



Da Capo⁷⁵



cook book

udo roesner amps

... just pure and real

Da Capo₇₅

manual

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udo roesner amps

Spirit



character meets

Technology



Welcome to my amps
and thank you for choosing **udo roesner amps**.

The *DaCapo 75* is a two channel combo amplifier made for music lovers, privates or professionals, that value tone and want their instruments sound as they really do.

In all my work in the field of acoustics and musical instruments over the last decades I have been striving to bridge the gap between what we wish for as „natural sound“ and the often modest sounding reality. Technology just plays a limited role - the room, the instrument, the own attitude, the individual idea of sound and even the joy of playing music, everything becomes part of the recipe to feel good and enchant with <euphony>.

With the Da Capo75 you have acquired a wonderful tool, that will help you to perform magic. What and how you play into it will be played back completely relaxed, with ease and unaltered. The handling is simple, it is clearly structured and it just does what it is supposed to do.

Nevertheless, please take a moment to read the following operating instructions. We have taken an effort to explain the few things you should know in simple terms so that you, just as relaxed in dealing with „technology“, can concentrate on what is most important: making music, best in company with others.

If you have questions, suggestions or simply wish to get in touch with us ... with pleasure, please do not hesitate to contact us - at <team@marco-labs.com> - we can do what we do.

Yours musically

udo roesner, 2020



2. Safety Instructions - dos and don'ts



The lightning flash with the arrow head symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated „dangerous voltage“ within this product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying this product.

The following guidelines shall help minimize the risk of injury by fire or electric shock.

1. Read and understand these safety notes before using the device and keep them in a safe place.
2. All warnings, instructions and additional texts on the device are equally important.
3. The device may cause permanent hearing loss. Do not operate it at a high volume levels or at levels that are uncomfortable for long periods of time.
4. The device is designed for use in moderate climate and shall be operated free-standing.
5. The device should be installed in a safe place and secured against falling over.
6. The device should be installed near the socket outlet thus disconnection the device from mains should be easily accessible.
7. The device should be located away from heat sources such as radiators, heat registers or other products that produce heat.
8. The device should not be installed or used close to water or if you are wet yourself.
9. The device should not be installed or used close to strong electromagnetic fields such as large mains transformers, revolving machines, neon illumination etc.
10. Pay attention to an unhindered air circulation around the amp. Never obstruct air vents or grilles.
11. Do not expose the device to sudden changes in temperature to avoid malfunction or damage due to moisture condensation inside. Secure the device to dry out completely before use again.
12. In keeping with the EMV regulations cables with shielding and correctly fitted connectors must be used for all signal connections.



The sound waves associated with an auricle in an equilateral triangle are intended to warn the user that the device can reproduce high sound pressure levels that may result in impaired hearing.

13. Always use an earthed power supply with the correct mains voltage. If you are in doubt about the power outlet ground, have it checked by a qualified technician.
14. Do not lay signal cables parallel to power cables.
15. Protect the power cord from being walked on or pinched in particular at plugs etc.
16. Cable up the device only when it is powered off.
17. There are no user-serviceable components inside the unit. To avoid the risk of electric shock the unit must not be opened. All maintenance, adjustment and repair works shall be carried out by qualified staff only. Any unauthorized tampering will void the 2-year warranty.
18. Only use the correct fuses with the same current rating and trigger characteristics as replacements. Never mend fuses! Pull the mains plug before replacing a fuse. Should a fuse blow again after a short while the device needs to be checked by qualified staff.



Heat radiation waves rising above a surface in an equilateral triangle are intended to warn the user that the surface of the device may become hot during use.

