IDA 4 XM V 1.X

Installation and configuration of IDA 4 XM

User Manual

IMPORTANT SAFETY INSTRUCTIONS

- Switch the device's power off before any maintenance operation (changing the CU card, etc.)

- The 24V power supply voltage should be between 20V and 28V.

- The maximum admissible wattage per amplifier channel is 500W effective power.

Customer Support ATEIS-INTERNATIONAL S.A

Les Charbonnières
1376 Goumoens-La-Ville
Switzerland

+41 21 881 25 10

+41 21 881 25 09

E MAIL : support@ateis-international.com

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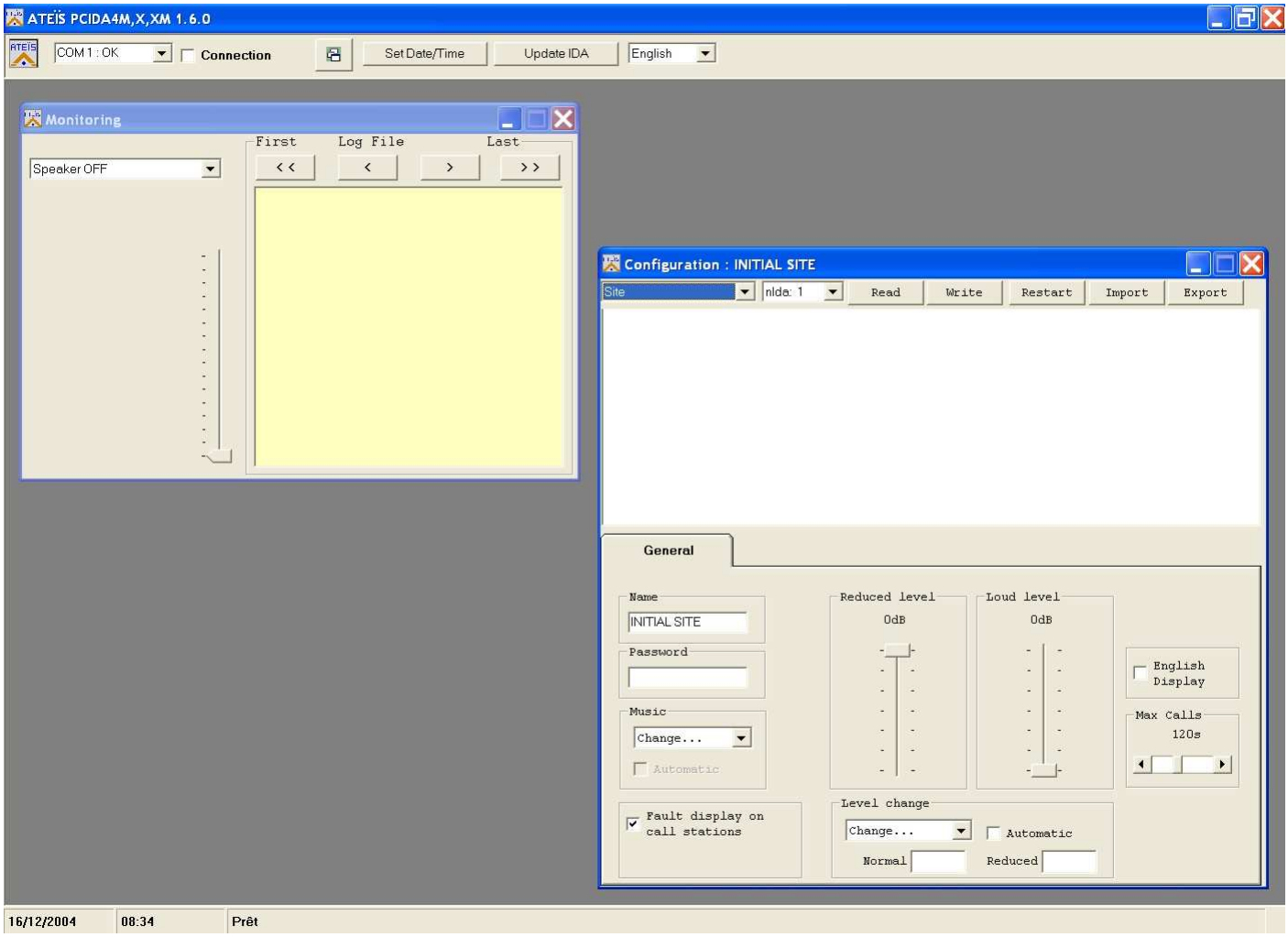
1 SOFTWARE
1.1 PRESENTATION



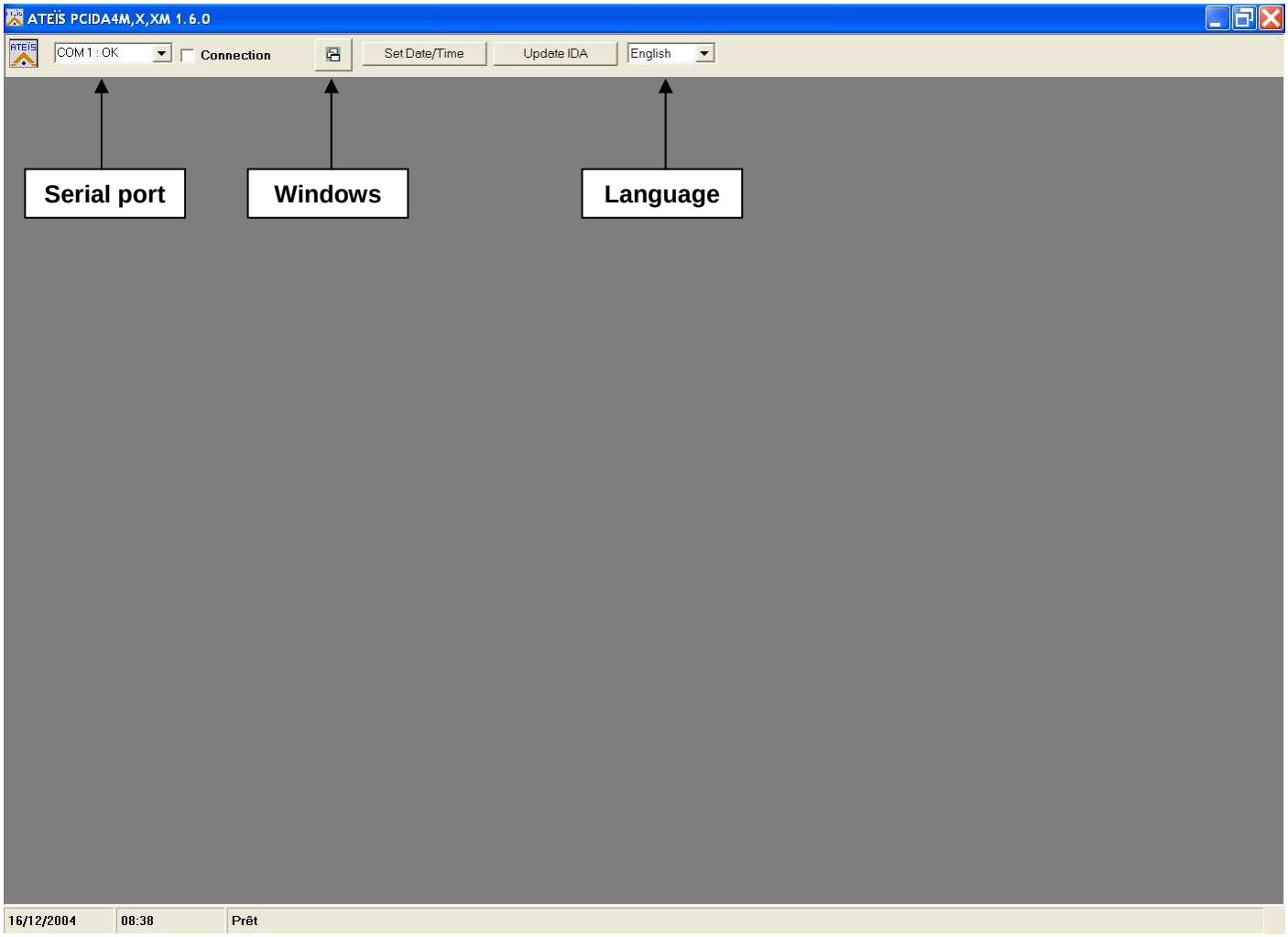
The PCIDA4XM software is composed of three windows :

1.1 **Main** for general settings
- Communication
- Appearance
- IDA updating (date and time, internal software)
- Language

1.2 **Settings** for application settings (site, zones, call stations, messages,…)
- Site
- Zones
- Call stations and messages
- Evacuation inputs
- Control inputs
- Sources (0dB inputs)
- Serial ports
- Fault inputs

1.3 **Monitoring** for the selection of signal which has to be routed to the monitoring loudspeaker (8 ohms).

1.2 MAIN



Serial port

The roll list Serial port enables the choice of the serial port on which the communication between the PC and IDA has to be established.
In case of failure, for example the selected port is not configured in the PC, the corresponding list item indicates ***COM X : HS***. Otherwise, it indicates ***COM X : OK***.

Connection

By clicking on the check button ***Connection***, the PC tries to communicate with the connected IDA.
In case of success of the connection between the PC and IDA, the check button ***Connection*** indicates the following message : ***Connected to IDA V1.X***.
In case of failure of the connection between the PC and IDA, the message box **NO IDA !** appears on the screen and the check button indicates ***Not connected***.

Windows

The command button ***Windows*** saves the current position of the different windows on the screen.

By new start of the PCIDA4XM software, the windows will appear on the screen as saved by the last click on the command button ***Windows***.

Set Date/Time

The command button ***Set Date/Time*** enables the updating of date and time in IDA.
The source can be either the PC or an external clock.
By clicking on the command button Date & Time, the message box **Date and time updating by PC ?** appears on the screen. By clicking on the button ***OK***, the date and time is sent by the PC on IDA. By clicking on the button ***Cancel***, a new message box **Date and time updating by an external clock ?** appears on the screen. By clicking on the button OK, a date and time updating request is sent to the external clock.

