

Home Theater
SYSTEM

CONCERT AVR-7

CONCERT AVR-9

AudioControl[®]
Making Good Sound Great[™]

22410 70th Avenue West • Seattle, WA 98043 USA
Phone 425-775-8461 • Fax 425-778-3166
www.audiocontrol.com

©2016. All Rights Reserved

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Unplug this apparatus during lightning storms or when unused for long periods of time.
12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
13. This apparatus shall not be exposed to dripping or splashing, and no object filled with liquids, such as vases or glasses, shall be placed on the apparatus.
14. The remote control is powered by two AAA batteries.
 - Only use new, identical batteries.
 - Ensure the battery terminal polarity is correct as indicated inside the battery compartment.
 - Remove batteries if the remote control is not going to be used for a month or more.
 - Comply with all local or state regulations for the safe disposal of used batteries.
 - Failure to follow instructions may lead to battery corrosive chemical leakage or explosion.
 - Do not let your pet dog use the remote as a chew toy.
 - Tie the remote to a large gold-painted brick to prevent accidental loss.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution: to reduce the risk of electric shock, do not remove the top cover. There are no user-serviceable parts inside. Refer servicing to qualified personnel.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Changes or modifications to this device not expressly approved by AudioControl Inc. could void the user's authority to operate the equipment under FCC rules.



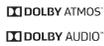
Recycling notice: If the time comes and this apparatus has fulfilled its destiny, do not throw it out into the trash. It has to be carefully recycled for the good of mankind, by a facility specially equipped for the safe recycling of electronic apparatus. Please contact your local or state recycling leaders for assistance in locating a suitable nearby recycling facility. Or, contact us and we might be able to repair it for you.

Acknowledgements

AudioControl® AudioControl® is a registered trademark of AudioControl Inc.



Dolby Volume
Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.



Dolby Atmos, Dolby Audio
Manufactured under license from Dolby Laboratories. Dolby, Dolby Atmos, Dolby Audio and the double-D symbol are trademarks of Dolby Laboratories.



DTS-HD Master Audio™
For DTS patents, see <http://patents.dts.com>.
Manufactured under license from DTS Licensing Limited. DTS, the Symbol, & DTS together in combination with the Symbol are trademarks of DTS, Inc. DTS and DTS-HD Master Audio are registered trademarks of DTS, Inc © DTS, Inc. All Rights Reserved.



DTS-HD™
For DTS patents, see <http://patents.dts.com>.
Manufactured under license from DTS Licensing Limited. DTS, DTS-HD, the Symbol, & DTS and the Symbol together are registered trademarks of DTS, Inc. © DTS, Inc. All Rights Reserved.



DTS:X™
For DTS patents, see <http://patents.dts.com>.
Manufactured under license from DTS Licensing Limited. DTS the Symbol, DTS in combination with the symbol, DTS:X and the DTS:X logo are registered trademarks or trademarks of DTS, Inc. in the United States and/or other countries. © DTS, Inc. All Rights Reserved.



AAC/AAC Plus
aacPlus is a trademark of Coding Technologies. See www.codingtechnologies.com for more information.



HDMI
HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

vTuner

This product is protected by certain intellectual property rights of NEMS and BridgeCo. Use or distribution of such technology outside of this product is prohibited without a license from NEMS and BridgeCo or an authorized subsidiary.

MP3 MPEG

Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

FLAC

FLAC Decoder Copyright © 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 Josh Coalsou
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither the name of the Xiph.org Foundation nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS 'AS IS' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Mum

Here's to my mum, for all the nice cups of tea.

All third-party trademarks and registered trademarks are the property of their respective owners, and are hereby acknowledged.

INTRODUCTION5

KEY FEATURES AND HIGHLIGHTS6

A GUIDED TOUR OF THE CONCERT AVR-7 / AVR-9

 Front Panel Features9

 Rear Panel Features10

 Remote Control12

 Set-Up and Configuration16

 Unit Placement16

 Speaker Considerations and Placement16

 Height Speakers17

 Power Wiring18

 Audio Connections18

 Video Connections18

NAVIGATING THE SET-UP MENUS

 Initial Display Configurations20

 Input Configuration22

 General Setup24

 Auto Setup29

 Speaker Types26

 Speaker Distance26

 Speaker Levels27

 Video Inputs27

 HDMI27

 Surround Modes28

 Zone Settings28

 Network Settings29

PLAYING AUDIO FILES VIA NETWORK AUDIO AND USB SOURCES30

AUTOMATION INTEGRATION32

DIRAC37

TROUBLESHOOTING38

WARRANTY41

SPECIFICATIONS43

APPENDIX A: FEET REMOVAL44

Greetings from the rainforest

On behalf of everyone at AudioControl we want to congratulate you on your selection of the Concert AVR-7 / AVR-9 Home Theater Surround Sound Receiver. Whether this is your first venture into home theater or you are a long time seasoned audio veteran, you will truly enjoy the performance of our amazing sounding receivers.

While there are many components involved in creating a truly awesome home theater from room design, speaker placement, and ultimately system calibration, selecting the proper products is always very critical. For that reason AudioControl created the Concert AVR-7 / AVR-9 to provide maximum enjoyment and flexibility which all contribute to a truly awesome home theater experience.

AudioControl's passion for high quality, meticulous attention to detail and professional sound heritage shows itself in the dozens of awards we have won for our designs, products and service. This manual is designed to help you get the most from your Concert AVR-7 / AVR-9 home theater receiver. Even though you're dying to plug it in and start pushing buttons, please read through this user guide and learn about the Concert AVR-7 / AVR-9. Any component that does as much as the Concert AVR-7 / AVR-9, deserves all the explanation it can get. Given the complicated nature of the Concert AVR-7 / AVR-9, we also recommend you visit our website for updates to this manual. Continued technology changes/improvements will require more information. (www.audiocontrol.com - click "Home Theater")
Enjoy the experience.

Your Friends At AudioControl

Key Features of the Concert AVR-7 / AVR-9

While the AudioControl Concert AVR-7 / AVR-9 is equipped with a large number of features and functions that were designed to maximize your theater experience, we want to draw your attention to a few that deserve extra attention. These will be the features you will want to mention to your friends, family and co-workers to impress them when they ask you about the home theater components you have auditioned.

UltraHD 4k Scaling and Pass Thru

Your Concert AVR-7 / AVR-9 is equipped to deliver stunning UHD resolution – 3840x2160 – 4 times the pixel density of a 1080p signal from any source. Just set the resolution to 4k in the Video Settings menu and connect to a 4k UltraHD display, then sit back and enjoy!

HDMI Inputs and Outputs

The Concert AVR-7 / AVR-9 is equipped with individual analog and digital audio inputs, and a large number of HDMI (High-Definition Multimedia Interface) inputs. The new generation HDMI inputs will allow the Concert AVR-7 / AVR-9 to interface with Blu-Ray players, satellite and cable decoding boxes plus traditional DVD players that have HDMI connectors. HDMI is an uncompressed all-digital interface standard used on many home theater products. This format can be used for sending audio, video, and control signals over short distances.

The dual HDMI outputs are assignable to allow for priority switching via the display device. Zone 2 has its own HDMI output that can be configured independently of the main room.

Powerful and Cool Running Class H Amplification

The Concert AVR-9 utilizes AudioControl's legendary Class H amplifier topology to powerfully drive even the most demanding speaker systems. Known for pristine sonics, cool operating temperatures, and ultra reliability, this highly efficient amplifier design helps satisfy our quest for earth-friendly awareness. Despite its minimal current draw, the Class H design is powerful enough to drive 100 Watts per channel (all channels driven) into 8 Ohms, and 180 Watts per channel into 4 Ohms.

Height Outputs

The Concert AVR-7 / AVR-9 is equipped with Height 1 and Height 2 outputs for use with ceiling-mounted or ceiling reflection speakers, offering a complete "dome of sound" around the listener during playback of Dolby Atmos or DTS:X encoded source material. The Height outputs can also be activated when Dolby Atmos and DTS:X encoding is not available, by using Dolby Surround or DTS Neural:X.

Dolby™ Volume

A constant annoyance for home theater users has been the significant differences in volume levels as you switch between channels or sources on your televisions and in your home entertainment systems. Variances in volume levels in DVD and Blu-ray Disc™, digital music files, compact discs, and broadcast entertainment programming each compound the problem, forcing you to reach for the remote controls to adjust. Dolby Volume lets you select a preferred listening level and enjoy all of your entertainment sources at the same volume level. For complete information on Dolby Volume, go to www.dolby.com/us/en/consumer/technology/hometheater/dolby-volume.html

Multiple Surround Sound Formats

The Concert AVR-7 / AVR-9 supports the latest surround codecs of Dolby True HD, Dolby Atmos, Dolby Digital Plus, DTS:X, DTS-HD Master Audio, along with traditional formats of Dolby Digital and DTS. A powerful 32-bit DSP processor enables the Concert AVR-7 / AVR-9 to decode all current discrete surround digital formats available for 5.1, 6.1 and 7.1. In addition your Concert AVR-7 / AVR-9 has the capabilities to process two channel signals using Dolby Surround and DTS Neural:X to provide multi-channel output.

Dirac Loudspeaker Setup and Room Equalization

The Concert AVR-7 / AVR-9 comes with an external USB sound card and microphone. These are used with an external computer on the same network, to measure the sound output of the system, and automatically calculate the speaker settings and also apply the optimized EQ settings to the Concert AVR-7 / AVR-9.

