Home Theater
SYSTEM

CONCERT AVR-1

Home Theater Surround Sound Receiver
User Functionality Manual

For those who consider perfection possible®

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

Rev 1.12

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Greetings from the rainforest

On behalf of everyone at AudioControl we wanted to congratulate you on your selection of the Concert AVR-1 Home Theater Surround Sound Receiver. Whether this is your first venture into home theater or you are long time seasoned audio veteran, you will truly enjoy the performance of this product.

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-1 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-1 home theater receiver. Even though you're dying to plug it in and start pushing buttons, please take a little time to glance over this users guide and learn about the Concert AVR-1. Any component that does as much as the Concert AVR-1, deserves all the explanation it can get. Given the complicated nature of the Concert AVR-1, 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-1

While the AudioControl Concert AVR-1 is equipped with a large number of features and functions that were designed to maximize your theater experience, we wanted 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.

HDMI Inputs and Outputs

The Concert AVR-1 is equipped with 120 individual audio and video inputs and outputs, including a large number of HDMI (High-Definition Multimedia Interface) inputs and outputs. The new generation HDMI inputs will allow the Concert AVR-1 to interface with Blu-Ray players, satellite and cable decoding boxes plus traditional DVD players that also have HDMI connectors. HDMI is an uncompressed all digital interface standard used on many home theater products equipment. This format can be used for sending audio, video, and control signals over short distances. For longer runs, you can use the AudioControl BVHD-10 which can extend HDMI signals up to 150 feet via simple CAT-5/6 cabling.

The dual HDMI outputs are assignable to allow for priority switching via the display device. Component, composite and S-Video signals can also be automatically upconverted, scaled to their maximum potential resolutions and output through the HDMI ports.

Powerful and Cool Running Class H Amplification

Class H Design

The Concert AVR-1 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 literally "sips" current, which helps it to satisfy even the "greenest" of customers. Despite it's minimal current draw, the Class H design is powerful enough to drive 120 watts per channel (840 watts total), with all channels being driven into 8 ohms. The Concert AVR-1 also has the additional ability of driving into lower impedance's when necessary.

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/consumer/technology/dolby-volume-audiocontrol.html*

Multiple Surround Sound Formats

The Concert AVR-1 supports the latest surround codecs of Dolby True HD and DTS-HD Master along with traditional formats of Dolby Digital 5.0 and DTS High Resolution. A powerful 32 bit DSP processor enables the Concert AVR-1 to decode all current discrete surround digital formats available for 5.1, 6.1 and 7.1. In addition your Concert AVR-1 has the capabilities to process two channel signals using Dolby Pro Logic II, Pro Logic IIx and DTS Neo to provide multi-channel output.

Multi-Zone Operations For 2nd and 3rd Zones

Since we know your audio and experiences may extend beyond one room, the Concert AVR-1 is equipped with outputs for secondary and tertiary zones. 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 while your "crazy uncle" could have independent volume in a third room. The Second Zone is also equipped with a video output so you can expand your video options even more.

Inputs For Networked Audio and USB Sources

The Concert AVR-1 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 an Ethernet input and 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

A touch screen or automation system is what really pulls a high-end home theater together. It puts the full power of the system at your fingertips. While the Concert AVR-1 will operate with a number of IR remote controls (sold separately), it is equipped with an RS-232 serial port and an extensive command library to control all aspects of the Concert AVR-1. 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 page (www.audiocontrol.com) for list of dealers in your area.

We Want to Hear From You

Before you get too entrenched in the features of your Concert AVR-1, we encourage you to take a moment and visit the AudioControl web site at www.audiocontrolregistration.com and register your new Concert AVR-1. It allows us to keep a record of your purchase of the Concert AVR-1. 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 you 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-1 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-1 being part of the theater system. This concludes the "gentle reminder" section of this manual.

Award-Winning Quality

The Concert AVR-1, 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.

Front Panel Features

❶ **STANDBY -** The switch serves to "wake up" your Concert AVR-1, provided the main power switch, located on the rear panel, is turned "On".

❷ **MENU -** Pressing this button will allows access to the Set-Up Menu functions of the Concert AVR-1.

❸ **INPUT (Up and Down arrows) -** These buttons allow the user to select an audio and video source for playback or scroll through the OSD (On-Screen Display).

❹ **INFO -** User can select the information that appears on the display of the Concert AVR-1 and also is used in navigating the OSD (On-Screen Display).

❺ **MODE -** User can select between Stereo and surround modes that are available for the source unit and also is used in navigating through the OSD (On-Screen Display).

❻ **SELECT -** Used in conjunction with the Set-up Menu function, this button allows you to enter selections you have made.

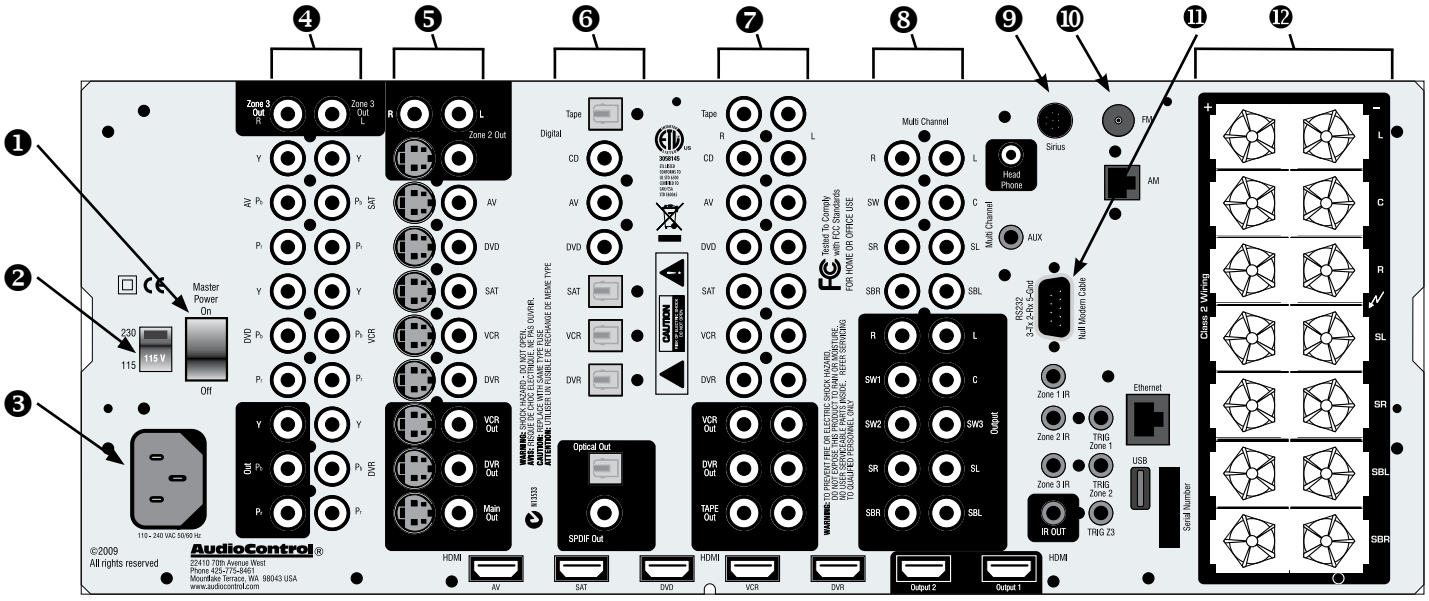
❼ **MUTE -** Need to answer the phone, but still keep an eye on the TV? Just press the Mute button to turn off the sound. Press it again and the audio gracefully ramps back up to where you were so rudely interrupted.

