How to operate the unit with an optional 5.1 ch decoder/AV matrix unit connected

1. Before adjusting sound quality

Functions available when the optional 5.1 ch decoder/AV matrix unit is connected

The following table shows the finer audio adjustments that can be performed when the optional 5.1 ch decoder/AV matrix unit is connected.

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<th>Item</th>
<th>Function</th>
<th>Page</th>
</tr>
</thead>
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<td>Parametric EQ</td>
<td>Perform a 5-band parametric equalizer adjustment on each channel (front, rear, center) and a 1-band adjustment on the woofer for a total of a 16-band adjustment.</td>
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</tr>
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<td>POSITION</td>
<td>Sound localization can be adjusted according to the number and position of passengers in order to obtain optimum acoustic effects.</td>
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<tr>
<td>FADER/BALANCE</td>
<td>The left/right/front/rear balance can be adjusted.</td>
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<td>Speaker System</td>
<td>The settings can be adjusted according to the connected speaker system (1-way 4 speaker system or front 3-way speaker system).</td>
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</tr>
<tr>
<td>Time Alignment</td>
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<tr>
<td>Crossover</td>
<td>Allocate specified frequency bands to each speaker for improved sound integration.</td>
<td>157</td>
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<tr>
<td>Sub-woofer level</td>
<td>When a sub-woofer is connected, the preferred output level for the audio can be set.</td>
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<tr>
<td>Sub-woofer phase</td>
<td>The merging of sound between the front and rear speakers and the sub-woofer can be improved by selecting the phase. Switch to a phase that lets the speakers combine without any disharmony.</td>
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<tr>
<td>Speaker Level</td>
<td>Adjust the frequency band output to fit the size of the speakers connected to the unit.</td>
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<td>Speaker Size</td>
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<td>Dolby Pro Logic II</td>
<td>Achieve surround sound by moving from 2 channel stereo to 5.1 channel sound.</td>
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<td>151</td>
</tr>
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<td>Center Level</td>
<td>Adjust the output level of the center speaker.</td>
<td>150</td>
</tr>
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<td>Rear Level</td>
<td>Adjust the output level of the rear speakers.</td>
<td>150</td>
</tr>
</tbody>
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How to operate the unit with an optional 5.1 ch decoder/AV matrix unit connected

Before adjusting sound quality

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<tr>
<th>Item</th>
<th>Function</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harmonizer</td>
<td>When original sounds are converted to MP3/WMA format, frequency ranges that are not normally audible to the human ear are compressed. The harmonizer can be used to play back these compressed sounds at as close to their original form as possible so that clear and powerful sound can be enjoyed.</td>
<td>148</td>
</tr>
<tr>
<td>Loudness</td>
<td>The loudness control may be turned on the emphasize low and high frequencies at low volume levels. Loudness compensates for the apparent weakness of low and high frequencies at low volume by boosting the bass and treble levels.</td>
<td>148</td>
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<td>E-iSERV Sound Effect Customizations</td>
<td>Download sound adjustment data from the ECLIPSE website (E-iSERV) that matches the vehicle's interior and store it in the unit.</td>
<td>138</td>
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</table>

About parametric EQ

A variety of materials are used inside a vehicle to manufacture the seats and windows, and these materials absorb and reflect sound in different ways. The parametric equalizer lets you adjust the peaks and dips of the frequency characteristics inside the vehicle to compensate for these differences.

An “equalizer” is a function that corrects these peaks and dips in order to flatten frequency characteristics. However, with a normal graphic equalizer, the median frequency and the Q (sharpness and bandwidth) are fixed, so that when neighboring bands are corrected, there is a limit to the amount of distortion in the peak and dip characteristics that can be corrected. A “parametric equalizer” lets you adjust the median frequency, Q (sharpness and bandwidth) and gain to variable levels, so that you can make fine adjustments to spot areas of the frequency band.
[Parametric equalizer characteristics]

1. Median frequency can be varied.

2. Gain can be varied.

3. Q (sharpness/bandwidth) can be varied.
How to operate the unit with an optional 5.1 ch decoder/AV matrix unit connected

Before adjusting sound quality

About time alignment

With vehicle audio systems, the installation position of the speakers and the position of the listener mean that the distances from the listener to the left and right speakers are almost always different. These differences in the distance from the listener to each speaker in turn means that the time taken for the sound to reach the listener is different for each speaker. The result of this is that the phases of each speaker (biases) become mismatched and the sound becomes unnatural, as though the sound stage were not wide enough. The “time alignment” function corrects the time taken for the sound waves to reach the listener in order to set the optimum phase for the listening position. This makes the sound more expansive as though it were being listened to on a sound stage.

