BATPIG'S

"DENON-TO-ENGLISH DICTIONARY"

SETUP GUIDE AND FAQ

Denon manuals are terrible. Thankfully, batpig is here!

Get help setting up your new Denon AVR, running Audyssey auto setup,

and understanding the obscurities of Denon model numbers and menu terminology.

Table of Contents

Shameless Plug

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< TAKE ME BACK TO THE HOME PAGE!

Setting up your Denon AVR, in plain English

We all know that the Denon manuals are worthless, soul-sucking torture tests. Plus, the menus are filled with cryptic terms with nary an explanation to be found. Thus, I present you with an easy, step-by-step guide to hooking up and setting up your shiny new Denon receiver. Enjoy, and I hope this helps you get up and running with minimal pain!

If you have general questions about the use or operation of your Denon AVR, check out my FADQ (Frequently Asked Denon Questions).

If you want some general background on modern AVR's, including explanations of new technologies like HDMI and upscaling, the first step should be to go and read Michael JHuman's outstanding AVR FAQ at AVSforum.com

Please note that this website deals primarily with "consumer level" Denon models, that is, everything BELOW the 3808CI and higher level models. The 3808CI and up have many additional advanced features that I am not 100% familiar with, and will not be covered here. For an explanation of what these model numbers mean, head over to the Denon Model Numbers section of this website.

CLICK HERE TO DOWNLOAD THE SETUP GUIDE AS A PRINTABLE WORD DOC!

Before you Begin

The first thing to understand about the modern AV receiver (AVR) is that it isn't like the good old days where you just plugged the red/white audio cables from the TV into the plug called "TV" and called it a day. With modern AVR's, all of these fancy new input connection types are completely user ASSIGNABLE, which means that it doesn't matter if you plug your HDMI cable from the DVD player into the input called "TV/CBL" or "HDP". There is nothing special about any of the inputs, and they can be reassigned by you to be associated with any of the unique input names (like "DVD", "HDP", etc).

So, lesson #1 is to IGNORE THE LABELS written next to the inputs on the back of your AVR. Some receiver manufacturers (like Onkyo and Harman Kardon) have been smart enough to dispense with the names, and just call the inputs "Video 1", "Video 2", etc., which is much less confusing. Denon, however, still sticks to the standard naming

conventions leading to bizarre situations like an HDMI input labeled "VCR".

So, again, just ignore the names on the back and just pay attention to the numbers (HDMI-1, HDMI-2, etc). And, when you hook everything up, WRITE DOWN exactly what you plugged in where, because you will have to assign all your inputs later to coordinate.

Please note that the old school connections — composite (the red/white/yellow analog RCA connections) and S-video — are NOT assignable. So if you use these, you do need to pay attention to which "name" is associated with the input. However, all of the digital audio inputs (optical and coaxial), component video inputs (the red/blue/green analog video connectors), and HDMI inputs are user assignable.

Once you have everything plugged in and you are ready to go, think of it as a three step process:

- STEP 1. Set up all of your basic speaker parameters (size, distance, level, etc) — this can be accomplished either through the AUTO SETUP menu (letting Audyssey do it), or manually in the MANUAL SETUP menu under SPEAKER SETUP.

- STEP 2. Set up all of the other basic options, done in the MANUAL SETUP menu.

- STEP 3. Assign and rename your inputs. This is accomplished in the INPUT SETUP menu.

The other two main menu areas, PARAMETER and INFORMATION, are not used when setting up the receiver.

The PARAMETER menu is for adjusting specific sound parameters WHILE

YOU ARE USING THE RECEIVER, not during setup. Note that not all parameters will be available all the time, this menu changes depending on what surround mode you are currently in (e.g. Dolby Digital vs. Stereo vs. Multi Channel IN etc). There is a table in your manual which details exactly which parameters are available with which surround mode.

The INFORMATION menu is, you guessed it, just to get information about various things going on in your receiver. Again, this is not used in setup, and you can't actually change anything here; it's only to get info while actually using the receiver.

NOTE #1 - Most of this information applies to Denon AVR's with model numbers ending in "8" or "9", such as the 888, 2808, 1909, etc. Older Denon models may have a slightly different menu structure. However, almost all of this information should still be relevant to older receivers, as Denon does not change their terminology over time. Many of the settings will still function the exact same way as described here, they just may not be located in the exact same place in the menu.

NOTE #2 - Not all Denon AVR's have identical functionality, so some of the items discussed below may not be present on your specific receiver. For example, Denon AVR's which do not convert analog video to HDMI will not have any of the settings related to HDMI output resolution, older Denon AVR's without Audyssey will obviously not have any Audyssey options, etc.

^ BACK TO THE TOP

STEP 1 - Set up your Speaker Parameters

One way or another, your AVR needs to know how many speakers you have connected, and how to properly balance them so that the sound mix in your room is heard as intended. Since the model year ending

in "5", modern Denon AVR's have had some type of AUTO SETUP routine. In current models, the auto setup is done by a 3rd-party calibration system known as Audyssey (read more at Audyssey.com).

HELPFUL HINT: While it is possible to set up your Denon using only the display on the receiver, it is much, much easier to do it using the On Screen Display (OSD) on your TV screen. Make sure you have a video connection from one of the "Monitor Out" video plugs to your display, and switch your display to the correct input to view the OSD. Note that Denons which do not have analog>digital video scalers will not output the OSD over an HDMI connection.

Option 1: To let Audyssey set up your system for you, press the A.MENU button to call up the On Screen Display (OSD), and go to the AUTO SETUP menu by hitting the "ENTER" button on the remote. Leave the "Front Sp." set to "A" unless you are using the "B" speaker terminals for some reason, and leave the "Amp Assign" on "7.1" or "Zone 2" unless you are going to bi-amp your main speakers (see the FADQ for more info). You can change the Amp Assignment later if you need to.

To begin Audyssey, scroll down to "Start" and click LEFT on the remote to begin.

HELPFUL HINT: Note that sometimes in the Denon menus you need to hit the LEFT ARROW on the directional pad to advance! Who knows why they do this, but it has been this way for years. So if you are sitting there hitting the "ENTER" button over and over and wondering why nothing is happening, try hitting the LEFT ARROW!

Once Audyssey has begun, follow the instructions on the screen and make sure to follow the Audyssey Step-by-Step Guide. Remember to USE A TRIPOD, as the microphone needs to be stable for accurate results, and definitely do all 6 or 8 measurement positions for best results. For more info, please click here to go to the Audyssey section.

Option 2: To skip Audyssey for now and just set up your receiver manually, open up the OSD and go to the MANUAL SETUP menu, and then

select the SPEAKER SETUP sub-menu.

The first step is to tell the AVR what speakers you have, and whether you want the AVR to perform "bass management" on them. Select SPEAKER CONFIGURATION, turn any speakers you have connected to "Large" or "Small", and any speakers you don't have connected to "None".

HELPFUL HINT: The "Large" vs. "Small" designation has NOTHING to do with the physical size of your speakers! In AVR terms, Large vs. Small is only about bass management, i.e. telling the receiver whether or not you want to cut off bass frequencies below a specific point, and then "cross over" or "hand off" the low frequencies to your subwoofer. As a general rule, if you have a subwoofer, SET EVERYTHING TO "SMALL"! Even if you have big, floorstanding front speakers, you subwoofer will do a better job reproducing the lowest frequencies.

If you don't have a subwoofer, your front speakers MUST remain as "Large" because there is no subwoofer to cross over to. Any speakers set as small will now hand off the bass frequencies to your fronts.

Next, if you have a subwoofer, enter the SUBWOOFER SETUP menu. The LFE vs. LFE+MAIN setting is only relevant if you have set any speakers to "large". If all of your speakers are set to "small", this setting doesn't do anything. For speakers set to "large", think of this as the "double bass" seting. For more info on the LFE vs LFE+MAIN setting, click here.

Next, set your speaker distances using the DISTANCE menu. Whip out the tape measure, pick a central primary listening spot, and measure the distance to all of your speakers. This is an important step, and is less about physical distance than it is about time alignment, i.e. making sure all the sound gets to your listening spot at the correct time.

Next, you must balance your speaker output using the CHANNEL LEVEL

menu. Select your preference for the test tones, "Auto" (the speaker test tone will cycle continuously through all of your speakers) or "Manual" (you control which speaker is outputting the test tone). Then, scroll down to "Start" and hit the LEFT arrow to begin.

If you have selected "Manual", you can cycle the tones among the speakers by pressing UP or DOWN on the directional pad. To adjust the volume of a particular speaker, press LEFT or RIGHT.

HELPFUL HINT: While you can get decent results "by ear", it is much more accurate to do this using a Sound Pressure Level (SPL) meter, which you can buy at Radio Shack. It is very important for the surround mix that your speaker levels be balanced correctly!

Next, you need to specify the cut-off frequency for bass management by entering the CROSSOVER FREQUENCY menu. Scroll to the left or right to cycle through the various options. This is the frequency at which the receiver will start cutting off the bass from your speakers, and instead send it to the dedicated subwoofer (or fronts if you have no subwoofer).

To set independent crossover frequencies for each speaker, keep scrolling left/right until it says "Advanced", and then new options will appear for each individual speaker type (front, center, surround, surr.back).

HELPFUL HINT #1: The general default is to set your crossover frequency to 80Hz all around. However, if you have tiny satellite speakers, you may need to set it higher. Check the specifications for your speaker and choose a crossover point above the "minus 3 dB point" quoted in the specs. A good rule of thumb is to set towers to 60 or 80Hz, medium or large bookshelves to 80Hz, small bookshelves to 100Hz, and tiny satellites to 120Hz or 150Hz. However, you may have to experiment as everyone's setup is different. The best idea, however, is to let Audyssey figure it out for you.

HELPFUL HINT #2: If you set your Crossover to "Advanced", you will see an option for "LFE" at the bottom of the list. This is somewhat confusing, as it is NOT part

of the bass management of your receiver. Rather, this is a "cap" or "Low Pass Filter" (LPF) for the dedicated LFE channel. There is very little dedicated low frequency content above 80Hz, so as long as this is above 80Hz it will be fine. Audyssey recommends just setting this to 120Hz, the specified ceiling for any LFE content.

The new '09 models have one extra sub-menu in SPEAKER SETUP, called FRONT SPEAKER SETUP. This is for people who have a second set of front speakers that they prefer to use for 2-channel music, which are different than the speakers used for multichannel content. So, if you have a setup like this, it saves you the trouble of having to remember to switch to the "B" speakers for 2-channel music and then back to the "A" speakers for multichannel. For most of us, who only have one set of speakers for everything, just leave this on the default "Normal" setting.

^ BACK TO THE TOP

STEP 2 - Set up Other Options

This section will cover the other options available in the MANUAL SETUP menu. If you have general questions about the use or operation of your Denon AVR, check out my FADQ (Frequently Asked Denon Questions)..

