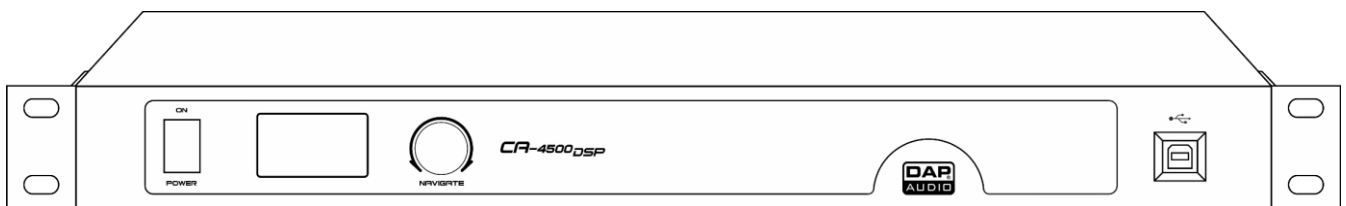




# MANUAL



ENGLISH

# CA-4500 DSP

# V2

Ordercode: D4515

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## Warning



**For your own safety, please read this user manual carefully  
before your initial start-up!**

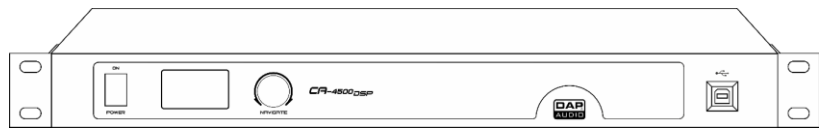


### Unpacking Instructions

Immediately upon receiving this product, carefully unpack the carton and check the contents to ensure that all parts are present and have been received in good condition. Notify the dealer immediately and retain packing material for inspection if any parts appear damaged from shipping or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

#### Your shipment includes:

- DAP Audio CA-4500 DSP
- Schuko power cable (2,3 m)
- User manual



**CAUTION!**  
**Keep this device away from rain and moisture!**  
**Unplug mains lead before opening the housing!**



### Safety Instructions

Every person involved with the installation, operation and maintenance of this system has to:

- be qualified
- follow the instructions of this manual



**CAUTION! Be careful with your operations.**  
**With a dangerous voltage you can suffer  
a dangerous electric shock when touching the wires!**



Before the initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the system.

To maintain perfect condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

Please consider that damages caused by manual modifications to the system are not subject to warranty.

This system contains no user-serviceable parts. Refer servicing to qualified technicians only.

### IMPORTANT:

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the system.

- Always let the device cool down before cleaning or servicing.
- Always disconnect power from the mains, when system is not used. Only handle the power cord by the plug. Never pull out the plug by tugging the power cord.
- Always operate the unit with the AC ground wire connected to the electrical system ground.
- Avoid flames and do not put close to flammable liquids or gases.

- Avoid ground loops! Always be sure to connect the power amps and the mixing console to the same electrical circuit to ensure the same phase!
- Before changing the ground, always turn off your amplifier.
- Connecting amplifier outputs to oscilloscopes or other test equipment, while the amplifier is in bridge mode, may damage both, the amplifier and test equipment.
- Do not connect this device to a dimmer pack.
- Do not drive the inputs with a signal level higher than required to drive the equipment to full output.
- Do not insert objects into air vents.
- Do not open the device and do not modify the device.
- Do not open this device. Risk: hazardous radiation exposure.
- Do not switch the system on and off in short intervals, as this would reduce the system's life.
- Do not put your equipment next to TV, radio, etc., because of interference or distortion.
- If device is dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the system has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your system. Leave the system switched off until it has reached room temperature.
- If you connect other parts of the system, beware ground loops.
- If your Dap Audio device fails to work properly, discontinue use immediately. Pack the unit securely (preferably in the original packing material) and return it to your Dap Audio dealer for service.
- In system setup, the amplifier's output power must be 50-100% higher than the loaded loudspeakers' rated power.
- In normal use, please set the volume to 0dB position.
- Make sure that the amplifier is turned down, before turning the power on or off. In this way you can avoid supersonic frequencies, which could damage your speakers.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power cord is never crimped or damaged. Check the device and the power cord from time to time.
- Make sure that the signals coming into the mixer are balanced, otherwise hum could be created.
- Make sure you do not use the wrong kind of cables or defective cables.
- Make sure you use DI boxes to balance unbalanced signals; All incoming signals should be clear
- Never let the power cord come into contact with other cables! Handle the power cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.
- Never use anything to cover the ground contact.
- Only use device indoors, avoid contact with water or other liquids.
- Please read this manual carefully and keep it for future reference.
- Please turn off the power switch, when replacing the power cord, signal cable or selecting the input mode switch.
- Prevent distortion! Make sure that all components connected to the device have sufficient power ratings. Otherwise, distortion will be generated because the components are operated at their limits.
- Sometimes, when you want to send one signal to more than one amplifier, you should use a signal distributor.
- The best way to avoid ground loops is connecting the electrical system ground to one central point ("star" system). In this case the mixer can act as a central point.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- The user is responsible for correct positioning and operating of the CA amplifier. The manufacturer will not accept liability for damages caused by the misuse or incorrect installation of this device.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- WARRANTY: Till one year after date of purchase.

## Operating Determinations

This system is not designed for permanent operation. Consistent operation breaks will ensure that the system will serve you for a long time without defects.

If this system is operated in any other way than the one described in this manual, the product may suffer damages and the warranty becomes void.

Any other operation may lead to dangers like short-circuit, burns, electric shock, etc.

*You endanger your own safety and the safety of others !*

*Improper installation can cause serious damage to people and property !*



## Return Procedure

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Authorization Number (RMA number). Products returned without an RMA number will be refused. Highlite will not accept the returned goods or any responsibility. Call Highlite 0031-455667723 or mail [offersales@highlite.com](mailto:offersales@highlite.com) and request an RMA prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack fixture, any shipping damage resulting from inadequate packaging is the customer's responsibility. Highlite reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

**Note: If you are given an RMA number, please include the following information on a piece of paper inside the box:**

- 01) Your name
- 02) Your address
- 03) Your phone number
- 04) A brief description of the symptoms

## Claims

The client has the obligation to check the delivered goods immediately upon delivery for any shortcomings and/or visible defects, or perform this check after our announcement that the goods are at their disposal. Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise.

It is the customer's responsibility to notify and submit claims with the shipper in the event that a device is damaged due to shipping. Transportation damage has to be reported to us within one day after receipt of the delivery.

Any return shipment has to be made post-paid at all times. Return shipments must be accompanied with a letter defining the reason for return shipment. Non-prepaid return shipments will be refused, unless otherwise agreed in writing.

Complaints against us must be made known in writing or by fax within 10 working days after receipt of the invoice. After this period complaints will not be handled anymore.

Complaints will only then be considered if the client has so far complied with all parts of the agreement, regardless of the agreement of which the obligation is resulting.

## Description of the device

### Features

The CA-4500 DSP is a 4-channel DSP-powered amplifier. It can be configured with the OLED display or with the PC software. It is equipped with crossovers, a delay, a limiter and an EQ.

