

# Integrated Stereo Amplifier E-270



Accuphase Laboratory, Inc.

E-270 is a succession model of E-260.  
Technical high-lights of E-270 are ULTRA LOW NOISE  
and SUPER HIGH DAMPING-FACTOR. They are  
inherited from our flagship pre-amplifier C-3850 and  
flagship power-amplifier A-200.

# Improvement of power supply

- Increased custom made capacitors
  - 22,000 $\mu$ F x 2 pieces  $\rightarrow$  30,000 $\mu$ F x 2 pieces



E-260



E-270

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The power supply is reinforced.

The capacity of main capacitors are drastically increased to 30,000 $\mu$ Fx2 .

# Rated output power

- Class-AB 120W / channel into 4Ω



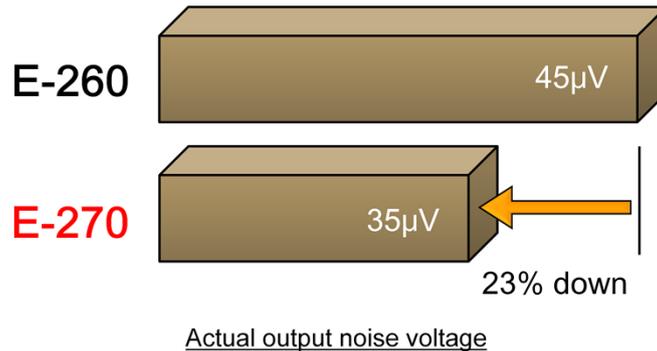
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The rated output power is 90W into 8 Ω load and 120W into 4 Ω load.

Especially, the rated output power into 4 Ω load is enhanced 4% from the former model by the improvement of power supply.

# Ultra Low Noise

- Lower noise than the former model E-260
  - Actual noise voltage of speaker output:  $35\mu\text{V}$   
@Volume position: -30dB



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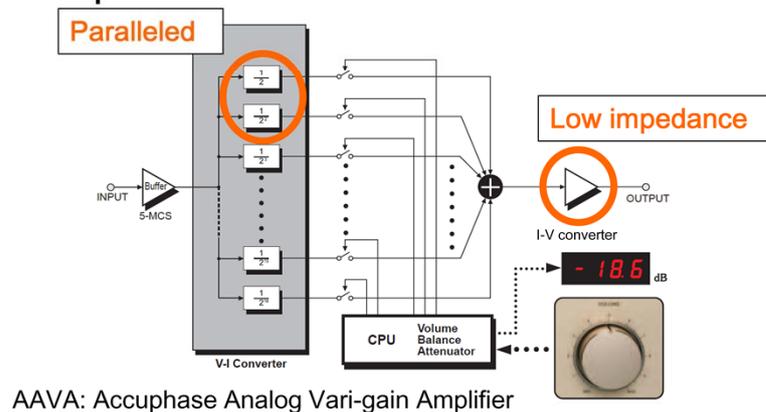
E-270 is the remarkable low noise amplifier exceeding E-260.

E-270 has  $35\mu\text{V}$  of the actual noise voltage.

This is 23% lower(-2dB) than the former model E-260.

# Technology for ultra low noise

- AAVA re-designed for low noise
  - Paralleled V-I converter in larger two units
  - Low-impedance feedback network I-V converter



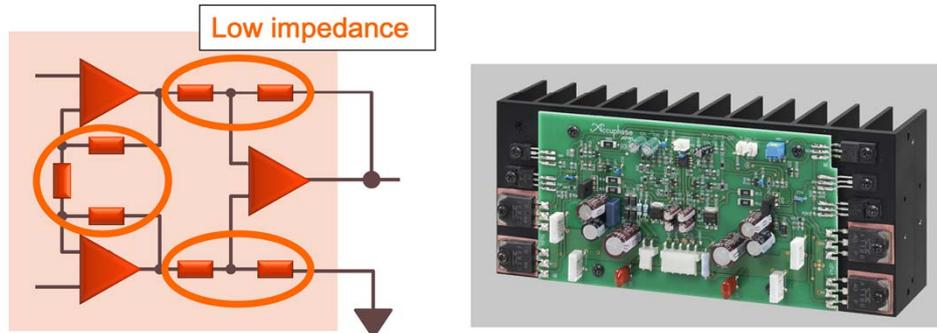
AAVA: Accuphase Analog Vari-gain Amplifier

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AAVA for E-270 achieves low noise performance by installing a paralleled V-I converter in the higher two units and a low-impedance feedback network on I-V converter. This circuit architecture is as completely same as E-600.

