Pioneer

Operation Manual for Tuning Application

DSP Controller

Contents

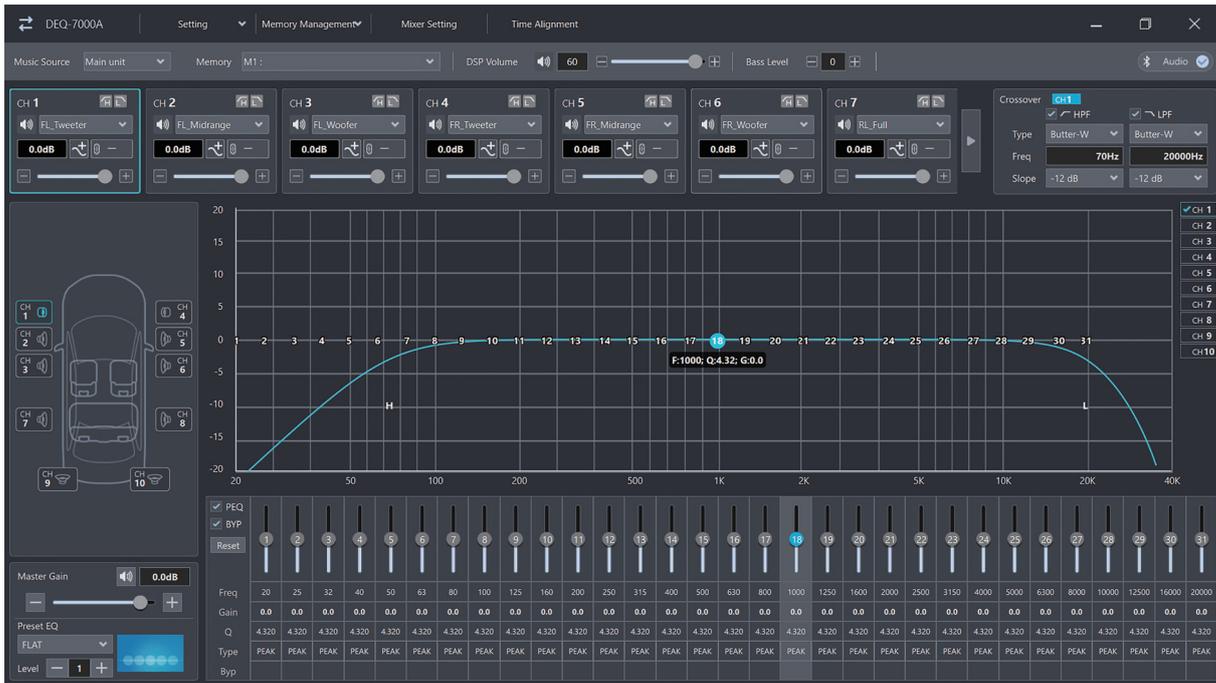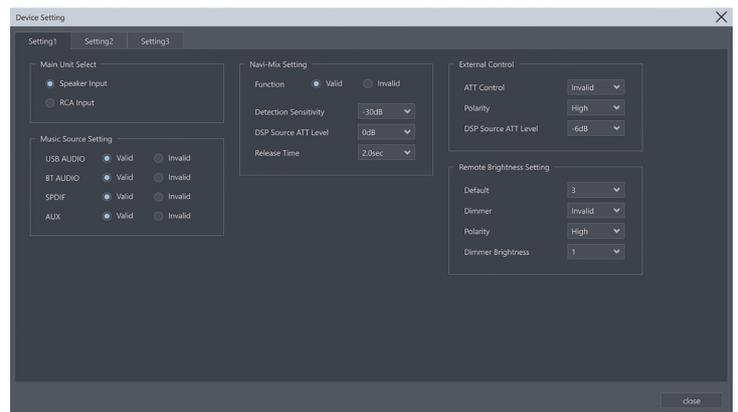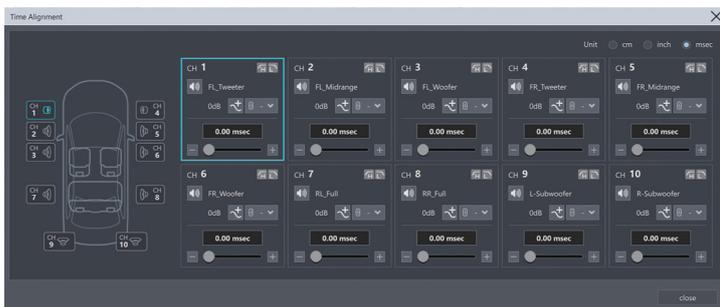# Screen Configuration

【Main】

【Mixer Setting】Sub-window 1

【Device Setting】Sub-window 3

【Time Alignment】Sub-window 2

Possible to control an audio effect for each speaker at Main Screen
Realize a sophisticated sound according to adjusting a detailed sound effect on Sub-windows