IDA Updating

The command button ***IDA Updating*** enables the updating of the IDA firmware.
To update IDA, the following procedure has to be done :

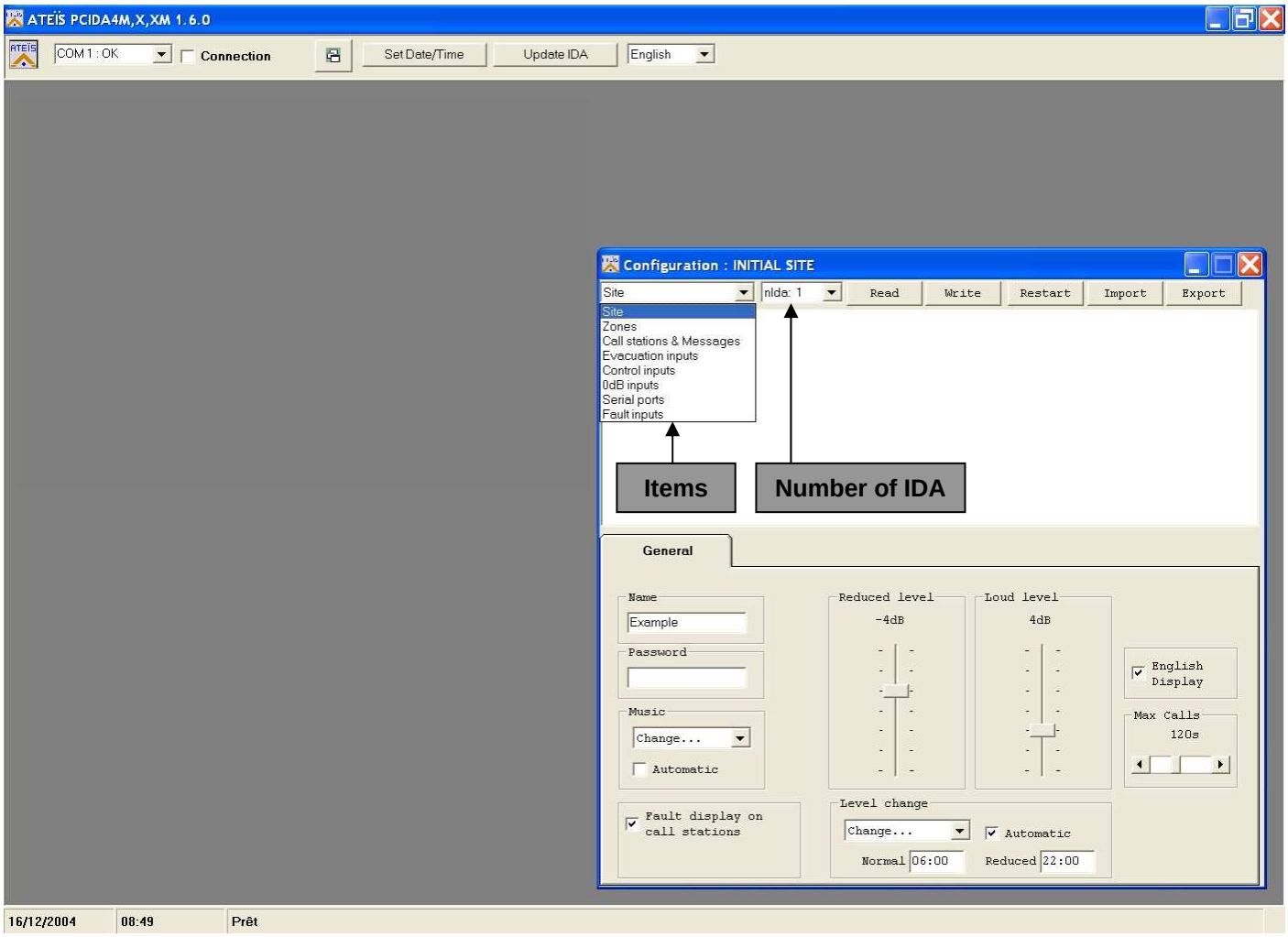
- Connect IDA master with all IDA slaves (if IDA slaves are present)
- Switch on power on IDA
- The displayed IDA's number must match with the real IDA's number
- Click on the command button ***IDA Updating*** to update IDA master and slaves All the IDA will be updated.

Language

The roll list Language enables the choice of the language.
You will have to restart the software to have the new language activated.

1.3 SETTINGS

1.3.1 Application



Items

The roll list ***Items*** enables the choice of the item which has to be configured. All options of each item are defined in the following parts.

Number of IDA

The roll list ***Number of IDA*** defines the number of IDA which are present in the current application. Up to 64 IDA can be configured in the application.
When you start to set up, the first thing to do is to select the number of IDA cascaded in the system (including the master).

Read

The command button ***Read*** reads the settings saved in IDA's memory and displays the dataset on the screen.

Write

The command button ***Write*** loads in IDA's memory the current dataset which is corresponding to the settings displayed on the screen.
You have to write the configuration in the IDA system to activate it.

Restart

The command button ***Restart*** resets the program in IDA.

Import

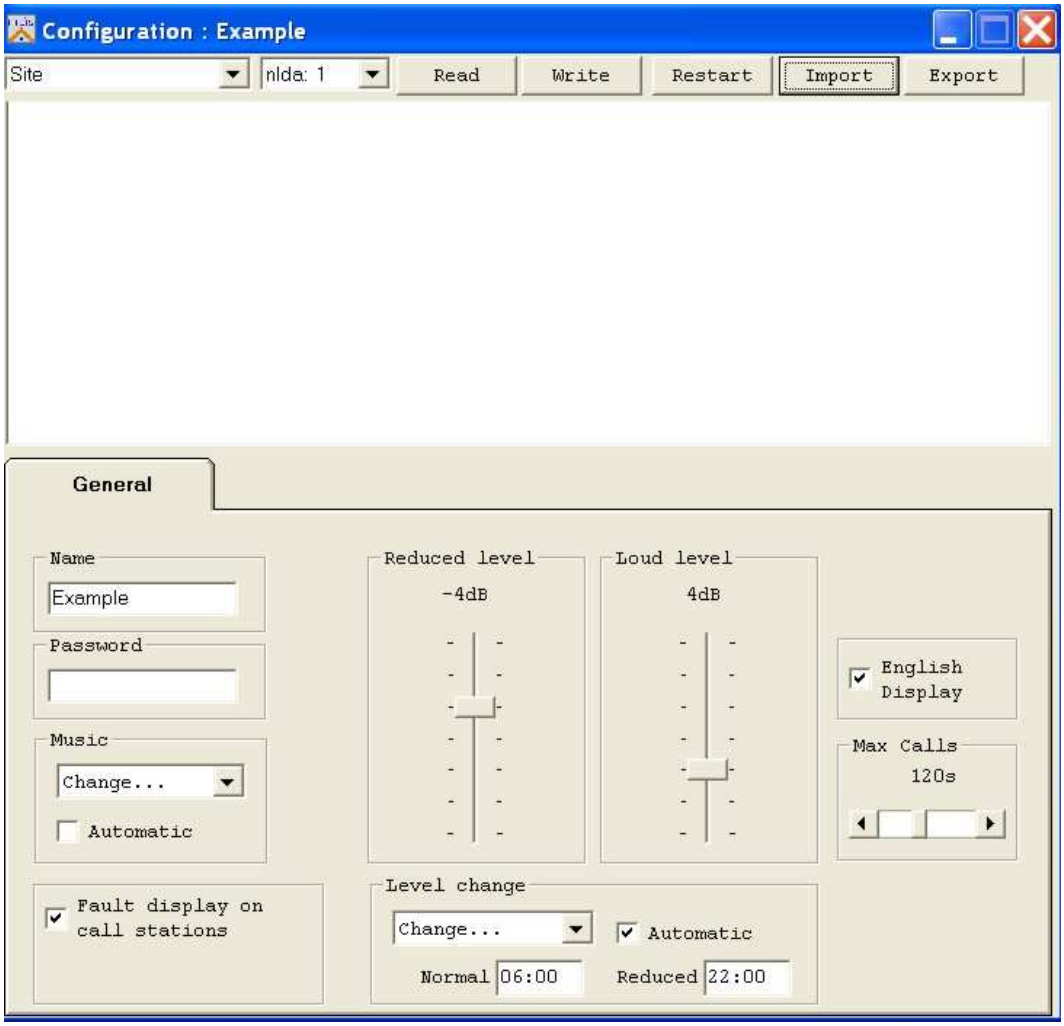
The command button ***Import*** reads the settings saved in the selected file stored in the PC and displays the dataset on the screen.

Export

The command button ***Export*** saves in the selected PC file the current dataset which is corresponding to the settings displayed on the screen.

1.3.2 Site

SITE > GENERAL



Name

The text box ***Name*** defines the name of the application.
The maximal length of the application name is 16 alphanumerical characters.

Password

The text box ***Password*** defines the password of the application.
The maximal length of the password is 8 numerical characters.

Music

The roll list ***Music*** enables the music start or stop.

- Change… Music mode can be changed through the call stations
- Music ON Starting music
- Music OFF Stopping music

Fault display

The check button ***Fault display*** enables the display of faults on call stations.

Complete log

The check button ***Complete log*** selects the events which are saved in the log memory.
If ***Complete log*** is enable, all events are saved in the log memory. Otherwise, only security events are saved.

Reduced level

The slider ***Reduced level*** adjusts the level in reduced mode.
The adjustment can be defined between –12 and 0 dB.

Loud level

The slider ***Loud level*** adjusts the level in loud mode.
The adjustment can be defined between 0 and +12 dB.

Level change

The roll list ***Level change*** defines the general level of the application.

- Change… General level can be changed on call stations
- Reduced General level is reduced to the adjusted level
- Loud General level is increased to the loud level
- Normal General level is set to the normal level

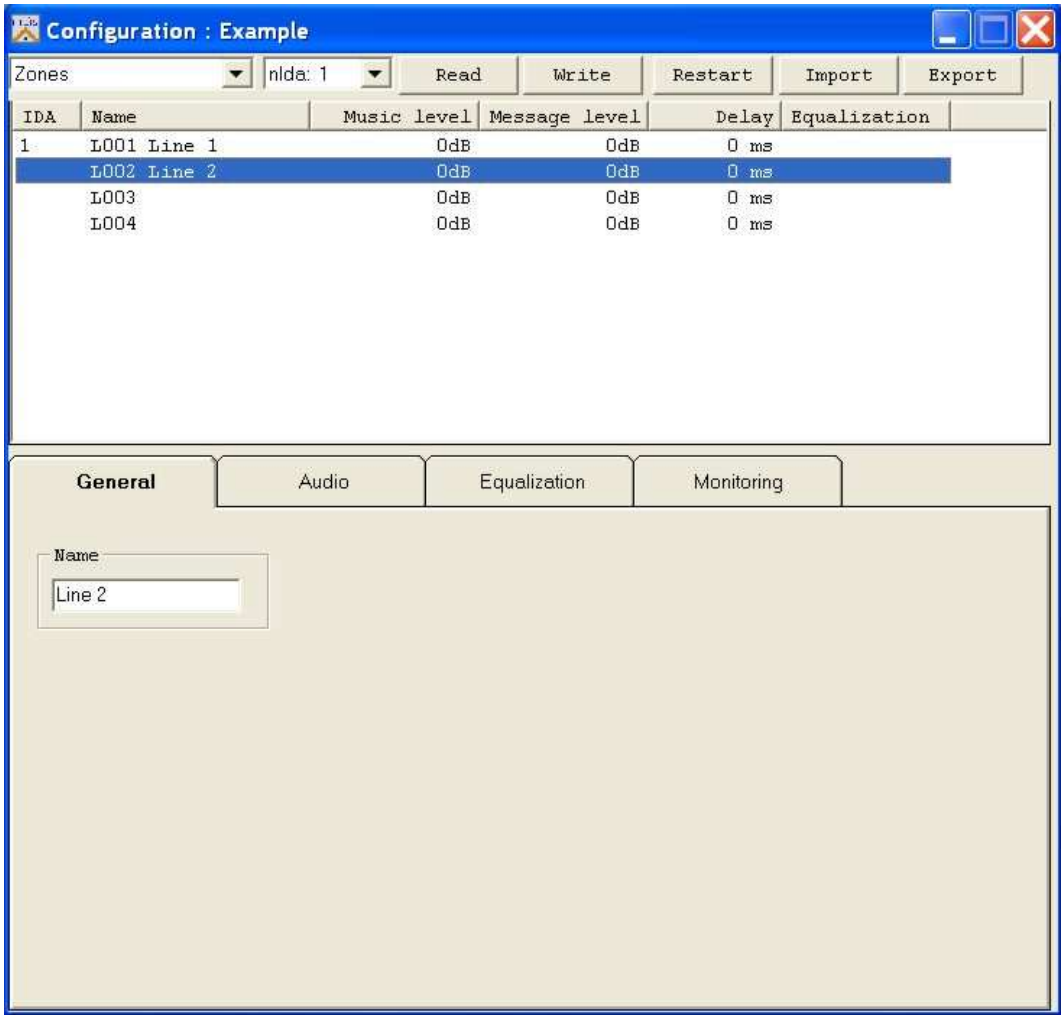
The check button ***Automatic*** enables the automatic change of level.
Text boxes Normal and Reduced define the timetables for the change.