❽ **ZONE -** Allows user to select between the Main Zone, Zone 2, and Zone 3

❾ **DISPLAY -** This cool blue display allows you to see the basic functions of your Concert AVR-1. ***It is important that you have an external display device connected to one of the rear video connectors for complete viewing of all menus during set-up.***

❿ **DIRECT -** When using two-channel *analog* inputs, this button defeats all digital signal processing and directs the two-channel analog input from the selected source to the front outputs. Use this button when you want to do some serious quality two-channel listening.

⓫ **MASTER VOLUME CONTROL KNOB -** This nice polished knob lets you adjust the volume in selected zones (Main, Zone 2, and Zone 3).



Rear Panel Features

❶ **MAIN POWER SWITCH -** The only time to turn OFF the Concert AVR-1 with this button is when the system will not be used for some time. Normally this button is left On and the Concert AVR-1 is "woken up" via the "Standby" switch on the front panel, via an optional remote control or through an automation system. When this switch is turned off, you cannot turn the Concert AVR-1 On or Off via any other method.

❷ **VOLTAGE SELECTION -** The Concert AVR-1 is designed to operate with either 110-120V volt or 220-240V line voltages. You will want to set this switch to match up with your local power voltages.

❸ **POWER CONNECTION -** All good AC power flows in here.

❹ **ZONE 3 AUDIO OUTPUTS -** These audio only outputs can feed an external amplifier while sharing the same source as Zone 2 but allow for independent volume control of the outputs.

❺ **ZONE 2 AUDIO/VIDEO OUTPUTS -** These second zone outputs enable listening and viewing a source independently of the main theater system.

❻ **DIGITAL AUDIO CONNECTIONS -** The Concert AVR-1 features assignable coaxial and optical digital audio inputs and outputs. While we have labeled them with the names of typical source units, these connections as assignable via the internal menu's

❼ **ANALOG AUDIO INPUTS AND OUTPUTS -** Connect the appropriate two channel stereo outputs and inputs from your source units here.

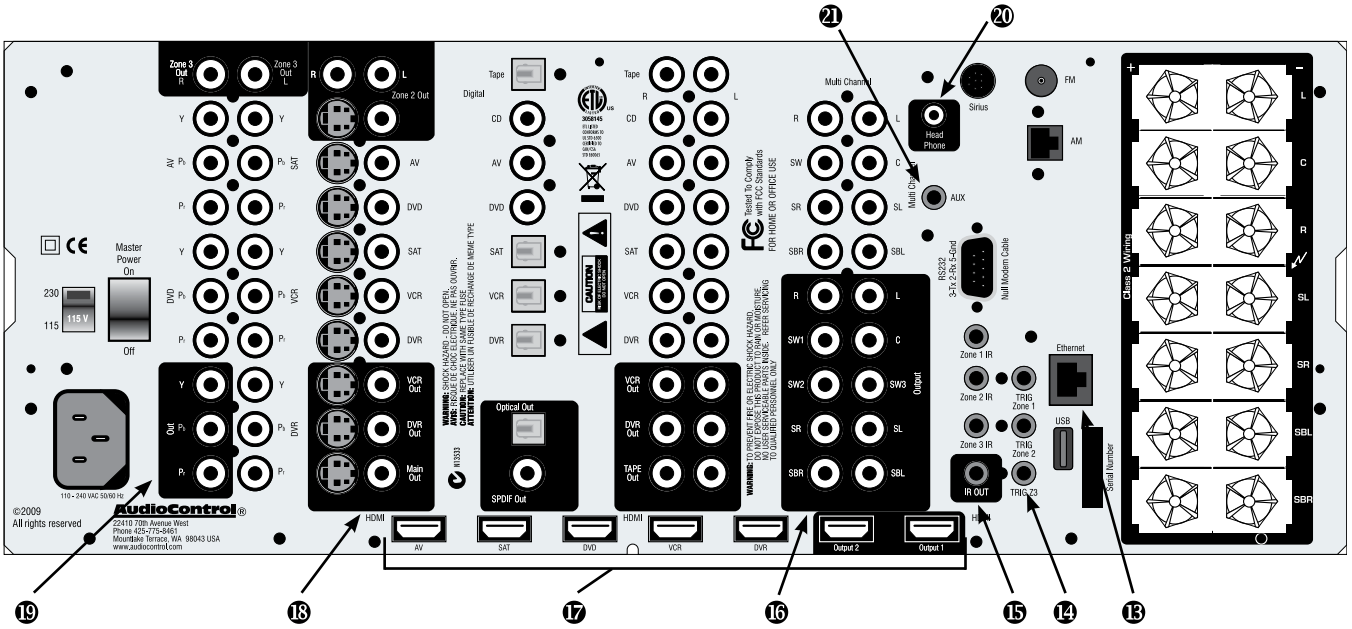
❽ **MULTI-CHANNEL DVD-A/SACD INPUTS -** Newer multi-channel Blu-Ray and DVD players can give you superb music audio quality in full surround. These players feature a surround decoder built into them and output analog multichannels. The Multi-channel inputs on the Concert AVR-1 bypass all digital circuitry and connect the player to the amplifiers with only a volume control in the path.

❾ **SIRIUS RADIO INPUT -** The Concert AVR-1 is designed for use with the "SiriusConnect™ Home Tuner" package (sold separately) which should be connected to this input via the cable supplied in that package.

❿ **ANTENNA CONNECTIONS -** These inputs should be connected to the AM and FM antennas that are supplied with your Concert AVR-1. For optimum reception you may want to consider a roof mounted external antenna.

⓫ **RS-232 SERIAL PORT -** This connection is used to interface the Concert AVR-1 with an external touchscreen or other automation system. It is also used when updating the internal Concert AVR-1 firmware programming.

⓬ 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 red (positive/+) wires are connected to the red (positive/+) connector on the back if your Concert AVR-1. Likewise the black (negative/-) wires should be connected to the black (negative/-) connectors on the back of the Concert AVR-1 to maintain proper speaker polarity.



⓭ NETWORKED AND USB AUDIO INPUTS - Your Concert AVR-1 has the ability to accept audio files via an Ethernet connection or from a USB mass storage device. This usage requires some expertise in the area of computer networks so please refer to page 33 or your AudioControl dealer for the proper applications.

⓮ 12 VOLT TRIGGER OUTPUTS - These three outputs provide a +12 volt signal to control the power amplifiers, source units, video projector, screens and curtains in the theater. The Main Trigger output is active whenever the Concert AVR-1 is turned on; the Video Trigger 2 is active whenever a video source is selected.

⓯ IR (INFRARED) INPUTS AND OUTPUTS - These jacks enable use of external IR sensors and emitters for installations where it is not desirable (or practical) to use the front panel IR.

⓰ MAIN AUDIO OUTPUTS - These RCA outputs can feed external power amplifier(s), should you choose to not use the amplifier built-in to your Concert AVR-1. (Our customers tell us that our AudioControl Savoy 7-channel amplifier works great in these situations). Additionally the Concert AVR-1 has three subwoofer outputs that can feed signals to active powered subwoofers.

⓱ HDMI INPUTS & OUTPUTS - These inputs allow the Concert AVR-1 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.

⓲ COMPOSITE AND S-VIDEO INPUTS & OUTPUTS - These are for the video inputs and outputs from your source units. If you are planning on using the second zone video outputs, you should ALWAYS connect a Composite video input from each source.

⓳ COMPONENT VIDEO OUTPUT - When not using the HDMI outputs connect these high quality video outputs to your main video display device (i.e. Projector, CRT, LCD, etc.) You will be pleased to know that the Concert AVR-1 will convert Component, Composite and S-video signals to HDMI.