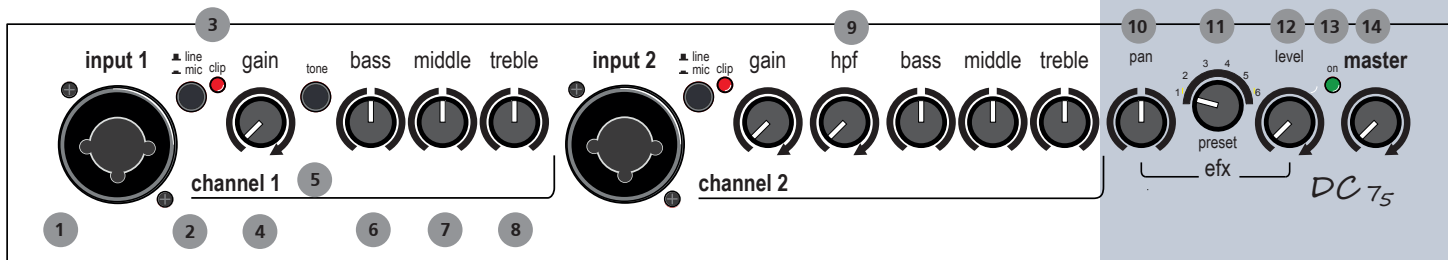
19. Always pull the mains plug before cleaning the unit or when left unused for a long period of time. Use only dry cloth for cleaning. Avoid the use of detergents and do not let any liquids seep into the unit.
20. Do not place any open sources of fire, like candles, on the device.
21. Care should be taken so that objects do not fall onto the device and liquids are not spilled into the enclosure through openings. Ensure that no objects filled with liquids, such as vases are placed on the device.

With prudence, common sense and the courage to ask questions you should build up and enjoy a long and intensive friendship with your amp.

We will do our best to assist you. Do not hesitate to contact us: team@marco-labs.com

3. Controls and Connections - Designation

3.1 Top Side



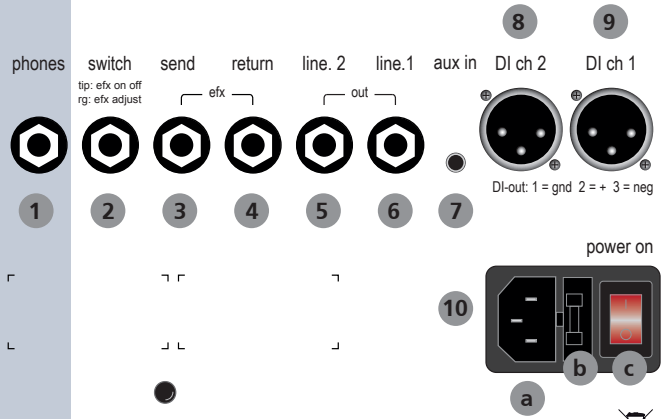
- 1 **input:** signal input -> TRS 6,3 mm jack plug or XLR-connector (combi-socket)
- 2 **line/mic:** signal source selector switch
 - **line** (jack plug only) for instruments (pickups) and other line level sources
 - **mic** (XLR-connector only) for microphones
- 3 **clip:** overload indicator, +6 dBV headroom
- 4 **gain:** input level control, range 40 dBV
- 5 **tone:** sound filter preset, ■ not active, ■ active
- 6 **bass:** low frequency tone control, 8 dB at 100 Hz
- 7 **middle:** mid frequency tone control, 6 dB at 800 Hz
- 8 **treble:** high frequency tone control, 8 dB at 10kHz

- 9 **hpf:** high pass filter adjustment, 40 Hz to 350 Hz
- 10 **pan:** effect pan control, signal distribution between ch1 and ch2
- 11 **preset:** effect preset select switch
 - 1. reverb short 2. reverb long 3. chorus
 - 4. custom delay 5. my delay* 6. tap n' delay
- 12 **level:** effect preset level control
- 13 **on:** on/off status indicator
- 14 **master:** master level control

* see page 10

3.2 Back Side

Da Capo₇₅



udo roesner amps

designed in germany and france by udo roesner and MARco-labs

ATTENTION CAUTION **RISK OF ELECTRICAL SHOCK DO NOT OPEN**
RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

- 1 **phones:** headphone signal output, stereo
- 2 **switch:** footswitch connecting socket, TRS 6.3mm jack-socket
- 3 **efx send:** signal output to external effect
- 4 **efx return:** signal input from external effect
- 5 **line 2:** line signal output, high level e.g. mixing console
- 6 **line 1:** line signal output, -10 dB e.g. soundcard
- 7 **aux in:** auxiliary input, stereo, TRS 3.5mm jack socket
- 8 **DI ch 2:** XLR direct out channel 2, balanced
- 9 **DI ch 1:** XLR direct out channel 1, balanced
- 10 **mains power connector module:**
 - a **IEC connector:** cold appliance socket
 - b **mains fuse:** 1 AT, slow blow (EU)
2 AT, slow blow (US)
 - c **power on:** mains power on switch, illuminated in „on“ mode

