



DCL-2

ORDERCODE D2040



SHOWELECTRONICS FOR PROFESSIONALS

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The DAP Audio DCL-2 brings excitement to any venue. Whether you want simple plug-&-play action or a sophisticated show, this product provides the effect you need.

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Thank you!



DAP Audio

DAP Audio DCL-2 Product Guide

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WARNING



CAUTION!

Keep this system away from rain and moisture!



**FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY
BEFORE YOUR INITIAL START-UP!**

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 you 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.

- 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.
- Do not insert objects into air vents.
- Do not connect this system to a dimmerpack.
- Do not switch the system on and off in short intervals, as this would reduce the system's life.
- Do not open this device. Risk: hazardous radiation exposure.
- Do not run the output of any amplifier channel, back into another channel's input.
- Do not connect (parallel or series) an amplifier output with any other amplifier output.
- Only use system indoor, avoid contact with water or other liquids.
- Avoid flames and do not put close to flammable liquids or gases.
- 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.
- Make sure you don't use the wrong kind of cables or defective cables.
- Make sure that the signals into the mixer are balanced, otherwise hum could be created.
- Make sure you use DI boxes to balance unbalanced signals; All incoming signals should be clear.
- 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 system and the power-cord from time to time.
- Always operate the unit with the AC ground wire connected to the electrical system ground.
- Connecting amplifier outputs to oscilloscopes or other test equipment, while the amplifier is in bridged mode, may damage both the amplifier and test equipment.
- Do not drive the inputs with a signal level bigger, than required to drive the equipment to full output.
- In system setup, the amplifier's output power must be 50%-100% more than the loaded loudspeakers rated power.
- Please turn off the power switch, when changing the power cord or signal cable, or select the input mode switch.
- In typical use, Please set the volume to 0dB position.
- Sometimes, when you want to send one signal to more than one amplifier, you should use a signal distributor.
- Extreme frequency boosts in connection with a high input signal level may lead to overdriving your equipment. Should this occur, it is necessary to reduce the input signal level by using the INPUT control.
- To emphasize a frequency range, you don't necessarily have to move its respective sliding control upward; try lowering surrounding frequency ranges instead. This way, you avoid causing the next piece of equipment in your sound path to overdrive. You also preserve valuable dynamic reserve ("headroom")
- For replacement use fuses of same type and rating only.
- Prevent distortion! Make sure that all components connected to the DCL-2 have sufficient power ratings. Otherwise distortion will be generated because the components are operated at their limits.
- 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!
- If system 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.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- WARRANTY: Till one year after date of purchase.

OPERATING DETERMINATIONS

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 !

Description of the device

Features

The DCL-2 is a professional device:

- 24-bit S-D (Sigma Delta) A/D, D/A Converter, 48 kHz Sampling rate
- Stereo Compressor/Limiter with subwoofer output
- 3 kinds of output mode:
 1. Two inputs, two outputs
 2. Two inputs, two outputs + sub
 3. Two inputs, three outputs
- Notch and low-cut filter to prevent harmonic distortions
- 20 programs: 3 factory preset, 17 user definable programs
- Connection via balanced XLR-sockets or jacks
- Total real-time MIDI control
- 16 x 2 backlight LCD Display

Overview



Fig. 1

- 1) CH Sel / Reset-Button
- 2) Low Cut / Notch-Button
- 3) Lock / MIDI-Button
- 4) Ratio Control
- 5) Threshold Control
- 6) time / Push Control
- 7) LCD Display
- 8) Jog-wheel: For adjusting the parameters. Turning the jog-wheel to the right increases the parameter value, turning to the left decreases the value.
- 9) X-Over / Delay-Button
- 10) Save-Button
- 11) Power Switch-Button
- 12) Program / Volume / ◀ - Button
- 13) Bypass / ▶ - Button
Bypass allows you to instantly compare the original sound (Display shows **BYPASS**) with the equalized sound



Fig. 2

DCL-2 DESCRIPTION REAR PANEL:

- 14) IEC Connector + Fuse
- 15) AC Voltage Selector 115V/230V
- 16) Midi In
- 17) Subwoofer Output TRS
- 18) Subwoofer Output XLR
- 19) XLR Output 2
- 20) TRS Output 2
- 21) Input Level -20dB / + 4dB
- 22) TRS Input 2
- 23) XLR Input 2
- 24) TRS Output 1
- 25) XLR Output 1
- 26) Input Level -20dB / + 4dB
- 27) TRS Input 1
- 28) XLR Input 1

Installation

Remove all packing materials from the DCL-2. Check that all foam and plastic padding is removed. Screw the equipment into a 19" rack. Connect all cables.

