

# A-9755

INTEGRATED DIGITAL AMPLIFIER

**ONKYO**  
IMAGINATIVE SIGHT & SOUND

**VL DIGITAL RI**



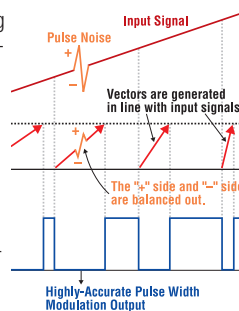
Available in Gold

## Integrated Digital Amplification Based on Pure Signals and Audio Fundamentals

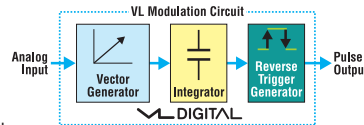
The benefits of digital amplification have been recognized by the audio industry for some time. With minimal power leakage, digital amplifiers can achieve a power efficiency of up to 90%. Without the need for large heat sinks, manufacturers can focus on introducing more compact, sleeker designs. For space spacing considerations, this is an advantage but it comes at the expense of one key issue—quality audio. By considering the fundamentals of audio reproduction and accurate analogue-to-digital conversion, Onkyo has introduced a better solution to integrated digital amplifiers—the A-9755. Utilizing Onkyo's own Vector Linear (VL) Digital technology in conjunction with a Pure Stream Power Supply concept (comprising two large transformers), the A-9755 represents a truly unique approach to digital amplifier design. With the A-9755's exceptional build quality and striking aluminum front panel augmenting compelling audio quality, you can look forward perfectly nuanced music from a variety of sources.

### Pulse Width Modulation (PWM) and Onkyo's Vector Linear (VL) Digital Technology

PWM is the most commonly method of amplifying audio signals, thereby resulting in accurate analog-to-digital conversion. However, a digital amplifier generates a lot of "noise spikes" from sources external to the modulator circuitry. This spike noise introduces errors into the inversion timing, making accurate conversion into pulse widths impossible. So, to further improve the precision of our digital amplifiers, we've had to push even further. Our response is a highly accurate analog-to-digital conversion circuit—VL Digital—that is unaffected by noise in the analog signal.



Onkyo's VL Digital technology comprises a vector generator, an integrator (like a charger) and an inversion trigger generator. When the analog input signal is received, the vector generator outputs a current proportional to the size of the analog input. This current is sent to the integrator, where it is "charged." When the charge quantity reaches a specified value, the trigger operates and inverts the output pulse. Circuits charge and invert alternately, performing pulse width modulation proportional to the analog signal.



The upper and lower portions of the spike noise waveform are symmetrical, so they have the same area. Therefore, if the analog signal contains spike noise, their charge quantities will cancel each other out. This will ensure accurate pulse width modulation at all times. Onkyo's third-generation VL Digital technology includes an inverted Darlington circuit that goes beyond earlier versions to accurately produce a current flow based on the input voltage.

### Optimum Gain Volume Circuitry

Conventional volume attenuation methods must initially drop a signal close to the noise floor at low volumes. Even though the signal is only tainted with a little noise, the amount increases when the signal is amplified. Onkyo's Optimum Gain Volume Circuitry adjusts the gain so that less than half the amount of

attenuation is necessary. This signal never comes close to the noise floor, and thereby eliminates the possibility of noise contamination that plagues conventional volume-attenuation designs.

### Pure Stream Power Supply—Two Large Transformers

Even though digital amplifiers are far more efficient than analog amplifiers, Onkyo's primary objective is to produce a sound that we can actually "feel," not merely hear. For that very purpose, the A-9755 includes two large-capacity transformers for the lowest possible impedance and superior transient response. Even though digital amplifiers are not susceptible to power supply voltage fluctuations, power supply performance requirements are as equally as demanding as analog amplifiers. You will find few other digital amplifiers grounded in this concept.