Handle with Care
・Download this software into laptop equipment on hand, connect with DEQ-7000A or DEQ-2000A by using the included USB cable
・Do not control this application while driving
・Require a car-audio expertise to maximumly use an adjustment function
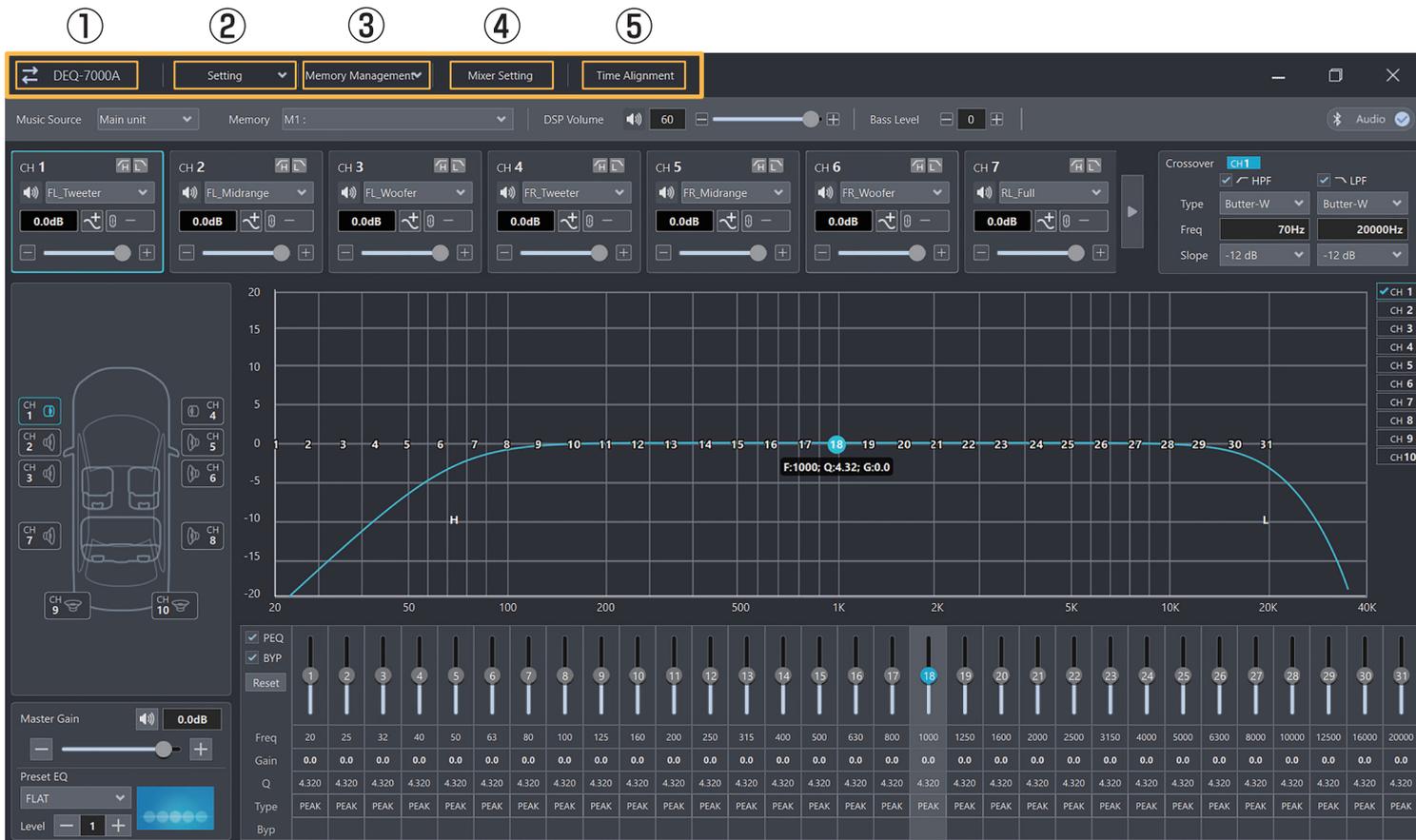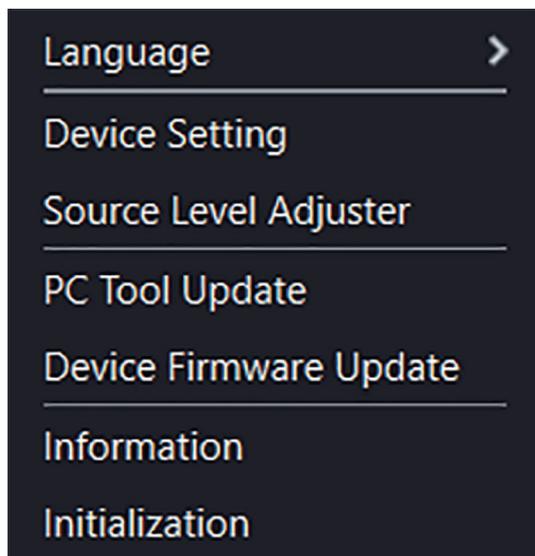
① Model
Show Model name what connected

② Setting
Tap to open each setting such as Device Setting and Software/Firmware and Bluetooth Audio Device

← Select Japanese or English

← Tap to open Device Setting

← Adjust input level for each source

← Update Software

← Update Firmware for DSP-AMP device

← Confirm a version of Software

← Restore factory settings

« Contents

Main

③ **Memory**

Save and Load Device Setting, and Copy Memory
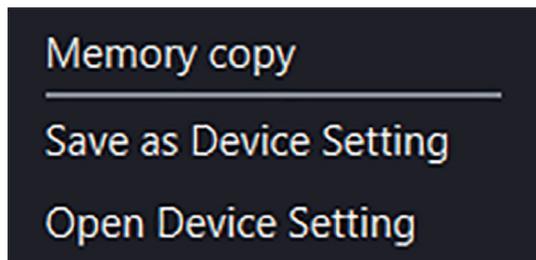
← Copy the selected memory to any other memory

← Save a Device Setting in any local of equipment

← Load and implement a saved Device Setting

How to Load a Car-Specific Tuning Data

Download a Car-Specific Tuning Data, and Load and implement it into software
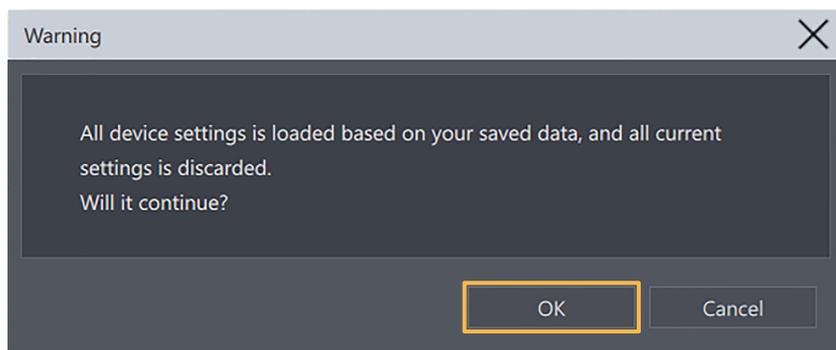
Tap [Load Device Setting], Load and Implement any file from file explorer of Laptop

