Accuphase

INTEGRATED STEREO AMPLIFIER

E-480

● AAVA volume control ● Power amplification stage with power MOS-FETs in triple parallel push-pull configuration ● Rated output 180 watts into 8 ohms ● Damping factor 600 ● Instrumentation amplifier principle in power amplification stage allows fully balanced signal transmission ● MCS+ topology and current feedback in power amplification stage ● Logic-control relays for shortest signal paths ● Strong power supply with massive high-efficiency transformer and large filtering capacitors ● Protection circuitry using MOS-FET switches

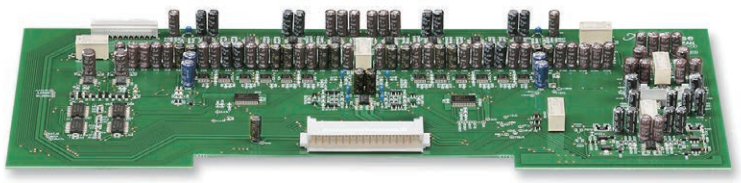
Ample Output Power and Drive Capability Approaching the Functional Excellence and Performance Level of Separate Type Amplifiers

Preamplifier section features the latest implementation of AAVA volume control for further enhanced clarity. Instrumentation amplifier principle in power amplification stage allows fully balanced signal transmission and realizes top-notch S/N ratio. Balanced Remote Sensing enables low impedance of output circuitry, resulting in a damping factor of 600. Power amplification stage uses power MOS-FETs in triple parallel push-pull configuration, delivering 180 watts into 8 ohms for dynamic music enjoyment.

Innovation – At the leading edge of technology

AAVA type volume control

AAVA is a revolutionary type of volume control that completely does away with any variable resistors in the signal path, using instead a combination of 16 V-I converter amplifiers with different gain. Because the music signal is not being attenuated by a rotary resistor, optimum S/N ratio and low distortion can be maintained over the entire volume range. The signal degradation and impedance changes of conventional designs are a thing of the past. In the E-480, the V-I converter amplifiers for the highest gain stage use four parallel circuits, providing ample operation leeway and ensuring high reliability and stability.

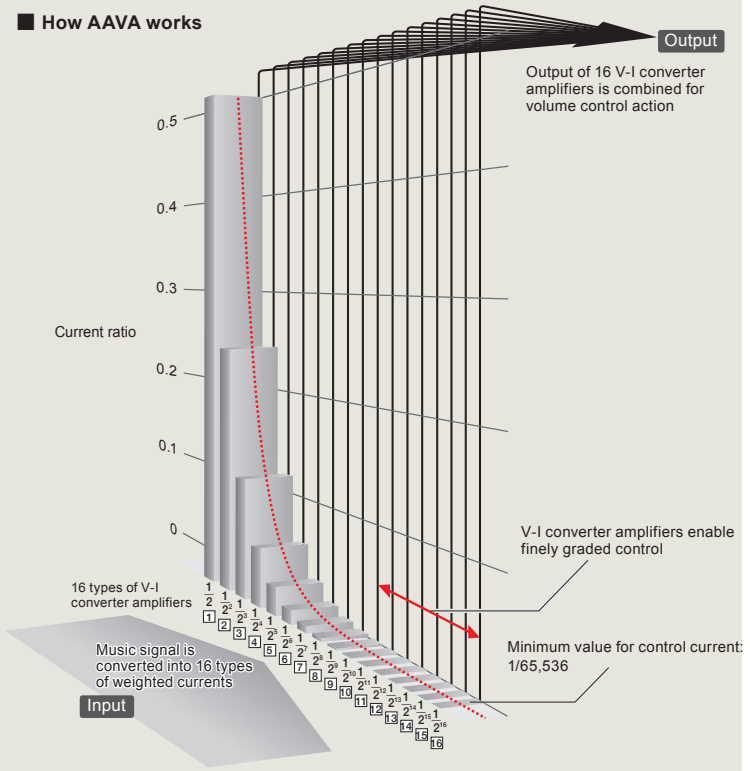


■ AAVA volume control assembly minimizes noise

AAVA features

- **Purely analog principle avoids the inherent noise of digital circuitry**
- **Excellent S/N ratio at any volume level position**
- **No change in sound quality over the entire range**
- **Finely graded volume adjustment steps**
- **No volume differences between left and right channel**
- **High channel separation**
- **Left/right balance adjustment and attenuation also realized with AAVA**

■ How AAVA works



Sound quality – Simply aiming for the best

Power amplification stage with power MOS-FETs

Triple parallel push-pull output stage with power MOS-FETs renowned for high sound quality.