The basic adjustment method involves measuring the actual distances to each speaker and calculating the differences in distance relative to the most distant speaker in order to derive the delay time for the sound from each speaker.
The frequency band that is stored by audio media such as CDs is a fairly wide range from 20 Hz to 20 kHz, and it is difficult for a single speaker to be able to play back all frequencies in such a wide range. Because of this, several speakers can be used, with different frequency bands (such as treble, medium and bass) allotted to each speaker so that wide frequency ranges can be played back. The “Crossover” function is used to allot the frequency ranges that are to be played back by each speaker in accordance to the installed speaker units and the layout of the speakers, in order to obtain the maximum level of performance from the speakers and to provide the most stable frequency characteristics.

The crossover function includes a high-pass filter (HPF) for playing back treble sounds, and a low-pass filter (LPF) for playing back bass sounds. In addition, the HPF and LPF are used in combination in order to play back sounds in the mid range.

For example, when adjusting the HPF, frequencies that are lower than the specified frequency are progressively dampened, rather than simply not being played back at all. The “slope” adjustment function is the function that is used to adjust these dampening characteristics. The slope characteristics of a filter are such that with larger slope values (for example 12 dB/oct), the slope becomes steeper, and so the amount of sound mixing in with neighboring bands becomes less so that only the target band is played back. However, it also causes the merging of sound between speakers to become poorer and can result in greater distortion.

- The crossover function is a filter that allocates specified frequency bands.
- A high-pass filter (HPF) is a filter that cuts out frequencies that are lower than the specified frequency (bass range) and allows higher frequencies (treble range) to pass through.
- A low-pass filter (LPF) is a filter that cuts out frequencies that are higher than the specified frequency (treble range) and allows lower frequencies (bass range) to pass through.
- The slope is the signal level at which frequencies that are one octave higher or one octave lower are dampened.

The larger the slope value, the greater the slope. In addition, when “PASS” is selected, the slope is eliminated (sound does not pass through the filters), so that the crossover function has no effect.
Before adjusting sound quality

About E-iSERV sound effect customizations

The parametric equalizer, time alignment and crossover settings can be adjusted using this unit, or through the E-iSERV website.

About the automatic parametric equalizer

This function can be used to automatically correct distortion in frequency characteristics (peaks and dips) based on the results of measuring the frequency characteristics inside the vehicle.

Automatic parametric equalizer correction is carried out in the following steps.

1. **Speaker adjustment**
   (Refer to "Setting/Adjusting the speakers" on page 153.)

2. **Frequency characteristics measurement**
   **Saving sound data**
   After measuring frequency characteristics, sound data will be written to a "Memory Stick Duo" automatically.
   (Refer to "Measuring/Displaying frequency characteristics" on page 144.)

3. **Accessing the E-iSERV website**
   Access the following URL: http://www.e-iserv.jp

4. **Automatic parametric equalizer adjustment**
   Follow the instructions given on the website.

5. **Correction data downloading**
   Follow the instructions given on the website.

6. **Correction data reading**
   (Refer to "Importing sound data" on page 164.)
How to operate the unit with an optional 5.1 ch decoder/AV matrix unit connected

2. Adjusting sound quality

Sound quality can be adjusted in all audio operation screens.

Displaying the sound adjustment screen

1. Touch \textbf{SOUND}.
   - Touch \textbf{SET} in the VTR operation screen, or \textbf{NEXT} in the DVD operation screen followed by \textbf{SET} to display the \textbf{SOUND} switch.

   - Touch any of the following buttons on the sound adjustment screen to display the corresponding adjustment screen.

