

# CLIOQC

AMPLIFIER & SWITCH BOX

MODEL 2 & 3



## USER'S MANUAL

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## THE CLIOQC AMPLIFIER/SWITCH BOX

The CLIOQC amplifier/switch box is a hardware unit external to CLIO of invaluable help when configuring an automatic or manual quality control setup.

Its main internal functions and technical specifications are:

- Switching between frequency response and impedance connections.

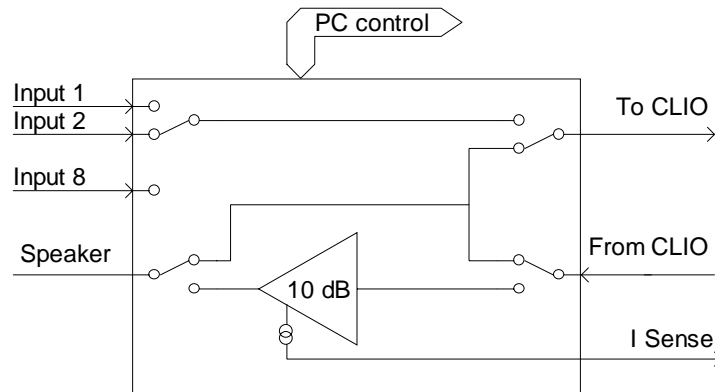
- 10 Watts power amplifier with output current sensing.

- Two (Model 2) or eight (Model 3) inputs with switchable phantom power to supply a MIC-01 or MIC-02 microphone.

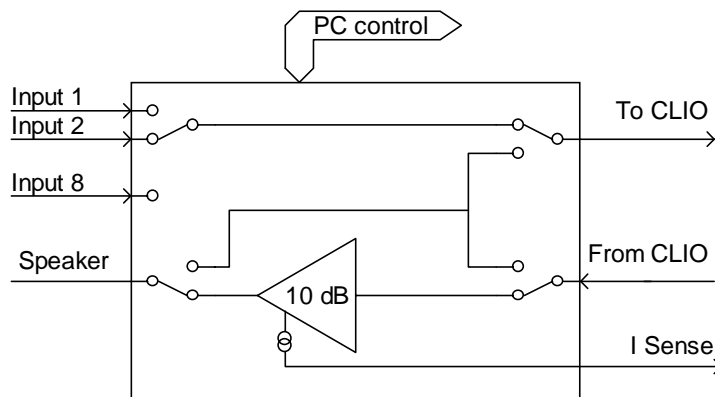
- All switches controllable with TTL signals (parallel port connector).

- AC mains powered; compact (23x23x8 cm) size; weight 2.7 kg.

Follows its internal block diagram.



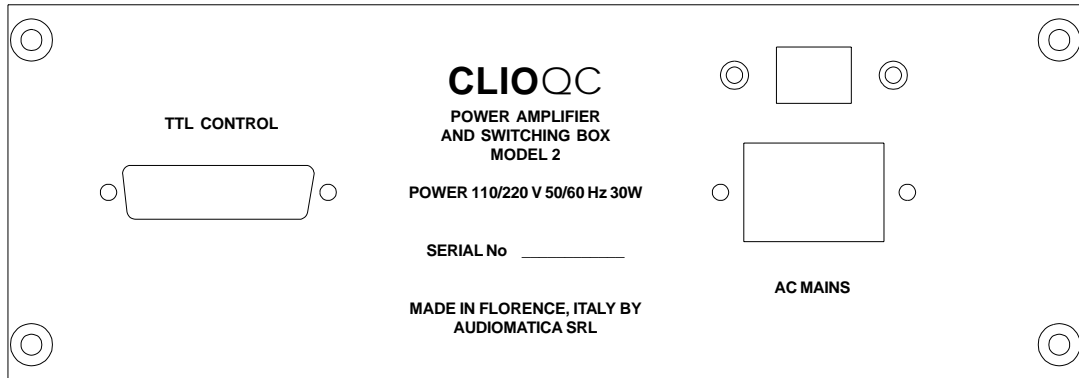
*Internal connections for impedance measurements*