#### Outputs

- 2  $\Omega$  Stable: No
- Output per channel 8  $\Omega$  on 1 kHz: 250 W
- Output per channel 4  $\Omega$  on 1 kHz: 500 W
- Bridge output 8  $\Omega$  on 1 kHz: 1000 W
- Output per channel 8  $\Omega$  on 20 Hz > 20 kHz: 250 W
- Output per channel 4  $\Omega$  on 20 Hz > 20 kHz: 500 W
- Bridge output 8  $\Omega$  on 20 Hz > 20 kHz: 1000 W
- Output channels: 4
- Output gain: 34 dB
- Output mode: 4-channel, Bridge, Mono, Stereo
- Output connector: NL4

#### Inputs

- Mono Inputs: 4
- Mono Input connector: 3-pin XLR
- Mono Input Impedance: 20000  $\Omega$
- Mono unbalanced input sensitivity: 1 dBV

#### Audio

- THD distortion level: < 0.15%
- Signal - Noise ratio: > 96dB
- AD/DA converter sample rate: 96 kHz
- Audio latency: 1,5 ms
- SLEW rate: 25 V/ $\mu$ s
- Amp technology: Class D
- Damping factor: 180 :1
- Crosstalk: 60 dBu
- Frequency response minimum: 20 Hz
- Frequency response maximum: 20000 Hz

#### Sound Editing

- Parametric input equalizer: 8 Bands
- Parametric output equalizer: 8 Bands
- Equalizer types input: Bell, High Shelf, Low Shelf, Notch
- Equalizer types output: High Shelf 12, High Shelf 6, Low Shelf 12, Low Shelf 6
- Crossover Filter Types: Bessel, Butterworth, Linkwitz Riley
- Crossover slopes: 6, 12, 18, 24, 30, 36, 42, 48
- Dynamics type: Compressor, Gate, Limiter
- Phase reverse: Yes

#### Control and Programming

- Control mode: Manual, PC software
- Display: OLED

#### Electrical Specifications and Connections

- Power supply: 220–240 V AC, 50Hz
- SMPS: Yes
- Power consumption: 1741 W
- Fuse: 10A/250V
- Power connector IN: IEC C13 female
- Data connector IN: USB B
- Electronic protection: Clip limiter (fixed), DC voltage, Overheat, Overload, Short circuit, Softstart, Thermal

#### Mechanical

- Amplifier airflow: Front to back
- Amplifier cooling: Radial Fan
- Installation depth (excl. connector): 285 mm
- Flightcase size: 19"
- Housing: Metal
- Color: Black
- Finish: Powder
- IP rating: IP20
- Dimensions: 483 x 285 x 44,5 mm (LxWxH)
- Rack units: 1 U
- Weight: 5,9 kg

Frontside

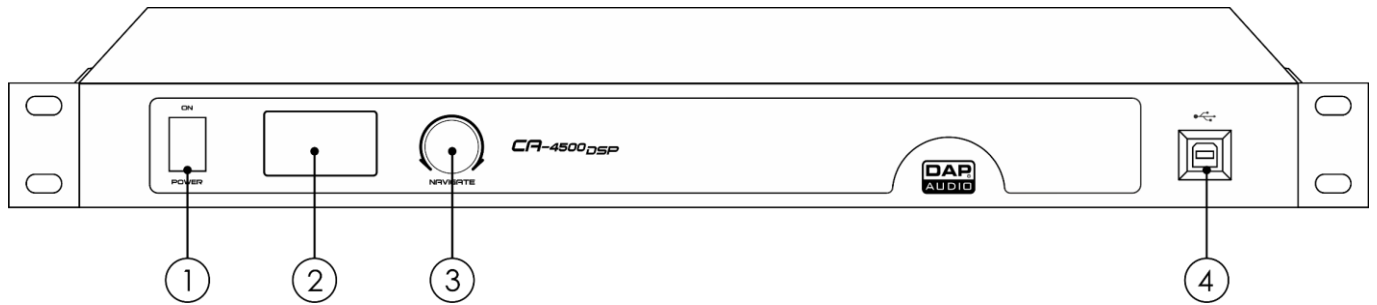


Fig. 01

- 01) Power button ON/OFF  
Press the button to turn the device on/off.
- 02) OLED display
- 03) Menu control
- 04) USB B connector

Backside

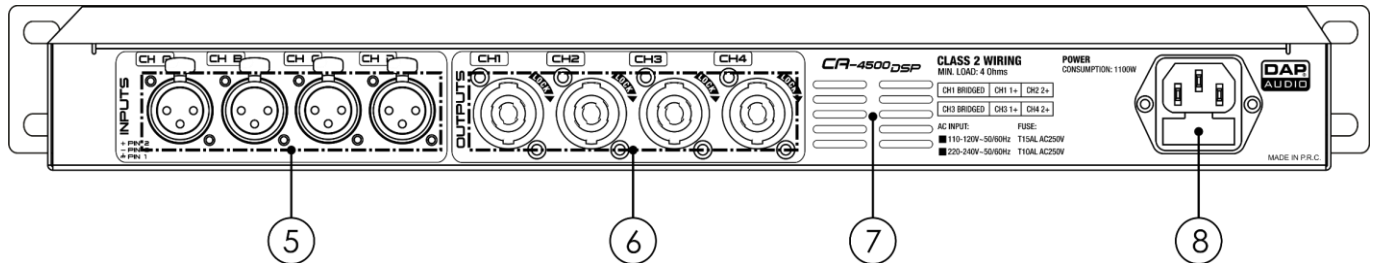


Fig. 02

- 05) CH A–D, 3-pin XLR connector IN (unbalanced/balanced)  
Connect low impedance equipment with balanced/unbalanced line level outputs.
- 06) CH 1–4, Speakon speaker connector OUT  
Connect the device to speakers.
- 07) Air exhaust  
Do not block the air exhaust as it may cause overheating and/or other serious damage.
- 08) 210–240 V AC, IEC power connector IN + Fuse 10A/250V

## Installation

Remove all packing materials from the CA-4500 DSP. Check if all foam and plastic padding is removed. Fit the equipment to a 19" rack. Connect all cables.

**Do not supply power before the whole system is set up and connected properly.**

**Always disconnect from electric mains power supply before cleaning or servicing.**

**Damages caused by non-observance are not subject to warranty.**

## Setup and Operation

Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 120 V specification product on 240 V power, or vice versa.

Install this device on a flat surface, not bending or curved.

Do not supply power before all components of the system are set up and connected properly.

### NORMAL

All 4 outputs function independently.

