

DTS-ES Discrete 6.1 and Dolby Digital EX with Power Amps for 7 Channels



High-Quality Surround Sound Reproduction

- High Resolution 32bit Floating Point DSP
- 96 kHz Processing Circuit
- 3 Sets of Component Video Inputs
- 3 Sets of S-Video Switching

Auto Setup with Microphone

The AVR-686 is equipped with an Auto Setup function, to achieve the most ideal sound field for your room. With the microphone placed at your listening position, the powerful 32bit floating point DSP automatically and accurately analyses, adjusts and sets the speaker configurations of your system.



Fully Discrete, Equal Power 7 Amplifier Channels, 75 Watts Each

Front	75 W + 75 W	(8 ohms, 20 Hz - 20 kHz, 0.08 % THD)
Center	75 W	(8 ohms, 20 Hz - 20 kHz, 0.08 % THD)
Surround	75 W + 75 W	(8 ohms, 20 Hz - 20 kHz, 0.08 % THD)
Surround Back	75 W + 75 W	(8 ohms, 20 Hz - 20 kHz, 0.08 % THD)

For optimum Dolby Digital and DTS reproduction, the AVR-686 features high quality, wide-band audio amplification, providing 75 watts power output for each of the 7 main channels. A large capacity power supply includes a high current power transformer along with discrete power output devices on all 7 amplifier channels for highest dynamic range and superb reproduction clarity.

DENON's Basic Design for High-Quality Sound Reproduction

Power Transformer for High Power Driven

The chassis that supports the large transformer has been designed to absorb vibration, and the transformer is housed inside a highly rigid frame to secure it more solidly to the chassis. In addition, a cushioning material has been placed around the core of the transformer to minimize interference on the signal and enable more faithful reproduction of the original sound. The AVR-686 inherits these low-noise design from higher-end models not to mention the use of short ring.

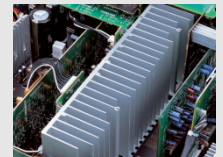
Twin Drive Rectifier

DENON's Twin Drive Rectifier design uses two rectifying diodes in parallel to bring out the maximum potential of the large transformer. Since the rectifiers recharge the large block capacitors at low impedance, they are able to supply ample current to reproduce deep basses as well as sudden bursts of sound from percussion or other musical instruments.



Large Aluminum Extruded Heatsink

DENON uses large heatsink made of extruded aluminum. They have been placed in a design that ensures mostly uniform temperatures throughout the heatsink so that the output transistors for all channels can be driven under uniform conditions. This in turn ensures that all channels respond with equal performance to the demands of the audio signals.



Wide-Range Play Capability for DVD-Audio and Super Audio CD

The power amp circuits of the AVR-686 have been meticulously designed to reproduce the exceptionally high sound quality with wide frequency response from 10 Hz to 100 kHz.

Dual Channel Surround Back Power Amp for 7.1 Surround

The AVR-686 is equipped with a total of 7 power amps including 2 for the Surround Back channel speaker to give you more clearly defined sound localization at the rear for 6.1-channel surround sources such as DTS-ES Discrete 6.1, DTS-ES Matrix 6.1, Dolby Digital EX, and DTS-ES NEO:6.

Assignable surround back (L/R) amplifiers for front (L/R) channel bi-amping, or for Multi-zone playback

Amplifiers initially reserved for Surround back (L/R) channels can be assigned to bi-wire Front (L/R) channels to improve playback quality in the front for enhanced listening enjoyment. Or the amplifiers can be assigned to Zone 2 speakers (with multi-source), in addition to PREOUT for Zone 2.