⓴ HEADPHONE CONNECTOR - This jack accepts an 1/8" input for using headphones with impedance ratings of 32 to 600 ohms. This jack is always active and ***will not turn off the audio*** in the main zones when a connector is inserted which allows it to be used for remote installations. The main zones can be muted via RS-232 serial commands if necessary.

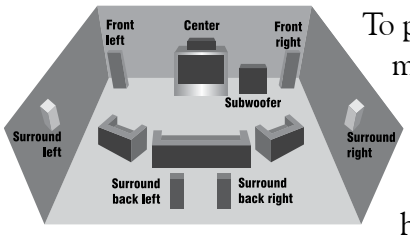
㉑ AUX INPUT - This Aux input is used in conjunction with the auto-setup microphone. Additionally it can also accept either analog or optical digital signals.

Set-up and Configuration

Unit Placement

The Concert AVR-1 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 any other component. Avoid placing Concert AVR-1 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-1.

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 harmony subwoofers you need.

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.

Power Wiring

Like many of today's intelligent home electronics, the Concert AVR-1 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-1 is in standby. We always recommend the use a high quality surge protection device to keep all of your electronics safe from the evils of spikes on power systems.

Audio Connections

INSTALL TIP ☛

Most of the sources will have two audio connections to the Concert AVR-1; an analog 2-channel connection plus a digital audio connection. Whenever possible, ***connect both*** types of audio signals to the Concert AVR-1. This will provide the digital audio signal necessary for high-quality digital surround sound along with the analog audio for tape recording plus it provides the necessary analog signals for the second and third zone audio outputs.

Don't worry if your satellite receiver has a coaxial digital output and the Concert AVR-1 SAT input is optical. Refer to the advanced configuration section on page 28 of this manual for more information regarding assigning a digital input to the optical or coaxial connection.

Multi-Channel Analog Audio

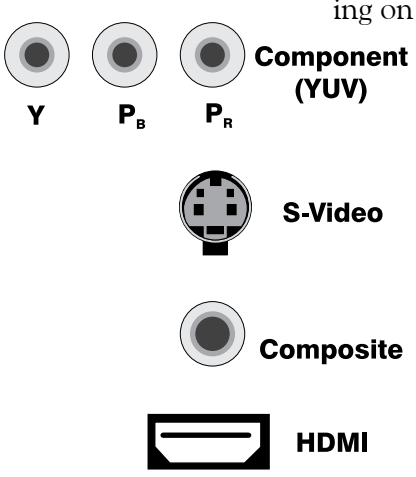
Audiophile surround recording formats such as SACD and DVD-A decode the multi-channel signals directly within the Blu-Ray or DVD player. The Concert AVR-1 features an eight channel direct-analog input for these sources. These inputs bypass the digital circuitry in the Concert AVR-1 and are routed directly to the Main Amplifier outputs via an independent volume control circuit. This ensures the highest possible audio quality for this input.

Video Connections

Choosing your video

There are four video signal connection formats ranging from Good to Best; Composite, S-Video, Component Video and HDMI digital video. Depending on the particular source unit you are using, you may have the option of more than one of these video connections. Whenever possible *connect as many as possible* as the processor in your Concert AVR-1 will identify the best format and route that to your main HDMI, component or composite video outputs. Because of the higher bandwidths involved with video signals, the quality of the interconnect cables you choose is important especially with HDMI. Video connections should always be made with cables specifically designed for video. Don't be tempted to grab some extra audio RCA cables lying around. Without the proper 75 ohm cabling, your picture quality will suffer from smear, ghosting or noise. It is always a good idea to make certain that the video and audio signal cables are routed away from any power wiring.

Types of video connections



Video Transcoding

To simplify your installations, the Concert AVR-1 provides video transcoding which routes the S-video, Composite signals, and Component video signals to the HDMI outputs of your Concert AVR-1. As we mentioned before it is best to connect all analogue and digital audio/video signals form your source units to your Concert AVR-1 to allow proper use of the Main, Secondary, and third zones.

INSTALL TIP ☛

HDMI Signals

Your Concert AVR-1 is equipped with five discrete HDMI inputs and dual assignable HDMI outputs. All the HDMI outputs are assignable to various display devices, the signals on both will be the same as HDMI can only have one processed video path.

Output 1 - Connect this to the display device located in your main zone or theater.

Output 2 - Connect this to the display device located in your secondary zone.

Additionally, standard HDMI signals are only meant to be sent 20 to 30 feet before signal degradation or even dropout occurs. Therefore we recommend you utilize a HDMI signal extension system like the AudioControl BVHD-10, especially when using high bandwidth signals like 1080p from Blu-Ray players or cable boxes.

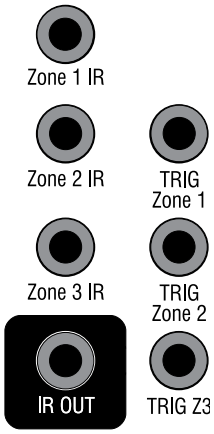
IR (Infra-red) Remote Control Connections

We have equipped the Concert AVR-1 with a number Infrared (IR) inputs plus an output to allow for maximum control flexibility with standard IR remote controls (sold separately). This allows you to place the infrared receiver where it can "see" the signal from the remote control when the equipment may be hidden. The IR connections are designed for "modulated" signals and wired for stereo or mono 3.5mm jacks with "Tip" being the modulated signal and "Sleeve" being ground. The signals are compatible with third-party receivers such as a Xantech No. 291-10.

Zone 1 IR - This is ideal for when the front panel of the Concert AVR-1 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

Zone 3 IR - Allows for control of source and volume functions of Zone 3. You will want to note that Zone 3 will always share audio sources with Zone 2.



IR Output - This output is an electrical combination of Zone 1, Zone 2, and Zone 3 IR input signals and can be used as an IR repeater.

12V Trigger Connections

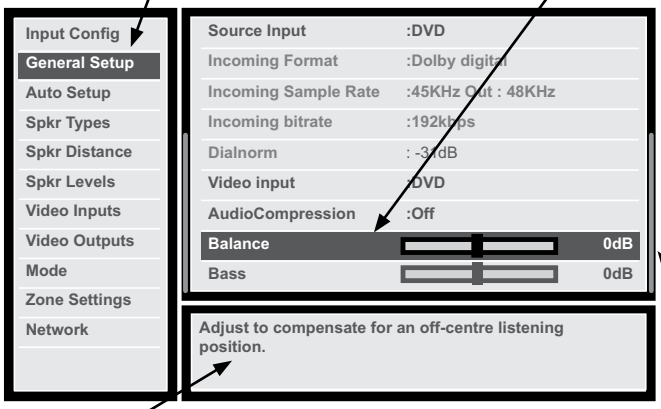
There are three stereo mini-jack 12 volt trigger outputs on the rear panel of the Concert AVR-1 which are used to remotely control such things as the power amplifier turn-on, projector power, screen automation. The jacks are designed for 3.5mm mono connectors with "Tip" being the trigger output and "Sleeve" being ground. Each jack is capable of outputting a 12V 70 mA switching signal.

Setup Menus

This section of the manual discusses how to navigate the set-up menus of your Concert AVR-1 home theater receiver. As you have probably determined by now, if you have the read the rest of this manual, the Concert AVR-1 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 setting 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 most likely not have to change these again unless you make equipment or usage settings to your system.

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

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



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

Scroll Bars - These indicate the position of the displayed screen within longer menus.

Initial Display Configurations

Your Concert AVR-1 has a default digital video output resolution of 480i/60 and 525-line 60Hz NTSC for analogue video as these are the most common display resolutions. Needless to say you can change these in the set-up menus if necessary. If your display device uses a different resolution, it should synchronize automatically. However should you encounter an unstable OSD (on screen display) you may need to make a resolution change.