20% improved damping factor

Balanced Remote Sensing and MOS-FET switches result in a damping factor of 600, representing a 20% improvement over earlier models.

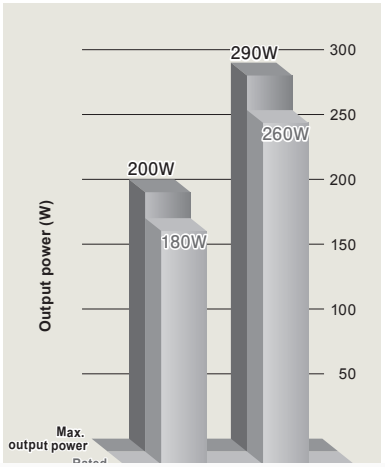
Power supply designed for optimum stability

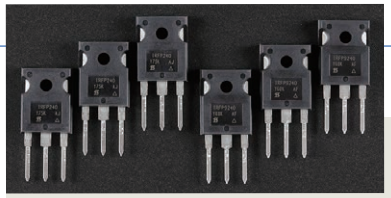
Large toroidal transformer and massive 40,000 µF filtering capacitors provide rock-stable high-quality power.

Impressive output capability of 180 watts into 8 ohms or 260 watts into 4 ohms

Two power amplifier units for left and right mounted directly to large heat sinks deliver impeccable 180 watts into 8 ohms or 260 watts into 4 ohms.

Toroidal power transformer



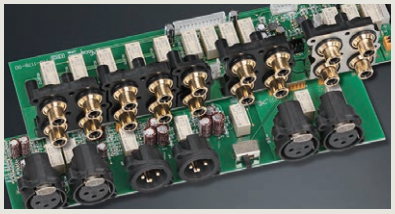


Power MOS-FETs

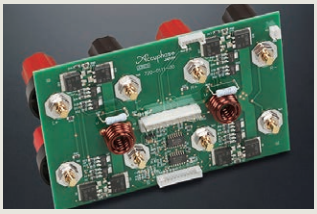
Advanced features

- Logic-control signal switching relays for shortest signal paths
- Five line level and two balanced inputs
- Line input and output connectors for a recorder
- Individual phase setting for each input
- Stereo signal can be switched to monophonic operation
- Left/right balance control also realized with AAVA
- Convenient attenuator is useful for example when operating an analog record player
- Loudness compensator enhances low end presence
- Tone controls using summing active filters
- Power amplification stage employs instrumentation amplifier principle for fully balanced signal transmission
- Amplification circuitry features MCS+ topology and current feedback principle to assure excellent phase characteristics in high range
- Protection circuitry using MOS-FET switches
- Two sets of large speaker terminals also accept spade lugs
- Preamplifier and power amplifier sections can be used separately
- Preamplifier outputs also support bi-amping connection
- Choice of line level and balanced connectors for preamplifier output and power amplifier input
- Dedicated headphone amplifier designed for optimum sound quality
- Two option board installation slots
- DAC input selector button for use when digital input board (DAC-50 or DAC-40) is installed
- Numeric indication of digital signal sampling frequency (when DAC-50 or DAC-40 is installed)
- High-sensitivity analog peak power meters

■ **Supplied Remote Commander RC-230**
Allows volume adjustment, input source switching etc.

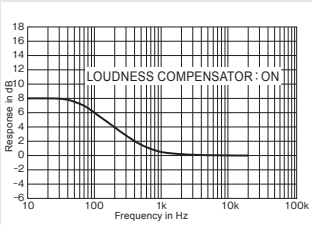

Line and balanced input/output connectors


MOS-FET switches

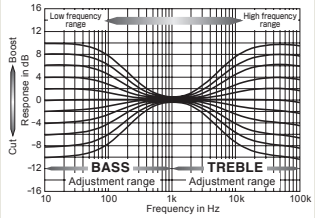

Protection circuitry

1. Speaker output selector for two pairs of speakers
2. Bass tone control knob
3. Treble tone control knob
4. Tone control on/off button
5. Phase selector button for input signal
6. Mono/stereo selector button for combining left/right channel signals
7. Loudness compensator on/off button for enhancing low end presence
8. DAC input selector button for use when digital input board (DAC-50 or DAC-40) is installed
9. MC/MM selector button for selecting phono cartridge type when AD-50, AD-30 or AD-20 is installed
10. Display mode button for power meter on/off and level/frequency display switching
11. Left/right balance control knob
12. Preamplifier and power amplifier separator selector
13. Recorder mode selector for recording or playback with connected recorder