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

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

Set Up 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 120V specification product on 240V 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.

1. Directly

Selected encoders, for example, RATIO, THRESHOLD and TIME encoders, are adopted for convenient operation.

Turn encoder 1 to adjust the compression ratio, and → indicates the change of the value.

The adjustment range: 1.00 – Limit

01 Stereo Comp
Lch Ratio → 1.00

Turn encoder 2 to adjust the compression threshold.

The adjustment range: -61 dB – 0 dB, step: 1 dB

01 Stereo Comp
Lch Thres → -61dB

Turn encoder 3 first adjust attack time.

The adjustment range: 0 – 350 dB/sec

01 Stereo Comp
Lch A → 350dB/sec

And press encoder 3 and turn it to adjust hold time.

The adjustment range: 0 – 100 ms

01 Stereo Comp
Lch H time → 10ms

Press encoder 3 again and turn it to adjust decay time.

The adjustment range: 0 – 350 dB/sec

01 Stereo Comp
Lch D → 350dB/sec

Note: Under the mode of MONO Comp = Sub or Two Brand Comp, the channel indicates L&R and Sub. In this case, three parameters, compression ratio, threshold and time, are adjusted simultaneously for the left and right channels.

2. CH-SEL

Press it shortly to select the channel to be adjusted, and the corresponding information is showed on the left bottom of the LCD. In Stereo Mode, LCH and RCH can be selected.

In Mono Mode, Comp+Sub or Two Brand Comp, 3 channels LCH, RCH and Sub can be selected. Press Reset button longer and then the system is reset to factory default setting.

01 Stereo Comp
SYSTEM RESET

3. Low Cut / Notch

Press it to enter the sub-menu of Low Cut and Notch.

In this case, turn encoder 4 to select one of the following six sub-menus:

- Low Cut Switch
- Low Cut FLT
- Notch Switch
- LQ Notch FLT
- MQ Nothc FLT
- HQ Notch FLT

Press the button again and then turn encoder 4 to adjust the value of the corresponding sub-menu

The adjustment range of Low Cut: 20 Hz – 200 Hz, step 10 Hz

The adjustment range of Notch: 40 Hz – 110 Hz, step 5 Hz

01 Stereo Comp
Lch → Low cut FLT

01 Stereo Comp
Lch Low cut → 20Hz

4. Lock

First press it about 3 seconds to lock all the function buttons and the information Lock is shown in the LCD. Press it again, then all the buttons resume to its original

01 Stereo Comp
LOCK

5. PROG / VOLUME

Press it and turn encoder 4 to select one of 20 different programs, among which No 1, 2 and 3 programs are preset by factory and cannot be changed.

Press it again and then turn encoder 4 to adjust the volume of the corresponding.

The adjustment range of the volume: Mute - +6 dB

01 Stereo Comp
Lch Volume → -30dB

In Mono Comp+ sub or Two band Comp Mode, press PROG / VOL for about 2 seconds to select the level ratio of the input subwoofer from left and right channels.

The adjustment range of Sub / Left: OFF – 100%, step 10%

The adjustment range of Sub / RCH: OFF – 100%, step 10 %

02 Mono Comp+Sub
L&R Sub/Left → 100%

6. Bypass

First press it to disable the compression. Press it again to resume the function.

01 Stereo Comp
BYPASS

7. Crossover / Delay

Press the button and turn encoder 4 to select the sub-menu of Crossover and Delay

01 Stereo Comp
Lch → Millisecond

In Stereo Mode, only the sub-menus under Delay can be operated, including → Millisecond → Del meters → Del feet.

In Mono + Sub or Two Brand Mode, the following 2 sub-menus → High Pass (HPF) and Low Pass (LPF), are available to select.