HDMI SETUP OPTIONS:

In general, with a typical home setup you can leave these all on their default settings and things should work, as long as you have correctly assigned all of your inputs. By default, modern HDMI-

capable Denon have video conversion enabled, and are set up properly for an HDMI connection between receiver and processor.

The only reason to change any of the HDMI settings is if you have an atypical setup ?like a HDMI/DVI connection to your TV ?or if you want to specifically disable the video conversion and processing for some reason.

A brief explanation of the options:

- HDMI AUDIO OUT: This selects whether HDMI audio is 蒽tripped? from the signal to be played on your surround sound speakers, or whether you want the HDMI audio passed through to your TV. If you leave it on the default setting, "AMP", the sound will come from your speakers. If you switch it to "TV", the sound will be passed to your TV. Note that this is an either/or setting! You can't do both at the same time! Also, this only applies to HDMI audio. Your receiver will not "upconvert" other types of audio to be output to your TV via the HDMI cable.

- COLOR SPACE: In general, just leave this on default (YCbCr) unless you specifically know you need RGB color. Generally, all modern video devices use the YCbCr component color space. This setting falls into the category of, "if you don't know what it is, just don't touch it because you probably don't need it."

- RGB RANGE: This setting is irrelevant unlesss you switch to RGB in COLOR SPACE. The RGB RANGE toggles between "video levels" and "computer levels" for color output range. As with COLOR SPACE, most modern video devices will be using "video levels" and so just leave this on "Normal" unless you specifically know what you are doing.

Video Conversion Options (note that on '09 models, these four

settings are input specific and can be set individually by input in the INPUT SETUP menu):

- i/p SCALER: This setting turns the analog-to-digital scaling functions of the receiver on or off. Note that all models dicussed on this website (i.e. below the 3808ci) will NOT do any video processing on HDMI video! There is no scaling or processing at all on HDMI inputs, these settings and all the other video processor settings apply ONLY to analog-to-HDMI transcoding.

- RESOLUTION: When the i/p SCALER is turned on, this setting determines the output resolution of the video signal. If you want to output at the highest resolution that your TV accepts, just leave this on the default, "Auto".

- PROGRESSIVE MODE: Just leave this on "Auto" unless you are experiencing any weird artifacts. Different types of video material can have different "frame rates" — for example film is shot at 24 frames-per-second (FPS), whereas video is shot at 30 FPS. However, your display has a frame rate that is a multiple of 60 — typically 60Hz, but with new LCD's 120Hz. Consequently, the video processor has to convert the frame rate of the source material to the standard 60 FPS rate used on displays. Unless you know what you are doing, and you can tell that there is a specific problem with the cadence of the frame rate, just leave it on "Auto".

- ASPECT: This setting determines whether the Denon "stretches" standard definition video signals to fit your widescreen HDTV. If you leave this on "NORMAL", standard definition material (which has a 4:3 aspect ratio) will be passed through un-stretched, so you will see black bars on either side unless you

have your TV do the stretching. If you set this on "FULL", the Denon will horizontally stretch standard definition video so it fits the 16:9 aspect ratio of your HDTV.

The following HDMI options are only available on '09 and newer Denon AVR's, and require a compatible HDMI 1.3 display to function:

- AUTO LIPSYNC: Automatically syncs up the timing of audio and video when switching HDMI signals. You can just leave this on default (ON) unless you have problems.
- HDMI CONTROL: Turning the HDMI Control setting on "links up" your HDMI 1.3 Denon AVR with your compatible display. The primary benefit of HDMI Control is that the Denon AVR will "pass through" HDMI video and audio when the Denon is on Standby. If you experience some funny HDMI issues, try turning this and "Power Off Control" to the "off" position, it may resolve things.
- POWER OFF CONTROL: This settings is only applicable if "HDMI Control" is turned on. When this is on, turning on/off your "linked" display will also turn on/off the Denon AVR. Again, this will only work with compatible displays!

HELPFUL HINT: Remember, by default, Denon AVR's with HDMI and video processing are set up to output everything to your TV via an HDMI cable, and will scale all analog sources automatically to the highest HDMI resolution your TV accepts. If all you want to do is plug everything in and run one HDMI cable to your TV, then DON塌 CHANGE ANY SETTINGS and it should work fine as long as you have assigned all of your inputs correctly (see Step 3) in MANUAL SETUP > ASSIGN.

AUDIO SETUP OPTIONS:

A brief explanation of the various options (note that all options will not be found on all models):

- EXT.IN SUBWOOFER LEVEL: This setting applies ONLY to the multichannel analog inputs. If you have an external device (like an SACD player or a Blu Ray Player) that is connected with multichannel analog cables, this setting ensures that the LFE channel gets the appropriate level boost.

- 2CH DIRECT/STEREO: This menu allows you to have a different speaker configuration for listening to 2-channel music using the "Direct", "Stereo", and "Pure Direct" surround modes. If leave it set at "Basic", it will just use whatever configuration settings you have chosen in the SPEAKER SETUP menu. If you set it on "Custom", you can tweak the settings specifically for two-channel music, including having a different crossover frequency, speaker distance, etc.

  HELPFUL HINT #1: If you are trying to listen to two-channel music in a 2.1 configuration (two speakers + subwoofer), and you can't get any sound to come out of the subwoofer, try setting it to "LFE+MAIN" here in the "2Ch Direct/Stereo" menu. Sometimes this "forces" the sub to be active with 2-channel music when it won't work otherwise.

  HELPFUL HINT #2: When in "Direct" or "Pure Direct" mode, there is NO BASS MANAGEMENT. That means your front speakers will be sent a full-range signal even if they are set to "small". Whatever bass your subwoofer produces will be "double bass", duplicating the output of your front speakers. If your front speakers cannot handle bass, do not use the Direct/Pure mode for 2-channel music, just stick to "Stereo" mode.

- DOLBY DIGITAL SETUP: This setting will turn on/off the Dynamic Range Compression (DRC) for Dolby Digital sources. If DRC is on, it will compress the dynamic range of a Dolby Digital soundtrack to reduce the volume change between loud and soft parts. Note that this is a GLOBAL setting, meaning if you turn it on here it will affect everything. Generally, just leave

this "OFF" (the default setting) and use things like "Night" mode (or "Dynamic Volume" on '09 models) if you want to control volume swings.

- AUTO SURROUND MODE: If this setting is on, your Denon AVR will automatically remember what surround mode you prefer depending on the input source and the signal type. For example, let's say you like to listen to 2-channel music from CD's in the "Stereo" mode, but when you get a 2-channel signal while watching TV you want to matrix it to 5.1 using "Dolby Pro Logic II". If Auto Surround is "on", the AVR will remember this, so when you switch to the "CD" input it will automatically go into "Stereo" mode, and then when you switch back to the "TV/CBL" input it will automatically go back into Pro Logic mode. In general, just leave this setting set to "ON" (the default) unless you want to constantly be fiddling with the surround mode buttons.

- MANUAL EQ ('08 and older models): This setting is where you can configure a Manual EQ if you'd rather not use the Auto EQ set up by your auto calibration. Selecting "Base Curve Copy" will copy over the "FLAT" curve determined by the auto calibration if you would like to use that as your starting point, instead of starting from scratch. The "Adjust CH" lets you select which speakers you are adjusting (you can do them all together, in L/R pairs, or individually). Once you have that all squared away, you can adjust the EQ's individually or together using a manual 9-band parametric EQ.

- EQ PRESET ('09 models): This setting is similar to the "Manual EQ" above, however the '09 models add a couple of new options:

  1. The "EQ Customize" control allows you to delete unused EQ curves from the list of options, so that when you hit the "Room

EQ" button you don't have to cycle through all five possibilites (off, Audyssey, Flat, Front, Manual). For example, if the only EQ you ever use is the "Audyssey" EQ curve, just switch all the other ones to "Not Used" and then, when you hit the Room EQ button on your remote, it will just turn Audyssey on/off.

2. The "Direct Mode" control allows you to have the AVR automatically turn off Audyssey when listening in "Direct" or "Pure Direct" modes. Some people prefer to listen to 2-channel music with no processing or EQ'ing, and putting this setting on "OFF" will set this as the default, so you don't have to remember to manually turn Audyssey on or off every time you listen to 2-channel music. If you would like to use Audyssey with 2-channel music, just leave this set to "ON". (Note that this setting exists on older Audyssey-enabled models, it is just located in the "AUTO SETUP" section under "OPTION")

ZONE 2 SETUP OPTIONS:

The section is used to set up basic options for multizone use. For information on seting up Zone 2, see the FADQ Section.

A brief explanation of the various options (note that the 2808ci and 2809ci have a Zone 3 option as well):

- L/R CH LEVEL: Used to balance output levels between the left and right speakers in Zone 2.
- VOLUME LIMIT: Use this to set a maximum volume level for your Zone 2 speakers so you don't accidentally blow them out.

- POWER ON LEVEL: Use this to set the initial volume level for the Zone 2 speakers when you first turn on Zone 2. Setting it on "Last" will cause the volume level when Zone 2 turns on to be the same as when it turned off. Setting it on "---" will cause the Zone 2 speakers to be muted when they first turn on. Otherwise, you can set a specific volume number.

- MUTE LEVEL: use this setting to determine the function of the "Mute" button. Leaving it on the default "Full" will cause the Mute botton to completely cut off the volume, or you can set it so that the Mute button just attenuates the volume by "-20dB" or "-40dB".

On the 98X/280X models, you can also set up tone controls (bass/treble) and a high-pass filter for your Zone 2/3 speakers.

OPTION SETUP:

The section is a catch-all for any other options available on your Denon AVR. Note that different models may have slightly different options available.

- AMP ASSIGN: Denon AVR's with 7.1 capability provide the option of reassigning the Surround Back (SB) amps. Since these AVR's come with 7 discrete amp channels, and not everyone is running a 7.1 setup, this provides the flexibility to utilize the 6th and 7th channels as opposed to letting those spare amps "go to waste".

  The specific assignment options available depend on the exact model of Denon AVR, but in general all 7.1 Denons will offer the option to reassign the SB amps to power a pair of Zone 2 speakers (thus the designation as a "7.1/5.1+2" receiver).

Starting with the '06 models, all 7.1 Denon AVR's also provide the option of using the SB amps to "bi-amp" the front speakers.

Here is a description of the various AMP ASSIGN options (note that your specific Denon may not have all of these options):

- 7.1 - Use the "7.1" setting if you are running a 7.1 setup. The Surround Back (SB) amplifiers will power the rear (surround back) speakers for a 6.1 or 7.1 setup. Note that, if you would like to utilize Zone 2 speakers when the AVR is set to "7.1" mode, you need to provide some method of external amplification for your Zone 2 speakers, as all seven of your amps are now being used for the Main Zone.

