

# Accuphase

CLASS-A STEREO POWER AMPLIFIER

## A-36

- Pure Class A operation delivers quality power: 30 watts x 2 into 8 ohms
- Power MOS-FET output stage features 3-parallel push-pull configuration
- Instrumentation amplifier principle used in input stage
- Amplification stage implements further evolved MCS+ topology
- Current feedback principle combines stable operation with outstanding sound quality
- Bridged connection mode allows upgrading to monophonic amplifier
- Strong power supply with massive high-efficiency transformer and large filtering capacitors
- 4-stage gain control





# Redefining Essential Excellence — Impressive Baseline Pure Class A Stereo Power Amplifier. Input stage features fully balanced signal paths realized with ultra low noise instrumentation amplifier topology. MCS+ design and current feedback in amplification circuitry deliver outstanding S/N ratio and other performance parameters for improved sound quality. Robust power supply and power MOS-FET devices in triple-parallel push-pull configuration sustain power output of 150 watts per channel (music signals) down to impedances as low as 1 ohm. Output stage with further lowered impedance realizes a damping factor of 400.

Pure Class A amplifiers from Accuphase have a long and distinguished tradition and have attained widely acclaimed levels of performance combined with reliability and impeccable sound quality. Audiophiles the world over continue to hold them in high esteem. The Pure Class A Monophonic Power Amplifier A-200 introduced on the occasion of the company's 40th anniversary, and the high-end Pure Class A Stereo Power Amplifier A-70 opened up new realms of sonic excellence and have become legendary as reference audio devices. The new A-36 inherits many of the outstanding design technology features developed for the higher-end models. It redefines the baseline for pure class A power amplifiers and represents the same unwavering attention to detail and dedication to sound quality for which Accuphase is justly famous.

Latest instrumentation amplifier topology allows the realization of fully balanced signal paths, while the MCS+ circuitry combined with current feedback topology and carefully selected high-grade materials assure further enhanced performance and sound quality. In the output stage, power MOS-FETs renowned for their excellent frequency response, sonic performance, and superior reliability are used in a triple parallel configuration and driven in pure class A. This is sustained by the strong power supply featuring a massive transformer and two large 47,000  $\mu\text{F}$  filtering capacitors. Output power in each channel is rated for an impressive 150 watts into 1 ohm, 120 watts into 2 ohms, 60 watts into 4 ohms, and 30 watts into 8 ohms. Even speakers with ultra-low impedance or drastic fluctuations in impedance curve can be driven reliably by this impressive amplifier. In the output circuitry, MOS-FET switches are used in place of relays, to eliminate mechanical contacts and improve long-term reliability. Top-grade materials, sophisticated circuit pattern technology, and various other measures result in low impedance and allow the realization of a damping factor of 400, which represents a two-fold improvement over the A-35. The well-proven analog power meters are equipped with a sensitivity selector for easy observation of low power levels, and a peak hold function has been newly added.

- **3-parallel push-pull arrangement of power MOS-FETs delivers 150 watts (music signal) into 1 ohm, 120 watts into 2 ohms, 60 watts into 4 ohms, or 30 watts into 8 ohms.**
- **Strong power supply with large high-efficiency transformer and two 47,000  $\mu\text{F}$  filtering capacitors.**
- **Instrumentation amplifier principle for power amplifier input stage allows fully balanced signal transmission. MCS+ topology further improves S/N ratio.**
- **Bridging allows upgrade to monophonic amplifier with even higher power, delivering 300 watts into 2 ohms (music signal), 240 watts into 4 ohms, or 120 watts into 8 ohms.**
- **Operation mode switch supports dual mono operation and allows bi-amping connection.**
- **Damping factor doubled to 400 contributes to enhanced sonic definition.**
- **Analog power meters.** Meter operation/light on/off switch, peak hold/normal operation selector, sensitivity selector (0 dB, -20 dB).
- **4-stage gain selector (MAX, -3 dB, -6 dB, -12 dB) also minimizes residual noise.**
- **Semiconductor (MOS-FET) switches used for protection circuitry.** Prevent contact problems and ensure long-term reliability. Eliminating mechanical contacts from signal path also further enhances sound quality.
- **Balanced input phase selector switch.** If balanced input of preamplifier uses pin 2 positive configuration, this switch can be used for proper matching.
- **Two sets of large speaker terminals (A / B) also accept Y lugs.**