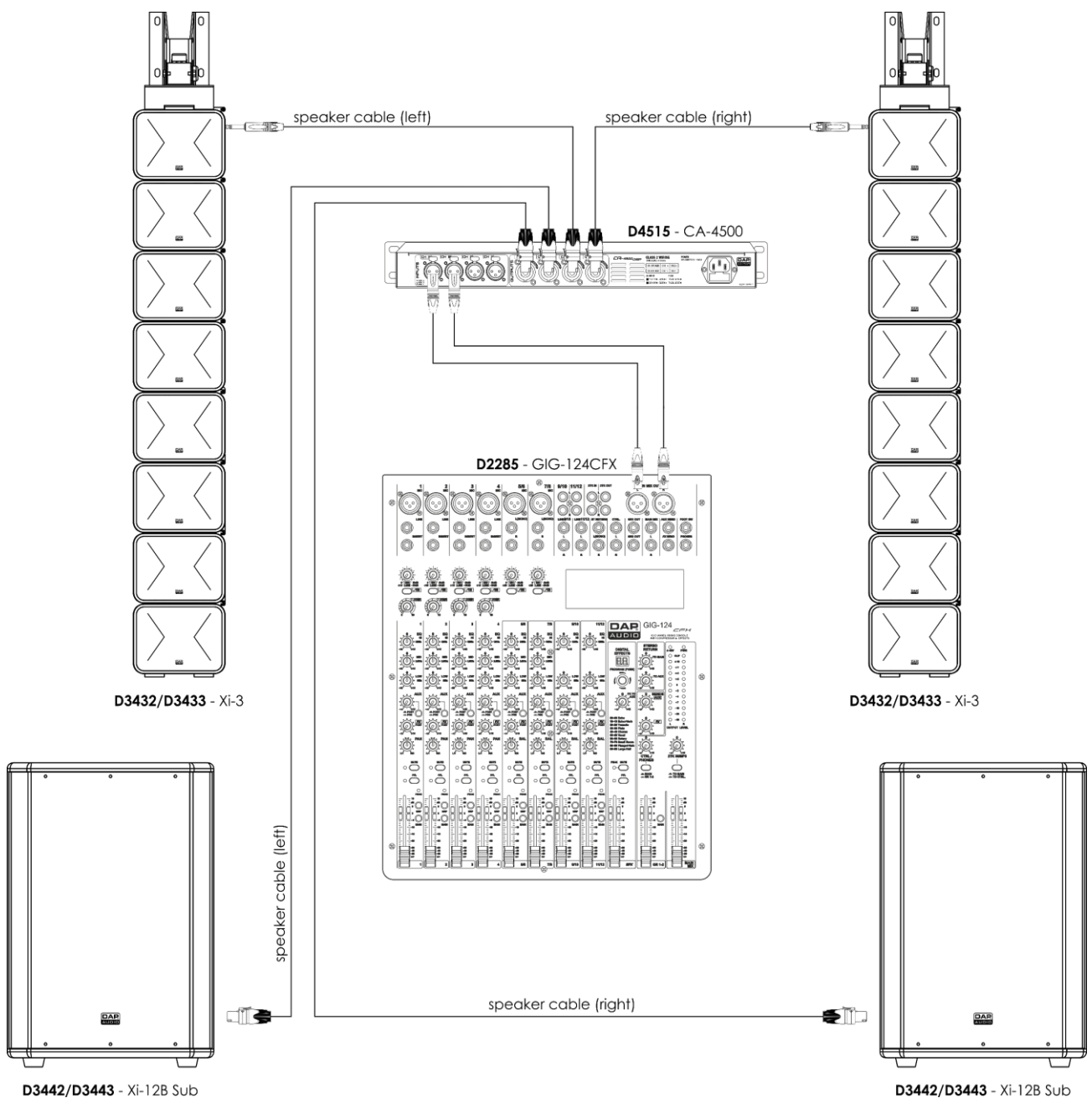


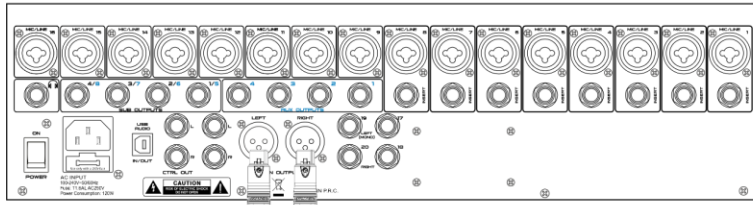
Fig. 03



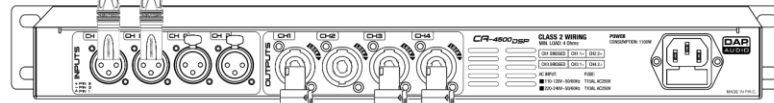
**CH12 BRI**

Outputs 1 and 2 are bridged and outputs 3 and 4 function independently.

**D2289 - GIG-202 TAB**



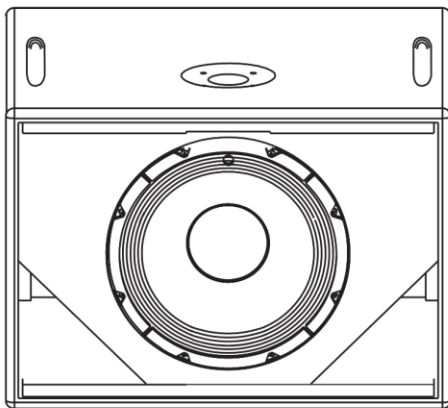
**D4515 - CA-4500**



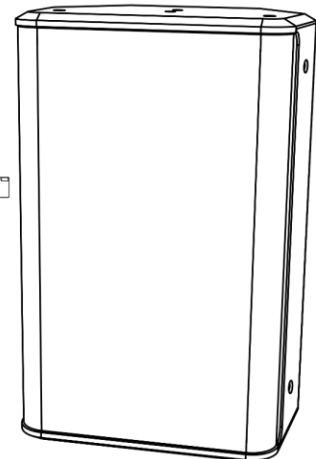
+ = 1+  
- = 2+

speaker cable (left)

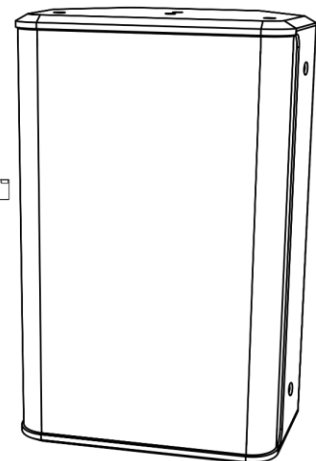
speaker cable (right)



**D3646 - DRX-18B**



**D3450 - Xi-10 MKII**



**D3450 - Xi-10 MKII**

**Fig. 04**

**CH34 BRI**

Outputs 3 and 4 are bridged and outputs 1 and 2 function independently.

**D2289 - GIG-202 TAB**

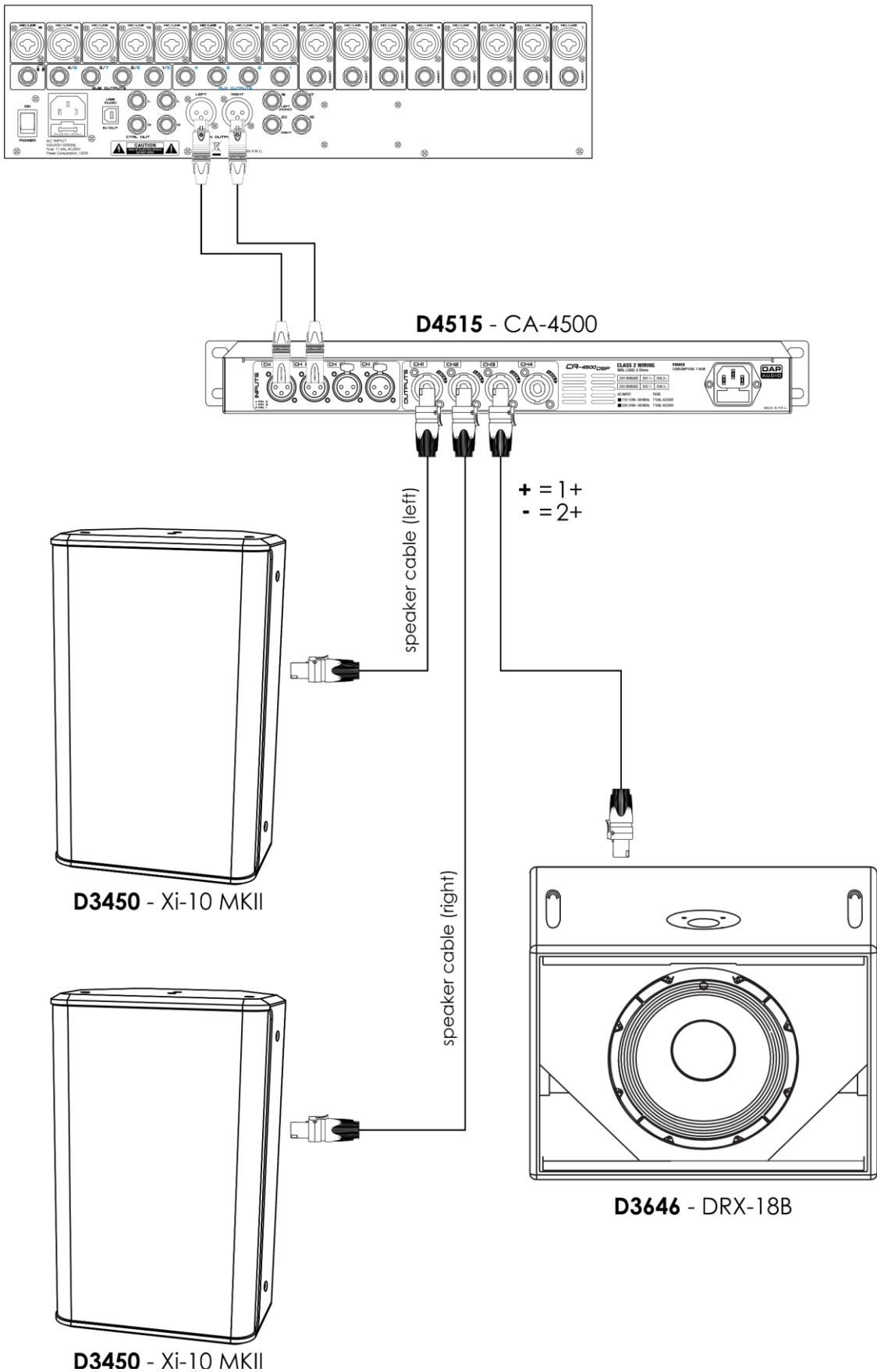
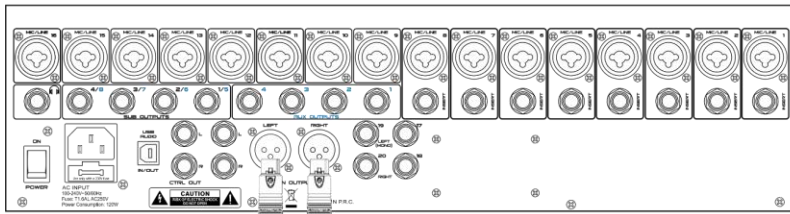