- ZONE 2 - Use the "Zone 2" setting if you would like to run a 5.1 setup in your Main Zone, but also want to power a pair of Zone 2 speakers. The five main amps will used to power the 5.1 setup in your primary setup, and the two SB amps can now be connected with normal speaker wire to a pair of speakers. Note that this is the only amp setting that will allow internal volume control over Zone 2! The Zone 2 "pre-outs", used to connect an external amplifier to power Zone 2, are what is known as "line level" outputs. They provide a constant output, so the volume control must be provided externally (usually on the other amp).

- FRONT A/B BI-AMP - Use this setting if you are running a 5.1 setup, and you would like to use the spare SB amps to bi-amplify your front speakers. Please note that you must have bi-amp capable speakers with FOUR speaker wire posts, and remember to remove the "jumper" connecting the posts

or you will blow your amp!

In this setting, you will run one set of speaker wire from the FRONT L/R terminals on the Denon to the lower binding posts on your front speakers, and then a second set of speaker wire from the SURR.BACK terminals on the Denon to the upper terminals on your speakers.

Note that this is what is known as "passive" bi-amping; the different wires will be carrying the EXACT SAME signal, and it will not really "double" your power as all seven amps in your AVR share the same power supply. The benefits of this are much-debated, so please do not ask me if it is "worth it". The general consensus is that you may see a small benefit in the form of a little extra "headroom" at high volumes, but a lot will depend on your speakers and your ears. If you have extra speaker wire lying around, there is nothing to lose by giving it a shot, but don't expect anything major to change.

- 2 CH - Use this setting (available on '08 models only) if you are running a 5.1 setup, and want to use the spare SB amps to power a different set of front speakers that are dedicated to 2-channel listening. The SB amps will be inactive when in any multichannel mode (Dolby Digital, DTS, Multi Channel In, Dolby Pro Logic, etc.). When you switch to a 2-channel mode (Direct, Pure Direct, and Stereo), the five main amps will now be inactive, and the SB amps will turn on.

  For example, let's say you had a 5.1 speaker setup that you liked for movies, but you also have a 2-channel

speaker rig that you really prefer for music. You would hook up the 5.1 speakers to the normal 5.1 speaker outs, just like any normal 5.1 setup. Then, you would hook up your dedicated 2-channel speakers to the SURR.BACK speaker outs. Whenever you are in a surround mode, sound will come out of your normal 5.1 channel speaker setup. However, if you put it in one of the dedicated 2-channel modes — Stereo, Direct, or Pure Direct — the 5.1 setup is deactivated, and sound now automatically comes out of the dedicated 2-channel speakers.

Note that in '09 models, Denon replaced this option with the "Front Speaker Setup" setting, described above in the SPEAKER SETUP section. This is a much more sensible way to do it, since you can just use the "B" speaker terminals for your dedicated 2-channel speakers and still run a 7.1 setup.

- VOLUME CONTROL: Like with the Zone 2 options listed above, this section allows you to set the volume options for the main zone. The VOLUME LIMIT allows you to set a maximum volume level so you don't accidentally blow out your speakers; the POWER ON LEVEL allows you to specify what the volume will be when the receiver turns on; the MUTE LEVEL allows you to specify exactly what the "Mute" button does (full mute, or just volume attenuation at your choice of "-40dB" or "-20dB").

- SOURCE DELETE: This option (available on '08 and newer models only) allows you to delete unused sources, so when you scroll through the inputs it will automatically skip the ones you don't use.

- ON-SCREEN DISPLAY: This section allows you to set up options for the On-Screen Display (OSD). Note that the OSD will NOT overlay on top of HDMI and Component video sources! When viewing component video or HDMI sources, there will be no volume bar or other overlay information. Thus, many of these options will have no effect if you only ever watch HD sources. If you call up the menus, the screen will blank out and resync on the OSD information. When viewing a composite video or S-video source, there will be overlay.

- QUICK SELECT NAME: This allows you to rename your three "Quick Select" buttons to whatever you want.

- TRIGGER OUT: This section (only available on "CI" models with 12V trigger output) allows you to specify which zone and which input will trigger the 12V trigger output. This is generally only used with custom installations, or for automatically turning on an external amplifier or lowering a projector screen; if you don't know what it is, you probably won't ever use it.

- REMOTE ID SETUP: Allows you to specify a remote ID number to prevent conflicts with other Denon remotes. Basically, don't touch this unless you know what you are doing.

- 2WAY REMOTE: Turns on/off the 2-way remote function for higher level models (2808ci/2809ci and up) which utilize a 2-way remote.

- DISPLAY: Allows you to specify the brightness of the AVR's display. Note that you can also just use the "Dimmer" button as well.

- SETUP LOCK: Allows you to lock in the options you have set up

so that nobody accidentally screws up your carefully tuned setup. You can also set a password to unlock if you so choose, although this is optional. If Setup Lock is turned on, it will no longer be possible to make changes such as accessing the menus, turning on/off Restorer and Night mode, changing surround parameters, Room EQ, or adjusting channel levels. To turn Setup Lock off, just hit the "Menu" button and it will prompt you to turn it off, or ask for your password if you have set one.

^ BACK TO THE TOP

STEP 3 – Set up your Inputs

Once you have hooked everything up, set up your speakers, and tweaked your options as described above, it is time to enter the INPUT SETUP menu so you can actually enjoy all those things you hooked up!

HELPFUL HINT: For current model ('08 and '09) Denon AVR's, you need to select the input you would like to work with by scrolling up to the top of the INPUT SETUP screen, and then scrolling left/right to choose between inputs. Any changes you make will ONLY affect the input you have selected at the top of the screenNote that any inputs you have deactivated using "Source Delete" (described above in the OPTION SETUP section) will not appear as you scroll through the inputs.

Remember the first lesson we learned: other than old school (red/yellow/white RCA cable and S-video) inputs, IGNORE THE INPUT LABELS. The key to input assignment is to understand that the output you get is dependent on what SOURCE NAME you select, and how the inputs have been assigned or "mapped" to these source names.

Think of each source name — like "TV/CBL" or "DVD" or "V-AUX" — as different "faucets", and the physical inputs on the back of the unit as input "pipes". You can re-route those pipes on the back to come out of any faucet you want on the other side (when you actually select a source name).

So, when you are determing how you are going to hook up all of your components, first start by deciding which NAME each will be associated with. Start with the name (the faucet it will come out of), and then re-map those input pipes on the back to correspond to your names.

To help illustrate how everything works when you assign inputs, let's use a hypothetical scenario where you are trying to hook up three devices: 1. an HD cable box that is hooked up with an HDMI cable to "HDMI-1"; 2. a Blu Ray player that is hooked up with an HDMI cable to "HDMI-2"; and a Wii that is hooked up with a component video cable to "COMP-1" and plugged in with analog RCA audio (the red/white cable) into the "SAT" input.

- First, ASSIGN YOUR INPUTS. Using our hypothetical, scroll to the top, select the "TV/CBL" input, and then go into the "Assign" sub-menu. Set the "HDMI" input to "HDMI-1", and set everything else to "None". Now, that HDMI cable you plugged in to the HDMI-1 input has been "assigned" to the TV/CBL source name. Next, choose another input name at the top (like "DVD"), go into the "Assign" menu, and set "HDMI" to "HDMI-2" and everything else to "None." Finally, go up to the top, choose the "SAT" input name, open up the "Assign" menu, and set "Component In" to "1-RCA", and everything else to "None".

  Now, when you turn to the "TV/CBL" input, it will play the

audio and video from the HDMI-1 input. When you turn to the "DVD" input, it will play your Blu Ray player that is connected to HDMI-2. And when you turn to the "SAT" input, it will play the Wii via the component video and analog audio.

Now the biggest step is done — you have correctly assigned your inputs! Now, there are a few other options in the INPUT SETUP menu that can be set for each input specifically:

- INPUT MODE: Here, you can specify where the Denon AVR should "look for" the audio signal that is associated with a specific input. In general, leave this on "Auto" unless you want to force a specific configuration. Similarly, for "Decode Mode", just leave it on "Auto" unless you need to force a specific input type for some reason.

- RENAME: As you can imagine, this is where you can rename your inputs to whatever you want. For example, in our hypothetical setup, we can rename "TV/CBL" to say "CABLE", "DVD" can be renamed to "BLU RAY", and "SAT" can be renamed "Wii". Now, when you hit the "SAT" button on your remote, the display on the receiver will say "Wii".

- VIDEO: On '09 models, the video processing can be set up independently per input. The options in this menu are identical to those described in the HDMI OPTIONS section above.

  On '08 models, you can turn "Video Convert" on/off by input, but the main HDMI Video settings like resolution and color space have to be set globally in the HDMI SETUP menu. On '08 models, the "Video Convert" option is found in the "Other" sub-menu.

- SOURCE LEVEL: This setting (found in the "Other" sub-menu on

'08 models) allows you to balanace out the levels of your inputs. On some models, you can also balance the digital and analog inputs separately.

So, back to our hypothetical setup, let's say for some reason when you switch from the watching cable to the Wii, the volume always blasts you out of the room. To correct this, enter the "Input Setup", at the top scroll to the "SAT" input, then scroll down to "SOURCE LEVEL" and turn the volume level of the analog source to "-10dB". Now, the "Wii" input will be 10dB softer than the "CABLE" and "DVD" inputs. So if the volume level is "-30" when you are watching TV, when you switch over to the Wii it will effectively now be "-40", even though the display still says "-30".

Can you believe it? You are done with setup! Take a breath, and if you have any more questions, head over to the Frequently Asked Denon Questions (FADQ) section.

Shameless Plug

While I do have a "real" job, this website and all its content was created for free during my spare time. This is not a commercial website and I am in no way an AV professional. I do this because I enjoy learning about AV stuff and helping people out, and the contents and helpful hints found here are free for all to use.

However, if you found it useful, consider throwing a small donation my way to help me cover costs like web hosting, domain registration, time, etc. Maybe think about how much you would be willing to spend on a "Denon for Dummies" type book, and how much it would have cost to have a professional installer come over to set up your Denon.

BATPIG'S "DENON-TO-ENGLISH DICTIONARY" SETUP GUIDE AND FAQ

Denon manuals are terrible. Thankfully, batpig is here!

< TAKE ME BACK TO THE HOME PAGE!

FADQ: Frequently Asked Denon Questions

We all know that the Denon manuals are worthless, soul-sucking torture tests. Plus, the menus are filled with cryptic terms with nary an explanation to be found. Thus, I present you with a collection of Frequently Asked Denon Questions (FADQ) that will hopefully make setting up and using your shiny new Denon AVR a little less painful.

For questions on setup, please refer to the Setup Guide.

^ BACK TO THE TOP

General Denon Questions

Q. Which Denon model is right for me?

A. As you move up the Denon model lineup, each step up gives you slightly more power but more importantly additional features and inputs/outputs. Soon, this section will be updated with a buying guide for Denon models, but for now please refer to the Denon Model Numbers page for reference and try and compare specs online at Denon's site.