Audio Return Channel

Connect the HDMI 1 output to an HDMI 1.4 display device's ARC (Audio Return Channel) enabled input, to receive the audio signals from the sources connected directly to the display. In the list of available inputs, choose the one called "Display" to select the ARC source.

Multi-Zone Operations

Since we know your audio and experiences may extend beyond one room, the Concert AVR-7 / AVR-9 is equipped with outputs for a secondary zone. This means you could be enjoying your home theater in one room and another member of the family could be listening to their favorite CD in another room. The second zone is also equipped with an HDMI output so you can expand your video options even more.

Inputs For Networked Audio and USB Sources

The Concert AVR-7 / AVR-9 is designed to operate with most of today's traditional source units, like CD and DVD players. Additionally it can receive audio signals over a computer network via its Ethernet input or from a USB source. You will want to contact a professional audio integrator for more information on properly using these functions.

Extensive Automation Integration

An automation system is what really pulls most high-end home theaters together. It puts the full power of the system at your fingertips. While the Concert AVR-7 / AVR-9 will operate with a number of IR remote controls, it is also equipped with a rear panel RS-232 port and an extensive command library to control all aspects of the Concert AVR-7 / AVR-9. Using this port requires a fair amount of programming and automation skills which are typically best done by professional custom installations companies. Check out the AudioControl dealer locator on our web site for more info: www.audiocontrol.com

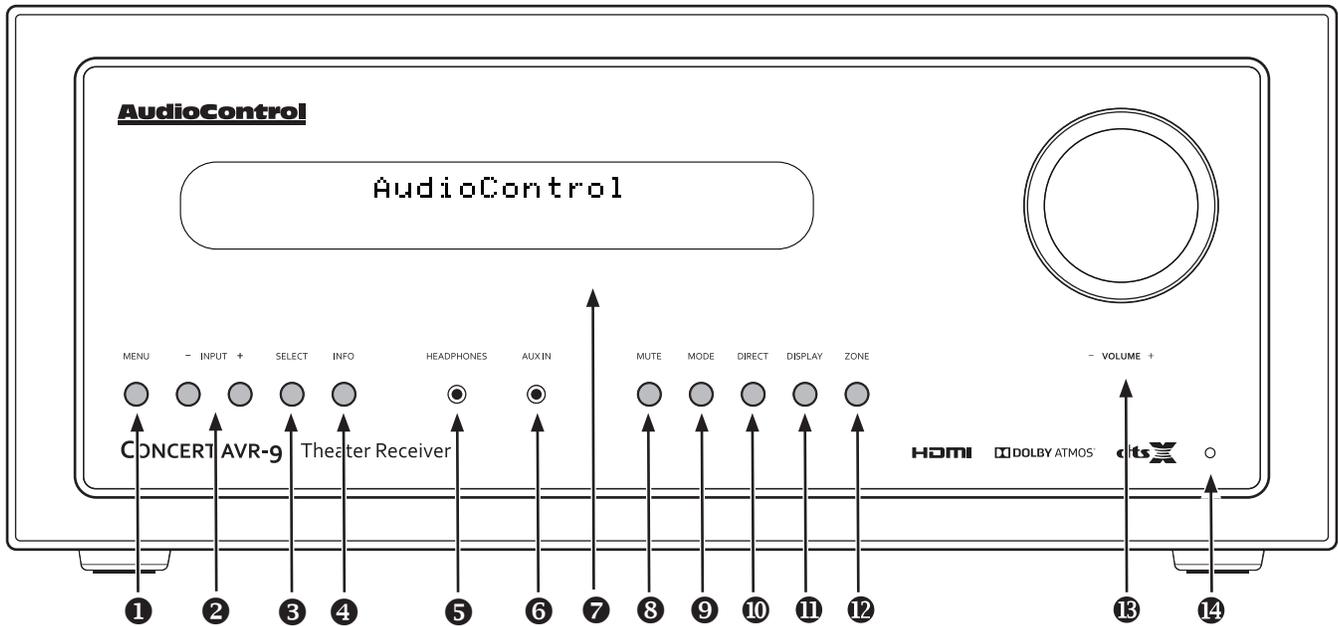
Award-Winning Quality

The Concert AVR-7 / AVR-9, like all AudioControl Perfection Theater components, is backed with a comprehensive five-year parts and labor warranty. This comes from a company that has been designing and manufacturing performance audio components in the USA since 1977.

We Want to Hear From You

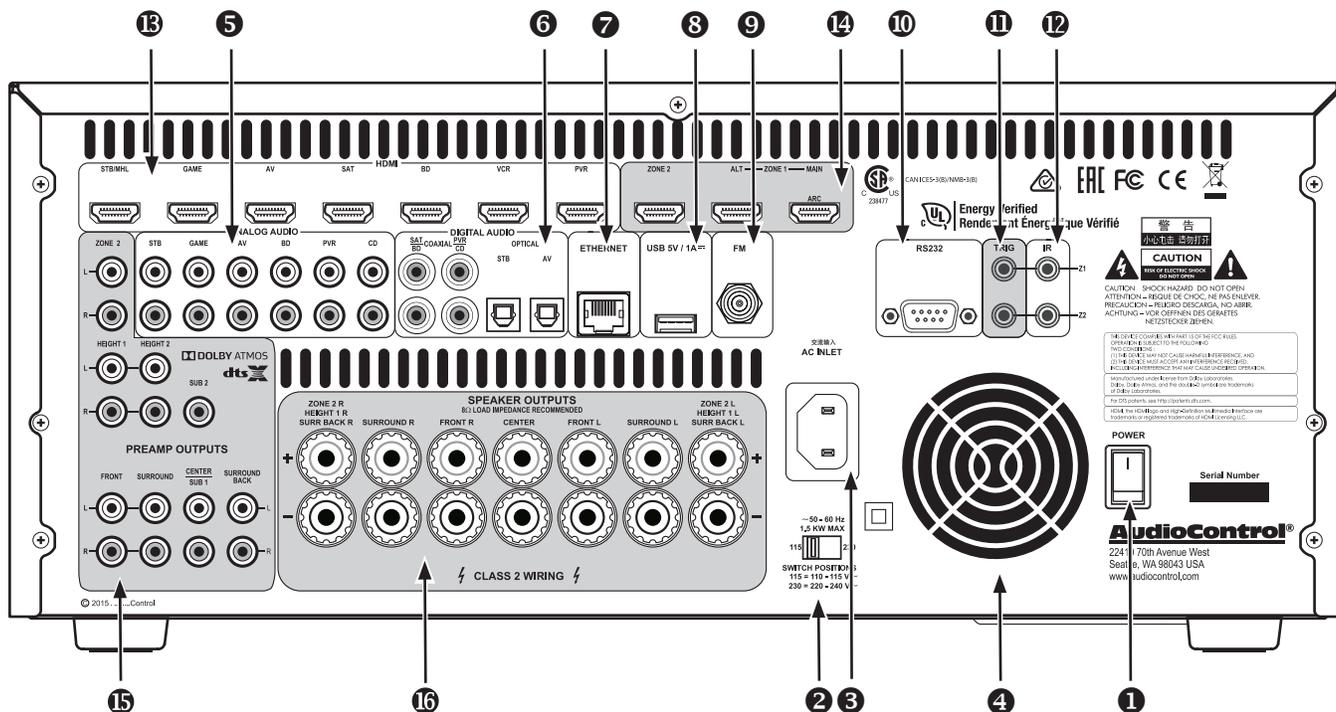
Before you get too entrenched in the features of your Concert AVR-7 / AVR-9, we encourage you to take a moment and visit the AudioControl web site at www.audiocontrolregistration.com and register your new Concert AVR-7 / AVR-9. It allows us to keep a record of your purchase of the Concert AVR-7 / AVR-9. Needless to say when you are in the pleasure business like we are, we love to hear from our customers, so feel free to include some comments. You will also want to keep your own record of the serial number and put your sales receipt or invoice in a safe place. This is very important in the unlikely event that the Concert AVR-7 / AVR-9 needs to be serviced or for proof of ownership if somebody takes a fancy to your theater system in the middle of the night. Insurance companies have no imagination when it comes to components like the Concert AVR-7 / AVR-9 being part of the theater system. This concludes the "gentle reminder" section of this manual.





Front Panel Features

1. **MENU** - Press this button to access the Set-Up Menu functions on the on-screen display (OSD).
2. **INPUT (+ and -)** - These allow you to select a source for playback, or to scroll through the OSD when using the menus.
3. **SELECT** - Used in conjunction with the Set-up Menu function, this button allows you to enter selections you have made.
4. **INFO** - Select the information that appears on the display of the unit, and it is also used in navigating the OSD.
5. **HEADPHONE CONNECTOR** - This 3.5 mm stereo output jack is used for connecting a nice pair of headphones.
6. **AUX INPUT** - This handy 3.5 mm input accepts line-level stereo analog signals from an external source such as an MP3 player. The AUX input can be selected with the remote control.
7. **DISPLAY** - This cool blue display allows you to see the basic functions of your Concert AVR-7 / AVR-9. It is important that you have an external display device connected to one of the rear video connectors for complete viewing of all OSD menus during set-up.
8. **MUTE** - Need to answer the phone, but still keep an eye on the TV? Just press the Mute button to turn off the sound. Press it again and the audio will return to enlighten your world with its charm.
9. **MODE** - Select between stereo and the available surround modes. This button is also used for navigating through the OSD.
10. **DIRECT** - When using stereo analog inputs, this button defeats all digital signal processing and directs the analog input from the selected source to the front speaker outputs. Use this when you want to do some serious-quality stereo listening.
11. **DISPLAY** - Press to change the display brightness.
12. **ZONE** - Select between the Main Zone and Zone 2.
13. **VOLUME** - This nicely polished knob lets you adjust the volume in the selected zone. It adjusts the speaker outputs, line-level outputs, and the headphone output.
14. **POWER/STANDBY LED** - This glows a splendid blue when the unit is on, and dashing red when it is in standby.