Fig. 05

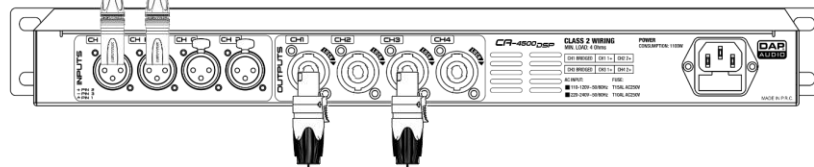
**CH12/34 BRI**

Outputs 1 and 2 are bridged. Outputs 3 and 4 are bridged.

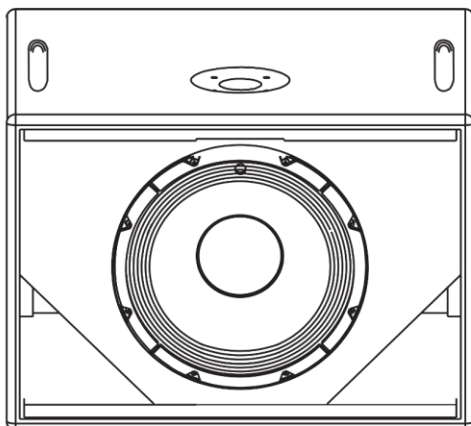
**D2289 - GIG-202 TAB**



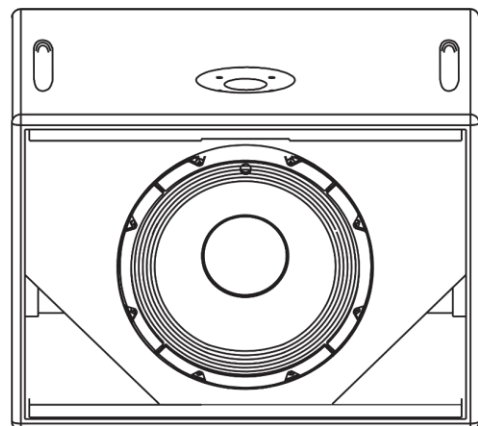
**D4515 - CA-4500**



+ = 1+  
- = 2+



**D3646 - DRX-18B**



**D3646 - DRX-18B**

**Fig. 06**

**LINK**

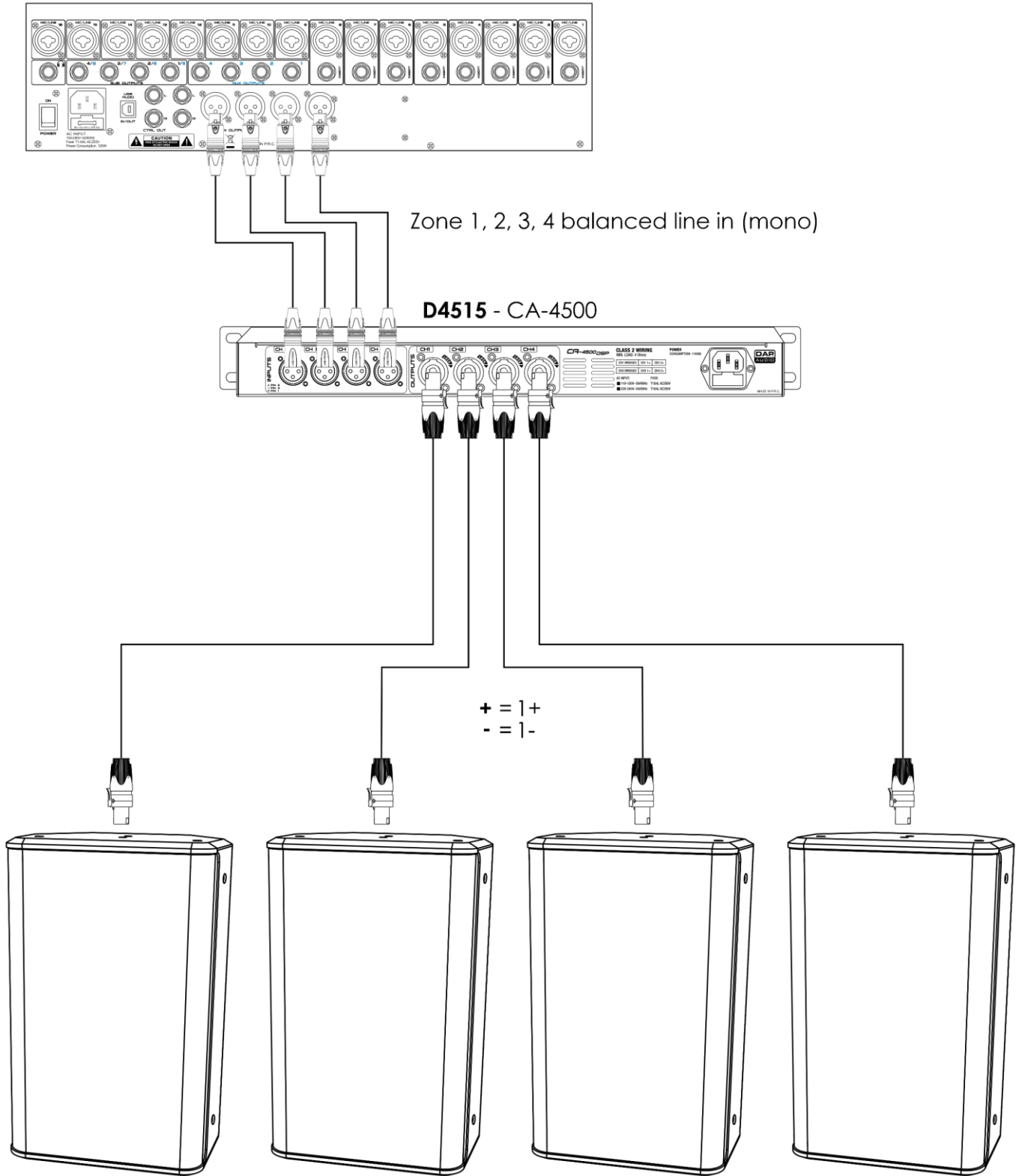
Outputs 1-4 are linked. For example, if you adjust gain of the output 1, then gain of the outputs 2, 3 and 4 will be adjusted automatically.

**CH1/2/3/4 70V**

Outputs 1, 2, 3 and 4 work independently.

Select mode CH1/2/3/4 70V in Load menu. See **7.2. Load** on page 19 for more information.

Zone mixer



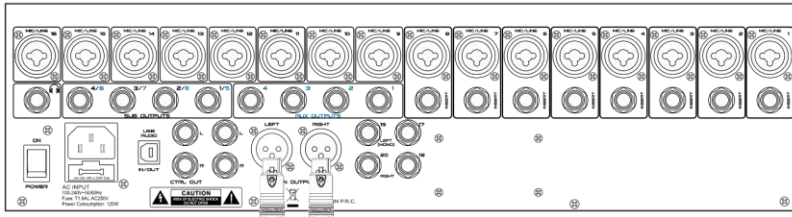
**Fig. 07**

**CH12/34 BRI 100V**

Outputs 1 and 2 are bridged. Outputs 3 and 4 are bridged.

Select mode CH12/34 BRI 100V in Load menu. See **7.2. Load** on page 19 for more information.

