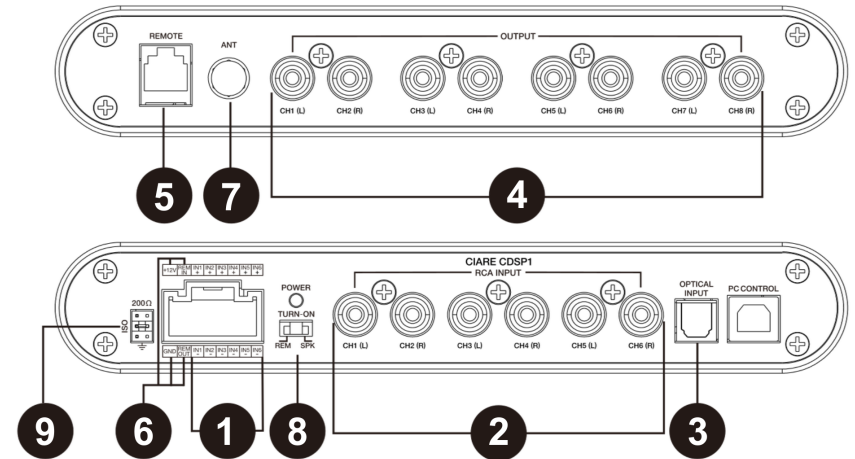




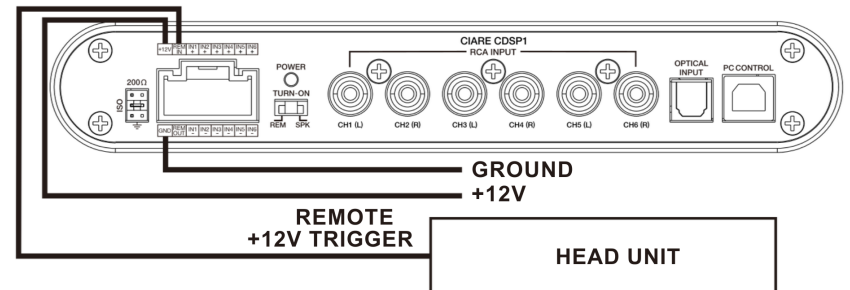
CDSP1
Bluetooth Enabled DSP 6-Input 8-Output

CONNECTOR DESCRIPTION



- 1. Speaker Level Inputs
- 2. RCA Analog Line Level Inputs
- 3. Optical Digital Input
- 4. RCA Analog Line Level Outputs
- 5. Remote Control Input
- 6. +12V Power, Ground, Remote Turn-On In/Out
- 7. Bluetooth Antenna
- 8. Remote Trigger, Signal Sense
- 9. Ground Isolation Jumpers

POWER CONNECTIONS



REMOTE TURN ON/HIGH LEVEL INPUT DC TURN ON The CDSP1 has two options, a 12v remote input and a signal sense option. **REMOTE INPUT OPTION:** If your head unit has a +12v trigger output, connect it to the CDSP1 remote input, for remote turn-on. The remote out connection of the CDSP1 may be used to daisy-chain to additional units or amplifiers and turn them on as well.

SIGNAL SENSE OPTION

Alternatively, the signal sense feature can be used to turn on the CDSP1 when an audio input signal is detected at the high level inputs(IN1/IN2). Then the connection to the CDSP1's remote input terminal is not required.

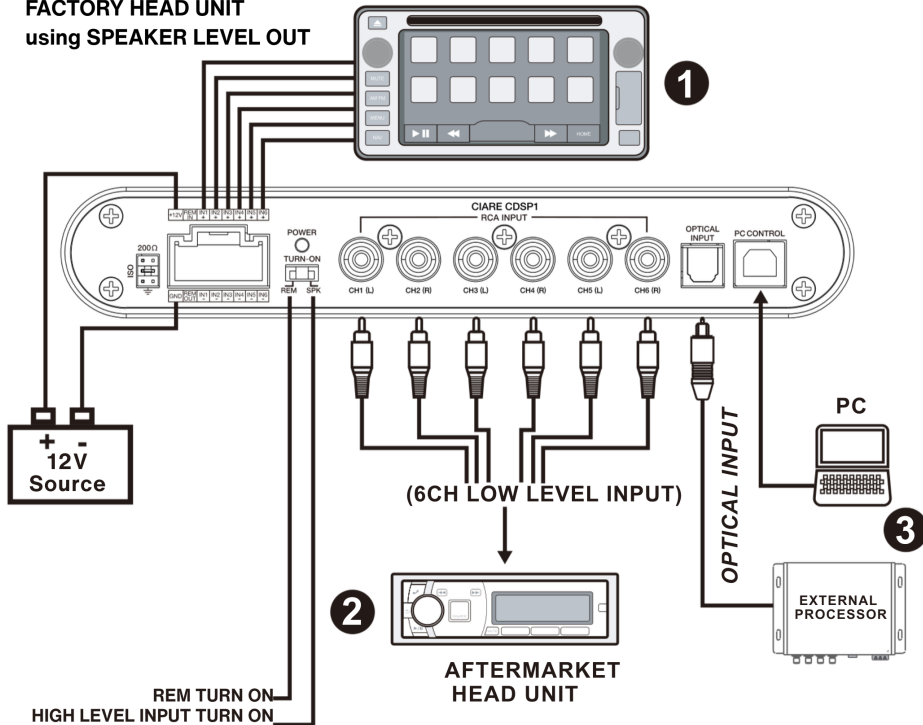
An in-line fuse holder with a 3A fuse should be added in the +12V line.

