



# **High Definition Audio Driver User's Manual**

**Rev. 1.00**



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# Getting Started

After Realtek HD Audio Driver being installed, “Realtek HD Audio Manager” icon will show in System tray as below. Double click the icon and the control panel will pop out.

Figure 0-1 System tray icon



Double click to enable  
Realtek HD Audio Manager





# 1. Sound Effect

To click “Sound Effect” tab, 3 clusters “Environment”, “Equalizer” and “Karaoke” are available for selection.

Figure 1-1 Sound effect



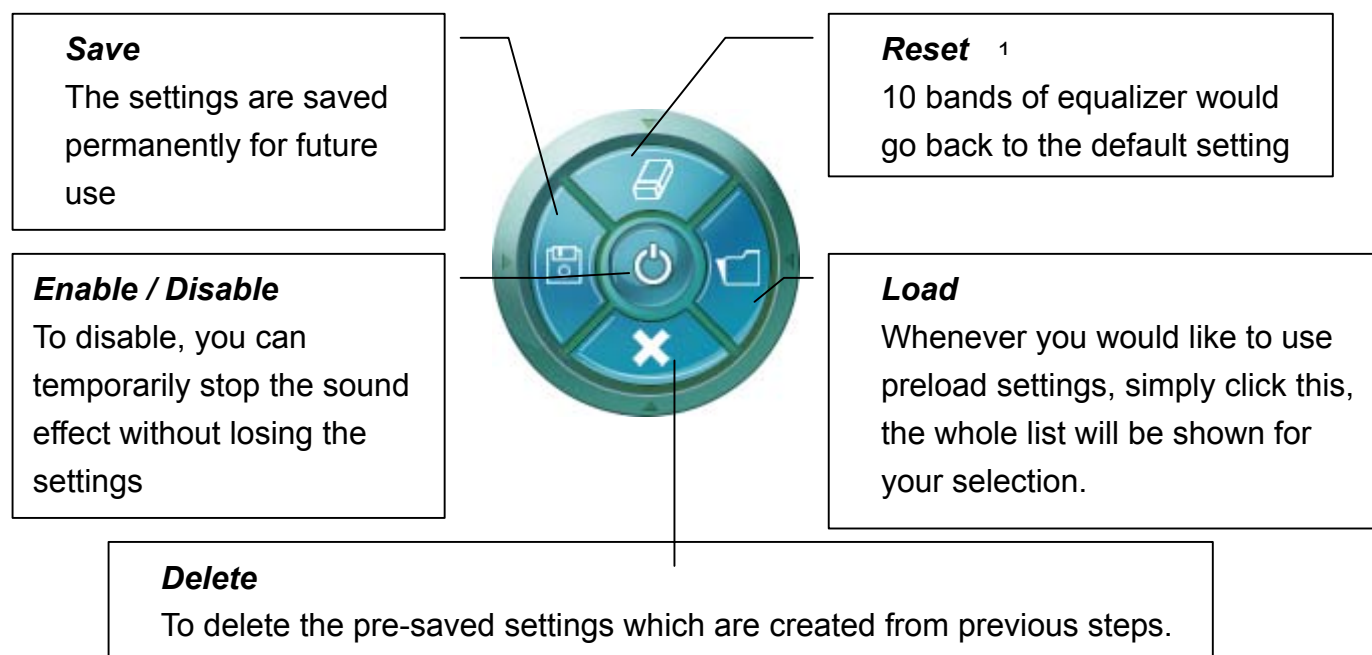
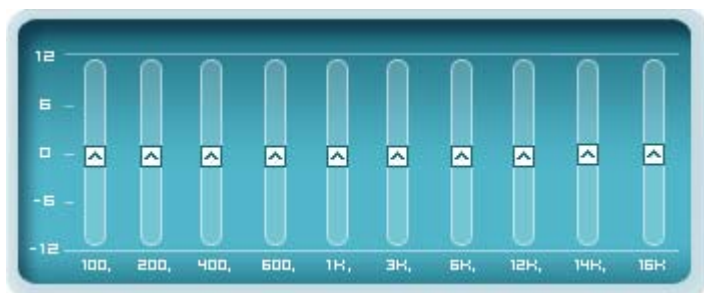
## 1.1 Environment Simulation

You will be able to enjoy different sound experience by pulling down the arrow, totally 23 kinds of sound effect will be shown for selection. Realtek HD Audio Sound Manager also provides five popular settings “Stone Corridor”, “Bathroom”, “Sewer pipe”, “Arena” and “Audio Corridor” for quick enjoyment.

## 1.2 Equalizer Selection

Equalizer frees users from default settings; users may create their own preferred settings by utilizing this tool.

10 bands of equalizer, ranging from 100Hz to 16KHz



### 1.3 Frequently Used Equalizer Setting

Realtek recognizes the needs that you might have. By leveraging our long experience at audio field, Realtek HD Audio Sound Manager provides you certain optimized equalizer settings that are frequently used for your quick enjoyment.

[How to Use It]

<sup>1</sup> You won't be losing your customized settings by clicking "reset"

Other than the buttons “Pop” “Live” “Club” & “Rock” shown on the page, to pull down the arrow in “Others” , you will find more optimized settings available to you.

### **1.4 Karaoke Mode**

Karaoke mode brings Karaoke fun back home. Simply using the music you usually play, Karaoke mode can help you eliminate the vocal of the song or adjust the key to accommodate your range.

- ✓ Vocal Cancellation: Single click on “Voice Cancellation”, the vocal of the song would be eliminated, while the background music is still in place, and you can be that singer!
- ✓ Key Adjustment: Using “Up / Down Arrow” to find a key which better fits your vocal range.



# 2

## 2. Mixer

Realtek HD Audio Sound Manager integrates Microsoft's "Volume Control" functions into the Mixer page. This makes it possible for you to create your favorite sound effect via a single tool.

Figure 2-1 Mixer



### 2.1. Playback control

Figure 2-2 Playback control @ Mixer



(from right to left)

- ✓ Mute
- ✓ Tool

### **Playback device**

This function is to let you freely decide which ports to output the sound. And this is essential when multi-streaming playback enabled.

- ✓ Realtek HD Audio Rear Output
- ✓ Realtek HD Audio Front Output

### **Mute**

You may choose to mute single or multiple volume controls or to completely mute sound output.

### **Tool**

- ✓ Show the following volume control

This is to let you freely decide which volume control items to be displayed, total 13 items to be chosen.