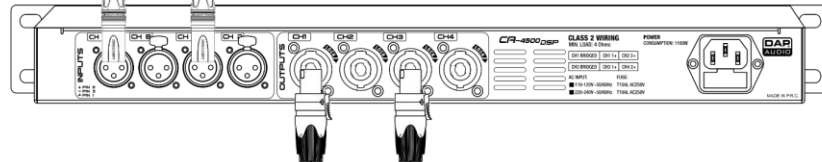
**D2289 - GIG-202 TAB**



Zone 1 balanced line in (mono)

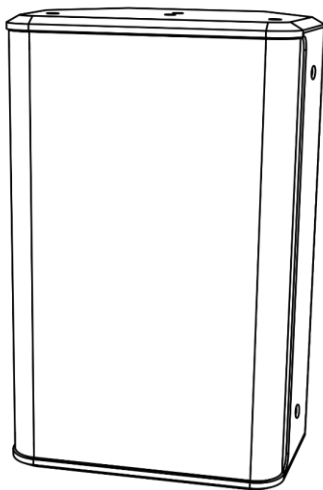
Zone 2 balanced line in (mono)

**D4515 - CA-4500**

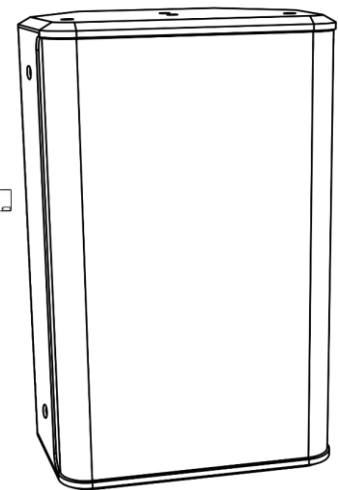


Zone 1 out, 100 V, 1000 W

Zone 2 out, 100 V, 1000 W



100 V chain max. 1000 W



100 V chain max. 1000 W

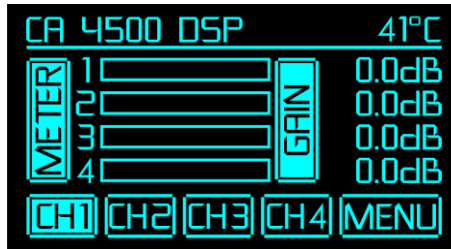
+ = 1+  
- = 2+

**Fig. 08**

## Operations

### Gain Adjustment

01) Upon start-up, the device will show the gain settings of the currently active setup.



- 02) It is possible to select the output channels and adjust their gain levels. Turn the **menu control (03)** to select CH1–4 and **press** the **menu control (03)** to start editing.
- 03) Turn the **menu control (03)** to the left/right in order to decrease/increase the gain level. The adjustment range is from MUTE to +10 dB.
- 04) **Press** the **menu control (03)** to save your settings.
- 05) Repeat steps 2–4 in order to adjust the gain level of the remaining output channels.

### Main Menu Options

01) Once you have set the gain levels, turn the **menu control (03)** to select MENU and **press** the **menu control (03)** to enter main menu. The display will show:



- 02) Turn the **menu control (03)** to select one of the 10 menus:
- ROUTING
  - MUTE
  - DELAY
  - INVERT
  - EQ SETTING
  - COMPRESSOR
  - PRESET
  - NOISEGATE
  - SYSTEM
  - EXIT
- 03) **Press** the **menu control (03)** to enter the desired menu.

## 1. Routing

In this menu, it is possible to route the 6 input channels (A, B, C, D, A+B and C+D) to the 4 output channels (1-4).



- 01) Turn the **menu control (03)** to select the desired output channel (1-4). Press the **menu control (03)** to confirm your choice.
- 02) Turn the **menu control (03)** to assign the desired input channel (A, B, C, D, A+B or C+D) to the previously selected output channel.
- 03) Press the **menu control (03)** to save your settings.
- 04) Repeat steps 1-3 to route the remaining channels.
- 05) Turn the **menu control (03)** to select EXIT and press the **menu control (03)** to return to main menu.

## 2. Mute

In this menu, it is possible to mute the 4 output channels (1-4).



- 01) Turn the **menu control (03)** to select the desired output channel (1-4). Press the **menu control (03)** to confirm your choice.
- 02) Turn the **menu control (03)** to mute/unmute the selected output channel. Press the **menu control (03)** to save your settings.
- 03) Repeat steps 1-2 to mute/unmute the remaining channels. For example, if you have muted CH1 and CH3, the display will show:



- 04) Turn the **menu control (03)** to select EXIT and press the **menu control (03)** to return to main menu.

### 3. Delay

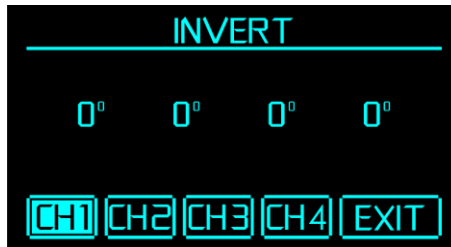
In this menu, it is possible to set the delay time of the 4 output channels (1–4).



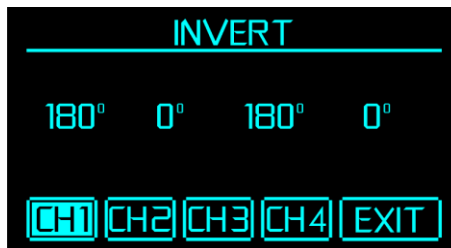
- 01) Turn the **menu control (03)** to select the desired output channel (1–4). Press the **menu control (03)** to confirm your choice.
- 02) Turn the **menu control (03)** to set the delay time of the selected output channel. The delay distance (in meters/feet) will adjust accordingly. Press the **menu control (03)** to save your settings.
- 03) Repeat steps 1–2 to set the delay time of the remaining channels.
- 04) Turn the **menu control (03)** to select EXIT and press the **menu control (03)** to return to main menu.

### 4. Invert

In this menu, it is possible to invert the 4 output channels (1–4).



- 01) Turn the **menu control (03)** to select the desired output channel (1–4). Press the **menu control (03)** to confirm your choice.
- 02) Turn the **menu control (03)** to invert the selected output channel. Press the **menu control (03)** to save your settings.
- 03) Repeat steps 1–2 to invert the remaining channels. For example, if you have inverted CH1 and CH3, the display will show:



- 04) Turn the **menu control (03)** to select EXIT and press the **menu control (03)** to return to main menu.



## 5. EQ Setting

In this menu, it is possible to set EQ parameters of the 4 output channels (1–4). With those parameters you can correct frequency characteristics by adjusting the frequency response curve. The CA-4500 DSP is equipped with an 8-band EQ, a low-pass filter (LP), a high-pass filter (HP) and a bypass (ALLBYPASS). Adjust the EQ setup by setting the FREQ, Q, GAIN and BP values.

01) Turn the **menu control (03)** to select the desired output channel (1–4). Press the **menu control (03)** to confirm your choice. The display will show:

	FREQ	Q	GAIN	BP
1	55.7	3.00	0.0	N
2	111.4	3.00	0.0	N
3	222.7	3.00	0.0	N
4	445.4	3.00	0.0	N
	[CH1]	[CH2]	[CH3]	[CH4]
				[EXIT]

02) Turn the **menu control (03)** to select one of the 8 EQ bands. Press the **menu control (03)** to confirm your choice. The display will show:

	FREQ	Q	GAIN	BP
←	55.7	3.00	0.0	N
2	111.4	3.00	0.0	N
3	222.7	3.00	0.0	N
4	445.4	3.00	0.0	N
	[CH1]	[CH2]	[CH3]	[CH4]
				[EXIT]

03) Turn the **menu control (03)** to select one of the 4 options:

- FREQ: The center frequency is the middle of the pass-band between the lower and upper cutoff frequencies, defining the limits of the band.
- Q: The ratio of the center frequency to the bandwidth. If the center frequency is constant, the bandwidth is inversely proportional to the Q. It means that if you raise the Q, the bandwidth will be narrowed.
- GAIN: Set the gain at the center frequency for the Low/Low-mid/High-mid/High-band separately. When gain is set to 0 dB, the center frequency and Q are invalid.
- BP: Set BP to bypass all signal to the next block. When BP is set to N (No), the bypass function is not active and signals will be processed by the EQ and then will flow to the next block. When BP is set to Y (Yes), signals will be bypassed to the next block.