In Two Brand Comp mode another Sub-menu → Phase is added.

Press it again and then turn encoder 4 to edit the value of the corresponding sub-menu.

The adjustment range of High Pass : 20 Hz – 250 Hz, step 5 Hz

The adjustment range of Low Pass : 20 Hz – 250 Hz, step 5 Hz

The adjustment range of Delay : 0 ms – 3.5 ms, step 0.05 ms

0 mm – 1201 mm, step 17mm

0 ft – 3.945 ft, step 0.057 ft

The adjustment range of Phase: 0 – 180°

Note: In the case of mono and crossover compression, the crossover frequency of the High pass and the Low pass is adjusted simultaneously in order to ensure the frequency response.

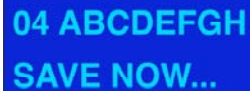
8. Save

First press it to enter the editable stage. As the first 3 programs have been preset at the factory and can not be edited again, the editable programs for the user can only start from no. 04. The maximum sequence number; 20



04
Lch Ratio: 1.00

Press the ► or ◀ - button to move the cursor to the correct position and then turn the encoder 4 to select the correct editable symbol. Press it again and the information SAVE NOW disappears after 3 seconds, which indicates that the function is finished.



04 ABCDEFGH
SAVE NOW...

MIDI

Able to receive REAL TIME transmission data through MIDI connection.

MIDI IN

Any MIDI data sent to the DCL-2 (sequencer, MIDI footswitch, etc.) is received via the MIDI IN jack. For example, if you wish to use the DCL-2 as an effect device for a guitar rack, you can connect the MIDI In jack to a MIDI footswitch, which allows for selecting program presets. Another possibility, if your footswitch allows it, is to control a parameter eg. Volume L. with an expression pedal. Per expression pedal you can only control 1 parameter.

MIDI Implementation Chart

MIDI IMPLEMENTATION CHART DCL-2				
Function		Transmitted	Recognized	Remarks
Basic channel	Default	X		Fixed to parameter See CC list below for details
	Changed		1-16	
Mode	Default			
	Messages Altered	X	X	
Note number		X	X	
	True voice	X	X	
Velocity	Note ON	X	X	
	Note OFF	X	X	
After touch	Key's	X	X	
	Channel	X	X	
Pitch bend		X	X	
Control change		X	O	See CC list below for details all controllers are single byte type scaled to parameter range
Prog Change		X	X	
SysEx		X	X	
Common	Song pos	X	X	
	Song Sel	X	X	
	Tune	X	X	
System real time	Clock	X	X	
	Commands	X	X	
Aux Messages	Local ON/OFF	X	X	
	All Notes OFF	X	X	
	Active Sense	X	X	
	Reset	X	X	
O: YES Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO X: NO Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO				

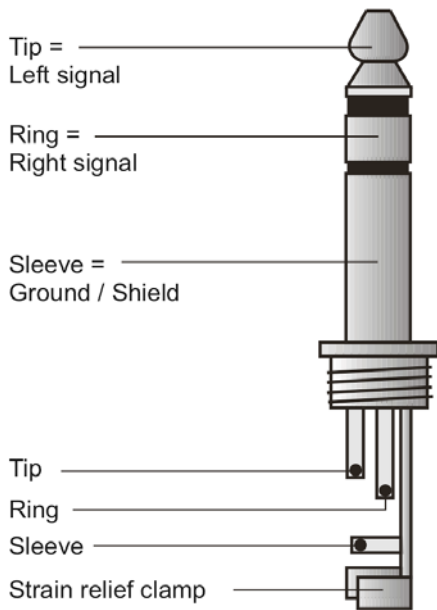
Parameter	CC-number	Channel
Volume L	2	1
Volume R	4	1
Delay time I	2	3
Delay Time R	4	3
Comp. Threshold L	2	9
Comp. Threshold R	4	9
Comp. Ratio L	2	8
Comp. Ratio R	4	8
Comp. Attack L	2	10
Comp. Attack R	4	10
Comp. Hold L	2	11
Comp. Hold R	4	11
Comp. Decay L	2	12
Comp. Decay R	4	12
Sub Out Delay	6	3
Sub Out Volume	6	1
Crossover Frequency	4	5