Cinema Equalizer

The sound from movie sources recorded in Dolby Digital, DTS or other formats emphasizes high-frequency range due to a theater's front speakers being placed behind the movie screen. If this sound is reproduced in the home theater without correction, the high-frequency range is too strong. The AVR-686 features a Cinema Equalizer to correct these high-frequency components so that the sound is clearer and easier to listen to. (For Dolby Digital, Dolby Pro Logic II, Dolby Digital EX and DTS surround modes)

Personal Memory Plus, for Easy Operation

The AVR-686 includes the Personal Memory Plus function that automatically remembers the surround mode you last used for each program source, so that you do not need to select the mode again for that program.

Acclaimed Customization Feature

As with all of DENON's high-grade A/V receiver, the AVR-686 lets you adjust delay times and other parameters so that you can customize the performance of the AVR-686 to suit your own home theater and enhance operating ease. The adjustments are easy to make via a dialog format on the fluorescent display on the front panel. These customized features are then stored, for each source input and surround mode, in Personal Memory Plus so constant readjustments are not required.

AVR-686

■ Multi-Function Preset Memory Remote Controller with Glo-keys

■ DENON's Latest Surround Technology Faithfully Recreates the Surround Sound Produced at the Dubbing Stage.

- DTS 96/24 Decoding for DVD-Video
- DTS-ES Discrete 6.1 and Matrix 6.1
- DTS NEO:6
- Dolby Digital EX
- Dolby Pro Logic IIx

■ 5 Channel/ 7 Channel Stereo Mode

DENON's popular 7 Channel Stereo mode transforms your favorite 2-channel sources such as CD, tape, stereo radio and stereo video sources into exciting surround sound, free of delay effects and unnatural artifacts, from all 7 speakers. This 7 Channel Stereo mode was originally developed by DENON to enhance music lovers' enjoyment with home theater ambience.

■ DENON DSP Surround Modes Add Listening Excitement

Put yourself in the middle of your favorite concert hall and music environments with DENON's DSP acoustic environment simulation modes. These DSP modes add spacious surround sound enhancements to your favorite music and video sources, and include these distinctly different sounding effects:

- | | |
|-------------------------|---------------|
| 1. 5 / 7 Channel Stereo | 5. Video Game |
| 2. Virtual Surround | 6. Matrix |
| 3. Rock Arena | 7. Mono Movie |
| 4. Jazz Club | |

Input/Output Terminals For Every A/V System

Audio Inputs

8 Analog Inputs

CD, (TUNER), DVD/VDP, TV/DBS, AUX, VCR, CDR/TAPE, V.AUX(FRONT)

6 Analog EXT. Input

FRONT L/R, CENTER, SURROUND L/R, SUBWOOFER

4 Digital Input

OPTICAL X 2
COAXIAL X 2

Audio Outputs

1 Analog PRE OUT Terminals

SUBWOOFER

2 Analog REC OUT Terminals

VCR, CDR/TAPE

Video Inputs

4 Composite Inputs

DVD/VDP, TV/DBS, VCR, V.AUX(FRONT)

3 S-Video Inputs

DVD/VDP, TV/DBS, VCR

3 Component Inputs

DVD/VDP, TV/DBS, VCR

Video Outputs

2 Composite Outputs

VCR, MONITOR

2 S-Video Outputs

VCR, MONITOR

1 Component Output

MONITOR

■ Adjustable Cross-Over Switching

The AVR-686 supports subwoofer cross-over switching with a choice of 8 cross-over frequencies: 40/60/80/100/120/150/200/250Hz. This lets you more accurately match the performance characteristics of the subwoofer to the main speaker system.

■ Audio Delay Function (0 - 200 msec.)

Audio delay function corrects slight lags between sound and picture that can occur when a video signal is processed, such as in a Progressive Scan DVD player or out-board video processor.

■ Component video circuits which maintain flat response up to 100MHz, ensuring sharp image quality

■ Video Up/Down conversion function

(Composite <-> S-Video, Composite -> S-Video/Component)

Other features

■ Night Mode for not disturbing others

■ Front Panel Inputs

■ Front A/B Speaker Terminals

■ High-grade Speaker Terminals (All ch)

■ Remote In/Out Ports

■ Frequency Synthesis Tuning

- 56-Station AM/FM Random Preset Memory Tuning
- Auto Preset Memory

Specifications

Power Amplifier Section

Rated output *THD figures are power amp stage values.

