 Revolutionary AAVA-II volume control
Parallel push-pull output stage with high-power transistors delivers plenty of quality power
Instrumentation amplifier principle in power amplifier section allows fully balanced signal transmission
Current feedback topology
Logic-control relays for straight and short signal paths
Robust power supply with large transformer and high filtering capacity

INTEGRATED STEREO AMPLIFIER
E-350
AAVA-II (Accuphase Analog Vari-gain Amplifier) type volume control

AAVA-II (Accuphase Analog Vari-gain Amplifier) is a novel volume control concept that completely does away with variable resistors in the signal path. Because the music signal does not have to pass through such devices, there is no adverse influence from changes in impedance. This means that the outstanding S/N ratio and low distortion of the amplifier are not compromised in any way, and the same superb sound quality will be obtained at any volume setting.

- **AAVA-II input stage employs current feedback principle that ensures high-speed, low-noise operation and assures excellent characteristics at high output voltages.**
- **Volume control resolution**
  - The listening volume is adjusted by a combination of 16 V-I converters. The number of possible volume steps is 2 to the power of 16 = 65,536, as determined by current switches.
  - **AAVA-II circuitry is deceptively simple**
  - Because AAVA-II employs circuitry that is electrically very simple, long-term reliability is excellent, with performance and sound quality that will remain unchanged also after prolonged use.
- **AAVA-II means analog processing**
  - The AAVA-II circuit converts the music signal from a voltage into a current, to allow control by current switches, and then back into a voltage. The entire process is carried out in the analog domain.
- **No more left/right tracking differences or crosstalk**
  - Because AAVA-II is an electronic circuit employing only fixed-value resistors, there is virtually no left/right tracking error at all volume levels, and crosstalk also does not present a problem.
- **AAVA-II maintains high S/N ratio and uniform frequency response**
  - Because AAVA-II does not introduce any change in impedance, there is no deterioration of S/N ratio or alteration of frequency response. Changing the volume with AAVA does not mean introducing noise or otherwise degrading the sound quality of the amplifier.
- **Control knob gives same operation feel as with a conventional high-quality volume control.**
- **Attenuator and balance control also implemented by AAVA-II.**

**How AAVA-II works**

AAVA-II operates by feeding the music signal to a V-I (voltage - current) converting amplifier where it is weighted in 16 steps [1/2, 1/4, ..., 1/32,768, 1/65,536]. The 16 current steps are turned on or off by 16 current switches, and the combination of switch settings determines the overall volume. The switching operation is controlled by a CPU according to the position of the volume control knob. The combined current signal forms a variable gain circuit that adjusts the volume. Finally, the combined current is converted back into a music signal voltage by an I-V (current-voltage) converter.

**AAVA-II operation principle**

- CPU assembly for control of AAVA-II and various functions
- AAVA-II volume control assembly with higher integration density of components and circuitry

**Integrated amplifier with innovative AAVA-II volume control — Instrumentation amplifier configuration in power amplifier section allows balanced signal transmission. Current feedback design ensures optimal high-range characteristics. High-power transistors in parallel push-pull arrangement are supported by ample power supply with massive transformer and large filtering capacitors. The result is an abundance of quality power: 100 watts per channel into 8 ohms.**
Output stage is configured with high-power transistors in parallel push-pull configuration, delivering high-quality power: 140 W/4 ohms or 100 W/8 ohms per channel.

Instrumentation amplifier principle in power amplifier section works in tandem with current feedback design, for outstanding high-range phase characteristics.

Logic-controlled relays for signal switching ensure high sound quality and long-term reliability.

Balanced input connectors shut out external noise interference. "High Carbon" cast iron insulator feet further enhance sonic purity.

Power supply features massive high-efficiency 550 VA transformer and two large filtering capacitors (22,000 µF × 2).

Analog peak power meters.

Option board installation slots.

Two sets of large-size speaker terminals suitable for Y lugs.

E-350 front panel switching enables MC/MM selection for optional Analog Disc Input Board AD-20.

EXT PRE button and preamplifier output/power amplifier input connectors allow independent use of preamplifier and power amplifier sections.
Option Boards

Three types of option boards can be used in the E-350:
the Digital Input Board DAC-20, Analog Disc Input Board AD-20, and Line Input Board LINE-10. These boards can be installed in the rear-panel slots as required.

