# Accuphase

# Class-A PRECISION INTEGRATED STEREO AMPLIFIER

E-800S

● Integrated amplifier with fully balanced configuration from input to output ● Balanced AAVA type volume control ● High-accuracy, high-rigidity volume sensor construction ● Power amplification stage configured as an instrumentation amplifier ● Six-fold parallel push-pull configuration using power MOS-FETs driven in Class A ● Linear power output of 50 watts into 8 ohms, 100 watts into 4 ohms, or 200 watts into 2 ohms ● 300 watts output into 1-ohm load ● High damping factor of 1,000 ● Strong power supply with massive high-efficiency toroidal transformer and large filtering capacitors ● Protection circuitry using MOS-FET switches





# Simply the world's best integrated amplifier

The E-800S is our flagship model that incorporates the full breadth of Accuphase's accumulated knowledge on integrated amplifiers. The preamplifier section incorporates a Balanced AAVA type volume control, while the power amp stage relies on an instrumentation amplifier principle and six-fold parallel push-pull configuration using power MOS-FETs driven in Class A, driving any loudspeakers to higher dimensions of sound. Enjoy the blissful acoustic space provided during playback with the E-800S.

## Innovation - At the leading edge of technology

### Balanced AAVA type volume control circuit

Conventional preamplifiers use variable resistors to adjust volume, which can cause contacts to deteriorate and create rasping as well as increase noise at normal volume levels. AAVA, however, produces multiple, widely varying signals from the input signal and controls volume by changing the combination of those signals. This achieves minimum noise at all volume levels without any rasping. The E-800S relies on Balanced AAVA comprised of balanced AAVA circuits, reducing the overall noise level by 10% compared to conventional models at typical volume positions.



Balanced AAVA type volume control circuit

#### High-accuracy, high-rigidity volume sensor construction

The volume sensor mechanism carved from a single aluminum block ensures silky-smooth operation, a weighty operational feel, and accurate position detection. Operations with the remote commander are so quiet that mechanical noise is hardly noticeable.



Volume sensor construction

### Sound quality - Simply aiming for the best

#### Power amplification stage that achieves linear output

The power amplification stage on both the left and right sides features a large heat sink and employs six-fold parallel push-pull MOS-FETs driven in Class A to provide linear power output of 50 watts into 8 ohms, 100 watts into 4 ohms, and 200 watts into 2 ohms.

#### Power supply circuitry delivers steady power

A strong power supply featuring a massive toroidal transformer and two high-voltage, large filtering capacitors (63,000  $\mu$ F/63 V) offer a stable power supply at all times.



Massive toroidal transformer



Large filtering capacitors



Power MOS-FETs



#### ANCC significantly reduces distortion and noise (Accuphase Noise and distortion Canceling Circuit)

The E-800S's I-V conversion amplifier uses the ANCC principle. ANCC uses a secondary amplifier to cancel out noise and distortion from the main amplifier. The secondary amplifier utilizes a low-noise amplifier (noise density: 1.5 nV/ $\sqrt{Hz}$ ) to increase the effect of the ANCC. Incorporating this ANCC in the AAVA I-V conversion amplifier

drastically improves noise performance, particularly when transitioning from low volume settings to typical volume positions.



Block diagram of ANCC

# Power amplification stage configured as an instrumentation amplifier

The instrumentation amplifier circuitry's equal impedance on the + and – sides and exceptional external noise suppression provide optimal performance for an audio amplifier.



#### High damping factor brings out the full potential of speakers

The damping factor represents the amplifier's ability to drive the speakers. A damping factor of 1,000 (guaranteed) extracts the maximum potential from the loudspeakers.



