

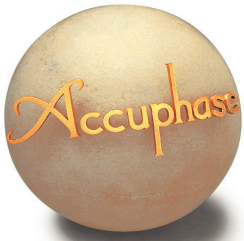
Accuphase

CLASS-A STEREO POWER AMPLIFIER

A-35

- Pure Class A operation delivers quality power: 30 watts × 2 into 8 ohms
- Power MOS-FET output stage features 3-parallel push-pull configuration
- Input section configured as instrumentation amplifier
- Further improved MCS+ circuit in amplifier section
- Current feedback topology combines stable operation with outstanding sound
- Bridged mode allows upgrading to monophonic amplifier
- Strong power supply with large power transformer and ample filtering capacity
- 4-step gain control





Pure Class A sound that's every audiophile's dream — Input stage features fully balanced signal paths as found in high-quality instrumentation amplifiers. Further refined MCS+ topology and current feedback result in superb sound quality and outstanding S/N ratio and other performance parameters. Strong power supply section and power MOS-FET devices in triple-parallel push-pull configuration sustain linear power output progression down to ultra-low impedances, with the capability to deliver 150 watts into 1 ohm (music signal).

A pure class A amplifier maintains a constant current flow regardless of the presence or absence of a musical signal. This makes it possible to create a perfectly stable sound stage with unparalleled ambience that is the dream of any audiophile. Within this rarefied breed of amplifiers, the high-end pure class A stereo amplifier A-65 has garnered praise the world over as the ultimate reference for superb performance and sheer sonic excellence. The A-35 was developed as a successor to the A-30 while inheriting many design aspects of the A-65. Dedication to the best sound possible is always an Accuphase hallmark. The use of the instrumentation amplifier principle allows fully balanced input signal paths, and further refined MCS+ topology pushes noise and distortion down to absolutely minimal levels. In terms of its design as well as its sound, the A-35 offers a highly attractive entry point to the world of pure class A.

In the output stage of the A-35, proven power MOS-FET devices are used in a triple-parallel configuration for each channel. MOS-FETs have excellent frequency characteristics, and their high input impedance reduces the load imposed on the preceding drive stage. The devices are directly mounted on large heat sinks for efficient dissipation of thermal energy, assuring perfect operation stability. Driving these devices in pure class A produces rich, high-definition sound that brings out the finest nuances in the music.

The power supply of an amplifier is its ultimate source of energy. Unless it provides ample reserves, sound quality will suffer, and even basic performance parameters may not be met. The A-35 has a massive power transformer and two 47,000 μF smoothing capacitors specially selected for their sonic properties. This sustains an output power rating of 120 watts into 2 ohms, 60 watts into 4 ohms, or 30 watts into 8 ohms per channel, and it enables the A-35 to perfectly handle even very-low impedance speakers or speakers with wildly fluctuating impedance characteristics. To prevent clipping on occasional momentary high-level pulses, the maximum clipping level of the A-35 is set to 50 watts per channel into 8 ohms (sine wave output). Use in bridged mode is also possible, turning the A-35 into a high-power monophonic amplifier.

■ **Triple push-pull arrangement of power MOS-FETs delivers 150 watts per channel into 1 ohm (music signals), 120 watts into 2 ohms, 60 watts into 4 ohms, or 30 watts into 8 ohms.**

■ **Strong power supply with large transformer and high filtering capacity.**
The power supply features a large high-efficiency transformer and two 47,000 μF aluminum electrolytic capacitors selected for sound quality.

■ **Instrumentation amplifier principle allows fully balanced signal paths, and current feedback amplifier topology drastically improves S/N ratio.**

■ **Bridged mode supports upgrading to monophonic amplifier with 300 watts into 2 ohms (music signals), 240 watts into 4 ohms, or 120 watts into 8 ohms.**

Simply by setting the mode selector to the bridged position, the A-35 is turned into a monophonic amplifier with 4 times the output power as compared to stereo operation. This can be used when more power reserves are needed.

■ **Redesigned NFB circuit path results in minimized output impedance, thereby further improving the damping factor. This manifests itself in even better sound quality.**

■ **Analog power meters with off/sensitivity selector.**
Meter illumination and operation as well as meter sensitivity (0 dB, -20 dB) can be controlled with a selector.

■ **4-step gain control also minimizes residual noise.**
The gain control switches gain in the first instrumentation amplifier stage. Four settings are available: MAX, -3 dB, -6 dB, -12 dB.

