

A-9070 INTEGRATED STEREO AMPLIFIER

SILVER BLACK



AWRAT ADVANCED WIDE RANGE AMPLIFIER TECHNOLOGY DIDRC DYNAMIC INTERMODULATION DISTORTION REDUCTION CIRCUITRY 192kHz/24bit HD AUDIO RI



Power and Clarity in One Sophisticated Device

Onkyo has declared war on distortion. The success of its campaign against noise is evident the moment you switch on the A-9070 Integrated Stereo Amplifier. New DIDRC (Dynamic Intermodulation Distortion Reduction Circuitry) dampens super high frequency distortion. Closed ground-loop circuits, HICC (High Instantaneous-Current Capability), and vibration-damping construction combine to produce a startlingly pure sound across a wide dynamic range. The unit's four 15,000 μ F capacitors keep plenty of power at the ready. Efficient parallel push-pull amplification paired with three-stage inverted Darlington circuitry works at reducing distortion to almost nil. Separate Wolfson® 192 kHz/24-bit DACs for both left and right channels improve performance. The unit is also equipped with 192 kHz/24-bit HD audio playback to handle modern formats. Four discrete amplifier modes—integrated amp, power amp, pre-amp, and split pre-amp/power amp—offer flexibility when integrating other hi-fi components. Details like an independent headphone amplifier, a phonograph equalizer, three digital audio inputs, four analog inputs, and gold-plated audio terminals/speaker posts speak of the highest build quality. The superb craftsmanship, technological refinement, and attention to detail invested in the A-9070 make it worthy of serious consideration for those in the market for top-shelf hi-fi gear.



AMPLIFIER FEATURES

- 140 W/Ch at 4 Ω , 20 Hz–20 kHz, 0.05%, 2 Channels Driven, IEC
- AWRAT (Advanced Wide Range Amplifier Technology)
- DIDRC (Dynamic Intermodulation Distortion Reduction Circuitry)
- Parallel Push-Pull Amplification Design with Three-Stage Inverted Darlington Circuitry
- 192 kHz/24-Bit HD Audio Playback via Coaxial Inputs

- New Circuit Board Construction with Internal Struts to Reduce Vibration
- Symmetrical Layout of L/R Channels
- Separate Wolfson® 192 kHz/24-Bit DACs (WM8742 x 2) for L/R Channels
- Four Large 15,000 μ F Capacitors
- 1.2 mm-Thick Copper Bus Plate for Perfect Grounding
- Four Amplifier Modes (Integrated Amp, Power Amp, Pre-Amp, Split Pre-Amp/Power Amp)

OTHER FEATURES

- 3 Digital Audio Inputs (1 Optical and 2 Coaxial)
- 3 Analog Audio Inputs and 1 Output
- Main-In Terminal
- Independent Headphone Amplifier
- Discrete Phono Equalizer (MM/MC)
- Speaker A/B Drive
- Audio L/R Pre-Out
- Customized, Gold-Plated, Banana Plug-Compatible Speaker Posts
- Machined, Gold-Plated RCA and Phono Terminals
- Auto Standby Function

A-9070 INTEGRATED STEREO AMPLIFIER

AWRAT (Advanced Wide Range Amplifier Technology)

The A-9070 employs a host of proprietary Onkyo technologies to ensure optimal audio performance.

1. DIDRC (Dynamic Intermodulation Distortion Reduction Circuitry)

Despite being beyond the normal range of human hearing, frequencies above 100 kHz are susceptible to clock pulse and other forms of distortion from digital devices. Such distortion in the super high frequency range can generate "beat interference", which in turn affects the character or atmosphere of the original sound. By improving linearity and reducing distortion in the super-high frequency range, Onkyo's new DIDRC technology effectively reduces perceptible noise.

2. Low Negative-Feedback Design

Too much NFB makes a system susceptible to counter-electromotive force from the speakers, resulting in a drop in perceived sound quality. To avoid this, Onkyo focuses on improving the frequency response and reducing distortion, without relying so much on NFB.

3. Closed Ground-Loop Circuits

The A-9070 employs a sophisticated closed-circuit design in which each circuit has a separate link to the power supply. This helps to cancel individual circuit noise and keep the ground potential free of distortion.

4. HICC (High Instantaneous-Current Capability)

Handling current loads up to 100 amperes, HICC enables an amplifier to immediately cancel the speakers' reflex energy and instantaneously send out the next signal. The same high current required to achieve this also supports the amplifier's ability to handle speaker impedance fluctuations.

5. Symmetrical Twin-Monaural Construction

Power devices for the left and right channels of the A-9070 are aligned symmetrically. Each channel has the same electrical and structural design, and signal pathways are uniform in length. This helps to minimize errors in stereophonic playback.