INSTALL TIP ☛ If at any point you need to reset the video output resolution and frame rate to the default setting, push and hold the "Select" button for 3 seconds.

Configurations For 1080p/24 Applications

The Concert AVR-1 supports both 1080p/24 fps (frames per second) and the more commonly used 1080p/60 fps video formats. To properly utilize the 1080p/24 format you will want to make sure that the source device (i.e. Blu-ray player) and the display device (i.e. projector or TV) are both capable of supporting this format. In the Video Output section of the Setup menus, set the Output Resolution of your Concert AVR-1 to 1080p (not Preferred) and make sure that the Frame Rate is set to Auto. Failure to do any of the above could result in no image.

INSTALL TIP ☛ To get started and view these set-up menus it is very important that you have one of the video outputs (Component, HDMI, composite, or S-Video) of your Concert AVR-1 connected to your video display device (i.e. projector, flat panel, TV). This is absolutely necessary to see the set-up menus. In the event you need to reset the output resolution and frame rate to the factory settings, it is simply a matter of pressing and holding the "SELECT" button for three seconds.

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-1 or by using an IR remote control (sold separately) that incorporates the appropriate IR codes.

1. Press the Menu button once to enter the Setup Menus. The word **"Menu"** will appear on the display of your Concert AVR-1.
2. Use the Input selection button "Input ∧" and "Input ∨" to navigate among the menu's and use the "< Info" and "Mode >" buttons to select appropriate menu screen.
3. Press the "SELECT" button 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-1 has individual audio and video settings that can be adjusted specifically for its use.

INPUT - Identifies the currently selected input which settings are being displayed below.

NAME - Specific name/label for this input that will show on display device and OSD. Very useful when you have more than one source unit that may do similar functions (i.e. 2 two Satellite receivers could be named SAT1 and SAT2 accordingly)

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

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

TREBLE and BASS - 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 Auto Speaker Set-Up in the Concert AVR-1 utilizes a special algorithm that calculates many the major frequency resonance's that occur due to room acoustics and speaker locations and creates specific equalization filters to offset this. This menu allows you to select whether to engage the Room Equalization filter for each source. Options are "Not Calculated", "ON" or "OFF" with the default being "Off".

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 0.5, 1, 2, and 4 volts RMS and the default being 2 Volt. Source units with low output levels can benefit from being set to higher output settings such as .5 or 1V.

DOLBY VOLUME - Selects whether Dolby is engaged for this input with the options being "Off", Cinema or Music and the default being "Off". 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/consumer/technology/dolby-volume-works.html*

DOLBY LEVELLER - The setting options are "0" (minimum) and "10" (maximum) with the default being "9". This Dolby Volume feature allows matching of quiet and loud sources of source unit inputs irregardless 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-1 properly using an SPL meter (like the AudioControl SA-3052) then you can leave this setting at 0.

SURROUND EX - When playing Dolby Digital EX encoded material, the Concert AVR-1 gives you the option of selecting the Surround settings, provided you have Surround Back loudspeakers connected. Setting options are "Auto DD EX", "Auto PLIIx" and "Manual".

> **Auto DD EX -** The Concert AVR-1 will automatically switch to Dolby Digital EX mode when a Dolby Digital EX bit stream is detected.
>
> **Auto PLIIx Movie -** The Concert AVR-1 will automatically switch to Pro Logic lIix Movie mode decoding when a Dolby Digital EX bit stream.
>
> **Manual -** If a Dolby Digital Ex bit stream is detected, the Concert AVR-1 will treat it as a normal Dolby Digital signal. The EX or Pro Logic lIix decode modes may be implemented by pressing the "MODE" button.

STEREO MODE - If you are using an external subwoofer, and are listening to stereo (two channel) sources, either digital or analog system, you can select to configure how the subwoofer receives it's bass information. The "Stereo Mode" functions are bypassed 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.

BRIGHTNESS - This video setting adjusts the brightness for this input, providing you are using a video equipped source unit.

CONTRAST - This video setting adjusts the contrast for this input.

COLOR - This video setting adjusts the color saturation for this input.

PICTURE MODE - The setting options are Video, Film, or Auto with the default being Auto. The video processor in the Concert AVR-1 normally automatically detects the original source type and properly sets the Video mode or Film mode processing. Occasionally some source material is unable to be interpreted properly by the processor, which may require a manual adjustment.

EDGE ENHANCEMENT - This video feature sharpens the picture.

MOSQUITO N.R. - This video feature removes haziness that sometimes appears around objects in a picture.

NOISE REDUCTION - This video feature removes random video noise that may appear on the picture from a source unit.

BLOCK N.R. - This video feature removes block artifacts in overly compressed digital video signals

COMPONENT MODE - This mode allows you to configure the component video input of your source unit to properly match up with your display device. Setting options are "Normal", "RGsB" and "RG+Sync".

Normal: Configures output for standard Component (YPbPr) analog video.

RGsB: Configures for RGB analogue video with video "sync on green"

RGB+Sync: Configures for RBG analogue video with sync on the composite input for the selected source.

HDMI AUDIO - Allows you to enable or disable audio input over HDMI for this source. Settings options are "Yes" or "No" with default being "Yes". Selecting "No" forces the Concert AVR-1 to look for audio via the SPDIF digital or analog audio inputs.

VIDEO SOURCE - Selects whether the video signal for this source is detected automatically or locked to a particular signal type. Setting options are "Auto", "HDMI", "Component", "S-Video" or "Composite" with "Auto" being the default.

General Setup

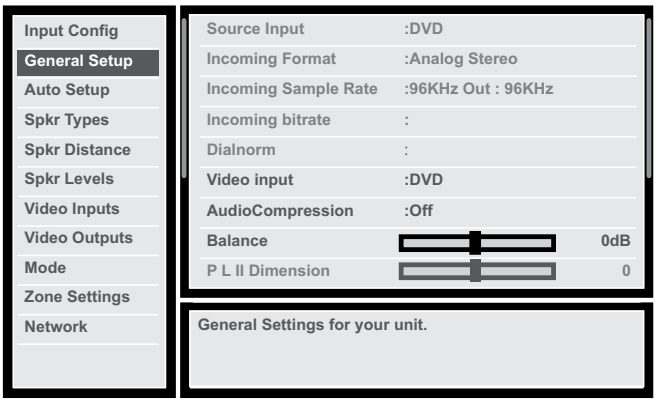
These menu screens display general information and system control ***(Information Only)***

Source Input: Displays the currently active audio source input.

Incoming Format: Displays format of digital audio stream

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

Incoming Bit Rate: 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-1 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.

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. There are three settings for the compressing:

Off: No Compression
Medium: Just a little off the top
High: Keeps the sound down and won't wake the kids.

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

Dolby Prologic II Music Mode Settings

These setting apply to all two-channel inputs when PLII or PLIIx Music mode is selected.

Dimension - Adjusts the depth of the front/rear sound stage. For normal listening this should be set to +3. Setting options are –3 to +3 with default setting being "0".

Center Width - Determines how strongly the Pro Logic II decoder processing creates the center channel image. Normally this signal is fed only to the center channel speaker output, but if the center speaker is set to "None" in the speaker setup, a phantom center channel is created using the front left and right channels. Normally this setting is left at +3.

Panorama - When the Panorama Mode is enabled, the front center image is extended to include the rear surround speakers. This provides a more enveloping wrap-around effect.

Digital Output Frequency - Sets the sampling frequency of the audio Analogue-to-Digital converter. Settings options are 44.1/ 48 /96 kHz. Default is 96 kHz

Volume Adjustment - Allows you to set the step size for the volume control. Options are "Normal" (1 dB steps) or "Fine (.5 dB steps).