④ **Mixer Setting**

Tap to open Mixer Setting

⑤ **Time Alignment**

Tap to open Time Alignment Setting

Main
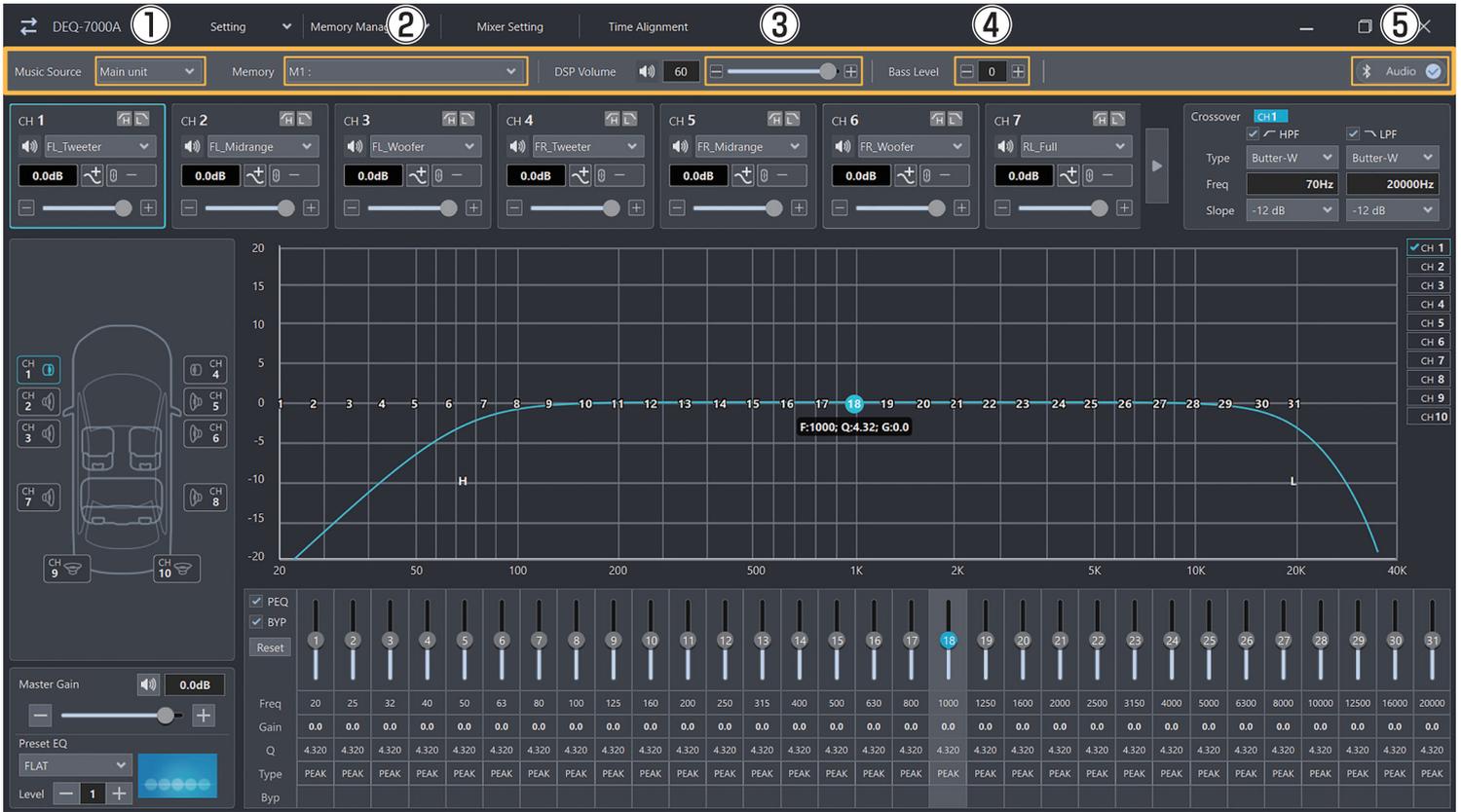
① Music Source
Select an enabled Music Source at Music Source Setting in Device Setting

② Memory
Select certain memory what reflects settings
Max 6 memories can be set for Main Unit and DSP Source
Possible to adjust detailed settings in "Setting 2" of Device Setting screen

③ DSP Volume
Adjust volume of DSP source*1 what inputted（0 to 62）

④ Bass level
Adjust each Bass Level of certain CH what assigned*3（−8 to ＋8）

⑤ Pairing for Bluetooth Audio
Connection Button for pairing with DSP-AMP device and Bluetooth Audio Device

*1 DSP Source stands for outer source such as Bluetooth, USB Audio, SPDIF, AUX*2 by excluding Main Unit
*2 AUX can enable when Speaker Input is selected at Main Unit Selection in Device Setting
*3 DEQ-7000A assigns CH9 and CH10 for subwoofer, DEQ-2000A is CH5 and CH6

Main

The image shows the DEQ-7000A software interface with menu items: Setting, Memory Management, Mixer Setting, Time Alignment. Source: Main unit, Memory: M1, DSP Volume 60, Bass Level 0. Audio.

Channel settings CH1-CH7:
- CH 1: FL_Tweeter, 0.0dB
- CH 2: FL_Midrange, 0.0dB
- CH 3: FL_Woofer, 0.0dB
- CH 4: FR_Tweeter, 0.0dB
- CH 5: FR_Midrange, 0.0dB
- CH 6: FR_Woofer, 0.0dB
- CH 7: RL_Full, 0.0dB

Crossover CH1: HPF, LPF; Type Butter-W, Butter-W; Freq 70Hz, 20000Hz; Slope -12 dB, -12 dB
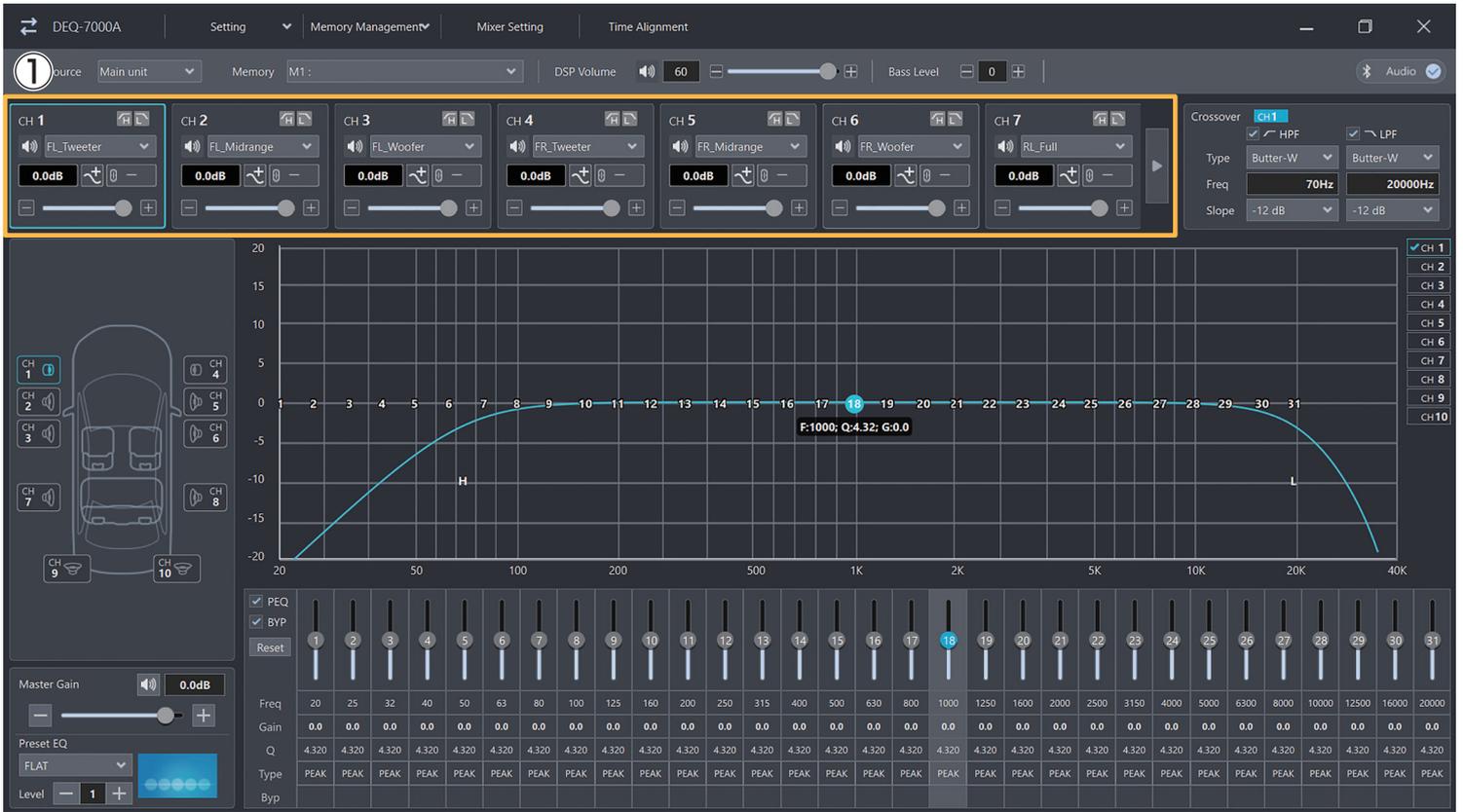
F:1000; Q:4.32; G:0.0

