Class-A Integrated Stereo Amplifier

E-800S

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In 2019, Accuphase launched the E-800 as a commemorative model for its 50th anniversary. The E-800, the pinnacle of class-A integrated amplifiers, has earned the highest acclaim from audiophiles for its unparalleled performance and reliability.

The main technical topic of the second generation E-800S is “Ultra Low Noise”.
Accuphase's original volume control, Balanced AAVA with ANCC technology improves noise performance.
Furthermore, the ideal component layout and grounding artwork, as well as fully balanced transmission from input to output, suppresses noise contamination.

While being an integrated amplifier with excellent space factor and functionality, the E-800S has a quality that is as good as a separate amplifier, The E-800S perfectly brings out all the information recorded in the music source, including a sense of air and dynamism.

Dimensions and Weight

- Same unit dimensions as E-800, slightly lighter in weight
  - Width 465mm
  - Height 239mm
  - Depth 502mm
  - Weight 35.7kg

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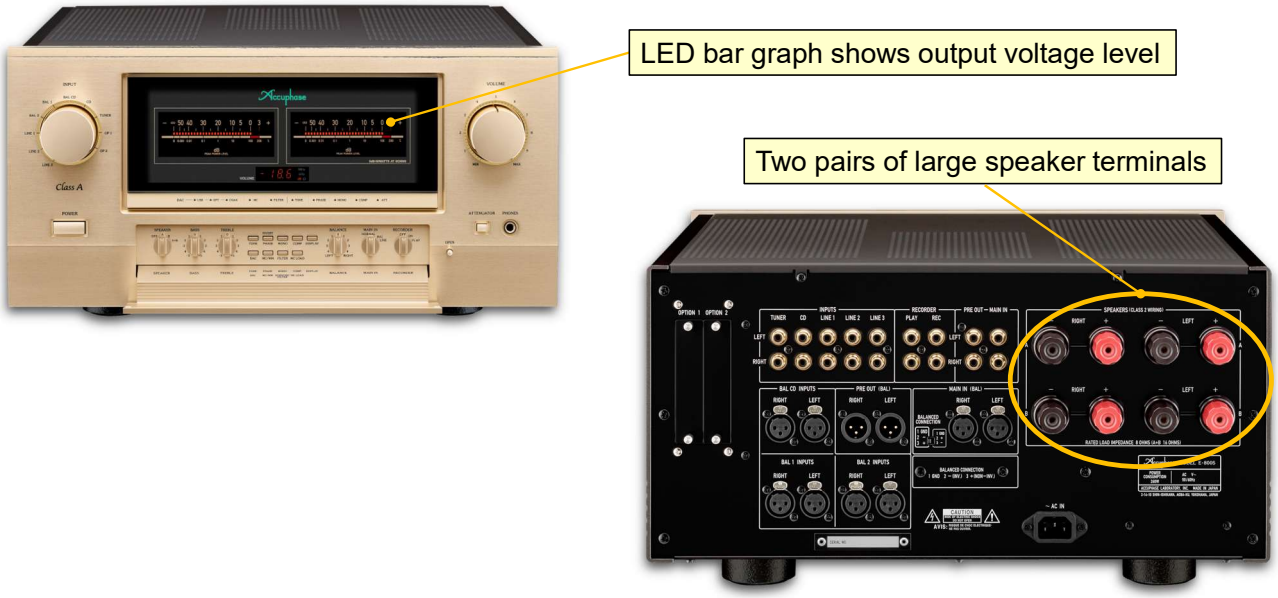
The unit dimensions are the same as the E-800, weighing only a little less.