INSTALL TIP ☛

Maximum Volume - Limits the highest volume that the Concert AVR-1 will play. This is useful if you have speakers or amplifiers with limited power handling abilities.

Max On Volume - This is the highest volume that the Concert AVR-1 will play when it is first switched on first turned. This prevents the Concert AVR-1 from being turned on at shock volume levels from the last time you were watching a good movie.

Auto Setup

Your Concert AVR-1 is equipped with an Auto Setup feature that assists in setting all of the essential speaker settings for your system, including which speakers are present, types of speakers, crossover settings for the subwoofer, sound level and distance compensation. It will also calculate basic room equalization filters to offset frequency resonances caused by acoustics and speaker placement. While there is no substitution for proper acoustical treatments, speaker placement and theater calibration, the Auto Setup Mode is useful for maximizing the acoustical performance of many theaters.

Microphone Positioning

The calibration microphone that comes with Concert AVR-1 is a designed to be placed in the center of your theater in the main listening position preferably at the same height as your head. Connect the microphone jack to the "Aux" input on the rear of your Concert AVR-1.

INSTALL TIP ☛ Make sure you minimize any background sounds in the theater by turning off any fans or noisy air conditioning systems, and close all doors and windows as outside sounds will negatively affect your measurement. Additionally if the microphone is positioned too close to the speakers this will result in a signal Clipping error.

Run Auto Setup - In this menu, press the "Select" button on the front panel and the Concert AVR-1 will begin generating test tones out of each channel, a process that takes about two minutes. During this process the AVR-1 identifies which speakers are being utilized in the system and what the recommend system adjustments are, based on the measurements.

Accept Setup - Once the Auto Setup has completed it's testing, you can select to accept the settings or reject them. Options are "No" or "Yes".

Auto Setup Progress - Displays a status summary of the Auto Setup function and identifies any measurement errors during the testing process. Options are "Calculating EQ" or "Completed Error".

After running the test, this screen will display any system errors for each speaker

Not Present - Speaker was not detected – check connections if necessary.

Clipped - If you have highly efficient speakers or the microphone is measuring over reflective sounds, this could result in a distorted or "Clipped" measurments. Try repositioning the microphone and running the test again.

Mic Too Close - This is generally a result of the microphone being too close to the speakers. Try repositioning the microphone and running the Auto Setup test again.

Crossover Frequency - Based on the speaker measurements your Concert AVR-1 processes, it will recommend a crossover frequency between your subwoofers and your main speakers.

Speaker Types

This series of menus allows you to select the types of speakers that you will be connecting to your Concert AVR-1. Please note that if you set all speakers to small then you must indicate in the menus below that a subwoofer is present in the system. If not your speakers will be selected to Large. For the purposes of setting the Concert AVR-1,

"Large" speaker is one that is capable of reproducing a full range (20-20KHZ) audio signal.

"Small" speaker is one that cannot reproduce deep bass frequencies (i.e. typical Satellite speakers typically below 80 Hz).

"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.

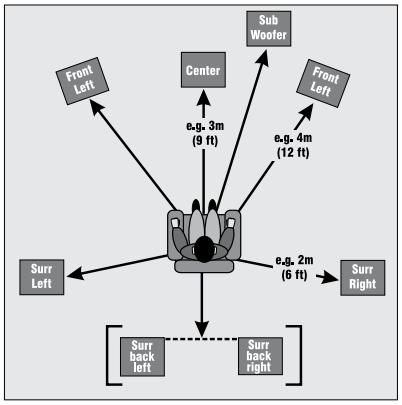
MCH Sub Levels - This adjusts the level of the subwoofer channels when using an externally decoded multi-channel source (DVD-A, SACD, HDMI, etc.) Most DVD players require a +10db compensation on the subwoofer channel to maintain the correct balance levels with the main channels. Setting options are "+10dB comp" or No comp"

USING CHANNELS 6 + 7 FOR - If your main speaker system consists of only 5 main speakers and no Surround Back Left & Right speakers, you can redirect to power from the unused amplifier channels to either bi-amp the front speakers or as a stereo amplifier for Zone 2.

Speaker Distance

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. Precise delay settings should be done by a trained professional with audio test equipment such as the AudioControl Iasys HT to measure the actual sound delay. You can get a rough delay setting using Auto Set-up. Measure the distance from the center of a speaker to the seated ear position of the main listening seat. Write each of these distances down and enter them into the Concert AVR-1.

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 Iasys HT for this calibration. The levels are nearly impossible to judge by ear alone. Though not as accurate as using the Iasys HT, you can use a sound level meter for this adjustment.

With the internal test noise generator of the Concert AVR-1, 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

Settings to optionally assign a video source to each of the normally audio only inputs. The default for each of these settings is "None". This is great way to listen to ball game over the FM, AM, or Sirius tuner but watch it over your normal video display device.

Video Outputs

The Concert AVR-1 is not only a great sounding home theater receiver but it is also a very powerful video processor. To that extent it has a number of video settings that needed to be selected carefully so as to optimize your video performance.

Zone 1 On Screen Display (OSD): While the set-up menu's will always show on your display device, you have the option of selecting whether your Main Zone general settings (volume, subwoofer level, etc.) show up on the bottom of the screen as an On Screen Display (OSD). The options are "On" or "Off".

Analog Output: Controls the output settings for the Composite and S-Video analogue video outputs. You will want to note that these outputs support display resolutions of 480i or 576i signals.

Analog Frame Rate: Controls the output frame rate for all Main Zone analog video outputs.

Display Type: Options are 4:3 standard or 16:9 widescreen.

Output Switching: The HDMI outputs of the Concert AVR-1 are completely assignable to match up with switching applications of the theater system.

Auto-Priority Out 1/Out 2: This input senses which display device is operating and gives priority to the selected HDMI output. If both HDMI outputs are being used, priority is given to the device selected in this menu.

Output 1 or Output 2: Enables only selected output to operate.

Output 1 & 2: This setting allows both HDMI outputs to operate simultaneously. In this mode the maximum resolution for both displays will be limited to the resolution of the lowest display device.

Output 1 Resolution: Selects the output resolution for HDMI Output #1 with the options being a list of the available display devices or "Preferred". In the Preferred mode, this output reflects the highest preferred resolution of the display device. This setting is only effective if Output 1 is the only active HDMI output.

Output 1 Frame Rate: This setting controls the frame rate output of HDMI Output 1 with this setting only being active if OUT 1 is the only selected HDMI output.

Lipsync 1 (Information Only): When this feature is supported by the display device, this setting displays how much lip sync is applied to HDMI Output 1.

Output 2 Resolution: Selects the output resolution for HDMI Output #2 with the options being available display devices or "Preferred". In the Preferred mode, this output reflects the highest preferred resolution of the display device. This setting is only effective if Output 2 is the only active HDMI output.

Output 2 Frame Rate: This setting controls the frame rate output of HDMI Output 2 with this setting only being active if OUT 2 is the only selected HDMI output.

Lipsync 2 (Information Only): When this feature is supported by the display device, this setting displays how much lip sync is applied to HDMI Output 2.

Output 1 & 2 Resolution: Selects the output resolution when both HDMI Outputs are being used options being available display devices or Best. In the Preferred mode, this output reflects the highest preferred resolution of the display device. This setting is only effective if the HDMI Output is Out 1 & 2 and is the only active HDMI output.

Output 1 & 2 Frame Rate: This setting controls the frame rate output of HDMI Output 1 & 2 with this setting only being active if OUT 1 & 2 is the only selected HDMI output.

