Precision Integrated Stereo Amplifier

E-6000



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The E-5000, a high-power Class AB integrated amplifier released in 2021, has garnered high praise and attracted significant attention. Consequently, Accuphase began developing a Class AB integrated amplifier with even greater output than the E-5000, resulting in the birth of the new flagship model, the E-6000.

The volume control circuit features BalancedAAVA, which incorporates Accuphase's proprietary ANCC technology for low noise and low distortion, faithfully reproducing every nuance of musical performance.
Furthermore, the power amplifier section employs the Instrumentation amplifier architecture to achieve ideal power amplification while minimizing the impact of noise.

Featuring the latest circuitry and high-quality materials, the E-6000 is a Class AB integrated amplifier that delivers a powerful sound performance worthy of its status as a top-of-the-line model.

Dimensions and weight

- The largest Class AB integrated amplifier in Accuphase



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The E-6000 is the second largest Class AB integrated amp in Accuphase lineup, compared to the E-800S which is the flagship Class A integrated, The E-6000 has same depth size but 18 mm shorter height.



E-5000



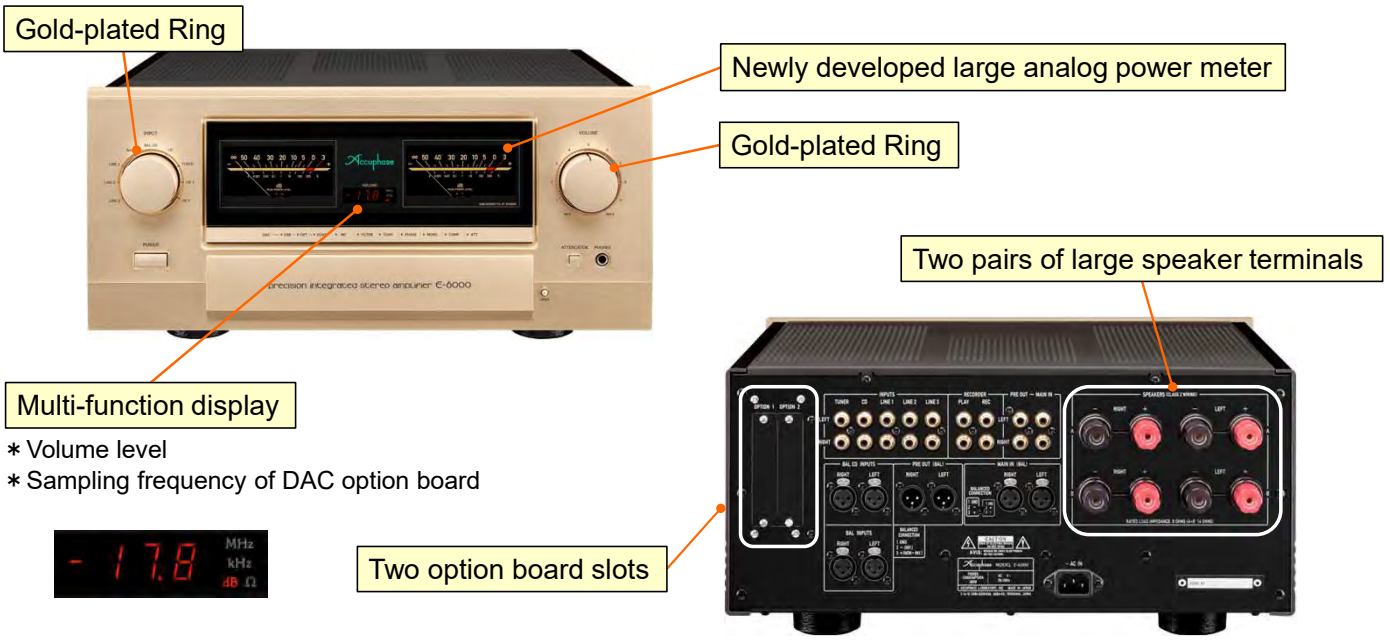
E-6000



E-800S

	Width	Height	Depth	Weight
E-5000	465 mm	211 mm	502 mm	33.8 kg
E-6000	465 mm	221 mm	502 mm	38.6 kg
E-800S	465 mm	239 mm	502 mm	35.7 kg

Front and rear view



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The E-6000 follows the traditional front panel design of integrated amp.