04) Press the **menu control (03)** to start editing. Turn the **menu control (03)** to adjust the settings.

05) Press the **menu control (03)** to save your settings.

06) In order to be able to adjust the remaining settings, always turn the **menu control (03)** to select the arrow:

	FREQ	Q	GAIN	BP
←	55.7	3.00	0.0	N
2	111.4	3.00	0.0	N
3	222.7	3.00	0.0	N
4	445.4	3.00	0.0	N
	[CH1]	[CH2]	[CH3]	[CH4]
				[EXIT]

07) Press the **menu control (03)** to return to the previous menu.

08) Repeat steps 2–7 to adjust the remaining settings.

### 5.1. HP and LP Filters

Apart from the 8 EQ bands, you can also adjust the FREQ and Q of the HP (high-pass filter) and the LP (low-pass filter).

- 01) If the HP is set to its minimum value, the HP filter is OFF. If the LP is set to its maximum value, the LP filter is OFF.
- 02) When adjusting the Q of the LP and HP, choose one of the following crossover patterns: BPSS (bypass), BW6, BE6, BW12, BE12, LR12, BW18, BE18, BW24, BE24, LR24, BW30, BE30, BW36, BE36, LR36, BW42, BE42, BW48, BE48 and LR48.

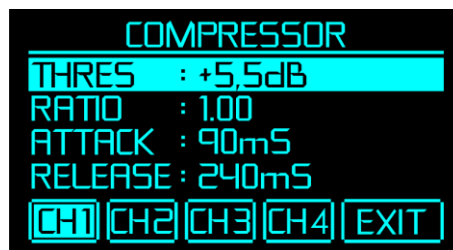
**Note:** BW stands for Butterworth filters. BE stands for Bessel filters. LR stands for Linkwitz-Riley filters.

### 5.2. Allbypass

- 01) Turn the **menu control (03)** to select ALLBYPASS. Press the **menu control (03)** to start editing.
- 02) Turn the **menu control (03)** to select N or Y and press the **menu control (03)** to confirm your choice.
- 03) If set to N, the device will use the EQ settings. If set to Y, the EQ settings will not be used and it will not be possible to adjust any EQ settings.
- 04) Turn the **menu control (03)** to select EXIT and press the **menu control (03)** to return to the previous menu.
- 05) Again, turn the **menu control (03)** to select EXIT and press the **menu control (03)** to return to main menu.

### 6. Compressor

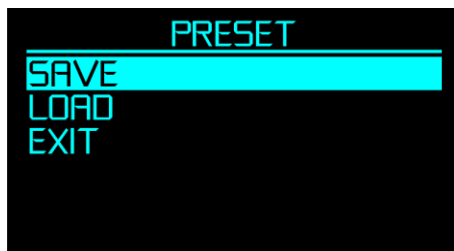
In this menu, it is possible to set the compression parameters of the 4 output channels (1–4).



- 01) Turn the **menu control (03)** to select the desired output channel (1–4). Press the **menu control (03)** to confirm your choice.
- 02) Turn the **menu control (03)** to select one of the 5 options:
  - THRES (compression threshold for the selected channel): If the amplitude of an audio signal exceeds a certain threshold, the compressor will reduce the signal level, using the preset ratio. If the amplitude of an audio signal is lower than the preset threshold, the compressor will not be activated and the signal will flow directly to the next block.
  - RATIO (compression ratio for the selected channel): The ratio determines the ratio of gain reduction. For example, a ratio of 4:1 means that if the input level exceeds the threshold by 4 dB, the output signal will exceed the threshold by 1 dB.
  - ATTACK (compressor's attack setting for the selected channel): It is the period in which the compressor reduces gain to reach the level determined by RATIO.
  - RELEASE (compressor release time): It determines the amount of time that it takes for the compressor to return to its initial gain, once the signal level drops below the threshold.
  - BYPASS: If set to YES, the compressor is OFF. If set to NO, the compressor is ON.
- 03) Press the **menu control (03)** to start editing. Turn the **menu control (03)** to adjust the settings.
- 04) Press the **menu control (03)** to save your settings.
- 05) Repeat steps 2–4 to adjust the remaining settings.
- 06) Turn the **menu control (03)** to select EXIT and press the **menu control (03)** to return to step 1.
- 07) Again, turn the **menu control (03)** to select EXIT and press the **menu control (03)** to return to main menu.

## 7. Preset

In this menu, it is possible to save new presets and load the existing ones.

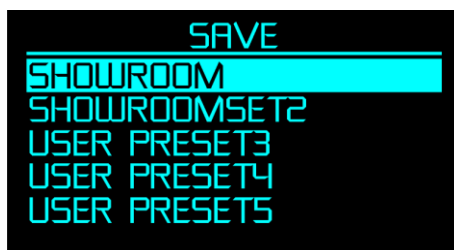


- 01) Turn the **menu control (03)** to select one of the 3 options:
- SAVE: Save the newly created presets. You can save up to 16 presets.
  - LOAD: Load the existing built-in presets or the user presets.
  - EXIT: Press the **menu control (03)** to return to main menu.
- 02) Press the **menu control (03)** to confirm your choice.

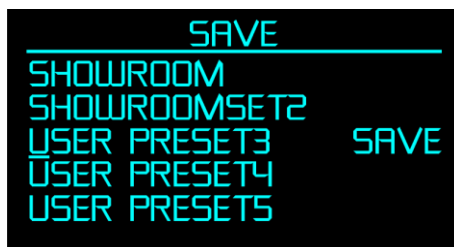
### 7.1. Save

In this submenu you can save the newly created presets. You can save up to 16 presets.

- 01) The display will show:

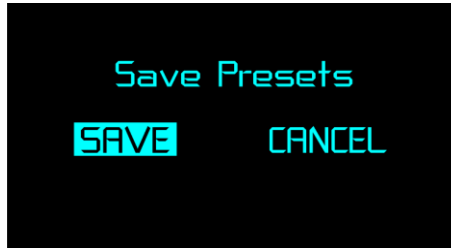


- 02) Turn the **menu control (03)** to select the desired slot. Press the **menu control (03)** to confirm your choice. For example, if you have selected USER PRESET3, the display will show:



- 03) Turn the **menu control (03)** to select the character which you want to edit in order to edit your setup's name.
- 04) Press the **menu control (03)** to start editing the name. The selected character will light blue.
- 05) Turn the **menu control (03)** to change the character.
- 06) Press the **menu control (03)** to confirm your choice and replace the character.
- 07) Repeat steps 3–6 to adjust the remaining characters.

- 08) Once you have edited all the characters, **turn** the **menu control (03)** to the right in order to select SAVE and **press** the **menu control (03)** to save your preset. The display will show:

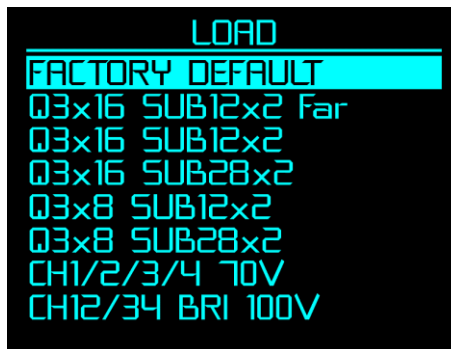


- 09) **Turn** the **menu control (03)** to select SAVE (save a preset) or CANCEL (cancel and return to the previous menu) and **press** the **menu control (03)** to confirm your choice.  
 10) Now, **turn** the **menu control (03)** to the right to select EXIT and **press** the **menu control (03)** to return to the previous menu.