Power transformer

Filtering capacitors



Input selector button

Operation mode selector



Meter controls

Gain control selector



Speaker selector buttons

MOS-FET switches

Phase selector



Large speaker terminals



Protection and meter circuit assembly



Line and balanced input connectors

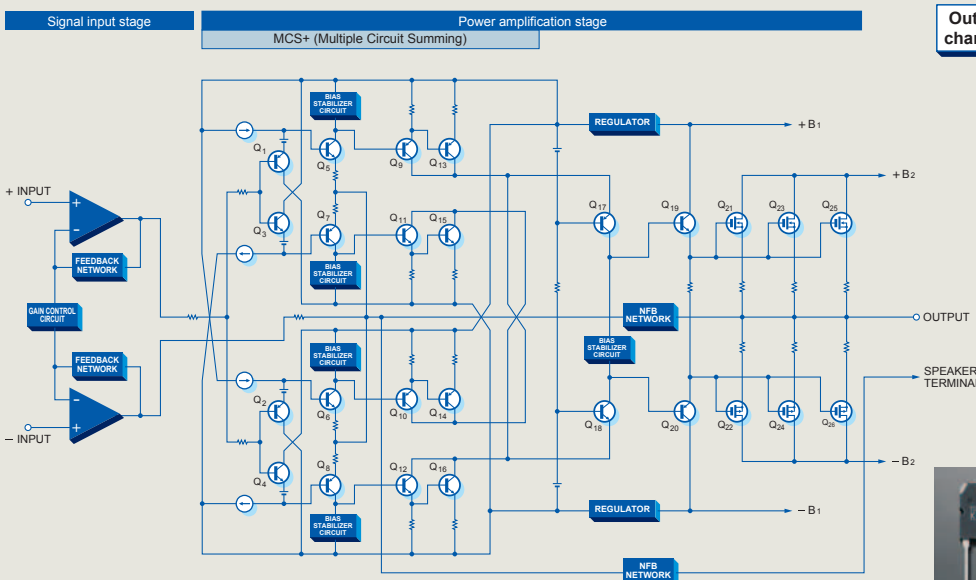
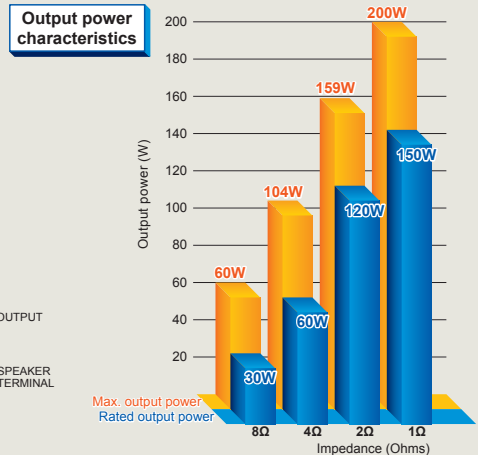
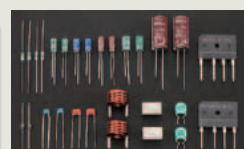


Fig. 1 Circuit diagram of amplifier section (one channel)



Power MOS-FETs

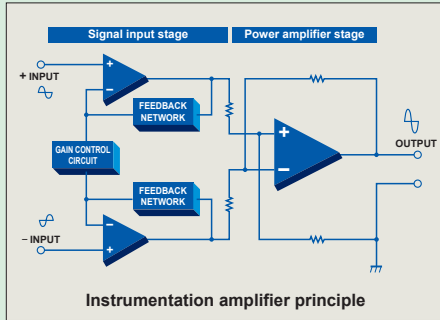


Parts selected for high sound quality and reliability

## Instrumentation amplifier configuration and further refined MCS+ topology

### Amplification stage features instrumentation amplifier topology for fully balanced signal paths

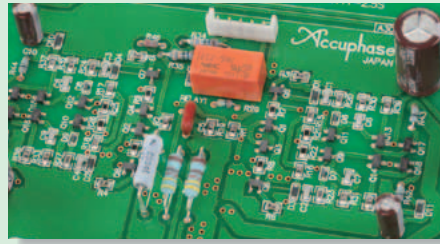
The instrumentation amplifier principle ensures that all signal paths from the inputs to the power amp stage are fully balanced. This not only results in excellent CMRR (Common Mode Rejection Ratio) and minimal distortion, it also makes the amplifier highly resistant against external noise and other external influences. The result is a drastic improvement in operation stability and reliability.