WIRED REMOTE:

Channels 7-8 are the default sub channels for the remote sub volume control.

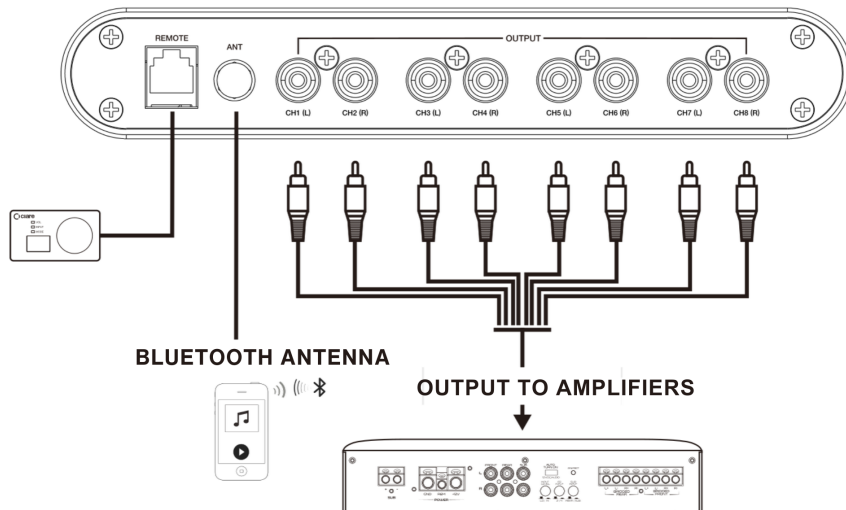
INPUT CONNECTIONS

FACTORY HEAD UNIT
using **SPEAKER LEVEL OUT**



1. High level input (Typically factory radio)
2. Low level input (Typically aftermarket radio or processor)
3. Optical input (Typically aftermarket radio or processor)

OUTPUT CONNECTIONS



3

DSP SOFTWARE DOWNLOAD

- Windows software available at www.ciareusa.com.
- iOS application link available at www.ciareusa.com.
- Android application link available at www.ciareusa.com.

Works with Windows XP/Vista/7/8/10/11 operating systems Once the software is downloaded, double-click the installation file. Follow the on-screen instructions until your software installation is complete.

WINDOWS INSTALLATION:

- Double click the CDSP1 icon to open the software and the main screen will appear as shown below.
- Once the unit is connected to your computer via the included USB cable, your PC will find the new device once the CDSP1 is powered on and will automatically install the necessary drivers.
- After the device installation is complete the software and the hardware settings will automatically sync.



PC Graphical User Interface

4

DESKTOP/WINDOWS SOFTWARE INTERFACE

CDSP1 Windows software is divided into 5 sections:

Section 1- Inputtype: High level, AUX, BluetoothandOptical

Section 2- Select crossover types

Section 3- EQ settings for each output

Section 4- Adjust delay settings

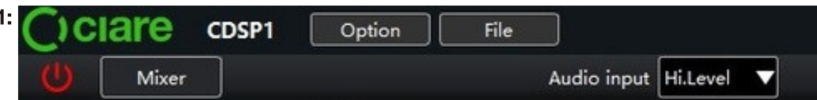
Section 5- Output channel configuration : The input signal gain of output channels [CH1-CH8] can be adjusted from this page. This page can be used to sum input channels by adjusting input channel levels.

Section 6- Sound effect import/export.



DESKTOP/WINDOWS SOFTWARE INTERFACE

SECTION 1:



OPTIONS

- Advanced
- Firmware update
- Restore factory settings
- About

FILE

- Load PC preset
- Save as PC preset
- Load all preset
- Save all preset

MIXER

This screen will allow you to do 2 things:

- 1.Route the inputs to which outputs you prefer
- 2.Adjust the level of each input to each output

In the example shown below

- Ch1 input is routed 100% to Ch1
- Ch2 input is routed 100% to Ch2
- Ch3 input is routed 100% to Ch3
- Ch4 input is routed 100% to Ch4
- Ch5 input is routed 100% to Ch5
- Ch6 input is routed 100% to Ch6
- Ch7 input is routed 100% to Ch1/Ch3/Ch5
- Ch8 input is routed 100% to Ch2/Ch4/Ch6



AUDIO INPUT

This is where you select what signal input source you would like to use.

