

# How to operate the Sound Adjustment Mode

## About Sound Adjustment Mode

This deck is equipped with two different sound adjustment modes: normal mode and Pro mode.

In normal mode, the acoustic characteristics inside the vehicle can be adjusted using comparatively simple settings. In addition, it corresponds to basic sound systems which comprise front speakers, rear speakers, and subwoofer.

In Pro mode, the sound quality characteristics can be adjusted item by item using more sophisticated settings than in normal mode. In addition to the 4 speaker system, the adjustments can be made to suit 3-way speaker system where the front speaker, rear speaker and non-fader output can be set to Hi (treble range) Mid (medium range) or Low (bass range). Refer to the table below and to the operations for each mode for details of each mode.

The following adjustments can be made in normal mode and Pro mode respectively.

|                        | Normal mode     | Pro mode        |
|------------------------|-----------------|-----------------|
| SRS Circle Surround II | O(See page 178) | ×               |
| Parametric equaliser   | O(See page 179) | O(See page 187) |
| Time alignment         | O(See page 181) | O(See page 191) |
| Crossover              | O(See page 184) | O(See page 192) |
| Multi-harmonizer       | O(See page 184) | O(See page 193) |
| Non-Fader phase        | O(See page 185) | O(See page 193) |
| Non-Fader output       | O(See page 185) | O(See page 194) |
| Speaker layout         | ×               | O(See page 194) |
| Custom Mode            | ×               | O(See page 195) |
| Sound data             | O(See page 185) | O(See page 195) |

## SRS Circle Surround II (CS II)

Surround sound is produced by combining The CS II (SRS Circle Surround II) mode enables 4-speaker surround sound. The system achieves surround sound by combining SRS TruBass, which uses the difference between two different frequencies to boost bass tones, and SRS Circle Surround, which uses 2ch (L/R) correlation to expand the sound.



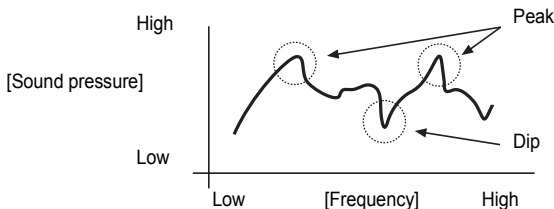
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## Parametric equaliser

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

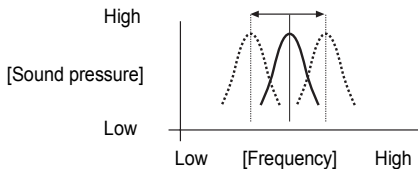


An "equaliser" is a function that corrects these peaks and dips in order to flatten the frequency characteristics. However with a normal graphic equaliser, the median frequency and the Q (sharpness and band width) are fixed, so that when neighboring bands are corrected, there is a limit to the amount by which distortion in the peak and dip characteristics can be corrected.

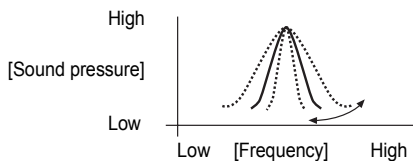
A "parametric equaliser" lets you adjust the median frequency, Q (sharpness and band width) and gain to variable levels, so that you can make fine adjustments to spot areas of the frequency band.

[Parametric equaliser characteristics]

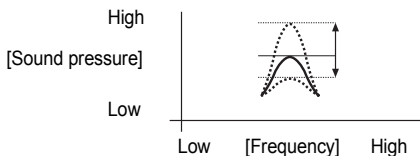
### 1 Median frequency can be varied.



### 3 Q (sharpness/band width) can be varied.



### 2 Gain can be varied.



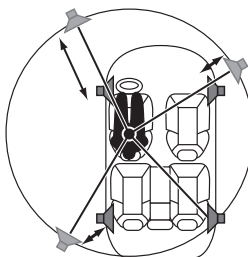
In the deck's normal mode, 7-bands can be adjusted with a parametric equaliser. In the pro mode, 5 bands in the high frequency range and 5 bands in the mid to low-frequency ranges can be adjusted with a parametric equaliser, when using 3-way speakers. When using a four-speaker system, 5 bands for the front and 5 bands for the rear can be adjusted separately.

## 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 is 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 so that the sound becomes more expansive as though it is 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.



When this deck is in normal mode, a simplified time alignment function is available. You can use this function to adjust only four parameters (position selector, vehicle type, tweeter settings and rear speaker position settings), and so you can make basic time alignment settings without measuring the actual distances to each speaker. In addition, in pro mode you can adjust the time delays and levels for each individual speaker based on the actual speaker layout.

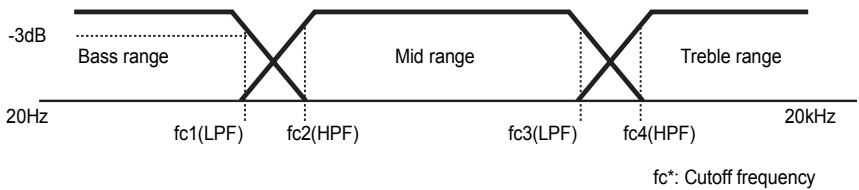
## Crossover

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 with 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 medium range.



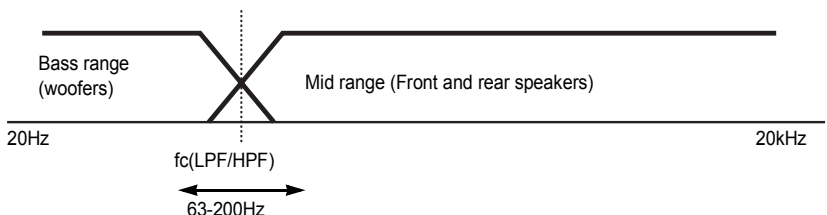
For example, when adjusting the HPF, frequencies that are lower than the specified frequency are progressively dampened, rather than simply not being played back at all. The "slope" adjustment function is the function that is used to adjust these dampening characteristics.