   - \textbf{SOUND} adjustment screen
   - \textbf{Parametric equalizer adjustment screen}
   - \textbf{Position setting screen}
   - \textbf{Fader/Balance setting screen}

\begin{itemize}
  \item \textbf{PEQ} \textbf{SETTING}
  \item \textbf{POS}
  \item \textbf{FADER/BALANCE}
\end{itemize}

Continue to the next page
Adjusting sound quality

- Setting screen
- Speaker level setting screen
- Time alignment adjustment screen
- Crossover setting screen
Adjusting PEQ (Parametric equalizer)

If the optional 5.1 ch decoder/AV matrix unit is connected, the parametric equalizer can be used to perform a 5-band adjustment of each of the front, center, and rear channels, and a 1-band adjustment of the woofer for a total of a 16-band adjustment. Each band can be set to the following median frequencies:

<table>
<thead>
<tr>
<th>Channel</th>
<th>Band</th>
<th>Adjustable frequency (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td>1 to 5</td>
<td>20, 25, 31.5, 40, 50, 63, 80, 100, 125, 160, 250, 315, 500, 630, 1k, 1.25k, 2k, 2.5k, 3.15k, 4k, 5k, 6.3k, 8k, 10k, 12.5k, 16k, 20k</td>
</tr>
<tr>
<td>Center</td>
<td>1</td>
<td>20, 25, 31.5, 40, 50, 63, 80, 100, 125, 160, 250</td>
</tr>
<tr>
<td>Rear</td>
<td>1</td>
<td>20, 25, 31.5, 40, 50, 63, 80, 100, 125, 160, 250</td>
</tr>
</tbody>
</table>

It is not possible to set more than one band in the same channel to the same median frequency. Either change the median frequency of the current band, or change the center frequency of another band.
Adjusting sound quality

Adjusting/Saving a PEQ

1 Touch PEQ in the sound adjustment screen.

2 Touch FRONT, REAR, CENTER or WOOFER to select the channel to be adjusted.

3 Touch BAND to select the band to be adjusted.
   - Each time BAND is touched, the band will be changed in the order shown below.
     1 → 2 → 3 → 4 → 5

4 Touch or for FREQ to select the frequency to be adjusted.
   - : Increase frequency
     : Decrease frequency

5 Touch or for LEVEL to adjust the frequency level.
   - The frequency level can be adjusted -10 dB to 10 dB (in units of one)
     : Increase level
     : Decrease level

The graph in the center of the screen is displayed when the frequency characteristics are measured. For more information, refer to "Measuring/Displaying frequency characteristics" on page 144.
6 Touch \( \mathbf{Q} \) to select the Q curve pattern.
- Each time the switch is touched, the Q curve pattern will be changed in the order shown below.

7 Repeat steps 3 through 6 to change the setting for each channel and band.
- It is not possible to set more than one band in the same channel to the same median frequency.

8 Touch the switch you want to use to save (EQ1 to EQ5) until you hear a beep.
- Save the PEQ, time alignment, cross over and speaker level settings for future use.
- Touch \( \mathbf{BACK} \) after making settings. The PEQ mode adjustments will be saved and the system will return to the previous operation screen.
Adjusting sound quality

Selecting a PEQ pattern from memory

1. Touch a switch from **EQ1** to **EQ5**.
   - The preset pattern stored in memory will be retrieved.
   - Touch **BACK** after making settings. The PEQ mode adjustments will be saved and the system will return to the previous operation screen.

Measuring/Displaying frequency characteristics

Frequency characteristics inside the vehicle can be measured and displayed on the display. The measurement result can be referred to when adjusting the parametric equalizer. These measurements are also necessary to automatically correct parametric equalizer settings using E-iSERV sound effect customizations.

1. Connect the accessory microphone with a optional 5.1 ch decoder/AV matrix unit.
   - Align the microphone with the actual ear position and attach it to the headrest or other appropriate fixture. (Attach the microphone using tape or string.)

To measure all channels at the same time

2. Touch **MEASURE** briefly (less than 1 second).
   - After touching the switch, a 10-second countdown begins. Leave the vehicle during that time.
   - Pink noise will be output from the speakers and measurement of the frequency characteristics will start.
   - When measurement is complete, the measurement results will appear on the display.
To measure each channel separately

2 Insert the “Memory Stick Duo”.

3 Touch [MEASURE] for more than 2 seconds, until you hear a beep.

- After touching the switch, a 10-second count down begins. Leave the vehicle during that time.
- Pink noise will be output from the speakers and measurement of the frequency characteristics will start.
- When measurement is complete, the measurement results will appear on the display. Measurement results for each channel can be displayed by selecting the desired channel.
- Measurements can be written to a “Memory Stick Duo” and corrected automatically using the E-iSERV website.

- Touch [CANCEL] to cancel measurement.