Master Gain 0.0dB, Preset EQ FLAT, Level 1

PEQ / BYP / Reset

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Freq	20	25	32	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
Gain	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320	4.320
Type	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK	PEAK
Byp																															

① **Channel Setting Table**
Control settings for each Output Channel

② **Crossover filter**
Confirm filter settings

③ **Enable/Disable Output**
Select enable/disable for each Output Channel
The "OFF" selected Output is not activated for sound signal output
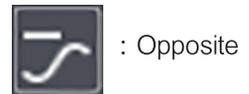
④ **Speaker Select**
Select an assigned Input Channel

⑤ **Gain Adjustment**
Adjust Gain level for each Output Channel
Range : −60.0 dB to 0.0 dB

⑥ **Phase/Opposite Phase**
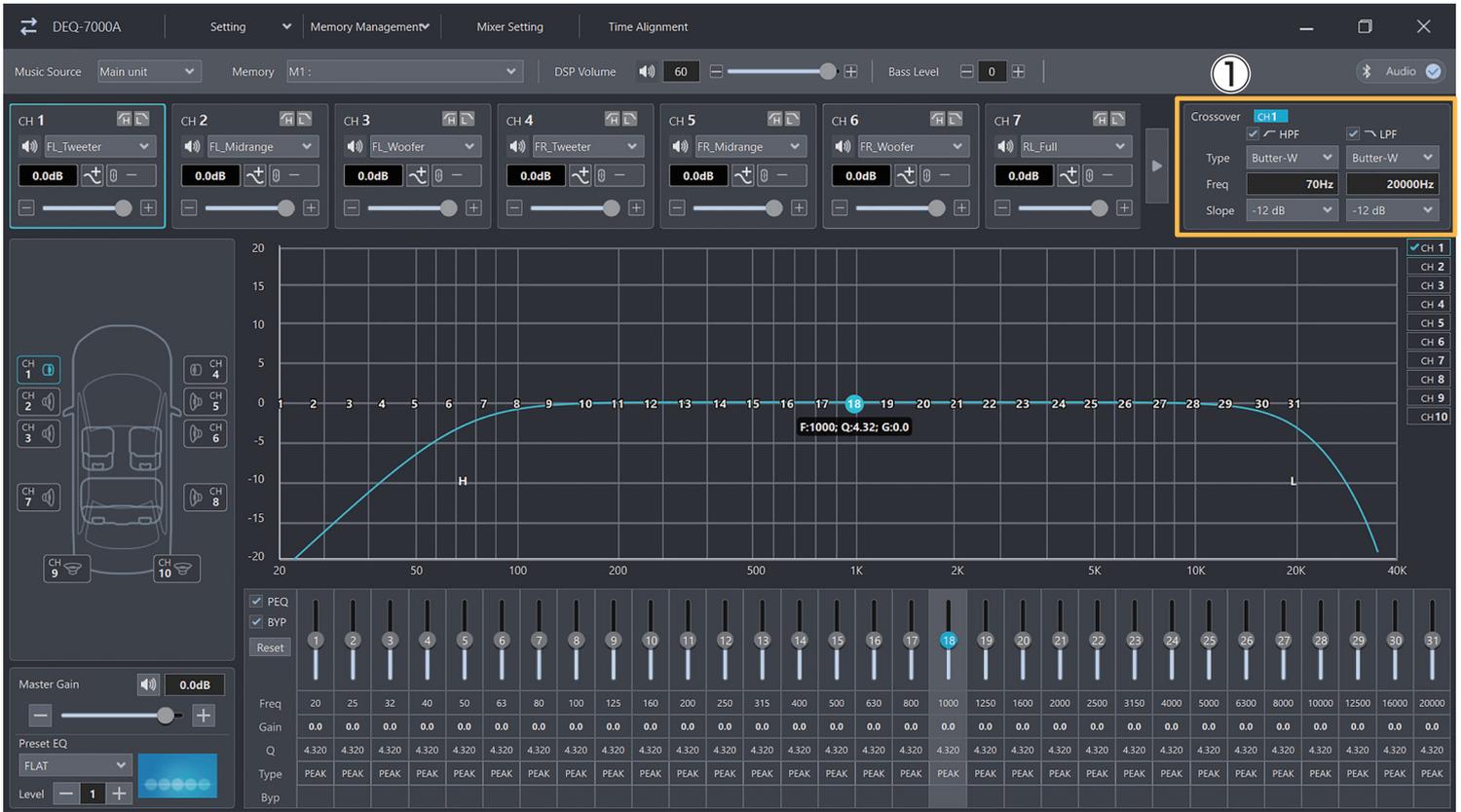Select the Phase for each Output Channel

: Phase   : Opposite

⑦ **Link**
Synchronize the setting same as other Output Channel
When Synchronized the setting, EQ setting what linked to other CH is copied

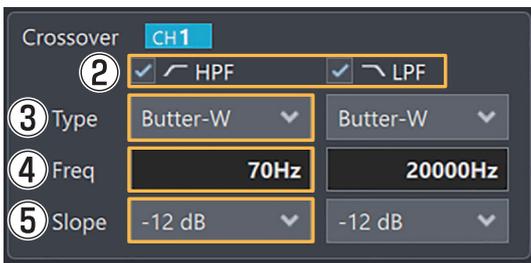: No Link   : Linked（example：CH 1）

: Linked（example：Linked from other CH.）

⑧ **Gain Adjustment Button**
Button for slight adjustment

Main

① **High Pass Filter/Low Pass Filter Table**
Control Crossover filter settings

② **High Pass Filter/Low Pass Filter**
Select enable/disable for each filter

③ **Type of Filter**
Select a Filter type
Possible to select 3 options below
[Butterworth, Bessel, Linkwitz-Riley]