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.

When this deck is in normal mode, it corresponds to basic speaker systems which comprise front speakers, rear speakers, and subwoofer. In such cases, the crossover can be used to apply the HPF to the front and rear speakers and the LPF to the sub-woofer so that the sound from all speakers merges properly. In addition to the 4 speaker system, in pro mode, the adjustments can be made to suit speaker system where the front speaker, rear speaker and non-fader output can be switched between Hi, Mid or Low output and the speakers can be combined according to each range (treble range: tweeter, mid range: mid, bass range: woofer) to provide 3-way playback. In this case, the crossover function can be used to adjust the playback ranges so that the HPF is applied to the treble-range speakers, the HPF and LPF is applied to the Mid-range speakers, and the LPF is applied to the bass-range speakers so that the sound from all speakers merges properly.



## **Multi-harmonizer**

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When original sounds are converted to MP3/WMA and Memory Stick (ATRAC3) format, frequency ranges that are not normally audible to the human ear are compressed. The multi-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.

## **Non-Fader phase**

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The sounds that are output from woofers include sounds that are in the same frequency ranges that are output from the front and rear speakers, and under the various conditions that can occur inside vehicle compartments, some of these sounds may cancel each other out. This phenomenon can be eliminated by changing the phase of the woofer.

The phase of the woofer can be set to normal timing (in which the output timing between the front and rear speakers and the woofer is the same) or reverse timing (in which the output timing between the front and rear speakers and the woofer is different), depending on the vehicle compartment conditions.

## **Non-Fader output**

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Depending on your external amplifier, non-fader output may be stereo or mono.

## **Selecting the speaker layout**

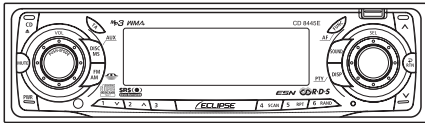
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In the unit's "pro" mode, selecting the layout of the speakers (4 speakers + subwoofer / 3-way speaker system) allows you to make adjustments in accordance with the speaker system connected.

## **Sound effect customisations**

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The parametric equaliser, time alignment, and crossover setting can be adjusted using this deck, or through the Eclipse web services. (For details on the operation, please contact your dealer.)



## Operations during Normal Mode

### 1 Press the [SOUND] button.

The mode will change to sound adjustment mode (normal mode). Refer to "Operations during Pro Mode" on page 186 for details on the operating the Pro Mode.



#### ATTENTION

If you press the [SOUND] button during sound adjustment mode, the adjustment mode is cancelled and the mode returns to normal music mode.



#### CAUTION

When switching between Normal Mode and Pro Mode, please make sure that the volume level is set to 0.

### 2 Turn the [SEL] button to select a setting item.

When the button is turned, the setting item changes in the following order and the selected item is highlighted.

CS II ↔ PEQ ↔ Time-Alignment ↔ X-Over ↔ Harmonizer ↔ Non-F Phase ↔ Non-F Output ↔ Sound Data ↔ CS II...

### 3 Press the [SEL] button.

## SRS Circle Surround II (CS II)

The system achieves surround sound by combining SRS TruBass, which uses the difference between two different frequencies to boost bass tones, and SRS Circle Surround, which uses 2ch (L/R) correlation to expand the sound.

### Setting CSII modes

#### 1 Turn the [SEL] button to select CSII.

#### 2 Press the [SEL] button.

The mode will change to CSII mode.

#### 3 Turn the [SEL] button.

Turn the [SEL] button to set CSII modes as follows:

...Low ↔ OFF ↔ Hi ↔ Low...

In the Hi and Low settings, Loud and Position can not be changed.

#### 4 Press the [SEL] button.

The selected settings will take effect.

#### 5 Press the [^] button.

When CSII is HI or Low, TruBass can be turned ON/OFF.

#### 6 Press the [RTN] button.

At this time, other adjustments can also be made in normal mode.

#### 7 Press the [SOUND] or [RTN] button to exit sound adjustment mode.



#### ATTENTION

If the CS II mode has been set (to a setting other than OFF), the BAL (balance) and FAD (fader) settings will be cancelled.

## Parametric equaliser adjustment (PEQ)

The parametric equaliser adjusts 7 frequency bands.

### 1 Turn the [SEL] button to select PEQ.

### 2 Press the [SEL] button.

The mode will change to parametric equaliser adjustment mode.

### 3 Press the [SEL] button to select the band to be adjusted.

Each time the button is pressed, the selection changes in the following order.

→ 1 → 2 → 3 → 4 → 5 → 6 → 7  
→ 1...

### 4 Turn the [SEL] button to select the frequency to be adjusted.

When the button is turned, the frequency changes in the following order.

- 1: 63Hz↔80Hz↔100Hz
- 2: 125Hz↔160Hz↔200Hz
- 3: 250Hz↔315Hz↔400Hz↔500Hz
- 4: 630Hz↔800Hz↔1kHz↔1.25kHz
- 5: 1.6kHz↔2kHz↔2.5kHz↔3.15kHz
- 6: 4kHz↔5kHz↔6.3kHz↔8kHz
- 7: 10kHz↔12.5kHz↔16kHz

### 5 Press the [^] or [V] button.

This adjusts the frequency level.

[^] button:

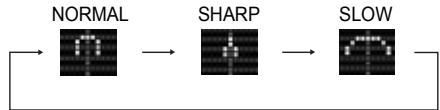
Increases level.