Q: Does the Denon on-screen display (OSD) show up over HDMI? And will it overlay the volume bar on top of the video when I change the volume?

A: The only Denon models which can display the OSD over HDMI are those Denons with analog-to-digital video conversion. The Denon OSD is an analog 480i signal, so if the AVR cannot convert analog input to HDMI output, the OSD will not display.

For '07 and '08 models, that means you need the 230X/88X model or higher; for '09 models, that means you need the 1909/789 or higher (see the Denon Model Numbers section of this website for more info).

However, when viewing a component video or HDMI source, the OSD will never **overlay** on top of the video signal. The screen will blank out for a second or two, and then the display will resync with the OSD and the white-text-on-black-background OSD will appear. When you are done and exit the OSD, the screen will blank out again and then it will resync with the video.

The only time you will see an OSD overlay (for example, the volume bar) on top of the video image is when you are viewing an S-video or composite video source.

The AVR 3808CI and higher-end models have a full color GUI (graphical user interface) which can overlay on top of any source.

[NEW FOR 2010 MODELS **** For the new '10 models, the AVR 590/1610 and AVR 1910/790 have OSD over HDMI but function as above, in other words **no overlay** of the volume bar or OSD. The AVR 890/2310CI and up, however, gain the full color GUI with ability to overlay the OSD and status (including volume bar) display over any source. ****]**

HELPFUL HINT: If you have an HDMI source hooked up to the "HDP" input, the OSD will only appear if you also have assigned a component video input to the "HDP" name. This is strange behavior, but the HDP input can only be associated with hi-def video, namely component or HDMI. Since there are no composite/s-video inputs associated with the "HDP" name, if you set the component video assignment to "none" the Denon receiver disables video conversion for the HDP input (as the only possible input left is HDMI). For some reason, this also disables the OSD. To get the OSD to appear over HDMI when using the HDP input, just assign a spare component video (RCA-1,2,3) input to the "HDP" name.

Q: How many video devices can I hook up to my Denon? For example, I see four HDMI and three component video inputs on the AVR 2309CI, but I only see five video sources names that I can assign?

A: Most receivers (not just Denon) have more inputs available than "names" that can be assigned. In the example above, the AVR 2309CI has four HDMI and three component video inputs for hi-def sources, but only five actual "names" for video devices -- "TV/CBL", "DVD", "HDP", "VCR", and "V-AUX".

However, most receivers (including Denon) will allow you to "stack" your inputs, because it automatically selects the highest priority input (HDMI first, then component video, then S-video, the composite) that is producing a signal. Additionally, you can rename any of your inputs to whatever you want, giving you the flexibility to add a lot of devices if you are creative.

For example, let's say you have all three video game systems -- a PS3, an Xbox 360, and a Wii -- and you don't want them to hog three of your input

names. You could rename the "VCR" input as "GAME", and then hook the PS3 up with HDMI into "HDMI-1", the Xbox 360 with component video to "Component-1", and the Wii with the S-Video input labeled "VCR". You would then go into INPUT ASSIGN, select the "VCR" source, and assign "HDMI-1" and "RCA-1" to the VCR input (which you also renamed "GAME").

Now, when you select the "VCR" source the display will say "GAME", and it will automatically play whichever video game system is turned on at the moment.

Using this method to "stack" devices on one input gives a lot of flexibility. For example, you could stack a Blu Ray player (using HDMI) and a regular DVD player (using component video) in the "DVD" input name and use that for movies.

Unfortunately, Denon limits the flexibility somewhat by restricting a few input "names" to be audio-only. Typically one is the "CD" input name, and another is usually called "AUX" or "CD-R/TAPE". These devices can be renamed to whatever you want, but they are audio-only.

HELPFUL HINT #1: The "V-AUX" name corresponds to the front panel auxilliary inputs. That is why there are no inputs on the back labeled "V-AUX". You can still use the front panel auxilliary inputs even if you assign "V-AUX" to something else; you just have to make sure the device assigned to "V-AUX" is turned off so the front panel inputs are the highest-priority input that is active.

HELPFUL HINT #2: The "HDP" input stands for "Hi-Def Player". This input only has an HDMI or component video available, as it is designated for HD video devices only. So if you need to "stack" three devices on one input, make sure to use one of the other "names" like "DVD" or "TV/CBL".

Q: Can I change the volume of the speakers individually?

A: You can freely adjust channel levels "trims" for each speaker individually. For example, maybe you really like what Audyssey did but would like to bump up the center channel a little bit so I can hear the volume better. Or maybe you think the surrounds are too loud with Dynamic EQ engaged.

There are two ways to change the speaker level volumes:

1. to change the speaker levels GLOBALLY to something different than what Audyssey set, go into MANUAL SETUP > SPEAKER SETUP > CHANNEL LEVEL and cycle through the test tones and change whatever you wants. When you hit "OK/ENTER" at the end, this will now reset everything to these channel levels you have manually set up.

2. to change the speaker levels "on the fly" while watching program material, use the "CH SELECT/ENTER" button on the remote to cycle through the various speaker channels and then you can bump them up/down as needed. For example, if you find the dialogue is too low, you can just bump up the center a bit.

This 2nd method will not change it globally, but only for that SURROUND MODE. (If you look on pg 64 of the manual under "Personal Memory Plus" it explains which items are remembered by input, and which are remembered

by surround mode). So, for example, if you are on the TV/CBL input watching television in "Dolby Digital" mode and bump up the center channel by 2dB, when you switch to the DVD input and watch a movie in Dolby Digital the center channel will still by up 2dB. However, it will not affect your speaker levels for 5 CH STEREO, DIRECT, MULTI CH IN, etc.

HELPFUL HINT: If you are using the QUICK SELECTS to change input sources, you will have to RE-MEMORIZE them in order to preserve any channel level changes you make! Instructions for re-memorizing your Quick Selects can be found in your manual.

Q: Can I mix the audio and video from two different sources? For example, can I watch the game on TV while listening to music on my CD player?

A: Denon AVR's have for years had a "Video Select" function (sometimes labeled on the remote as "V.Select") which allows you to mix the audio and video from different sources. The functionality is explained well in the manual (for once).

Go to the source you want to hear audio from, and then keep hitting "V.Select" until the display indicates that you are getting video from the source you desire. For audio-only sources, like the "CD" input, you can also pre-assign the Video Selection in the INPUT SETUP menu.

Unfortunately, however, there is one major hangup with newer Denon models - **you cannot use the Video Select function with any HDMI sources!!** This is a pretty big bummer, and is one of the (many) reasons it is probably better to leave your cable box hooked up via component video + digital audio as opposed to HDMI. You cannot mix the audio and/or video from ANY HDMI source using Video Select at all.

There are workarounds -- for example, you could temporarily go into INPUT SETUP and actually reassign the audio input you desire to match with the video input you are watching. Or you could run a second audio connection to a the input you get the video from (for example, "TV/CBL") and use the "input mode" buttons to switch from HDMI audio to "digital" or "analog". But, of course, if you forget to change it back your wife will be wondering why she is trying to watch TV and only gets sound from the CD player!

Q: I went to the PARAMETERS menu and I only see like four or five options, but in the manual there are tons of parameters. Why can't I see all the parameters?

A: The suround parameters that are available in the PARAMETER menu will depend on what surround mode you are in. Not every parameter will be available in every surround mode. There is a chart towards the back of your manual which lists all surround modes, and what parameters are available with each.

Q: I'm afraid to buy an Onkyo because people say it runs so hot. Do Denon receivers run hot?

A: Denon receivers generally run fairly cool, and in my experience none of

my Denon AVR's were ever more than slightly warm to the touch. I keep my receiver in an enclosed, wooden entertainment console, and have never had an issue with overheating.

That being said, every situation is different. If your cabinet is very poorly ventilated, or if the receiver doesn't have much clearance around it, or if you are driving inefficient speakers to very loud volumes, you could find that the receiver gets pretty warm.

However, overall, Denons are most definitely on the "cool" side for receivers.

Over at AVS forum, forum member Bugs has graciously tested this out for us. He owned both an Onkyo TX-SR606 and a Denon AVR 1909, and his results are pasted below. Click here to link directly to the post by Bugs

> **Temperature**
>
> The 1909 is a relatively cool-running component. Installed in a 5.1 system, on an open shelf, with 8" of clearance on the sides and 5" of clearance on the top and back, the 1909 had a temperature rise of 26F -28F (14C - 15C) after running for 2 hours at a volume of -18dB.
>
> For a comparison, an Onkyo TX-SR606 installed in the same system had a temperature rise of 50F - 52 F (28C - 29C) under the same conditions.

Another AVS forum member, Alan TN, has also independently corroborated Bugs' results: Click here to go to Alan's post

^ BACK TO THE TOP

Audyssey Questions

Q. Can you give me some tips before I run Audyssey??

A. The first thing you need to do before running Audyssey is to download the outstanding "Audyssey Step-by-Step" guide, compiled by "giomania":

Click here to go to the Audyssey Step-by-Step Setup Guide

Then, bookmark the Audyssey FAQ at Audyssey.com:

Click here to go to the Audyssey FAQ

The following tips are all discussed in the links above, but I wanted to highlight them as they are important:

> 1. **The first measurement point is the most important!** This is where Audyssey sets all of your speaker distances/delays and channel levels to make sure your surround sound is balanced. So even if your

"primary seating position" is off to the side, you should have the first measurement point be in the CENTER of your listening area.

2. The order/position of the rest of the measurements is not as important; they just provide Audyssey with additional information about the acoustics of your room. **Just measure a sample of points around the first position, and avoid room boundaries and reflective surfaces**. Don't get too caught up on the exact placement of the mic. The spacing recommended in the guide is approximate and doesn't need a tape measure to get it exact. The main guidelines are: (1) stay away from the walls and (2) don't go too far off the center axis.

3. **For best results use a tripod**. You can go to the drugstore or Walmart or something and get a cheap little video tripod for $15. It doesn't have to be anything fancy (some people have reported success using a lamp with the lampshade removed!), but if the mic does not have rigid support away from flat surfaces you will not get accurate results! Do not just sit it on your coffee table or a couch cushion, and definitley do not try to hold the mic with your hand!

4. **Keep the room as quiet as possible!** That means unplug the fridge, turn off the heat/AC, lock the cat in the bathroom!

Q. Does it matter what settings are on the receiver when I run Audyssey?

A. NO. Audyssey will ignore any settings such as volume control, channel level, surround mode, etc. when you run the auto-calibration program. You don't have to do anything other than plug in the microphone and start it up!