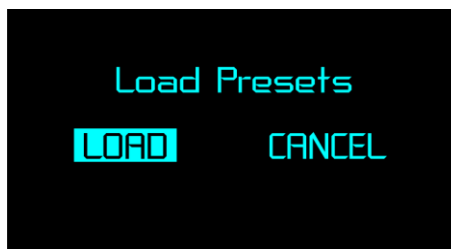
## 7.2. Load

In this submenu you can load the existing built-in presets or the user presets.

- 01) The display will show:



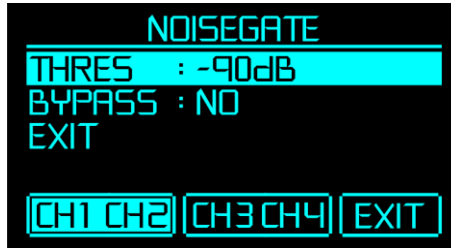
- 02) **Turn** the **menu control (03)** to select the desired preset. You can load the built-in presets as well as the user presets.  
 03) **Press** the **menu control (03)** to confirm your choice. The display will show:



- 04) **Turn** the **menu control (03)** to select LOAD (load a preset) or CANCEL (cancel and return to the previous menu) and **press** the **menu control (03)** to confirm your choice.  
 05) Now, **turn** the **menu control (03)** to the right to select EXIT and **press** the **menu control (03)** to return to the previous menu.

## 8. Noisegate

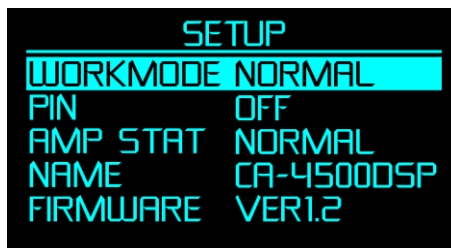
In this menu, it is possible to set the noise gate parameters of the 4 output channels (1–4).



- 01) Turn the **menu control (03)** to select the desired output channel (1–4). Press the **menu control (03)** to confirm your choice.
- 02) Turn the **menu control (03)** to select one of the 2 options:
  - THRES (noise gate threshold for the selected channel): If an audio signal level is lower than the preset threshold, the noise gate will block that audio signal.
  - BYPASS: If set to YES, the noise gate is OFF. If set to NO, the noise gate is ON.
- 03) Press the **menu control (03)** to start editing. Turn the **menu control (03)** to adjust the settings.
- 04) Press the **menu control (03)** to save your settings.
- 05) Repeat steps 2–4 to adjust the remaining settings.
- 06) Turn the **menu control (03)** to select EXIT and press the **menu control (03)** to return to step 1.
- 07) Again, turn the **menu control (03)** to select EXIT and press the **menu control (03)** to return to main menu.

## 9. System

In this menu, it is possible to set the system settings.



- 01) Turn the **menu control (03)** to select one of the 5 options:
  - WORKMODE (NORMAL, CH12 BRI, CH34 BRI, CH12/34 BRI, LINK)
  - PIN (ON, OFF, EDIT)
  - AMP STAT
  - NAME
  - FIRMWARE
- 02) Press the **menu control (03)** to start editing. Turn the **menu control (03)** to adjust the settings.
- 03) Press the **menu control (03)** to save your settings.
- 04) Repeat steps 1–3 to adjust the remaining settings.
- 05) Turn the **menu control (03)** to select EXIT and press the **menu control (03)** to return to main menu.

### 9.1. Workmode

In this menu, it is possible to choose the desired operation mode.

01) The available modes are:

- NORMAL: All 4 outputs function independently.
- CH12 BRI: Outputs 1 and 2 are bridged and outputs 3 and 4 function independently.
- CH34 BRI: Outputs 3 and 4 are bridged and outputs 1 and 2 function independently.
- CH12/34 BRI: Outputs 1 and 2 are bridged. Outputs 3 and 4 are bridged.
- LINK: Outputs 1–4 are linked. For example, if you adjust gain of the output 1, then gain of the outputs 2, 3 and 4 will be adjusted automatically.

### 9.2. Pin

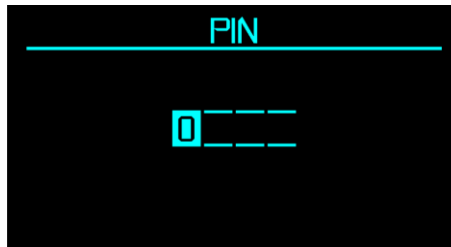
In this menu, it is possible to set the PIN code which will be needed to unlock the device upon start-up.

01) **Turn** the **menu control (03)** to select one of the 3 options:

- ON: The PIN code is needed upon start-up.
- OFF: No PIN code is needed upon start-up.
- EDIT: Edit the PIN code.

02) **Press** the **menu control (03)** to confirm your choice.

03) If you have chosen EDIT, you can start editing the PIN code. The display will show:



04) **Turn** the **menu control (03)** to select the desired character for the first digit. **Press** the **menu control (03)** to confirm your choice.

05) Repeat step 4 in order to select characters for the second, third and fourth digit.

06) Once you have confirmed the fourth digit, the display will return to the previous menu.

### 9.3. Amp Stat

In this menu, it is possible to monitor the current status of the device. In normal conditions, the display should read NORMAL.

### 9.4. Name

In this menu, it is possible to change the name of the device.

01) The display will show:



02) Now you can change the device's name (a maximum of 10 digits). **Turn** the **menu control (03)** to select the desired character for the first digit. **Press** the **menu control (03)** to confirm your choice.

03) Repeat step 2 in order to select characters for the remaining 9 digits. Once you have confirmed the tenth digit, the display will return to the previous menu.

### 9.5. Firmware

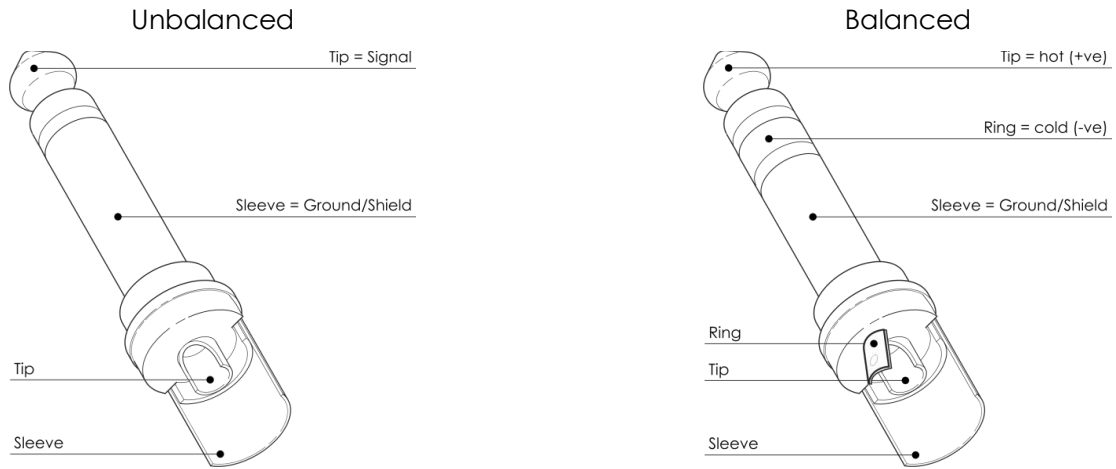
In this menu, it is possible to view the currently installed software's version.