[v] button:

Decreases level.

### 6 Press the [6] button to select the Q curve pattern.

Each time the button is pressed, the Q curve changes in the following order.



### 7 Repeat the operations in steps 3 to 6 to change the settings for each band.

### 8 Hold down a button, [1] to [5], for more than two seconds to preset a value.

The preset value is overwritten by the value set using the above steps.

The time alignment and crossover adjustments will also be stored at this time.

### 9 Press the [RTN] button.

At this time, other adjustments can also be made in normal mode.

### 10 Press the [SOUND] or [RTN] button to exit sound adjustment mode.

## Selecting an equaliser mode from memory



### ATTENTION

For details on the operation, please contact your dealer.

Press a preset button to select the equaliser mode set in memory for the button. The buttons that set equaliser modes in memory are called preset buttons.

**1 Turn the [SEL] button to select PEQ.**

**2 Press the [SEL] button.**

**3 Select any button, from [1] to [5], and press it for less than two seconds.**

The preset pattern stored in memory will be retrieved.

**4 Press the [RTN] button.**

At this time, other adjustments can also be made in normal mode.

**5 Press the [SOUND] or [RTN] button to exit sound adjustment mode.**



### ATTENTION

When the preset value is changed, the display shows as follows:



1-5 Preset ch No.

## Measuring/display frequency characteristic

Frequency characteristics inside the vehicle can be measured and displayed on the display.

The measurement result can be referred to when adjusting parametric equaliser. This result is also necessary to automatically correct parametric equaliser setting using Sound effect customisations.



### ATTENTION

- Adjust time alignment (see page 174) and crossover (see page 184) before measuring frequency characteristics.
- When measuring frequency characteristics, CSII and Loudness settings are automatically cancelled.

**1 Connect the optional microphone with a RCA connector to the L-CH of the AUX jack of the deck.**

**2 Turn the [SEL] button to select the PEQ.**

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.)

**3 Press the [SEL] button.**

The mode will be change to parametric equaliser adjustment mode.

**4 Press the [AUDIO CONTROL] button for less than two seconds.**

After pushing the button, 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. [Measuring] will appear on the display while measurement is in progress. When measurement is complete, the measurement results

will appear on the display. You can adjust the volume (by turning the [AUDIO CONTROL] button) and restart measurement while measurement is in progress. Press the [AUDIO CONTROL] button once more to cancel measurement.

**5 Press the [CD ▲] button for more than one second.**

**6 Insert a Memory Stick.**

**7 Press the [AUDIO CONTROL] button for more than two seconds.**

Measurements can be written to a Memory Stick and corrected automatically using the website.



#### ATTENTION

Close all doors and windows while measurement is in progress.



#### CAUTION

In order to make measurement of frequency characteristics easier, slight errors may occur in the measurement data under some circumstances when this function is used. In addition, it is not equivalent to the precise measurements that can be made by professional measuring devices.

**8 Press the [RTN] button.**

At this time, other adjustments can also be made in normal mode.

**9 Press the [SOUND] or [RTN] button to exit sound adjustment mode.**

## Time alignment settings (Time Alignment)

This function corrects the position characteristics and frequency characteristics in order to delay the signals being output from the various speakers so that the signals from each speaker reach the listening position at the same time.



#### ATTENTION

Before selecting a position, make sure that CSII is OFF. (For details about turning CSII ON/OFF, see page 178.)

**1 Turn the [SEL] button to select Time Alignment.**

**2 Press the [SEL] button.**

The mode will change to time alignment setting mode.

**3 Turn the [SEL] button to select a setting item.**

When the button is turned, the setting item changes in the following order and the selected item is highlighted.

Position ↔ Car Type ↔  
Tweeter ↔ Rear SP  
↔ Position...

**4 Press the [SEL] button.**

## Position selector setting (Position)

When the position of the listener's seat is selected, the time taken for the sound to travel from the speakers to the listener can then be adjusted in order to obtain a more natural sound orientation. This deck allows up to four different positions to be set.

**1 Turn the [SEL] button to select Position.**

**2 Press the [SEL] button.**

The mode will change to position selector setting mode.

**3 Turn the [SEL] button to select the setting item.**

When the button is turned, the setting item changes in the following order and the selected item is highlighted.

OFF ↔ Front L ↔ Front R ↔  
Front ↔ Rear ↔ OFF...

**4 Press the [SEL] button.**

The selected settings will take effect.

**5 Press the [RTN] button.**

Other time alignment items can be set at this time.

**6 Press the [RTN] button.**

At this time, other adjustments can also be made in normal mode.

**7 Press the [SOUND] or [RTN] button to exit sound adjustment mode.**



### ATTENTION

If the position selector has been set (to a setting other than OFF), the BAL (balance) and FAD (fader) settings will be cancelled.

## Selecting the type of vehicle (Car Type)

You can select the time alignment settings to match your vehicle from a range of preset settings for different types of vehicle, allowing you to select the optimum time alignment settings automatically.

**1 Turn the [SEL] button to select Car Type.**

**2 Press the [SEL] button.**

The mode will change to car type selection mode.

**3 Turn the [SEL] button to select the setting item.**

When the button is turned, the setting item changes in the following order and the selected item is highlighted.

Compact ↔ Sedan ↔ Wagon  
↔ Mini Van ↔ SUV ↔ Truck  
↔ Compact...

**4 Press the [SEL] button.**

The selected settings will take effect.

**5 Press the [RTN] button.**

Other time alignment items can be set at this time.

**6 Press the [RTN] button.**

At this time, other adjustments can also be made in normal mode.