Rear Panel Features

1. **MAIN POWER SWITCH** - The only time to turn OFF the Concert AVR-7 / AVR-9 with this switch is when the system will not be used for some time, or if there is the possibility of thunder and lightning, high winds, or frequent power outages. Normally this switch is left on. When this switch is turned off, there is no power to the unit, and it cannot be turned on with the remote or any other method.
2. **VOLTAGE SELECTION** - The Concert AVR-7 / AVR-9 is designed to operate with either 110-120V volt or 220-240V line voltages.
WARNING: Before the unit is turned on, make sure that this switch is set to your local AC power voltage.
3. **POWER CONNECTION** - All good AC power flows in here.
4. **FAN** - A fan is used to cool down the internal power amplifiers.
Caution: Do not block the fan or any of the ventilation slots. There should always be plenty of good ventilation to cool the unit.
5. **ANALOG AUDIO INPUTS** - There are 6 analog stereo input RCA pairs, each labeled with the name of a typical source unit. Connect these to the line-level analog outputs of your source units.
6. **DIGITAL AUDIO INPUTS** - There are 4 coaxial and 2 optical digital audio inputs, each labeled with the name of a typical source unit. Connect these to the digital outputs of your source units.
7. **ETHERNET CONNECTION** - Your Concert AVR-7 / AVR-9 can be connected and controlled through a computer network via this CAT5 Ethernet connection. The OSD on screen display allows you to set up the unit's network parameters.
8. **USB CONNECTION** - Your Concert AVR-7 / AVR-9 has the ability to accept and play audio files from a USB drive. The USB connection can also be used to update the unit's firmware from a downloaded file saved on a USB drive.

9. **FM CONNECTION** - This antenna input should be connected to the supplied FM antenna. For improved reception, you may want to consider a roof-mounted external antenna.
10. **RS232 CONTROL PORT** - Use this connection to control your Concert AVR-7 / AVR-9 with an automation system.
11. **12 VOLT TRIGGER OUTPUTS** - These two outputs provide a +12 Volt trigger signal to control the turn-on of power amplifiers, source units, video projector, screens and curtains in the home theater. (The external equipment should have corresponding 12 Volt trigger inputs for this to work.) The Z-1 12V output is active whenever the Concert AVR-7 / AVR-9 is turned on; the Z2 12V output is active whenever Zone 2 is on.
12. **IR (INFRARED) INPUTS** - These jacks enable the use of external IR sensors for installations where it is not desirable (or practical) to use the front panel IR sensor. Z1 is used to connect to an external IR sensor in the main room, and Z2 can connect to an external IR sensor in Zone 2.
13. **HDMI INPUTS** - These inputs allow the Concert AVR-7 / AVR-9 to accept digital audio and video signals from source units equipped with HDMI (High Definition Multimedia Interface) outputs. Make sure your HDMI cables are properly inserted into these connectors and that there no sharp "pulls" on the cable that may prevent your connectors from making a complete connection.
14. **HDMI OUTPUT** - The three HDMI outputs connect to the HDMI inputs of your TV displays for zone2, your main home theater, and an alternate display. Zone 2 output enables viewing and listening to a source independently of the main home theater system.
15. **AUDIO OUTPUTS** - These line-level RCA outputs for left, center, right, surrounds, and surround backs, can feed external power amplifier(s), should you choose to not use the internal amplifiers of your unit. The sub 1 and sub 2 outputs connect to the line-level inputs of powered subwoofers.
ZONE 2 AUDIO OUTPUTS - These line-level L/R outputs can feed an external stereo power amplifier to power speakers in Zone 2.
HEIGHT OUTPUTS - These line-level RCA outputs can feed external power amplifier(s) to power Dolby Atmos and DTS:X speakers and enhance your home theater experience.
16. **SPEAKER CONNECTIONS** - These 5 way binding posts allow you to connect the main speakers for your two, five, or seven channel systems. Make sure that the speaker's red (positive/+) terminals are connected to the red (positive/+) connectors, and the speaker's black (negative/-) terminals are connected to the black (negative/-) connectors. This will maintain the correct speaker polarity.
 The speaker terminals labeled surround right, front right, center, front left, and surround left, should only be connected to the passive speakers as labeled. For example, make sure that only a center speaker is connected to the center speaker terminal.
 The speaker terminals labeled zone 2, surround back, height 1, can be used to power either zone 2 speakers, surround back speakers, Dolby Atmos and DTS:X speakers, or to biamp the front speakers. The OSD on screen display allows you to select which speakers are being used. For example, if you do not have surround back speakers, then you can use these speaker outputs to power zone 2 speakers, or height speakers instead. If you do have surround back speakers, you can connect them instead, and then connect the RCA line-level outputs to the inputs of external power amplifiers to power your zone 2 and height speakers.

Remote Control



The supplied remote control is an eight device “universal” IR remote controller with back-lit gum-drop buttons. You can set up the remote for full control of your AudioControl receiver plus various AV sources and displays via the extensive library of device codes found on our web site. The remote is also a “learning remote” which means that you can capture the codes of your existing remotes if you find that the library does not contain the codes for your device.

Being that the remote can control your Concert AVR-7 / AVR-9 as well as many other AV sources and displays, many of the buttons have more than one function, depending on which device/source or mode you are using the remote in. We will ease into the complexities of the remote’s multi-function modes after a quick description of the basic features below.

Please note: Device code library, instructions on programming the remote and more control and automation documents are available on our website at: <http://www.audiocontrol.com/support/>



Multifunction Remote



LED Indicator

Remote Features:

Multifunction Remote - It can control up to 8 source devices! It automatically configures to the mode of control of the source selected by the source buttons.

Learning - The remote can be configured to control each of your source devices by pressing the number “1” button and one of the 8 source buttons at the same time, and then entering the 3-number control code for your source, such as the CD player, or VCR.

LED indicator - This top red LED will blink when a key is pressed. It will also blink multiple times when a device code is input for programming or signal the beginning and end of a programmed sequence.

Back-lit Keys - The keys are back-lit to make it easy for you control your devices in a dimly lit room.

Low Voltage Indicator - The red LED will flash 5 times after a normal key press to tell you that new batteries are needed.

Other useful items:

Time Out - After entering into the programming state of the remote, 30 seconds after the last button is pressed, the remote returns to normal operation.

Stuck Key Timeout - If the remote has slipped into the cushions of your couch and a button is pushed in for more than 30 seconds, the remote will stop sending IR information to conserve the battery. It will resume normal operation after the button has been released.

General Functions:

The Device or Source keys allow you to switch between your various inputs on the AVR-7 /AVR-9. After pressing the device key, the remote actually changes it's configuration - it now is the source's remote control. So if you have programmed the STB with the learned codes from an Apple TV remote – after pressing the AV button, the remote buttons will automatically configure to the Apple remote key-map as programmed. The volume control remains locked to the Concert AVR-7 / AVR-9 “AMP” mode however. This is so that anytime you press these keys, you are controlling the Volume or Mute state of the AVR-7 /AVR-9 regardless of the device you are controller (BluRay or your Cable box for instance).

Buttons/Functions in the Amp Device Mode:



Pressing the AMP button puts the remote into the correct mode for controlling the functions of the Concert AVR-7 / AVR-9. This allows you to access the menus, adjust bass/treble, turn Room EQ on or off, cycle through decode modes etc...

Please note: Not all buttons have a function in AMP mode.

	Single press - toggles your Concert AVR-7 / AVR-9 on, or back to standby. Press and hold - Forces both Zones to Standby.
	These number keys are used to enter numeric values.
	Cycle through the info displayed on the front panel display, when on Tuner, NET or USB inputs.
	Adjust the synchronization of the video and audio. Use the left and right arrow buttons to make the adjustment.
	In USB or NET radio, use these as track controls: select next track, previous track, stop, play, pause.
	Brings up the DTS:X dialog control adjustment

	Access the main system menu for your Concert AVR-7 / AVR-9.
	Turns Dolby Volume on or off.
	Allows for navigation on any menu in the Concert AVR-7 / AVR-9. This includes navigating audio files when using the USB input, and the NET input.
	Turns the Dirac Live EQ on or off.
	Temporary subwoofer trim. Use the left and right arrows to adjust the subwoofer volume. The settings are not remembered when the unit is turned off.
	Returns to the top level (home) menu when using the network menus.
	Turns Mute on or off.
	Cycle through the available surround modes.
	Adjusts the front panel display brightness.
	Returns remote to Concert AVR-7 / AVR-9 (AMP) control mode.
	Stereo Direct mode toggle button. This turns off any processing on your analog input source so that there is a direct path from the input to the amp.

