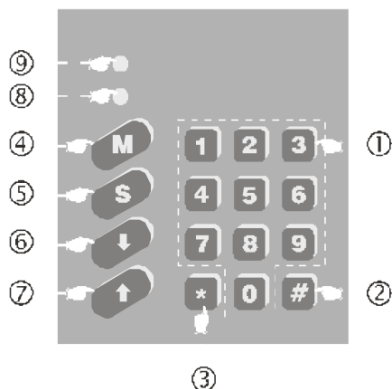


Operating Instructions "*claro*"

- ① **Buttons "0-9"** Calling a station
 - up to 9 stations: single digit call, e.g. 1 / 3 / 6 etc.
 - over 9 stations: double digit call, e.g. 02 / 08 / 55 etc.
- ② **Button "#"** Reset/priority/termination of a conference call
- ③ **Button "***"** General call
- ④ **Button "M"** Privacy (microphone on/off)
- ⑤ **Button "S"** - with 2 functions -
Function A: "special function, e. g. door-opening/camera: "S" + "0 - 9"
Function B: Conference call, e.g.: station "1" creates a conference with "2" and "3":
 procedure: S - 2 - S - 3 - S - 1
- ⑥ **Button "↓"** - with 2 functions -
Function A: Button pressed down = increased speaker volume
 To activate this function, press and release "↑".
Function B: Decrease of music volume over 15 levels
 (only applies for stations with integrated music module)
 press slightly = volume reduced by 1 level
 press and hold down = volume reduced continually
- ⑦ **Button "↑"** - with 2 functions -
Function A: Button pressed down = increased microphone volume
 After releasing "↑", the function "increased microphone volume" is activated automatically.
Function B: Increase of music volume over 15 levels
 (only applies for stations with integrated music module)
 press slightly = volume increased by 1 level
 press and hold down = volume increased continually
- ⑧ **LED/micro** illuminated = micro switched off (privacy)
- ⑨ **LED/system** flashing = station busy
 permanent light = system busy



Instructions for the Installation and Operation of the „claro“ system

I INSTALLATION

The sockets of all stations are connected in parallel except terminal 4.

Cabling: either open ring parallel cabling from station to station or star parallel cabling with distributor.

One-speech-channel systems without music require a cable with minimum 4 wires.

„Music“ option: 1 additional wire.

Cable type recommended: 4 pairs telecom cable J-Y(St)Y, 0,3 mm².

In case of screened cables, screening has to be connected to the mass of the power supply socket (= terminal no. 3).

In order to avoid interferences and damage caused by excess voltage due to lightning, it is essential that no wire - neither screening - are grounded.

A cross section of 0,3 mm² is sufficient if the distance between the power supply and the most distant station is less than 50 m.

If due to system size several power supplies are involved, it is important that each power supply feeds approximately the same number of stations.

The „+“ wire is connected in parallel within groups, but each group is kept separate thus avoiding differences in the balance of the power supply. In case of a power failure at a single power station, only one group will be effected.

The station's loudspeaker is connected at terminals 3 and 4 of the station socket by using a separate cable (2 x 0,3 mm²).

The connection of the station is made via RJ45.

Attention:

Terminal 4 must not be connected with terminals 4 of the other stations!

Types of sockets: modular telecom standard socket 8P8C (wall-mount and flush-mount version).

Number and Position of the Loudspeaker

Normally a 16 Ohm loudspeaker is connected to a station.

If more loudspeakers are connected, the global resistance must not fall below 4 Ohm.

The maximum loudspeaker volume depends to a large extent on the distance between the station's loudspeaker and the microphone.

General rule: *the greater distance = the larger the volume*

For this reason the distance between the loudspeaker and the microphone should be minimum 1 - 3 m.

Example:

If the station is placed at the right of the user, the loudspeaker should be placed at its left, i. e. the user's head divides the distance speaker/micro into halves.

General Rule:	micro	<--> user	=	50 cm
	loudspeaker	<--> user	=	50 cm
	loudspeaker	<--> user	=	100 cm

To our experience ceiling loudspeakers offer best results.

II OPERATING INSTRUCTIONS

Proceed as follows:

1. Check the cabling.
2. Connect one of the stations to the network, power supply already connected.
3. Dial your own station number.
4. Tune the potentiometer to the maximum volume avoiding feedback.
The potentiometer is located on the main pcb of the station (either table or wall station). An opening on the case bottom gives access to the potentiometer. Whilst tuning, somebody should speak in a „normal“ speech level.
5. The line is cut off by pressing the „#“ key (right-hand bottom).
6. Connect any other station to the net, repeating steps 3, 4 and 5.
7. Check the communication between the stations.
8. Connect all other stations by repeating points 6 and 7.
9. Check the operating voltage of the station most distant from the power supply.

Rating is done at the station's socket between terminals 3- and 5+.

The measured value should be between 22 and 24VDC.

If the voltage measured is below 22VDC, it is recommended to optimise the position of the power supplies. Possibly additional power supplies are to be installed.

Description of the connections

- J1 = connecting cable
J2 = option „music module“/“signal module“ or both
J4 = keypad connection

Description of the jumpers

- JP1 = station call number - ten's digit
JP2 = station call number - unit digit
JP3 = station call number - one figure (0 - 9)
K11 = general call

Example 1: **Station no. 92**
Jumper JP1: 9
Jumper JP2: 2
Jumper JP3: open

Example 2: **Station no. 08**
Jumper JP1: 0
Jumper JP2: 8
Jumper JP3: open

Example 3: **Station no. 8 (unit digit)**
Jumper JP1 and JP2: 8
Jumper JP3: closed

Attention!!

It is not possible to have single **and** double digit call numbers within one installation.

Installations up to 10 stations: single digit call number 0 - 9

Installations up to 100 stations: double digit call number 00 - 99

Important Information for the Repartition of Power Supplies

Normally an intercom system comprises several stations and a more or less important cable system.

Bad repartition or an insufficient number of power supplies may cause insufficient current supply.

Insufficient current supply affects the „Reset Function“ (# key) in a negative way, if „General Call“ (* key) is activated.

Therefore it is recommended to test the „general call“ function whenever an installation/extension is made and to eventually optimize the repartition of the power supply(ies).

Positioning of the Power Supplies

1. Installations with one power supply:

It is recommended to place the power supply in the centre of the cable system.

2. Installations with several power supplies:

It is recommended to divide the cable system into equal sections.

Each power supply should be placed in the centre of its section.

Please note that the „+“ wire is connected on both sides of the sections.

Power failures are easily located and only stations fed by this power supply are out of function.

Attention:

Do not place power supplies at the end of the cable bus.

Cable Sections:

In case of a wire cross section of 0,3 mm² we recommend cable sections of max.100 m, If the power supply is placed in the centre of the section, the distance between each station/power supply is maximum 50 m.

If there are more than 10 stations within one section, sections of 50 m are recommended.

Power supply 40.040.012

For 1 to 5 stations for a section of 50 to 100 m, even if the maximum range of a station is up to 2000 m.

Power Supply 40.040.013

For installations comprising 10 to 30 stations in case of very short sections, to be used also for star cabling.

Loudspeaker humming during a communication: this might be caused by the power supply.

Solution: Connecting the „-“ wire of the power supply to ground via 0,1 µF capacitor will derive the harmonic waves.