**7 Press the [SOUND] or [RTN] button to exit sound adjustment mode.**

### ***Tweeter settings (Tweeter)***

You can select the tweeter installation location and whether or not a tweeter is being used or not, allowing you to select the optimum time alignment settings automatically.

**1 Turn the [SEL] button to select Tweeter.**

**2 Press the [SEL] button.**

The mode will change to tweeter setting mode.

**3 Turn the [SEL] button to select the setting item.**

When the button is turned, the setting item changes in the following order and the selected item is highlighted.

NO ↔ Dash ↔ Door ↔ NO...

**4 Press the [SEL] button.**

The selected settings will take effect.

**5 Press the [RTN] button.**

Other time alignment items can be set at this time.

**6 Press the [RTN] button.**

At this time, other adjustments can also be made in normal mode.

**7 Press the [SOUND] or [RTN] button to exit sound adjustment mode.**



#### **ATTENTION**

If the front speakers have been installed to the dash panel, you can set the tweeter setting to "Dash" even if no tweeter has been installed.

### ***Rear speaker position selection (Rear SP)***

You can select the rear speaker installation location, allowing you to select the optimum time alignment settings automatically.

**1 Turn the [SEL] button to select Rear SP.**

**2 Press the [SEL] button.**

The mode will change to rear speaker position setting mode.

**3 Turn the [SEL] button to select the setting item.**

When the button is turned, the setting item changes in the following order and the selected item is highlighted.

Door ↔ Others

**4 Press the [SEL] button.**

The selected settings will take effect.

**5 Press the [RTN] button.**

Other time alignment items can be set at this time.

**6 Press the [RTN] button.**

At this time, other adjustments can also be made in normal mode.

**7 Press the [SOUND] or [RTN] button to exit sound adjustment mode.**

## Crossover adjustment (X-Over)

The frequencies for the front and rear speaker high-pass filter (HPF) and woofer low-pass filter (LPF) can be set within a range of 63 to 200 Hz. (This is the same as the HPF and LPF cutoff frequencies.)

**1 Turn the [SEL] button to select X-Over.**

**2 Press the [SEL] button.**

The mode will change to crossover setting mode.

**3 Turn the [SEL] button to select the cut-off frequency.**

When the button is turned, the frequency changes in the following order.  
63Hz ↔ 80Hz ↔ 100Hz ↔ 125Hz  
↔ 160Hz ↔ 200Hz

**4 Press the [SEL] button.**

The selected settings will take effect.

**5 Press the [^] or [v] buttons to set the slope.**

[^] button:  
Increases level.

[v] button:  
Decreases level.

The slope can be set to "PASS", "6dB/oct", "12dB/oct", "18dB/oct" or "24dB/oct".



### ATTENTION

If no woofer has been connected, set the slope adjustment to "PASS". (If slope is set to a setting other than PASS, the low frequency range will not be output from the speakers.)

**6 Press the [RTN] button.**

At this time, other adjustments can also be made in normal mode.

**7 Press the [SOUND] or [RTN] button to exit sound adjustment mode.**

## Multi-harmonizer settings (Harmonizer)

This function uses harmonic synthesis to restore the high-frequency component that is lost as a result of the compression process so that better sound can be obtained during MP3 / WMA or Memory Stick (ATRAC3) playback.

**1 Turn the [SEL] button to select Harmonizer.**

**2 Press the [SEL] button.**

The mode will change to multi-harmonizer setting mode.

**3 Turn the [SEL] button to select the setting item.**

When the button is turned, the setting item changes in the following order and the selected item is highlighted.

... OFF ↔ Hi ↔ Low  
↔ OFF...

Hi:  
High effectiveness

Low:  
Low effectiveness

**4 Press the [SEL] button.**

The selected settings will take effect.

**5 Press the [RTN] button.**

At this time, other adjustments can also be made in normal mode.

**6 Press the [SOUND] or [RTN] button to exit sound adjustment mode.**

## Non-Fader phase selection (Non-F Phase)

The merging of sound between the front and rear speakers and the woofer can be improved by selecting the phase.

Switch to a phase which lets the speakers combine without any disharmony.

**1 Turn the [SEL] button to select Non-F Phase.**

**2 Press the [SEL] button.**

The mode will change to phase selection mode.

**3 Turn the [SEL] button to select NORMAL or REVERSE.**

NORMAL:

Normal phase

REVERSE:

Reverse phase

**4 Press the [SEL] button.**

The selected settings will take effect.

**5 Press the [RTN] button.**

At this time, other adjustments can also be made in normal mode.

**6 Press the [SOUND] or [RTN] button to exit sound adjustment mode.**

## Non-Fader Output

Non-Fader Output can be stereo or mono. Select the method that matches the output method for the sub-woofer system that is connected to the deck.

**1 Turn the [SEL] button to select Non-F Output.**

**2 Press the [SEL] button.**

The mode will change to Non-F Output.

**3 Turn the [SEL] button to select Stereo or Monaural.**

**4 Press the [SEL] button.**

**5 Press the [RTN] button.**

At this time, other adjustments can also be made in normal mode.

**6 Press the [SOUND] or [RTN] button to exit sound adjustment mode.**

## Importing Sound Data

Sound data adjusted by the website can be downloaded to a CD-R or a Memory Stick and imported into the deck.



### ATTENTION

For details on the operation, please contact your dealer.

**1 Turn the [SEL] button to select Sound Data.**

**2 Press the [SEL] button.**

The mode will change to Sound Data mode.

### 3 Turn the [SEL] switch to select media types.

When the button is turned, the setting item changes in the following order.

Disc ↔ Memory Stick

### 4 Press the [SEL] button.

The front panel automatically opens.