*Internal connections for frequency response measurements*

## EXTERNAL CONNECTIONS AND CONTROLS

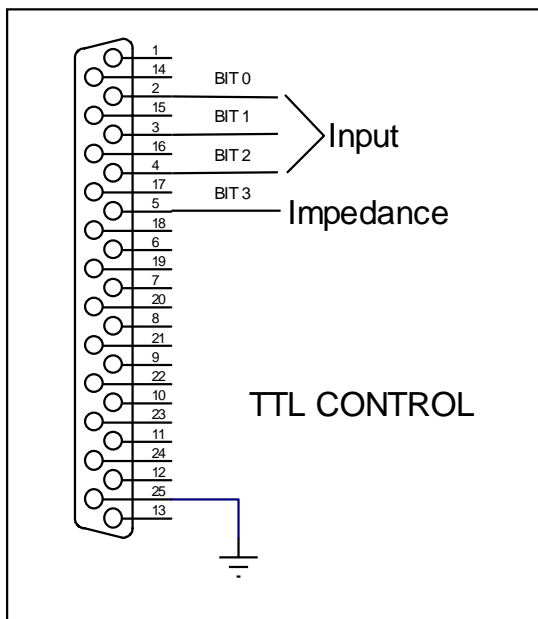
In the next figure you can see the rear panel.



To turn power on **first check that the AC voltage selector is set to the proper value** and then simply plug the AC cord in the wall outlet: **there is no mains switch.**

The TTL Control connector can be used for a direct link to a PC printer port with a standard 25 poles male-female cable.

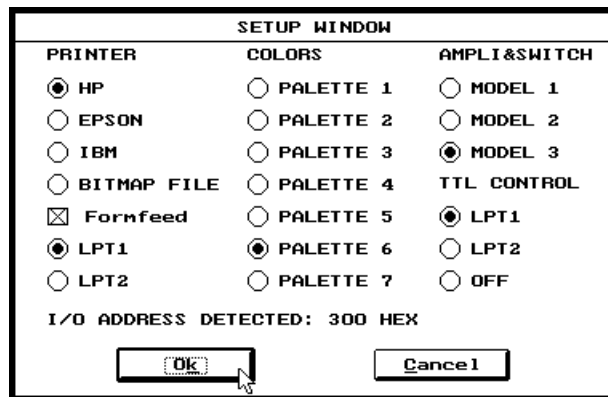
The following figure shows the D-25 connector pinout and the device's truth table for selecting its appropriate internal function.



FUNCTION	BIT 0	BIT 1	BIT 2	BIT 3
INPUT 1	0	0	0	1
INPUT 2	1	0	0	1
INPUT 3	0	1	0	1
INPUT 4	1	1	0	1
INPUT 5	0	0	1	1
INPUT 6	1	0	1	1
INPUT 7	0	1	1	1
INPUT 8	1	1	1	1
IMPEDANCE	x	x	x	0
I SENSE	x	x	x	1

If you connect the unit to a standard PC printer port and are writing a custom software be sure to control bits 0,1,2 and 3 and follow the given truth table; If you connect the unit to external signals be sure to use TTL logic levels; otherwise it is likely that you will use CLIO custom software controls (recallable with the SHIFT-F4 hot key).

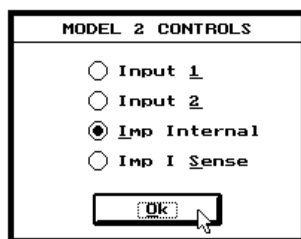
If you are using the **CLIO DOS rel.4 system software** the first thing that you have to do is to enable the control of your amplifier selecting the appropriate model. To do this you have to recall the Disk Setup choice:



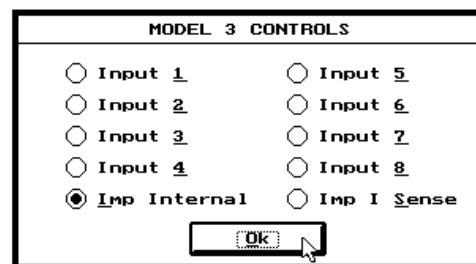
be sure to select, not only the correct model of your amplifier, but also the printer port where it is connected (with TTL Control); if no printer port is selected (OFF) no control will take place.

The custom software control can be recalled with the **SHIFT-F4** hot key.