④ **Cut-off frequency**
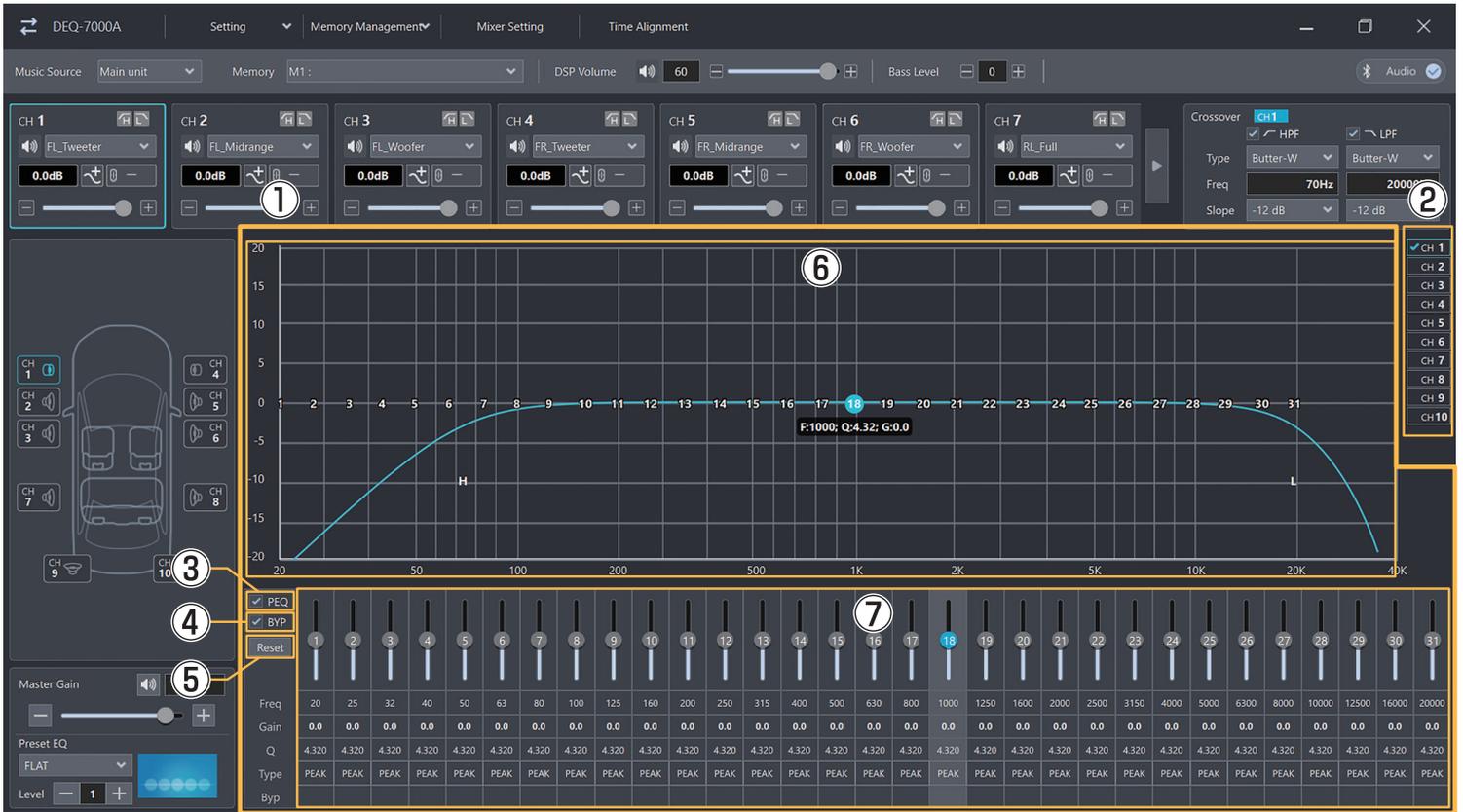Adjust Cut-off frequency
Range：20 Hz to 40 kHz

⑤ **Slope**
Adjust a Slope of filter
Range：
　Butterworth　：[－6, －12, －18, －24, －30, －36, －42, －48 dB/Oct]
　Bessel　　　：[－6, －12, －18, －24, －30, －36, －42, －48 dB/Oct]
　Linkwitz-Riley：[－12, －24, －36, －48 dB/Oct]

Main

① **Table of EQ Setting**
Control EQ Settings and Select a Channel what EQ is adjusted

② **EQ curve viewer**
Select certain CH curve what required on chart

③ **Parametric EQ enable**
Tap PEQ button when Parametric EQ is required Default setting is Graphic EQ mode

④ **Bypass**
Select BYP button when temporarily makes EQ setting disable

⑤ **Reset**
Tap Reset button when go back to default

⑥ **Charts**
Each CH curve is shown

⑦ **Table of EQ setting**
Adjust EQ setting for each frequency band

■ **Table of EQ setting**
Adjust EQ setting for each frequency band
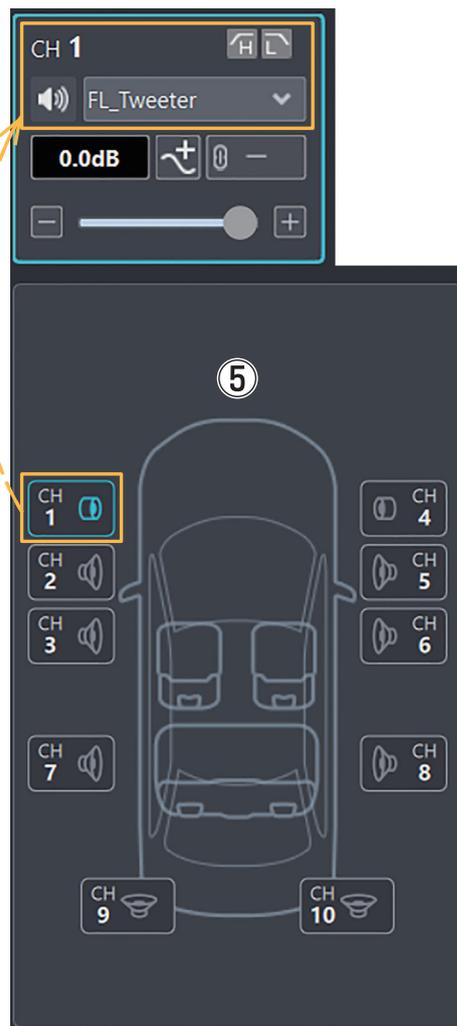

Frequency →
Gain Adjustment →
Q Unit Setting *1 →
PEQ Type *2 →
Bypass *3 →

∗1 Q Unit can be controllable when Parametric EQ is enable
∗2 Select PEQ Type［PEAK, AP］
∗3 Adjust and Confirm bypass setting for each frequency band