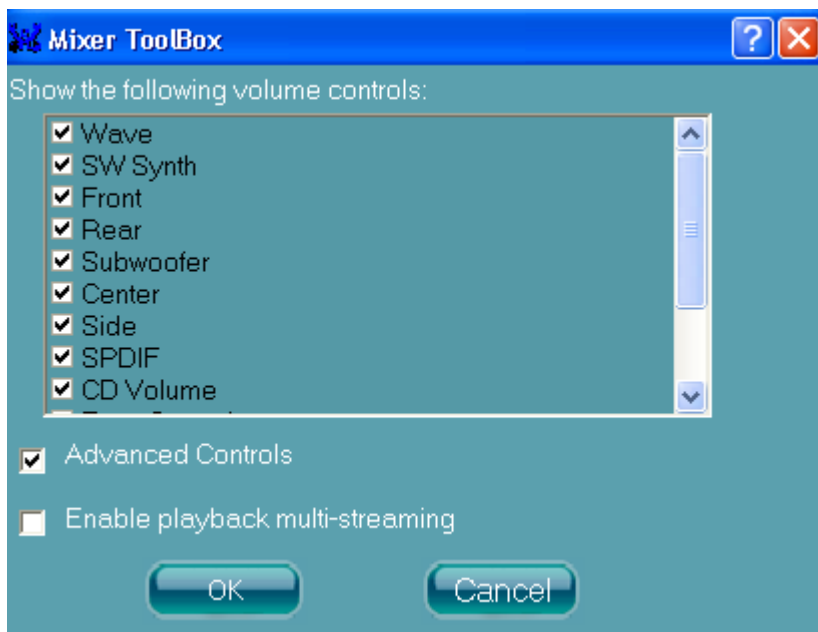
- ✓ Advanced controls
- ✓ Enable playback multi-streaming <sup>3</sup>

With this function, you will be able to have an audio chat with your friends via headphone (stream 1 from front panel) while still have music (stream 2 from back panel) in play. At any given period, you can have maximum 2 streams operating simultaneously.

Figure 2-3 Playback tool @ Mixer

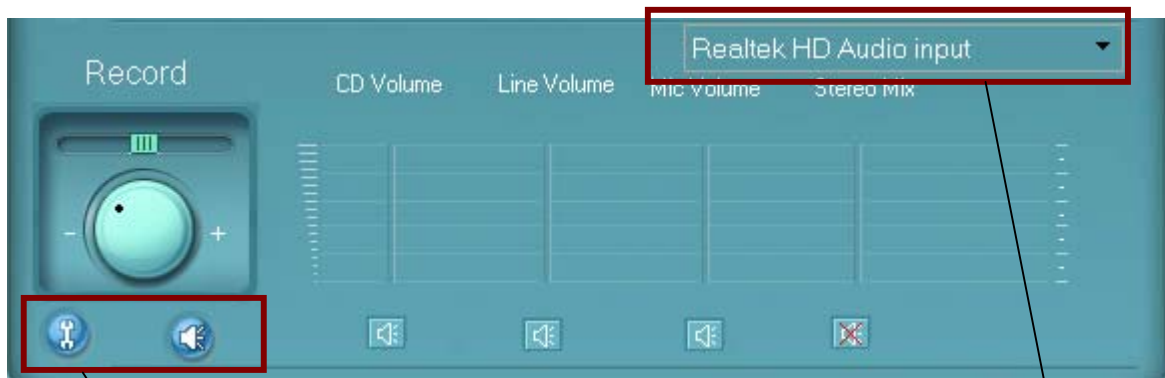
<sup>2</sup> Realtek HD Audio Front Output will only be visible after multi-streaming playback is being enabled

<sup>3</sup> Please refer to the Appendix 9.1 to learn how to set up "multi-streaming" playback.



## 2.2. Recording control

Figure 2-4 Recording control @ Mixer in ALC882



(from right to left)  
 ✓ Mute  
 ✓ Tool

**Recording device**  
 ✓ Back Line in/Mic, Front Lin in  
 ✓ Realtek HD Audio Digital Input

### Mute

You may choose to mute single or multiple volume controls or to completely mute sound output.

### Tool

- ✓ Show the following volume controls

<sup>4</sup> Realtek HD Audio Digital In will only be visible if your system are equipped with port S/PDIF Input

This is to let you freely decide which volume control items to be displayed.

- ✓ Advanced controls.

Advanced control is a “Microphone Boost” icon.

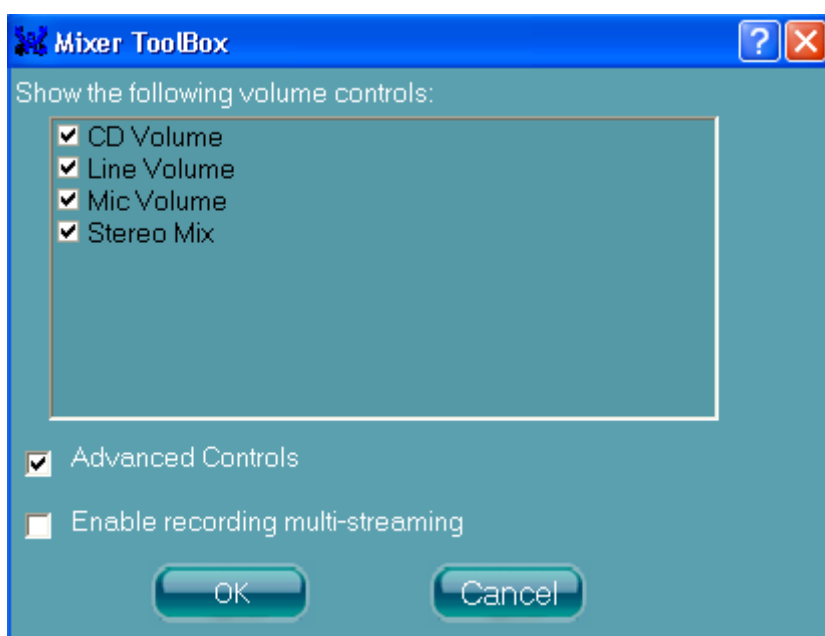
Once this item is checked, you will find “advanced” icon beside “Front Pink In” & “Mic Volume”. With this, the input signal into “Front Pink In” & “Mic Volume” will be strengthen.

<sup>5</sup>

- ✓ Enable recording multi-streaming

At any given period, you can have maximum 2 streams operating simultaneously.

Figure 2-5 Recording tool @ Mixer



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<sup>5</sup> Once “Microphone Boost” enabled, all sound, including what you would like to record or background noise will be strengthen. To achieve better recording quality, you may try to enable “Microphone boost” along with improvement functionss provided at “Microphone” page.