A newly developed large needle power meter is able to move even at the small volume level less than -60dB.

The multi-function display in the center of panel shows the volume level and the sampling frequency when the DAC option board is installed.

Two expansion slots for option boards are prepared.

Internal View

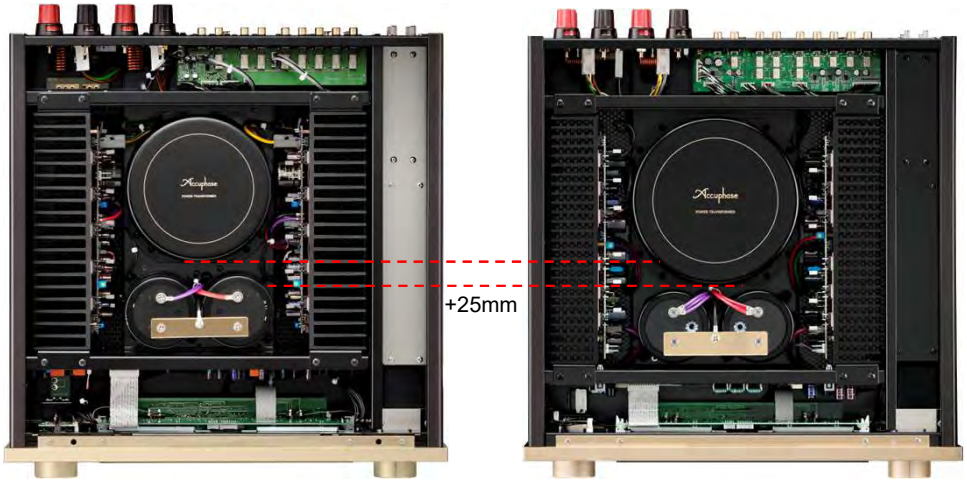


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E-6000 has the mono-block construction. The strong power supply with massive, specially-made and high-efficiency toroidal transformer and 47000μF filtering capacitors are installed in the center of the unit.
In addition, the two power amplifier modules are kept separate for the left and right channels.

Balanced AAVA module is set at the front of the unit to avoid the noise interference. The accurate operation is performed with the custom-made high-accuracy volume sensor.

Enhanced Power supply circuit



E−5000 E−6000



Power Transformer



Filter Capacitor

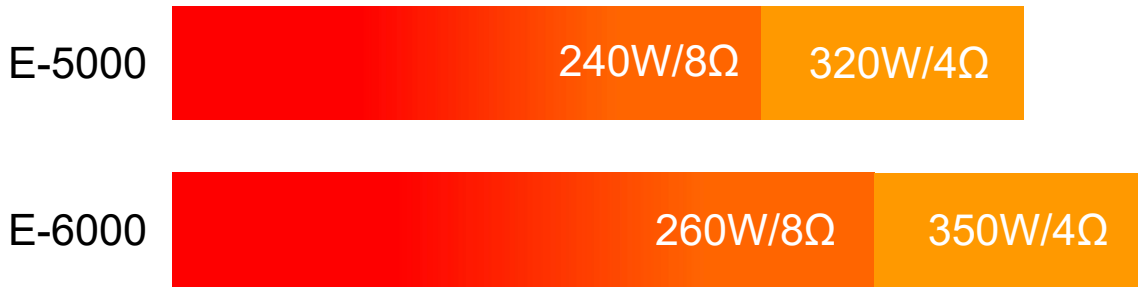
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To deliver high power, the power supply circuit in the E-6000 has been significantly enhanced.
The power transformer—the core component of the power supply—is now 25 mm larger in diameter.
The heat sink has also been lengthened, and heat dissipation has been maximized by optimizing the number and length of the fins.