SECTION 2:



XOVER

- Use this to set your crossovers for each output channel

TYPE

- Bessel: Slow smooth roll off
- Lin_Ril: Linkwitz-Riley -Steep roll off, -6 dB down at cutoff frequency
- Butter_W :Butterworth -Flat and balanced roll off, -3 dB down at cutoff frequency

FREQ

- Set the frequency for each crossover

SLOPE

- This is where you can set the slope for each crossover point
- Slope Options:6 dB, 12 dB,18 dB, 24 dB,30 dB,36 dB,42 dB,and 48 dB per octave

See below for the crossover points selected for Ch1



Repeat these instructions for each of the 8 output channels

SECTION 3:



EQUALIZER

In this section you can fine tune each channel. To adjust, click the band ID number and hold, dragging left or right to select a frequency, as well as the gain or cut to apply to the frequency by dragging up or down. Frequency, Q, and gain/cut may also be manually entered into the table under the band ID. Adjustments update in real time.

THE CDSP1 features 31 EQ bands of adjustability, each band allows you to adjust the following:

- Frequency
- Q: How wide or narrow the adjustment should be
 - Narrow Q will affect only the selected frequency
 - Wide Q will affect the output of nearby frequencies
- dB: Decide how much to cut or boost the selected frequency

SECTION 4/5:



1. OUTPUT LEVEL

- Here you can set the output level for each of the 8 output channels

2.PHASE

- Here you can set each output channel at 0 or 180 degrees

3.MUTE

- Select which of the 8 output channels you would like to mute

4.TIME DELAY

- This is where you can add delay to a speaker to allow the sound to hit both of the listener's ears at the same time to improve imaging.

Determining Distance

If the listener is on the DRIVER side:

The PASSENGER side speaker (CH2) should be set to 0 milliseconds (MS).

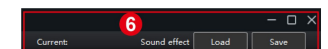
The DRIVER side speaker (CH1) should be set to 10 milliseconds, which is the typical difference in distance between the two speakers (in time) to the listeners ear.

(Do NOT enter in the actual distance for each speaker to the ear, only the difference in length)

SECTION 6:

SOUND EFFECT IMPORT/ EXPORT

- **LOAD PC PRESET FILE:** Select the preset you previously saved
- **SAVE AS PC PRESET FILE:** Allows you to save settings as a new file name
- **LOAD ALL PRESET:** Load all presets you previously saved
- **SAVE ALL PRESET:** Save all presets to your computer

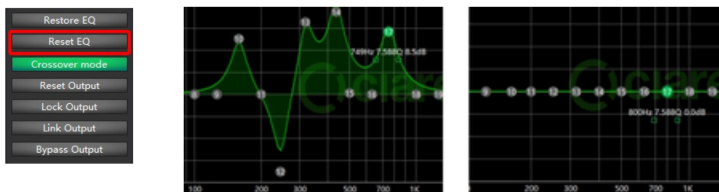


The 7 buttons on the bottom right of the PC software do the following:

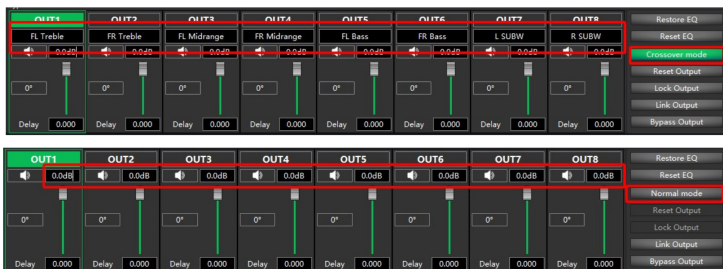
BYPASS/RESTORE EQ: Allows you to hear the difference with and without your adjustments.



RESET EQ: This allows you to remove your EQ adjustments and start over from scratch.



NORMAL MODE/CROSSOVER MODE: Crossover mode shows the names of each channel based on your custom naming convention.



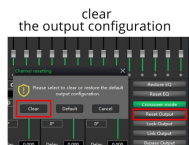
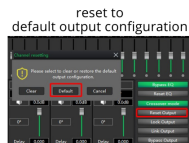
CROSSOVER MODE

NORMAL MODE

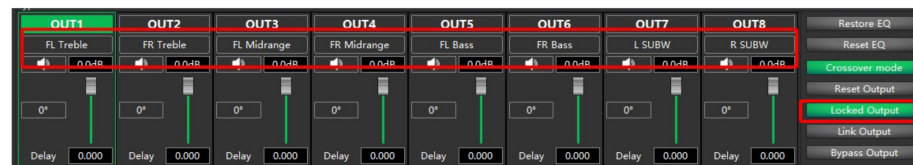
RESET OUTPUT: This will reset the channel configuration settings.