## 3

## 3. Audio I/O

Realtek HD Audio Manager frees you from default speaker settings. Different from before, for each jack, they are not limited to perform certain functions. Instead, now each jack is able to be chosen to perform either output (i.e. playback) function or input (i.e. Recording) function, we call this “Retasking”.<sup>6</sup>

Audio I/O aims to help you set jacks right. Moreover, other than blue to blue, pink to pink, the way that you used to do, Audio I/O would guide you to other right jacks that can also serve as microphone / speaker / headphone.

Figure 3-1 Audio I/O



<sup>6</sup> Retasking function varies from each motherboard. You may find not every jack is re-taskable. Please read your system manual to learn which jacks support retasking function.

### 3.1. Speaker Configuration

**Step 1:** Plug in the device in any available jack.

**Step 2:** Dialogue “connected device” will pop up for your selection. Please select the device you are trying to plug in. (As Figure 3-2)

- If the device is being plugged into the correct jack, you will be able to find the icon beside the jack changed to the one that is same as your device.
- If not correct, Realtek HD Audio Manager will guide you to plug the device into the correct jack. (As Figure 3-3)

Figure 3-2 Connected device

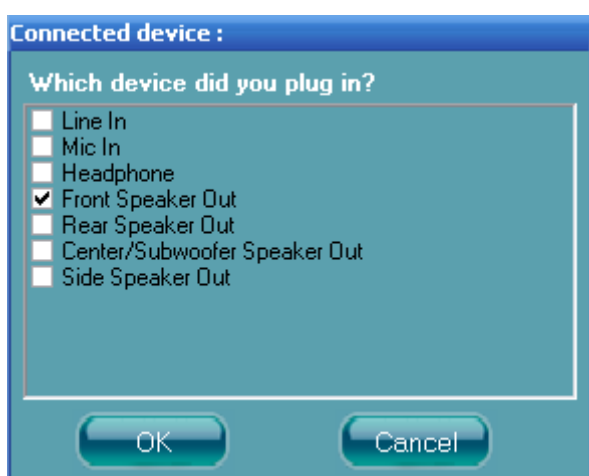
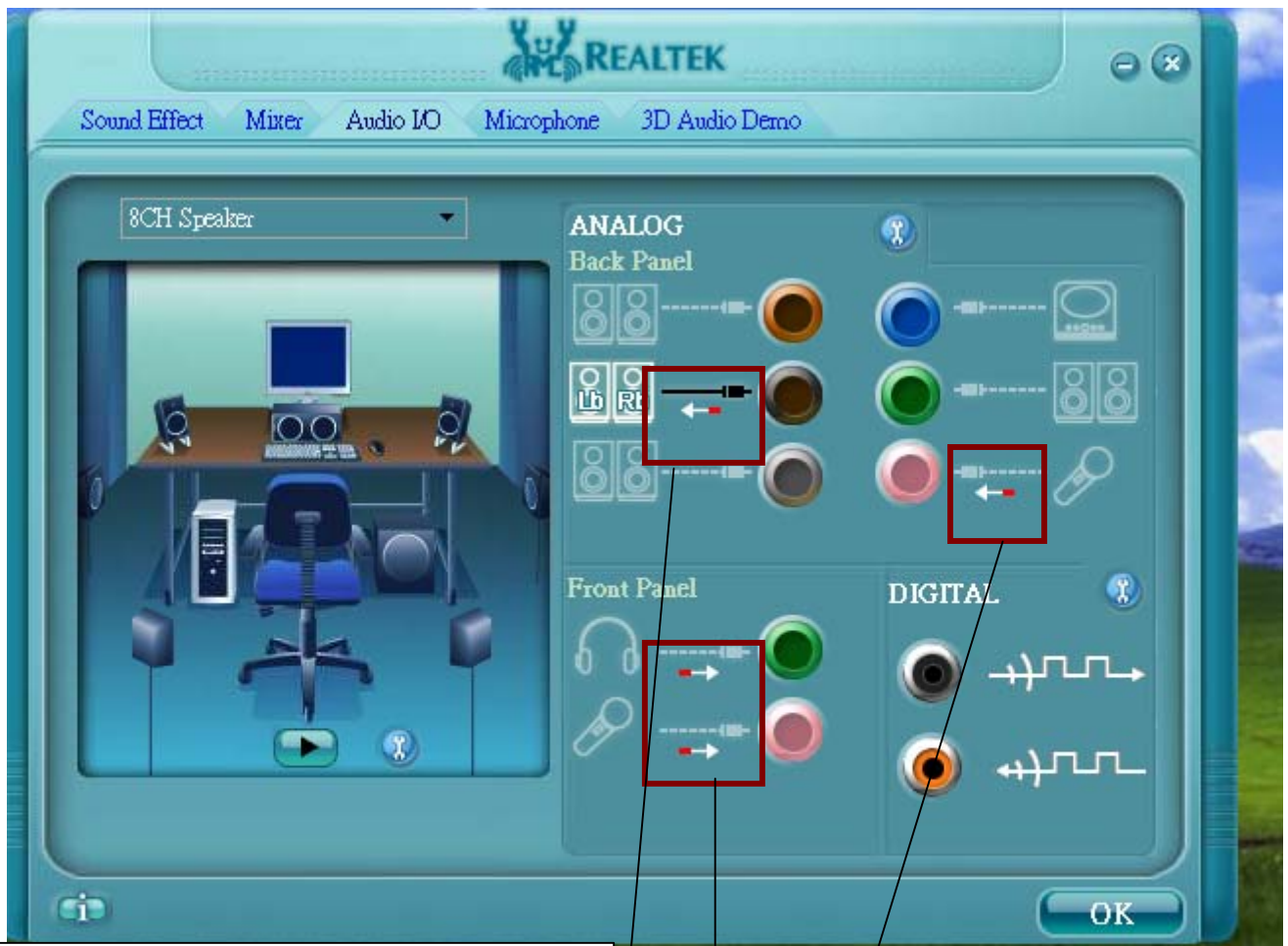


Figure 3-3 Speaker configuration setting when wrong device plugged in <sup>7</sup>

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<sup>7</sup> In the case that your system supports retasking function for all ports, the warning dialogue “The device type is not supported” will not be shown. Check on your system guide to learn which ports support retasking function.



*Indicates pull-out*  
(Find the arrow is at opposite direction to the jack?)

*Indicates plug in*  
(Find the arrow is exactly into the jack?)

**Warning**  
This device type is not supported!

The warning message to hint you the device was plugged into a wrong jack.