- Normal Level changes from reduced to normal
- Reduced Level changes from normal to reduced

1.3.3 Zones

Four zones can be configured on each IDA.

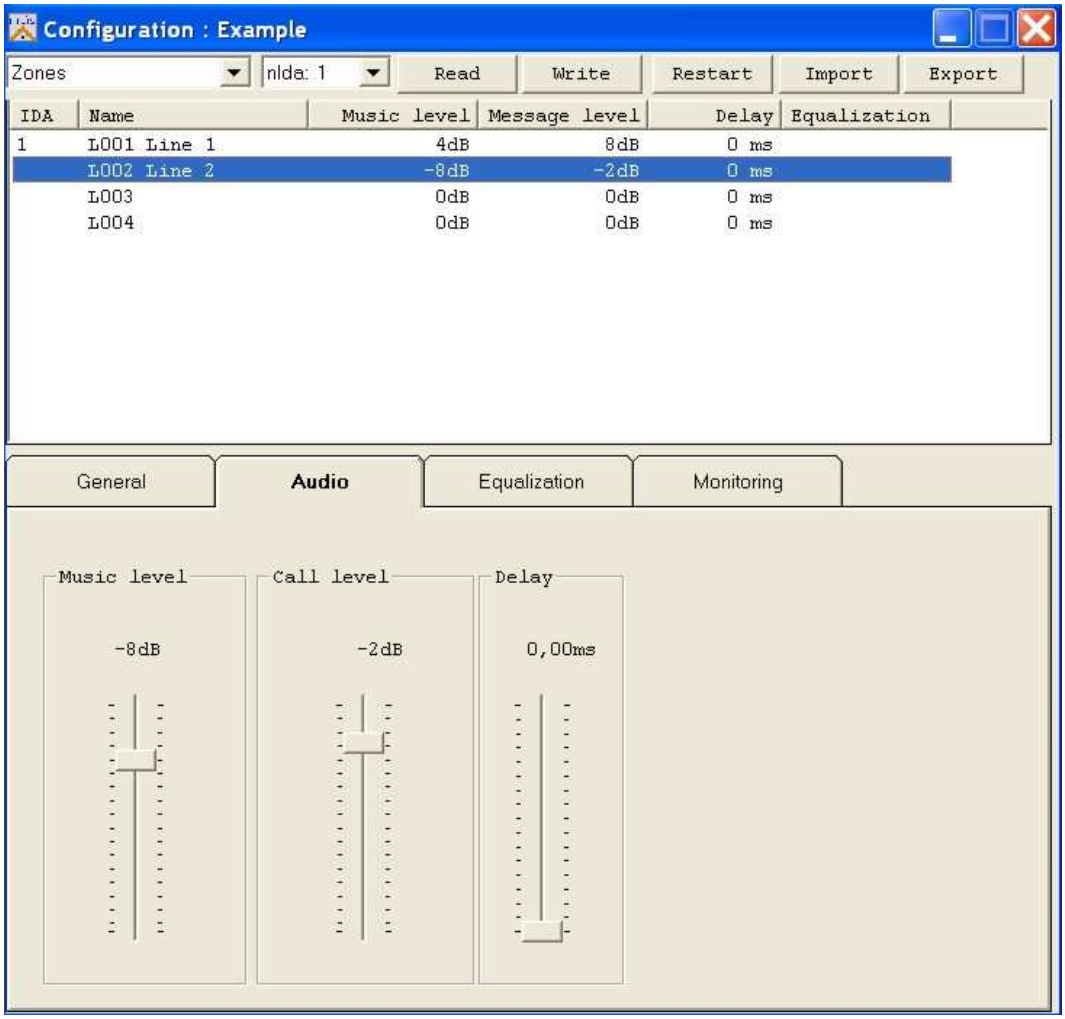
ZONES > GENERAL



Name

The text box ***Name*** defines the name of the zone.
The maximal length of the application name is 11 alphanumerical characters.

ZONES > AUDIO



Music level

The slider ***Music level*** adjusts the normal music level in the selected zone.
The adjustment can be defined between –70 and +12 dB.
Music signal is OFF if the ***Music level*** slider is put on its bottom end.

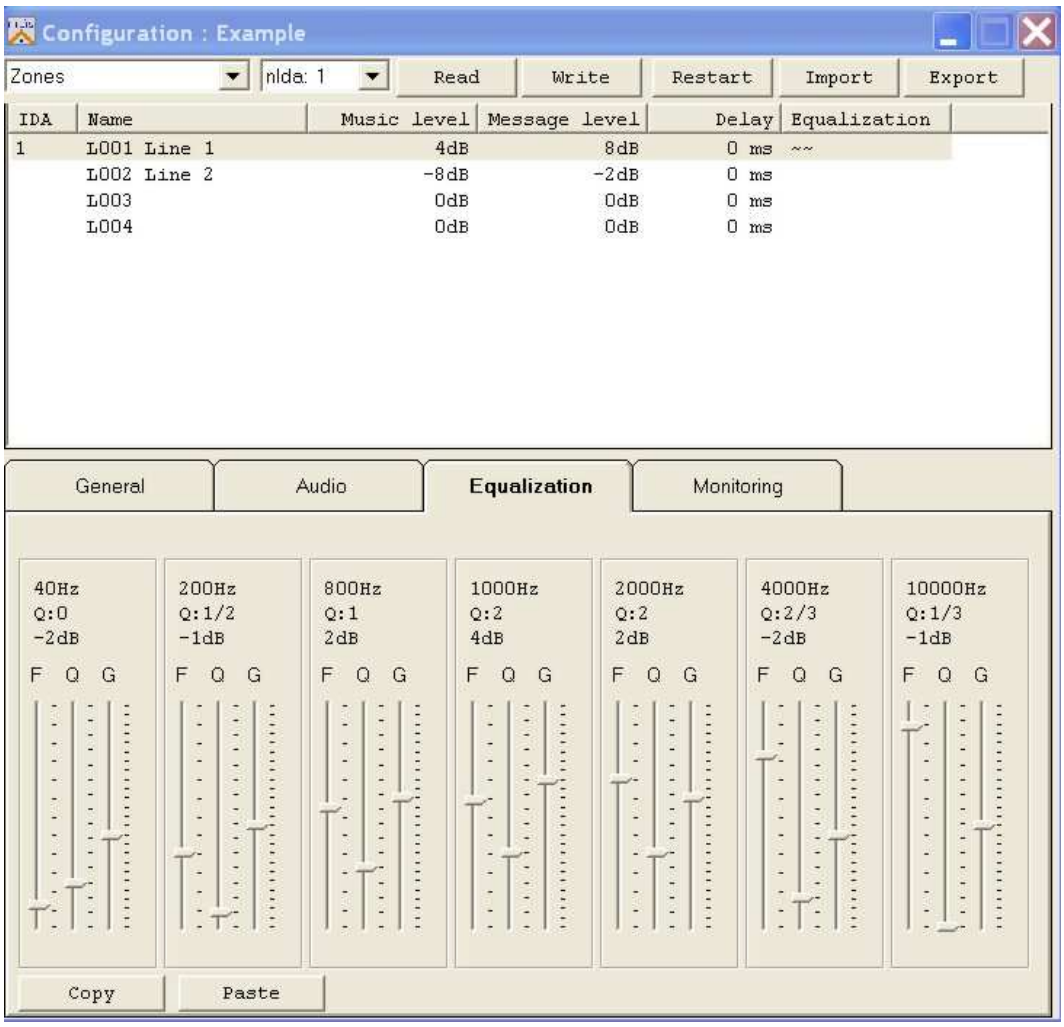
Call level

The slider ***Call level*** adjusts the normal call level in the selected zone.
The adjustment can be defined between –70 and +12 dB.
Call signal is OFF if the ***Call level*** slider is put on its bottom end.

Delay

The slider ***Delay*** adjusts the delay in the selected zone.
The adjustment can be defined between 0 and 682 ms.

