

# INTEGRATED STEREO AMPLIFIER E-3000



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Accuphase's entry-level flagship models, the E-200 series and its higher-end version, the E-300 series, have developed with great trust from audiophiles and music fans. The E-3000 is the next-generation standard model born from integrating the E-280 and the E-380.

The all-new E-3000 incorporates many of Accuphase's proprietary technologies developed for its higher-end models to achieve both high performance and ease of use.

The power supply and output stage have been thoroughly reinforced to produce 100 watts/8 ohms and 150 watts/4 ohms of high power from a compact, easy-to-handle housing, giving you the freedom to control your speakers as you wish.

The E-3000 perfectly reproduces the music from its dynamism to the performer's intention, providing satisfaction and pleasure of ownership to all audiophiles.

# Dimensions and weight

- The new standard design integrating E-380 and E-280



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The E-3000 is the smallest Class AB integrated amp in Accuphase lineup, compared to previous models. The panel height is 10 mm higher than the full E-280 model and 10 mm lower than the E-380, with balanced proportions. However, it weighs more than the E-380.



E-280



E-3000



E-380

	Width	Height	Depth	Weight
E-280	465 mm	151 mm	420 mm	20.4 kg
E-3000	465 mm	161 mm	420 mm	23.1 kg
E-380	465 mm	171 mm	422 mm	22.8 kg

# Front and rear view



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The E-3000 has no sub-panels and all buttons controlling functions are arranged for ease of use.

The power meters are larger for better visibility, and on the rear panel, there are two large speaker terminals and two slots for inserting two option boards.

The E-3000 accepts the digital input board DAC-60 and analog input board AD-60.

You can see the figure of the sampling frequency input of DAC-60 on display and can choose any preferred input sources with the selector on the front panel.

The gain values of AD-60 can be set to 66dB for MC and 40dB for MM, and the MC Input impedance can be selected from 4 values, “200 ohms” is newly added.

# Internal View



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E-3000 has the mono-block construction. The strong power supply with a massive, custom-made transformer and 33000 $\mu$ F filtering capacitors are installed in the center.

In addition, the two power amplifier modules are kept separate for the left and right channels.

AAVA circuit is set at the front of the unit to avoid the noise interference.

The E-3000 is also equipped with a newly developed input selector that provides a premium feel and superior operability.

# Output power

- Class-AB 100W / channel into 8Ω load

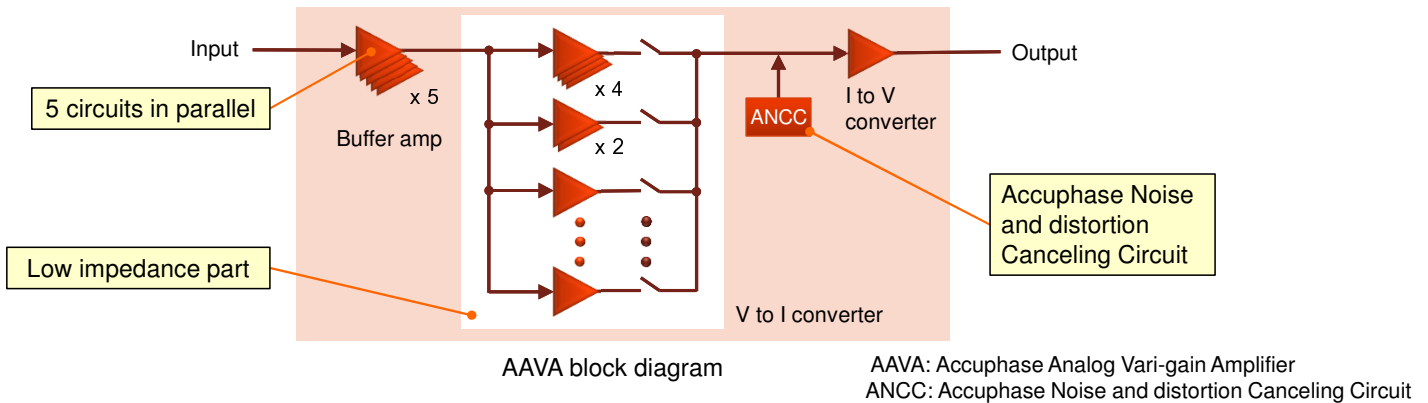


Continuous average output power

The E-3000 can output 100W/8ohms from its compact housing. Its powerful power supply and power amplifier ensure good linearity and a high power output of 150W even with a 4-ohms load, so it can drive any speakers with plenty of power.