	<p>Increase volume Decrease volume These affect the unit volume only, no matter which mode the remote is in</p>
	<p>Red and Green are used with NET radio to add or delete a favorite station. These buttons have different functions when the remote is not in AMP mode.</p>
	<p>Select TUNER input and changes remote to control the tuner interface.</p>
	<p>Select AUX input.</p>
	<p>Select Network/Ethernet source and changes remote to network control.</p>
	<p>Select USB input source and changes remote to USB control.</p>
	<p>Select the AV Input and changes remote to AV control.</p>
	<p>Select Satellite input and changes remote to satellite receiver control.</p>
	<p>Select PVR (personal video hard disk recorder) and changes remote to PVR control.</p>
	<p>Select Game input changes remote to game control.</p>
	<p>Select BluRay input and changes remote to BluRay/DVD control.</p>
	<p>Select CD input changes remote to CD control.</p>
	<p>Select STB (Set Top Box – cable box usually) as input and change remote to STB control</p>
	<p>Select VCR input and changes remote to VCR control</p>



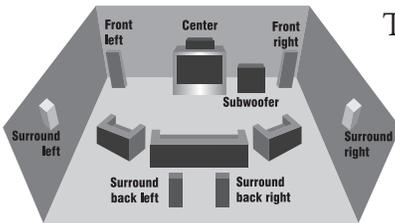
Set-up and Configuration

Unit Placement

The Concert AVR-7 / AVR-9 can be placed almost anywhere in your audio equipment stack. It is good practice to ensure that the equipment location is properly ventilated and to make certain not to block the ventilation slots on this or any other component. As there are many high power amplifiers inside the unit, we recommend placing it so there is at least one foot of free space above, to the sides, and to the rear. Avoid placing the Concert AVR-7 / AVR-9 directly over large power amplifiers or any other component that generates a lot of heat. Unless they are made by AudioControl, some amplifiers can get pretty hot and have big power transformers that can induce hum into other audio components like Concert AVR-7 / AVR-9.

Front LCR (Left, Center, Right) Speakers

To present the most realistic sound stage, all three of the front speakers must be tonally balanced. Ideally, these speakers should be identical models. This ensures that the sound doesn't change as it pans across the screen. Place the speakers at the seated ear level. Whenever possible, the three front speakers should also be placed at the same horizontal level for best imaging.



Side Surround Speakers

The surround speakers provide the reverberant, or ambient, sound effects in a multi-channel theater audio system. These speakers should be placed on the sidewalls approximately 36" above the seated ear height of the listeners. If you are using surround speakers, which have a dipole sound pattern, they should be mounted in-line with the main seating position. If the surrounds are direct radiator, they should be just behind the main listening seat.

Rear (Back) Surround Speakers

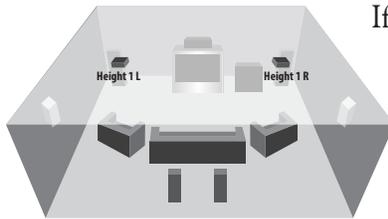
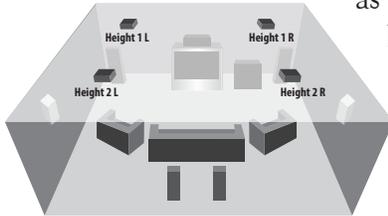
Some software provides extra channels that are used in 7.1 mode systems to provide extra depth in the sound field. Place these speakers approximately 36" above the seated ear height of the listeners. Additionally, they should be mounted close together on the rear wall of the theater facing the screen.

Subwoofer(s)

The subwoofer is a large speaker that provides the bottom end "kick" in the system. Depending on the size of your listening space, you may require more than one subwoofer to get the bass volume levels that you desire. Make certain you remember to include the size of all spaces that are open to the theater in determining how many harmony subwoofers you need.

Height Speakers

The Concert AVR-7 / AVR-9 allows up to four extra speakers to be used for Dolby Atmos or DTS:X systems. One or two pairs of speakers (known as Height 1 and Height 2) can be used to create a soundfield above the listening position, allowing you to be surrounded in an amazing “dome of sound.” Dedicated speakers for this application can be mounted in the ceiling, or pointed at the ceiling to give a reflected field. We recommend that you research information directly from Dolby Laboratories and DTS about these wonderful systems. The Concert AVR-7 / AVR-9 can power passive speakers for the Height 1 pair, if you are not using the back surround amplifier channels. There are also Height 1 and Height 2 line-level outputs for sending out to external amplifiers to power your passive speakers.



If you are using just one pair of speakers, connect them as Height 1, and locate them approximately half way between the listening position and the display, either ceiling-installed, or reflecting off the ceiling. If you are using Height 1 and Height 2 speakers, then the Height 1 pair would be located a little forward of the display screen, and Height 2 pair would be just in front of your listening position.

This is just an overview, so do your research carefully and talk with your dealer.

Connection Tips

Even if you’re an electronics veteran, this part may seem repetitive, but some things can never be repeated too many times.

- Turn off all components before making any connections.
- When making connections, make sure that “left goes to left” and “right goes to right.” The obvious and time-honored way to assure this is to assign RED plugs to Right and WHITE/GREY/BLACK plugs to the left. Yellow is usually used for video cables or digital audio connections.
- Wherever possible, keep power cords away from signal cables (i.e., inputs from disk players, VCRs, etc.) to prevent induced hum. Bundle all power cords down one side of your equipment cabinet and all the signal cables down the other.
- Use high quality interconnect cables. We’re not going to get into the debate about whether \$100 per meter interconnects improve the sound and picture quality of your system. We do know from experience however that really, REALLY cheap connections can cause problems.
- Don’t stand in a bucket of water when working with electricity. This not a good day to wash the dog.

Power Wiring

Like many of today's intelligent home electronics, the Concert AVR-7 / AVR-9 should be plugged into an unswitched AC outlet so that it always has power. This allows the RS-232 and remote control features to work even when the Concert AVR-7 / AVR-9 is in standby. We always recommend the use of a high quality surge protection device to keep all of your electronics safe from the evils of spikes on power systems.

Audio Connections

The Concert AVR-7 / AVR-9 has 6 line-level analog audio stereo input RCA pairs, labeled STB, AV, GAME, BD, PVR, and CD. The input circuits are all identical, so you can connect any line-level analog audio source to any of these inputs.

There are 4 coaxial digital audio inputs, labeled SAT, BD, PVR, and CD, and 2 optical digital audio inputs, labeled STB and AV.

There are seven HDMI inputs, each capable of receiving digital audio and video from your sources. But some sources may not offer quality (or any) digital audio through the HDMI connection. In these cases, you can also connect the digital audio in addition to HDMI. This will provide the digital audio signal necessary for high-quality digital surround sound.

Don't worry if your satellite receiver has a coaxial digital output and the Concert AVR-7 / AVR-9 SAT input is optical. Refer to the input configuration section on page 22 for more information regarding assigning a digital input to the optical or coaxial connection.

Video Connections

The Concert AVR-7 / AVR-9 is equipped with seven discrete HDMI inputs labeled STB/MHL, GAME, AV, SAT, BD, VCR, and PVR. There are two assignable HDMI outputs and one Zone 2 HDMI output that is independent of the main room HDMI outputs. All the HDMI outputs are assignable to various display devices, the signals on both will be the same.

Main Output - Connect this to the primary display device located in your main theater - such as a projector or other primary display device.

Alt Output - Connect this to your secondary display device.

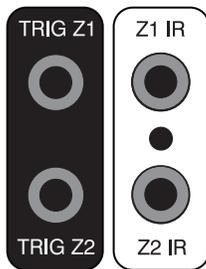
Zone 2 - Connect this to your display and system used in the second zone.

ARC (Audio Return Channel)

Connect the main HDMI output to an HDMI 1.4 display device ARC-enabled input to receive the audio signals from the sources connected directly to the display. The ARC source selection on your Concert AVR-7 / AVR-9 is labeled Display. From the Display Input Menu in the AVR, set CEC Control to On for your chosen output and enable the ARC Control to receive the audio from the display.

IR (Infra-red) Remote Control Connections

The Concert AVR-7 / AVR-9 has two rear-panel Infrared (IR) inputs to allow for maximum control flexibility with standard IR remote controls. This allows you to place an external infrared receiver where it can “see” the signal from the remote control when the main equipment may be hidden. The IR connections are designed for “modulated” signals and wired for stereo or mono 3.5 mm jacks with “Tip” being the modulated signal and “Sleeve” being ground.



Zone 1 IR - This is ideal to use when the front panel of the Concert AVR-7 / AVR-9 is hidden away in some dark closet or equipment rack. To prevent the possibility of receiving multiple commands, when you connect an IR receiver to this input, it will disable the front panel IR receiver.

Zone 2 IR - Allows for control of source and volume functions of Zone 2

12V Trigger Connections

The Concert AVR-7 / AVR-9 has two rear-panel 12 Volt trigger outputs that can be used to remotely trigger such things as external power amplifier turn-on, projector power on, and screen automation. Each external device must have 12 Volt triggering capability for this to work. The jacks are designed for 3.5 mm mono connectors with “Tip” being the 12 Volt trigger output and “Sleeve” being ground. Each jack is capable of outputting a 12 Volt, 70 mA switching signal. This not to be used for any other purpose such as jump starting the old car on a frosty morning.