ZONES > EQUALIZATION



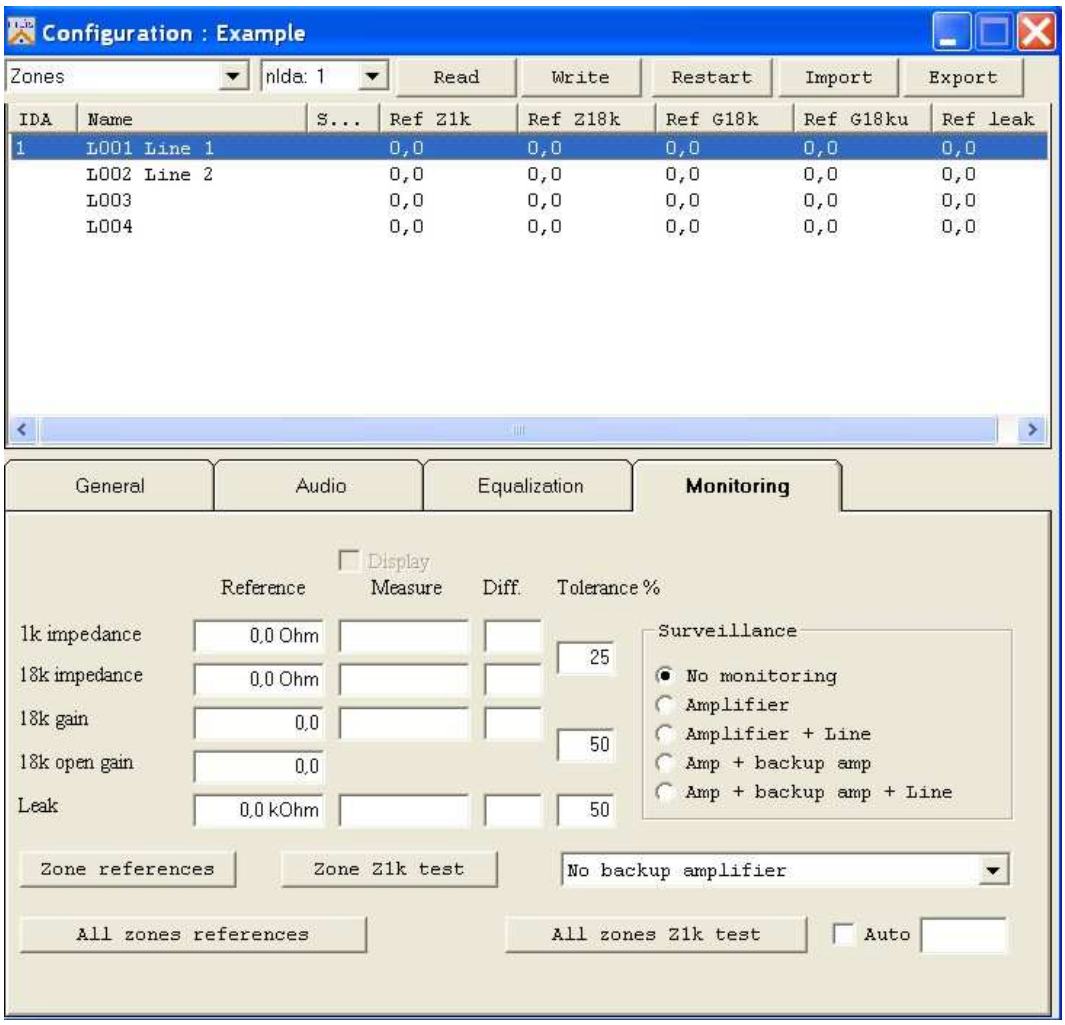
Parametric equalization

The output audio signal of each zone can be adjusted with a 7-bands equalizer.
The slider ***F*** defines the frequency between 20 and 19 000 Hz.
The slider ***Q*** defines the Q parameter (which is corresponding to the bandwidth) between 1/3 and 12.
The slider ***G*** defines the output level of the corresponding band between –12 and +12 dB.

Copy / Paste

The command buttons ***Copy*** and ***Paste*** enable the copy of one band settings in other bands.

ZONES > MONITORING



Zone references

The command button ***Zone references*** measures the following parameters of the selected zone (1k and 18k impedance, 18k gain and open gain, leak) and stores the values in IDA's memory.

All zones references

The command button ***All zones references*** measures the following parameters of all the zones (1k and 18k impedance, 18k gain and open gain, leak) and stores the values in IDA's memory.

Zone Z1k test

The command button ***Zone Z1k test*** measures once the 1k impedance of the selected zone.

All zones Z1k test

The command button ***All zones Z1k test*** measures once the 1k impedance of all the zones. If the check button *Auto* is selected, the 1k impedance measurement is done at the defined time (03:00 by default).

Measures display

If the check button ***Display*** is selected, the values of the parameters measures corresponding to the selected zone are displayed in real-time.

Backup amplifiers

The roll list ***Backup amplifiers*** specifies the presence or not of amplifiers on the application.

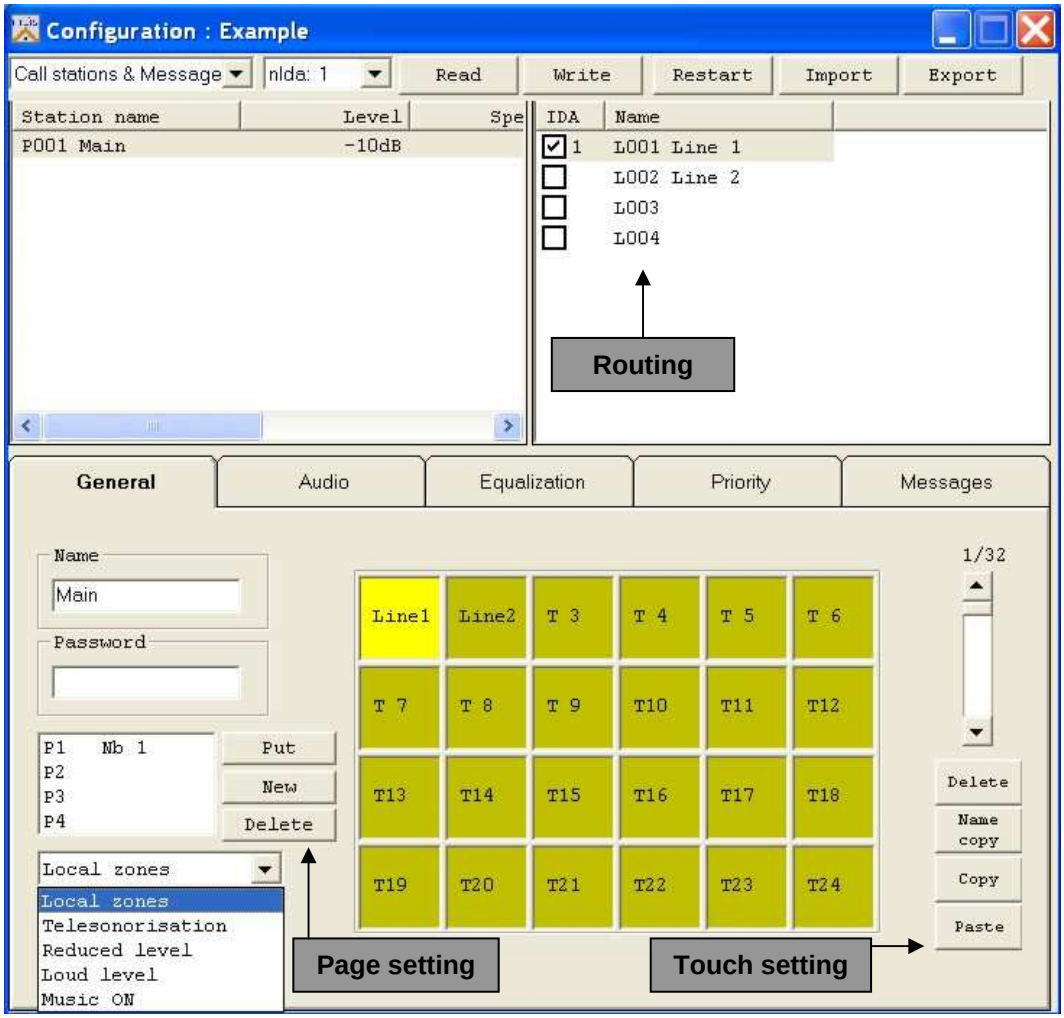
Monitoring

The option buttons ***Monitoring*** defines which components have to be controlled in the selected zone :

- No monitoring
- Amplifier
- Amplifier + Line
- Amplifier + Backup amplifier
- Amplifier + Backup amplifier+ Line

1.3.4 Call stations & messages

CALL STATIONS > GENERAL



Name

The text box ***Name*** defines the name of the call station.
The maximal length of the call station name is 11 alphanumerical characters.

Password

The text box ***Password*** specifies the password which is required to use the PSS call station.
The password must be composed of 4 numerical characters.

Page setting

The command button ***Put*** allocates a page to the selected page in the call station pages list. Up to 32 pages can be defined. The command button ***New*** selects the first page which is not allocated to a call station.
The command button ***Delete*** deletes the page allocation for the selected page in the call station pages list.

Key setting

To define a key on a selected page, the following procedure has to be done :

- Select a page either with the page slider or with the command button ***New***
- Click on the key to define
- Select the type of the key in the type roll list (Local zones, Telesonorisation, Reduced level, Loud level, Music ON)
- Enter the key name in the key picture

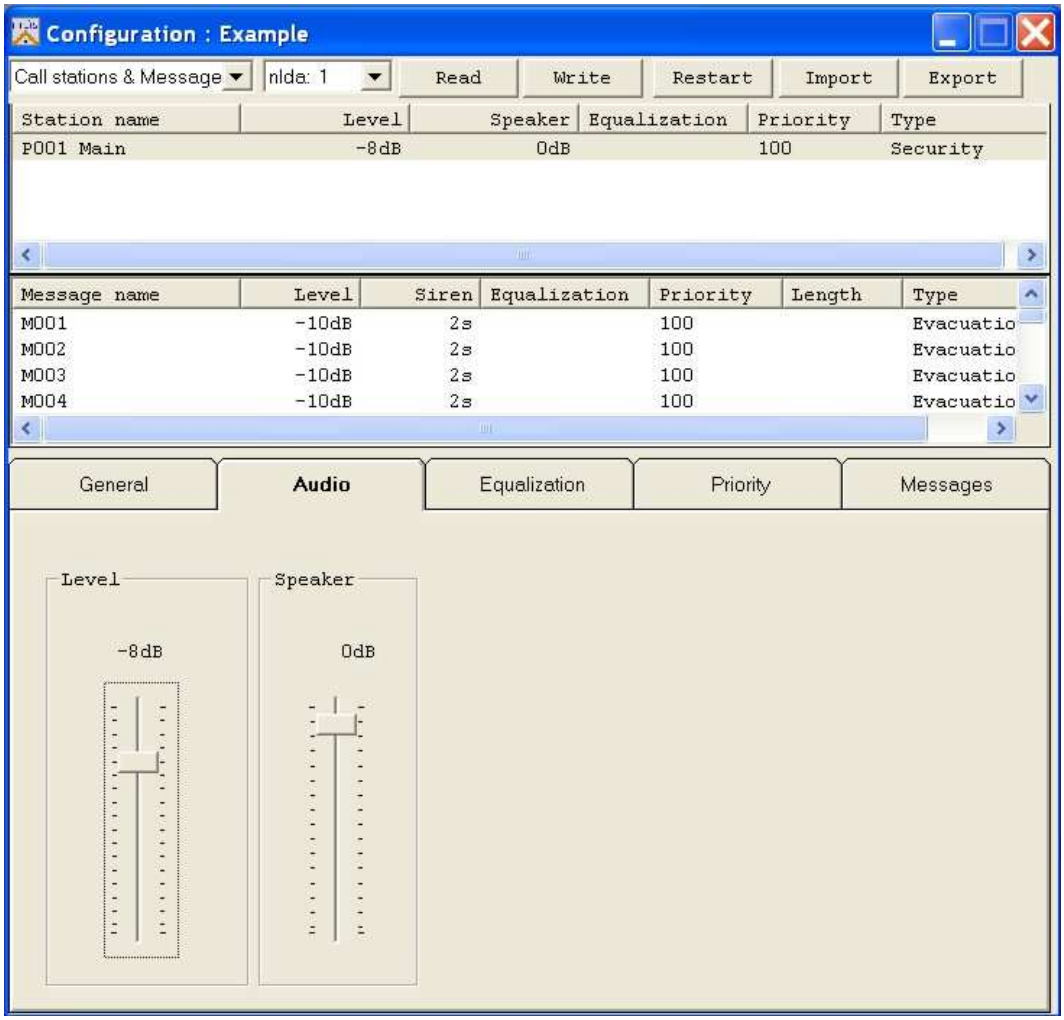
The command button ***Delete*** deletes the selected key settings.

The command button ***Name*** copy copies only the name of the selected key.

The command button ***Copy*** copies all the settings of the selected key.

The command button ***Paste*** pastes in the selected key either the name which was first copied through the command button ***Name copy*** or all the settings which were first copied through the command button ***Copy***.