### 3.1.1. Global Connector Settings


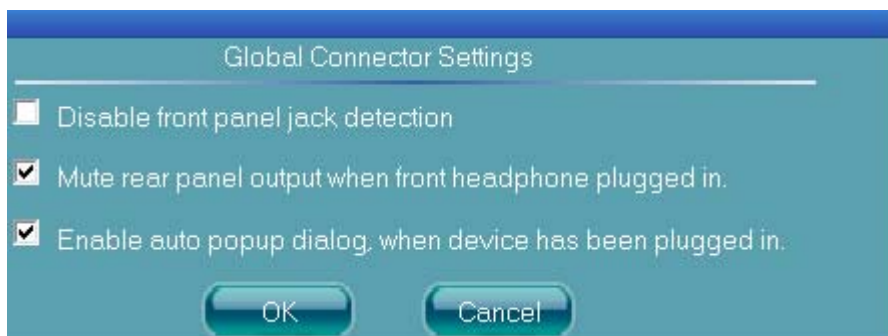
Click  to access global connector settings

Figure 3-4 Global connector settings



✓ Mute rear panel when front headphone plugged in

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Once this item is checked, whenever front headphone is plugged, the music that is playing from the back panel, will be stopped.

- ✓ Disable front panel jack detection (option)

Find no function on front panel jacks? Please check if front jacks on your system are so-called AC'97 jacks. If so, please check this item to disable front panel jack detection.

- ✓ Enable auto popup dialogue, when device has been plugged in.

Once this item checked, the dialog "Connected device", as Figure 3-3, would not automatically pop up when device plugged in.

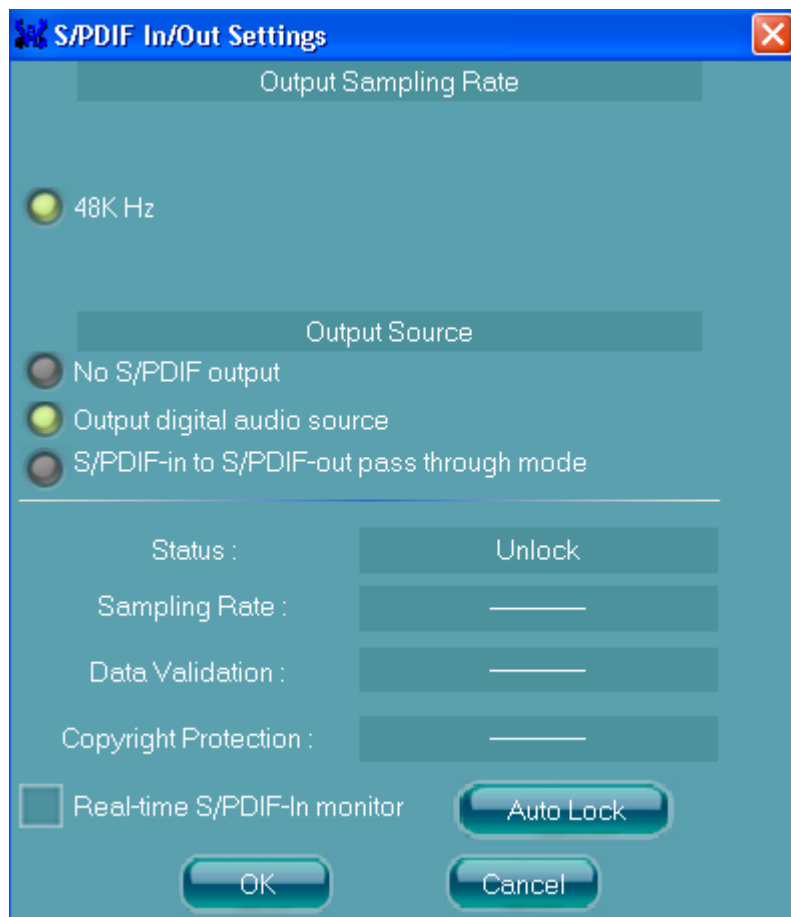
### 3.1.2. S/PDIF

Short for **Sony/Philips Digital Interface**, a standard audio file transfer format. S/PDIF allows the transfer of digital audio signals from one device to another without having to be converted first to an analog format. Maintaining the viability of a digital signal prevents the quality of the signal from degrading when it is converted to analog.<sup>8</sup>

Figure 3-5 S/PDIF In/Out Settings

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<sup>8</sup> Check on your PC system to see if S/PDIF connectors are available.



- ✓ Output Sampling Rate
  - 44.1KHz: This is recommend while playing CD
  - 48KHz: This is recommended while playing DVD or Dolby.
  - 96KHz: This is recommended while playing DVD-Audio.
- ✓ Output Source
  - Output digital audio source: The digital audio format (such as .wav, .mp3,.midi etc) will come out through S/PDIF-Out.
  - S/PDIF-in to S/PDIF -out pass though mode: The data from S/PDIF-In can be real-time played from S/PDIF-Out.
- ✓ S/PDIF In Status
  - Lock: This is to express if the S/PDIF In data has been successfully caught by codec <sup>9</sup>
  - Sampling Rate

<sup>9</sup> If “Unlock”, please click “auto lock” to catch the data again. If still not ok, please check if S/PDIF cable is well plugged.

- Data Validation: This indicates if the input data is known to Realtek HD Audio Manager.
- Copyright protection: The input data can only be copied while “Copy Free” is shown; while “No Copy” indicates the data is read only.
- Real time S/PDIF-in monitor: Not only S/PDIF out, but also other analog out (such as front /side/surround speakers) can also output S/PDIF-in data realtime.

### 3.2. Speaker Calibration

If you have successfully plugged speakers in the right jacks, congratulations, you are only one more step to go to enjoy the intended sound. We provide “Speaker Calibration” to help you check if the speakers are located in the correct position.



#### **Step1**

Select the channel output (headphone / 2 / 4/ 6 / 8 channel)

#### **Step2**

Click “play” icon

#### **Step3**

Look at the scene; while the speaker appears flashing, you should be able to hear the sound exactly from that direction.

## 4. Microphone

This page is designed to provide you better microphone / recording quality.

Below picture indicates both “Noise Suppression” & “Acoustic Echo Cancellation” are both enabled.

Figure 4-1 Microphone



### 4.1. Noise Suppression

Feel background noise, especially the sound generated from the fan inside PC, is too loud? Try “Noise Suppression”, you will find the difference <sup>10</sup>.

<sup>10</sup> Noise suppression aims to reduce the noise which appears non-fluctuant and continuously, such as the operating sound generated by fan, PC, or some other electrical devices.

## 4.2. Beam Forming

You can also name it as “directional recording”. This means once beam forming is being enabled; only the sound from certain direction will be recorded. The best quality we recommend is 90°, meaning to speak right in front of the microphone.