### Further refined MCS+ topology for even lower noise

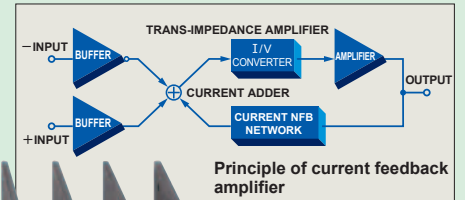
Accuphase's original MCS (Multiple Circuit Summing) principle uses a number of identical circuits connected in parallel to achieve superior performance characteristics.

MCS+ is a further refined version of this approach. By extending parallel operation to the class-A drive stage of the current/voltage converter, the noise floor has been lowered further.



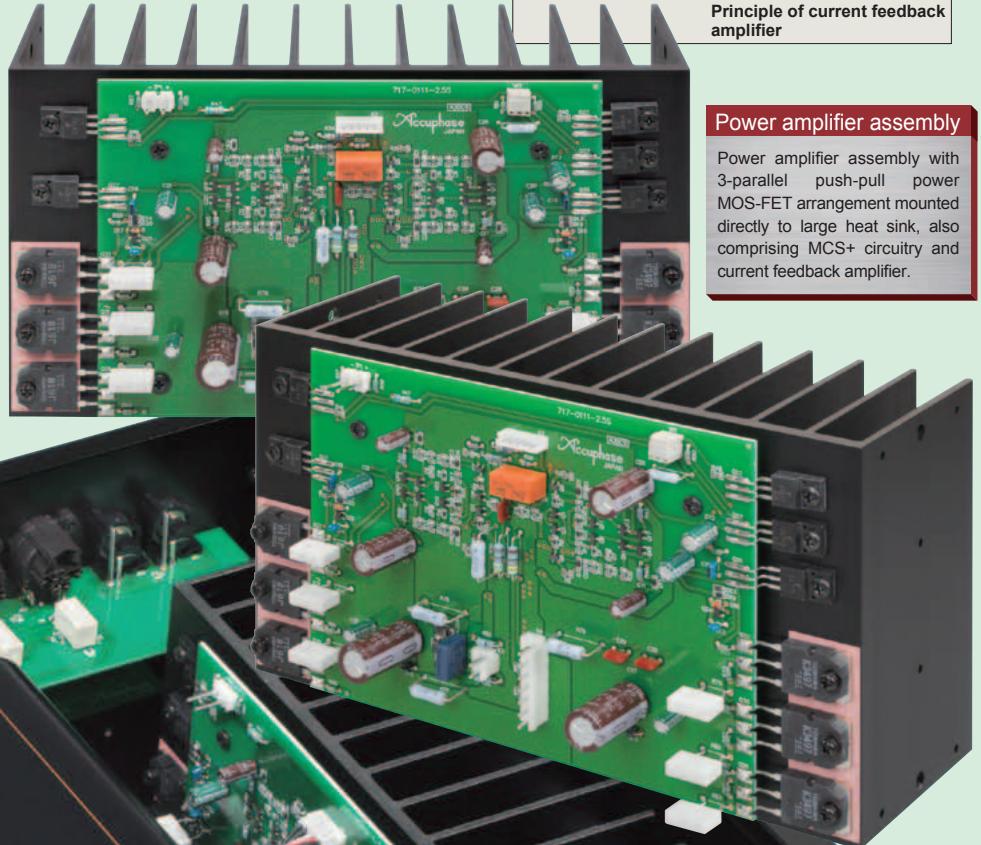
### Current feedback principle assures excellent phase characteristics in high range

As shown in the illustration, the A-36 uses the output signal current rather than voltage for feedback. Since the impedance at the current feedback point is very low, there is almost no phase shift. A minimal amount of NFB therefore results in maximum improvement of circuit parameters.