CALL STATIONS > AUDIO



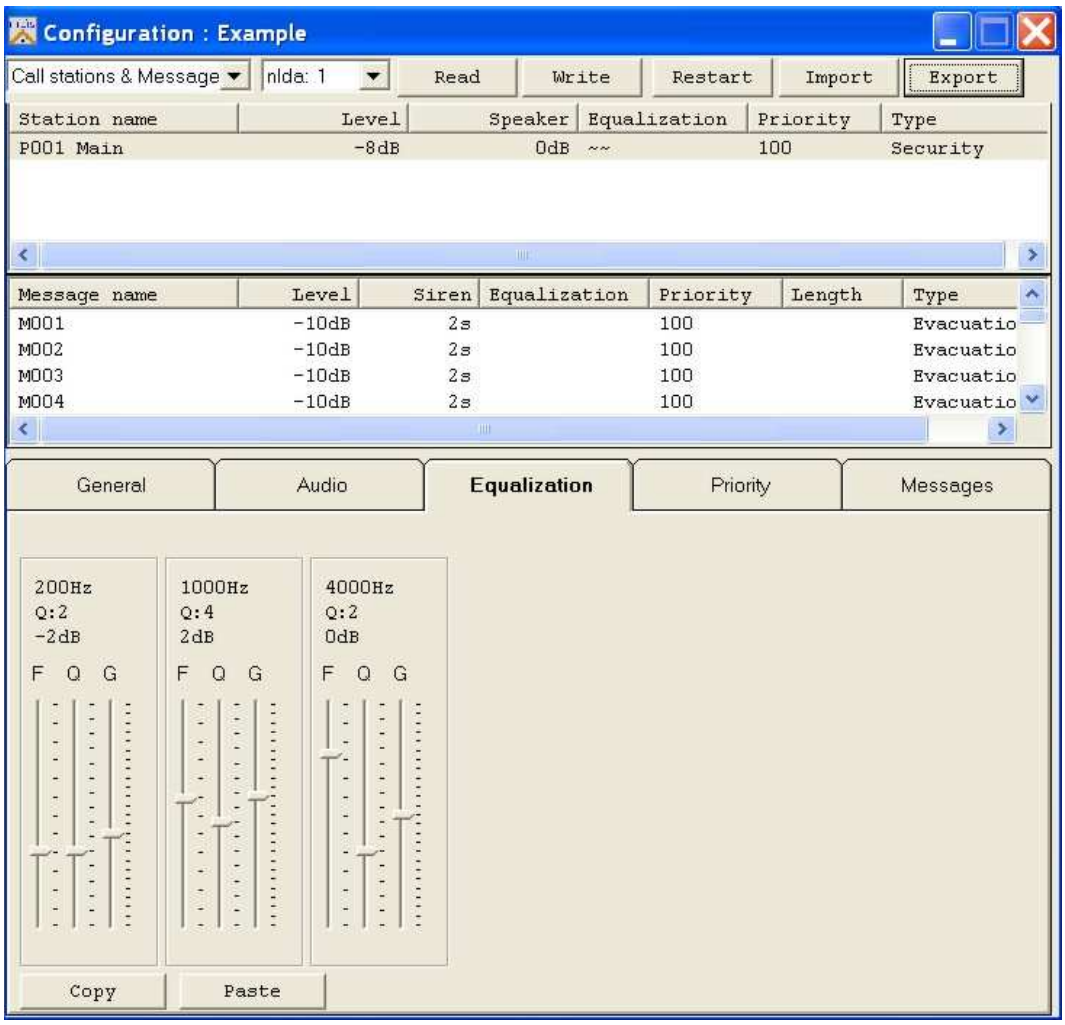
Microphone level

The slider ***Level*** adjusts the call station microphone level.
The adjustment can be defined between –70 and +12 dB.
Microphone signal is OFF if the ***Level*** slider is put on its bottom end.

Speaker level

The slider ***Speaker*** adjusts the PSS speaker level.
The adjustment can be defined between –70 and +6 dB.
Speaker signal is OFF if the ***Speaker*** slider is put on its bottom end.

CALL STATIONS > EQUALIZATION



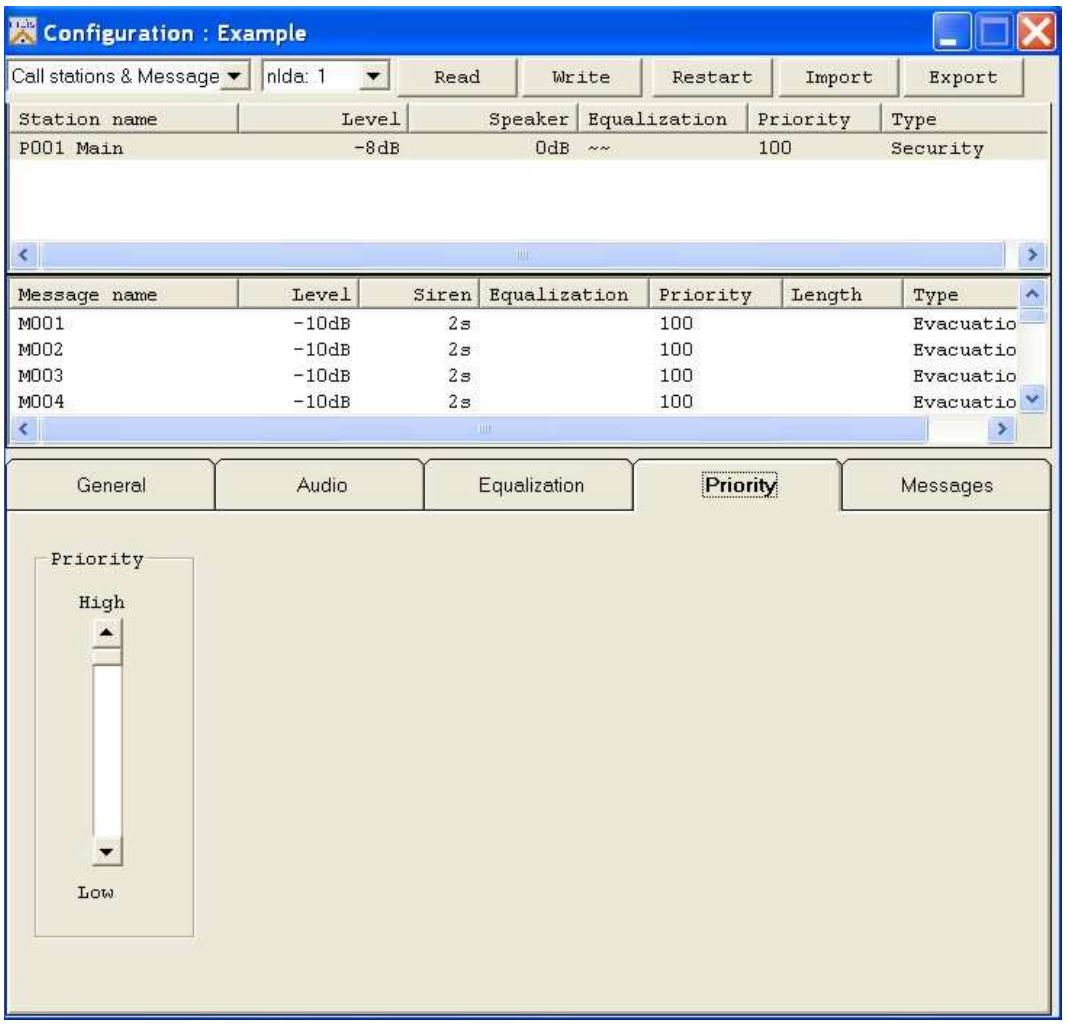
Parametric equalization

The input audio signal can be adjusted with a 3-bands equalizer.
The slider ***F*** defines the frequency between 20 and 19 000 Hz.
The slider ***Q*** defines the Q parameter (which is corresponding to the bandwidth) between 1/3 and 12.
The slider ***G*** defines the output level of the corresponding band between –12 and +12 dB.

Copy / Paste

The command buttons ***Copy*** and ***Paste*** enable the copy of one band settings on other bands.

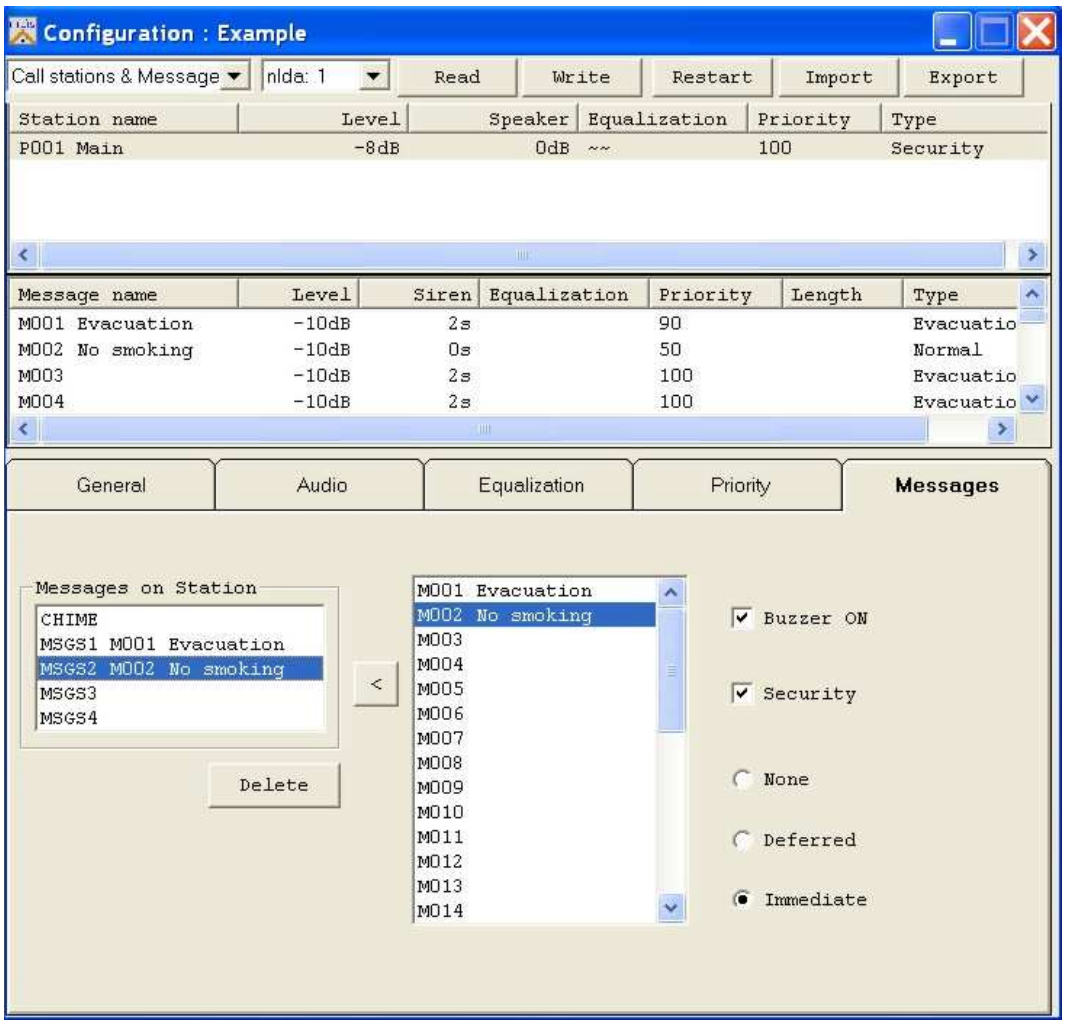
CALL STATIONS > PRIORITY



Priority

The priority of the corresponding call station can be adjusted through the slider ***Priority***. It can range from 0 to 100.