*[Note] A set of Stereo Microphone is required when using Beam Forming function.*

## 4.3. Acoustic Echo Cancellation

This function prevents playback sound from being recorded by microphone together with your sound. For example, you might have chance to use VOIP function through Internet with your friends. The voice of your friend will come out from speakers (playback). However, the voice of your friend might also be recorded into your microphone then go back to your friend through Internet. In that case, your friend will hear his/her own voice again. With AEC(Acoustic Echo Cancellation) enabled at your side, your friend can enjoy the benefit with less echo.

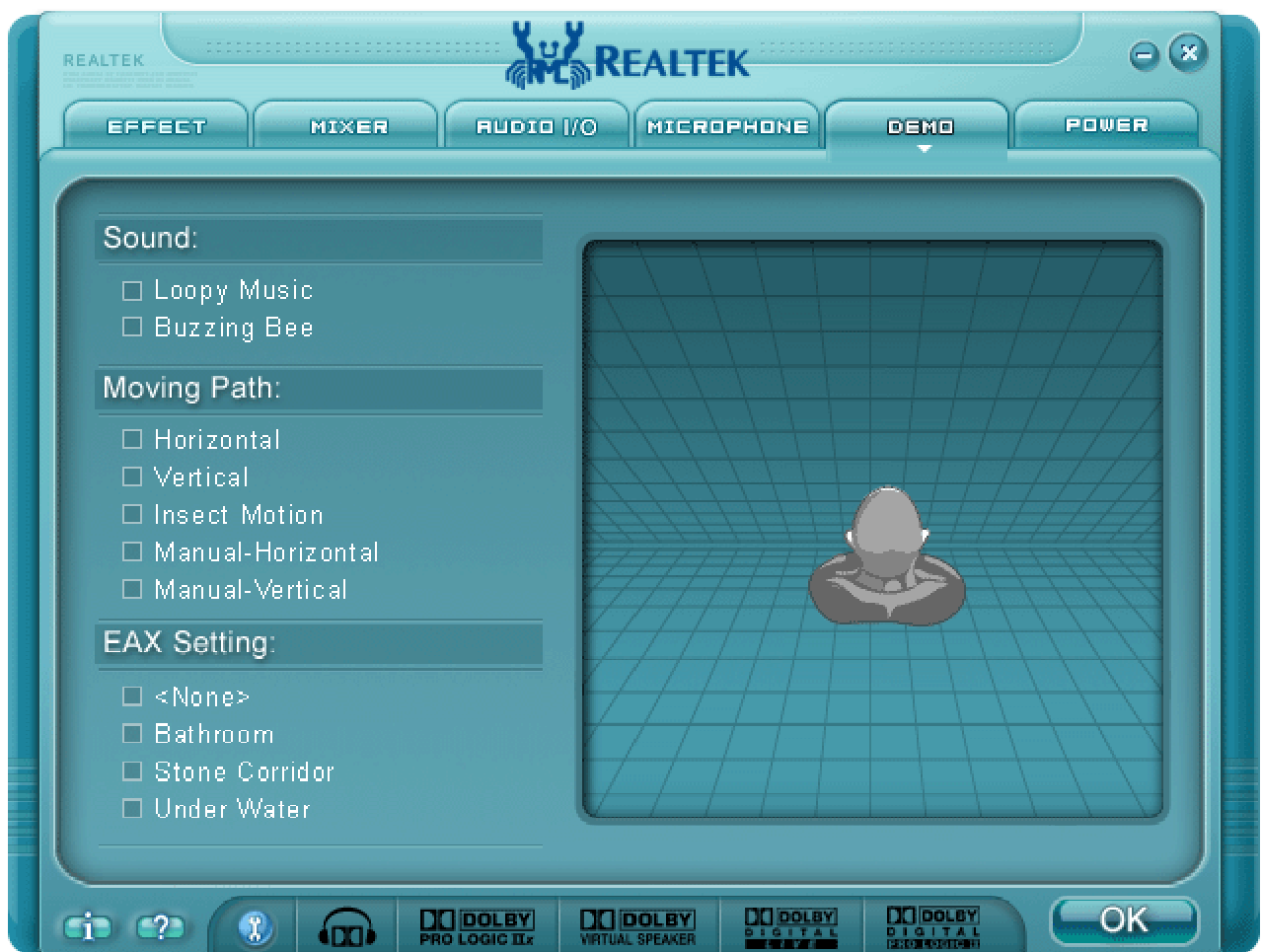


# 5

## 5. 3D Audio Demo

Page “3D Audio Demo” gives you another fun to enjoy your system. Try it to feel sound bumping to ear in an extraordinary way.

