

DENON[®]

AVR-S960H

INTEGRATED NETWORK AV RECEIVER

Surround Parameter Table

Sound modes and channel output

- This indicates the audio output channels or surround parameters that can be set.
- This indicates the audio output channels. The output channels depend on the settings of "Speaker Config."

Sound mode	Channel output									
	Front L/R	Center	Surround L/R	Surround Back L/R	Front Height L/R	Top Front L/R	Top Middle L/R	Front Dolby Atmos Enabled L/R	Surround Dolby Atmos Enabled L/R	Subwoofer
Direct/Pure Direct (2-channel)	<input type="radio"/>									<input checked="" type="radio"/> *4
Direct/Pure Direct (Multi-channel)	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> *5	<input checked="" type="radio"/> *5	<input checked="" type="radio"/> *5	<input checked="" type="radio"/> *5	<input checked="" type="radio"/> *5	<input checked="" type="radio"/> *5	<input type="radio"/>
Stereo	<input type="radio"/>									<input type="radio"/>
Dolby Atmos	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dolby TrueHD	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> *5						<input type="radio"/>
Dolby Digital Plus	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> *5						<input type="radio"/>
Dolby Digital	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>							<input type="radio"/>
Dolby Surround *1	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> *6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DTS:X	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
DTS-HD	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> *5						<input type="radio"/>
DTS Express	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>						<input type="radio"/>
DTS 96/24	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>						<input type="radio"/>
DTS Surround	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>						<input type="radio"/>
DTS Neural:X *2	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DTS Virtual:X *3	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>						<input type="radio"/>
Multi Ch In	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/> *5						<input type="radio"/>
Multi Ch Stereo	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rock Arena	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jazz Club	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mono Movie	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video Game	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Matrix	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Virtual	<input type="radio"/>									<input type="radio"/>

*1 The applicable sound mode includes "Dolby Surround" and sound modes that have "+Dolby Surround" in the sound mode name.

*2 The applicable sound mode includes "DTS Neural:X" and sound modes that have "+Neural:X" in the sound mode name.

*3 The applicable sound mode includes "DTS Virtual:X" and sound modes that have "+Virtual:X" in the sound mode name.

*4 Audio is output when "Bass" - "Subwoofer Mode" in the menu is set to "LFE+Main".

*5 A signal for each channel contained in an input signal is output as audio.

*6 Audio is not output when the "Surround Parameter" - "Speaker Virtualizer" in the menu is set to "On" and "Speaker Config." - "Surr. Back" in the menu is set to "1 spkr".

Sound modes and surround parameters

Sound mode	Surround Parameter									
	Cinema EQ	Loudness Management *2	Dynamic Compression *3	Dialog Control *4	Low Frequency Effects *5	Delay Time	Effect Level	Room Size	Center Spread	Speaker Virtualizer *6
Direct/Pure Direct (2-channel) *1		<input type="radio"/>	<input type="radio"/>							
Direct/Pure Direct (Multi-channel) *1		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Stereo		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Dolby Atmos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>					<input type="radio"/>
Dolby TrueHD	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>					
Dolby Digital Plus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>					
Dolby Digital	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>					
Dolby Surround	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>						<input type="radio"/>	<input type="radio"/>
DTS:X	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
DTS-HD	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>					
DTS Express	<input type="radio"/>				<input type="radio"/>					
DTS 96/24	<input type="radio"/>				<input type="radio"/>					
DTS Surround	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>					
DTS Neural:X	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>							
DTS Virtual:X	<input type="radio"/>		<input type="radio"/>							
Multi Ch In	<input type="radio"/>				<input type="radio"/>					
Multi Ch Stereo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Rock Arena		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		
Jazz Club		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		
Mono Movie		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		
Video Game		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		
Matrix		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
Virtual		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					

*1 During playback in Pure Direct mode, the surround parameters are the same as in Direct mode.

*2 This item can be selected when a Dolby Digital, Dolby Digital Plus, Dolby TrueHD or Dolby Atmos signal is played.