### Discrete Phono Equalizer for Superior Sound Quality

In typical phono equalizers used up to now, the NF-type (negative feedback) has been most widely used. With this method, as more negative feedback is applied at higher frequencies, transient response deteriorates and the sound quality suffers as a result. However, the NF-type enables a higher signal-to-noise ratio and a wider dynamic range. With a less commonly used phono equalizer, the CR-type, it is possible to get an excellent transient response. With the A-9755's onboard phono equalizer, it is possible to keep negative feedback uniform over the whole frequency range. The A-9755's phono equalizer combines the benefits of both the NF-type and CR-type phono equalizers—a high signal-to-noise ratio, a wider dynamic range and excellent transient response—to produce exceptional sound quality.

### Thick, Low-Impedance Copper Bus Bars for Perfect Grounding

Electricity stored in an amplifier's condenser is outputted via an electric power line. To provide continuous output at full-power, a digital amplifier requires a large, stable flow of current. Any loss of power at the output stage becomes a hindrance to the instantaneous flow of that current. That's why we use thick copper bus bars on the A-9755, to achieve an extremely low level of impedance. Printed circuit boards, by contrast, typically use beaten copper for their power lines. Because this beaten copper is extremely thin, it creates far more impedance. Even if it were the same width as the copper bus bars, a printed circuit board would yield much more impedance. So, if you want rock-solid power output at virtually any volume, the A-9755 won't let you down.

# A-9755

INTEGRATED DIGITAL AMPLIFIER



## Features

- 300 watts per channel minimum into 4 ohms, 1 kHz, JEITA
- Exclusive Vector Linear (VL) Digital technology
- Optimum Gain Volume Circuitry
- Pure Stream Power Supply (Two separate transformers)
- All discrete output stage circuitry
- Low-impedance, thick bus plate
- Audiophile-grade capacitor
- Precision motor-driven volume control
- Tone control (Bass, Treble, Loudness On/Off)
- Pure direct mode
- Discrete phono equalizer circuitry
- 6 gold-plated audio inputs and 2 outputs
- Phono input
- Main in terminal
- High-rigidity, anti-resonant chassis and brass stabilizers
- Extruded aluminum volume (blue illuminated) and selector knobs
- Speaker A/B posts
- Gold-plated banana plug-compatible transparent speaker posts
- Headphone jack
- Heavy-duty power cord (inlet type)
- Compatible with RI Dock for the iPod
- RI (Remote Interactive) remote control



RI (Remote Interactive) remote



## SPECIFICATIONS

### AMPLIFIER SECTION

|                                 |  |
|---------------------------------|--|
| Power Output .....              | 300 W/Ch (4 $\Omega$ , 1 kHz, JEITA)   |
| Dynamic Power .....             | 330 W + 330 W (3 $\Omega$ , Front)<br>270 W + 270 W (4 $\Omega$ , Front)<br>170 W + 170 W (8 $\Omega$ , Front)                 |
| Total Harmonic Distortion ..... | 0.08 %   |
| Damping Factor .....            | 25 (Front, 1 kHz, 8 $\Omega$ )   |
| Input Sensitivity and Impedance |  |
| Phono MM .....                  | 2.5 mV/50 k $\Omega$   |
| CD .....                        | 200 mV/50 k $\Omega$   |
| Output Level and Impedance      |  |
| Rec. out. ....                  | 200 mV/2.2 k $\Omega$  |
| Phono Overload .....            | 70 mV (MM, 1 kHz, 0.5 %)   |
| Frequency Response .....        | 10 Hz-60 kHz (+1, -3 dB, CD)   |
| Tone Control .....              | + 10 dB, - 10 dB, 100 Hz (BASS)<br>+ 10 dB, - 10 dB, 20 kHz (TREBLE)<br>+ 10 dB, 50 Hz (LOUDNESS)<br>+ 2 dB, 10 kHz (LOUDNESS) |
| Signal-to-Noise Ratio .....     | 100 dB (CD, IHF-A), 70 dB (Phono, IHF-A)   |
| Speaker Impedance .....         | 4 $\Omega$ -16 $\Omega$  |

### GENERAL

|                                 |                        |
|---------------------------------|------------------------|
| Power Supply .....              | AC 220-230 V, 50/60 Hz |
| Power Consumption .....         | 125 W                  |
| Standby Power Consumption ..... | 0.3 W                  |
| Dimensions (W x H x D) .....    | 435 x 144 x 431 mm     |
| Weight .....                    | 17.6 kg                |

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