compensation transistors, the PMA-2500NE incorporates transistors in the driver stage of the power amp that have been thermally bound to a radiator (copper plate). Since all devices related to idling current have been thermally bound, idling current is now more stable, giving greater clarity and stability to the sound.

DC Amp Circuitry
Active servo circuitry and coupling capacitors have been completely eliminated from input to output to create a thoroughly “simple & straight” design for the circuits. To achieve amp circuitry with highly stable direct current (DC), a simple passive circuit with capacitors and resistors have been used in the DC servo circuit. In addition, a re-examination of the FET differential input amp circuitry using a Dual FET + cascade bootstrap connection has resulted in improved DC characteristics and more stable playback in the lower range compared with conventional designs.

Robust Power Supply Circuitry
The PMA-2500NE is equipped with two transformers that have been mounted facing opposite directions in a leakage cancelling (LC) mount system to cancel mutual influences of magnetic flux, a source of noise, leaking from the transformers. Denon’s custom designed, large-capacity electrolytic capacitors have been used for rectification, and low-loss, low-noise, high-speed Schottky barrier diodes have been used in the rectifier circuitry. This ensures a sufficient supply of clean current. To achieve a “simple & straight” circuit

configuration, the connection unit between the diode unit and the block capacitor has been removed to drastically shorten the current supply line to the power amp. Extremely thick OFC wiring material has been used for the power line to reduce impedance.

6 Block Chassis Configuration
The PMA-2500NE's chassis is configured of six independent blocks that house the phono equalizer and input circuitry, volume control circuitry, USB-DAC circuitry, amplification circuitry, power section, and the control section. The chassis constructed with 1.6mm thick steel plates protects the signal circuits from external vibration and eliminates the adverse effects of mutual interference among the circuits.

MM/MC Phono Equalizer
The PMA-2500NE includes a phono equalizer that supports input from both MM and MC cartridges. This phono equalizer has high gain, and as loops in the circuit board pattern can cause adverse effects on sound quality, the "simple & straight" design represents a significant improvement. On the PMA-2500NE, the MM/MC toggle switch was changed from a push type to a relay type, which shortens the pattern on the circuit board and makes signal loops smaller, allowing delicate analogue signals to be amplified with greater purity.

Audio Grade Analogue Volume Control
The PMA-2500NE employs an audio-grade motorized volume control that utilizes a multi-contact wire brush. Since the analogue volume control that Denon has continued to use does not require input buffer circuitry, the configuration of the circuit can be simpler than that of digital volume controls. The aluminium used for the knob is 2.5 times thicker than on conventional knobs, which gives it increased mass and greater ability to suppress mechanical vibration.

Direct Mechanical Ground Construction
The power section, mounted on a sub-chassis solidly constructed with three layers of 1.6mm thick steel plates, has been positioned in the centre of the PMA-2500NE. With heat sinks on both sides, this construction of well-balanced mass is in an ideal location to prevent unwanted vibration from affecting sound quality. In addition, the feet supporting the heavy weight of the power transformer, heat sinks, and chassis are made of highly rigid, solid Bulk Molding Compound (BMC), and high-density felt pads attached to the bottom of the feet further absorb vibration.
USB-DAC Supporting 11.2-MHz DSD & 384-kHz/32-bit PCM
The PMA-2500NE provides USB-DAC functions that support high-resolution 11.2-MHz DSD and 384-kHz/32-bit PCM input signals. DSD transmission methods support ASIO native playback and DSD Audio over PCM Frames (DoP). Since asynchronous transfer is controlled by the PMA-2500NE's master clock rather than the clock of a computer the transfer is free of jitter. The D/A converter used in the PMA-2500NE is the same 384-kHz/32-bit and DSD capable top class DAC Burr Brown PCM1795 used in the DCD-2500NE to deliver a clean, high-grade sound.