Main
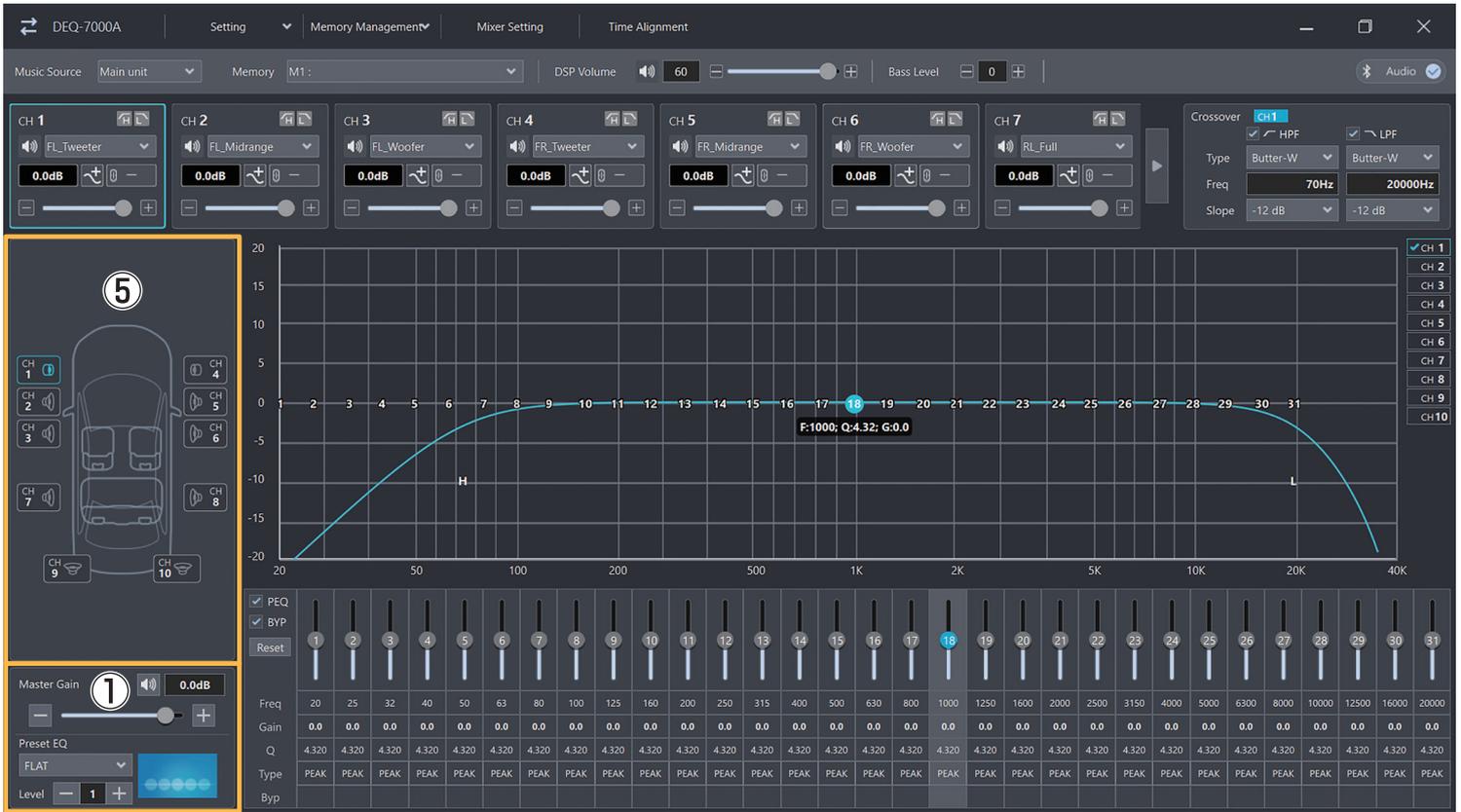
① **Table of Master Gain and Preset EQ**
Control Master Gain and Preset EQ

② **Master Gain ON/OFF Button**
Possible to select Mute at Master Gain
（overall gain including Main Unit）

③ **Master Gain Adjust slider and button**
Adjust Master Gain level

④ **Preset EQ**
Select and Add sound effect
［Flat, S.Bass, Powerful, Vocal, Natural］
Possible to adjust 5 stages level