Here we have the case of the **CLIO DOS rel.4** software:

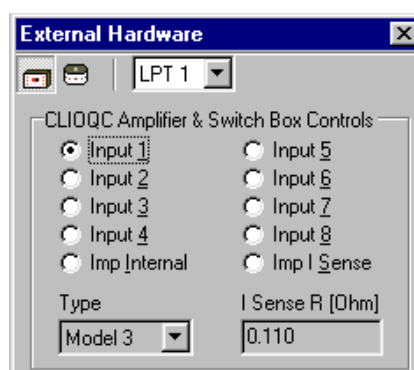


*Model 2*

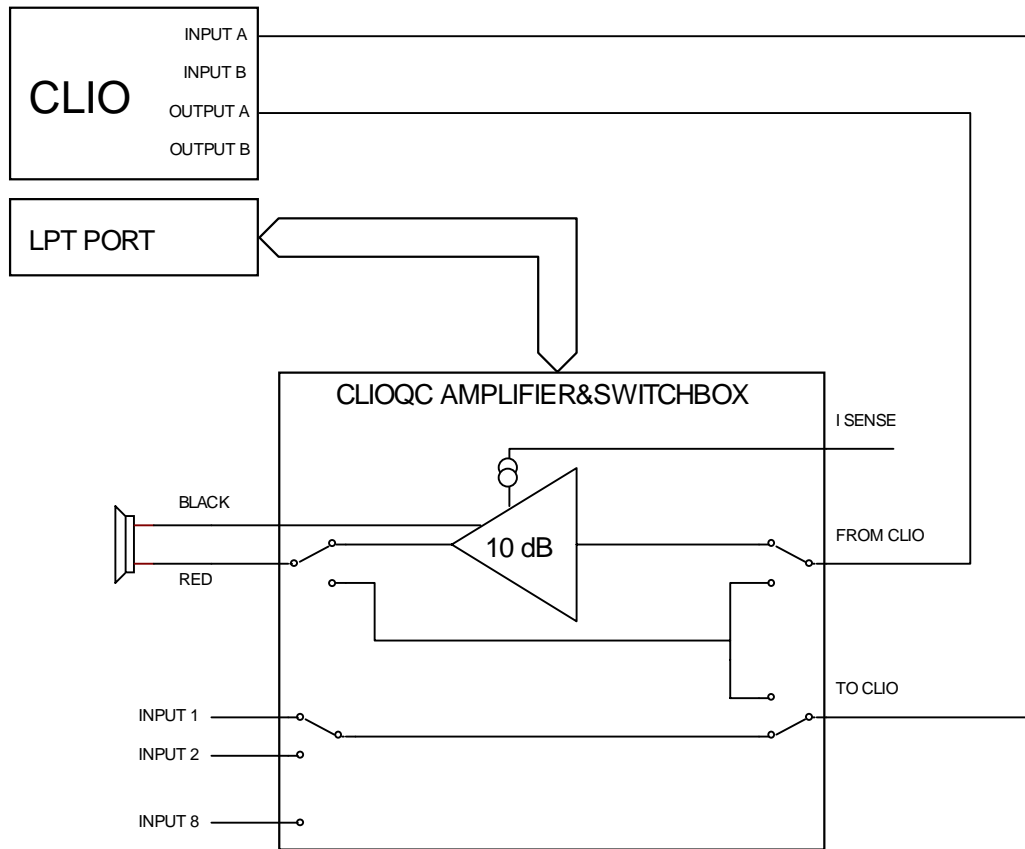


*Model 3*

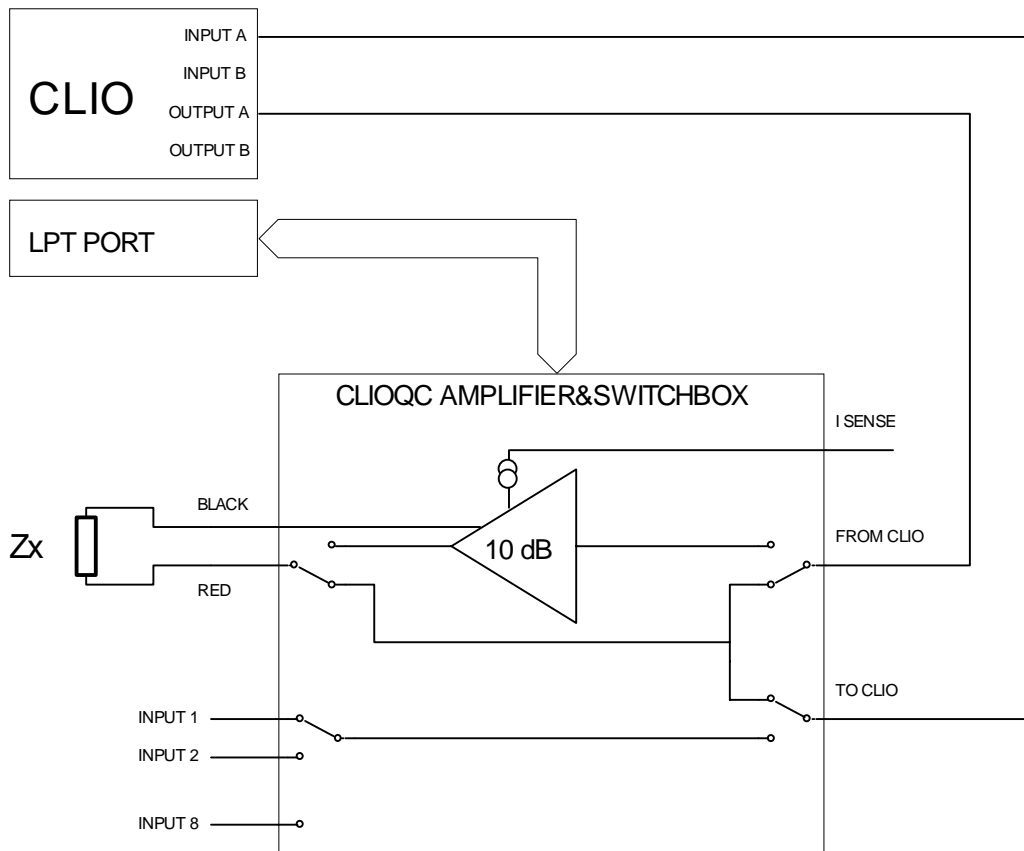
Here we have the case of the **CLIOwin** software:



Selecting one of the available input it is possible to execute frequency response measurements otherwise you select the impedance internal connection which is used for impedance measurements. You can also measure impedance using the current sensing output. The following figures illustrates the connections for response and impedance measurements. To execute impedance response using the internal current sensing feature please refer to the software user's manual.