Front	75 W + 75 W	(8 ohms, 20 Hz - 20 kHz, 0.08 % THD)
	110 W + 110 W	(6 ohms, 1 kHz, 0.7 % THD)
Center	75 W	(8 ohms, 20 Hz - 20 kHz, 0.08 % THD)
	110 W	(6 ohms, 1 kHz, 0.7 % THD)
Surround	75 W + 75 W	(8 ohms, 20 Hz - 20 kHz, 0.08 % THD)
	110 W + 110 W	(6 ohms, 1 kHz, 0.7 % THD)
Surround Back	75 W + 75 W	(8 ohms, 20 Hz - 20 kHz, 0.08 % THD)
	110 W + 110 W	(6 ohms, 1 kHz, 0.7 % THD)

Preamplifier Section

Input sensitivity/Impedance

V.AUX(FRONT)

Output level/Load impedance

CD, DVD/VDP, TV/DBS, VCR, CDR/TAPE, AUX
200 mV/47 kohms
SUBWOOFER 1.2 V/10 kohms
CDR/TAPE, VCR 200 mV/47 kohms
10 Hz - 100 kHz (+1, -3 dB) (Tone Defeat On)
98 dB (IHF-A weighted) (Tone Defeat On)
Treble: ±12 dB at 10 kHz
Bass: ±12 dB at 100 Hz

FM Section

Tuning frequency range

Usable sensitivity

AM Section

Tuning frequency range

Usable sensitivity

General

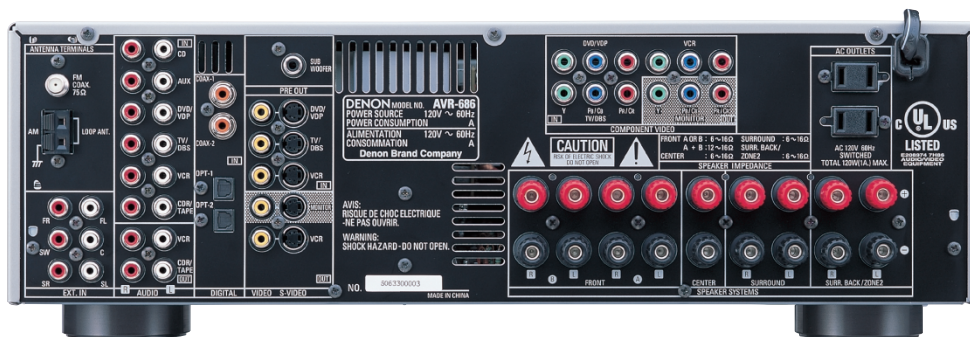
Power supply

Power consumption

Dimensions

Weight

AC 120 V, 60 Hz
4.5 A
17-3/32" (W) x 5-25/32" (H) x 16-9/64" (D)
434 (W) x 147 (H) x 417 (D) mm
11.3 kg, 24 lbs 15 oz



*Design and specifications are subject to change without notice.

**"Dolby", "Dolby Digital", "Pro Logic II", "Dolby Digital EX" and the double-D device are registered trademarks of Dolby Laboratories Licensing Corporation.

*DTS is registered trademarks of DTS Technology.

Denon Electronics (USA), LLC.
19C Chapin Road, Suite 205 Pine Brook, N.J. 07058-9385 USA
TEL: 973-396-0810 www.usa.denon.com

Denon Canada Inc.
505 Apple Creek Blvd, Unit 5, Markham, Ontario, Canada L3R 5B1
TEL: 905-475-4085 www.denon.ca

Denon Brand Company
Kayabacho Tower 14F 1-21-2 Shinkawa, Chuo-ku, Tokyo 104-0033, Japan
www.denon.com

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