Q. Can I change anything manually after running Audyssey, and will it screw Audyssey up?

A. One thing to understand about Audyssey is that there are two "phases" to the auto-setup program. The first phase (which is accomplished at the first measurement point) is to calculate speaker distances and delays, balance the volume level of the various speakers, and then let the receiver determine crossover frequencies and small/large settings. This is basically what any auto-setup program does.

The second phase is Audyssey creating EQ filters to correct for the acoustic properties of your room; this is accomplished by weighing all six (or eight for MultEQ XT) measurement points and using advanced algorithms to create a unique set of high-resolution filters for each of your speakers.

After you run Audyssey, you can change ANYTHING that was set in the "first phase" of the auto setup, and it will not affect the Audyssey EQ filters created for your speakers. What you CAN'T change is the EQ filters themselves; you MUST use one of the Audyssey "target curves" (Audyssey, Flat, or Front) or Audyssey MultEQ (as well as Dynamic EQ and Dynamic Volume) will not function. For an explanation of the target curves, see this question/answer in the Audyssey FAQ.

So, feel free to go to MANUAL SETUP > SPEAKER SETUP and change things like speaker crossovers, channel levels, etc. This will not affect Audyssey's filters. For example, you may want to bump up the center channel by 1-2 dB to make the dialogue easier to hear, or you may want to bump down the subwoofer a bit because the bass is too loud. You also want to make sure that no speakers have been set to "large" if they can't actually handle full range signals. In fact, it is recommended that you change any speakers set to "large" to "small" unless it actually full range (flat to 20Hz), which even large tower speakers rarely are. This is well covered in the Audyssey Step-by-Step Setup Guide.

Q. What is Audyssey MultEQ?

A. Audyssey MultEQ is a powerful auto-setup and room calibration program which applies frequency correction to your speakers in an effort to compensate for any acoustical problems inherent to your room.

For more information, please check out the Audyssey MultEQ product description at the Audyssey website.

For general Audyssey questions/issues, first check out the very useful Audyssey FAQ on the Audyssey website.

Q. What is the difference between regular Audyssey MultEQ and the MultEQ XT found in the 2809/989 and up? And what about the "Audyssey 2EQ" in the Onkyo 606?

A. The biggest different between regular MultEQ and MultEQ XT is that the XT-enabled receivers have extra processing power, which allows them to use higher resolution EQ filters and make calculations based on additional data about your room (8 measurement points instead of 6). The subwoofer resolution is the same, but the filters for your satellite speakers are 8 times more powerful in MultEQ XT. So, for a high-end home theater, a room with in-wall/in-ceiling speakers, or a particularly "acoustically challenged" room, MultEQ XT should provide superior calibration results. If you have a good acoustic room, or if you have invested a lot of money in acoustic treatments for your space, the difference might not be as noticeable.

The "2EQ" found in some Onkyo models differs in that it only uses three measurement points (the central spot and then 2 extra), and it uses lower resolution filters on the satellite speakers. Most importantly, however, 2EQ does NOTHING to your subwoofer except set the level and distance. It has no ability to EQ your subwoofer at all, which is a pretty huge advantage for full MultEQ as most of the acoustic problems in your room are going to occur at the bass frequencies.

You can see more specifics at the Audyssey MultEQ Product comparison chart on the Audyssey website.

Q. What is the deal with these new Audyssey features, Dynamic Volume and Dynamic EQ?

A. The guys who made it can explain it best. Here are links to Audyssey's

explanations of the new technologies:

Audyssey Dynamic Volume

Audyssey Dynamic EQ

Note that these technologies are supplements to, not replacements for, the Audyssey MultEQ auto-calibration and room EQ system.

Q. When I turn on Dynamic EQ, the surrounds are overwhelming! How do I fix this?

A. Dynamic EQ adjusts two things: (1) the frequency response so that it compensates for changes in human hearing at lower levels and you can listen to the reference response without having to play really loud and (2) surround impression by elevating the surround level as you turn the volume down. This is to compensate for the front-back asymmetry in our perception of loudness and maintain the same level of surround at all volume levels.

So, the first thing to realize is that things may be perfectly normal, and you are just hearing the correct surround mix for the first time!! So give your ears a few days to get used to the new sound, and you may grow to enjoy the enriched bass and surround dynamics that Dynamic EQ creates.

However, if you do find the surrounds are way too loud with Dynamic EQ engaged, one easy way to adjust things is just to manually change the channel level for the surrounds and lower them a few dB's. (see the first section of this FAQ for information on how to change speaker channel levels).

Another potential cause of "overwhelming surrounds" is that your surrounds are not positioned properly, and Audyssey is trying to boost them too much to compensate. For example, if your surrounds are pointed away from the listening area, Audyssey will measure poor response and try to boost them accodringly. If you can change the "aim" of your surrounds, try to point them more at the center of the listening area and then re-run Audyssey, this may help.

Q. When I turn on Dynamic EQ, the bass is boomy and constantly rumbling! How do I fix this?

Again, as above, part of this could be caused by you simply not being used to hearing the full bass response when playing content at lower-than-reference volume. However, if you find it is constantly rumbling and boomy, it could be a problem.

The NUMBER ONE cause of complaints for “overwhelming” or “rumbly” bass with Dynamic EQ is caused by poorly mastered TV audio!! So, if it only happens when you are watching TV, and other sources sound great, then NOTHING IS WRONG and the problem is simply the crappy audio found on many TV broadcasts! If this is the case, you can either just turn off Dynamic EQ when watching TV, or you can try to lower the “Source Level” for your TV input so that Dynamic EQ doesn’t compensate so “aggressively” (see the next question for more discussion on

how “Source Level” affects Dynamic EQ).

[NEW FOR 2010 MODELS **** There is now a “Reference Level Offset” for Dynamic EQ that can be accessed directly in the Audyssey Settings menu, found under “PARAMETERS”. This can be set by input. Setting this to -10dB or even -15dB can really help tame the rumbly bass found on many TV broadcasts. ****]**

If you are still experiencing issues with excessive bass, even with your other inputs, the next thing you should check is that you have not used improper technique when setting up Audyssey. First, make sure that your subwoofer gain is set properly. If the subwoofer gain (the knob on the sub itself) is turned too high, and Audyssey sets trim far to the negative in an effort to compensate, you may end up with a “maxed out” channel level, meaning your system is not balanced! Check the channel levels that Audyssey set -- if your sub is way negative, like -10dB or even -12dB, try turning down the volume dial on the sub and re-run Audyssey. You would like the subwoofer's channel level to within a few dB's of "0" so you are sure you have enough "wiggle room" to balance the system properly.

Then, if the subwoofer gain is set properly, try re-running Audyssey with a focus on proper technique: (1) use a tripod; (2) don’t put mic too high (well above ear level); (3) make sure the room is as quiet as possible; (4) avoid reflective surfaces, and especially avoid going too close to room boundaries. If you have soft couches which may absorb a lot of vibrations, do not set the tripod on the couch cushion directly but instead put the tripod on the floor.

Also consider repositioning your subwoofer, as being too close to a wall or corner can really enhance “boomy” bass. Many people have achieved great results by simply moving their sub and re-running Audyssey. If there are fundamental flaws in your speaker positioning, Dynamic EQ can really emphasize these “imperfections” as it tries to boost your system’s response to “reference level”.

Q. Okay, I did everything you said, I am SURE that I am running Audyssey correctly, and I have run out of ways to reposition my speakers. But the bass is still ridiculous with any content! How do I tame it?

If you have tried all of the above, and the bass STILL sounds too overwhelming with Dynamic EQ on… you may just not like “reference” bass. At this point, you are entering the realm of “preference” versus “reference”. The point of the MultEQ system is to equalize your speakers so that you get reference level response in your room at a volume setting of “0”, and as you lower the volume into the negatives, Dynamic EQ kicks in to try and maintain this tonal balance. The further the volume dial goes below “0”, the more Dynamic EQ is stepping in to boost the bass and surrounds.

However, most people with typical living room setups are used to listening at volumes well below “reference”; reference level is REALLY loud! You generally tweak the bass “by ear” until you find a comfortable level of rumble for your particular room and preferred listening volume – but you never had any idea what real “reference” level bass sounds like. Now, all of sudden, with Dynamic EQ, you may be hearing incredible, room-filling bass regardless of where the volume dial is… but the fact of the matter is many

people might not LIKE that much bass, especially if you live in an apartment or other situation where you can't be rattling the walls.

If this is the case, but you want to enjoy the benefits of Dynamic EQ + Dynamic Volume but your "preference" is for less bass, you need to **change the reference** so that Dynamic EQ is not acting too "aggressively".

The first step is to make sure the subwoofer volume is set according to your preference. Watch a movie or put on some music with good bass and turn it up LOUD (maybe make sure the wife is out of the house first). I'm talking -10dB or higher, so you are close to "reference" volume in your room. When it is blasting, dial in the subwoofer channel volume (in the receiver, remember to never touch the dials on the subwoofer after running Audyssey) to a comfortable level of bass. Now, when you lower the volume back down to "normal" listening levels, Dynamic EQ will try to maintain a less bassy "reference".

The next step involves a little education about how Dynamic EQ works. Remember, Dynamic EQ compensates more and more the further the volume dial gets below "0". Dynamic EQ assumes that the volume of "0" is calibrated as the "reference" volume. So, if you want to make the boost less aggressive, you can **change the reference volume** so that you are hitting a different number on the volume dial, but at the same overall level of "loudness".

For example, let's say when you listen to CD's the bass becomes overwhelming. This is fairly common as most music is not mixed to a reference standard, and additionally much modern music has a compressed dynamic range to make it sound "louder" on crappy headphones and car stereos. You find that listening at a volume of "-30dB" is comfortable in terms of loudness, but the bass is too much with Dynamic EQ at that volume. So, go to INPUT SETUP and change the "Source Level" for the CD input to -10dB. Now, everything is 10dB softer, so you turn the volume dial up to "-20dB" to achieve the same level of "loudness". But the benefit is that Dynamic EQ now "thinks" you are 10dB closer to "reference" volume, so it will apply less boost.

SO, using a combination of the "Source Level" control, speaker channel volumes, and the new "Reference Level Offset" found on 2010 models, you can effectively "trick" the receiver into thinking the reference volume is +10, or +15, or even +20. So you can turn up the volume dial closer to "0", and Dynamic EQ will be proportionately less aggressive with the "boost" of the EQ curve.

As a final thought, if you find movies to be a little overwhelming with the bass (very common with big blockbuster action flicks such as "The Dark Knight" and "Lord of the Rings"), or if you live in an apartment or other setting where you don't want to rattle the floors, try lowering the "LFE" parameter to -10dB. This will not affect the bass in the main channels, but since most of the floor rumbling bass is contained in the LFE channel it can really lessen the "subsonic" vibrations that tend to piss off your wife or neighbors.

Q. What's the deal with the "LFE" setting in the Advanced Crossover menu? For example, my speakers were set to a 120Hz crossover and the

LFE crossover is 80Hz, does that mean I am going to miss some content between 80 and 120Hz??