### 5 Insert a CD-R or a Memory Stick.

### 6 Turn the [SEL] button to select the file.

The selected item will be highlighted.

### 7 Press the [SEL] button.

### 8 Select from buttons [1] through [5], and press and hold for 2 seconds or more to save to the unit.

The selected file is written to the selected button.

When using a CD-R, the CD-R will eject automatically when writing is complete.

The display will return to the file selection screen.

### 9 Press the [RTN] button.

At this time, other adjustments can also be made in normal mode.

### 10 Press the [SOUND] or [RTN] button to exit sound adjustment mode.

## Operations during Pro Mode

### 1 Press the [SOUND] button for more than five seconds.

The mode switches between normal mode and pro mode each time the button is pressed. During pro mode, "PRO MODE ON" and the scroll display appear in the display.



#### ATTENTION

If you press the [SOUND] button during sound adjustment mode, the adjustment mode is cancelled and the mode returns to normal music mode.



#### CAUTION

When switching between Normal Mode and Pro Mode, please make sure that the volume level is set to 0.

### 2 Turn the [SEL] button to select a setting item.

When the button is turned, the setting item changes in the following order and the selected item is highlighted.

PEQ ↔ Time-Alignment ↔ X-Over ↔ Harmonizer ↔ Non-F Phase ↔ Non-F Output ↔ SP Layout ↔ Custom Mode ↔ Sound Data ↔ PEQ...

### 3 Press the [SEL] button.

## Parametric equaliser adjustment (PEQ)

The parametric equalizer can be set for a both 3-way speaker system or a 4-speaker system. (For details about speaker layout, see page 194.)

### 4 speakers + subwoofer speaker layout

When the speaker layout is set to 4SP + SW, the parametric equaliser can be set with five bands each for the front channel and rear channel (a total of ten bands). The frequencies that can be set for each band are indicated below.

For the speaker layout settings, refer to "Selecting the Speaker Layout (SP Layout)" (See page 194).

| Channel | Bands                      | Settable Frequencies (Hz)                                                                                                                              |
|---------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Front   | Front1<br>Front2<br>Front3 | 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1k, 1.25k, 1.6k, 2.0k, 2.5k, 3.15k, 4.0k, 5.0k, 6.3k, 8.0k, 10k, 12.5k, 16k (25 Frequencies) |
|         | Front4<br>Front5           | 200, 250, 315, 400, 500, 630, 800, 1k, 1.25k, 1.6k, 2.0k, 2.5k, 3.15k, 4.0k, 5.0k, 6.3k, 8.0k, 10k, 12.5k, 16k (20 Frequencies)                        |
| Rear    | Rear1<br>Rear2<br>Rear3    | 63, 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1k, 1.25k, 1.6k, 2.0k, 2.5k, 3.15k, 4.0k, 5.0k, 6.3k, 8.0k, 10k, 12.5k, 16k (25 Frequencies) |
|         | Rear4<br>Rear5             | 200, 250, 315, 400, 500, 630, 800, 1k, 1.25k, 1.6k, 2.0k, 2.5k, 3.15k, 4.0k, 5.0k, 6.3k, 8.0k, 10k, 12.5k, 16k (20 Frequencies)                        |

## ATTENTION

Identical frequencies within the front channel (bands F1 to F5) cannot be adjusted.

There are 10 Rear & Front-Frequency locations (5 + 5) available for the parametric equalizer. The Parametric Equalizer is divided into two channels Front & Rear.

Any frequency assigned is highlighted in White, and is unavailable for use elsewhere (See page 188).

Bands selected are grayed out in the diagram to show how they are in use and otherwise unavailable for reuse.

Bands in black are unused (available) and can be assigned to within their respective bands (Rear or Front parametric locations).

Example:

If you want the Front channel F1 location to have a parametric frequency of 3.15 kHz.

Because this frequency is in use by F2 you must first assign F2 a new frequency, this will release the band for use in the Front Group F1 at 3.15 kHz.

**1** Turn the [SEL] button to select PEQ.

**2** Press the [SEL] button.

The mode will change to parametric equaliser adjustment mode.

**3** Press the [SEL] button to select the band to be adjusted.

Each time the button is pressed, the selection changes in the following order.

Front1 → Front2 → Front3 → Front4  
→ Front5 → Rear1 → Rear2 →  
Rear3 → Rear4 → Rear5 → Front1...

**4 Turn the [SEL] button to select the frequency to be adjusted.**

When the button is turned, the frequency changes in the following order.

|                                                   |                                                                                                                                                                                                                                 |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Front1, Front2,<br>Front3, Rear1,<br>Rear2, Rear3 | 63Hz ↔ 80Hz ↔ 100Hz ↔<br>125Hz ↔ 160Hz ↔ 200Hz ↔<br>250Hz ↔ 315Hz ↔ 400Hz ↔<br>500Hz ↔ 630Hz ↔ 800Hz ↔<br>1kHz ↔ 1.25kHz ↔ 1.6kHz ↔<br>2kHz ↔ 2.5kHz ↔ 3.15kHz ↔<br>4kHz ↔ 5kHz ↔ 6.3kHz<br>↔ 8kHz ↔ 10kHz ↔ 12.5kHz<br>↔ 16kHz |
| Front4, Front5,<br>Rear4, Rear5                   | 200Hz ↔ 250Hz ↔ 315Hz ↔<br>400Hz ↔ 500Hz ↔ 630Hz ↔<br>800Hz ↔ 1kHz ↔ 1.25kHz ↔<br>1.6kHz ↔ 2kHz ↔ 2.5kHz ↔<br>3.15kHz ↔ 4kHz ↔ 5kHz ↔<br>6.3kHz ↔ 8kHz ↔ 10kHz ↔<br>12.5kHz ↔ 16kHz                                             |

**5 Press the [▲] or [▼] button.**

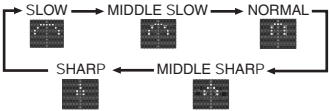
This adjusts the frequency level.