*3 This item can be selected when a Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS:X or DTS signal is played.

*4 This item can be selected when a DTS:X signal that is compatible with the Dialog Control function is input.

*5 This item can be selected when a Dolby Digital or DTS signal or DVD-Audio is played.

*6 This item can be set when any Height, Ceiling or Dolby Atmos Enabled speakers are not used, or Surround speakers are not used.

Sound mode	Surround Parameter		Tone *7	Center Level Adjust *8	Subwoofer Level Adjust *9	Audyssey			Restorer *14
	DTS Neural:X	Subwoofer				MultEQ* *10*11*12	Dynamic EQ *12*13	Dynamic Volume *12*13	
Direct/Pure Direct (2-channel) *1		○*15			○*15				
Direct/Pure Direct (Multi-channel) *1				○	○				
Stereo		○*16	○		○*16	○	○	○	○
Dolby Atmos			○	○	○	○	○	○	
Dolby TrueHD			○	○	○	○	○	○	
Dolby Digital Plus			○	○	○	○	○	○	
Dolby Digital			○	○	○	○	○	○	
Dolby Surround			○	○	○	○	○	○	○
DTS:X	○		○	○	○	○	○	○	
DTS-HD			○	○	○	○	○	○	
DTS Express			○	○	○	○	○	○	
DTS 96/24			○	○	○	○	○	○	
DTS Surround			○	○	○	○	○	○	
DTS Neural:X			○	○	○	○	○	○	○
DTS Virtual:X			○	○	○				○
Multi Ch In			○	○	○	○	○	○	
Multi Ch Stereo			○	○	○	○	○	○	○
Rock Arena			○	○	○	○	○	○	○
Jazz Club			○	○	○	○	○	○	○
Mono Movie			○	○	○	○	○	○	○
Video Game			○	○	○	○	○	○	○
Matrix			○	○	○	○	○	○	○
Virtual			○	○	○	○	○	○	○

*1 During playback in Pure Direct mode, the surround parameters are the same as in Direct mode.

*7 This item cannot be set when "Dynamic EQ" is set to "On".

*8 This item cannot be set when "Speaker Config." - "Center" is set to "None".

*9 This item cannot be set when "Speaker Config." - "Subwoofer" in the menu is set to "None".

*10 This item cannot be set when Audyssey® Setup (Speaker Calibration) has not been performed.

*11 This item cannot be selected when a DTS:X format with a sampling frequency of over 48 kHz is input.

*12 This item cannot be set when sound mode is "DTS Virtual:X" or sound mode that have "+Virtual:X" in the sound mode name.

*13 This item cannot be set when "MultEQ®" in the menu is set to "Off".

*14 This item can be set when the input signal is analog, PCM 48 kHz or 44.1 kHz.

*15 This setting is available when "Bass" - "Subwoofer Mode" in the menu is set to "LFE+Main".

*16 This item can be set when "Speaker Config." - "Front" is set to "Small" or "Bass" - "Subwoofer Mode" is set to "LFE+Main".

Types of input signals, and corresponding sound modes

- This indicates the default sound mode.
- This indicates the selectable sound mode.

Sound mode	NOTE	2-channel signal							Multi-channel signal											
		Dolby TrueHD	Dolby Digital Plus	Dolby Digital (EX)	DTS-HD	DTS Express	DTS	Analog / PCM	Dolby Atmos	Dolby TrueHD	Dolby Digital Plus	Dolby Digital (EX)	DTS:X	DTS-HD	DTS Express	DTS ES Dscr6.1	DTS ES Mtrx6.1	DTS	PCM multi-channel	
Direct																				
Direct		○	○	○	○	○	○	○	○*2	○	○	○	○	○	○	○	○	○	○	○
Pure Direct																				
Pure Direct		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Stereo																				
Stereo		○	○	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○
Dolby Surround																				
Dolby Atmos	*1									●										
Dolby TrueHD		○								○*3	○									
Dolby Digital Plus			○							○*4										
Dolby Digital				○									○							
Dolby (D+) (HD) + Dolby Surround											●	●	●							
Dolby (D+) (HD) + Neural:X											○	○	○							
Dolby Surround		●	●	●	○	○	○	○												

*1 This item can be selected when using any of the Surround Back, Front Height, Top Front, Top Middle, Front Dolby or Surround Dolby speaker. It can also be selected when the “Surround Parameter” - “Speaker Virtualizer” setting is turned “On”.