Digital Isolator
The PMA-2500NE is equipped with a high-speed digital isolator to eliminate adverse influences on sound quality caused by high-frequency noise from a USB-connected computer or from the PMA-2500NE's digital inputs. Since data is transferred magnetically via coils embedded in an IC chip, the input and output sides are electrically isolated. By isolating the signal line between digital audio circuitry and the D/A converter, adverse influences of high-frequency noise on analogue audio circuitry after the D/A converter are eliminated. The PMA-2500NE also adopted a dedicated power transformer for the digital circuitry to shut out noise from the power source. In addition, digital input circuitry has been placed below the transformer base constructed of three 1.6mm thick steel plates to prevent it from adversely affecting the analogue audio circuitry.
Advanced AL32 Processing Plus Supporting 384-kHz/32-bit PCM Input
For digital input, the PMA-2500NE employs Advanced AL32 Processing Plus, the latest version of Denon's analogue waveform reproduction technology which utilizes unique data interpolation algorithms and also supports high-resolution 384-kHz/32-bit PCM signal input. These algorithms interpolate points that should exist before and after the points in large quantities of data to achieve a smooth waveform that is close to that of the original signal. By carefully restoring data that was lost during digital recording, the resulting playback sound is highly detailed, free of interference, accurately localized, richly expressive in the lower range, and beautifully faithful to the original sound.

DAC Master Clock Design

To accurately synchronize digital circuits, the PMA-2500NE's DAC Master Clock Design treats the DAC as the master when clock signals are supplied. Positioning the master clock immediately adjacent to the D/A converter (DAC) suppresses jitter and ensures optimum precision in D/A conversion. In addition, the quality of the clock, which becomes the reference for semiconductor operation, is extremely important for ensuring that the digital audio circuitry performs at its maximum potential. The PMA-2500NE thus employs a clock oscillator to dramatically reduce phase noise that is the displacement of frequencies. The PMA-2500NE is further equipped with two clock oscillators, one for each sampling frequency (44.1 kHz and 48 kHz), that can be switched between the frequencies to thoroughly suppress jitter.

Analogue Mode
During analogue audio playback, Analogue mode can be used to turn off power to the dedicated digital transformer and completely stop operation of the digital input circuitry to avoid any high frequency influence to the analogue section. Analogue mode also turns off the fluorescent display, allowing the PMA-2500NE to operate as a purely analogue amp. (During Analogue mode, USB-B, coaxial digital, and optical digital inputs are disabled.)

Power Amplifier

Rated Output	80 W + 80 W (20 H 160 W + 160 W(1 k
Total harmonic distortion	0.01% (rated outpu

Preamplifier

Input sensitivity / Impedance	PHONO MC 0.2 mV/ PHONO MM 2.5 mV/
LINE	135 mV / 47 kohms

Features

Channels	2
Sample Rate digital In	192 kHz / 24-bit
USB-B DSD Audio Streaming (DoP): DSD2.8 / DSD5.6	<=11.2
DAC chip	PCM1795
Asynchronous mode rear USB	Yes
Bit-perfect transmission	Yes
AL 32 Processing	Advanced AL32 Plus
DAC Master Clock Design	Yes
Streaming audio from PC	Yes
UHC-MOS single push pull circuit	Yes (Advanced)
LC mounted twin transformer	Yes
Wide range amplifier	Yes
High current dynamic power supply	Yes
Power amp discrete construction	Yes
Micro processor auto off	Yes
Balance / Bass / Treble / Loudness	Yes / Yes / Yes / No
Solid Heat Sinks	Yes
Low Noise OELD display	Yes
Source Direct	Yes
Power Amp direct	Yes

Inputs/Outputs

Audio Inputs	5
Digital in: USB-B / optical / coaxial / USB-A	Yes / 2 / 2 / No
Phono Input: MM / MC	Yes / Yes
Audio Outputs	1
Power Amp Direct IN	Yes
Gold plated Cinch	Yes
Number of Terminals	2

General

Power Supply	AC 230 V, 50 Hz
Power consumption	310 W (Standby: 0.
Dimensions (W x H x D)	434 x 182 x 431 m
Weight	25.0kg