[▲] button:  
Increases level

[▼] button:  
Decreases level

**6 Press the [6] button to select the Q curve pattern.**

Each time the button is pressed, the Q curve changes in the following order.



**7 Repeat the operations in steps 3 to 6 to change the settings for each band.**

The frequencies that have been adjusted for either the channel or band cannot be selected.

**8 Hold down a button, [1] to [5], for more than two seconds to preset a value.**

The preset value is overwritten by the value set using the above steps.

The time alignment and crossover adjustments will also be stored at this time.

Rear Group

|     |       |       |        |        |        |        |        |        |        |        |        |        |         |          |         |         |         |          |         |         |         |         |        |          |        |
|-----|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|----------|---------|---------|---------|----------|---------|---------|---------|---------|--------|----------|--------|
| R 1 | 63 Hz | 80 Hz | 100 Hz | 125 Hz | 160 Hz | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| R 2 | 63 Hz | 80 Hz | 100 Hz | 125 Hz | 160 Hz | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| R 3 | 63 Hz | 80 Hz | 100 Hz | 125 Hz | 160 Hz | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| R 4 |       |       |        |        |        | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| R 5 |       |       |        |        |        | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |

|     |       |       |        |        |        |        |        |        |        |        |        |        |         |          |         |         |         |          |         |         |         |         |        |          |        |
|-----|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|----------|---------|---------|---------|----------|---------|---------|---------|---------|--------|----------|--------|
| F 1 | 63 Hz | 80 Hz | 100 Hz | 125 Hz | 160 Hz | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| F 2 | 63 Hz | 80 Hz | 100 Hz | 125 Hz | 160 Hz | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| F 3 | 63 Hz | 80 Hz | 100 Hz | 125 Hz | 160 Hz | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| F 4 |       |       |        |        |        | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| F 5 |       |       |        |        |        | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |

Front Group

**9 Press the [RTN] button.**

At this time, other adjustments can also be made in pro mode.

**10 Press the [SOUND] or [RTN] button to exit sound adjustment mode.****ATTENTION**

When updating software, press the [AUDIO CONTROL] button to measure and display the frequency characteristics.

**3WAY setting for speaker layout**

Mid-Band (Group-1) Parametric adjustment in 5-Bands of 25 Frequencies.

Hi-Band (Group-2) Parametric adjustment in 5-Bands of 20 Frequencies.

Eclipse has by default assigned arbitrary frequencies for each of the 5-Bands (Hi/Mid for 10 parametric bands total).

**ATTENTION**

Identical frequencies within the Hi group (bands H1 to H5) cannot be adjusted. Release a frequency from its location, before it can be reassigned (available again for use in another band).

Example: If you want the Hi-Group H1 location to have a parametric frequency of 3.15kHz.

Because this frequency is in use by H2 you must first assign H2 a new frequency, this will release the band for use in the Hi-Group H1 at 3.15kHz.

There are 10 Mid & Hi-Frequency locations (5 + 5) available for the parametric equalizer.

The Parametric Equalizer is divided into two groups Mid & Hi.

Any frequency assigned is highlighted in White, and is unavailable for use elsewhere (See page 190).

Bands selected are grayed out in the diagram to show how they are in use and otherwise unavailable for reuse.

Bands in black are unused (available) and can be assigned to within their respective bands (Mid or Hi parametric locations).

**1 Turn the [SEL] button to select PEQ.****2 Press the [SEL] button.**

The mode will change to parametric equaliser adjustment mode.

**3 Press the [SEL] button to select the band to be adjusted.**

Each time the button is pressed, the selection changes in the following order.

Hi1 → Hi2 → Hi3 → Hi4 → Hi5 → Mid1  
→ Mid2 → Mid3 → Mid4 → Mid5  
→ Hi1 ...

**4 Turn the [SEL] button to select the frequency to be adjusted.**

When the button is turned, the frequency changes in the following order.

|      |                                                                                                                                                                                                         |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mid: | 63Hz → 80Hz → 100Hz → 125Hz → 160Hz → 200Hz → 250Hz → 315Hz → 400Hz → 500Hz → 630Hz → 800Hz → 1kHz → 1.25kHz → 1.6kHz → 2kHz → 2.5kHz → 3.15kHz → 4kHz → 5kHz → 6.3kHz → 8kHz → 10kHz → 12.5kHz → 16kHz |
| Hi:  | 200Hz → 250Hz → 315Hz → 400Hz → 500Hz → 630Hz → 800Hz → 1kHz → 1.25kHz → 1.6kHz → 2kHz → 2.5kHz → 3.15kHz → 4kHz → 5kHz → 6.3kHz → 8kHz → 10kHz → 12.5kHz → 16kHz                                       |

**5 Press the [^] or [v] button.**

This adjusts the frequency level.

[^] button:

Increases level

[v] button:

Decreases level



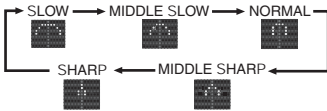
## ATTENTION

- If the levels of adjacent frequencies are both raised to the maximum, this will cause distortion of the sound.
- Adjust PEQ to make the various frequency levels uniform. It is most effective if the gain is adjusted so that the ranges with high sound pressure (peaks) are matched to the ranges with low sound pressure.

**6**

**Press the [6] button to select the Q curve pattern.**

Each time the button is pressed, the Q curve changes in the following order.