** E-800: Width 465mm, Height 239mm, Depth 502mm, Weight 36.0kg

Front and Rear View



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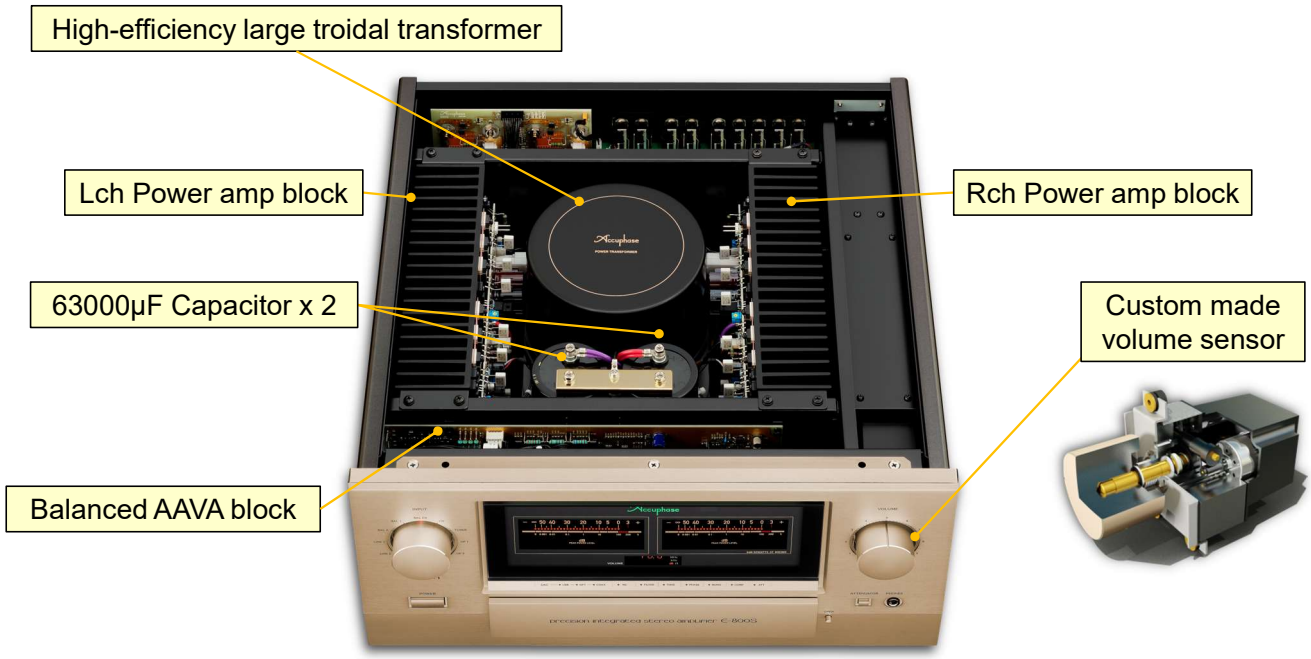
The 30 segment digital power meter with -50 dB indication range is able to swing even at the small volume level less than -60dB.
The exact numbers of LED as the E-800, but meters appear more prominent due to the sleek design

3 lines of balanced inputs are equipped for various input sources.

Internal View



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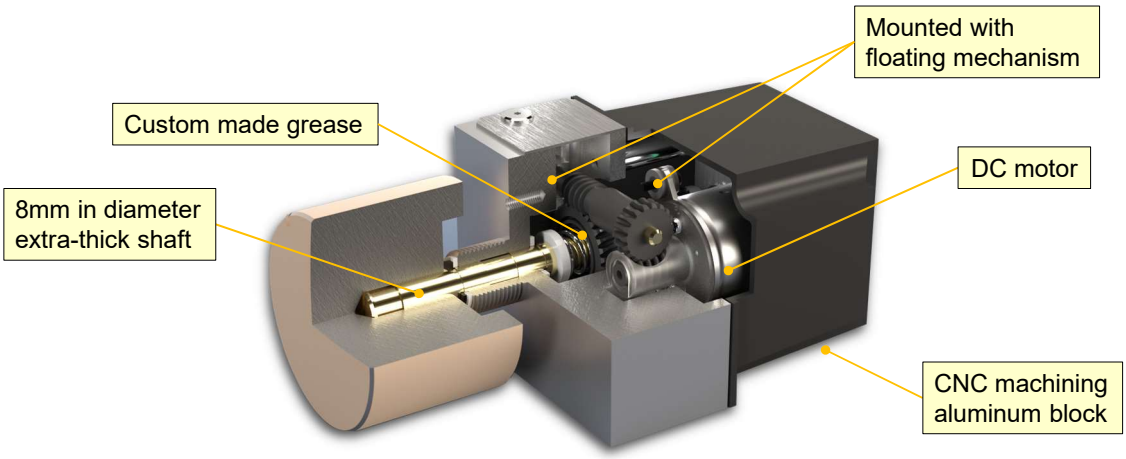
E-800S has a mono-block construction. The strong power supply with a massive, specially-made and high-efficiency toroidal transformer and two large 63000μF filtering capacitors are installed in the center of the unit. In addition, the two power amplifier units are kept separate for the left and right channels.