Lipsync 1 & 2 (Information Only): When this feature is supported by the display device, this setting displays how much lip sync is applied to HDMI Output 1 & 2.

Surround Modes

This screen allows the user 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 Concert AVR-1.

Formats Available For 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 Pro Logic - Original Dolby surround format that produces five-channels of output from two-channel stereo material. Best used when material is encoded in Dolby Pro Logic, otherwise it is recommended that you use Dolby Pro Logic II.

Dolby Pro Logic II - Advanced Dolby decoding process that produces five-channels of output when using two-channel stereo material. This format also offers three different modes; Movie, Music, Matrix, and Game which provide various enhancements depending upon the source materials.

Dolby Pro Logic IIx - This Dolby format produces seven-channels of output when using two-channel stereo material and allows you to take better advantage of systems that utilize a 7.1 speaker system. Like Dolby Pro Logic II, this format also offers three different modes; Movie, Music, and Game for additional enhancement.

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

DTS Neo: 6 - This DTS based format outputs six channels of audio based when using two-channel stereo material. This format also offers two different modes, Cinema and Music which provide various enhancements depending upon the source materials.

Zone Settings

This menu allows you select the audio and video control and volume settings for Zone 2 and Zone 3. You will want to note that the Zone 2 and Zone 3 always share the same audio source.

Zone 2/3 Input - Selects the analog audio to be used for Zone 2 and Zone 3.

Zone 2 Video Output - Selects the analog video to be used for Zone 2.

Zone 2 Status - Displays current status at Zone 2 with options being "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.

Zone 2 Max On Volume - Selects the maximum volume level for Zone 2 when the Concert AVR-1 is powered on or comes out of stand-by mode.

Zone 3 Status - Displays current status at Zone 3 with options being "Standby" or "On"

Zone 3 Volume - Displays current volume level in Zone 3.

Zone 3 Maximum Volume - Selects the maximum volume setting for Zone 3.

Zone 3 Fixed Volume - Allows the Zone 3 volume to be fixed at the current volume level.

Zone 3 Max On Volume - Selects the maximum volume level for Zone 3 when the Concert AVR-1 is powered on or comes out of stand-by mode.

Standby - Selects what parts of the Concert AVR-1 turn-on and off when a Standby command is received via the Zone 2 IR port. Options are "Local Only" or "All Off".

Network

Your Concert AVR-1 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. Typically the computer network may use DHCP to automatically make the necessary networks settings although the Concert AVR-1 can also be configure manually when using a static IP address.

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

MAC Address (Information Only) - Displays the unique network card address of your Concert AVR-1.

IP Address - When not using DHCP, use this setting to assign a unique IP address to your Concert AVR-1.

Subnet Mask - When not using DHCP, use this setting to assign the subnet mask to your Concert AVR-1.

Gateway - When not using DHCP, use this setting to enter the IP address of the router connected to your Concert AVR-1.

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.

Use Proxy - Use this setting to select if you are connecting to the Internet via a proxy server. Options are "Yes" or "No".

Proxy Address - When using a Proxy Server, use this setting to enter its IP address.

Proxy Port - When using a Proxy Server, use this setting to enter the port number to which the proxy responds.

FM/AM Tuner Operation

The Concert AVR-1 is equipped with an AM/FM tuner that operates with 99 presets. You will want to note that most of the tuner functions are controlled exclusively through the use of an IR remote (sold separately or via serial commands from an automation system).

To enter the Tuner mode you will want to scroll up or down using the "Input" buttons until Tuner (FM or AM) is displayed on the OSD (On Screen Display). It will also display signal strength, processing mode, radio text, and program type if that information is available. Pressing the "Info" will allow you to scroll through the various pieces of information, if being broadcast.

Station Selection - Changing stations can be done via the left/right functions on most IR remote controls (sold separately). Each manufacturer of remotes typically presents this function slightly differently on each model they offer. Additionally press and holding these buttons for two seconds will result in the tuner scanning to the next strongest signal. Pressing one of the tuning buttons will stop the scanning.

Storing and Selecting Presets - When a particular radio station is being display, the Concert AVR-1 gives the user the ability to store this station into one of 99 presets, typically by pressing the "OK" or "Select" button on most IR remotes. You can also scroll through the presets by using the up/down functions on most IR remote controls (sold separately). Each manufacturer of remotes typically presents this function slightly differently on each model they offer.

Playing Audio Files via Network Audio or USB

The network audio client on the Concert AVR-1 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)
- Ogg Vorbis

Network devices must also be running a universal plug and play (uPnP) service such as Windows Media Player. This feature is standard with Windows Vista 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-1 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-1 or using an optional infrared (IR) remote control. Folders displaying a musical note symbol (♪) have playable files in them.

4) Select the file/track you wish to play and press the OK or ">" key. Pressing the "Select" button will also serve to pause the track. Pressing and holding "Select" button for two seconds will stop playback.

Internet Radio Stations

Once you have established an Internet connection for your Concert AVR-1, 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-1 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-1 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 two means of remotely controlling the Concert AVR-1: With Infrared (IR) Remote control and with the RS-232 Serial Port. The Concert AVR-1 RS-232 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.

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-1. If these settings are not correct, the Concert AVR-1 will not respond to the commands.

Concert AVR-1 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-1 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-1 and vice versa on the Receive Data line on the controller system. Connect the signal grounds on the control system and the Concert AVR-1 together. The RS-232 connection on the Concert AVR-1 is a DB-9 Male wired as follows:

Pin 2 Receive Data (RXD)

Pin 3 Transmit Date (TXD)

Pin 5 Ground

To connect the Concert AVR-1 to a standard PC serial comm 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-1 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-1
ZONE NUMBER	*0x01*	Zone 1
	0x02	Zone 2
	0x03	Zone 3
COMMAND CODE	*See code list*	The code of the command
DATA LENGTH	*0x01, 0x02 etc…*	Number of data units to follow
DATA	*See code index*	The parameters for the command
ETR	*0x0D*	End transmission

As an example:

To change the Concert AVR-1 video source in Zone 1 to SAT:

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

Command Structure - Receiving

Command processing begins when the first 0x0D (carriage return) is received. The Concert AVR-1 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-1 responds to the first command. When a command is received, the Concert AVR-1 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-1
ZONE NUMBER	*0x01*	Zone 1
	0x02	Zone 2
	0x03	Zone 3
COMMAND CODE	*See code list*	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	*See code list*	The parameters for the response, limited to 255
ETR	*0x0D*	End transmission

As an example:

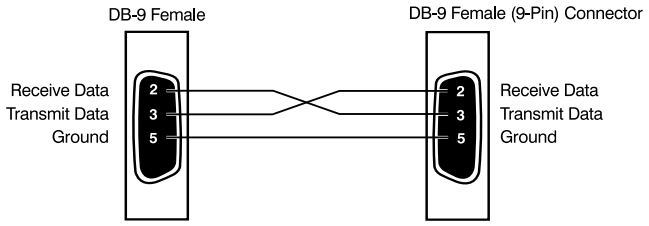
Answer code for source change in Zone 1 to DVD: 0x21 0x01 0x0A 0x00 0x01 0x00 0x0D

Simulating the RC-5 IR command via RS-232

A new feature in the Concert AVR-1 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-1 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-1. 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.



RS-232 Null Modem Arrangement

Serial and IR Code Tables

The following pages contain an extensive list of serial and IR codes for automation use of your Concert AVR-1. You can also download this information from the AudioControl web site at http://www.audiocontrol.com/t35/16462/520929/Theater-Processors-and-Receivers/Concert-AVR--1.html. You may also want to contact the manufacturers of your control systems and remotes as we proactively provide automation codes to many of them.