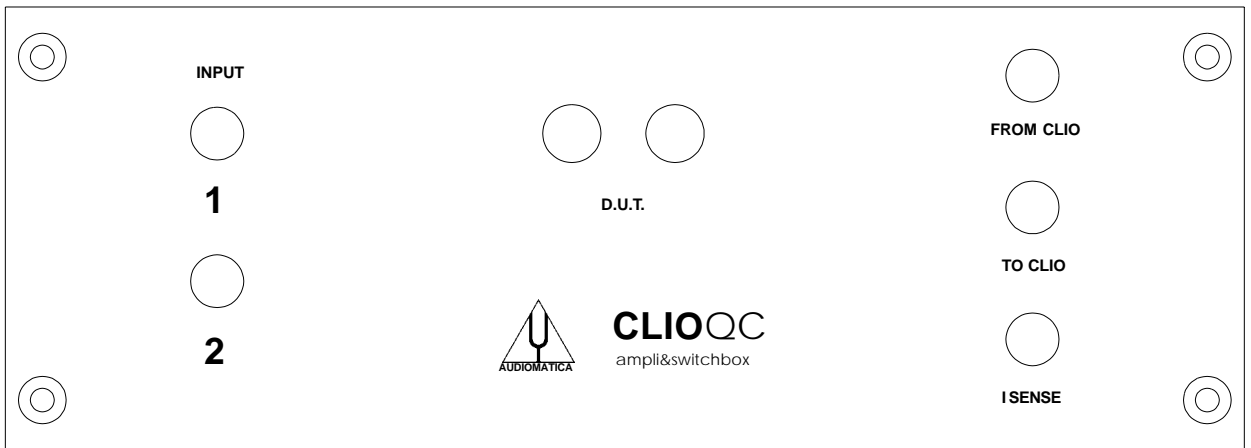


*Response measurements with the CLIOQC amplifier*

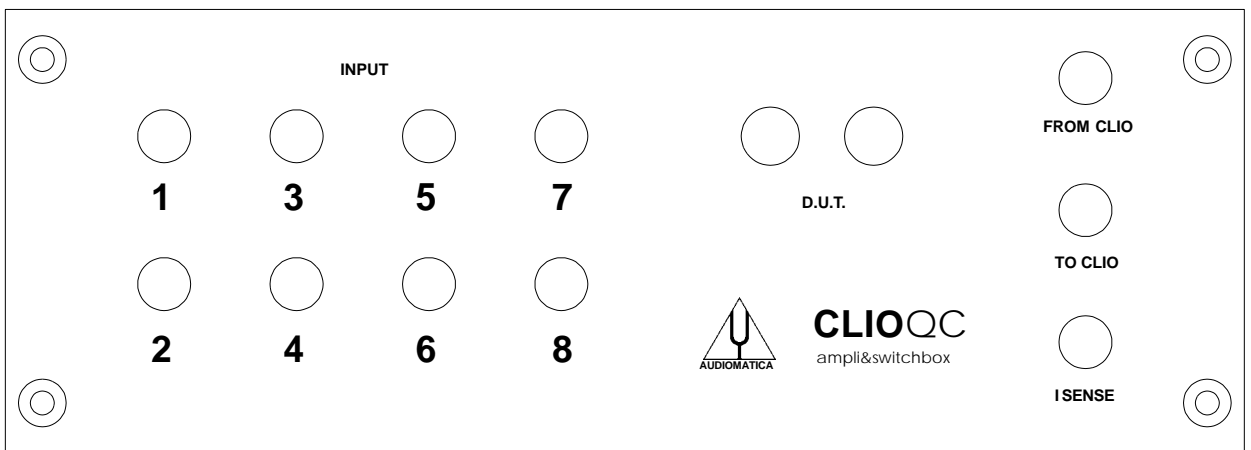


*Impedance measurements with the CLIOQC amplifier in "Internal Mode"*

Let's now take a look at the front panel.

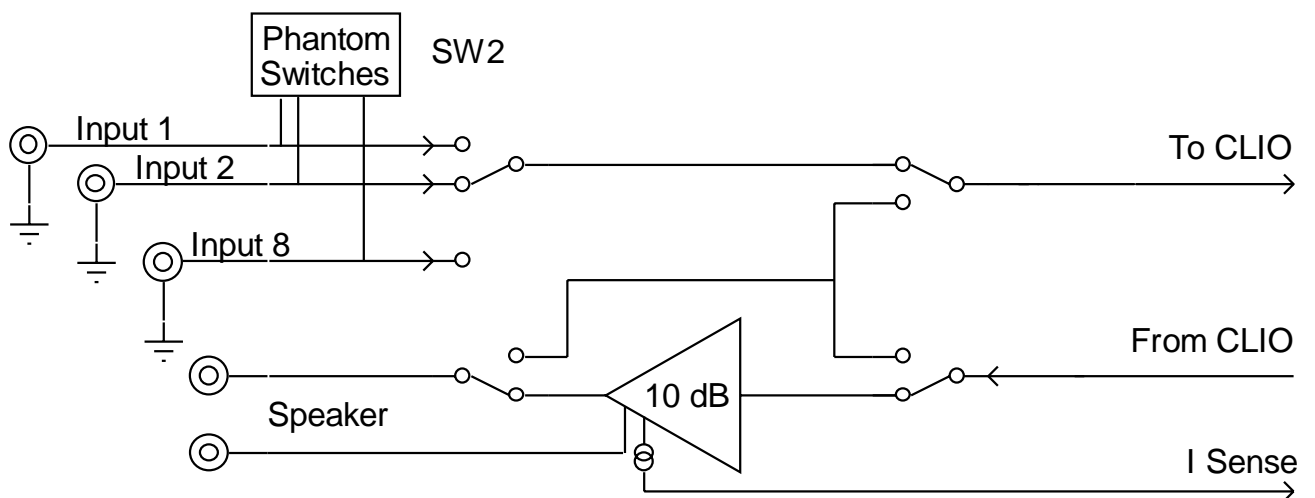


Model 2 front panel



Model 3 front panel

When making connections to the amplifier and switchbox always keep the internal connection diagram as a reference.