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

Volume sensor mechanism

- Distinguished operation feeling
- Reduced mechanical and motor noise



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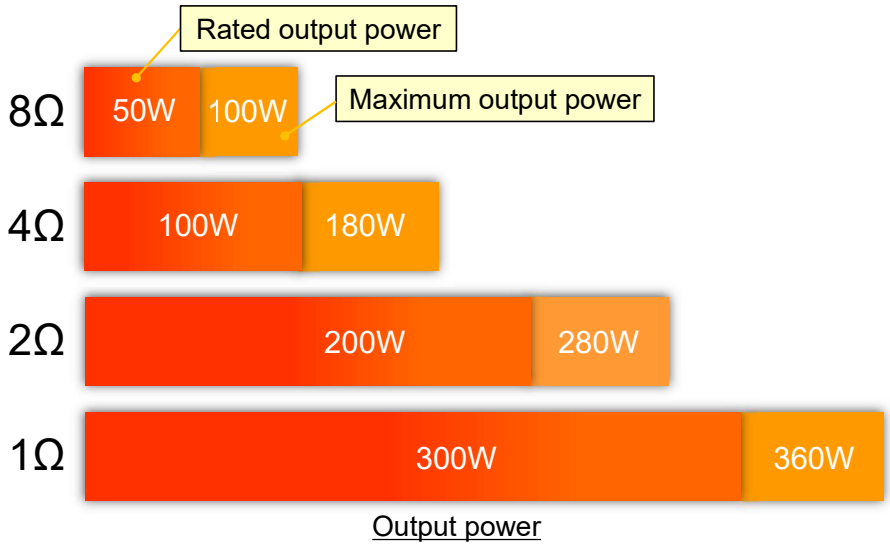
In the AAVA volume control, the music signal does not pass through the volume mechanism. It is just a position sensor to set sound volume.
However, the feeling of the volume knob is very important for audio enthusiasts.

In the E-800S, the motor and the set of gears are mounted with the floating mechanism, and with the custom-made grease, the knob provides a smooth operation feel and super-quiet volume adjustment.

The volume sensor mechanism is floated from the chassis to block off the vibration with specially made silicon rubbers.

Output Power

- Class-A 50W / 8Ω, 200W / 2Ω



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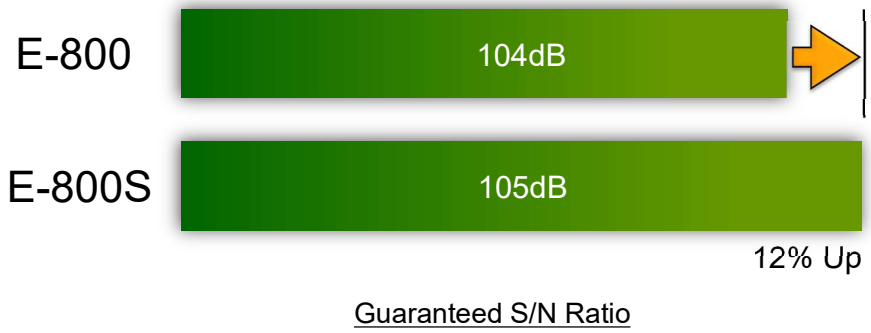
The output power is fully linear power progression of 50W into 8 ohm, 100W into 4 ohm, and until 200W into 2 ohm. Even 1 ohm load condition, it can deliver 300W output power.

E-800S can easily and completely drive any kind of loudspeakers like powerful power amplifiers.

Ultra Low Noise

- Lowest noise level out of integrated amplifiers
  - S/N ratio: 105dB guarantee (E-800: 104dB)



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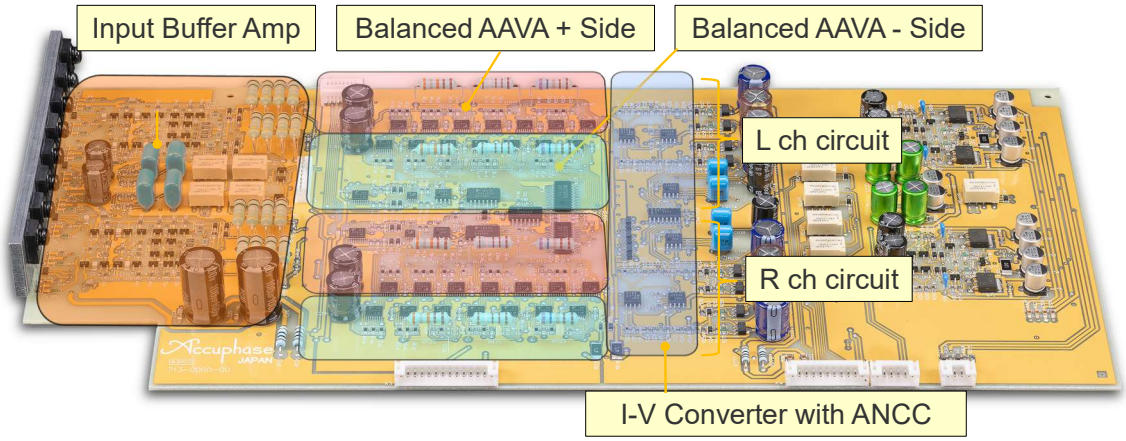
E-800S marks 105dB of the guaranteed S/N Ratio.
This is 12% higher (1dB) than E-800.