*2 The default sound mode for the AirPlay playback is “Direct”.

*3 This can be selected when the Dolby Atmos signal contains the Dolby TrueHD signal.

*4 This can be selected when the Dolby Atmos signal contains the Dolby Digital Plus signal.

Sound mode	NOTE	2-channel signal							Multi-channel signal											
		Dolby TrueHD	Dolby Digital Plus	Dolby Digital (EX)	DTS-HD	DTS Express	DTS	Analog / PCM	Dolby Atmos	Dolby TrueHD	Dolby Digital Plus	Dolby Digital (EX)	DTS:X	DTS-HD	DTS Express	DTS ES Dscrt6.1	DTS ES Mtrx6.1	DTS	PCM multi-channel	
DTS Surround																				
DTS:X MSTR / DTS:X													●							
DTS-HD MSTR					○*6									○*6						
DTS-HD HI RES					○*7									○*7						
DTS Express						○									○					
DTS ES Dscrt 6.1	*5															○				
DTS ES Mtrx 6.1	*5																○			
DTS 96/24							○*8													○*8
DTS Surround							○													○
DTS (-HD) + Dolby Surround														○	○	○	○	○	○	○
DTS (-HD) + Neural:X														●*9	●*9	●*9	●*9	●*9	●*9	●*9
DTS (-HD) / DTS:X + Virtual:X													○*10	○	○	○	○	○	○	○
DTS Neural:X		○	○	○	●*9	●*9	●*9	○												
DTS Virtual:X					○	○	○	○												

*5 This item can be selected when surround back speakers are used.

*6 This item can be selected when the input signal is DTS-HD Master Audio.

*7 This item can be selected when the input signal is DTS-HD Hi Resolution.

*8 This item can be selected when the input signal is DTS 96/24.

*9 This item cannot be selected when a DTS(-HD) format with a sampling frequency of over 48 kHz is input.

*10 This item cannot be selected when a DTS:X format with a sampling frequency of over 48 kHz is input.

Sound mode	NOTE	2-channel signal							Multi-channel signal											
		Dolby TrueHD	Dolby Digital Plus	Dolby Digital (EX)	DTS-HD	DTS Express	DTS	Analog / PCM	Dolby Atmos	Dolby TrueHD	Dolby Digital Plus	Dolby Digital (EX)	DTS:X	DTS-HD	DTS Express	DTS ES Dscr6.1	DTS ES Mtrx6.1	DTS	PCM multi-channel	
Multi Ch In																				
Multi Ch In																				●
Multi Ch In 7.1	*5																			○*11
Multi In + Dolby Surround																				○
Multi In + Neural:X																				○
Multi In + Virtual:X																				○
Original sound mode																				
Multi Ch Stereo		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Rock Arena		○	○	○	○	○	○	○	○	○*12	○	○	○	○	○	○	○	○	○	○
Jazz Club		○	○	○	○	○	○	○	○	○*12	○	○	○	○	○	○	○	○	○	○
Mono Movie		○	○	○	○	○	○	○	○	○*12	○	○	○	○	○	○	○	○	○	○
Video Game		○	○	○	○	○	○	○	○	○*12	○	○	○	○	○	○	○	○	○	○
Matrix		○	○	○	○	○	○	○	○	○*12	○	○	○	○	○	○	○	○	○	○
Virtual		○	○	○	○	○	○	○	○	○*12	○	○	○	○	○	○	○	○	○	○

*5 This item can be selected when surround back speakers are used.

*11 This item can be selected when the input signals contain surround back signals.

*12 This can be selected when the Dolby Atmos signal contains the Dolby TrueHD or Dolby Digital Plus signal.