A. The first thing to understand is that **the LFE setting in the crossover menu is NOT a crossover!!** For some reason, receiver manufacturers stuck this option in the crossover menu, and it is a huge source of confusion for many users.

A "crossover", by definition, involves two speakers -- the frequencies above a certain "crossover" point are given to the satellite speakers, the frequencies below the crossover are sent to the dedicated subwoofer. The "LFE" setting, however, is not a crossover, it is simply a low-pass filter (LPF) on the LFE channel of a surround mix. All it does is put an upper-limit on the LFE channel, and it has ABSOLUTELY NOTHING to do with the crossovers and "bass management" taking place in the receiver.

It is important to understand that the “LFE” is not the same thing as the “bass” channel. Many people are concerned that they will “lose” bass if there is a mismatch between the LFE setting and the crossovers. However, again, this LFE setting has **absolutely nothing** to do with the redirected bass from the other speakers. The LFE channel is a totally separate channel and contains “supplementary” bass effects.

The LFE setting should be turned to 120Hz and left there, regardless of any of your other speaker settings. This is the correct setting and is recommmended specifically in the Audyssey setup guide. So set it to 120Hz and forget it!!

Q. I ran Audyssey and my subwoofer distance is strange, what gives?

A. This is totally normal; Audyssey measures the "acoustic" distance of your speakers, not necessarily the physical distance, as it is trying to correct the timing of all your speakers so the surround balance is correct. You can read the response to this question in the Audyssey FAQ on the Audyssey website.

Q. Audyssey set my speakers to "large" and I know they should be "small", will changing this manually screw up Audyssey?

A. No, it won't hurt anything and is actually recommended in many cases. Here is the response in the Audyssey FAQ on the Audyssey website.

Q. I keep getting a phase error when running Audyssey, I check the wiring and everything looks good. What should I do?

A. If the wiring is correct just hit "skip" and move on. Occasionally the acoustics of your room/speakers may trick Audyssey into thinking there is an error. Here is the response in the Audyssey FAQ on the Audyssey website.

Q. Is the “Night” mode the same thing as “Dynamic Volume”?

A. No, the “Night” button on the remote is for the old-school version of “Night” mode that receivers have had for years, it is nothing more than a

simple dynamic range compressor. Denon confusingly left a dedicated "Night" button on the remote, but this button does NOT have anything to do with Dynamic Volume or Audyssey at all.

If you are using the Audyssey Dynamic Volume (and you should, it is a much more sophisticated version of "Night" mode), then you should never touch the "Night" mode button.

^ BACK TO THE TOP

HDMI / Video Setup Questions

Q: Do Denon AVR's screw up HDMI video at all?

A: Denon seems to get HDMI implementation correct: **HDMI Video will pass through untouched, including 1080p/60 and 1080p/24**.

I speculate they are helped by their long history making high-end DVD players, so they were already familiar with common problems like BTB/WTW clipping before they started making HDMI receivers. In fact, Denon has some nice flexibility in allowing to specify color space, video vs. PC output levels, etc.

Denon AVR's will correctly pass BTB/WTW signals over HDMI (no video clipping), and test patterns have confirmed that it does not touch digital video while passing it through. I have personally confirmed with calibration test patterns on my plasma display that my old 2307ci and current 888 do not touch HDMI video at all.

The only thing generally wrong with Denons is the sucky manual!

Q. Can you explain more about the the 1080p Faroudja scaling? Will it make my standard def cable look better?

A. The first thing to understand about these HDMI Denons is that, **until you get to the 3808ci and up, no Denon AVR will do ANY processing to HDMI video.** The only thing it will do is pass the video through. There is NO processing and NO degrading/clipping of HDMI video at all.

[NEW FOR 2010 MODELS **** The 1910/790 and up now have the ability to scale HDMI video in addition to analog video. If you set the "i/p scaler" control to "Analog", it will act like last year's models and scale only analog video without touching HDMI video. If you set the "i/p scaler" to "Analog and HDMI", it will scale BOTH analog and HDMI video. This is set BY INPUT. ****]**

The only video processing available is analog-to-digital transcoding and scaling. That means that, unless your cable box is hooked up with an analog video cable (component, s-video, or composite), your Denon AVR will not

do a thing to improve your standard def cable. And it won't touch your upscaling DVD player that is hooked up with HDMI either.

So is that a problem? Not really. The Faroudja scaler in the Denon does a good job in general with standard definition material (as it was specifically designed for 480i deinterlacing in progressive DVD players), but it is no great shakes in terms of scaling and HD processing (especially 1080i deinterlacing). Most people say that it provides a slightly soft, almost "film-like" upscaled image with standard def material.

However, it may or may not be better than the video processing in your TV. You will have to test this out yourself and see which does a better job. With the recent blitz of marketing for "upscaling" DVD players and receivers claiming to deliver "near HD resolution!!", it's important to understand that any modern HD television is a FIXED PIXEL display, meaning it HAS TO display everything at its native resolution.

That means if you have a 1080p TV, it is already going to upscale everything to 1080p!!! Upscaling in the receiver is mostly a marketing gimmick, and it is only a useful feature if it does it better than your display! What you really want to make sure is that the receiver doesn't screw anything up when passing the video through, and in that sense the Denons are just fine.

For some specific reviews of the Denon's video processing using this Faroudja implementation, please read the following two reviews of the 3808ci. The video processing section is the same as in the lower level Denons, except for the fact that digital video processing is available in the 3808ci and not the other models. So ignore the parts about digital video, but all of the commentary about analog video processing will apply:

Home Theater Mag Review of 3808ci Video Processing
CNET (scroll to the end section on Video)

Q. What should I do with all of these HDMI settings? I don't know what any of them mean?

A. In general, with a typical home setup you can leave these all on their default settings and things should work, as long as you have correctly assigned all of your inputs. By default, the Denon has video conversion enabled, and is set up properly for an HDMI connection between receiver and processor.

The only reason to change any of the HDMI settings is if you have an atypical setup – like a HDMI/DVI connection to your TV – or if you want to specifically disable the video conversion and processing for some reason.

For more detailed explanation of the various options, check out the Setup Guide section of this website.

Q. How do I set up the video processing so that everything works right and I can just connect one HDMI cable to the TV?

A. The easiest way is to **LEAVE EVERYTHING AT THE DEFAULT**

SETTINGS! By default, Denon AVR's with HDMI scaling are set up to output everything to your TV via an HDMI cable, and will scale all analog sources automatically to the highest HDMI resolution your TV accepts.

If all you want to do is plug everything in and run one HDMI cable to your TV, then DON'T CHANGE ANY SETTINGS and it should work fine as long as you have assigned all of your inputs correctly in INPUT SETUP > ASSIGN.

Q. OK, that makes sense, but I prefer to let my display do all the scaling. How do I set it up so that I can run all of my video to the TV using only one HDMI cable, but without having the receiver do any scaling/processing?

If you would like convert analog video to an HDMI cable output to your display, but want to disable the video processing, set "i/p Scaler" to OFF (INPUT SETUP > VIDEO on '09 models; MANUAL SETUP > HDMI VIDEO on '08 models) but leave "Video Conversion" set to ON.

When the i/p scaler is set to OFF, and the Video Conversion still set to ON, it will just pass through analog signals to the HDMI output at the same resolution they came in, with no processing or scaling.

Q. I have an older Xbox 360 hooked up with component, why can't I get any video when I am trying to output over HDMI to my display?

A. The HDMI conversion function of Denon receivers **will not convert 1080p component video**. If you have an older Xbox 360 without HDMI, there are three options for getting the video to work:

1. Change the output resolution of the Xbox 360 to 720p or 1080i; the component > HDMI conversion in your Denon AVRshould work this way. However, you may still experience some problems as video games will occasionally trip up the video conversion function (as indicated in the manual).

2. Run a second, component video monitor output from the Denon AVR to your display. I know many people are obsessed with the "one HDMI cable to the TV" solution, but if you run a second monitor output you can now use your Xbox 360 at 1080p and it will pass right through the Denon via component video.

3. Similarly, you can simply bypass the receiver completely for your Xbox 360 and run the component video straight to the TV.

Obviously, both of the last two options mean you will have to switch inputs on your TV to play the Xbox 360, but you will be able to use your 360 in full 1080p with zero issues. If you require the "one HDMI cable to the TV" setup, then your only option is to set the Xbox 360 to a lower ouput resolution (option 1 above).

[NEW! **** The new '10 models appear to have removed the 1080p component restriction (at least on the AVR 1910/790 and higher). With one of the new models you should be able to hook up your old Xbox 360 via

component video and output 1080p with no issues. ****]

Q. I have an old VCR that I am trying to hook, but I can't get the video to show up over HDMI. Or if it does show up, I keep getting poor quality and constant drop-outs. What's going on?

A. Unfortunately, some old VCR's apparently have a very "weak" video output which confounds the video conversion function. The only solution is to run a second video cable to your TV -- either from a different monitor output on the Denon (like S-video or composite video), or directly from the VCR (bypassing the Denon completely).

Q. HDMI Control? I can watch TV when the Denon is off? Wow, really? ?

A. The HDMI Control function allows you to "pass through" the HDMI signal from device to your TV, even when the Denon is in "Standby" mode. You cannot change inputs while utilizing this feature, so make sure to switch the input to the one you want before powering down to Standby.

HDMI Control only works with HDMI signals, so you can't pass a component video source to the TV when the Denon is in Standby. HDMI only.

You should also note that when HDMI Control is on, the Denon's power consumption increases, because the HDMI circuits must remain active so the receiver can "talk" to the TV.

AVS Forum members have done tests with meters in their own home, and have derived the following power consumption numbers:

- OFF: No power to any circuit (0 watts)
- Standby, HDMI Control OFF: Power supplied to memory circuits (0.3 watts)
- Standby, HDMI Control ON: Power supplied to memory and HDMI switching (30 watts)
- ON: Power to all circuits (60 - 110 watts)

So if you aren't using the HDMI Control feature, just turn it off. Not only does it make any HDMI issues less likely, but you will be wasting a lot less energy.

^ BACK TO THE TOP

Using the PS3 with your Denon AVR

Q: Are there any issues with the PS3 and Denon receivers?

A: No, any Denon HDMI receiver with audio support is a perfect match for a

PS3 (see the chart on the Denon Model Numbers page for a list of HDMI audio capabilities).

Because the PS3 decodes all audio formats, and outputs as multichannel PCM, any Denon receiver that supports audio over HDMI will give you the full benefit of all the audio available, including Blu Rays and PS3 games! All Denons with HDMI audio allow for full 7.1 PCM support, can matrix 5.1 signals up to 7.1, and allow full use of Audyssey MultEQ with all audio formats.