⑤ **Overview**
Check each channel conditions for Speaker Selection

Mixer Setting

Mixer Setting

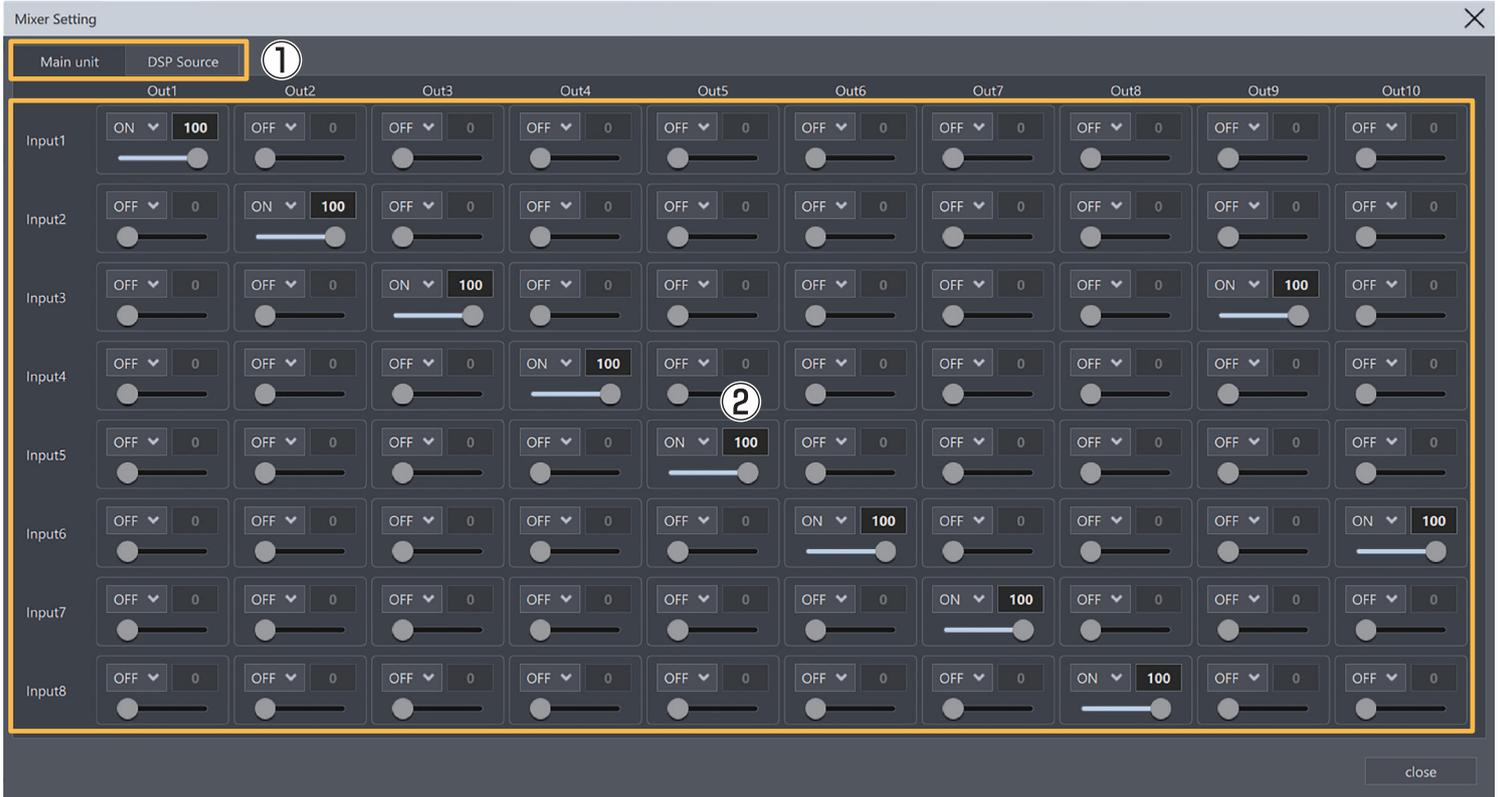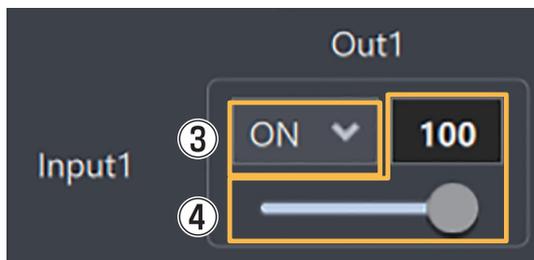|	Out1	Out2	Out3	Out4	Out5	Out6	Out7	Out8	Out9	Out10
Input1	ON 100	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0
Input2	OFF 0	ON 100	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0
Input3	OFF 0	OFF 0	ON 100	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	ON 100	OFF 0
Input4	OFF 0	OFF 0	OFF 0	ON 100	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0
Input5	OFF 0	OFF 0	OFF 0	OFF 0	ON 100	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0
Input6	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	ON 100	OFF 0	OFF 0	OFF 0	ON 100
Input7	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	ON 100	OFF 0	OFF 0	OFF 0
Input8	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	OFF 0	ON 100	OFF 0	OFF 0

Main unit   DSP Source   ①

② ④

close

① **Source Select**
Adjust Mixer Setting for Main Unit and DSP Source on each tabs

② **Mixer Setting**
Assign Input CH for each Output Channel
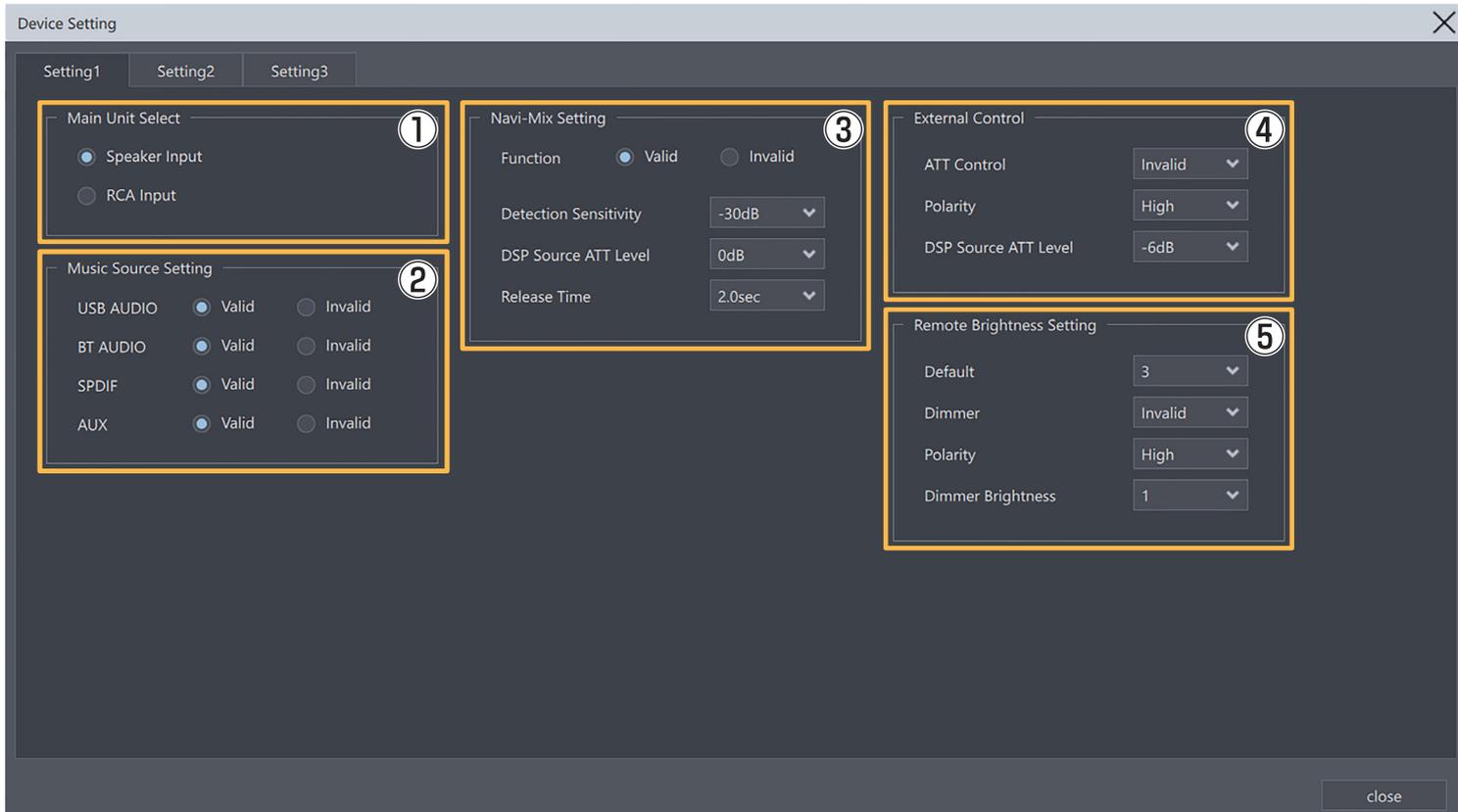
Out1

Input1   ③ ON ⌄ 100
④

③ **Input Signal Setting**
Enable an assigned Input Channel

④ **Mixer Level adjustment**
Adjust a Mixer level of assigned input signal
Range : 0 to 100