Because this function is designed to make measurement of frequency characteristics easier, slight errors may occur in the measurement data under some circumstances. The measurements obtained are not equivalent to the precise measurements that can be made by professional measuring devices.

- Close all doors and windows while measurement is in progress.
- Sound quality data is written to the “Memory Stick Duo” as follows.

- The folders and files that are required for E-iSERV sound effect customizations are created automatically when the data is written to the “Memory Stick Duo”.
- Select a file in [SOUND] when uploading sound quality data to the E-iSERV website.
Adjusting sound quality

Adjusting POS (Positioning selector)

Sound localization can be adjusted according to the number and position of passengers in order to obtain optimum acoustic effects. A seat's sound localization can be adjusted simply by touching a switch.

1. Press **POS** in the sound adjustment screen.

2. Touch one of the seat images displayed in the POSITION setting screen to switch the sound localization for that seat.
   - The selected position will be indicated in a yellow box. Touch the seat again to cancel the selection. The four positions shown in the table below can be set.
   - Touch **OFF** to cancel all settings.
   - Touch **BACK** after making settings. The position will be saved and the system will return to the previous operation screen.

<table>
<thead>
<tr>
<th>Touch switch</th>
<th>Function</th>
<th>Touch switch</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acoustics optimized for left side seat</td>
<td></td>
<td>Acoustics optimized for both front seats</td>
</tr>
<tr>
<td></td>
<td>Acoustics optimized for right side seat</td>
<td></td>
<td>Acoustics optimized for rear seats</td>
</tr>
</tbody>
</table>

**ATTENTION**

- You cannot set POS (Positioning selector) at the same time as adjusting the balance (next page).
- This product is configured for vehicles with left-hand drive.
Setting the balance

The left/right/front/rear balance can be adjusted so that sound from all speakers arrives at the listener’s ears at the same time.

1. Touch **FADER BALANCE** in the POSITION setting screen to display the volume balance adjustment screen.

2. Touch the screen at the preferred balance point.
   - To make fine adjustments, touch , , , or .
   - Touch **CENTER** to set the volume balance to the center position.
   - Touch **BACK** after making settings. The set volume balance will be saved and the system will return to the previous operation screen.
   - To set the position again, touch **POS** and repeat the steps above.

**ATTENTION**
- You cannot set the balance at the same time as adjusting POS (Positioning selector) (previous page).
- Touch and hold , , , or while making fine adjustments to adjust values continuously. Adjustment will lock when it reaches the center value, and , , , or must be touched again to continue adjustment.
Adjusting sound quality

Setting LOUDNESS
Audio can be modulated to correct for insufficient bass and treble when listening at low volume.

1. Touch **ON** or **OFF** for LOUDNESS.
   - The selected touch switch will turn light blue.

Setting the harmonizer
It is possible to set the sound quality boost level to automatically regenerate harmonics such as reverberation, depth, and tone lost in compression, producing a much clearer sound.

1. Touch **LOW**, **HI**, or **OFF** for HARMONIZER.
   - **LOW**: Low level of correction
   - **HI**: High level of correction
   - **OFF**: No correction
Setting/Adjusting the surround system

Dolby Digital (5.1 ch), DTS (5.1 ch), LPCM, and Dolby Pro Logic II are supported when the optional 5.1 ch decoder/AV matrix unit is connected. Playing discs recorded using these technologies allows the listener to enjoy theater-quality sound within a limited space.

Setting the Dolby Pro Logic II

Dolby Pro Logic II expands sound recorded in stereo (2 ch) for a rich listening experience. Different modes may be selected for different media types.

1. Touch SETTING in the sound adjustment screen.
2. Touch MUSIC, MOVIE, 4 ch ST, or OFF for the Dolby Pro Logic II.
   - Touch BACK after making settings. The sound adjustment mode adjustments will be saved and the system will return to the previous operation screen.

<table>
<thead>
<tr>
<th>Switch</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSIC</td>
<td>Select when playing an audio CD.</td>
</tr>
<tr>
<td>MOVIE</td>
<td>Select when playing a DVD or VTR recorded in stereo (2 ch).</td>
</tr>
<tr>
<td>4 ch ST</td>
<td>Select when stereo (2 ch) sound is played through 4 speakers (4 ch).</td>
</tr>
<tr>
<td>OFF</td>
<td>Turns Dolby Pro Logic II OFF.</td>
</tr>
</tbody>
</table>
Adjusting sound quality

Setting the CENTER LEVEL

Adjusts the dialog and music output level heard from center speaker.