Large speaker terminals



Loudness compensator characteristics

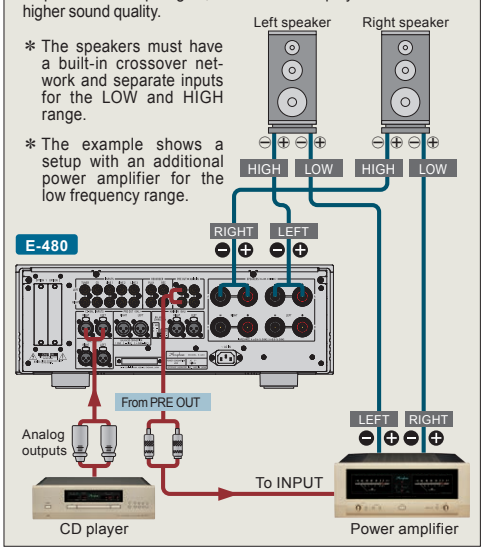


Tone control characteristics

Bi-amping for further enhanced sound

In a bi-amped setup, the speaker units for the LOW frequency range and the HIGH frequency range are driven by separate amplifiers with equal gain, which enables playback with even higher sound quality.

* The speakers must have a built-in crossover network and separate inputs for the LOW and HIGH range.
* The example shows a setup with an additional power amplifier for the low frequency range.



Option Boards

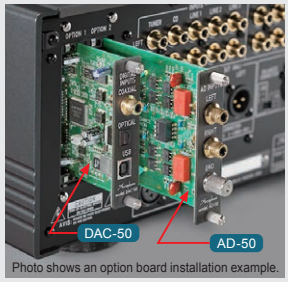


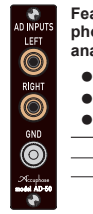
Photo shows an option board installation example.

The E-480 has two option board installation slots on the rear panel. These are designed for use with three types of options boards, depending on requirements: DAC-50, AD-50, and LINE-10.

■ The following option boards can also be used.

Digital Input Board
DAC-10/DAC-20/DAC-30/DAC-40
Analog Disc Input Board
AD-9/AD-10/AD-20/AD-30
Line Input Board
LINE-9

Analog Disc Input Board AD-50



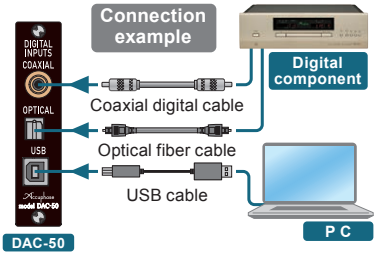
AD-50

Features a high-performance phono equalizer for playback of analog records.

- Supports MC and MM cartridges
- MC load impedance selector button
- Subsonic filter

Cartridge	MC	MM
Gain	66 dB	40 dB
Input impedance	30 ohms 100 ohms 300 ohms	47 kilohms

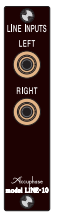
Digital Input Board DAC-50



High-performance DAC with two AK4490EQ chips from Asahi Kasei Microdevices driven in parallel.

Input	Signal	Sampling frequencies	Number of bits
USB	DSD	2.8224 MHz 5.6448 MHz 11.2896 MHz [11.2896 MHz: ASIO only]	1-bit
	PCM	32 to 384 kHz	32-bit
OPTICAL	PCM	32 to 96 kHz	24-bit
COAXIAL	PCM	32 to 192 kHz	24-bit