### 10. Exit

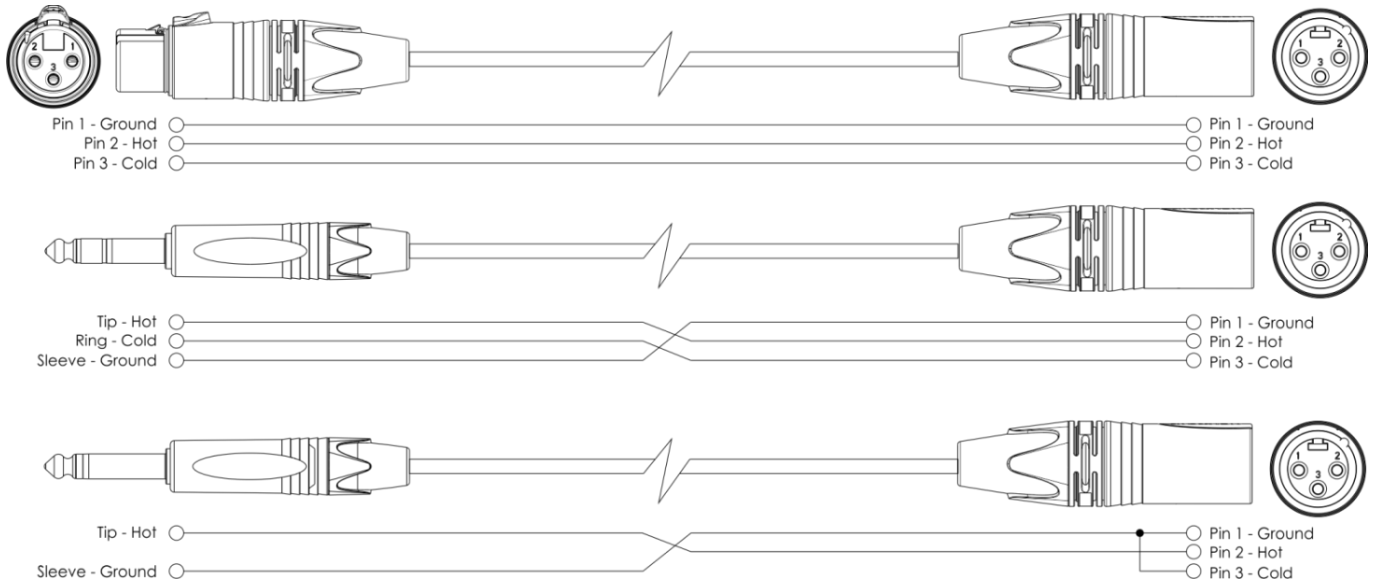
**Press** the **menu control (03)** to return to the gain adjustment menu (see **Gain Adjustment**, page 13).

## Connection Cables

Take care of your cables by always holding them by the connectors and avoiding knots and twists when coiling them: This gives the advantage of increasing their lifespan and reliability. Periodically check your cables. A great number of problems (faulty contacts, ground hum, discharges, etc.) are caused entirely by using unsuitable or faulty cables.



For these applications the unit provides 1/4" TRS and XLR connectors to easily interface with most professional audio devices. Follow the configuration examples below for your particular connection.



## Maintenance

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The CA-4500 DSP requires almost no maintenance. However, you should keep the unit clean. Disconnect the mains power supply, and then wipe the cover with a damp cloth. Do not immerse in liquid. Do not use alcohol or solvents.

Keep connections clean. Disconnect electric power, and then wipe the audio connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

### Replacing the Fuse

Power surges, short-circuit or inappropriate electrical power supply may cause a fuse to burn out. If the fuse burns out, the product will not function whatsoever. If this happens, follow the directions below.

- 01) Unplug the unit from electric power source.
- 02) Insert a screwdriver into the slot in the fuse cover. Gently pry up the fuse cover. The fuse will come out.
- 03) Remove the used fuse. If brown or unclear, it is burned out.
- 04) Insert the replacement fuse into the holder where the old fuse was. Reinsert the fuse cover. Be sure to use a fuse of the same type and specification. See the product specification label for details.

## Troubleshooting

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This troubleshooting guide is meant to help solve simple problems. If a problem occurs, carry out the steps below in sequence until a solution is found. If the unit operates properly, do not carry out following steps.

- 01) If the device does not operate properly, unplug the device.
- 02) Check power from the wall, all cables, connections, etc.
- 03) Replace the fuse. See page 23 for more information.
- 04) If all appears to be O.K., plug the unit in again.
- 05) If nothing happens after 30 seconds, unplug the device.
- 06) Return the device to your DAP Audio dealer.



## Product Specifications

### Outputs

- 2  $\Omega$  Stable: No
- Output per channel 8  $\Omega$  on 1 kHz: 250 W
- Output per channel 4  $\Omega$  on 1 kHz: 500 W
- Bridge output 8  $\Omega$  on 1 kHz: 1000 W
- Output per channel 8  $\Omega$  on 20 Hz > 20 kHz: 250 W
- Output per channel 4  $\Omega$  on 20 Hz > 20 kHz: 500 W
- Bridge output 8  $\Omega$  on 20 Hz > 20 kHz: 1000 W
- Output channels: 4
- Output gain: 34 dB
- Output mode: 4-channel, Bridge, Mono, Stereo
- Output connector: NL4

### Inputs

- Mono Inputs: 4
- Mono Input connector: 3-pin XLR
- Mono Input Impedance: 20000  $\Omega$
- Mono unbalanced input sensitivity: 1 dBv

### Audio

- THD distortion level: < 0.15%
- Signal - Noise ratio: > 96dB
- AD/DA converter sample rate: 96 kHz
- Audio latency: 1,5 ms
- SLEW rate: 25 V/ $\mu$ s
- Amp technology: Class D
- Damping factor: 180 :1
- Crosstalk: 60 dBu
- Frequency response minimum: 20 Hz
- Frequency response maximum: 20000 Hz

### Sound Editing

- Parametric input equalizer: 8 Bands
- Parametric output equalizer: 8 Bands
- Equalizer types input: Bell, High Shelf, Low Shelf, Notch
- Equalizer types output: High Shelf 12, High Shelf 6, Low Shelf 12, Low Shelf 6
- Crossover Filter Types: Bessel, Butterworth, Linkwitz Riley
- Crossover slopes: 6, 12, 18, 24, 30, 36, 42, 48
- Dynamics type: Compressor, Gate, Limiter
- Phase reverse: Yes

### Control and Programming

- Control mode: Manual, PC software
- Display: OLED

Design and product specifications are subject to change without prior notice.



Website: [www.Dap-audio.info](http://www.Dap-audio.info)  
 Email: [service@highlite.com](mailto:service@highlite.com)

### Electrical Specifications and Connections

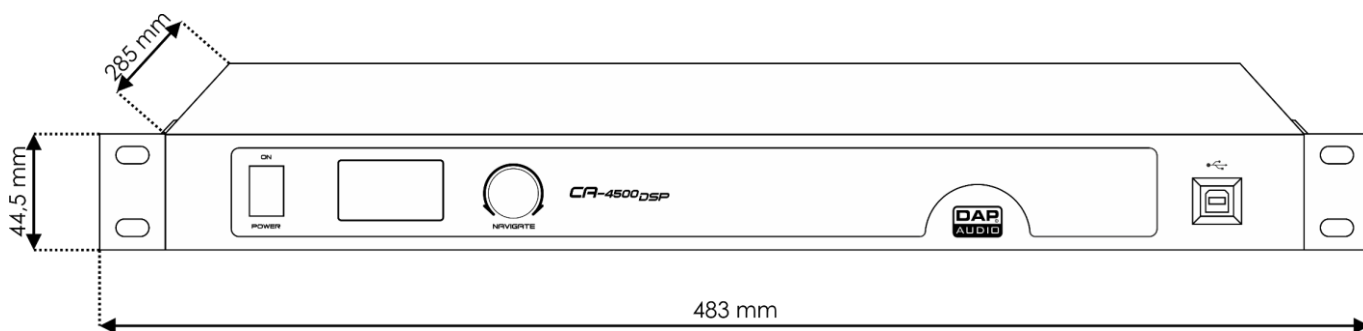
- Power supply: 220–240 V AC, 50Hz
- SMPS: Yes
- Power consumption: 1741 W
- Fuse: 10A/250V
- Power connector IN: IEC C13 female
- Data connector IN: USB B
- Electronic protection: Clip limiter (fixed), DC voltage, Overheat, Overload, Short circuit, Softstart, Thermal

### Mechanical

- Amplifier airflow: Front to back
- Amplifier cooling: Radial Fan
- Installation depth (excl. connector): 285 mm
- Flightcase size: 19"
- Housing: Metal
- Color: Black
- Finish: Powder
- IP rating: IP20
- Dimensions: 483 x 285 x 44,5 mm (LxWxH)
- Rack units: 1 U
- Weight: 5,9 kg

## Dimensions

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