Automation command and response

Stand-by status

Request current power state of particular Zone

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x00	<CC>	0x00
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	0x01
<ETR>	0x0D	<DATA>	0x01 Zone on
			0x00 Zone in stand-by
		<ETR>	0x0D

Status of display brightness

Request display brightness state

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x01	<CC>	0x01
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	0x01
<ETR>	0x0D	<DATA>	0x03 Display brightness set to High
			0x02 Display brightness set to Medium
			0x01 Display brightness set to Low
			0x00 Display is off
		<ETR>	0x0D

Headphone connection status

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x02	<CC>	0x02
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	0x01
<ETR>	0x0D	<DATA>	0x01 Headphones are connected
			0x00 Headphones aren't connected
		<ETR>	0x0D

Simulate IR command

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x08	<CC>	0x08
<DL>	0x02	<AC>	Answer code
<DATA1>	RC5 System code	<DL>	0x02
<DATA2>	RC5 Command code	<DATA1>	RC5 System code
<ETR>	0x0D	<DATA2>	RC5 Command code
		<ETR>	0x0D

Video selection

Changes video input, audio remains

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x0A	<CC>	0x0A
<DL>	0x01	<AC>	Answer code
<DATA>	0x00 - DVD	<DL>	0x01
	0x01 - SAT	<DATA>	Current video source is returned
	0x02 - AV	<ETR>	0x0D
	0x03 - DVR		
	0x04 - VCR		
	0xF0 - Request current input		
<ETR>	0x0D		

Select current source audio input

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x0B	<CC>	0x0B
<DL>	0x01	<AC>	Answer code
<DATA>	0x00 - use analog	<DL>	0x02
	0x01 - use digital audio	<DATA>	0x00 - analog audio is in use
	0x02 - Use HDMI		0x01 - digital audio is in use
	0xF0 - Request current source audio type	<ETR>	0x0D
<ETR>	0x0D		

Video type of current source - (valid only on Zone 1)

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	0x01	<ZN>	Zone number
<CC>	0x0C	<CC>	0x0C
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	0x01
<ETR>	0x0D	<DATA>	0x03 - HDMI
			0x02 - Component
			0x01 - S-video
			0x00 - Composite
		<ETR>	0x0D

Volume status

Returns volume even if Zone is in Mute

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone Number	<ZN>	Zone number
<CC>	0x0D	<CC>	0x0D
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	0x02
<ETR>	0x0D	<DATA1>	0x00 (0) - 0x63 (99)
		<DATA2>	0x00 (0)
			0x05 (.5) Zone 1 only
		<ETR>	0x0D

Mute status

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone Number	<ZN>	Zone number
<CC>	0x0E	<CC>	0x0E
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	0x01
<ETR>	0x0D	<DATA1>	0x00 - Zone is muted
			0x01 - Zone is not muted
		<ETR>	0x0D

Direct mode status

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone Number	<ZN>	Zone number
<CC>	0x0F	<CC>	0x0F
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	0x01
<ETR>	0x0D	<DATA>	0x00 - Direct mode is off
			0x01 - Direct mode is on
		<ETR>	0x0D

Decode mode status for 2ch content

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone Number	<ZN>	Zone number
<CC>	0x10	<CC>	0x0F
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	0x01
<ETR>	0x0D	<DATA>	0x00 - Mono
			0x01 - Stereo
			0x02 - ProLogic II / x Movie
			0x03 - ProLogic II / x Music
			0x04 - ProLogic II Matrix
			0x05 - ProLogic II Game
			0x06 - Dolby ProLogic Emulation
			0x07 - Neo:6 Cinema
			0x08 - Neo:6 Music
		<ETR>	0x0D

Decode mode status - Multi-channel content

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone Number	<ZN>	Zone number
<CC>	0x11	<CC>	0x11
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	0x01
<ETR>	0x0D	<DATA>	0x00 - Mono down mix
			0x01 - Stereo Down mix
			0x02 - Multi-channel mode
			0x03 - Dolby EX / DTS-ES
			0x04 - ProLogic IIx movie
			0x05 - ProLogic IIx music
		<ETR>	0x0D

Video output resolution status

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone Number	<ZN>	Zone number
<CC>	0x13	<CC>	0x13
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	0x01
<ETR>	0x0D	<DATA>	0x00 - 480I, 60fps
			0x01 - 480p, 60fps
			0x02 - 576i, 50fps
			0x03 - 576p, 50fps
			0x04 - 720p, 50fps
			0x05 - 720p, 60fps
			0x06 - 768p, 50fps
			0x07 - 768p, 60fps
			0x08 - 1080i, 50fps
			0x09 - 1080i, 60fps
			0x0A - 1080p, 24fps
			0x0D - 1080p, 50fps
			0x0E - 1080p, 60fps
		<ETR>	0x0D

Menu status

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone Number	<ZN>	Zone number
<CC>	0x14	<CC>	0x14
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	0x01
<ETR>	0x0D	<DATA>	0x00 - No menus open at this time
			0x01 - Menu open
			0x02 - Set-up menu open
			0x03 - Trim menu open
			0x04 - Bass menu open
			0x05 - Treble menu open
			0x06 - sync menu open
			0x07 - Sub menu open
			0x08 - Tuner menu open
			0x09 - Network menu open
		<ETR>	0x0D

FM Genre

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x03	<CC>	0x03
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	(v) variable
<ETR>	0x0D	<DATA1> -	Program type in ASCII characters
		<DATA(v)	
		<ETR>	0x0D

Tuner preset - recall and status

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x15	<CC>	0x15
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0 - current tuner preset	<DL>	0x01
	0x01 - 0x32 (1-50) - preset	<DATA>	0xFF - Currently no preset selecte number to be recalled
			0x01 - 0x32 (1-50) - current preset number
<ETR>	0x0D	<ETR>	0x0D

Tune

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x16	<CC>	0x16
<DL>	0x01	<AC>	Answer code
<DATA>	0x01 - Increment frequency by 1	<DL>	0x02
	0x00 - Decrement frequency by 1	<DATA1>	FM: Frequency - MHz
	0xF0 - Current frequency status		AM: Frequency - 1000's & 100's - kHz
<ETR>	0x0D	<DATA2>	FM: Frequency - 10's kHz
			AM: Frequency - 10's & 1's kHz
		<ETR>	0x0D

Request Sirius station

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x18	<CC>	0x18
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	(v) variable
<ETR>	0x0D	<DATA>	Program label of Sirius station in ASCII characters
		<ETR>	0x0D

Request Sirius station program type

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x19	<CC>	0x19
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	(v) variable
<ETR>	0x0D	<DATA>	Program type of Sirius station in ASCII characters
		<ETR>	0x0D

Request DLS information from current station

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x1A	<CC>	0x1A
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0 - Sirius DLS request	<DL>	(v) variable
<ETR>	0x0D	<DATA>	Label of Sirius program in ASCII characters
		<ETR>	0x0D

Request preset details

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x1B	<CC>	0x1B
<DL>	0x01	<AC>	Answer code
<DATA>	0x01-0x32 (1-50): number of the preset	<DL>	(v) variable
<ETR>	0x0D	<DATA1>	0x01-0x32 (1-50): number of the preset
		<DATA2>	0x00 - AM frequency
			0x01 - FM frequency
			0x04 - Sirius
		<DATA3>	FM: Frequency - MHz
			AM: Frequency - 1000's & 100's - kHz
		<DATA4>	FM: Frequency - 10's kHz
			AM: Frequency - 10's & 1's kHz
		<DATA(v)>	The Sirius name in ASCII characters
		<ETR>	0x0D