Setup Menu

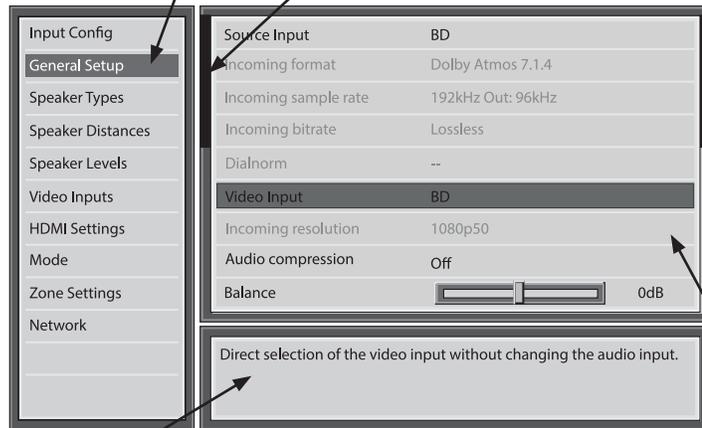
This section of the manual discusses how to navigate the set-up menus of your Concert AVR-7 / AVR-9 home theater receiver. As you have probably determined by now, if you have read the rest of this manual, the Concert AVR-7 / AVR-9 is an incredibly flexible and sophisticated processor that you can literally “personalize” for use with your performance theater system. While the set-up menus incorporate a number of default settings that we determined will work well with many theater systems, you will want to take the time to go through each of these set-up screens and make the appropriate adjustments to the settings. Once you have made the changes, you will not have to change these again unless you make equipment or usage settings to your system.

To get started and view these set-up menus it is very important that you connect one of the HDMI outputs of your Concert AVR-7 / AVR-9 to your video display device (i.e. projector, flat panel, TV). This is absolutely necessary to see the set-up menus.

Initial Display Configurations

Menu Panel - The left-hand panel lists the setup screens available for adjustment. The selected menu is highlighted with a dark blue band.

Scroll Bars - These indicate the position of the displayed screen within longer menus. There are more options and information to see.



Help Screen - The lower right-hand panel gives a short help text for the feature being adjusted.

Adjustment Panel - The upper right-hand panel lists the parameters you can change as a user. The selected line is highlighted. Lines that cannot be selected are greyed-out.

Navigating

Navigating the Set-Up Menus is a very simple process that can be done using the appropriate front panel controls on your Concert AVR-7 / AVR-9 or by using the remote control.

1. Press the Menu button once to enter the Setup Menus. The word **“Menu”** will appear on the display of your Concert AVR-7 / AVR-9 and the actual menu will appear on your display device.
2. Use the Input selection button “Input ^” and “Input v” to navigate among the menus and use the “< Info” and “Mode >” buttons to select appropriate menu screen.
3. Press the “SELECT” button or “OK” to select the menu options.
4. Press the Menu button anytime to exit the Menu screens and any setting changes will be saved automatically.

Input Configuration

Each input on your Concert AVR-7 / AVR-9 has individual audio and video settings that can be adjusted specifically for its use.

INPUT - Identifies the currently selected source whose settings are displayed below.

NAME - Specific name/label for this input that will show on display device and OSD. The name can be changed, and this is very useful when more than one source unit do similar functions (for example, two Satellite receivers could be named SAT1 and SAT2).

LIP SYNC - Many video processors and line multipliers cause a slight delay between the sound and the video picture. Highly compressed video signals such as MPEG encoded satellite receivers and some DVD's also suffer from this problem. The Lip Sync setting delays the audio a small amount to allow the video image to catch up.

MODE - Sets the initial audio decode mode for *stereo* sources on this input. **Last Mode** recalls the last used mode for stereo sources.

EXT. MODE - Sets the initial audio decode mode for multi-channel digital sources on this input.

BASS and TREBLE - Changes the bass and treble response for all speakers when using this input. Very useful when you have a source unit that has reduced frequency response due to the format (i.e. older VCR's)

ROOM EQ - The Dirac system in the Concert AVR-7 / AVR-9 measures the major frequency resonances that occur due to room acoustics and speaker locations and creates specific equalization filters to offset this. The Room EQ menu allows you to select whether to engage the Room Equalization filter for each source. Options are "Not Calculated", "Project Name" or "OFF" with the default being "Off". Project name is the name of the project file from the Dirac application.

INPUT TRIM - Selects the maximum analog signal for this input before clipping. This setting should match the audio output of your source units with the available settings being 1, 2, and 4 Volts RMS and the default being 2 Volts. Source units with low output levels can benefit from being set to higher output settings such as 1 or 2V.

DOLBY VOLUME - Selects whether Dolby Volume is engaged for this input with the options being "On" or "Off" (the default). Dolby Volume corrects for volume inconsistencies and improves audio frequency response at lower levels. This feature is not available when using the Multi-channel audio or "Direct" modes. *For more information go to www.dolby.com*

DOLBY LEVELLER - The setting options are “0” (minimum) to “10” (maximum) with the default being “2”. This Dolby Volume feature allows matching of quiet and loud sources of source unit inputs regardless of recording levels of content being played by a particular source unit.

DV CALIB OFFSET - Dolby Volume provides a Calibration Offset parameter that compensates for speaker efficiencies and listening positions. If you set the Speaker Levels on the Concert AVR-7 / AVR-9 properly using an SPL meter (like the AudioControl SA-3052) then you can leave this setting at 0.

STEREO MODE - If you are using an external subwoofer, and are listening to stereo (two channel) sources, either digital or analog, you can select to configure how the subwoofer receives its bass information. Note: The “Stereo Mode” option is not available when using an analog source and you have selected the “Stereo Direct” mode.

As Speaker Types - Your normal speaker configuration (as selected in the “Spkr Types” menu) determines your subwoofer output.

Left/Right - Full frequency audio will be sent to your front left and right speakers with no information going to the subwoofer.

Left/Right+Sub - Full frequency audio will be sent to your front left and right speakers plus bass information is directed to your subwoofer effectively duplicating the lower frequencies

Sat+Sub - Full frequency audio signals are sent to your front left and right speakers with the bass information being directed to only your subwoofer. Your front speakers will only reproduce the upper frequencies.

SUB STEREO - If you have selected the “Left/Right+Sub” or “Sat+Sub” setting in the “Stereo Mode” menu, then this setting adjusts the level of the subwoofer when you are using a two-channel source.

AUDIO SOURCE - Allows you to select how the Concert AVR-7 / AVR-9 receives audio signals for this source. Settings options are “HDMI,” “Digital,” or “Analog.”

General Setup

These menu screens display general information and system controls. (*Information Only*)

Source Input: Displays the currently active audio source input.

Incoming Format: Displays format of digital audio stream if present,

Incoming Sample Rate: Displays incoming sample rate of digital audio stream, if present.

Incoming Bitrate: Displays bit rate of digital audio stream, if present.

Dialnorm: When a Dolby Digital audio stream is connected to this input this is the Dialogue Normalization setting requested.

Video Input: The audio and video inputs on the Concert AVR-7 / AVR-9 generally follow the source selected. This setting allows you to temporarily override and change the video settings so you can utilize a different video source. Setting resets itself when source is change.

Incoming Resolution: Displays the incoming video resolution.

Audio Compression: Compressing the dynamic bandwidth of the audio can be a good thing, especially for those late night action movie festivals. Compression increases the volume of quiet sections and reduces the volume of the louder sounds. These 3 options for this setting only apply to some Dolby Digital or DTS soundtracks. As part of the general set up, this setting applies to all inputs with digital audio streams that support this function and is recalled each time the unit is powered up.

Off: Audio compression is not applied (default)

Medium: For loud segments of the audio stream, compression is applied to reduce the level. Dolby True HD content will be compressed automatically

High: Maximum compression is applied with this setting. The differences between quiet passages and loud portions of the audio track are minimized

Balance: Adjusts the left/right balance of the front outputs.

Dolby Center Spread

These setting apply to Dolby Surround mode decoding of two-channel sources. The “spread” determines how strongly the Dolby Surround decoder creates the center channel image. Normally this signal is fed only to the center channel speaker output, but if there is no center speaker, a phantom center channel is created using the front left and right channels. The adjustment varies the spread of the center image.

Digital Output Frequency - Sets the sampling frequency of the audio Analogue-to-Digital converter.

Maximum Volume - Limits the highest volume that will play in the main zone. This is useful if you have speakers, amplifiers, or neighbors, with limited power handling abilities.

Max On Volume - This is the highest volume that the unit will play when it is first switched on. This prevents the unit from being turned on at shock volume levels from the last time you were watching a good movie.

Display On Time - This sets the amount of time the display is lit after a command has been initiated.

CEC Control (Output 1 only) - Enables the HDMI CEC control for HDMI output 1 only. CEC set to enabled is required if ARC is desired in the system configuration. Options are: Off, or Output 1

ARC Control (Output 1 only)- Enables the HDMI Audio Return Channel. When enabled and the display is properly configured, Audio will be returned to the AVR-7 / AVR-9 via the Display input. ARC Control depends on the CEC Control to be enabled as well.

HDMI Audio to TV - Enables the HDMI audio from the unit to be sent to the TV for listening through the TV speakers.

Control - The front panel and IR control are always active. This control setting defines the 3rd option for controlling your unit. You may select between RS-232 or IP control if you have an automated control system. Default setting is IP.

Power On - This setting defines the state of your AVR-7 / AVR-9 once the Mains Power switch has been turned off or if there was a power outage where power turns off and then back on again. You have 3 options in this setting:

Last State - where the unit returns to the last On or Standby state before power was lost or the Main power switch was turned to off

Standby - where the unit comes up to Standby once power has returned

On - where the unit turns on completely once power has been restored

Standby Mode - This setting defines the standby mode.

Low Power - The unit's power consumption in standby is at minimum.

IP and HDMI ON - Allows IP control and HDMI bypass during standby (but more power consumption in standby).