L-ch power amplifier

Filtering capacitors R-ch p

R-ch power amplifier

# **Bold Appearance,**



# **Graceful Sound**



### Advanced features

Balanced AAVA volume control circuit	1.0
High-accuracy, high-rigidity volume sensor construction	DPR
Highly reliable logic-control signal switching relays	
Power amplification stage configured as an	
instrumentation amplifier	
Balanced remote sensing to improve the damping factor	_
Current feedback amplification circuit topology assures excellent phase characteristics in the high range	
Preamplifier I/O terminals (LINE / BALANCED)	
Dedicated, high-quality headphone amplifier with discrete circuitry	
–20 dB volume attenuator to instantly reduce the sound level	
■ Speaker output selector ····································	
■ Tone controls using summing active filters	
■ Individual phase setting for each input③	
■ Stereo signal can be switched to monophonic	
■ Loudness compensator to adjust audible energy balance …⑤	
■ Display mode selector ····································	
DAC input selector (when DAC-60 / DAC-50 / DAC-40 is installed)	
MC/MM selector (when AD-60 / AD-50 / AD-30 / AD-20 is installed)	
■ Subsonic filter ON/OFF selector (when AD-60 is installed) ··· ⑨	
MC input impedance selector	
30 ohms/100 ohms/200 ohms/300 ohms (when AD-60 is installed)	
■ Left/right balance control using AAVA	
■ Power amp section input selector (LINE / BALANCED) … (2)	
Recorder selector	
■ Volume display ····································	
■ Sampling frequency display (when DAC-60 / DAC-50 / DAC-40 is installed)	
■ Five sets of line inputs	
Speaker output protection circuit guards against short-circuiting	
■ Three sets of balanced inputs	
■ Two sets of large speaker terminals ·······20	
Highly-sensitive LED power meters capable of displaying	
output levels to -50 dB	
■ Highly reliable MOS-FET switches ·······22	
High-carbon cast iron insulators for superior vibration damping	- De



Class.A



2) Bar graph power meter

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:0

2 MOS-FET switches

2 2

10

Ace

Bigh-carbon cast iron insulators



		Ľ	-8003 Guarante		
Rated Output ( 20 to 20,000 Hz)		1-ohm load*	300 W/ch		
	Both channels	2-ohm load*	200 W/ch		
	simultaneously	4-ohm load*	100 W/ch		
		8-ohm load	50 W/ch		
Total Harmonic Distortion	Both channels driven	2-ohm load	0.05 %		
(20 to 20,000 Hz, rated output)	simultaneously	4 to 16-ohm load	0.03 %		
Intermodulation Distortion	0.01%				
Frequency Response	At rated output	INPUT (BALANCED / LINE)	20 to 20,000 Hz (+0, -0.5 dB)		
		MAIN IN (BALANCED / LINE)	20 to 20,000 Hz (+0, -0.2 dB)		
	At 1 W output	MAIN IN (BALANCED / LINE)	3 to 150,000 Hz (+0, -3.0 dB)		
Damping Factor	1,000				
Input Sensitivity	At rated output	INPUT (BALANCED / LINE)	100 mV		
		MAIN IN (BALANCED / LINE)	796 mV		
	EIA (at 1 W output)	INPUT (BALANCED / LINE)	14.2 mV		
		MAIN IN (BALANCED / LINE)	113 mV		
		NPUT (BALANCED)	40 kilohms		
Input Impedance	INPUT (LINE)		20 kilohms		
	MAIN IN (BALANCED)		40 kilohms		
	MAIN IN (LINE)		20 kilohms		
Max. Input Voltage	INPUT (BALANCED / LINE)		5.0 V		
Output Voltage	At rated output	PRE OUTPUT (BALANCED / LINE)	796 mV		
Output Impedance	PRE OU	ITPUT (BALANCED / LINE)	50 ohms		

a sp	pecifications					
Gain		INPUT (BALANCED / LINE) → PRE OUTPUT (BALANCED / LINE)			18 dB	
		MAIN IN (BALANCED / LINE) → SPEAKER OUTPUT			28 dB	
Tone Controls		Turnover frequency and	Bass: 300 Hz		±10 dB	
		adjustment range	Treble: 3 kHz		±10 dB	
Loudness Compensator		+6 dB (100 Hz)				
	Attenuator	-20 dB				
At rated output (Inp shorted, A weightin	At rated output (Input	INPUT (BALANCED / LINE)		105 dB		
	shorted, A weighting)	MAIN IN (BALANCED / LINE)		120 dB		
Ratio	INPUT (BALANCED / LINE)			97 dB		
	LIA	MAIN IN (BALANCED / LINE)			101 dB	
	Power Meters	Bar graph meters, Output voltage (dB) using 30 points, with ON/OFF switch				
Headphones Jack		Compatible impedance			8 ohms or higher	
Power Requirements		120 V, 220 V, 230 V AC (voltage as indicated on rear panel)				
		50 / 60 Hz				
Power Consumption		Idle		190 W		
		In accordance with IEC 62368-1			260 W	
		Stand-by			0.3 W	
Ma	aximum Dimensions Width 465 mm (18.3") × Height 239 mm (9.4") × Depth 5			502 mm (19.8")		
Mass		Net 35.7 k		g (78.7 lbs)		
		In shipping carton 45 kg		g (100 lbs)		
* Musi	c signals only					

Measurement methods for Guaranteed Specifications adhere to JEITA CP-1301A and IEC 60268-3.

#### Supplied accessories

• AC power cord (2 m (6.5')) • Remote Commander RC-250

#### 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 plug of the supplied AC power cord depends on the voltage rating and destination country. \* \*