# Improvement of AAVA

- 20% lower noise than the E-380 ( @9 o'clock volume position )
- Utilizing ANCC
- 5 buffer amps paralleled
- Making the V to I Converter low impedance



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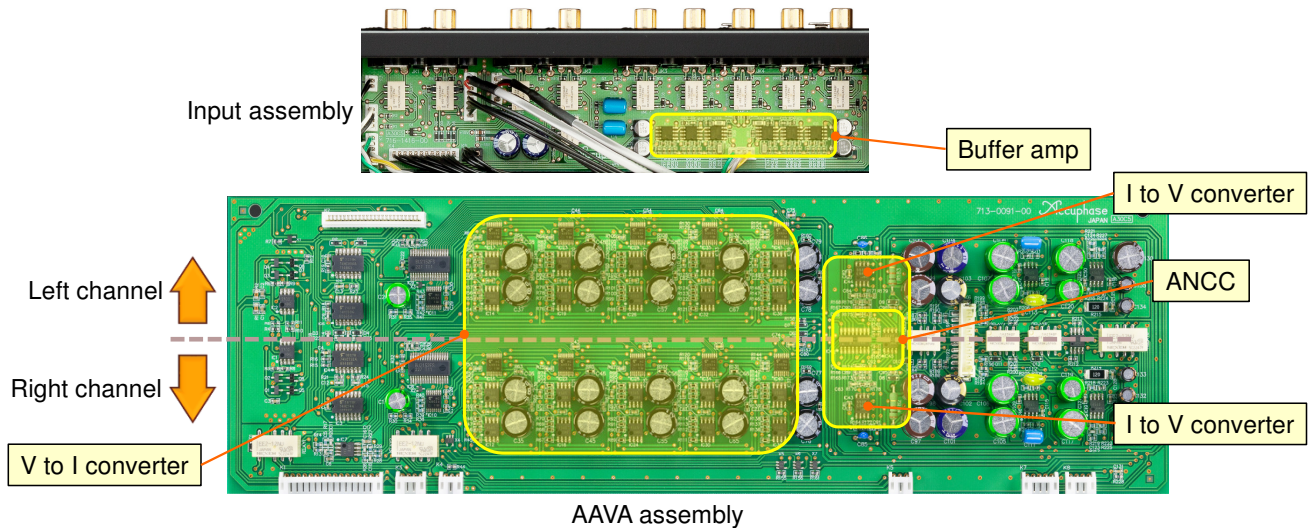
The AAVA(Accuphase Analog Vari-gain Amplifier) is a radically different volume control principle that eliminates all variable resistors from the signal path.

The E-3000's AAVA module contains five paralleled buffer amplifiers and the lower-impedance V to I converter and utilizes the ANCC, so the E-3000 achieved 20% lower noise than the E-380.



# AAVA implementations

- Placing buffer amps close to input jacks



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For the E-3000, Accuphase thoroughly reviewed the AAVA implementations. Placing the buffer amplifiers close to the input jacks, the E-3000 succeeds in reducing the noise induced between the input jack and AAVA.

Thanks to this, the E-3000 achieves excellent performance in the induction noise rejection, comparable to the balanced AAVA module adopted for the high-grade pre-amplifiers.

# Super high damping factor

- 20% higher than the former model E-380 and E-280



Guaranteed damping factor

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The E-3000 achieves 600 of guaranteed Damping-Factor, and this is 20% improvement over the E-380 and E-280.