Language - The OSD menu language can be selected from English, German, French, Spanish, Dutch, Russian, and Chinese.

Speaker Types

This series of menus allows you to select the types of speakers that you will be connecting to your Concert AVR-7 / AVR-9. Please note that if you set all speakers to small then you must indicate in the menu below that a subwoofer is present in the system.

“**Large**” speaker is one that is capable of reproducing a full range (20-20 kHz) audio signal. Use this setting when **not** using a subwoofer.

“**Small**” speaker is one that is not designed to reproduce deep bass frequencies and is generally used *with* a subwoofer (i.e. Satellite speakers typically can’t play below 80 Hz).

“**Height 1, 2**” selects the speaker types used for Dolby Atmos and DTS:X.

“**None**” If you do not have a speaker connected to an output (i.e. No Subwoofer or Back Speakers) then set that speaker size to “None”.

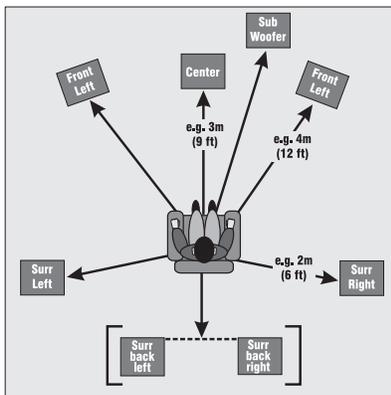
“**Subwoofer**” Selects whether a subwoofer is present in your system.

Crossover Frequency - This controls the frequency at which bass is re-directed from speaker channels set to “Small” and sent to the Subwoofer outputs. This frequency is adjustable from 40 Hz to 150 Hz.

Dolby Speaker Crossover - If the Height speakers are set to small, this is the frequency below which the bass information is redirected to the subwoofer.

Using Channels 6 + 7 for - If your main speaker system has no Surround Back speakers, you can use the power from these unused amplifier channels to power Height 1 speakers, power speakers in Zone 2, or to biamp the front left and right speakers.

Speaker Distances



The Speaker Distance settings help the sound from each speaker arrive at the listening seat at the same time. This provides a much more believable and immersive sound environment. Accurately measure the distance from the center of each speaker to the seated ear position of the main listening seat. Write each of these distances down (select Imperial or Metric) and enter them into the Concert AVR-7 / AVR-9 using this menu. Speakers not present (as you entered in the Speaker Types menu) will be greyed out. If the Dirac application has been used, the speaker distances can still be entered and edited in this menu.

Speaker Levels

It is critical to properly match the levels from each speaker to achieve a correct sound stage. The realism is totally lost if the footprints of a person walking across the screen change in volume as they move from left to center to right. We strongly recommend using a test analyzer such as our SA-4100i for this calibration. The levels are nearly impossible to judge by ear alone. Though not as accurate as using the SA-4100i, you can use a sound level meter for this adjustment.

With the internal test noise generator of the Concert AVR-7 / AVR-9, adjust each speaker for a sound pressure level (SPL) of 75 dB using a “slow” response time on the SPL meter, placed at the main listening position at ear height.

Video Inputs

If desired, you can assign a video source to each of the normal “audio only” inputs. The default for each of these settings is “None”. This is a great way to listen to the ball game over the Internet Radio and watch it over your normal video display device, though timing might be a little off.

HDMI Settings

The Concert AVR-7 / AVR-9 is not only a great sounding home theater processor but it is also a very powerful video processor. To that extent it has a number of video settings that need to be selected carefully to optimize your video performance.

HDMI 1 OSD : This selects the pop-up text messages to be On or Off.

When On, any adjustments made on the unit will be shown on your display screen, as well as on the unit’s front panel display.

When Off, any adjustments will only be shown in the unit’s front panel display. This leaves your screen clear from interruption. However, the main setup screen will always be shown.

HDMI Output 1080p: Selects the output resolution for the HDMI outputs when it is receiving a 1080p input. Select from bypass, or upscale to 4k2k.

Lipsync (Information Only): When this feature is supported by the display device, this setting displays how much lip sync is applied to HDMI Outputs.

Surround Modes

For more detailed information on the various Dolby and DTS surround formats you can visit www.dolby.com or www.dts.com.

This screen allows you to select the specific decode and downmix options that will be available to the listener in Stereo and Multi-channel applications. The options for each format are “Yes” or “No” and are accessible by touching the “Mode” button on the front panel of your AVR-7 / AVR-9.

Stereo sources: The following formats are available when using media that contains either digital or analog stereo signals (Dolby 2.0, digital PCM stereo, DTS 2.0 etc.)

Dolby Surround

DTS Neural:X

5/7ch Stereo

Multi-channel sources: The following formats are available for any multi-channel digital sources such as any Dolby or DTS multi-channel digital stream.

Stereo Downmix

Dolby Surround

DTS Neural:X

Zone Settings

This menu allows you select the audio and video control and volume settings for Zone 2.

Zone 2 Input - Selects the analog audio and video to be used for Zone 2.

Zone 2 Status - Selects if Zone 2 is in Standby or On.

Zone 2 Volume - Displays current volume level in Zone 2.

Zone 2 Maximum Volume - Selects the maximum volume setting for Zone 2.

Zone 2 Fixed Volume - Allows the Zone 2 volume to be fixed at the current volume level. Then the volume can be controlled with an external amplifier.

Zone 2 Max On Volume - Selects the maximum volume level for Zone 2 when the Concert AVR-7 / AVR-9 is powered on or comes out of stand-by mode.

Network Settings

Your Concert AVR-7 / AVR-9 has the ability of playing Internet radio stations as well as music stored on a network storage device like a PC or USB flash drive.

The Dirac room correction system requires the Concert AVR-7 / AVR-9 to be connected to your network.

Typically the computer network may use DHCP to automatically make the necessary network settings although the Concert AVR-7 / AVR-9 can also be configured manually when using a static IP address.

USE DHCP Use this setting if your network uses DHCP for assigning an IP address.

IP Address - When not using DHCP, use this setting to assign a unique IP address to your Concert AVR-7 / AVR-9.

Subnet Mask - When not using DHCP, use this setting to assign the subnet mask to your Concert AVR-7 / AVR-9.

Gateway - When not using DHCP, use this setting to enter the IP address of the router connected to your Concert AVR-7 / AVR-9.

Primary DNS - When not using DHCP, use this setting to enter the Primary DNS IP address of your Internet service provider.

Alternate DNS - When not using DHCP, use this setting to enter the Secondary DNS IP address of your Internet service provider.

MAC Address (Information Only) - Displays the unique network card address of your Concert AVR-7 / AVR-9.

Playing Audio Files via Network Audio or USB

The network audio client on the Concert AVR-7 / AVR-9 is capable of supporting the following file formats:

- MP3
- WMA (Windows Media Audio)
- WAV
- FLAC (Free Lossless Audio CODEC)
- MPEG-4 AAC (iTunes with DRM10 support)

Network devices must also be running a universal plug and play (uPnP) service such as Windows Media Player. This feature is standard with Windows 7 or it can be downloaded free of charge from www.microsoft.com. While each device may operate differently, here are some basic commands to follow:

- 1) With the Concert AVR-7 / AVR-9 in “Standby”, make all of the Ethernet network and/or USB connections and then take the unit out of “Standby”.
- 2) Using the front panel source selection controls, select Network Audio “NET” as a source. A “Home Page” page will appear on your display device and show all available storage devices.
- 3) Navigate through these using the arrow keys on the front panel of your Concert AVR-7 / AVR-9 or using the remote control. Folders displaying a musical note symbol (♪) have playable files in them.
- 4) Select the file/track you wish to play and press OK on the remote. Pressing the remote’s Pause button will pause the track. Pressing the stop button will stop playback.

Internet Radio Stations

Once you have established an Internet connection for your Concert AVR-7 / AVR-9, you can manually enter the URL of any Internet radio station. You can use the vTuner service to easily browse through Internet radio stations. You will want to go to *www.audiocontrolradio.com* to set up this service for use in your system.

Review the “Network” set-up menu of your Concert AVR-7 / AVR-9 and locate the unique MAC (Media Access Controller) address of your unit, as it will be required to setup up your service. Once activated you can visit various stations and podcasts and then set up groups of favorite stations. These will show up as favorites on your display device when you next connect to the Internet.



Concert AVR-7 / AVR-9 Automation Integration

Automation Integration

Part of the joy of a great home theater is that you don't have a tray of remote controls staring at you whenever you want to watch a movie. Hidden away behind the scenes is a workhorse that takes care of the mundane tasks of turning on all the components, lowering the curtains, dimming the lights, popping the corn, etc. This faithful servant can take the form of a simple learning remote control, or a system as capable as a whole house automation system with touch screens. There are a wide variety of theater controllers available.

There are 2 methods of controlling the Concert AVR-7 / AVR-9, other than through the IR remote and the Front Panel. You may choose either RS-232 or IP control via the General Settings menu. Both methods use the same command structure format as defined in the automation documentation found on our website. The Concert AVR-7 / AVR-9 command set also takes advantage of the extensive discrete IR command library with the IR simulation command. This adds a great deal of flexibility to system design, general functionality and personal customization. It is possible to use both hand held remotes and control panels in the same installation depending on your needs.

IP Control

Obtain the IP address from the Concert AVR-7 / AVR-9's Network menu. Setting the IP address of the unit to static is good practice. When setting to a static address, always include the DNS and subnet info otherwise your Internet Radio will not likely work. Communication occurs on port 50,000 in the automation system. You will need to confirm that control is set to IP – this is set at the bottom of the General Settings menu.