The only "issue", where the PS3 sends "blank" channels when playing 2-channel MP3's, has been fixed with a recent firmware update. See below for more info.

Q: OK, so how do I set up my PS3 to make sure I am getting maximum video and audio quality?

To get the PS3 set up for maximum audio/video quality with your new Denon AVR, first make sure the PS3 is updated to the most recent firmware (which adds DTS Master Audio decoding over HDMI). And, of course, connect your PS3 to the Denon with an HDMI cable.

Now, you just have to make sure the HDMI settings on the PS3 are correct. First, go to the PS3 options, and under "Video Options" set HDMI Audio output to "Linear PCM". This will set the PS3 to decode all audio and output as multichannel PCM over HDMI. If you leave this on "bitstream" you will get a downmixed version of hi-res audio on Blu Rays.

Then, scroll down to "Display Settings" on your PS3, and let the PS3 do an "auto" detect for HDMI Video and Audio compatibility, and it will "talk to" your Denon receiver and automatically set it up for maximum audio quality (everything up to 7.1 PCM).

For more great PS3 tips and tricks, click here to go to the amazing PS3 FAQ at AVS Forum -- make sure to bookmark this page as it has a ton of useful info about your PS3!! And, for more info on surround modes and how they interact with the PS3 depending on your speaker arrangement, click here to go to the Audio section of this FAQ.

Q: Allright, I did what you said, how do I know everything is working correctly and I am hearing the lossless audio from my Blu Rays?

If you have set everything up correctly with the PS3, the display of the Denon will read "MULTI CH IN" indicating that it is getting decoded, multichannel PCM audio from the PS3 (note that if you are running a 7.1 setup it may say "MULTI CH IN + PLIIx" meaning that the receiver is matrixing 7.1 from 5.1).

To verify that you are getting the highest-quality audio whenwatching a Blu Ray, hit the "Select" button on the PS3 remote and it will call up the info display. Check at the top of the screen and make sure the PS3 is outputting the correct audio format. You may have to open up the "language" settings on your Blu Ray to find the actual audio track listing.

HELPFUL HINT: Make sure to check that you have actually selected the TrueHD or DTS-MA track on the Blu Ray, if available! Many Blu Rays will not have the highest quality track set up as the default option, and unless you check there is no way to know because the Denon AVR display will read MULTI CH IN either way.

Q: Why isn't "Restorer" function won't work when I'm playing MP3's off my PS3? And why isn't the subwoofer making any noise for MP3's either?

(UPDATE MARCH 2009: Apparently the most recent firmware update for the PS3 has fixed the "blank channels" bug! If you have a PS3 and experience this issue, update to the latest firmware!)

There is one minor issue when playing MP3's over HDMI, but it is a PS3 problem, not a Denon problem. Apparently, when the PS3 is set up to output multichannel PCM over HDMI, it does so even though you are playing an MP3 (which is two-channel music). In other words, even though the PS3 is playing a 2-channel source, it is still outputting 5.1 or 7.1 PCM, and the extra channels are just blank.

Therefore, the receiver gets "tricked" into thinking it is getting multichannel content instead of 2-channel, and as a consequence the "Restorer" function won't be available, your sub might not make noise, and you won't be able to use Pro Logic or other matrixing modes to expand the sound from 2 speakers to 5.1 or 7.1. Unfortunately, the receiver has no way of knowing that the extra channels are blank, all it can do is decode what you give it!

One common solution is to run a second, optical audio cable from the PS3 to the Denon, and then when you want to listen to 2-channel music hit the "triangle" button to call up the PS3 options and quickly switch audio output to Optical instead of HDMI. The problem only occurs over HDMI, so when you do this the Denon receiver should "lock on" to the 2-channel PCM over optical and everything will no work normally.

^ BACK TO THE TOP

Audio / Surround Mode Questions

Q. Why isn't the Dolby TrueHD / DTS-MA light turning on when I play a Blu Ray?? I set up everything correctly but all is says is "MULTI CH IN". What the heck does that mean?

A. If you are using the PS3 as your Blu Ray player, you need to understand that it cannot bitstream the new hi-definition audio codecs: Dolby Digital Plus, Dolby TrueHD, and DTS-HD and DTS-MA. You will NEVER EVER see the "Dolby TrueHD" or "DTS-MA" light up on the receiver when using a PS3 as your only Blu Ray player!

In order to hear these new codecs from the PS3, the PS3 must decode them internally and output them as Multichannel PCM (also sometimes referred to

as MPCM or LPCM). To make sure everything is set up correctly, scroll up or click here to go the "PS3" section of this FAQ.

If you are using a Blu Ray or HD DVD player, you need to make sure that your player can "bitstream" the new HD audio codecs for your Denon to decode. You also need to make sure that your specific Denon AVR can actually decode the HD audio. Go to the Denon Model Numbers section of this website and look at the HDMI audio support chart to verify that your Denon has this capability.

For more information, please study the incredible AVR FAQ at AVSforum.com, especially the sections on "What do the terms bitstream, PCM and MPCM mean?" and "What do I need to enjoy lossless audio?" Also, read on for the answer to the next question...

Q. Okay, so how do I get the "Dolby TrueHD" light to come on?? I love me some lights!

A. You need to buy a Blu-Ray player which can "bitstream" the new audio codecs. You also need to make sure that the Blu-Ray player is configured properly, and that you have selected the TrueHD or DTS-MA audio track (these are not always the defaults on a lot of Blu-Rays).

Finally, many Blu Ray players will require you to turn Secondary Audio to "off" in order to bistream the HD audio codecs; the players to not have the functionality to mix the secondary audio (like PIP commentary) and re-encode it as TrueHD or DTS-MA.

Please note that THERE IS NO DIFFERENCE in sound quality when bitstreaming hi-res audio. The only difference is where the lossless audio is "unpacked."

Think of it like a zipped computer file that you email to your friend as an attachment. Regardless of whether you unzip it first and then attach it to the email, or you attach the zipped file and let your friend unzip it, the end result is IDENTICAL.

Q. What is the best surround mode to use?

A. Ultimately, only you can decide, but here are some pointers. A lot will depend on what type of sound you are receiving, and how many speakers you have (5.1, 7.1, etc.)

There is a giant, daunting table in your manual describing exactly what surround modes are available depending on the source signal. To check what signal you are receiving, you can hit the “STATUS” button on the receiver to cycle through all the info, or you can go to MENU > INFORMATION > AUDIO INPUT SIGNAL.

You can also look at the little lights on the display – the lit up boxes on the left side of the display tell you how many audio channels you are receiving from the input source (for example, if only two boxes on the left are lit up, you are getting a 2-channel source). The boxes on the right of the display tell you how many channels are being output to the speakers.

If you have AUTO SURROUND enabled in the setup (see page 33 of the manual), your Denon AVR will memorize your settings and default to the last one you picked when it sees the same source signal again.

Note that this is memorized BY INPUT, so for example you can have different “default” settings when listening to 2-channel music on the “CD” input versus 2-channel television on the “TV/CBL” input.

To check what your Auto Surround defaults are, hit MENU, go to INFORMATION, and then select AUTO SURROUND MODE (see page 53 of the manual). It will tell you what the default surround mode is for that input, depending on the input signal type.

Here is a brief summary of different surround modes. Remember, the important thing to know is what type of signal the Denon is receiving:

1. IF YOU ARE RECEIVING A TWO-CHANNEL SOURCE:

To listen to 2-channel as 2-channel, your choices are STEREO, DIRECT, and PURE DIRECT (see pages 45-46 of the manual).

Using either DIRECT or PURE DIRECT mode will disable all bass management, which means that your front L/R speakers will get a full-range signal, and if the subwoofer is ON it will “double up” the bass from the mains.

The only “bass management” available in DIRECT or PURE DIRECT modes is the SUBWOOFER ON/OFF option in the PARAMETERS menu. If you have small front speakers that can’t handle bass, just use the STEREO mode for 2-channel music to preserve all of your bass management settings.

Also, please note that if you select PURE DIRECT, the display and video output will be shut off. This is the way it is supposed to function, so don’t freak out if the display shuts off when you hit “PURE DIRECT”.

To matrix 2-channel sound to multichannel sound, you have your choice of DOLBY PRO LOGIC II or DTS NEO:6. Hit the “Standard” button to cycle between the two, or you can hit the “Cinema” or “Music” button to directly engage the specific Cinema/Music modes. You also can tweak them independently using the PARAMETERS menu. See page 74 of the manual, as well as the AVR FAQ, for explanations of the differences.

Alternately, you can choose one of Denon’s proprietary DSP modes. As with most DSP, pretty much all of these suck, the only possible exception being the 5/7 CHANNEL STEREO mode. This mode will output unprocessed stereo sound equally from all your speakers, and can be a great choice for stereo music, especially if you just want background music at a party or something.

2. IF YOU ARE RECEIVING A MULTICHANNEL DOLBY DIGITAL / DTS SOURCE:

If the Input Mode is set to “Auto”, the receiver should default to the correct decoding mode depending on the input signal.

If you are running a 7.1 setup, you can matrix 5.1 surround sound up to 7.1

by using DOLBY PRO LOGIC IIx. You can engage this by hitting the “Standard” button on the remote, or by using the “Music” or “Cinema” button as above. The display will read something like “DOLBY DIGITAL + PLIIx CINEMA” or “DTS + PLIIx CINEMA”.

3. IF YOU ARE RECEIVING MULTICHANNEL PCM:

The default setting is MULTI CH IN. If you have a 7.1 setup, it will probably default to “MULTI IN + PLIIx CINEMA”, which will matrix a 5.1 signal to 7.1.

You can also engage the DIRECT and PURE DIRECT modes when listening to multichannel PCM, which will shut off the tone controls, bass management, and any unneeded processing. If you have small speakers that can’t handle a full-range signal, remember that engaging MULTI CH DIRECT mode will effectively treat all speakers as “large”.

Also, remember that “PURE DIRECT” will turn off all video, so do not use this while watching a movie unless you just want to stare at a black screen while listening to the soundtrack! The MULTI CH PURE DIRECT mode is really only useful for listening to multichannel music (SACD or DVD-A) decoded by an external player and sent as multichannel PCM over HDMI.

Q. Can you explain more about DIRECT and PURE DIRECT modes, and how they differ from STEREO mode?

A. The major difference is that, when in DIRECT and PURE DIRECT modes, the receiver bypasses most (or all) of the additional processing circuitry such as Tone Controls (bass/treble) and Bass Management. Theoretically, bypassing or shutting off any unneeded circuitry should deliver slightly "purer" audio quality; in practice, you may or may not hear a difference.

If you look in Denon's manuals, they quote their S/N ratio specs in DIRECT mode, which implies that DIRECT will have a slightly lower noise floor than regular STEREO mode.

The key functional difference for most setups is that, when in DIRECT or PURE DIRECT mode, the speakers are treated as large regardless of how you set things up in the 2CH DIRECT/STEREO menu.