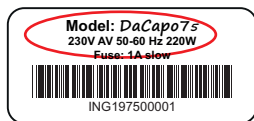
crossed garbage can:
 The labelled product must not be disposed of with household waste; a bar below the waste bin or a date indicates whether or when the product was „placed on the market“ after 13 August 2005.



4. Operation - How to get started

4.1 Above All - Check your local mains!

Before connecting to mains, please ensure that your local mains voltage is suitable to properly operate the device (e.g. 230V for the EU, 120V for the US). The relevant specs and safety symbols are printed on the back-side of the unit. If you have any doubt, do not connect the device to mains and consult a local specialist to verify and assist you.



4.1a Cable up properly - cable clutter

We strongly recommend to solely use proper cable from reputable cable manufacturers and equivalent connectors. Not only the sound will clearly benefit but trouble shooting will become easier - any mechanical connection is a potential source of error.

You may need:

- > mono (TS = tip, sleeve), 6.3mm (1/4 inch) jack to jack cables for your instrument and all line level connections (line out, effect).
 - > stereo (TRS = tip, ring, sleeve), 6.3mm (1/4 inch) jack to jack cable for footswitch and headphone.
 - > stereo (TRS = tip, ring, sleeve), 3.5mm (1/8 inch) jack to jack/RCA cable to connect your playback device to aux in.
 - > XLR, 3 pin (1 = ground, 2 = plus, 3 = minus), male - female cable for microphone.
- Connect all cables according to your application before considering to switch the device on.

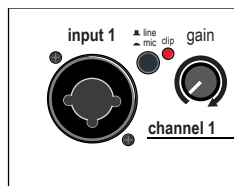
Make sure all gains, levels and the master control are in zero- (left stop) and the tone controls in center-position. You may now switch the device on. The power switch on the backside is illuminating in red. The green power control LED on the top will indicate readiness for operation.

4.2 Gain Structure - Level Adjustment

Note:

A little care should be taken to set the signal level ratios consciously and correctly. The DaCapo is not simply a box with a speaker, it is a pretty complex arrangement of signal processing stages that all interact and need to be in peace with each other for best performance - the goal surely is: open, real and most of all undistorted sound reproduction.

Setting levels correctly means putting signal levels neither too high nor too low - just at best for the circuit stage within the signal path thus all circuits are ideally addressed and none is overloaded or distorted. We have carefully designed the circuits to make this possible but sound sources differ (e.g. pickups, they are matter of individual preference) and gains, EQs and levels allow manual intervention.



In practice: First ensure, that master level control is zeroed (left-stop). Thus when setting the sound level (gain), the signal can not reach the loudspeaker to generate unexpected noise. Make your choice of preamp stage making use of line-/mic-switches according

to your application (microphone, pickup, lines source) and turn the gain control clockwise until the clip indicator flashes momentarily while playing with a strong attack. Go for a little overload, indicated by the red clip-LED, to verify that your signal source can saturate the preamps. Temporary clipping in operation is of no danger to the device however not recommended. Clipping is detected and indicated at several points in the signal path as e.g. the active tone control has an effect on the gain structure.

Note:

There are sources that might not be able to saturate the input stages of the device. That is a characteristic of the sources and may result in signal-to-noise ratio limitation or lower power output.

Thereafter reduce the gain slightly to operate the device with win of additional dynamic headroom and best signal to noise ratio. Finally set the desired overall volume level with the master level control. You should be almost perfect with gain and master in a 9:00 o'clock position.

Note:

With a closer look you will find that there is a difference in sound when playing around with gain and master in the range of best operation. More gain makes the tone more direct, punchy while less gain softens the tone a bit.