Technology for ultra low noise

- Balanced AAVA architecture
- Balanced signal transfer including tone control



AAVA: Accuphase Analog Vari-gain Amplifier

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

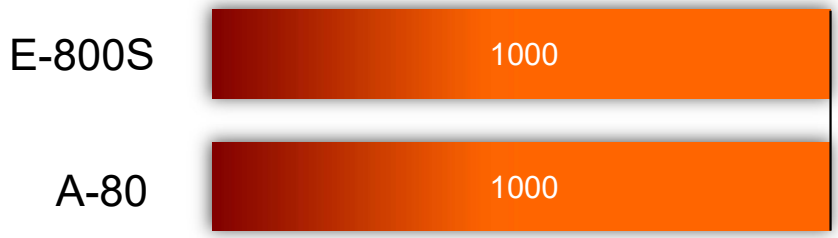
E-800S employs two AAVA modules per channel with a fully balanced configuration from the input to the output. Tone control system which is the post stage of AAVA works as balanced AAVA circuit as well.

I-V converter equipped with new ANCC circuit to reduce noise. ANCC is Accuphase's patented technology that further boosts the performance of AAVA pushed to the limit

Balanced AAVA as the totally balanced circuit which is tolerant to internal and external harmful noise.

Super high Damping-Factor

- Same guaranteed DF as A-80
  - Damping Factor: 1000 guaranteed



Guaranteed Damping-Factor

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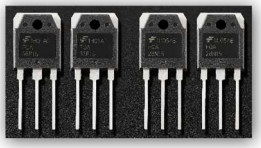
E-800S achieves 1000 of guaranteed Damping-Factor. This is the same value as the top model A-80 among power amplifiers

*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 super high Damping Factor

- Very low output impedance power amplifier engine
  - Same circuit configuration as Class-A Stereo Power amp A-48S
  - MOS-FET 6 parallel push-pull output stage

Power amplifier engine



MOS-FET
Current Capacity :33A

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The output impedance is made lower by 6 parallel push-pull final stage arrangement of MOS-FETs.

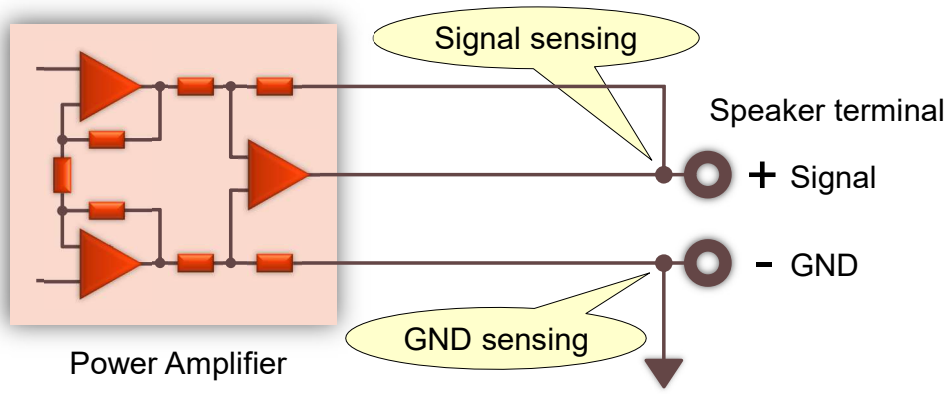
Circuit configuration of the power amplifier engine is the same as the latest Class-A Stereo Power amplifier A-48S.

E-800S features the new power MOS-FET device which is heavy-duty and has the large rated current characteristic.