**7**

**Repeat the operations in steps**

**3**

**to**

**6**

**change the settings for each band.**

**8**

**Hold down a button, [1] to [5], for more than two seconds to preset a value.**

The preset value is overwritten by the value set using the above steps.

The time alignment and crossover adjustments will also be stored at this time.

**9**

**Press the [RTN] button.**

At this time, other adjustments can also be made in pro mode.

**10**

**Press the [SOUND] or [RTN] button to exit sound adjustment mode.**



## ATTENTION

When updating software, press and hold the [AUDIO CONTROL] button to measure and display the frequency characteristics.

Mid Group

|     |       |       |        |        |        |        |        |        |        |        |        |        |         |          |         |         |         |          |         |         |         |         |        |          |        |
|-----|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|----------|---------|---------|---------|----------|---------|---------|---------|---------|--------|----------|--------|
| M 1 | 63 Hz | 80 Hz | 100 Hz | 125 Hz | 160 Hz | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| M 2 | 63 Hz | 80 Hz | 100 Hz | 125 Hz | 160 Hz | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| M 3 | 63 Hz | 80 Hz | 100 Hz | 125 Hz | 160 Hz | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| M 4 | 63 Hz | 80 Hz | 100 Hz | 125 Hz | 160 Hz | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| M 5 | 63 Hz | 80 Hz | 100 Hz | 125 Hz | 160 Hz | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |

|     |        |        |        |        |        |        |        |         |          |         |         |         |          |         |         |         |         |        |          |        |
|-----|--------|--------|--------|--------|--------|--------|--------|---------|----------|---------|---------|---------|----------|---------|---------|---------|---------|--------|----------|--------|
| H 1 | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| H 2 | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| H 3 | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| H 4 | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |
| H 5 | 200 Hz | 250 Hz | 315 Hz | 400 Hz | 500 Hz | 630 Hz | 800 Hz | 1.0k Hz | 1.25k Hz | 1.6k Hz | 2.0k Hz | 2.5k Hz | 3.15k Hz | 4.0k Hz | 5.0k Hz | 6.3k Hz | 8.0k Hz | 10k Hz | 12.5k Hz | 16k Hz |

Hi-Group

## Selecting an equaliser mode from memory

See page 180 (operation procedure in Normal mode).

## Measuring/display frequency characteristic

See page 180 (operation procedure in Normal mode).

## Time alignment settings (Time Alignment)

By adjusting the sound lag time and level for each speaker, it is possible to offset the positional discrepancies in the speaker sounds for any listening position.

**1 Turn the [SEL] button to select Time Alignment.**

**2 Press the [SEL] button.**

The mode will change to time alignment setting mode.

**3 Press the [SEL] button to select a setting item.**

When the button is turned, the setting item changes in the following order and the selected item is highlighted.

When the speaker layout setting is 4SP + SW:

FL → FR → RL → RR → SW → FL ...

When the speaker layout setting is 3WAY:

HL → HR → ML → MR → LL → LR → HL ...

**4 Turn the [SEL] button to select a setting item.**

The lag time can be adjusted in the range 0.0 to 10.0 ms, in 0.1 ms increments.

Turn to the right ...Time is increased

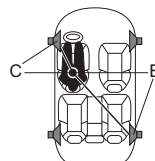
Turn to the left ...Time is decreased

The formula for calculating the lag time is:

$$A = (B-C)/34$$

A = Lag time (ms)

B = Distance to the farthest speaker from the listening position (cm)



C = Distance (cm) from the listening position to each speaker to be adjusted.

Example: The listening position is the driver's seat (right)

B:200(cm)

C:50(cm)

Lag time =  $(200(\text{cm}) - 50(\text{cm})) /$

$34 \approx 4.4(\text{ms})$

**5 Adjust the level of the speaker by pressing the [▲] or [▼] buttons.**

The level for each speaker can be adjusted in the range 0~-30 dB, -∞.

[▲]button:

Increases the level

[▼]button:

Decreases the level

**6 Repeat steps 3 through 5 to adjust the other speakers.**

**7 Press the [RTN] button.**

At this time, other adjustments can also be made in pro mode.

## Crossover adjustment (X-Over)

With the 4-speaker system, the frequencies of the front speaker HPF (High Pass Filter) and woofer LPF (Low Pass Filter) can be adjusted. With the 3-way speaker system (a speaker system combining a high range tweeter, a mid range speaker and a low range woofer), the integration between the sound of the speakers is improved by adjusting playback zones using tweeter HPF, midrange HPF and LPF and woofer LPF.

### 1 Turn the [SEL] button to select X-Over.

### 2 Press the [SEL] button.

The mode will change to crossover setting mode.

### 3 Press the [SEL] button to select a setting item.

When the button is turned, the setting item changes in the following order and the selected item is highlighted.

When the speaker layout setting is 4SP + SW:

F(Front) → R(Rear) → W(Woofer) → F(Front)...

When the speaker layout setting is 3WAY:

Hi → M-L(M-LPF) → M-H(M-HPF) → Low → Hi...