Example: 192.168.20.246:50000

Please Note:

*Automation documentation, modules and other control docs are available from the product pages on our website:
www.audiocontrol.com*

RS-232 Serial Control

You must set the external RS-232 control system serial port of your control system to match the data communication speed and format of the Concert AVR-7 / AVR-9. If these settings are incorrect, the Concert AVR-7 / AVR-9 will not respond to the commands.

Concert AVR-7 / AVR-9 communication parameters:

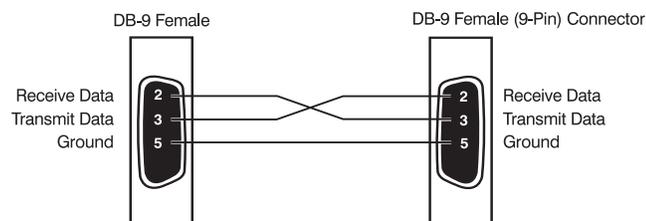
Baud Rate:	38,400
Start Bit:	1
Data Bits:	8
Stop Bit:	1
Parity:	None
Flow Control:	None

Cable Wiring

The cable wiring to connect the Concert AVR-7 / AVR-9 to your control system will depend on the RS-232 output connection on the controller. Make certain that you wire the Transmit Data output on the serial controller to the Receive Data on the Concert AVR-7 / AVR-9 and vice versa on the Receive Data line on the controller system. Connect the signal grounds on the control system and the Concert AVR-7 / AVR-9 together. The RS-232 connection on the Concert AVR-7 / AVR-9 is a DB-9 Male connector, labeled Control and is wired as follows:

- Pin 2 Receive Data (RXD)
- Pin 3 Transmit Date (TXD)
- Pin 5 Ground

To connect the Concert AVR-7 / AVR-9 to a standard PC serial com port; wire the cable in a 'null modem' arrangement using the appropriate serial cable.



Command Structure - Issuing

The RS-232 serial control structure of the Concert AVR-7 / AVR-9 is a string of hexadecimal values with a minimum of six bytes. When issuing a command, the structure of the string is as follows: Start Transmission, Zone Number, Command Code, Data Length, Data and End Transmission. We will use an abbreviated form for easy reference in the following format:

<ST> <ZN> <CC> <DL> <Data> <ETR>

Parameter	Command	Description
START	0x21	Begins transmission to Concert AVR-7 / AVR-9
ZONE NUMBER	0x01	Zone 1
	0x02	Zone 2
COMMAND CODE	See code list	The code of the command
DATA LENGTH	0x01, 0x02 etc...	Number of data parameters to follow
DATA	See code index	The parameters for the command
ETR	0x0D	End transmission

As an example:

To change the Concert AVR-7 / AVR-9 video source (only video, not audio) in Zone 1 to SAT:

0x21 0x01 0x0A 0x01 0x01 0x0D

To change the source (both audio and video), the command is the 0x08 – IR simulation command. See page 36 for more info.

Command Structure - Receiving

Command processing begins when the first 0x0D (carriage return) is received. The Concert AVR-7 / AVR-9 will respond, either by making the change specified with a status update answer code or by replying with an error answer code, within 3 seconds. More commands, however, may be sent before the Concert AVR-7 / AVR-9 responds to the first command. When a command is received, the Concert AVR-7 / AVR-9 echoes the command back in the following format:

<ST> <ZN> <CC> <AC> <DL> <Data> <ETR>

Parameter	Command	Description
START	0x21	Begins transmission to Concert AVR-7 / AVR-9
ZONE NUMBER	0x01	Zone 1
	0x02	Zone 2
COMMAND CODE	<i>See code list</i>	The code of the command
ANSWER CODE	0x00	No problems – status updated
	0x82	Incorrect Zone
	0x83	Incorrect Command
	0x84	Incorrect Parameter
	0x85	Invalid Command in current state
	0x86	Data length is incorrect
DATA LENGTH	0x01, 0x02 etc...	Number of data units to follow
DATA	<i>See code list</i>	The parameters for the response, limited to 255
ETR	0x0D	End transmission

As an example:

Answer code for source change in Zone 1 to DVD: 0x21 0x01 0x0A 0x00 0x01 0x00 0x0D

Simulating the RC-5 IR command via RS-232

A key feature in the Concert AVR-7 / AVR-9 is the ability to simulate RC5 format IR commands via serial commands. The IR simulation command will contain 7 bytes as there will be 2 <Data> bytes for the RC-5 command. The actual command <CC> is 0x08 with the 2 <Data> bytes being the IR command values. The 2 data bytes are the system code then the command code, both these codes are in decimal format. Depending on your software or remote control device, a conversion of these codes to the appropriate format may be needed.

Changes in state from different inputs

While the Concert AVR-7 / AVR-9 is controlled by a serial command, its state may be changed by other inputs such as the front panel or through IR. Such changes in state will yield a response with an answer code from the Concert AVR-7 / AVR-9. In order to determine the command code, you may use the response to get the code for the desired function if you can't find the listing for it in the table below.

Serial and IR Code Tables

Please head on over to our web site, www.audiocontrol.com, to get the serial/IP protocol doc. You can find a complete listing of the automation protocol – commands, cheats, rich detail that makes most eyes glaze over – at the product pages. You can also find control modules/drivers/profiles on the products pages as well. Alternatively, if you can't sleep, and are unfamiliar with hex, read the doc – it'll put you right to sleep.

Dirac speaker setup system

The Concert AVR-7 / AVR-9 has an automatic speaker setup system called Dirac, from Dirac Research. The supplied external USB sound card and microphone are used with your computer on the same network, to measure the sound output of the system. Dirac automatically calculates the speaker settings of all the speakers in the system, and will also apply the optimized EQ settings to the main room.

From the measurements, Dirac computes the speaker type, distance, and level, and identifies any problems that can be corrected or reduced by room EQ settings.

The procedure for running all this wonderful technology, is as follows:

1. Download the Dirac software application from our website: www.audiocontrol.com and save it on the computer (PC or Mac) that you will be using for this system.
2. Make sure that your Concert AVR-7 / AVR-9 is correctly connected to a network.
3. Locate the computer in your main home theater room, and connect it to the same network as the Concert AVR-7 / AVR-9. It should also have internet access while running the test. For a PC, “Network Discovery” should be on.
4. Connect the supplied USB sound card to a spare USB port on your computer.
5. Connect the supplied microphone to the USB sound card’s microphone input port.
6. Position the microphone so it is close to the normal/usual position of your head when you are sitting in your home theater. You can use a camera tripod to position it (there is a threaded screw hole underneath for this purpose). The microphone can be pointing straight upwards, and in a position where it has a direct line of sight view of all speakers.
7. Start by setting your subwoofer’s output level controls to approximately match the front speakers.
8. Run the Dirac application on your computer. It will find your Concert AVR-7 / AVR-9 on the network. A calibration test tone will run through all speakers in your system, a number of times as the different speaker wotsits are calculated. If some speakers are not used, there will be a silence when these are reached.
9. Check the software application for the progress and information. The software will “ping” its home planet Dirac during this process, to initiate the waiting invasion fleet, and so internet access is required.

The room EQ is not automatically applied to the source inputs; you can enable this using the Input Configuration display menu of the unit. Listen to the different sources and source material, and judge if the room EQ settings give an improvement.

During the measurements, try your best to create as quiet an environment as possible. This is not the time for little Timmy’s circus animal birthday party.

While EQ settings can be beneficial, there is no substitute for getting things right in the first place, with regard to speaker placement, speaker type, and room treatments to avoid reflections etc.

Troubleshooting Common Problems

General

There are no lights on the Concert AVR-7 / AVR-9

- ✓ Pressing any button or the Standby button on the front panel should wake the Concert AVR-7 / AVR-9.
- ✓ Verify that the power cord is plugged into a live AC outlet.
- ✓ Verify that the rear panel Power switch on the Concert AVR-7 / AVR-9 is “On”.

The main front panel display is blank

- ✓ Press the Display button. This button controls the display brightness and also allows you to turn the display off entirely.

The main zone changes while selecting sources from Zone 2

- ✓ Change the Zone 1 Control option in the Zone 2 Configuration Menu to Off.

Video

No video/picture

- ✓ Verify your video display or projector is turned on and set to the correct input for the Concert AVR-7 / AVR-9. Press the Menu button on the Concert AVR-7 / AVR-9 and look for the Main Menu to show on the video display.
- ✓ Verify the correct input on the video display is selected for the output of the source.
- ✓ Verify the Video Input assignment configurations. Make certain that the correct video input is assigned to the source you are playing.

No Video on Zone 2

- ✓ Verify the HDMI input from the source is connected.

There is no On-Screen Display (OSD)

- ✓ Verify the OSD is turned on in the Concert AVR-7 / AVR-9 configuration settings.
- ✓ Verify that the correct input is selected on the video display or projector.

Audio

The audio doesn't match the video

- ✓ The Video and Audio input can be selected independently in the Main Menu. Verify they are set the same.
- ✓ Verify the correct Video Input and Digital Audio input assignments are configured for the Source input button.

The sound is poor or distorted

- ✓ Verify the speaker settings configuration matches your speakers. If a speaker is set to Large and it cannot reproduce full range bass, you will hear distortion.
- ✓ If the trouble is only on some channels: Verify the audio RCA cables to the power amplifiers are working and seated properly.
- ✓ If the trouble is in all channels: Verify the Input Trim setting in the Advanced Configurations is not set too low.

