

Feature	AVR-1610	AVR-1910	AVR-2310	AVR-3310	AVR-4310	AVR-4810
Power	110Wx5ch 6ohm 1kHz 0.7%	125Wx7ch 6ohm 0.7%	135Wx7ch 6ohm 0.7%	160Wx7ch 6ohm 0.7%	170Wx7ch 6ohm 0.7%	180Wx9ch 6ohm 0.7%
Continuous Power, RMS	75Wx5ch 8ohm 20-20kHz 0.08%	90Wx7ch 8ohm 20-20kHz 0.08%	105Wx7ch 8ohm 20-20kHz 0.08%	120Wx7ch 8ohm 20-20kHz 0.05%	130Wx7ch 8ohm 20-20kHz 0.05%	140Wx9ch 8ohm 20-20kHz 0.05%
Alpha processing	No	No	No	AL24 Processing Plus	AL24 Processing Plus	Advanced AL24 Multi Channel
DDSC-HD <i>(Dynamic Discrete Surround Circuit - High Definition)</i>	No	No	No	Yes	Yes	Yes
DSP <i>(Digital Signal Processor)</i>	SHARC 21367 32bit x 1	SHARC 21367 32bit x 1	SHARC 21367 32bit x 1	SHARC 21367 32bit x 1	SHARC 21367 32bit x 2	SHARC 21367 32bit x 3
ADC <i>(Analogue to Digital converter)</i>	Analog Devices ADAU1328 x 1	Analog Devices ADAU1328 x 1	Analog Devices ADAU1328 x 1	Burr Brown PCM1803 24bit/96kHz	Burr Brown 1804 24bit/192kHz	Burr Brown 1804 24bit/192kHz
DAC <i>(Digital to Analogue converter)</i>				AKM AK4358 24bit/192kHz x 1	Burr Brown PCM1791A 24bit/192kHz x 4	Burr Brown PCM1791A 24bit/192kHz x 6
DIR <i>(Digital Interface Receivers)</i>	x1	x1	x1	x3	x5	x5
DAC <i>(Digital to Analogue converter)</i> for ZONE outputs	No	No	No	2Ch PCM from Optical & Coaxial only	2Ch PCM from Optical & Coaxial only	2Ch PCM from Optical & Coaxial only
IC Power pack output stage	No	No	No	No	No	No
Pure Audio Construction <i>(Denon's Renowned Construction Quality)</i>	Yes	Yes	Yes	Yes	Yes	Yes
Discrete Solid State Analogue Output stage <i>(true Hi-Fi power with less THD)</i>	Yes	Yes	Yes	Yes	Yes	Yes
7 Channel Discrete Mono Amplifier Construction	No	No	No	Yes	Yes	Yes
High Current Power supply <i>(precise power delivery & less distortion)</i>	Yes	Yes	Yes	Yes	Yes	Yes
Twin Bridge Diodes <i>(rectifiers, to ensure enough current is delivered to speakers)</i>	Yes	Yes	Yes	Yes	Yes	Yes
Minimum Signal Path design <i>(minimises external noise & distortion interference)</i>	Yes	Yes	Yes	Yes	Yes	Yes
Direct Mechanical Ground <i>(vibration resistant design)</i>	Yes	Yes	Yes	Yes	Yes	Yes
Dolby Pro LogicIIz audio decoding <i>(latest technology adding height to surround sound)</i>	Yes	Yes	Yes	Yes	Yes	Yes
Dolby True HD, dts-HD Master audio decoding <i>(for High Def Blu-ray audio)</i>	Yes	Yes	Yes	Yes	Yes	Yes
Audyssey DSX decoding	No	No	No	No	Yes	Yes
Auto Lipsync via HDMI V1.3a	Yes	Yes	Yes	Yes	Yes	Yes
DOLBY Digital & dts via HDMI	Yes	Yes	Yes	Yes	Yes	Yes
LPCM Multi channel via HDMI <i>(ideal for Playstation 3 audio)</i>	Yes	Yes	Yes	Yes	Yes	Yes
Denon Link 4th Edition	No	No	No	No	Yes	Yes
Digital Jitter Reducer	No	No	No	Yes	Yes	Yes
Auto setup / Room EQ <i>(microphone included for complete automatic speaker configuration)</i>	Audyssey Mult EQ	Audyssey Mult EQ	Audyssey Mult EQ	Audyssey Mult EQ	Audyssey Mult EQXT	Audyssey Mult EQXT
Audyssey Dynamic EQ <i>(for realistic surround sound at lower volume levels)</i>	Yes	Yes	Yes	Yes	Yes	Yes
Audyssey Dynamic Volume <i>(levels volume between programs & commercials)</i>	Yes	Yes	Yes	Yes	Yes	Yes
Auto Setup Measurement Positions <i>(for more accurate measurements)</i>	Up to 6-position	Up to 6-position	Up to 6-position	Up to 6-position	Up to 8-position	Up to 8-position
Manual Equaliser	Yes	Yes	Yes	Yes	Yes	Yes