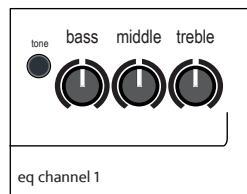
5. Functions and Features

5.1 tone control - tone switch - hpf filter

The *DaCapo 75* is equipped with active, high quality three-

band tone controls in each channel. Bass and treble are laid out as shelving filters. The design reflects the ranges of instrument and voice whilst offering practical, easy to use access to accentuation of your tone.

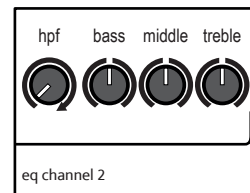
With the controls in mid position, i.e. no function, you will already enjoy a very pleasant, warm and realistic sound. The filters are set with care and allow intuitive, musical operation with left-turn diminishing and right-turn augmenting the frequency ranges around the filters center frequency. Check technical data below for more detail. However „Wohlklang“ is basically a question of the overall concept rather than the task of a single assembly.

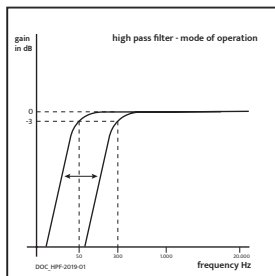


Channel 1 offers an additional **tone switch** that brightens up the sound taking out mids and emphasizing the higher ranges. Some instruments, especially in the lower registers benefit from less focus on mids and a more open, lighter tone. Some playing styles benefit from this setting too. In conjunction with the

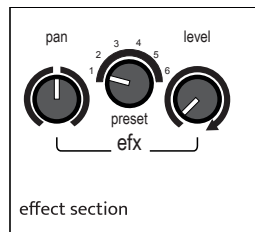
EQ the tone filter allows more detailed midrange accentuation.

Channel 2 is equipped with a **high-pass-filter (hpf)** also called bass-cut filter. It allows signals with frequencies higher than a threshold to pass and attenuates the others. The hpf-control adjusts the threshold between 50 and 350 Hz.





It is an essential tool to handle e.g. the proximity effect in microphone operation. The proximity effect denominates the phenomenon that a microphone emphasizes low frequencies the closer it gets to the sound source (voice, instrument).



5.2 Effects - efx

The *DaCapo 75* has 6 digital effect presets built in that are accessible by rotary-switch. You can choose between:

- | | |
|----------------------|---|
| 1 = reverb 1 (long) | 4 = custom delay/reverb |
| 2 = reverb 2 (short) | 5 = my delay (udo roesner's delay preset) |
| 3 = chorus | 6 = tap n' delay |

Efx-pan control sets the amount of signal level from channel 1 and 2 directed to a) the internal effect input (quasi internal send) and b) the send of the efx-loop (backside, left stop = no signal) while efx-level distributes the effect signal to channel 1 or 2 with center position being distributed even (quasi an internal return).

- | | |
|------------------|---|
| left stop: | signal channel 1 to effect only |
| center position: | signal channel 1 and 2 to effect evenly |
| right stop: | signal channel 2 to effect only |

Efx level has no influence on the return of the effects loop.

Furthermore an additional effect device may be connected to the *DaCapo 75* via efx send-return effects loop on the backside (send to input, return to output of the additional device). The intensity of the external effect has to be adjusted at the external effects unit.

5.3 Footswitch

Any standard, latching double-footswitch (2 x on/off) can be connected to the switch-socket at the backside of the amplifier by stereo (TRS) connector. Switch one (connected to tip) will switch the internal effect on/off while switch two (connected to ring) will control the delay-time of „tap n' delay“ (factory setting) in the way that the time difference between two foot-taps defines the delay time in a time window between 0 and 1000 milliseconds. This factory setting can be altered by changing jumper position 11 (JP 11). Thereafter switch two will on/off the external effect.