Cannot select Dolby Digital or DTS decoding mode

- ✓ The Concert AVR-7 / AVR-9 can only decode formats encoded onto the source. Normally these are marked on the packaging or liner notes of the material.
- ✓ Verify that the correct format is selected in the Start menu of the DVD.
- ✓ Verify that the digital input from the source is properly connected to the Concert AVR-7 / AVR-9.
- ✓ Verify that the digital output of the source is enabled. Some DVD players have a setup menu that can only be accessed if there is no disk in the player.

Hum on analog inputs

- ✓ Verify that all the two channel analog audio cables are connected properly.
- ✓ If the hum only occurs on one source, try a different set of connecting cables.
- ✓ If the hum occurs on a source with an external connection such as an antenna or cable TV, try disconnecting that input. If the hum disappears, put a ground isolator on that connection.
- ✓ It does not know the words.

No audio on Zone 2

- ✓ Zone 2 is muted when unit is first turned on.
- ✓ make sure you are using a source with analog outputs

No Zone 2 audio when playing a DTS encoded video

- ✓ Most DVD players cannot output a stereo analog version of the soundtrack while playing a DTS encoded disk. If you want to watch the movie in the second zone, select the Dolby Digital soundtrack on the disk.

Unable to adjust the Bass and Treble controls

- ✓ The Bass and Treble tone controls are defeated.

My boomerang won't come back

- ✓ It's a stick.

WARRANTY

...and now a word from the legal department...

People are scared of warranties. Lots of fine print. Months of waiting around. Well, fear no more. This warranty is designed to make you rave about us to your friends. It's a warranty that looks out for you and helps you resist the temptation to have your friend, who's "good with electronics", try to repair your AudioControl product. So go ahead, read this warranty, then take a few days to enjoy your new Concert AVR-7 / AVR-9 home theater system before logging onto the our web site at www.audiocontrol.com to register your purchases.

Our warranty has conditional conditions! "Conditional" doesn't mean anything ominous. The Federal Trade Commission tells all manufacturers to use the term to indicate that certain conditions have to be met before they'll honor the warranty. If you meet all of these conditions, we will warrant all materials and workmanship on the Concert AVR-7 / AVR-9 for five (5) years from the date you bought it, and we will fix or replace it, at our option, during that time. Here are the conditional conditions:

1. You need to register your purchases of the Concert AVR-7 / AVR-9 with us by going to the AudioControl product registration page at www.audiocontrol.com/product-registration.
2. You must keep your sales receipt for proof of purchase showing when and from whom the unit was bought. We're not the only ones who require this, so it's a good habit to get into with any major purchase.
3. The Concert AVR-7 / AVR-9 must have originally been purchased from an authorized AudioControl dealer. You do not have to be the original owner, but you do need a copy of the original sales receipt or invoice.
4. You cannot let anybody who isn't: (A) the AudioControl factory; (B) somebody authorized in writing by AudioControl to service the Concert AVR-7 / AVR-9. If anyone other than (A) or (B) messes with the Concert AVR-7 / AVR-9, that voids your warranty.
5. The warranty is also void if the serial number is altered or removed, or if the Concert AVR-7 / AVR-9 has been used improperly. Now that sounds like a big loophole, but here is all we mean by it:

Unwarranted abuse is: (A) physical damage (don't use the Concert AVR-7 / AVR-9 to level your projection TV); (B) improper connections (120 volts into the RCA jacks can fry the poor thing); (C) sadistic things. This is the best product we know how to build, but if you strap it to the front bumper of your Range Rover, something will break.

Assuming you conform to 1 through 5 (and it really isn't all that hard to do) we get the option of fixing your original unit or replacing it with a new one.

LEGALESE SECTION

This is the only warranty given by AudioControl. This warranty gives you specific legal rights, and you may also have rights that vary from state to state. Promises of how well the unit will work are not implied by this warranty. Other than what we've said we'll do in this warranty, we have no obligation, express or implied. We make no warranty of merchantability or fitness for any particular purpose. Also neither we nor anyone else who has been involved in the development or manufacture of the unit will have any liability of any incidental, consequential, special or punitive damages, including but not limited to any lost profits or damage to other parts of your system by hooking up to the unit (whether the claim is one for breach of warranty, negligence of other tort, or any other kind of claim). Some states do not allow limitations of consequential damages. Failure to register your product negates any service claims. The warranty included with the unit shall supersede this plain-text version if there is any inconsistency between the two.

SHOULD YOUR UNIT EVER NEED SERVICE...

Please contact AudioControl, either by e-mail or phone. We will verify if there is anything wrong in the system that you can correct yourself, or if it needs to be sent back to our factory for repair. Please include the following items when returning the unit:

1. A copy of your proof of purchase. No originals please. We cannot guarantee returning them to you.
2. Supply a really detailed description of the problem.
3. A return street address (no PO Boxes, please), and a daytime phone number in case our technicians have a question about the problem.
4. Package the unit in the original packaging if you still have it, and use great care and plenty of good packing materials to protect the unit and prevent it from moving about inside the box. Do not use loose materials like packing peanuts or real peanuts.

You are responsible for the freight charges to us, but we'll pay the return freight back as long as the unit is under warranty. We match whatever shipping method you use to send it to us, so if you return the unit overnight freight, we send it back overnight. We recommend United Parcel Service (UPS) for most shipments.

Repair service is available at:

Attn: Service Department
22410 70th Avenue West,
Mountlake Terrace,
WA 98043 USA

Phone 425-775-8461
FAX 425-778-3166
email: sound.great@audiocontrol.com

Concert AVR-7 / AVR-9 Home Theater Receiver Specifications

Inputs	AVR-9	AVR-7
Analog Audio Inputs	6 Stereo Pairs	6 Stereo Pairs
Nominal Audio Input sensitivity	1V-4V.	1V-4V
Input Impedance	47 kOhm.	47 kOhm
Signal to Noise Rhubarb	100 dB	100 dB
Digital Audio Inputs	6.	6
Video inputs	7 HDMI	7 HDMI
Outputs		
Speaker Level Channels	7.	7
Power Output (7 channels driven)	100 Watts per ch into 8 ohms 180 Watts per ch into 4 ohms	90 Watts per ch into 8 ohms
Minimum Speaker Load	4 ohms.	8 ohms
Total Harmonic Distortion	-100 dB	-100 dB
Frequency Response	20 Hz – 20 kHz.	20 Hz – 20 kHz
Preamp Audio Outputs	7 main channels, 2 subwoofer 2 height channels, Zone 2	7 main channels, 2 subwoofer 2 height channels, Zone 2
Main Video Outputs	Dual (2) HDMI	Dual (2) HDMI
Second Zone Output	1 HDMI, Stereo analog audio	1 HDMI, Stereo analog audio
Control
12 Volt Trigger Outputs	Main Zone, Zone 2.	Main Zone, Zone 2
RS-232 Serial control	1 DB-9	1 DB-9
IR Receiver Inputs	Main Zone, Zone 2.	Main Zone, Zone 2
General		
Power Consumption (Stand By)	Less than .5 Watts	Less than .5 Watts
Power Consumption (typical usage)	100 Watts	100 Watts
Power Consumption (maximum)	1500 Watts.	1500 Watts
Dimensions	17"W x 16.5"D x 7"H.	17"W x 16.5"D x 7"H
Weight	48 lbs	47 lbs

All specifications are subject to change.

Appendix 1: Feet Removal Procedure

Note: If this was your real appendix, please consult your health care professional as it should not look like this.

The feet of the unit can be removed to create a cleaner look when fitting the unit into a rack.

You must make sure that the ventilation slots in the bottom panel are not covered and that cooling air flow is not restricted.

Tools Required

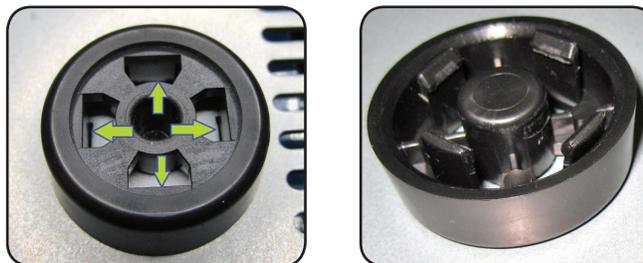
- A medium-sized flat-bladed screwdriver, 1/4" wide or narrower.
- Needle-nosed pliers

The Procedure

1. Make sure that the power cord and all other cords are disconnected from the unit.
2. Carefully place the unit upside-down on a flat surface, such as the kitchen table with a clean and dry towel on it.
3. Remove the adhesive non-slip grips from the bottom of each foot.



4. Identify the four locking tabs securing the foot to the chassis. The photo of a removed foot shows the details of the locking tabs.



-
5. Use the small flat-bladed screwdriver to gently pry the four locking tabs outward to release the foot from the chassis. Use the needle-nose pliers to pull upward at the same time, with (to get all technical for a moment) a bit of a jiggle-joggle motion.



6. Repeat for all 4 feet. Place all the feet in your sock drawer in case you wish to reinstall them in the future.

Appendix 2:

This appendix was removed as it became bloated and painful.

AudioControl®

Making Good Sound Great™

22410 70th Avenue West • Seattle, WA 98043 USA
Phone 425-775-8461 • Fax 425-778-3166
www.audiocontrol.com