- It is possible to install two identical boards.
- The Analog Disc Input Board AD-9/AD-10 and the Line Input Board LINE-9 can also be used.
- When using the AD-9/AD-10, the MC/MM button of the E-350 has no effect. MC/MM switching must be performed on the board.

Digital Input Board DAC-20

The board features an MDS (Multiple Delta Sigma) ++ type D/A converter and allows direct digital connection of a CD player, MD or DAT recorder or other component with digital output (sampling frequency up to 96 kHz, 24 bits), for high-quality music reproduction.

- Inputs for coaxial and optical fiber connections are provided.

Analog Disc Input Board AD-20

This board serves for playback of analog records. It contains a high-performance, high-gain phono equalizer.

- MC/MM switching is possible on the front panel of the E-350.
- Internal DIP switches control MC input impedance and subsonic filter on/off.

Line Input Board LINE-10

This option board provides a set of unbalanced line input levels.

Guaranteed Specifications

[Guaranteed specifications are measured according to EIA standard RS-490.]

- Continuous Average Output Power (both channels driven, 20–20,000 Hz)
  140 watts per channel into 4 ohms
  120 watts per channel into 8 ohms
  100 watts per channel into 8 ohms

- Total Harmonic Distortion (both channels driven, 20–20,000 Hz)
  0.03% with 4 to 16-ohm load

- Intermodulation Distortion
  0.01%

- Frequency Response
  HIGH LEVEL INPUT/POWER IN
  20 → 20,000 Hz
  +0, –0.2 dB (for rated continuous average output)
  3 – 150,000 Hz
  +0, –3.0 dB (for 1 watt output)

- Damping Factor
  120 (with 8-ohm load, 50 Hz)

- Input Sensitivity, Input Impedance
  PRE OUTPUT: 1.13 V, 113 mV, 20 kΩ
  BALANCED INPUT: 142 mV, 14.2 mV, 20 kΩ
  POWER IN: 121 dB, 98 dB

- Power Level Meters
  Logarithmic compression, peak reading meters
  Output dBm scale

- Load Impedance
  4–16 ohms

- Stereo Headphones
  Suitable impedance: 8–100 ohms

- Power Requirements
  AC 120 V/230 V 50/60 Hz
  (Voltage as indicated on rear panel)

- Power Consumption
  49 watts idle
  280 watts in accordance with IEC 60065

- Maximum Dimensions
  Width: 465 mm (18-5/16”)
  Height: 171 mm (6-3/4”)
  Depth: 242 mm (9-5/8”)

- Mass
  21.7 kg (47.6 lbs) net
  26.0 kg (57.3 lbs) in shipping carton

- Supplied Remote Controller RC-200
  Remote control principle: Infrared pulse
  Power supply: 3 V DC (IEC R03 batteries × 2)
  Maximum dimensions: 56 mm × 175 mm × 26 mm
  Mass: 153 g (including batteries)

Specifications are subject to change without notice.

Input

1. Input selector
   LINE 2 LINE 1 LINE-BAL CD-BAL CD
   TUNER OPTION 1 OPTION 2
2. Left/right channel output meters
3. Function indicator LEDs
4. Volume control
5. Power switch
6. Speaker selector OFF A B A+B
7. Copy selector 1 → 2 OFF 2 → 1
8. Recording output selector REC OFF SOURCE 1 2
9. Function buttons
10. MC/MM EXT PRE, MONO/STEREO, Meter ON/OFF
11. Compensator ON/OFF, Tone Control ON/OFF
12. Bass control
13. Treble control
14. Balance control
15. Preamp control
16. Attenuator button
17. Headphone jack
18. Line inputs (unbalanced)
19. Recorder inputs and outputs
20. Power amplifier inputs
21. Unbalanced line output terminals AB
22. CD/LINE inputs (balanced)
23. AC power connector

Remarks

* This product is available in versions for 120/230 V AC. Make sure that the voltage shown on the rear panel matches the AC line voltage in your area.

* The shape of the AC inlet and plug of the supplied power cord depends on the voltage rating and destination country.

Supplied accessories:

- AC power cord
- Remote Commander RC-200

Specifications and design subject to change without notice for improvements.

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