**Current capacity of power MOS-FET
E-800S's MOS-FET(Fairchild): 33A

Technology for high DF

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



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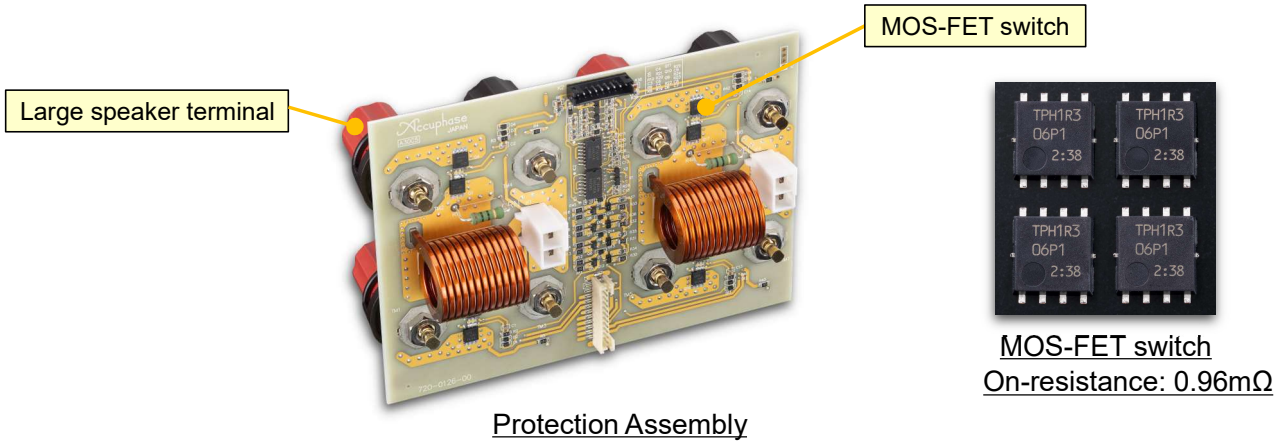
Remote Sensing is the technique to lower the output impedance of amplifier by the negative feedback with signal sensing from nearby the speaker terminals.

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 DF

- Speaker protection equipped with MOSFET
- Short signal path configuration



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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.

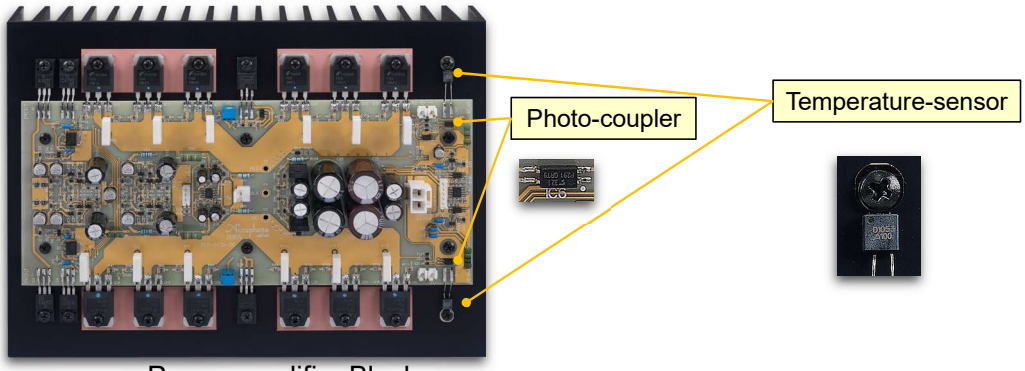
Thanks to this MOS-FET switch, the Damping Factor, reliability and sound quality are all improved.

E-800S features the new MOS-FET device for this switch which has very low on-resistance.
**On-resistance of MOS-FET device
E-800S's MOS-FET: 1.0mΩ

E-800S employs carefully selected very low-impedance components such as the large speaker terminals, coils etc.
The gold-plated signal paths also contribute to the long-term reliability and good sound quality.

Pursuing further product safety and reliability

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



Power amplifier Block

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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(2 sensors on a heatsink). Thanks to this, the unit accurately ascertains the high temperature alarm in power amplifier section.

Moreover, the new circuit is added that the temperature at output stage is controlled not to rise by decreasing the idle current in abnormal conditions.

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

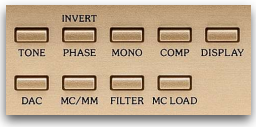
**When these protection circuits are activated, the unit completely interrupts speaker output and makes the power meters flash to indicate the abnormal condition.

Further more …

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

Option Boards

Multi function display



Input selector for DAC

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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.