CALL STATIONS > MESSAGES



Message allocation on call station

To allocate a message on a call station, the following procedure has to be done :

- Select a message in the ***Messages on station*** list (up to 4 messages can be set on a PSS, MSGS1 to MSGS4)
- Select the corresponding message in the ***Messages*** list (up to 32 messages can be configured in an application)
- Click on the command button **<** to allocate the message

Message deletion on call station

To delete a message on a call station, the following procedure has to be done :

- Select an allocated message in the ***Messages on station*** list
- Click on the command button ***Delete***

Buzzer ON

The check button ***Buzzer ON*** enables the call station buzzer in case of fault.

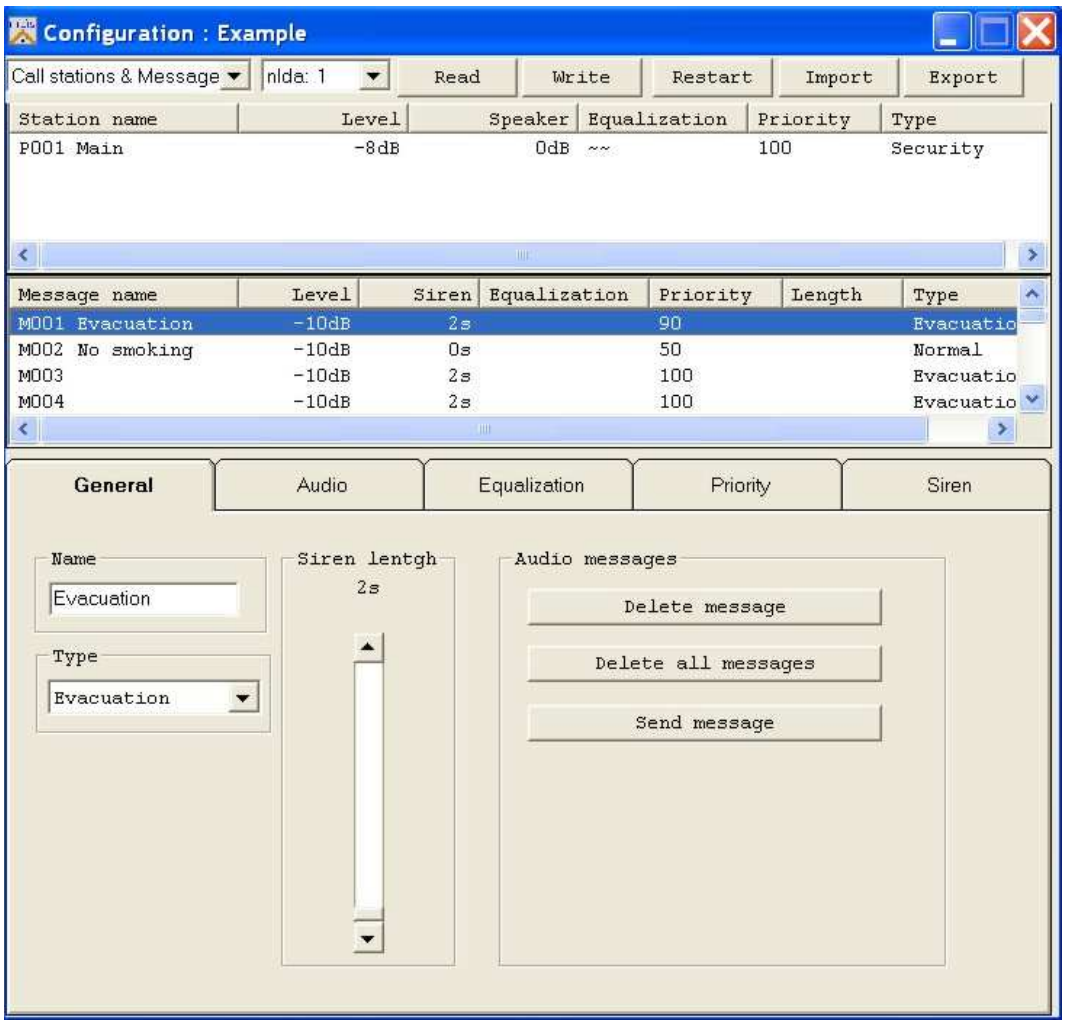
Call station type

The check button ***Security*** selects the type of call station.

Fault reaction

The option button ***Fault reaction*** selects the kind of fault which appears in case of call station absence.
The difference between immediate and deferred fault is described on section 1.4 Fault description.

MESSAGES > GENERAL



Name

The text box ***Name*** defines the name of the message.
The maximal length of the message name is 11 alphanumerical characters.

Type

The roll list ***Type*** defines the type of message : Evacuation or Normal.

Siren length

The slider ***Siren length*** adjusts the length of the siren before the message diffusion.
The adjustment can be defined between 0 and 255 seconds.

Delete message

The command button ***Delete message*** deletes the selected message if stored in IDA's memory.

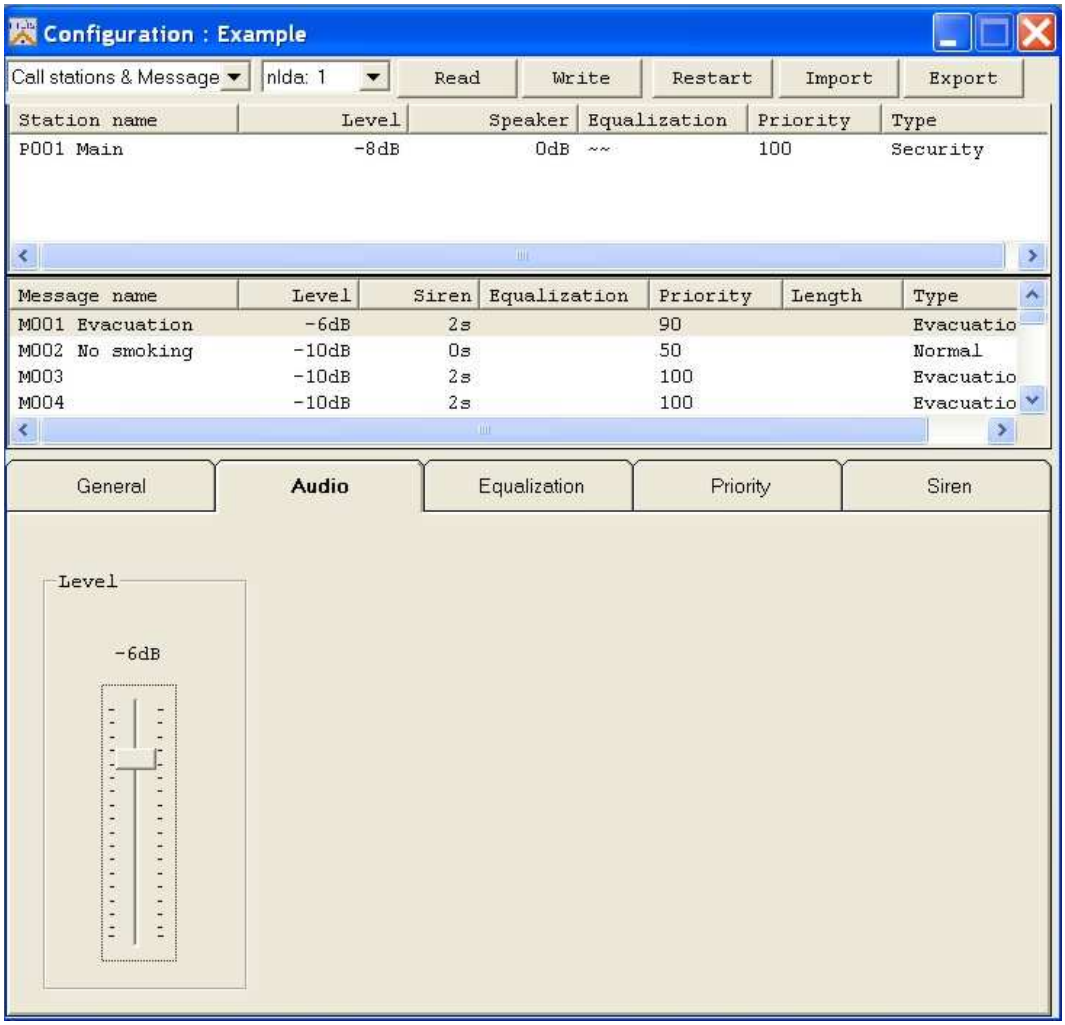
Delete all messages

The command button ***Delete all messages*** deletes all the messages which are stored in IDA's memory.

Send message

The command button ***Send message*** saves in IDA's memory a recorded message stored on PC (*.wav format). The sampling of messages must be 16 bits 16kHz.
The maximal length including all messages is 2 minutes and 11 seconds.
Message recording through 0dB input is not allowed on IDA4XM.