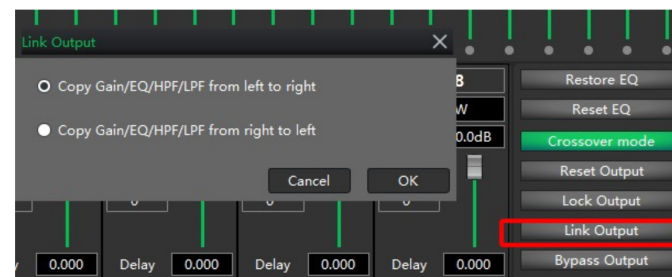
output configuration before RESET



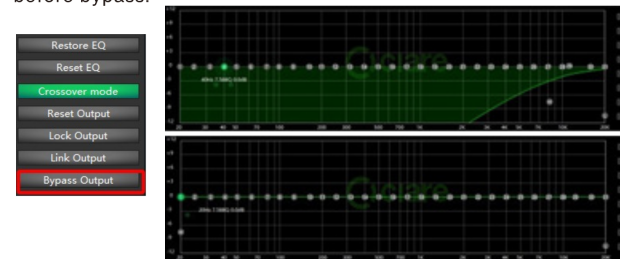
LOCK OUTPUT: This prevents the user from accidentally changing any settings.



LINK OUTPUT: You can copy the adjustments from the left channel to right channel based provided that the channel types are set the same (such as Front Midrange).

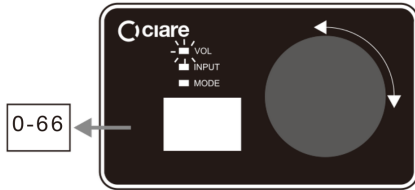


BYPASS OUTPUT: You can set the default curve or the curve you saved before bypass.

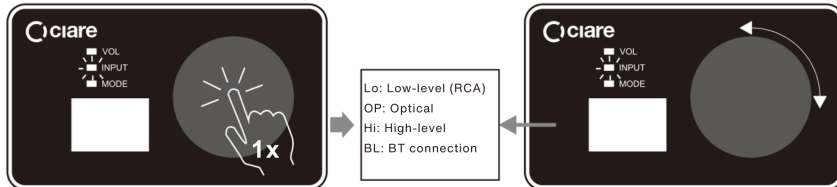


REMOTE FUNCTIONS

1. Volume Control



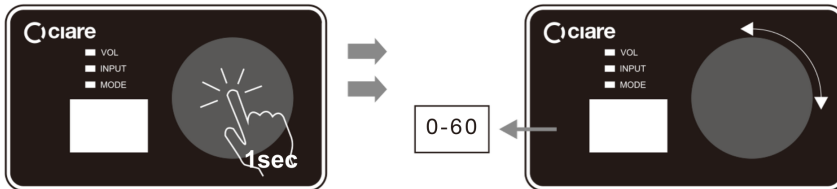
2. Source Change



3. Preset Change



4. Subwoofer Level



FEATURES

- Signal Sensing, summing & delay
- 6 to 48 dB/Octave Crossovers
- 6-Channel Input
- 8-Channel Output
- 31-Band Equalizer per channel
- Toslink Input (optical input)
- Remote for Preset Recall and Level Control
- Wireless connection and audio streaming
- DSP App: PC, Apple iOS, Android

SPECIFICATIONS

Active Range	≥110 dB
S/N Ratio	≥100 dB
T.H.D.	≤0.02%
Freq. Response	10 Hz-20 kHz
Input Impedance	Low level input: 20kΩ, High level input: 180Ω
Low level output impedance	≥36Ω
Signal input/output range	RCA Input: 1.9 - 4V High level: 18.5V Output: 4.1V
Operating temperature	-40~70°C
Voltage requirement	DC 8.5V~16.5V
Turn-on remote output	+12V starting voltage output (0.2A)
Current draw	≤0.75A
Input types	6-ch high level, 6-ch low level, optical, Bluetooth
RCA outputs	8-ch low level output
Output signal gain	Gain range: Mute, -59.9 dB to 0.0 dB
Output signal equalizer	1-8 each output channel has independent 31-band equalizer
Output signal crossover	See page 9, 1 Hz resolution 1Hz and 6 to 48 dB/octave slopes
	Each output channel can be adjusted for phase and time delay
	Phase: 0/18°
	Time delay: 0.000-20 ms,
Output phase and time delay	0.00-692 cm/0.00-273 inches
Presets	Store up 6 (six) preset settings.