In addition, the filter capacitor—which acts as a reservoir to supply current to the power amplifier—has been increased from 40000 uF to 47000 uF in the E-6000.

Output power

- The highest output power in Accuphase integrated amps



Rated continuous average output power

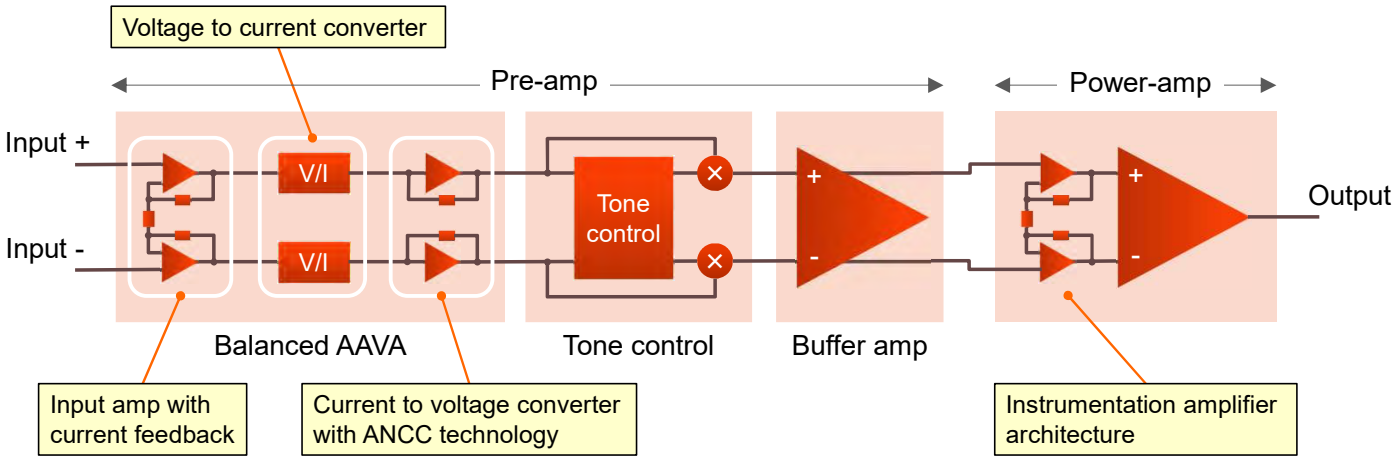
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The E-6000 has the highest output power in Accuphase integrated amps, the rated continuous average output power is 260W/8Ω.

The E-6000 perfectly drives any loudspeakers even low-efficiency ones.

Fully balanced configuration

- The fully balanced configuration from Pre-amp inputs to Power amp inputs



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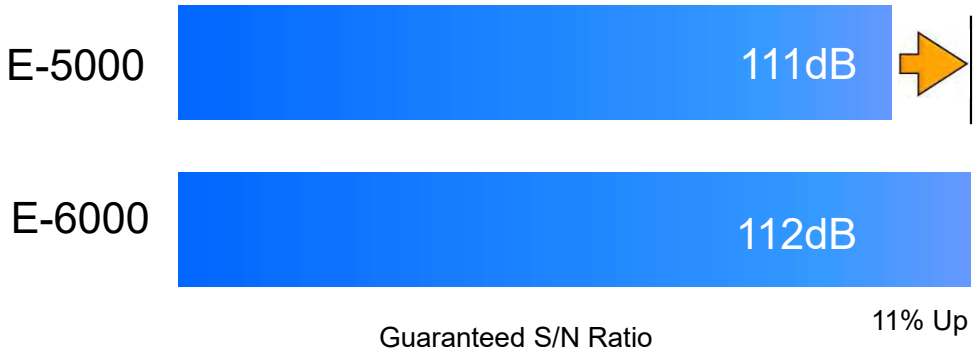
The AAVA(Accuphase Analog Vari-gain Amplifier) is a radically different volume control principle that eliminates all variable resistors from the signal path.