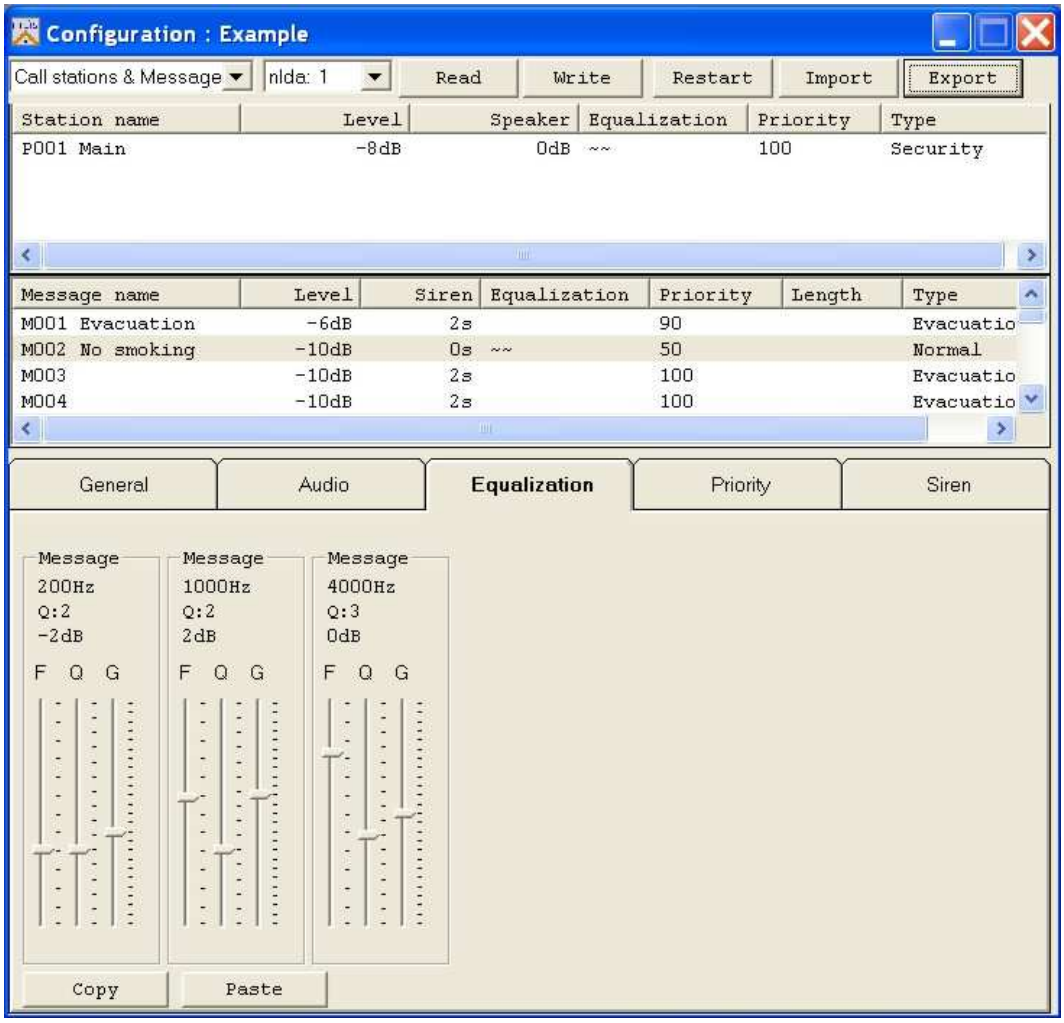
MESSAGES > AUDIO



Level

The slider ***Level*** adjusts the message level for the selected message.
The adjustment can be defined between –70 and +12 dB.
Message signal is OFF if the ***Level*** slider is put on its bottom end.

MESSAGES > EQUALIZATION



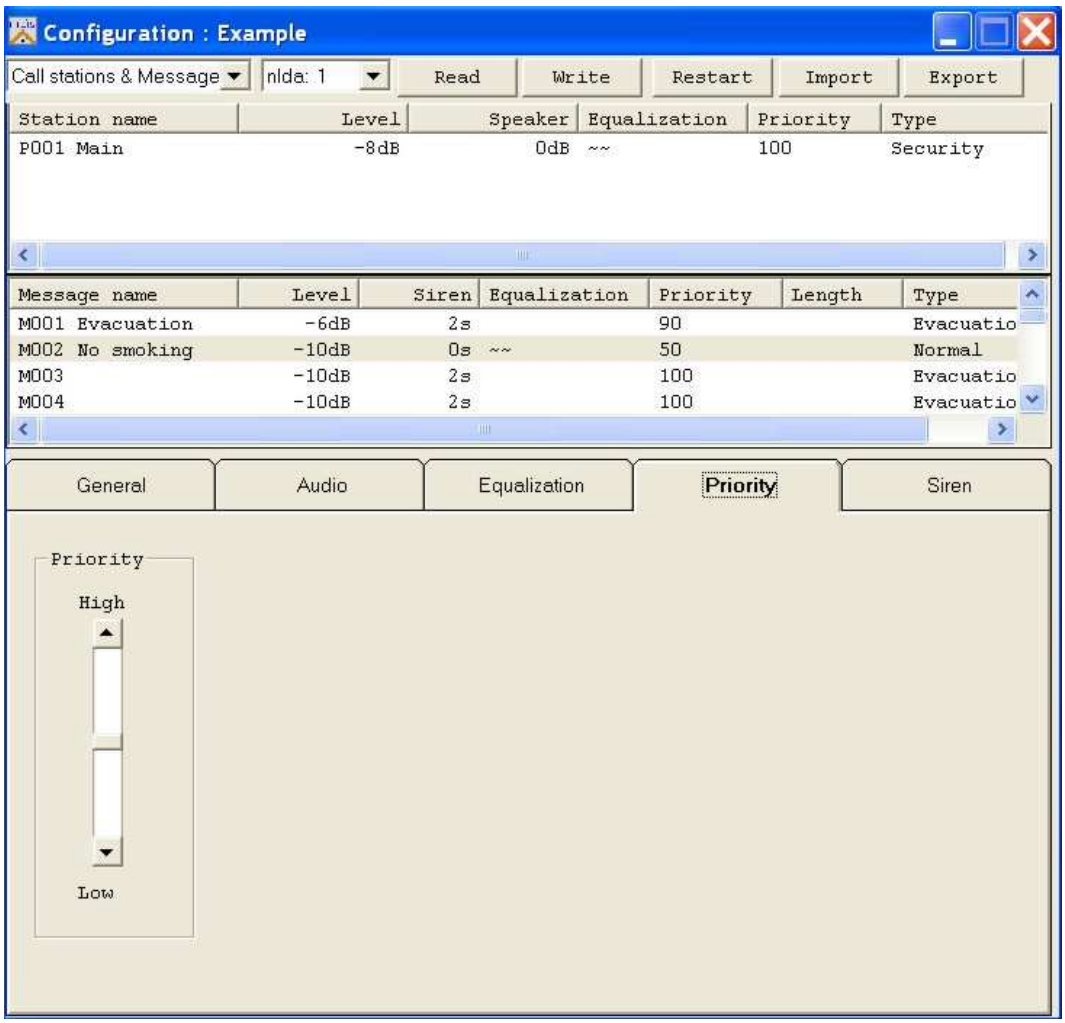
Parametric equalization

The message signal can be adjusted with a 3-bands equalizer.
The slider ***F*** defines the frequency between 20 and 19 000 Hz.
The slider ***Q*** defines the Q parameter (which is corresponding to the bandwidth) between 1/3 and 12.
The slider ***G*** defines the output level of the corresponding band between –12 and +12 dB.

Copy / Paste

The command buttons ***Copy*** and ***Paste*** enable the copy of one band settings on other bands.

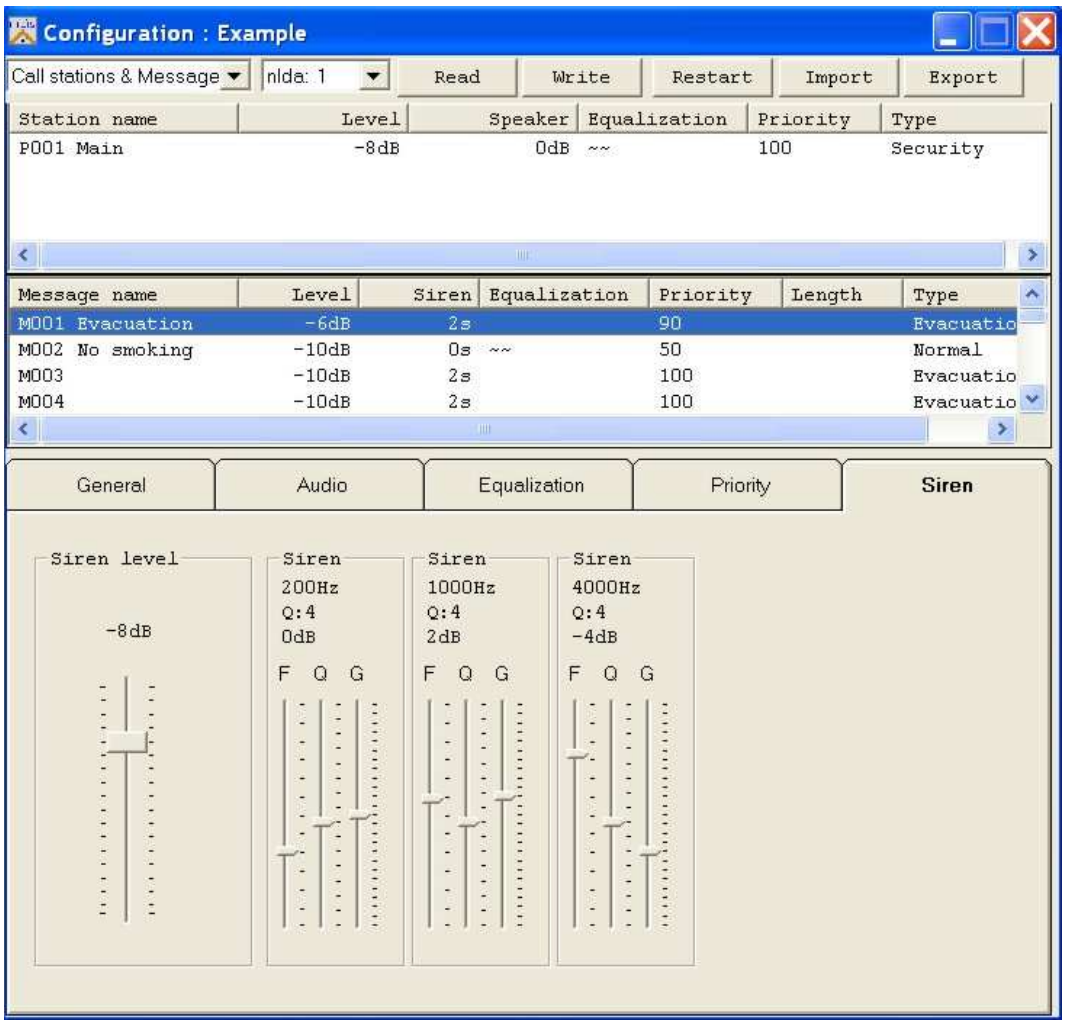
MESSAGES > PRIORITY



Priority

The priority level (0 to 100) of the corresponding message can be adjusted through the slider ***Priority***.