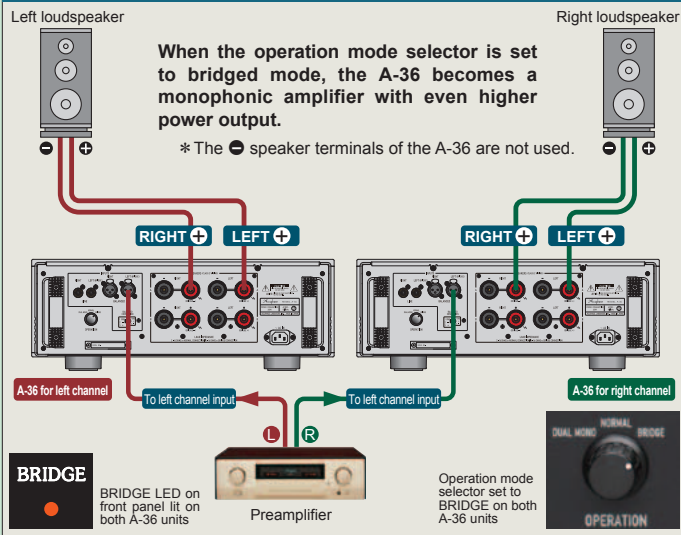
### Power amplifier assembly

Power amplifier assembly with 3-parallel push-pull power MOS-FET arrangement mounted directly to large heat sink, also comprising MCS+ circuitry and current feedback amplifier.

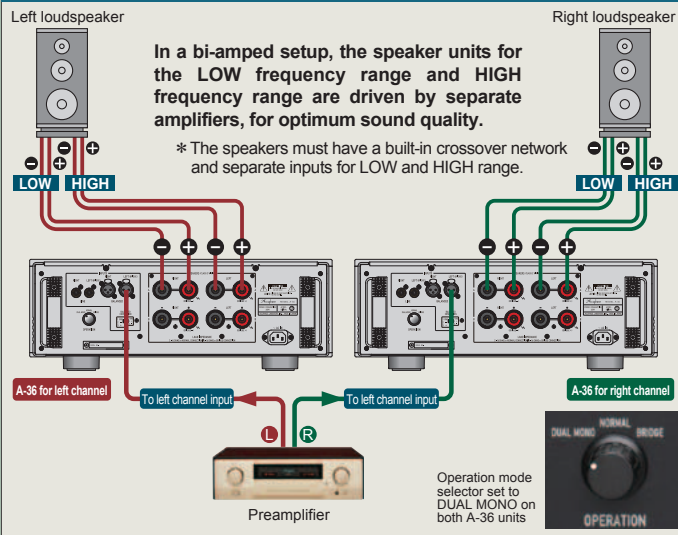


■ Using two A-36 units, upgrade to bridged operation or bi-amping is possible. ■ Use the LEFT (BALANCED or LINE) input connectors for both units.

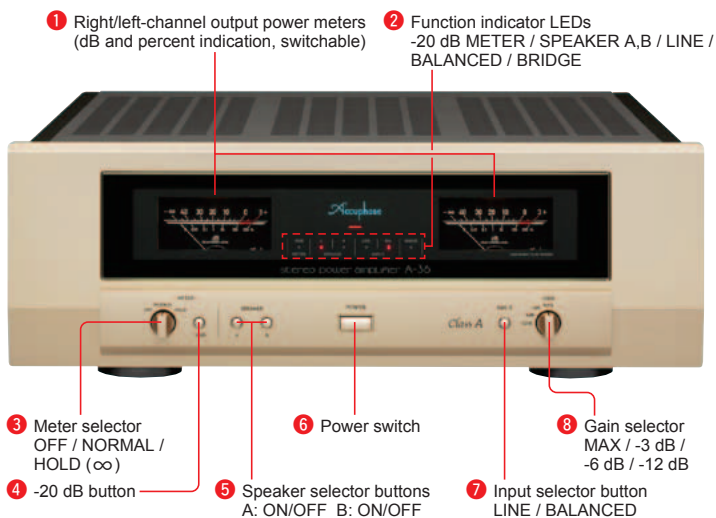
### Connection example for bridged setup