\*Damping-Factor, DF:

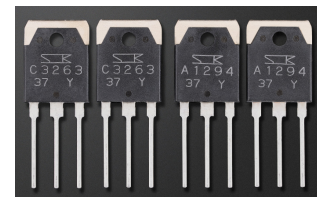
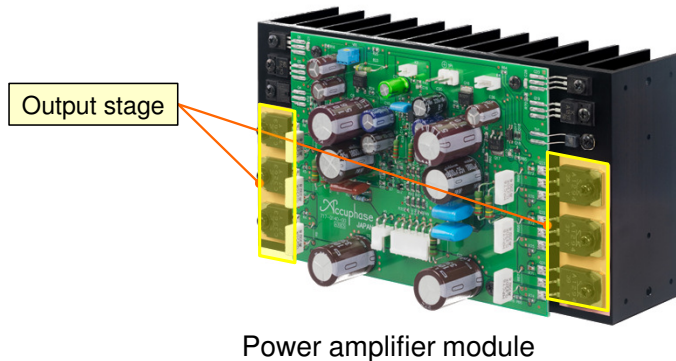
An index of speaker driving ability. Higher Damping-Factor amplifier has higher speaker driving ability.

$DF = 8 \text{ ohm} / \text{Output-impedance}$



# Technology for high damping factor

- Very low output impedance power amplifier engine
  - 3 parallel push-pull output stage
  - New dedicated high voltage high current output device



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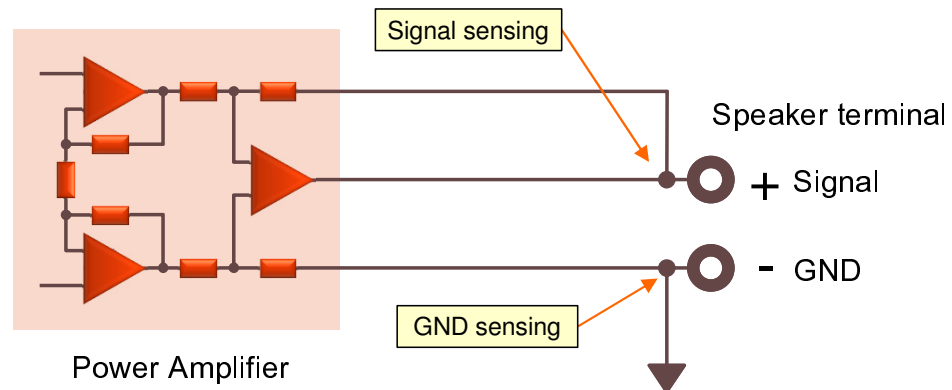
The output impedance is made lower by 3 parallel push-pull final stage arrangement of bipolar transistors.

Output devices are driven in 3 parallel to reduce output impedance. This also contributes to improved reliability by allowing immediate response to momentary increases in output current.

Bipolar transistors with high output current and high withstand voltage (15A, 230V) are newly adopted as output elements.

# Technology for high damping factor

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



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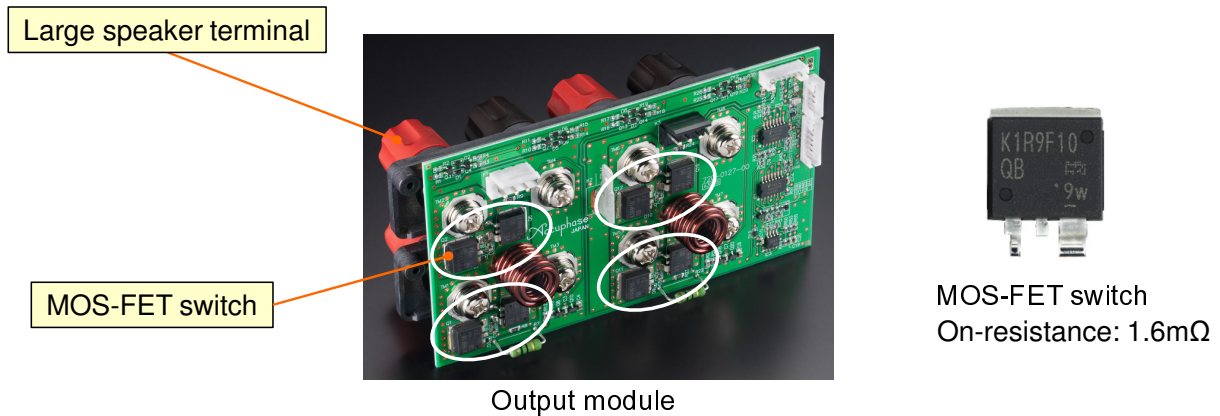
Remote Sensing is the technique to lower the output impedance of amplifier by the negative feedback with signal sensing from nearby the speaker terminals.