Figure 5-1 3D Audio Demo

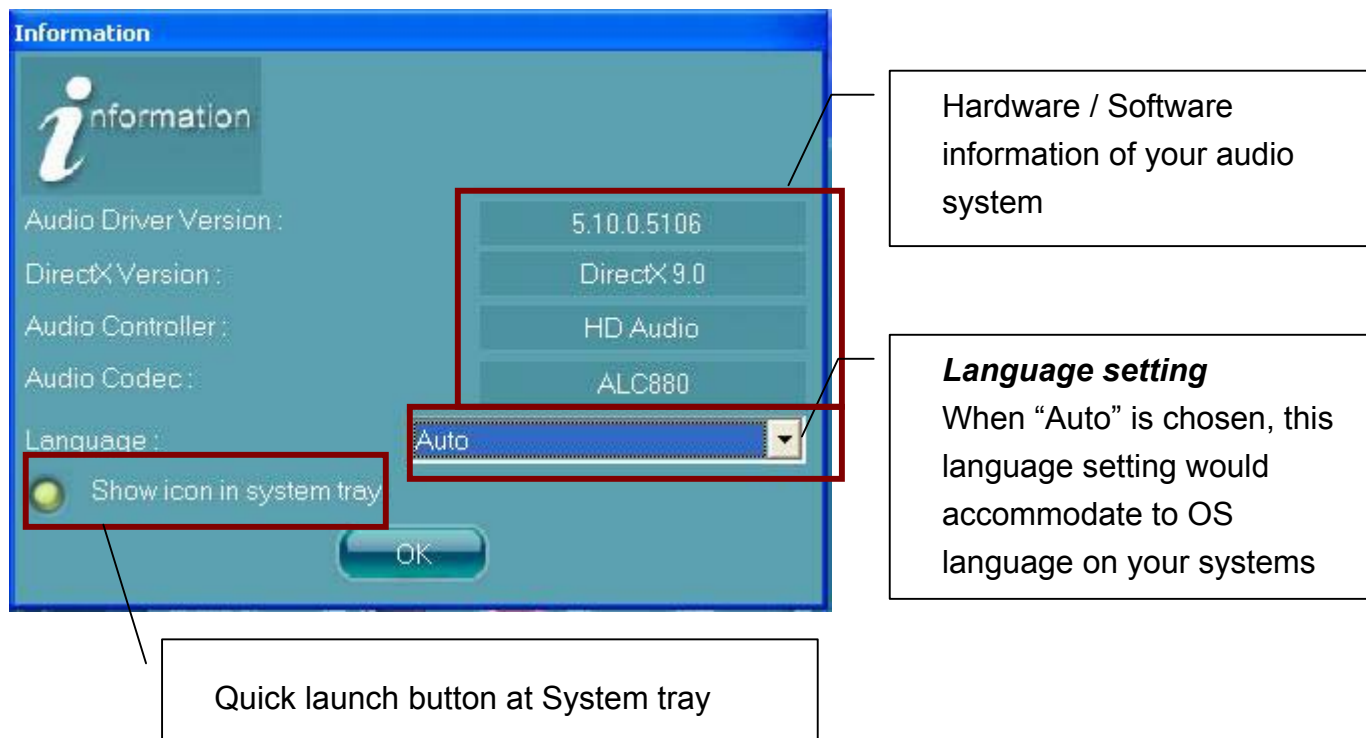




# 6

## 6. Information

Figure 6-1 Information





## 7. Bass Management

Your speaker placement cannot be optimal because of room space limitation? Page “Bass Management” is designed to solve this issue in a software way. You can either adjust volume of every single speaker, or reach better speaker balance by adjusting distance.

### 7.1. Volume

Each speaker volume can be individually adjusted to accommodate room placement and audio source, ranging from -10 dB to 10 dB.

### 7.2. Distance

The sound-field can be adjusted by individually changing the distance between each speaker and your ears. The adjustment range is from 0.5 M to 10 M (0 Ft to 30 Ft.), varies from each speaker.

### 7.3. Subwoofer settings

- ✓ Enable subwoofer output

Before enabled subwoofer output, please make sure you have a subwoofer in place.

- ✓ Send bass to subwoofer

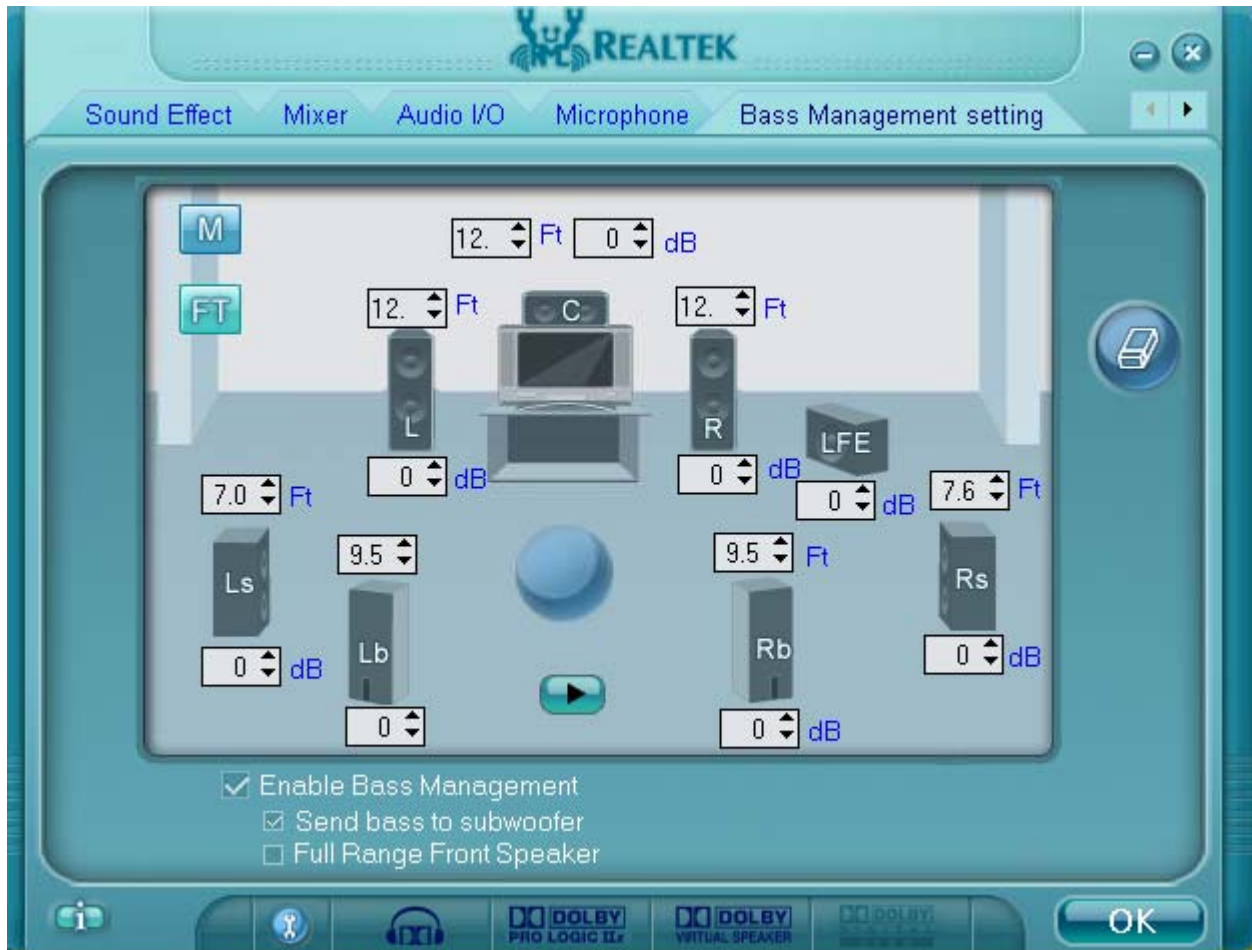
If you prefer the sound in which bass effect is strengthened, you may enable this function. By enabling this function, all bass effect that originally exist in other channels will be concentrated to Subwoofer to output.

- ✓ Full range front speakers

In the case no subwoofer in place, you may direct bass effect to front speakers.

*[Note] Before enabling this function, please make sure your front speakers are “Full Range Speakers”, otherwise, strong bass effect may damage speakers.*

Figure 7-1 Bass management



## 8. Dolby

Dolby Home Theater & Dolby Master Studio<sup>11</sup> mean to bring you a new class of entertainment experience, by using home PCs.