1 Touch ▲ or ▼ for CENTER LEVEL.

- The center level can be adjusted within -10 to 10 (in units of one).
  ▲: Increase the level.
  ▼: Decrease the level.
- Touch BACK after making settings. The sound adjustment mode adjustments will be saved and the system will return to the previous operation screen.

Setting the REAR LEVEL

Adjusts the dialog and music output level heard from rear speaker.

1 Touch ▲ or ▼ for REAR LEVEL.

- The rear level can be adjusted within -10 to 10 (in units of one).
  ▲: Increase the level.
  ▼: Decrease the level.
- Touch BACK after making settings. The sound adjustment mode adjustments will be saved and the system will return to the previous operation screen.
When Dolby Pro Logic II is set to MUSIC and the center speaker is set to LARGE or SMALL, sound from the center speaker is distributed to the left and right front speakers.

1. Touch ▲ or ▼ for CENTER WIDTH.
   - The center width level can be adjusted within 0 to 7 (in units of one).
     ▲: Increase the level.
     ▼: Decrease the level.
   - Touch ◼ BACK after making settings. The sound adjustment mode adjustments will be saved and the system will return to the previous operation screen.

Setting the CENTER WIDTH
Adjusting sound quality

Setting the COMPRESSION

Compression adjusts the sound sensation range, or the difference between maximum and minimum when playing a DVD with Dolby Digital (5.1 ch) or DTS (5.1 ch). Raising the numerical value of the compression level will narrow the sound range so that dialog and voice will be easier to hear even when background sounds are intense.

1. Touch \textbf{SETTING} in the sound adjustment screen.

2. Touch \textbf{ or } for COMPRESSION.
   - Touch \textbf{ repeatedly to set “OFF”, or \textbf{ to set “FULL”}. See the following table for adjustment levels and their functions.
   - Touch \textbf{ BACK} after making settings. The compression setting mode adjustments will be saved and the system will return to the previous operation screen.

<table>
<thead>
<tr>
<th>Adjustment Level</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>Compression function effect is off.</td>
</tr>
<tr>
<td>1 to 7</td>
<td>Compression function effect can be adjusted in a middle range.</td>
</tr>
<tr>
<td>FULL</td>
<td>Compression function effect is at maximum.</td>
</tr>
</tbody>
</table>
Setting/Adjusting the speakers

Settings and adjustments can be made to fit the speakers connected to the unit.
The following settings and adjustments can be performed when the optional 5.1 ch decoder/AV matrix unit is connected.

- Speaker system
- Time alignment
- Crossover
- Speaker size
- Speaker level

Setting the speaker system

The settings can be adjusted according to the connected speaker system (1-way 4 speaker system or front 3-way speaker system).

1. Touch **1WAY** or **3WAY** for more than 5 seconds in the sound adjustment screen.
2. Touch **BACK** after making settings. The sound adjustment mode adjustments will be saved and the system will return to the previous operation screen.
Adjusting sound quality

Adjusting time alignment

The delay time and level of the sound from each speaker can be adjusted in order to correct any phase mismatches in the sound resulting from the listening position.

In addition, the optional 5.1 ch decoder/AV matrix unit has a function for automatically correcting time alignment.

Manual adjustment

1. Touch SETTING in the sound adjustment screen.
2. Touch SP SETTING in the setting screen.
3. Touch ▲ or ▼ for each speaker to adjust the delay time.
   - The delay time can be adjusted within 0.0 to 10.0 ms (in units of 0.1 ms).
     ▲: Increase the time
     ▼: Decrease the time
   - Touch BACK after making settings. The time alignment mode adjustments will be saved and the system will return to the previous operation screen.
Refer to the following for the method of calculating the delay time.

\[ A = \frac{(B-C)}{34} \]

- **A**: Delay time (ms)
- **B**: Distance from listening position to the farthest speaker (cm)
- **C**: Distance from listening position to the speaker to be adjusted (cm)

**Example**

Listening position: Driver's seat (left)
- **B**: 200 (cm)
- **C**: 50 (cm)

\[ \text{Delay time} = \frac{[200 \text{ (cm)} - 50 \text{ (cm)}]}{34} = \text{Approx. 4.4 ms} \]
Adjusting sound quality

Automatic adjustment

1. Connect the accessory microphone with an optional 5.1 ch decoder/AV matrix unit.
   - Align the microphone with the actual ear position and attach it to the headrest or other appropriate fixture. (Attach the microphone using tape or string.)