The E-6000 employs two AAVA modules per channel with a fully balanced configuration.
What's more, in the pre-amp section, up to the tone control circuit and the output buffer amp are balanced.

The power amplifier section can receive those positive and negative signals at the same time by the instrumentation amplifier topology.
It works as the totally balanced circuit which is tolerant to the internal and external harmful noise.

Ultra low noise

- Lowest noise level out of integrated amplifiers
  - S/N ratio: 112dB guarantee (E-5000: 111dB)

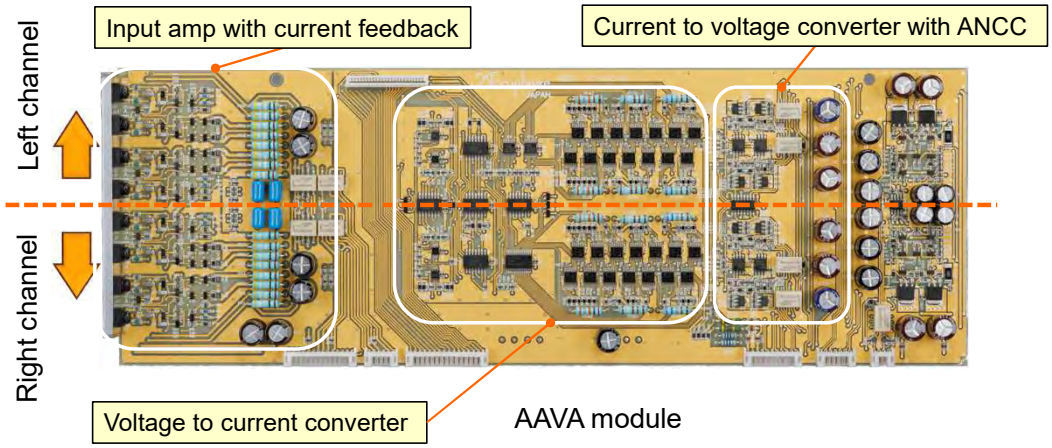


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The E-6000 achieves a signal-to-noise ratio of 112 dB.
This is 1 dB (11%) improvement over the E-5000.

Technology for low noise

- Balanced AAVA architecture with ANCC technology
- Fully balanced configuration



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The Balanced AAVA circuit is ideally arranged on the gold-plated PCB, not just realizing the ultra low noise characteristics, but also contributing to the long term reliability and maintaining the fine sound quality.

The Current to voltage converter features ANCC technology, which cancels out noise and distortion that are unnecessary for quality music playback.

Super high damping factor

- Super high damping factor equal to the P-7500



Guaranteed damping factor

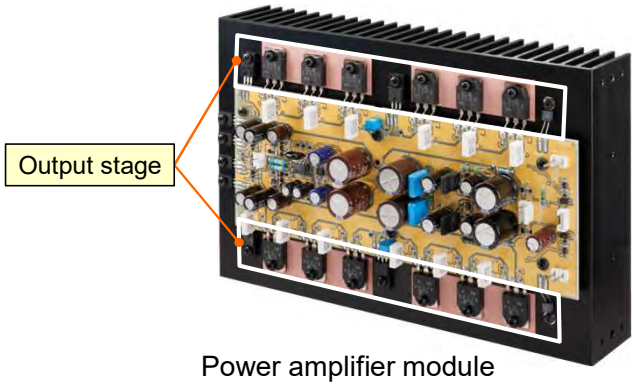
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The E-6000 achieves 1000 of guaranteed Damping-Factor, equal to the flagship Class AB stereo power amp P-7500.