Connection Cables

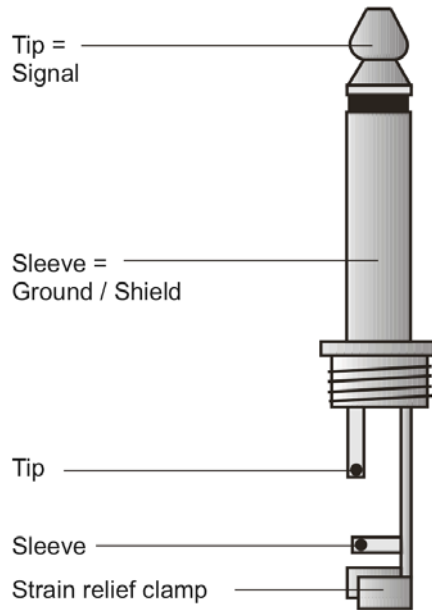
Take care of the connector cables, always holding them by the connectors and avoiding knots and twists when coiling them: This gives the advantage of increasing their life and reliability, which is always to your advantage.

Periodically check that your cables are in good condition, that they are correctly wired and that all their contacts are perfectly efficient: a great number of problems (faulty contacts, ground hum, discharges, etc.) are caused entirely by using unsuitable or faulty cables.

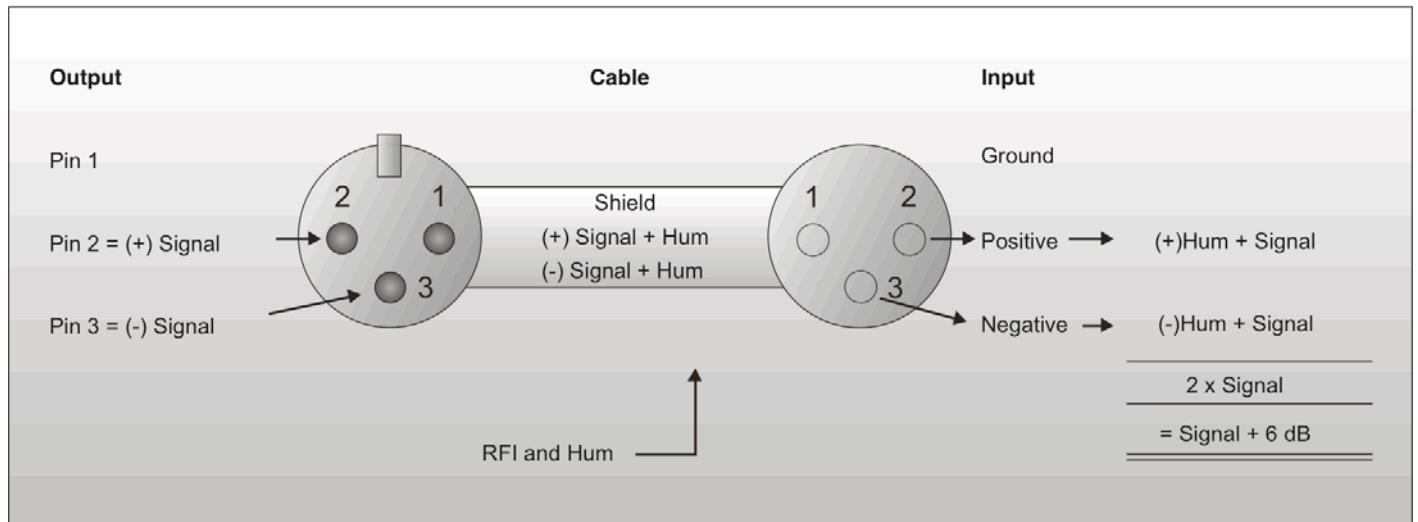
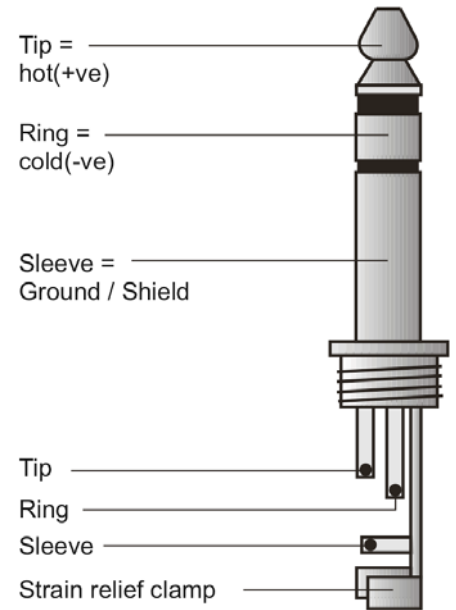
Headphones