- | | |
|---------------------|-----------------------------|
| factory setting is: | switch 1: effect on/off |
| | switch 2: tap n' delay mode |
| jumper setting: | switch 1: effect on/off |
| | switch 2: ex. effect on/off |

5.4 Phantom power

Condenser microphones requiring 48V phantom power can be connected to the XLR-sockets of both channels as phantom power is provided by factory setting. It can be deactivated by internal jumper if required. In case you use the microphone preamp with a stereo jackplug (TRS) there is no phantom power provided.

5.5 phones

This output allows a stereo headphone to be connected. When connected the speaker is muted and master control sets the overall volume.

(!) Note: Please use headphones with stereo jack plugs (TRS) for operation only.



5.6 send - return, external effect loop

The device is equipped with an additional output (send) and input (return) that operate as a loop allowing e.g. an external effect-unit to be connected and used. Send and return are mono and the loop is parallel to the signal path to keep the original signal unaffected. The pan control will work on both effects, internal and external, at the same time in the same way.

5.7 line out - line 1, line 2

The device offers two line outs that differ in output level. Line 2 delivers a standard line level suitable for being connected to e.g. mixing consoles. Line 1 has less output and allows e.g. a soundcard to be connected directly with less risk of distorting the digital input of the soundcard.

5.8 aux in

Aux-in is an additional 3,5mm TRS stereo input to connect your playback device to. Left and right channel of your playback device are mixed and directly forwarded to the power amp.

5.9 DI ch 1, DI ch 2

The device offers two equally leveled electronically balanced DI-outs to make the individual channel preamp signals available. This enables better and more interference-free signal processing of the individual channels. Due to intended strict channel separation the DI outs have to be dry, without effect.

5.10 mains voltage input module

The mains-supply relevant parts are combined in the mains voltage input module:

- IEC mains power cable connector,
- fuse holder with spare fuse and
- illuminated mains switch.

... and now have fun playing music and enjoy the sound of the

DaCapo 75.

6. Technical Data

INPUTS:

=> channel 1 and 2

switchable instrument or microphone input as combi-socket, XLR + jack ¼" (6.35 mm) and clip indicators, min. dynamic headroom: 8 dB

-> line mode

high impedance jack input for instruments (pick-ups directly), unbalanced and line-level sources

impedance: 2.2 Meg

sensitivity: 22 mV (-33 dBV) (high/low attenuator: -10 dB via jumper)

equivalent input noise: A-weighted: 1 uV (-120 dBV)

-> mic mode

XLR-, balanced and stereo jack socket, unbalanced

impedance: XLR, balanced: 1.2 kOhm

impedance: jack, unbalanced: 2.7 kOhm

sensitivity: 3.3 mV (-50 dBV)

voice filter: -10 dB at 270 Hz (referred to 10 kHz)

equivalent input noise: A-weighted: 0.8 uV (-122 dBV)

phantom power: (XLR only): 48 V, max. 10 mA, short-circuit protected

=> return: unbalanced jack input, ¼" (6.35 mm), pre-master

sensitivity: 320 mV (-10 dBV)

impedance: 19.7 kOhm (note: impedance changes to 4.7 kOhm when external effect is switched OFF)

=> aux in: TRS stereo input, 3.5mm

OUTPUTS:

=> **phones:** headphones, jack socket, stereo, L/R connected,
¼" (6.35 mm)

input Impedance: 470 Ohm (common for L and R)

(!) Please note:

Use TRS (Stereo Jacks) only. Does not work with mono jacks!
When plugged in, internal speaker is muted!

=> **send:** jack socket, unbalanced, ¼" (6.35 mm), pre master,
output voltage: 1.4 V (+3 dBV)

=> **line out 1 and 2:** jack socket, unbalanced, preamp out, ¼" (6.35 mm),
post effect, post EQ and master

output voltage 2: 1.74 V (+3 dBV)

output voltage 1: 0.33 V (-4.6 dBV)

=> **DI-out 1 and 2:** balanced XLR socket, pre/post EQ (sitchable by jumper)
post effect and master

1 = ground 2 = positive 3 = negative

differential output voltage: 140 mV (-17 dBV)

FOOTSWITCH

=> **footswitch:** TRS jack socket ¼" (6.35 mm) to connect latching dual foot
switch.

tip = built-in effect on/off, **ring** = parameter adjust or additional effect on/off,
sleeve = common (ground)

(!) Please note:

Effect is OFF when the footswitch is ON.