2. Touch AUTO.
   - After touching the switch, a 10-second countdown begins. Leave the vehicle during that time.
   - Pink noise will be output from the speakers and setting of the time alignment will start.
   - Touch AUTO to cancel setting.
   - Touch BACK after making settings. The time alignment mode adjustments will be saved and the system will return to the previous operation screen.

- Automatic time alignment adjustment cannot be performed for the sub-woofer.
- When the 3 WAY speaker setting is selected, automatic time alignment adjustment cannot be performed.
Adjusting crossover

Allocate specified frequency bands to each speaker for improved sound integration.

1. Touch [SETTING] in the sound adjustment screen.


3. Touch individual speakers to select the speaker to be adjusted.

- Each time [FRONT MID] is touched, HPF (High Pass Filter) and LPF (Low Pass Filter) are switched. (When 1 WAY is selected for the speaker system, HPF (High Pass Filter) and LPF (Low Pass Filter) cannot be switched.)
- When 1 WAY is selected for the speaker system, [FRONT HI] and [FRONT MID-L] cannot be selected.
How to operate the unit with an optional 5.1 ch decoder/AV matrix unit connected

**Adjusting sound quality**

4 Touch ▼ or ▲ for FREQUENCY to select the cut off frequency.
   - ▲: Increase cut off frequency
   - ▼: Decrease cut off frequency
   - The following cut off frequencies can be selected.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>cut off frequency (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front (HI, MID, MID-L)</td>
<td>100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1k, 1.25k, 1.6k, 2k, 2.5k, 3.15k, 4k, 5k, 6.3k, 8k, 10k, 12.5k, 16k, 20k</td>
</tr>
<tr>
<td>Center</td>
<td></td>
</tr>
<tr>
<td>Rear</td>
<td></td>
</tr>
<tr>
<td>WOOFER</td>
<td>20, 25, 31.5, 40, 50, 63, 80, 100, 125, 160, 200, 250</td>
</tr>
</tbody>
</table>

5 Touch SLOPE to select the slope.
   - Each time SLOPE is touched, the slope will be changed in the order shown below.
     
     PASS → 6 dB/oct → 12 dB/oct → 18 dB/oct → 24 dB/oct
   - Touch BACK after making settings. The crossover mode adjustments will be saved and the system will return to the previous operation screen.
When a sub-woofer is connected, the preferred output level for the audio can be set.

1. Touch [SETTING] in the sound adjustment screen.
3. Touch [WOOFER].
4. Touch ▲ or ▼ for LEVEL to adjust the sub-woofer output level.
   - ▲: Increase the level
   - ▼: Decrease the level
   - Touch [BACK] after making settings. The sub-woofer output level mode adjustments will be saved and the system will return to the previous operation screen.
Adjusting sound quality

Setting phase control

The merging of sound between the front and rear speakers and the sub-woofer can be improved by selecting the phase. Switch to a phase which lets the speakers combine without any disharmony.

1. Touch SETTING in the sound adjustment screen.
2. Touch X-OVER in the setting screen.
3. Touch WOOFER.
4. Touch NORMAL or REVERSE to select the phase control.
   - Touch BACK after making settings. The phase control adjustments will be saved and the system will return to the previous operation screen.
Adjusting speaker levels

1. Touch **SETTING** in the sound adjustment screen.

2. Touch **SP LEVEL** in the setting screen.

3. Touch ▲ or ▼ for each speaker to adjust the speaker level.
   - The speaker level can be adjusted within -10 to 0 dB (in units of 0.1 dB).
   - ▲: Increase the level.
   - ▼: Decrease the level.
   - Touch ➤ BACK after making settings. The speaker level mode adjustments will be saved and the system will return to the previous operation screen.