■ **Fully balanced input stage shuts out external noise interference.**

■ **Mode selector with dual mono position supports bi-amping.**

■ **Oversize speaker terminals accept also Y lugs.**



Power transformer



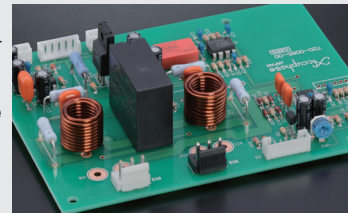
Filtering capacitors



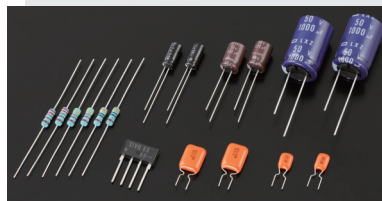
Meter selector



Gain selector



Protection and power meter circuit assembly



High-reliability parts selected for sound quality



Large speaker terminals



Unbalanced and balanced input connectors

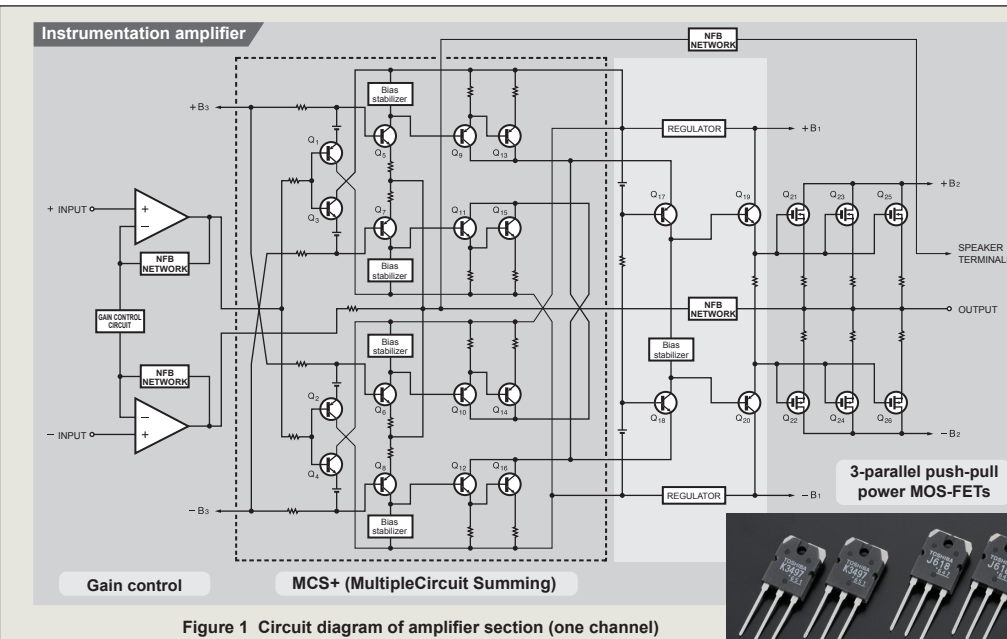
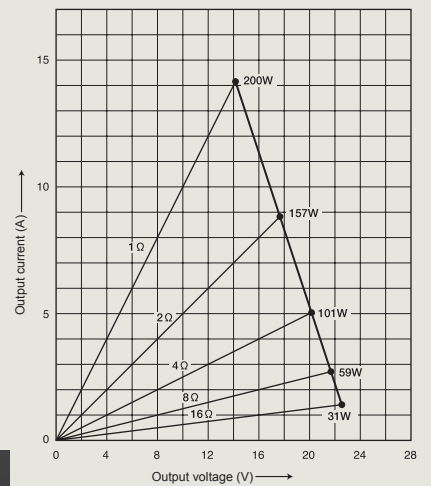


Figure 1 Circuit diagram of amplifier section (one channel)



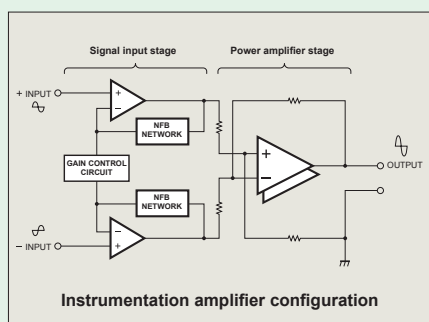
* 1-ohm operation possible with music signals only
Figure 2 Load impedance vs. output power (output voltage/output current)