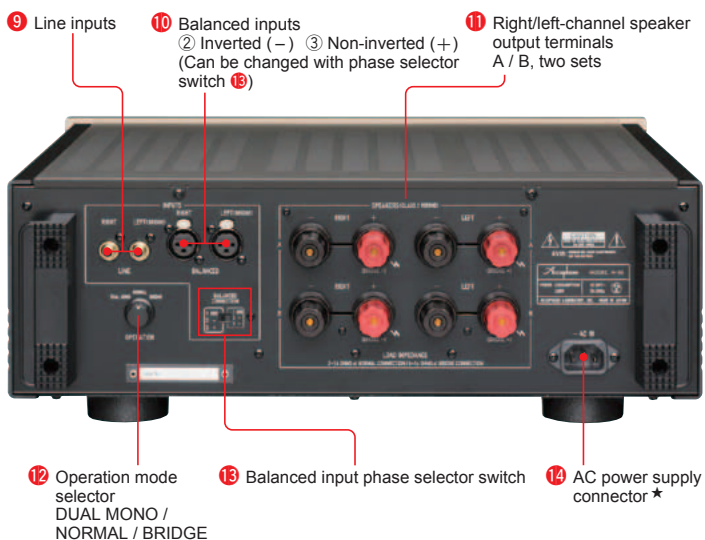
### Connection example for bi-amping setup



### Front Panel



### Rear Panel



### 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.
- ★ 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 accessory:
  - AC power cord

### A-36 GUARANTEED SPECIFICATIONS

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

- **Continuous Average Output Power (20–20,000 Hz)** Note: Load ratings marked (\*) apply only to operation with music signals.
 

Stereo operation (both channels driven)	150 watts per channel	into 1 ohm (*)
	120 watts per channel	into 2 ohms
	60 watts per channel	into 4 ohms
	30 watts per channel	into 8 ohms
Monophonic operation (bridged connection)	300 watts	into 2 ohms (*)
	240 watts	into 4 ohms
	120 watts	into 8 ohms
- **Total Harmonic Distortion**

Stereo operation (both channels driven)	0.05%	with 2 ohm load
	0.03%	with 4 to 16 ohm load
Monophonic operation (bridged connection)	0.05%	with 4 to 16 ohm load
- **Intermodulation Distortion** 0.01%
- **Frequency Response** At rated output: 20 – 20,000 Hz +0, -0.2 dB  
At 1 watt output: 0.5 – 160,000 Hz +0, -3.0 dB
- **Gain** 28.0 dB (with GAIN selector at MAX) (Stereo and monophonic operation)
- **Gain Selection** MAX, -3 dB, -6 dB, -12 dB
- **Output Load impedance**

Stereo operation:	2 to 16 ohms
Monophonic operation:	4 to 16 ohms

[With music signals only, 1-ohm loads are permissible for stereo operation and 2-ohm loads for monophonic operation.]
- **Damping Factor** 400
- **Input Sensitivity (with 8-ohm load, GAIN selector in MAX position)**

Stereo operation:	0.62 V for rated continuous average output (30 W)
	0.11 V for 1 watt output
Monophonic operation:	1.23 V for rated continuous average output (120 W)
	0.11 V for 1 watt output
- **Input Impedance** Balanced: 40 kilohms Line: 20 kilohms
- **Signal-to-Noise Ratio (A-weighted, input shorted)**

112 dB (GAIN selector at MAX)
120 dB (GAIN selector at -12 dB)

At rated continuous average output
- **Output Level Meters** -40 dB to +3 dB (indication in dB and %)
 

Logarithmic scale

Operation selector: OFF / NORMAL / HOLD ( $\infty$ )

Meter sensitivity selector (-20 dB)

\* Monophonic operation: same value displayed for left/right
- **Power Requirements** AC 120 V/230 V, 50/60 Hz (Voltage as indicated on rear panel)
- **Power Consumption** 155 watts idle  
270 watts in accordance with IEC 60065
- **Maximum Dimensions**

Width	465 mm (18.31")
Height	171 mm (6.73")
Depth	425 mm (16.73")
- **Mass** 22.8 kg (50.27 lbs) net  
29.0 kg (63.93 lbs) in shipping carton



ACCUPHASE LABORATORY, INC.

● The specifications and appearance of this product are subject to change without notice.  
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