EQ - Tone Controls

=> channel 1:

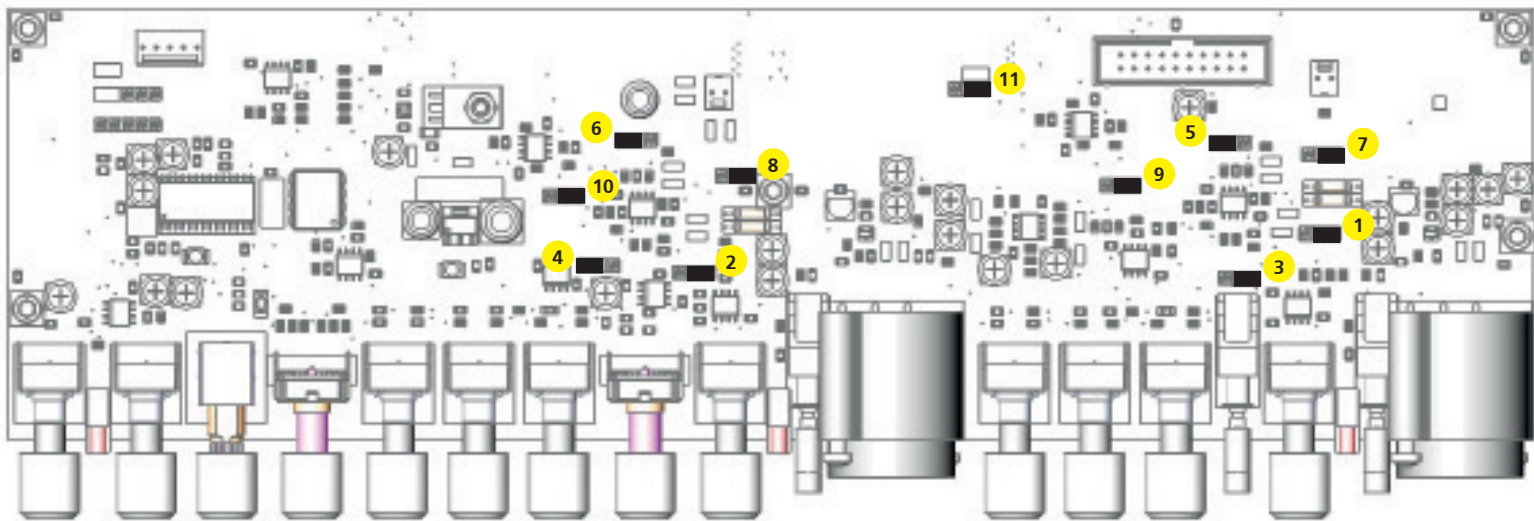
tone: -3 dB at 700 Hz, +7 dB at 8 kHz

bass: 8 dB at 100 Hz (shelf type)

middle: 6 dB at 800 Hz

treble: 8 dB at 10 kHz (shelf type)

7. Jumper positions



JUMPER SETTINGS:

=> attenuation:

JP 1: line ch1 -> high (+9.5dB) low (0dB).

JP 2: line ch2-> high (+9.5dB) low (0dB).

JP 3: mic ch2 -> high (+12.5dB) low (0dB).

JP 4: mic ch2 -> high (+12.5dB) low (0dB).

=> voice filter:

JP5: mic ch1 on/off.

JP6: mic ch2 on/off.

=> phantom power

JP7: phantom power ch1 on/off.

JP8: phantom power ch2 on/off.

default: high

default: high

default: high

default: high

default: on

default: on

default: on

default: on

=> direct out

JP9: DI ch 1 pre or post EQ.