The only difference between DIRECT and PURE DIRECT mode is that PURE DIRECT shuts off all the video circuitry, including the display on the receiver itself. Note that if you use PURE DIRECT with an HDMI source, the video will still remain on as the receiver needs to keep the HDMI circuitry active to process the audio. In other respects they are the same; PURE DIRECT and DIRECT share all settings, including surround parameters, Audyssey settings, channel levels, etc.

To set up audio for 2-channel listening, you need to use the 2CH DIRECT/STEREO menu found under MANUAL SETUP > AUDIO SETUP. However, because of the quirks of DIRECT and PURE DIRECT modes, the settings are not always obvious in how they function. Here is a summary of the behavior of this special sub menu:

When in STEREO mode:

- All settings -- e.g. small vs. large, crossover freq., etc. behave normally

When in DIRECT or PURE DIRECT mode:

- "Small" vs. "Large" is ignored (the front speakers are always treated as "large")

- The subwoofer will be active only if the LFE+MAIN setting is on, and it will be "double bass" because the front speakers will be treated as "large". *** note that you can still have the sub set to LFE in the "normal" subwoofer setup menu, this is just referring to the "2CH DIRECT/STEREO" settings*

- The "crossover" frequency effectively functions as an LPF (low pass filter) for the subwoofer's "double bass", but does NOT affect the fronts (again, because of the first bullet point). The "crossover" thus effectively becomes an upper limit or "cap" for the double bass effect. So a good strategy is to set the "crossover" to where your front speakers naturally roll off, to try and get a smooth "blend" despite the double bass.

MULT EQ note:

You can still use MultEQ / Dyn.EQ during DIRECT or PURE DIRECT mode.

- On '08 models (e.g. 3808CI) the setting is found in AUTO SETUP > OPTION > DIRECT MODE
- On '09 models (e.g. 2809CI) the setting is found in MANUAL SETUP > AUDIO SETUP > EQ PRESET
- ****NEW on ’10 models (e.g. 1910, 2310CI)**** -- Denon appears to have removed the ability to use Audyssey with “Direct” modes!

HELPFUL HINT: Note that all of the above applies to MULTI CH DIRECT mode as well. If you are receiving multichannel PCM input, like from a PS3 or HD DVD player, remember that in MULTI CH DIRECT mode there is no bass management and the sub will ONLY play the LFE channel -- and not redirected bass from other channels -- unless the sub is set to LFE+MAIN in the normal subwoofer setup. So if your speakers cannot handle full range signals, make sure to hit the "Standard" button and use MULTI CH IN instead of MULTI CH DIRECT.

^ BACK TO THE TOP

Zone 2 Questions

Q. How do I hook up a pair of Zone 2 speakers?

A. There are two ways to hook up Zone 2 speakers to your Denon AVR:

1. If you are only running 5.1 in your main zone, you can reassign your

SURROUND BACK amplifiers to power the Zone 2 speakers. To do this, go to MANUAL SETUP > OPTION SETUP > AMP ASSIGN and set the assignment to "Zone 2". With this setup, you will hook up your two surround speakers with normal speaker wire and connect them to the SURR.BACK LEFT/RIGHT speaker posts on the back of the receiver. The receiver will power the speakers, and you will also be able to control the volume for Zone 2 in the receiver.

2. The second option (and your only option if you are running 7.1 in the main zone) is to connect an external amplifier to the "ZONE 2 OUT" pre-outs on the back of your AVR. You will use standard RCA cables (red/white analog) to connect from the Zone 2 pre-outs to the inputs of your external amplifier. In this setup, the external amp will provide the power and volume control for the Zone 2 speakers.

Q. Okay, I hooked it up just like you said, turned on Zone 2, selected a source... but no sound! Whay am I doing wrong?

A. For all Denon receivers below the 280X/98X level, **Zone 2 is ANALOG ONLY!!**. This means your cable box hooked up with optical audio, your PS3 hooked up with HDMI, etc. will NOT be output to Zone 2!

All is not lost, however. All you need to do is, for any source which you would like to output to Zone 2, just "double up" your connection by running a second set of analog RCA cables (red/white) from the analog outs of your source to the corresponding input on the back of the Denon.

For example, let's say you want to set it up so you can hear the football game on the deck using your patio speakers. Your cable box is hooked up to the "TV/CBL" input with HDMI. To get the Zone 2 speakers to work, you just have to run a pair of stereo RCA cables from the red/white output on the back of the cable box to the corresponding inputs labeled "TV/CBL" on the back of the Denon.

Now, when you select "TV/CBL" as the Zone 2 source, the Denon will be able to take the audio as it will automatically grab the audio from the analog inputs.

If you happen to have the 988, 989, 2808CI, 2809CI, or a higher level model (like 3808CI), then you can output digital audio to Zone 2 **as long as it is 2.0 PCM via an S/PDIF connection (optical toslink or digital coax)**. So, practically, this will only really help with something like a CD player or MP3 player that is outputting two-channel digital PCM. It still won't do much for your cable box outputting Dolby Digital. And it still won't work with HDMI, only optical/coax. So, the analog cable solution described above is probably still your best bet.

Shameless Plug

While I do have a "real" job, this website and all its content was created for free during my spare time. ***This is not a commercial website and I am in no way an AV professional.*** *I do this because I enjoy learning about AV stuff and helping people out, and the contents and helpful hints found here are free for all to use.*

BATPIG'S "DENON-TO-ENGLISH DICTIONARY"

SETUP GUIDE AND FAQ

Denon manuals are terrible. Thankfully, batpig is here!

< TAKE ME BACK TO THE HOME PAGE!

All About Audyssey

There is just a ton of great info available on the web about the Audyssey MultEQ family of products. Audyssey is a an awesome new feature that, in my opininion, is one of the most valuable additions to modern receivers, moreso than even HDMI audio. To learn more about Audyssey, read up in these links:

- For information on how to set up Audyssey on your receiver, please read the incredibly thorough Audyssey Step-by-Step Setup Guide.
- Also, for my thoughts on general tips when running Audyssey, you should read through the Audyssey section of the FADQ.
- For general Audyssey questions, first read the Official Audyssey FAQ at the Audyssey website, which has many answers to common questions and issues and tons of great

info.

- If you are having difficulty running Audyssey, or are getting poor results and don't understand what you are doing wrong, you have an amazing resource available to you at the Official Audyssey Thread at AVSforum.com. Chris, the CTO and founder of Audyssey, follows the thread and personally answers questions and helps people with their setups. However, before you post, take an hour and read the Audyssey FAQ, and the last 20-30 pages of the Official Audyssey Thread, and you will find that your question has likely been answered already. You will learn a lot too!

- For information on Audyssey Dynamic EQ, CLICK HERE.

- For information on Audyssey Dynamic Volume, CLICK HERE.

Shameless Plug

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However, if you found it useful, consider throwing a small donation my way to help me cover costs like web hosting, domain registration, time, etc. Maybe think about how much you would be willing to spend on a "Denon for Dummies" type book, and how much it would have cost to have a professional installer come over to set up your Denon.

Donate

Thanks for visiting, and good luck with your Denon!

BATPIG'S "DENON-TO-ENGLISH DICTIONARY"

SETUP GUIDE AND FAQ

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Denon Model Numbers, Explained

Please note that this website deals primarily with "consumer level" Denon models, that is, everything BELOW the 3808ci and higher level models. The 3808ci and up have many more additional features that I am not 100% familiar with, and will not be covered here.

With so many different Denon AVR's out there, the dizzying number of different model number designations can be very confusing. However, once you understand the Denon nomenclature for numbering their receivers, things make a little more sense. The first thing to learn is that Denon puts out two parallel receiver lineups, with four-digit and three-digit model numbers. The four-digit models are generally sold by high end stereo shops and custom installers, and the three-digit models are the "consumer" version sold in retail outlets like Circuit City and Fry's.

However, there is ZERO difference in terms of power, specs, sound quality, build quality, etc. between the two lines!! Denon has been doing this for years, it is exactly analagous to the Yamaha "HTR" and "RX-V" parallel receiver lines.

There will usually be one or two minor differences to differentiate the three-digit and four-digit models. There is typically a slight cosmetic difference between the two lines, and different remotes. Most people speculate that the real reason they do this is so that you can't easily price match between, say, Circuit City and Best Buy.

Note that this "parallel" numbering scheme only applies to the "consumer level" Denons that you will find in retail shops, basically everything up to the 2800/900 level. On older models, the three-digit model used to be silver instead of black, and these would sometimes be designated with an "S" after the model number (for example, the 985S was the silver version of the 2805).

Now that you understand that the three-digit and four-digit models are "parallel" lineups, you are ready to learn the number scheme:

- The FIRST number (or first two numbers on four-digit models) tells you the "level" of the receiver. The higher the number(s), the higher-end the model is. So the 789 is one step above the 689, which is one step above the 589. Similarly, for this year's models the 1610/590 is the lowest, 1910/790 is a step up, 2310/890 the next step, etc.

- The LAST number is the model year. So, for example, the 789 is last year's (2009 model) 7XX level receiver, and the 790 is THIS year's (2010 model) 7XX level receiver. If it ends in "10", it's a brand new model.

That's pretty much it! So, if you are at Best Buy and you see the brand-new 1910 model, but there is also a special on the 2809CI model, you now know that the 1910 (ends in "10") is one year newer than the 2809 (ends in "9"), but the 2809 is a higher-end model than the 1910 (the first two numbers are bigger, the 2800 series is above the 1900 series). So you'd be comparing a higher-end closeout model from last year versus a lower-end

but new model.

The following table gives info on the three-digit vs. four-digit model equivalents, going back to the 2005 models (sort of the first year of the "modern" Denon AVR's with auto-setup and HD video capability). Note that the new 2010 lineup has complete HD audio ability throughout the entire lineup!

DENON AVR MODEL NUMBERS: THREE-DIGIT vs. FOUR-DIGIT EQUIVALENTS					
2005	2006	2007	2008	2009	2010
–	486 = 1506	587 = 1507	588 = 1508	589 = 1609*	590 = 1610
685 = 1705	686 = 1706	687 = 1707	688 = 1708	689 = 1709	–
785 = 1905	786 = 1906	787 = 1907	788 = 1908	789 = 1909	790 = 1910
885 = 2105	886 = 2106	887 = 2307CI	888 = 2308CI	889 = 2309CI	890 = 2310CI
985 = 2805	–	987 = 2807	988 = 2808CI	989 = 2809CI	990 = 3310CI
3805	3806	–	3808CI	–	4310CI

= HDMI video passthrough only (no audio over HDMI)

= HDMI video + HDMI audio supported up to 7.1 PCM

= HDMI video + full HDMI audio support (TrueHD/DTS-MA)

** Note that the 1609 is 7.1, whereas the 589 is 5.1*