Network playback status

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	Zone number	<ZN>	Zone number
<CC>	0x1C	<CC>	0x1C
<DL>	0x01	<AC>	Answer code
<DATA>	0xF0	<DL>	(v) variable
<ETR>	0x0D	<DATA1>	0x00 - Navigating
			0x01 - Playing
			0x02 - Paused
			0xFF - Busy/Not Playing
		<DATA2>	Name of folder if navigating - ASCII characters
		<DATA(v)>	Name of file if playing or paused - ASCII characters
		<ETR>	0x0D

Restore factory default settings

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	0x01	<ZN>	0x01
<CC>	0x05	<CC>	0x05
<DL>	0x01	<AC>	Answer code
<DATA1>	0xAA	<DL>	0x00
<DATA2>	0xAA	<ETR>	0x0D
<ETR>	0x0D		

Display information type

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	0x01	<ZN>	0x01
<CC>	0x09	<CC>	0x05
<DL>	0x01	<AC>	Answer code
<DATA>	For all sources:	<DL>	0x01
	0x00 - Set the display to Processing mode	<DATA>	Current display is returned - per command
	0xD0 - Set the dispplay to Time and Date	<ETR>	0x0D
	0xE0 - Cycle through all displayable information		
	0xF0 Current diplay type		
	If current source is set to NET:		
	0x01 - Set the display to Track		
	0x02 - Set display to Artist		
	0x03 - Set display to Album		
	0x04 - Set display to audio type		
	0x05 - Set display to rate		
	If current source is Sirius		
	0x01 - Set display to Artist		
	0x02 - Set display to Composer		
	0x03 - Set display to Category Name		
	0x04 - Set display to Signal Strength		
	If current source is FM		
	0x01 - Set display to Radio text		
	0x02 - Set display to Program type		
	0x03 - Set display to Signal strength		
	If current source is AM		
	0x01 - Set display to Signal strength		
<ETR>	0x0D		

Headphone over-ride

Activates Zone 1 mute relays when headphones are connected

Command		Response	
<ST>	0x21	<ST>	0x21
<ZN>	0x01	<ZN>	0x01
<CC>	0x1F	<CC>	0x05
<DL>	0x01	<AC>	Answer code
<DATA>	0x01 - Activate mute relay	<DL>	0x00
	0x00 - Deactivate mute relays	<DATA>	State of mute relay
<ETR>	0x0D	<ETR>	0x0D

Troubleshooting Common Problems

General

There are no lights on the Concert AVR-1

✓ Pressing any button or the Standby button on the front panel should wake the Concert Concert AVR-1.

✓ Verify that the power cord is plugged into a live AC outlet.

✓ Verify that the rear panel Power switch on the Concert AVR-1 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-1. Press the Menu button on the Concert AVR-1 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 (i.e. Component Video if the output of the DVD player is Component).

✓ Verify the Video Input assignment configurations. Make certain that the correct video input is assigned to the source you are playing.

✓ If at any point you need to reset the video output resolution and frame rate to the default setting, push and hold the "Select" button for 3 seconds.

✓ If you are using a Blu-ray player with a 1080p/24 fps (frames per second) format, you will want to confirm the output format of the player you are using matches with the input format of your display device. The Concert AVR-1 supports both 1080p/24 fps (frames per second) and the more commonly used 1080p/60 fps video formats. To properly utilize the 1080p/24 format you will want to make sure that the source device (i.e. Blu-ray player) and the display device (i.e. projector or TV) are both capable of supporting this format. In the Video Output section of the Setup menus, set the Output Resolution of your Concert AVR-1 to 1080p (not Preferred) and make sure that the Frame Rate is set to Auto. Failure to do any of the above could result in no image.

No Video on Zone 2

✓ Verify the composite video input from source is connected.

There is no On-Screen Display (OSD)

✓ Verify the OSD is turned on in the Concert AVR-1 configuration settings.

✓ Verify that the correct input is selected on the video display or projector.

The OSD is pink/red

✓ Verify that the HQ Video Mode is set to Component in the Concert AVR-1 configuration settings. If this is set to RGB, the on-screen display will be pink or red.

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-1 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-1.

✓ 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.

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.

✓ Confirm that the "Remote Power/Digital Audio" button on the back panel is in the "Out" position.

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-1 home theater system before logging onto the our web site at www.audiocontrol.com and register your purchases.

"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-1 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-1 with us by going to the AudioControl web site (www.audiocontrol.com), click on the "Home Theater" tab and then go to the warranty registration department and follow the directions.

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-1 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-1. If anyone other than (A) or (B) messes with the Concert AVR-1, that voids your warranty.

5. The warranty is also void if the serial number is altered or removed, or if the Concert AVR-1 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-1 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 that vary from state to state. Promises of how well the Concert AVR-1 will perform are not implied by this warranty. Other than what we have covered in this warranty, we have no obligation, express or implied. Also, we will not be obligated for direct or indirect consequential damage to your system caused by hooking up or operating the AudioControl Concert AVR-1.

Failure to complete the warranty registration process negates any service claims.

SHOULD YOU EVER NEED SERVICE...

Normally service will be handled by your AudioControl system professional who installed the system. If you're the take charge kind of person who wants to do this yourself, contact AudioControl, either by phone 425/775-8461 or email to sound.better@audiocontrol.com. We'll verify if there is anything wrong that you can fix yourself, or assist you in arranging to have it sent back to our factory for repair. Please include the following items with the returning unit:

1. A copy of your proof of purchase (that sales receipt we've been harping about). No originals please. We cannot guarantee returning them to you.

2. A brief explanation of the trouble you are having with the Concert AVR-1.

3. A return street address. (No P.O. Boxes, please)

4. A daytime phone number in case our technician has a question about the problem you are having.

You're responsible for the freight charges to us, but we'll pay the return freight back. We match whatever shipping method you send it to us, so if you return the unit overnight freight, we send it back overnight. We recommend UPS for any shipments.

Specifications

Concert AVR-1 Home Theater Receiver Specifications

Inputs

Analog Audio Inputs . . . . . 7 Stereo Pairs
Nominal Audio Input Sensitivity 500mV-4V
Input Impedance . . . . . 47 ohms
Signal-to-noise 100dB
Multi-channel Analog Audio Input . . . . . 1 (8 channels)
Digital Audio Inputs . . . . . 3 Coax, 4 Optical
Video Inputs . . . . . 5 Component, 5 Composite, 5 S-Video
HDMI Inputs 5

Outputs

Speaker Level Channels . . . . . Seven
Power Output . . . . . 120 Watts Per Channel, All Channels Driven into 8 ohms
Minimum Speaker Load . . . . . 4 ohms
Total Harmonic Distortion . . . . . less than 0.2%
Frequency Response . . . . . 20Hz to 20kHz
HDMI Outputs . . . . . 2 assignable
Main Audio Outputs . . . . . 7 main channels, 3 subwoofers
Digital Audio Output . . . . . 1 Coax, 1 Optical
Main Video Outputs . . . . . 1 Component, 3 Composite, 3 S-Video
Second Zone Output . . . . . Stereo Audio plus Composite & S-Video
Third Zone Output . . . . . Stereo Audio

Control Audio

12 Volt Trigger Outputs . . . . . Three - Main, Zone 2, Zone 3
RS-232 Serial Control . . . . . 1 - DB-9
IR Receiver Input . . . . . Three – Main, Zone 2, Zone 3 (3.5 mm Minijack)
IR Emitter Output . . . . . One (3.5 mm Minijack)

General

Power Consumption (Standby) . . . . . 3 Watts
Dimensions . . . . . 17”W x 16.5”D x 7H
Weight . . . . . 60 lbs

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For Those Who Consider Perfection Possible®

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