Parallel Push-Pull Amplification Design with Three-Stage Inverted Darlington Circuitry

With parallel "push-pull" amplification, the amplifier's transistors alternately "push" and "pull" the current. In pairs, one output device (a transistor) will amplify the positive half of the waveform, while another output device amplifies the negative. Push-pull amplification is highly efficient, but can be affected by occasional instances of distortion. This is where the three-stage inverted Darlington circuitry comes in. Three-stage inverted Darlington circuitry actively works to reduce distortion by employing a low negative-feedback

design to maintain voltage stability and enhance transient response. It's extremely sensitive to oscillations and requires sophisticated control technology. Together with the push-pull amplifier design, the three-stage inverted Darlington Circuitry shapes a clean, consistent signal to send to the outputs.

Four Amplifier Modes for the Ultimate in Versatility

Boasting the combined capabilities of a pre-amp and a power amp, the A-9070 is an amplifier with a difference. At the turn of a knob, it can be configured to run in any one of four distinct modes. Depending on how you want to integrate it into your hi-fi system, you can use it as an integrated amp, as a power amp, or as a pre-amp. On top of that, you can also set up the A-9070 in split mode. This enables the pre-amp and power amp to work separately, so you can incorporate another device, such as an equalizer.

Separate Wolfson® 192 kHz/24-Bit DACs for L/R Channels

High-quality Wolfson DACs work to optimize analog audio performance on the A-9070. The receiver features dual 24-bit WM8742 DACs, which support sampling rates of up to 192 kHz. Although these DACs are specified to handle two-channel audio on a single chip, Onkyo employs separate chips for each stereo channel to ensure the most accurate digital-to-analog conversion.

New Circuit Board Construction

Rather than being directly connected to the chassis base, the circuit boards inside the A-9070 are cushioned by internal struts and affixed to the front, side, and rear panels. This method of construction prevents vibrations from the chassis from adversely affecting the circuit boards.

Audiophile-Quality Parts

To ensure optimal performance from the A-9070, Onkyo's engineers incorporated a range of professional-grade parts. Four 15,000-microfarad capacitors and an extremely low-impedance 1.2 mm thick copper bus plate both contribute to achieving a smooth and stable power supply. Machined and gold-plated RCA and phono terminals ensure an extremely clean connection.

SPECIFICATIONS

Power Output	140 W/Ch (4 Ω 20 Hz–20 kHz, 0.05%, 2 channels driven, IEC) 75 W/Ch (8 Ω 20 Hz–20 kHz, 0.05%, 2 channels driven, IEC)
Dynamic Power	450 W (1 Ω), 310 W (2 Ω), 230 W (3 Ω), 180 W (4 Ω), 100 W (8 Ω)
THD+N (Total Harmonic Distortion + Noise)	0.006% (Half power) 0.03% (1 kHz, 1 W Output) 0.008% (20 Hz–20 kHz, Half power) 0.03% (20 Hz–20 kHz, 1 W Output)
Damping Factor	130 (1 kHz, 8 Ω)
Input Sensitivity and Impedance	150 mV/47 kΩ (Line) 2.25 mV/47 kΩ (Phono MM) 0.18 mV/100 Ω (Phono MC)
Rated RCA Output Level and Impedance	1 V/300 Ω (Pre out)
Maximum RCA Output Level and Impedance	5 V/300 Ω (Pre out)
Phono Overload	70 mV (MM, 1 kHz, 0.5%) 5.2 mV (MC, 1 kHz, 0.5%)
Frequency Response	10 Hz–100 kHz/+0 dB, -1 dB (1 W, Line) 1 Hz–250 kHz/+0 dB, -3 dB (1 W, 8 Ω)
Tone Control	±10 dB, 80 Hz (Bass) ±10 dB, 10 kHz (Treble)
Signal-to-Noise Ratio	107 dB (Line, IHF-A) 60 dB (Phono MM, IHF-A) 70 dB (Phono MC, IHF-A)
Speaker Impedance	4 Ω–16 Ω (A or B), 8 Ω–16 Ω (A + B)
General	
Power Supply	AC 230 V~, 50 Hz
Power Consumption	290 W
Standby Power Consumption	0.2 W
Dimensions (W x H x D)	435 x 174.5 x 431 mm
Weight	18.1 kg
CARTON	
Dimensions (W x H x D)	627 x 320 x 534 mm
Weight	22.0 kg
Supplied Accessories	• Instruction manual • AC power cord • Remote controller • AAA (R03) batteries x 2



Due to a policy of continuous product improvement, Onkyo reserves the right to change specifications and appearance without notice.

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