*Damping-Factor, DF:
An index of speaker driving ability. Higher Damping-Factor amplifier has higher speaker driving ability.
DF = 8 ohm / Output-impedance

Technology for high damping factor

- Very low output impedance power amplifier engine
  - Same circuit configuration as Class-AB stereo power amp P-7500
  - Bipolar transistor 6 parallel push-pull output stage



Power amplifier module



Bipolar transistor
Current Capacity: 15A

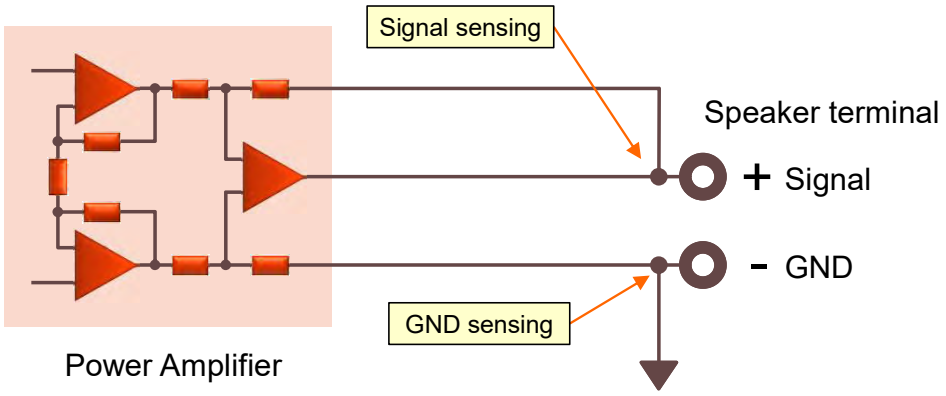
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The output impedance is made lower by 6 parallel push-pull final stage arrangement of bi-polar transistors (E-5000: 5 parallel) .

Circuit configuration of the power amplifier engine is as same as the flagship Class AB stereo power amplifier P-7500.

Technology for high damping factor

- Balanced Remote-sensing
  - Feedback from speaker terminal proximity
  - Signal-line and GND-line sensing



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Remote Sensing is the technique to lower the output impedance of amplifier by the negative feedback with signal sensing from nearby the speaker terminals.

Balanced Remote Sensing is the technique to make the output impedance even lower by both the signal sensing and the GND sensing, that is the negative feedback of GND level.

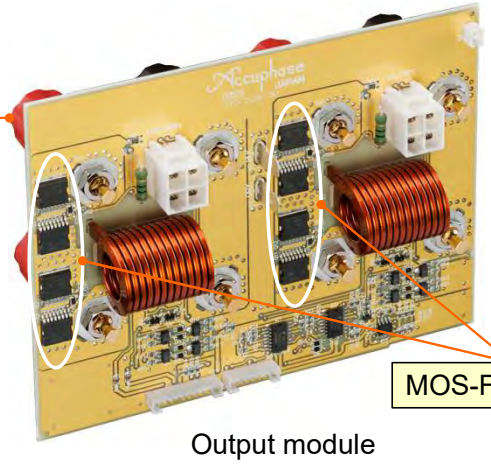
Not only Damping Factor, but also Total Harmonic Distortion and Intermodulation Distortion are all improved by the Balanced Remote Sensing.

Technology for high damping factor

- Speaker protection equipped with MOSFET switch circuit
- Short signal path configuration



Large speaker terminals



Output module



MOS-FET switch
On-resistance: 0.84mΩ

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Mechanical relays are the common components for speaker protection but the contact resistance of mechanical relay is higher than people think. Therefore, Accuphase has chosen the MOS-FET switch instead of conventional mechanical relays for speaker protection.

Thanks to this MOS-FET switch, the damping factor, reliability and sound quality are all improved. E-6000 features the new MOS-FET device for this switch which has very low on-resistance.

E-6000 employs carefully-selected very low-impedance components such as the large speaker terminals and so on. Making signal paths thick and short also helps attaining the low impedance.

Furthermore

- Ready for the option board DAC-60 and AD-60
  - Sampling frequency on the front display
  - Possible to choose input source, MC/MM and MC Load



Option board slot



Multi function display



Function selector

Two option board slots on the rear panel provide the further versatility of PC audio or vinyl record playback.

Not only the sampling frequency of digital input signal is shown in the multi function display but selecting the digital input and MC/MM setting is also performed on the front panel.