iPod Ready <i>(control bus connection for AVR remote control feature)</i>	Yes	Yes	Yes	Yes	Yes	Yes
Compressed Audio Restorer <i>(for iPod, Radio and all compressed audio formats)</i>	Yes	Yes	Yes	Yes	Yes	Yes
Compressed Audio Restorer <i>(Parameters)</i>	3-mode 64/96/HQ kps	3-mode 64/96/HQ kps	3-mode 64/96/HQ kps	3-mode 64/96/HQ kps	3-mode 64/96/HQ kps	3-mode 64/96/HQ kps
Phono input	No	No	Yes	Yes	Yes	Yes
Main zone Preout	2.1ch (SW/SBL-FH/SBR-FRH)	Subwoofer	7.1	7.1	7.1	11.3
Analogue External inputs <i>(for connection to external processors/BD players)</i>	0	7.1	7.1	7.1	7.1	7.1
Analogue Audio inputs /outputs <i>(inc tuner)</i>	6/2	7/2	8/2	10/2	10/2	10/2
Optical/COAX Digital inputs	2/1	2/2	3/2	3/3	3/3	3/3
Optical digital output	No	Yes	Yes	Yes	Yes	Yes

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HDMI Version	Ver 1.3a	Ver 1.3a	Ver 1.3a	Ver 1.3a	Ver 1.3a	Ver 1.3a
HDMI inputs (assignable) & outputs	3in/1out (Repeater)	4in/1out (Repeater)	5in/1out (Repeater)	5in/1out (Repeater)	6in/1out (Repeater) inc 1 x Front	6in/1out (Repeater) inc 1 x Front
Resolution Capability	1080p / 24fps	1080p / 24fps	1080p / 24fps	1080p / 24fps	1080p / 24fps	1080p / 24fps
DEEP Color/xvColour Support via HDMI	Yes	Yes	Yes	Yes	Yes	Yes
Analogue to HDMI One cable connection	Yes	Yes	Yes	Yes	Yes	Yes
i/p Converter (interlaced to progressive)	Analog Devices (576i > 576Pp only)	Anchor Bay ABT1030, (10bit in - 12bit out)	Anchor Bay ABT2010 (10bit in - 12bit out)	Anchor Bay ABT2010 (10bit in - 12bit out)	Anchor Bay ABT2010 (10bit in - 12bit out)	Anchor Bay ABT2010 (10bit in - 12bit out)
Video Scaler	No	Anchor Bay ABT1030 Up to 1080p	Anchor Bay ABT2010 Up to 1080p/24fps	Anchor Bay ABT2010 Up to 1080p/24fps	Anchor Bay ABT2010 Up to 1080p/24fps	Anchor Bay ABT2010 Up to 1080p/24fps
i/p Scaler on HDMI to HDMI	No	Yes	Yes	Yes	Yes	Yes
Multi Cadence Detection	No	No	Yes	Yes	Yes	Yes
Deep Colour 36 output from analogue source	No	Yes	Yes	No	Yes	Yes
MPEG digital Noise reduction on SD source	No	Yes	Yes	Yes	Yes	Yes
MPEG digital Noise reduction on HD source	No	No	Yes	Yes	Yes	Yes
Picture Enhancements / Adjustments on SD source	No	Yes	Yes	Yes	Yes	Yes
Picture Enhancements / Adjustments on HD source	No	No	Yes	Yes	Yes	Yes
Component in/out (assignable)	2in/1out	2in/1out	2in/1out	3in/1out	3in/1out	3in/1out
Component Bandwidth	60MHz	60MHz	60MHz	100MHz	100MHz	100MHz
S-Video connections	1in	1in	2in/2out	7in/3out	7in/3out	7in/3out
Composite Video connections	4in/2out	4in/2out	4in/2out	7in/1out	7in/1out	7in/3out
On Screen Display	Yes	Yes	No	No	No	No
New Colour GUI (Graphic User Interface)	No	No	Yes (Superimpose on HDMI to 1080p)	Yes (Superimpose on HDMI to 1080p)	No	No
Advanced Super GUI (Graphiv User Interface)	No	No	No	No	Yes (Superimpose on HDMI to 1080p)	Yes (Superimpose on HDMI to 1080p)
iPod information display	Yes	Yes	Yes (Superimpose on HDMI to 1080p)	Yes (Superimpose on HDMI to 1080p)	Yes (Superimpose on HDMI to 1080p)	Yes (Superimpose on HDMI to 1080p)
Ethernet (LAN)	No	No	No	Yes	Yes	Yes
Web Interface for Setup & control	No	No	No	Yes	Yes	Yes
Wi-Fi IEEE 802.11 b g	No	No	No	No	No	Yes
Firmware updates via Ethernet / Internet	No	No	No	Yes	Yes	Yes
IEEE 802-11 b&g WiFi	No	No	No	No	No	No
DLNA 1.5 compliant Network	No	No	No	Yes	Yes	Yes