   ● When the 1 WAY speaker setting is selected

   ● When the 3 WAY speaker setting is selected


Adjusting sound quality

Adjusting speaker size

1 Touch SETTING in the sound adjustment screen.

2 Touch SP LEVEL in the setting screen.

3 Touch CENTER, REAR, and WOOFER to set the speaker size.
   ● Each time switch for each speaker is touched, the speaker size will be changed in the order shown below.
   CENTER/REAR: LARGE → SMALL → NONE
   WOOFER: YES ← NO

● The FRONT speaker is always set to “LARGE.”
● DVD discs recorded in MONO will only be output from the center speaker. If no center speaker is connected, set CENTER to NONE. Sound to the center speaker will then be distributed to the front left and front right speakers.
### Speaker settings and functions

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Size</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center</td>
<td>NONE</td>
<td>Distributes output to the center speaker to the front left and right speakers.</td>
</tr>
<tr>
<td></td>
<td>SMALL</td>
<td>This setting is used when the speakers connected to the unit are unable to output frequencies lower than 100Hz. (Frequencies lower than 100 Hz will not be output.)</td>
</tr>
<tr>
<td></td>
<td>LARGE</td>
<td>This setting is used when the speakers connected to the unit are able to output frequencies lower than 100 Hz.</td>
</tr>
<tr>
<td>Rear</td>
<td>NONE</td>
<td>Distributes output to the center speaker to the front left and right speakers.</td>
</tr>
<tr>
<td></td>
<td>SMALL</td>
<td>This setting is used when the speakers connected to the unit are unable to output frequencies lower than 100 Hz. (Frequencies lower than 100 Hz will not be output.)</td>
</tr>
<tr>
<td></td>
<td>LARGE</td>
<td>This setting is used when the speakers connected to the unit are able to output frequencies lower than 100 Hz.</td>
</tr>
<tr>
<td>Woofer</td>
<td>YES</td>
<td>Outputs sound from the sub-woofer.</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>Does not output sound from the sub-woofer.</td>
</tr>
</tbody>
</table>
Adjusting sound quality

Importing sound data

Sound data adjusted using the E-iSERV website can be downloaded to a “Memory Stick Duo” and imported into the unit.

1 Insert the “Memory Stick Duo” to be used to store the sound data.

2 Press NAVI MENU.

3 Touch INFO. in the MENU screen.

4 Touch DATA.

5 Touch LOAD for E-iSERV DATA.
6 Touch the file name to select the saved file.
   ● Touch ▲ or ▼ to move the list.

7 Touch LOAD.

8 Select a preset switch EQ1 through EQ5.
   ● Sound data will be recorded for the selected switch.
   ● Touch CANCEL to cancel data saving.

Continue to the next page
Adjusting sound quality

Do not turn the power or ignition switch off while the system is reading data. Interrupting the data reading process can corrupt the data.

<When using a “Memory Stick Duo”>

- Make folders in the “Memory Stick Duo” and download the data adjustments through the E-iSERV website as shown below.

- The files that can be read by this unit are created automatically when you are downloading sound effect customizations from the E-iSERV website.
3. Display settings

Screen settings when the optional 5.1 ch decoder/AV matrix unit is connected

Up to two external monitors can be connected when the 5.1 ch decoder/AV matrix unit is connected. Separate images can be displayed on each external monitor.

External monitor image settings

Select the image to be displayed on the external monitors.

1. Press NAVI MENU.
2. Touch INFO. in the MENU screen.
3. Touch AV SELECTOR.
Display settings

4 Touch **VTR 1**, **VTR 2** or **HEAD UNIT** to select an image.

- **VTR 1**: Outputs images and sounds from VTR1 to the external monitor
- **VTR 2**: Outputs images and sounds from VTR2 to the external monitor
- **HEAD UNIT**: Outputs the same images and sounds to the main unit and external monitor when the main unit source is set to TV/VTR. When the main unit source is set to DVD, DVD images and sounds will be output to the external monitor if DVD PLAY is set to ON.

5 Touch **ENTER**.

If a VTR or DVD player is not connected to the 5.1 ch decoder/AV matrix unit, no image will be displayed.
4. How to use AUX

It is possible to connect a portable audio player or similar device to a DIGITAL terminal of the 5.1 ch decoder/AV matrix unit for playback.

Listening to AUX

Switching to AUX using the touch switches

1. Press VOL or touch the SOURCE MENU RECALL switch when a portable audio player is connected.

2. Touch AUX.

Switching to AUX using the panel buttons

1. Press VOL.

2. Turn VOL to select AUX.

3. Press VOL.
How to use AUX

Switching the AUX input

The AUX input can be switched depending on the terminals connected to the 5.1 ch decoder/AV matrix unit.

1. Touch **DIGITAL1** or **DIGITAL2** to switch the input mode.