JP10: DI ch2 pre or post EQ.

default: pre

default: pre

Footswitch

JP11: ring -> internal effect parameter or

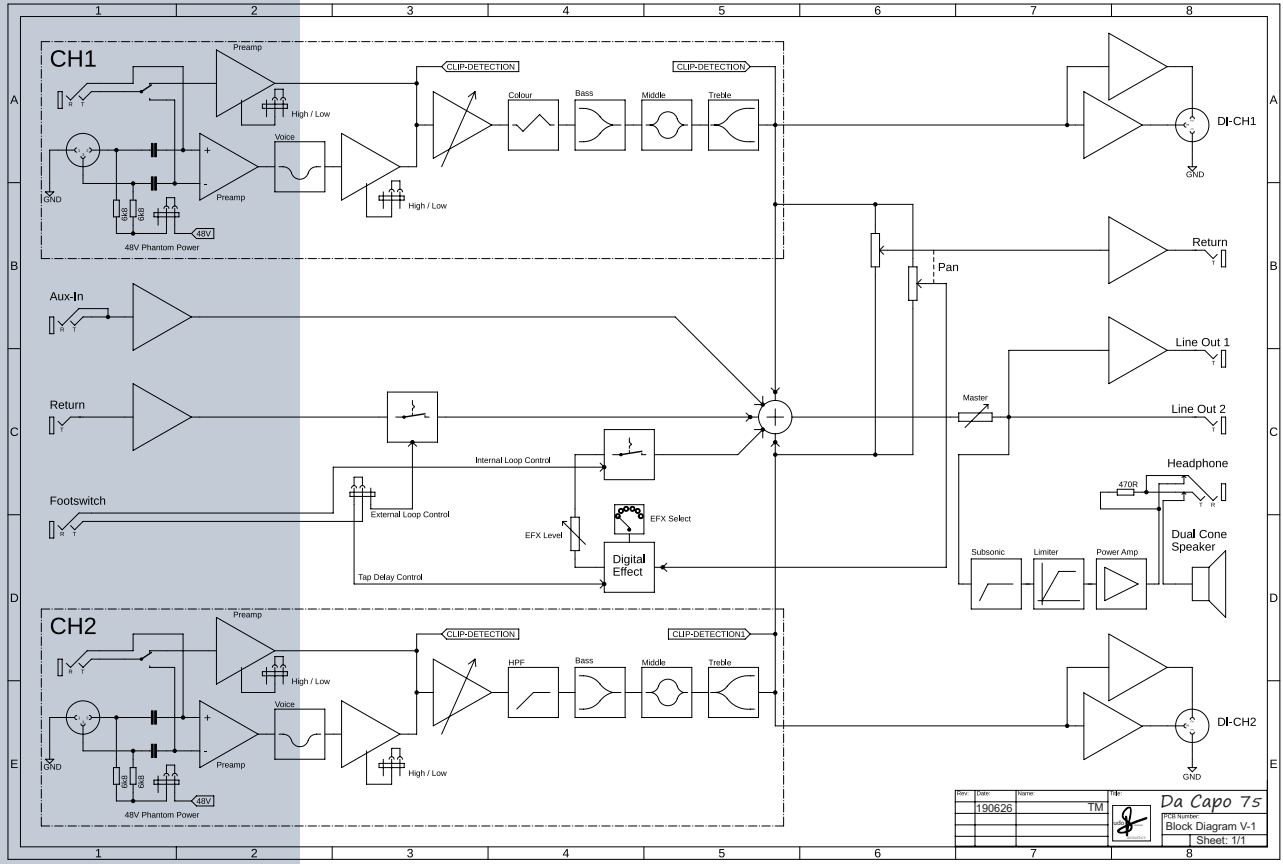
-> external effect loop on/off.

(!) default: internal effect parameter.



jumper settings may only be carried out by qualified service personnel and when the unit is disconnected from mains power supply. It has to be opened!

8. Block diagram



| | | | |
|--|--------|------|----|
| Doc No: | 190626 | Rev: | TM |
| Date: | | By: | |
|  Da Capo 75 PRESENTATION Block Diagram V-1 Sheet: 1/1 | | | |



udo roesner amps are designed and developed in Germany and France by udo roesner and MARco-labs. Produced in Indonesia with pleasure and great care.

MARco-labs s.a.s.

udo roesner amps

www.udo-amps.com

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