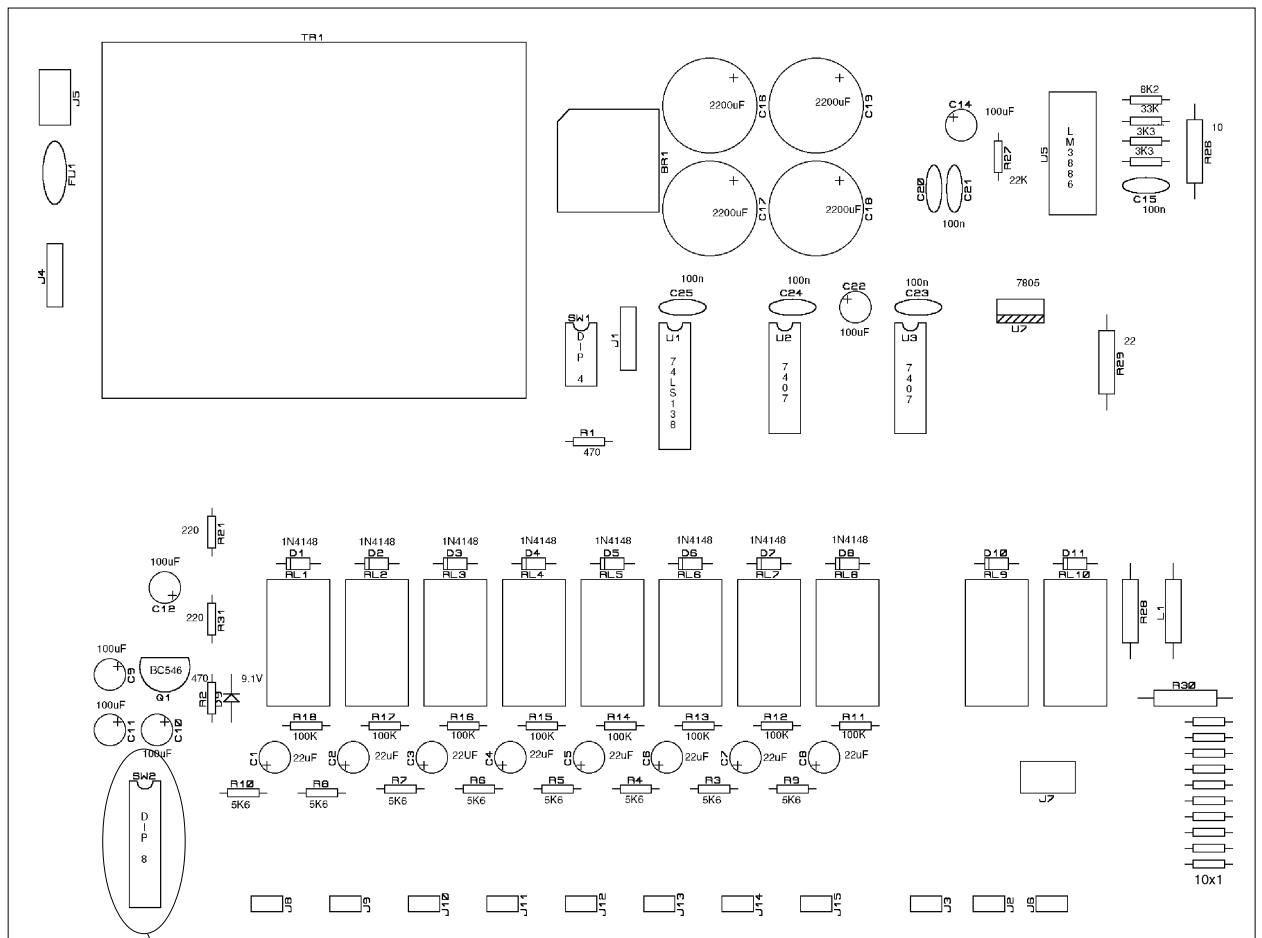
INPUT AND OUTPUT CONNECTIONS

## INTERNAL SETTINGS

If you want to make one of the possible internal settings **disconnect the unit from the mains power** and then carefully open the unit; locate the SW2 from the figure below and make the appropriate selection. It is possible to configure the unit in order to:

- Select a phantom power supply of 8.2V on each input separately (to power an Audiomatica MIC-01 or MIC-02 microphone) using the dip switch SW2. When a switch is ON the phantom power is present at that input.

**The unit is factory set with the phantom power enabled on all input.**



SW2 - PHANTOM SUPPLY



## EXAMPLES

The following diagram shows a possible utilization of the CLIOQC amplifier and switch box in an automatic testing environment of a loudspeaker.