Unbalanced mono 1/4" jack plug

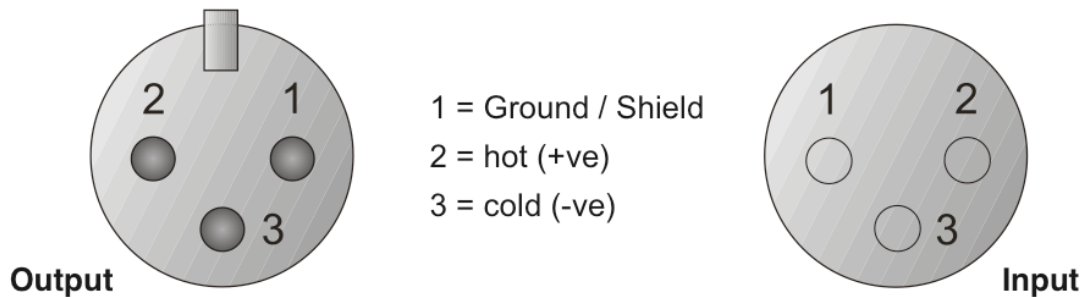


Balanced mono 1/4" jack plug



Compensation of interference with balanced connections

Balanced use with XLR connectors



For unbalanced use PIN 1 and PIN 3 have to be bridged

Maintenance

The DCL-2 equalizer 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. 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 a 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 to do so.

1. Unplug the unit from electric power source.
2. Insert a flat-head screwdriver into a slot in the fuse cover. Gently pry up the fuse cover.
3. Remove the used fuse. If brown or unclear, it is burned out.
4. 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

Dap Audio DCL-2

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. Once the unit operates properly, do not carry out following steps.

1. If the device does not operate properly, unplug the device.
2. Check the power from the wall, all cables etc.
3. If all of the above appears to be O.K., plug the unit in again.
4. If you are unable to determine the cause of the problem, do not open the equalizer, as this may damage the unit and the warranty will become void.
5. Return the equalizer to your Dap Audio dealer.

Product Specifications

Model: DAP Audio DCL-2
Power supply: 230 VAC, 50 Hz
Power consumption: 10 W

Analog Inputs

Connectors: XLR or balanced 1/4" jack
Type: RF filtered, servo balanced, 20 KOhm unbalanced
Impedance: 40 KOhm balanced, 20 KOhm unbalanced_Nominal Operating Level: -20dB to +4dB
Input impedance: 40K Ω balanced, 20K Ω unbalanced
Nominal Operating Level: -20 dB to +4 dB
Max. input level: +16 dB at +4 dB nominal level, +2 dB at -20 dB nominal level

Analog Outputs

Connectors: XLR or balanced 1/4" jack
Type: Electronically servo-balanced output stage
Output impedance: 66 Ω balanced, 33 Ω unbalanced
Max. output level: +16 dB at +4 dB nominal level, +2 dB at -20 dB nominal level

System Specifications

Frequency Response: 20Hz to 20KHz, \pm 1dB
Dynamic Range: >112dB, 20Hz to 20Khz
S/N: >115 dB
THD: <0.065%, @1KHz, 0dB

Compression

Threshold: -61dB to 0dB, 1dB step
Ratio: 1.0 to Limit
Detect Time: 0 - 350dB/Sec
Attack Time: 0 - 100ms
Decay Time: 0 - 350dB/Sec

MIDI Interface

Type: 5-Pin-DIN-Socket

Digital Processing

Converters: 24-bit Sigma-Delta, 64/128-times over-sampling
Sampling Rate: 48KHz

Display: 2x16LCD Display
Dimensions: 482 x 152 x 45 mm (LxWxH)
Weight: 3 kg

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





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