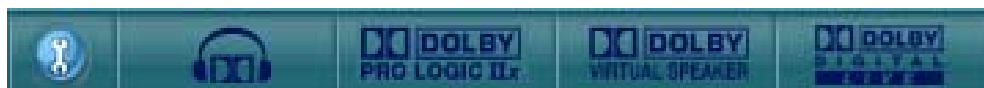
**Dolby Home Theater** contains 4 elements

1. Dolby Headphone
2. Dolby virtual Speaker
3. Dolby Pro Logic II
4. Dolby Digital Live

**Dolby Master Studio** contains 4 elements

1. Dolby Headphone
2. Dolby virtual Speaker
3. Dolby Pro Logic IIx
4. Dolby Digital Live

Figure 8-1 Dolby control button



### 8.1. How to Enable Dolby Effect

#### 8.1.1. For Dolby Headphone

Dolby Headphone delivers realistic 5 channel listening experience over any pair of headphones

*Note: To truly deliver 5. channel surround sound, please make sure the audio source that you are about to play is recorded in 5 / 5.1 format.*

- Change speaker mode to “Headphone” @ Audio I/O tab

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<sup>11</sup> Check on your system guide to learn which Dolby logo program your system complies with

- Single click on “Dolby Headphone” button to enable/disable it

### 8.1.2. For Dolby Pro Logic II & Pro Logic IIX

*Dolby Pro Logic II & Dolby Pro Logic IIX* transforms stereo programs into a natural, realistic, and spacious 5 & 7.1 channel listening experience.

- Change speaker mode to 6<sup>12</sup> / 8<sup>13</sup>CH Speaker @ Audio I/O tab
- Single click on “Pro Logic II” or “Pro Logic IIX” button to enable/disable it

### 8.1.3. For Dolby Virtual Speaker

This delivers a realistic 5 channel surround sound experience from just two speakers.

*Note: To truly deliver 5.channel surround sound, please make sure the audio source that you are about to play is recorded in 5 / 5.1 format.*


- Change speaker mode to “2CH Speaker” @ Audio I/O tab
- Single click on “Dolby Headphone” button to enable/disable it

### 8.1.4. For Dolby Digital Live

Dolby Digital Live makes a seamless connection between your PCs and Home Theater devices. Dolby Digital Live helps transform PC’s audio data into Dolby Digital format and moreover output it to the port S/PDIF out. This makes it possible to output your home PC data to your Home Theater devices via S/PDIF.

- Single click on “Dolby Digital Live” button to enable/disable it <sup>14</sup>

## 8.2. Advanced Controls

 provides you more controls over each Dolby effect. Single click on “Tool” button to access advanced controls.

### 8.2.1. Dolby Headphone

- ✓ DH1: Small, acoustically damped room
- ✓ DH2: Slightly wetter or more reverberant room than DH1
- ✓ DH3: Larger room than DH1; more distant and diffuse effect

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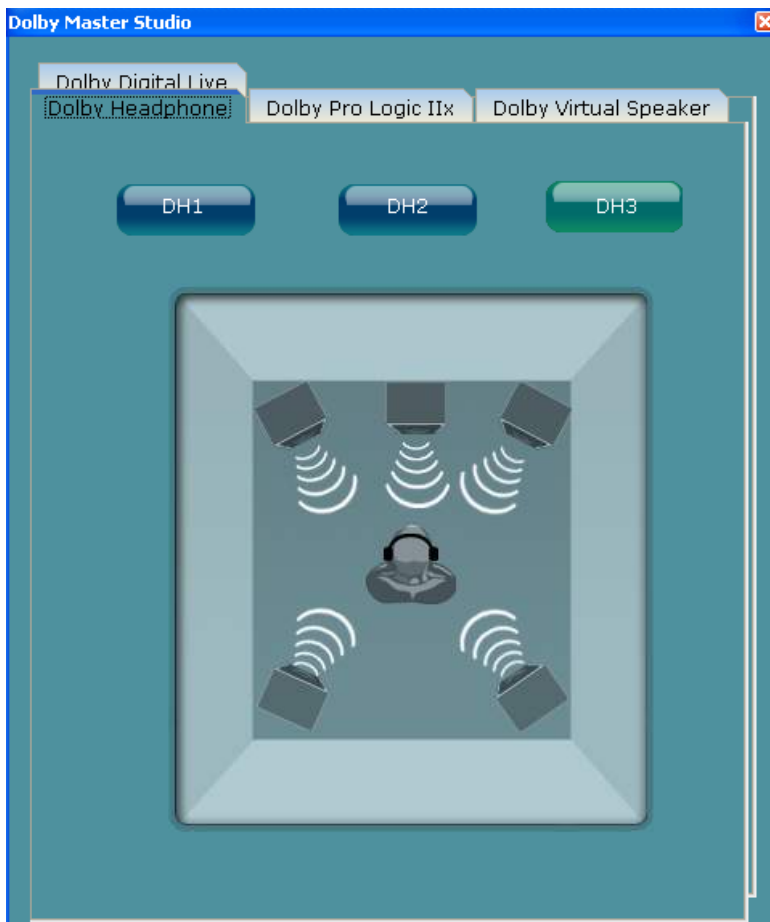
<sup>12</sup> Pro Logic II

<sup>13</sup> Pro Logic IIX

<sup>14</sup> Please make sure your home theater device has been plugged into S/PDIF out



Figure 8-2 Dolby Headphone- DH1



### 8.2.2. Dolby Pro Logic II / Dolby Pro Logic IIx

#### Movie mode

The movie mode is for use with stereo television shows and all programs encoded in Dolby Surround. The result is enhanced soundfield directionality that approaches the quality of discrete 5.1-channel sound.

#### Music mode

The music mode is for use with any stereo music recordings, and provides a wide and deep sound space. The Music mode includes controls that allow the sound to be tailored to individual listening tastes.

- ✓ Panorama control

This extends the front stereo image to include the surround speakers for an exciting “wraparound” effect with side-wall imaging. It is particularly effective for recordings which have left- or right- channel elements in the mix, as these are detected and accentuated by the Panorama process.

✓ Dimension control

This allows the user to gradually adjust the soundfield either towards the front or the rear. This can be useful to help achieve the desired balance from all the speakers with certain recordings that may contain either too much or too little special effect. Step “0” is the recommended setting, which has no effect on the sound. Step 1, 2 and 3 gradually move sound forward, and steps -1, -2, and -3 move the sound toward the surround.