### 4 Turn the [SEL] button to select the cut-off frequency.

When the button is turned, the frequency changes in the following order.

|                                                            |                                                                                                                                                                                                            |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| When the speaker layout setting is 4SP + SW:<br>Front/Rear | 63Hz → 80Hz → 100Hz →<br>125Hz → 160Hz → 200Hz →<br>250Hz → 315Hz → 400Hz →<br>500Hz → 630Hz → 800Hz →<br>1kHz → 1.25kHz → 1.6kHz →<br>2kHz → 2.5kHz → 3.15kHz →<br>4kHz → 5kHz → 6.3kHz →<br>8kHz → 10kHz |
| Woofer                                                     | 63Hz → 80Hz → 100Hz →<br>125Hz → 160Hz → 200Hz                                                                                                                                                             |
| When the speaker layout setting is 3WAY:<br>Hi/M-LPS       | 200Hz → 250Hz → 315Hz →<br>400Hz → 500Hz → 630Hz →<br>800Hz → 1kHz → 1.25kHz →<br>1.6kHz → 2kHz → 2.5kHz →<br>3.15kHz → 4kHz → 5kHz →<br>6.3kHz → 8kHz → 10kHz                                             |
| Low/M-HPS                                                  | 63Hz → 80Hz → 100Hz →<br>125Hz → 160Hz → 200Hz                                                                                                                                                             |

### 5 Press the [^] or [v] buttons to set the slope.

[^] button :

The slope becomes more gentle.

[v] button :

The slope becomes steeper.

The slope can be set to "PASS", "6dB/oct", "12dB/oct", "18dB/oct" or "24dB/oct".



### ATTENTION

If no woofer has been connected, set the slope adjustment to "PASS". (If slope is set to a setting other than PASS, the low frequency range will not be output from the speakers.)

### 6 Repeat the operations in steps

**3** to **5** to change the settings for each channel.

### 7 Press the [RTN] button.

At this time, other adjustments can also be made in pro mode.

- 8** Press the [SOUND] or [RTN] button to exit sound adjustment mode.

### **Multi-harmonizer settings (Harmonizer)**

This function uses harmonic synthesis to restore the high-frequency component that is lost as a result of the compression process so that fresher sound can be obtained during MP3/WMA, Memory Stick (ATRAC3) playback.

- 1** Turn the [SEL] button to select Harmonizer.

- 2** Press the [SEL] button.

The mode will change to multi-harmonizer setting mode.

- 3** Turn the [SEL] button to select the setting item.

When the button is turned, the setting item changes in the following order and the selected item is highlighted.

... OFF ↔ Hi ↔ Low ...

Hi:

High effectiveness

Low:

Low effectiveness

- 4** Press the [SEL] button.

The selected settings will take effect.

- 5** Press the [RTN] button.

At this time, other adjustments can also be made in pro mode.

- 6** Press the [SOUND] or [RTN] button to exit sound adjustment mode.

### **Non-Fader phase selection (Non-F Phase)**

The merging of sound between the front and rear speakers and the woofer can be improved by selecting the phase.

Switch the phase to a phase which lets the speakers combine without any disharmony.

- 1** Turn the [SEL] button to select Non-F Phase.

- 2** Press the [SEL] button.

The mode will change to phase selection mode.

- 3** Turn the [SEL] button to select NORMAL or REVERSE.

NORMAL:

Normal phase

REVERSE:

Reverse phase

- 4** Press the [SEL] button.

The selected settings will take effect.

- 5** Press the [RTN] button.

At this time, other adjustments can also be made in pro mode.

- 6** Press the [SOUND] or [RTN] button to exit sound adjustment mode.

## Non-Fader Output

---

Non-Fader Output can be stereo or mono. Select the method that matches the output method for the sub-woofer system that is connected to the deck.

**1 Turn the [SEL] button to select Non-F Output.**

**2 Press the [SEL] button.**

The mode will change to Non-F Output.

**3 Turn the [SEL] button to select Stereo or Monaural.**

**4 Press the [SEL] button.**

The selected settings will take effect.

**5 Press the [RTN] button.**

At this time, other adjustments can also be made in pro mode.

**6 Press the [SOUND] or [RTN] button to exit sound adjustment mode.**

## Selecting the speaker layout (SP Layout)

---

Depending on the type of the speakers connected, you can select a 4-speaker system or a 3WAY speaker system. (Make this selection before performing PEQ, time alignment, and crossover adjustments.)

**1 Turn the [SEL] button to select SP Layout.**

**2 Press the [SEL] button.**

The mode will change to speaker layout mode.

**3 Turn the [SEL] button to select a setting item.**

3WAY:

3WAY speaker system

4SP + SW:

4 speaker and a sub-woofer

**4 Hold down the [SEL] button for longer than 5 seconds.**

**5 The speaker layout confirmation message will be displayed. If the layout is OK, press [SEL].**

Press the [RTN] button to return the speaker layout selection screen.

**6 Press the [RTN] button.**

At this time, other adjustments can also be made in pro mode.

**7 Press the [SOUND] or [RTN] button to exit sound adjustment mode.**

**ATTENTION**

If the vehicle is equipped with the 3-way speaker system, do not change from pro mode to normal mode.  
Doing so may cause damage to the speakers.

**CAUTION**

When switching between 3WAY mode and 4SP + SW mode, please make sure that the volume level is set to 0.

**Importing Sound Data**

See page 185.

**ATTENTION**

For details on the operation, please contact your dealer.

**Selecting the Custom Mode**

Values (PEQ, time alignment, cross over value) can be adjusted using the custom mode on the website. Adjust values following the instructions provided on the operation procedure screen, and download the data to a Memory Stick.

**1**

**Turn the [SEL] button to select Custom Mode.**

**2**

**Press the [SEL] button.**

The mode will change to custom mode.

Insert a memory stick containing data.

**3**

**Turn the [SEL] button to select ON or OFF.**

If a Memory Stick is not inserted, a caution appears instead of ON/OFF.

**4**

**Press the [SEL] button.**

**5**

**Press the [RTN] button.**

At this time, other adjustments can also be made in pro mode.

**6**

**Press the [SOUND] or [RTN] button to exit sound adjustment mode.**

**ATTENTION**

PEQ, time alignment, and cross over values cannot be adjusted while the custom mode is on. To adjust values, turn the custom mode off.