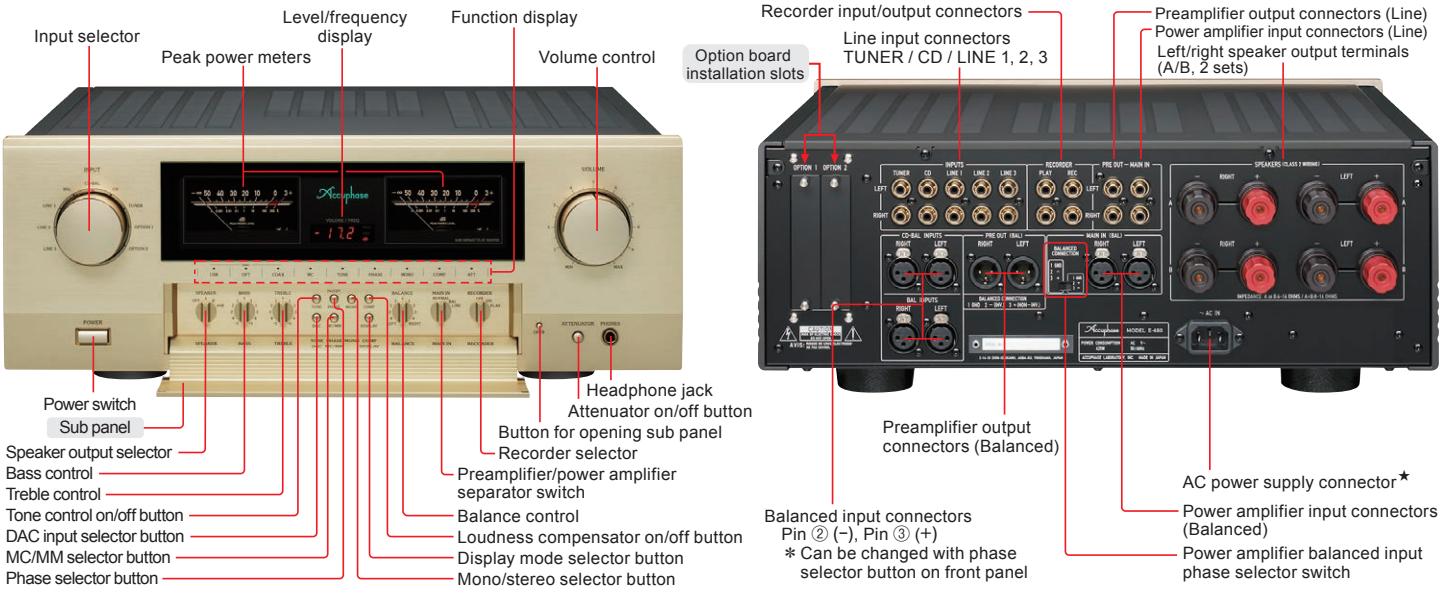
Line Input Board LINE-10



LINE-10

Provides an additional set of unbalanced line level inputs.

Names of Parts



E-480 Guaranteed Specifications [Guaranteed specifications are measured according to EIA standard RS-490.]

Rated Continuous Average Output Power (both channels operating simultaneously, 20 - 20,000 Hz)
260 watts per channel into 4 ohms
180 watts per channel into 8 ohms

Total Harmonic Distortion (both channels operating simultaneously, 20 - 20,000 Hz)
0.05% 4 to 16 ohm load

Intermodulation Distortion 0.01%

Frequency Response HIGH LEVEL INPUT
At rated continuous average output: 20 - 20,000Hz +0, −0.5 dB
MAIN IN
At rated continuous average output: 20 - 20,000Hz +0, −0.2 dB
At 1 watt output: 3 - 150,000Hz +0, −3.0 dB

Damping Factor 600 (with 8-ohm load, 50 Hz)

Input Sensitivity, Input Impedance

Input	Input sensitivity		Input impedance
	For rated output	For 1 W output (EIA)	
HIGH LEVEL INPUT	190 mV	14.2 mV	20 kilohms
BALANCED INPUT	190 mV	14.2 mV	40 kilohms
MAIN IN LINE	1.51 V	113 mV	20 kilohms
MAIN IN BAL	1.51 V	113 mV	40 kilohms

Output Voltage and Impedance
PRE OUTPUT 1.51 V 50 ohms
(at rated continuous average output)

Gain HIGH LEVEL INPUT → PRE OUTPUT: 18 dB
MAIN IN → OUTPUT: 28 dB

Tone Controls Turnover frequency and adjustment range
BASS: 300 Hz ±10 dB (50 Hz)
TREBLE: 3 kHz ±10 dB (20 kHz)

Loudness Compensation +6 dB (100 Hz)

Attenuator –20 dB

S/N Ratio

Input	Input shorted (A weighting) S/N ratio at rated output	S/N ratio (EIA)
HIGH LEVEL INPUT	109 dB	97 d B
BALANCED INPUT	102 dB	97 dB
MAIN IN	125 dB	101 dB

Power meters Logarithmic type peak level display of output in dB or percent
*With meter on/off switching function

Output Load Impedance 4 - 16 ohms

Stereo Headphones Suitable impedance: 8 ohms or higher

Power Requirements 120 V/220 V/230 V AC, 50/60 Hz
(Voltage as indicated on rear panel)

Power Consumption 93 watts idle
425 watts in accordance with IEC 60065

Maximum Dimensions Width 465 mm (18.31")
Height 181 mm (7.13")
Depth 428 mm (16.85")

Mass 24.6 kg (54.2 lbs) net
31.0 kg (68.3 lbs) in shipping carton

Remarks
★ *This product is available in versions for 120/220/230 V AC. Make sure that the voltage shown on the rear panel matches the AC line voltage in your area.*
★ *The 230 V version has an Eco Mode that switches power off after 120 minutes of inactivity.*
★ *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-230**

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