Instrumentation amplifier and further refined MCS+ topology

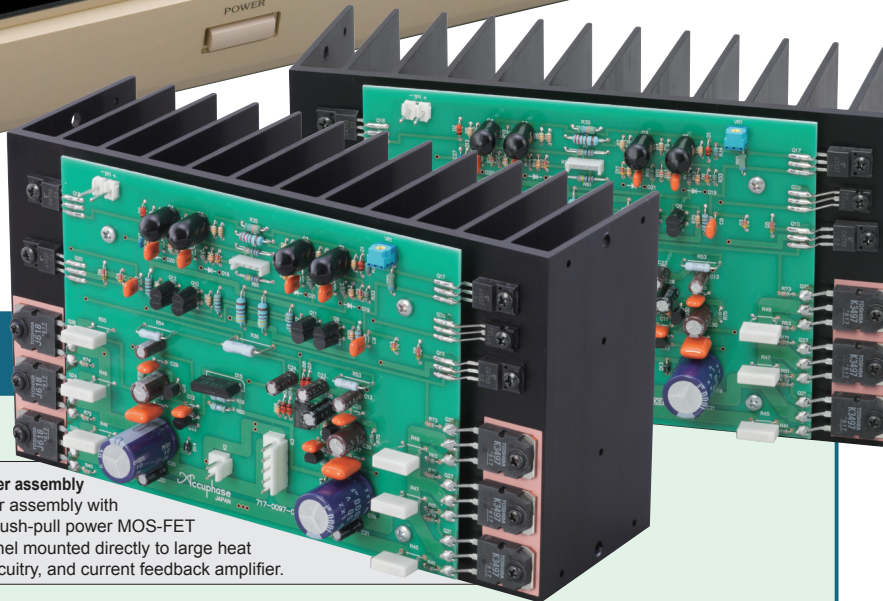
Instrumentation amp configuration allows fully balanced signal paths

The newly adopted “instrumentation amplifier” principle ensures that all signal paths from the inputs to the power amp stage are fully balanced. This results in excellent CMRR (common mode rejection ratio) and minimal distortion. Another significant advantage is the fact that external noise and other external influences are virtually shut out. The result is a power amplifier with drastically improved operation stability and reliability.



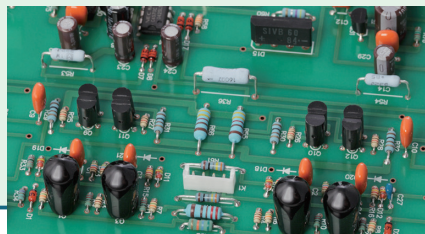
Power amplifier assembly

Power amplifier assembly with three parallel push-pull power MOS-FET pairs per channel mounted directly to large heat sink, MCS+ circuitry, and current feedback amplifier.



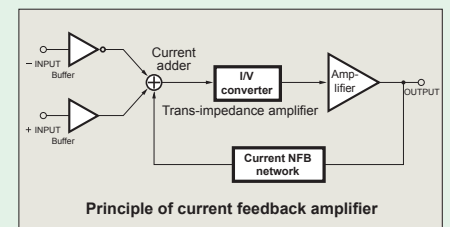
Further refined MCS+ topology reduces noise even further

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 further lowered.



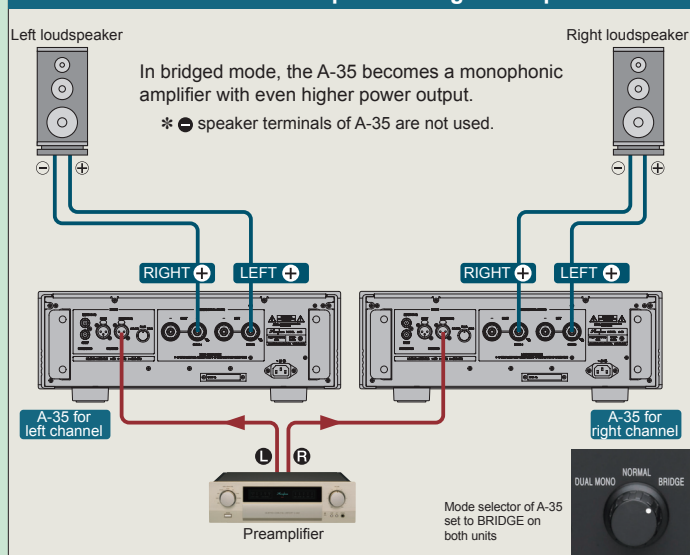
Current feedback principle assures excellent phase characteristics in high range

As shown in the illustration, the A-35 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.

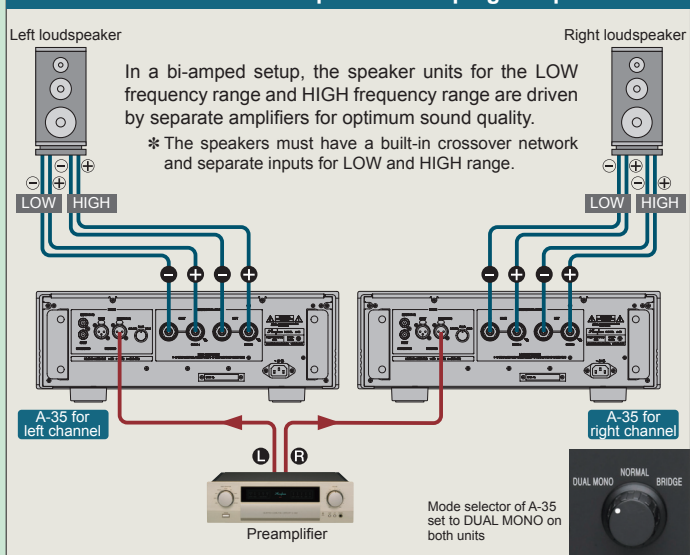


■ Using two A-35 units, bridged connection or bi-amping is possible. ■ Input signal to be connected to LEFT connector (BALANCED or UNBALANCED) on both units.