# Technology for ultra low noise

- Re-designed power amplifier for low noise
  - Low-impedance feedback network



Power amplifier block with instrumentation amplifier configuration

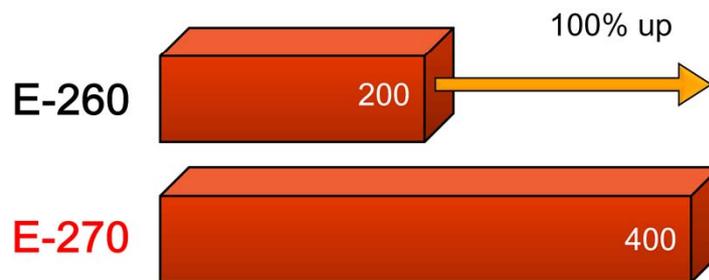
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E-270 applies another low-impedance feedback network in power amplifier sections.

By these low noise technologies, the noise level has been improved by 20% lower(-2dB) than E-260.

# Super high Damping-Factor

- Two times higher than E-260
  - Damping Factor: 400 guaranteed



Guaranteed Damping-Factor

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E-270 achieves 400 of Damping-Factor.

It is two times higher than the former model E-260.

400 of DF is guaranteed spec. In actuality, DF of E-270 is approximately 500.

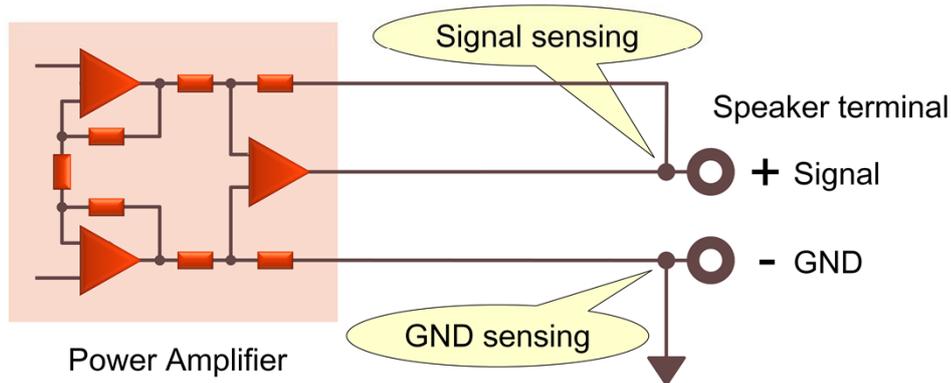
\*Damping-Factor, DF:

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 DF

- 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 output impedance of amplifier by negative feedback with signal sensing from close up speaker terminals.

Balanced Remote-sensing is the technique to make impedance even lower by GND sensing and the negative feedback of GND level with adding the signal sensing.

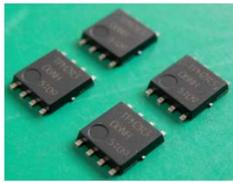
Not only Damping-factor is improved but also Total Harmonic Distortion and Intermodulation Distortion get better by Balanced Remote-sensing.

Balanced Remote-sensing was not applied in the former model E-260.

# Technology for high DF

- Speaker protection equipped with MOSFET
- Short signal path configuration

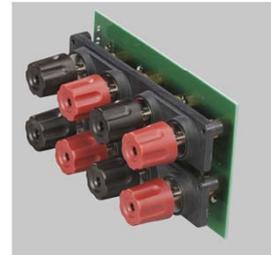
MOS-FET switch



On-resistance: 2.6 mΩ



Protection Assembly



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Although a mechanical relay is the most popular component for speaker protection, it does not have high reliability and low contact resistance either.

E-270 applies a MOS-FET switch instead of mechanical relay for speaker protection.

Damping-Factor, reliability and sound quality are improved by MOS-FET switch.

By connecting speaker terminals and PC-board directly, signal path can make shorter to attain low impedance.

## Further more ...

- Ready for the option board DAC-40
  - Sampling frequency on the front display
  - Possible to choose input source manually



Multi function display



Input selector for DAC



- high-quality remote commander

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E-270 accepts the digital input board DAC-40. You can see the figure of sampling frequency input of DAC-40 on display and can choose any preferred input sources with the selector on front panel. These are brand-new functions of E-270. Elegant and high-quality remote commander is also supplied with.