✓ Center Width control

This allows center-channel sound to be positioned between center speaker and left/right speakers over a range of eight steps. Step “3” uses a combination of all three front speakers to give the best vocal imaging and most seamless soundstage presentation, and is recommended for most recordings. Step “0” places all center sound in the center speaker. Step “7” places all center sound equally in the left/right speakers, just as in conventional stereo.

All three of the above controls may be used alone or in any combination. It is recommended that you try them on a few programs. After try, it is easier to find the settings that are preferable.

Figure 8-3 Dolby Pro Logic IIx



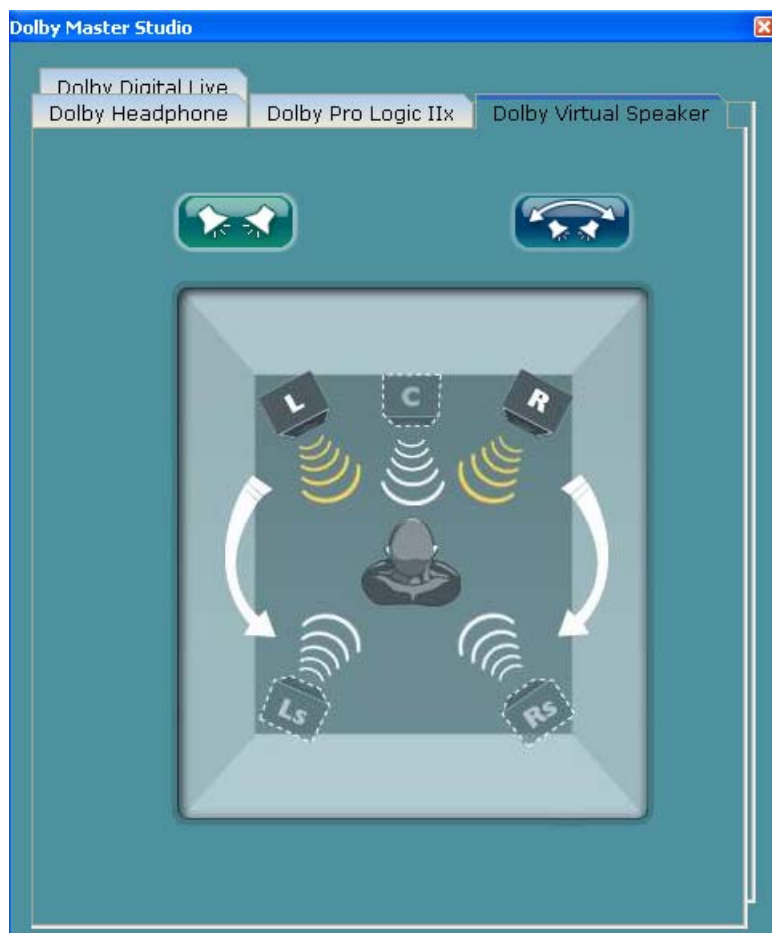
### 8.2.3. Dolby Virtual Speaker

Dolby Virtual Speaker offers two virtualization modes that differ in surround effect and apparent speaker localization. Each mode may be used with any type of program content.

**Reference mode:** This creates convincingly realistic five-speaker surround sound from two speakers, with the apparent width of the surround across the front image defined by the distance between two speakers.

**Wide mode:** This provides a wider, more spacious front image when the two speakers are close together, with the same convincingly realistic five-speaker surround sound as the reference mode.

Figure 8-4 Dolby Virtual Speaker



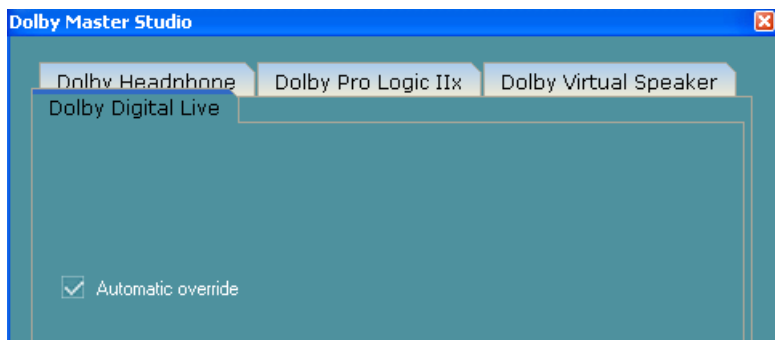
### 8.2.4. Dolby Digital Live

When Dolby Digital Live is enabled, in the case that you have a DVD digital output coming in, how to decide the priority between DVD digital output and Dolby Digital Live stream?

- ✓ *Checked* Automatic override: The priority of DVD digital output is higher than that of Dolby Digital Live stream
- ✓ *Un-Checked* Automatic override: The priority of DVD digital output is lower than

that of Dolby Digital Live stream

Figure 8-5 Dolby Digital Live



## 9. Appendix

### 9.1. How to Set Up Multi-Streaming Playback

Example: MSN or Skype talk with friends while CD is still in play in PC.

*Before set up, please make sure the playback devices are well plugged in the jacks.*

- i. Enable playback multi-streaming (Mixer → Tool → Check “Enable playback multi-streaming”)
- ii. Check the item “Update Playback Device Automatically” (Mixer → Tool → Check “Update Playback Device Automatically”)
- iii. At Mixer page, choose " Realtek HD Audio Rear Output"
- iv. Launch Media player to play CD. At this moment, CD will be played back from back-panel.
- v. Go back to "Mixer" page, to choose "Realtek HD Audio Front Output".
- vi. Turn on Skype or MSN audio to do "audio" chat with friends. At this moment, you will be able to hear your friends' talk from front panel output (say, via headphone), while music (back-panel) is still in play.
- vii. At the end, you should hear 2 different sound playback simultaneously without interference.

### 9.2. How to Do Recording

#### I. Audio input source selection

At recording section of the Mixer tab, select the following audio source from the drop down list,

- ✓ Mic in / Line in
- ✓ Realtek HD Audio Digital In (i.e. S/PDIF in)

In the case that Mic in / Line in is being selected, you have following audio channels to be recorded.

- ALC882 allows you to record the following channels simultaneously, frees you from

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mixing efforts. At any given period, the recording channels can be up to 4.

- ALC880 / ALC260: At any given period, you may choose 1 of following 4 channels to record.
- ✓ CD player
- ✓ Line in
- ✓ Microphone
- ✓ Stereo Mix

Please make sure to un-mute the audio channels that you intend to record.

## **II. Volume adjustment**

Simply adjust the volume wheel for volume control.

## **III. Launch “Sound Recorder”**

Start → Programs → Accessories → Entertainment → Sound Recorder

## **IV. Single click on “record” button and enjoy your time.**