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 MOS-FET switch circuit
- Short signal path configuration



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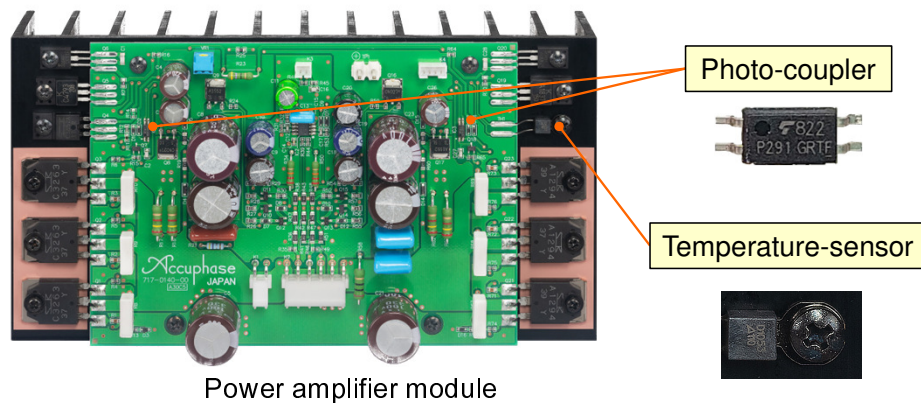
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Mechanical relays are the common components for speaker protection but the contact resistance of mechanical relay is higher than people think. Therefore, Accuphase has chosen the MOS-FET switch instead of conventional mechanical relays for speaker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

Thanks to this MOS-FET switch, the damping factor, reliability and sound quality are all improved. E-3000 features the high-performance MOS-FET device for this switch which has very low on-resistance.

# Pursuing further product safety and reliability

- Power amplifier
  - Newly-developed protection circuit using Photo-couplers
  - Temperature-sensors are installed on the heatsink



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The newly designed output protection circuit can detect any short-circuiting of the speaker terminals with due consideration for the product safety.

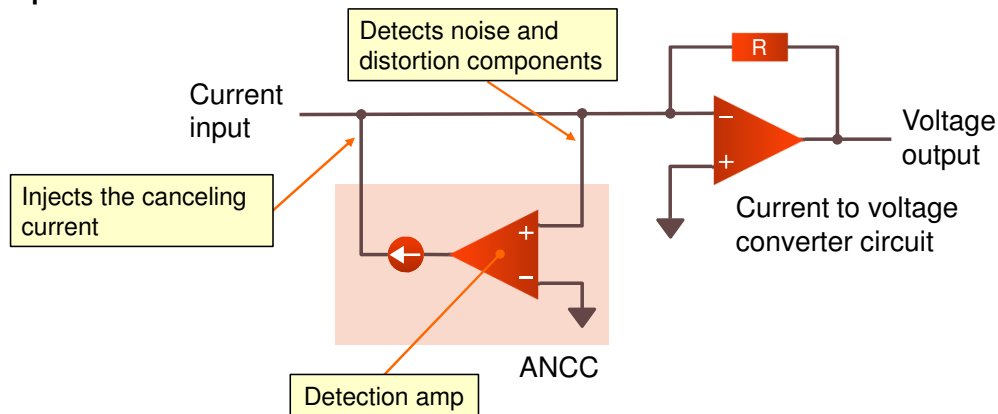
Temperature-sensors which detects the heatsink temperature are installed on the heatsink. Thanks to this, the unit accurately ascertains the high temperature alarm in power amplifier section.

Thanks to the photo-coupler, the detected short-circuiting information is completely isolated from the music signal to minimize the negative effects on the sound quality.

\*\*When these protection circuits are activated, the unit completely interrupts speaker output and makes the power meters flash to indicate the abnormal condition.

## Appendix "ANCC"

- ANCC: Accuphase Noise and distortion Canceling Circuit
  - To detect and cancel the noise and distortion at the input stage of the amplifier



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ANCC: "Accuphase Noise and distortion Canceling Circuit" is installed in AAVA's current-to-voltage converter.

Canceling noise and distortion are realized by detecting the components of noise and distortion at the input stage of an I-V converter circuit and by injecting the canceling current, which contains the reversed polarity of those components.

ANCC is a highly effective technology at any volume position.