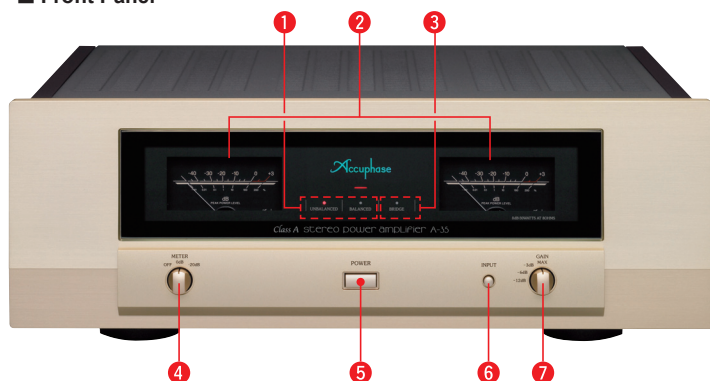
Connection example for bridged setup



Connection example for bi-amping setup



Front Panel



Rear Panel



- 1 Input type indicator
UNBALANCED, BALANCED
- 2 Left/Right-channel output power meters
(indication in dB and %)
- 3 Bridge mode indicator
- 4 Meter selector
OFF, 0 dB, -20 dB
- 5 Power switch
- 6 Input selector button
UNBALANCED, BALANCED
- 7 Gain selector
MAX, -3 dB, -6 dB, -12 dB

- 8 Unbalanced inputs
- 9 Balanced inputs
 - 1 Ground 2 Inverted (-)
 - 3 Non-inverted (+)
- 10 Mode selector
DUAL MONO, NORMAL, BRIDGE
- 11 Left/Right-channel speaker output terminals
- 12 AC power supply 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 accessory
- AC power cord

GUARANTEED SPECIFICATIONS

[Based on the EIA RS-490 test standard]

● Rated Continuous Average Output Power (at 20-20,000 Hz)

Stereo use (both channels operating simultaneously)	150 W/ch	1-ohm load (*)
	120 W/ch	2-ohm load
Monophonic use (Bridge connection)	60 W/ch	4-ohm load
	30 W/ch	8-ohm load

Note: Load ratings marked (*) apply only to operation with music signals.

● Total Harmonic Distortion

Stereo use (both channels operating simultaneously)	0.05%	2-ohm load
	0.03%	4 to 16-ohm load
Monophonic use (Bridge connection)	0.05%	4 to 16-ohm load

● IM Distortion

0.01%

● Frequency Characteristics

At rated continuous average output:
20 - 20,000 Hz +0, -0.2 dB
At 1 W output: 0.5 - 160,000 Hz +0, -3.0 dB

● Gain

28.0 dB (when GAIN switch set to MAX)
(Same for both stereo and monophonic use)

● GAIN Switch Settings

MAX, -3 dB, -6 dB, -12 dB

● Load Impedance

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

[For music signals only: 1-ohm (for stereo) and 2-ohm (mono) loads are also supported.]

● Damping Factor

200

● Input Sensitivity (at 8-ohm load, with GAIN switch set to MAX)

Stereo use	0.57 V	at rated continuous average output (30 W)
	0.11 V	at 1 W output
Monophonic use	1.14 V	at rated continuous average output (120 W)
	0.11 V	at 1 W output

● Input Impedance

Balanced: 40 kilohms Unbalanced: 20 kilohms

● S/N (A-weighted)

111 dB when GAIN switch set to MAX
118 dB when GAIN switch set to -12 dB
(At rated continuous average output)

● Output Meters

Logarithmic compression type; illumination turn-off capability;
meter sensitivity switch (-20 dB);
-40 to +3 dB (indication in both dB and %)

● Power Source

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

● Power Consumption

155 W (with no input)
270 W in accordance with IEC 60065

● Maximum External Dimensions

Width 465 mm (18 5/16")
Height 170 mm (6 11/16")
Depth 425 mm (16 3/4")

● Mass

22.8 kg (50.3 lbs) net
29.0 kg (64.0 lbs) in shipping carton



ACCUPHASE LABORATORY, INC.