Internet radio	No	No	No	Yes	Yes	Yes
Network (WiFi) Ready (optional)	Yes (optional Network iPod dock available)	Yes (optional Network iPod dock available)	Yes (optional Network iPod dock available)	Yes (optional Network iPod dock available)	Yes (optional Network iPod dock available)	Yes (optional Network iPod dock available)
USB input for Mass Storage device (MTP protocol)	No	No	No	Yes x 1 front panel	Yes x 2, front & back	Yes x 2, front & back
USB input for iPod Audio playback	No	No	No	No	Yes x 2, front & back	Yes x 2, front & back

Sleep timer function	Yes	Yes	Yes	Yes	Yes	Yes
Learning Remote Control	No	No	No	No	Yes	Yes
Programmeable Remote Control	Yes	Yes	Yes	Yes	Yes	Yes
Direct Power On from remote input selection	Yes	Yes	Yes	Yes	Yes	Yes
Separate Zone 2 Remote control provided	No	No	No	Yes	Yes	Yes
Quick Select buttons (3 x presets on remote and front panel)	Yes	Yes	Yes	Yes	Yes	Yes
Quick Select preset features	Input, Surround mode, Room EQ & Volume	Input, Surround mode, Room EQ & Volume	Input, Surround mode, Room EQ & Volume	Input, Surround mode, Room EQ & Volume	Input, Surround mode, Room EQ & Volume	Input, Surround mode, Room EQ & Volume
Quick Select rename (such as Dad, Mum, Kids)	Yes	Yes	Yes	Yes	Yes	Yes
Manual Audio delay adjustments (for non HDMI inputs)	Yes	Yes	Yes	Yes	Yes	Yes
Input source rename (for customising input names)	Yes	Yes	Yes	Yes	Yes	Yes
Input source delete (for unused inputs)	Yes	Yes	Yes	Yes	Yes	Yes
Selectable Volume display (Relative, -80dB > +18dB or Absolute 1-99)	Yes	Yes	Yes	Yes	Yes	Yes
Selectable Volume limits (off, -20dB, -10dB)	Yes	Yes	Yes	Yes	Yes	Yes
Power On level (last, mute, -80dB(1) > +18dB (99))	Yes	Yes	Yes	Yes	Yes	Yes
Adjustable mute levels (full, -40dB or -20dB)	Yes	Yes	Yes	Yes	Yes	Yes
Fluro Tube Front Panel Display Information	1 line	1 line	2 line	2 line	2 line	2 line
Front panel display dimmer	Yes	Yes	Yes	Yes	Yes	Yes
Setup control / cursor from front panel	Yes	Yes	Yes	Yes	Yes	Yes
HDMI CEC (Consumer Electronics Control for multi brand control data)	Yes	Yes	Yes	Yes	Yes	Yes
HDMI CEC Video & Audio pass through in Stand By mode	Yes	Yes	Yes	Yes	Yes	Yes
Multi Zone / Multi Source (independent source & independent volume in Zones)	No	2 Zones	2 Zones	3 Zones	3 Zones	4 Zones
Zone Pre out for external amplifier	No	Zone 2 Fixed Volume	Zone 2 Fixed Volume	Zone 2 & 3 Variable Volume	Zone 2 & 3 Variable Volume	Zone 2 & 3 Variable Volume
Zone Digital output	No	No	No	No	No	Zone 4 / Bitstream output
Fixed speaker terminals for Zone 2 & 3	No	No	No	No	No	Yes
Zone Adjustments, Power On level, Adjustable mute	No	Yes	Yes	Yes	Yes	Yes
Zone Adjustments, Stereo/Mono,Bass/Treble, L&R Volume	No	No	No	Yes	Yes	Yes
Assignable SB amps for Zone 2 or Zone 3	No	Yes	Yes	Yes	Yes	Yes
Assignable SB amps for Dolby Pro LogicIIz	No	Yes	Yes	Yes	Yes	Yes
Assignable SB amps for Bi-amping	No	Yes	Yes	Yes	Yes	Yes
RS232 Control port	No	No	Yes	Yes	Yes	Yes
AMX Discovery Device	No	No	Yes	Yes	Yes	Yes
12 Volt / 150ma trigger	No	No	Yes x 1	Yes x 2	Yes x 2	Yes x 2
IR in & outputs	No	Yes	Yes	Yes	Yes	Yes
Size (W x H x D)	434 x 171 x 377 mm	434 x 171 x 377 mm	434 x 171 x 377 mm	434 x 171 x 414 mm	434 x 171 x 414 mm	434 x 195 x 424 mm
Weight (kg)	9.3 kgs	10.7 kgs	11.3 kgs	12.9 kgs	15.8 kgs	19.1 kgs