Time Alignment

① **Unit**
Select a delay Unit ［cm, inch, msec］

② **Crossover filter viewer**
Show the crossover filter setting

③ **Enable/Disable Output**
Select enable/disable for each Output Channel
The "OFF" selected Output is not activated for
sound signal output

④ **Speaker Select**
Show the selected Speaker kinds

⑤ **Gain**
Show a gain for each Output Channel

⑥ **Phase/Opposite Phase**
Select the Phase for each Output Channel

 : Phase　　　 : Opposite

⑦ **Link**
Synchronize the setting same as other Output Channel
When Synchronized the setting, Time Alignment setting
what linked to Delay group is copied
Select a delay group by ［A, B, C, D, E］

 : No Link　　 : Linked
　　　　　　　　　　　　　　　　　　　　　　　　　　 (example : Group A)

⑧ **Delay Unit**
Adjust Delay Unit
Range : ［0 cm to 680 cm］, ［0 inch to 268 inch］
　　　　　［0 msec to 20 msec］

＊Regarding calculation for Delay Unit　　＊In case of cm unit
　Measure a distance for each speaker from Listening position, and The farthest speaker becomes
　the reference value. Difference with each speaker and the reference becomes Delay Unit.
　　Example : CH1（100 cm）,CH2（50 cm）,CH3（110 cm）,CH4（40 cm）, CH5（180 cm）
　　　　　　　CH5（180 cm）becomes the reference value
　　　　　　　What should be filled in CH1 : ①180 cm ー ②100 cm = ③80 cm
　　　　　　　　　　　　　　　　　　　　　↑　　　　　　↑　　　　　↑
　　　　　　　　　　　　　　　　　The reference　CH1 distance　CH1 Value

Output	Actual	Difference with the reference		
	[cm]	[cm]	[inch]	[msec]
CH1	② 100.0	③ 80.0	31.50	2.35
CH2	50.0	130.0	51.18	3.82
CH3	100.0	70.0	27.56	2.06
CH4	40.0	140.0	55.12	4.12
CH5	① 180.0	0.0	0.00	0.00

②Setting Channel Actual → distance

①The reference value what → is the farthest speaker

← ③Delay Unit what should be filled

≪ Contents

Device Setting (Setting 1)

Device Setting ✕

| Setting1 | Setting2 | Setting3 |

Main Unit Select ①
- ● Speaker Input
- ○ RCA Input

Music Source Setting ②

USB AUDIO	● Valid	○ Invalid
BT AUDIO	● Valid	○ Invalid
SPDIF	● Valid	○ Invalid
AUX	● Valid	○ Invalid

Navi-Mix Setting ③

Function	● Valid ○ Invalid
Detection Sensitivity	-30dB
DSP Source ATT Level	0dB
Release Time	2.0sec

External Control ④

ATT Control	Invalid
Polarity	High
DSP Source ATT Level	-6dB

Remote Brightness Setting ⑤

Default	3
Dimmer	Invalid
Polarity	High
Dimmer Brightness	1

close

① **Main Unit Select**
Select Main Unit signal as Input method

② **DSP Source Setting**
Select enable/disable for each DSP source*1 *2
and Bluetooth Audio Device

③ **Navi-mix Setting**
Adjust some functions below
・Select enable/disable for Navi-Mix function
・Detection Sensitivity for Main Unit
・DSP Source ATT Level
・Release Time*3

④ **External Control**
Adjust Attenuate Level and enable/disable. Possible to use this function when the included
Mute wiring (Yellow/Black) is connected control signal line (vehicle back signals, etc.)

⑤ **Remote Controller Setting (Only for DEQ-7000A)**
Possible to use a dimmer function when the included illumination wiring (Orange/White) is connected
control signal line (illumination power supply, etc.)

＊1 The "OFF" selected Music Source doesn't show that source on Music Source Select
DEQ-7000A is compatible with USB AUDIO/BT AUDIO/SPDIF/AUX, DEQ-2000A is with BT AUDIO/AUX.
The "OFF" selected Music Source is skipped when selecting Music Source at DEQ-7000A remote controller
＊2 RCA input terminal (CH1,CH2) can be used to AUX what is external analog input if select "Speaker Input" at
Main unit Select
In this case, the RCA input terminals (CH3, CH4) will be disabled
If select "RCA Input", AUX can not be used
＊3 When Navi-mix function enable, Adjust Attenuate duration starting from when Navi signal is not detected

Device Setting (Setting 2)

① **Main Unit Memory**

  Select Memory enable/disable for Main Unit
  Max 6 Memories can be set
  Possible to fill any comment for each Memory

② **DSP Source Memory**

  Select Memory enable/disable for DSP source
  Max 6 Memories can be set
  Possible to fill any comment for each Memory

Device Setting (Setting 3, Only for DEQ-7000A)

① **Mode of Remote Controller**

   Select an operation mode which are Normal or Short-cut *¹ for Remote Controller

② **Short-cut Setting**

   Set a shown Main Unit Memory and DSP Source Memory when enables Short-cut operation

   *1 Short-cut operation : Combinate with Any Music Source and Any Memory Setting
      Create a combination with Any Music Source and Any Memory Setting, and both settings can be simultaneously shifted

Remote Controller （Only for DEQ-7000A）

① Segment Display

Show DSP Source volume and Memory number

② Indicator (Power/Each Mode)

Light up current operation mode

③ Rotary Encoder

Used for various operation

④ Pairing for Bluetooth Audio

Connection Button for pairing with DSP-AMP device and Bluetooth Audio Device

■ **Operation for Rotary Encoder**

Shift an operation mode each time presses
[VOL → SRC → MEM → BASS → (Back to) VOL]

■ **DSP Volume**

Adjust volume of DSP Source if "VOL" is selected

■ **Music Source**

Select Music Source if "SRC" is selected
[M/U → Bluetooth → SPDIF → USB Audio → RCA※1 → (Back to) M/U]

  ＊1 RCA can enable when Speaker Input is selected at Main Unit Selection in Device Setting
       RCA is skipped if AUX input is disable

■ **Memory Select**

Select Memory if "MEM" is selected

■ **Bass Level**

Adjust Bass Level if "BASS" is selected

■ **Pairing mode for Bluetooth Audio device**

Tap to shift the pairing mode Bluetooth. Please connect to DSP-AMP by selecting "Pioneer DEQ-7000A Aud" from Bluetooth Audio Device
  ＊Blue light LED is flashing in pairing process, and steady in connected

■ **Short-cut operation**

If Remote Controller Mode becomes Short-cut Mode in Device Setting, Tap of Rotary Encoder becomes short-cut operation and shifts to Source and Memory combination at the number What set in Short-cut Setting
[VOL → Short-cut Setting Number → BASS → (Back to) VOL]

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