MESSAGES > SIREN



Siren level

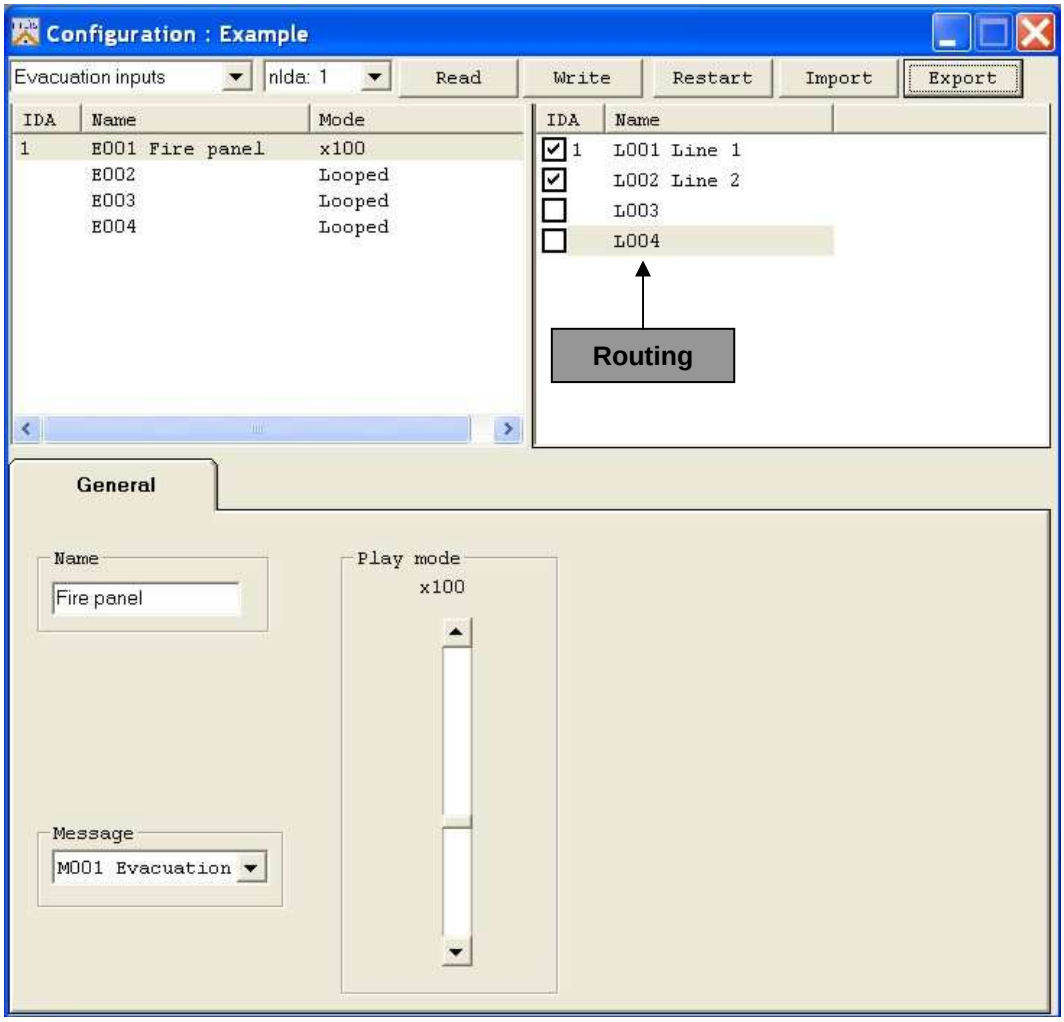
The slider ***Siren level*** adjusts the siren level for all messages configured with siren.
The adjustment can be defined between –71 and +12 dB.

Parametric equalization

The siren signal can be adjusted with a 3-bands equalizer.
The slider ***F*** defines the frequency between 20 and 19 000 Hz.
The slider ***Q*** defines the Q parameter (which is corresponding to the bandwidth) between 1/3 and 12.
The slider ***G*** defines the output level of the corresponding band between –12 and +12 dB.

1.3.5 Evacuation inputs

Four evacuation inputs can be configured on each IDA.



Name

The text box ***Name*** defines the name of the evacuation input.
The maximal length of the evacuation input name is 11 alphanumerical characters.

Message

The roll box ***Message*** selects the message which is played back when the corresponding evacuation input is active.

Play mode

The slider ***Play mode*** adjusts the number of times the message is playing back.
The adjustment can be defined between 1 and 255 times.
Play mode is Looped if the ***Play mode*** slider is put on its bottom end.

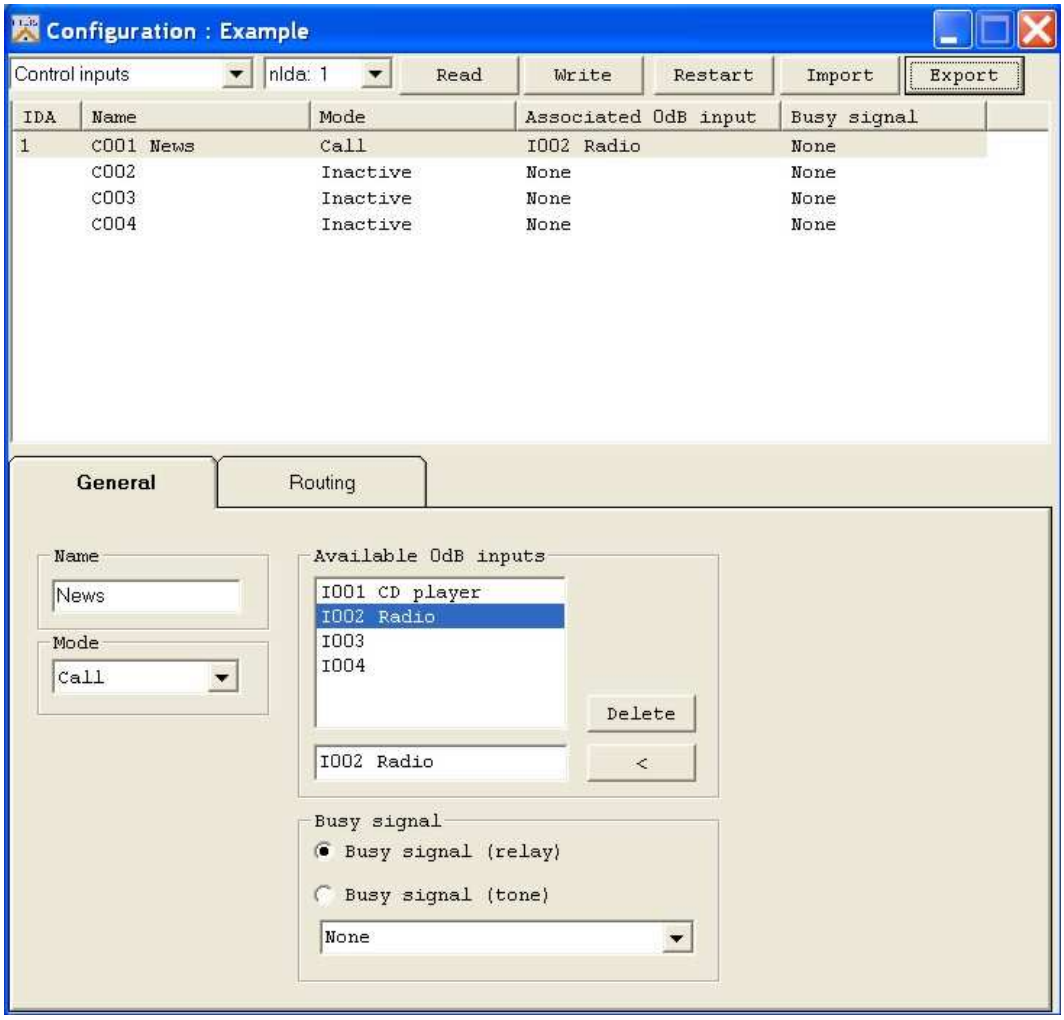
Routing

The zones on which the message is played back can be selected through the check boxes ***Routing***.

1.3.6 Control inputs

Four control inputs can be configured on each IDA.

CONTROL INPUTS > GENERAL



Name

The text box ***Name*** defines the name of the control input.
The maximal length of the control input name is 11 alphanumerical characters.

Mode

The roll list ***Mode*** selects the call playing mode : inactive, call or chime + call.
Chime must have been first stored on IDA's memory. See section 3.4 MESSAGES > GENERAL to send the message "Chime" (wave file).

Source allocation on control input

To allocate a source (0dB input) to a control input, the following procedure has to be done :

- Select a source in the ***Available 0dB inputs*** list
- Click on the command button **<** to allocate the message

Source deletion on control input

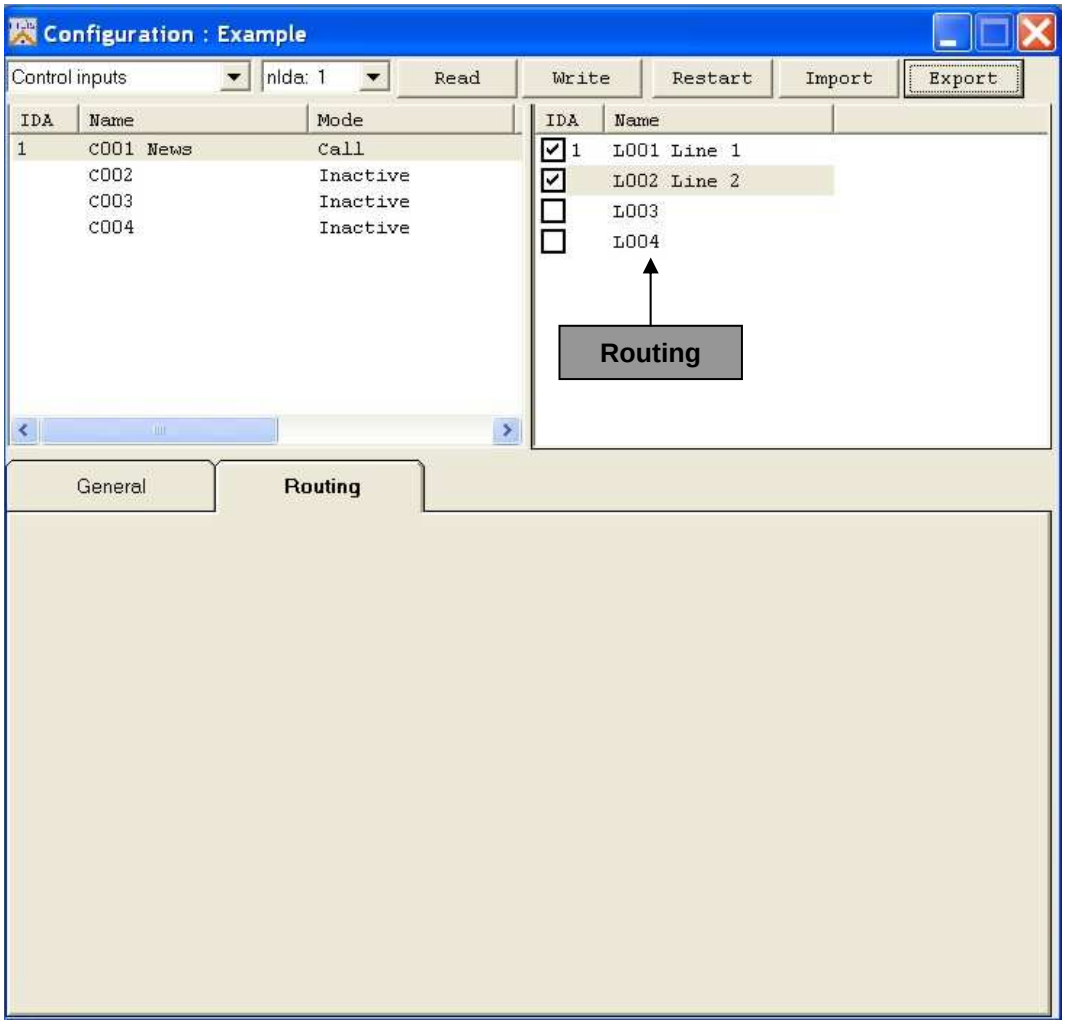
To delete a source on a control input, the following procedure has to be done :

- Click on the command button ***Delete***

Busy signal

When an higher priority message or call is currently played on the zones allocated to the control input, either a relay is commuted on the selected contact output or a 400 Hz tone is played on the selected 0dB output. The roll list ***Busy signal*** selects the contact or the 0dB output.
Tone must have been first stored on IDA's memory. See section 3.4 MESSAGES > GENERAL to send the message "Tone" (wave file).

CONTROL INPUTS > ROUTING



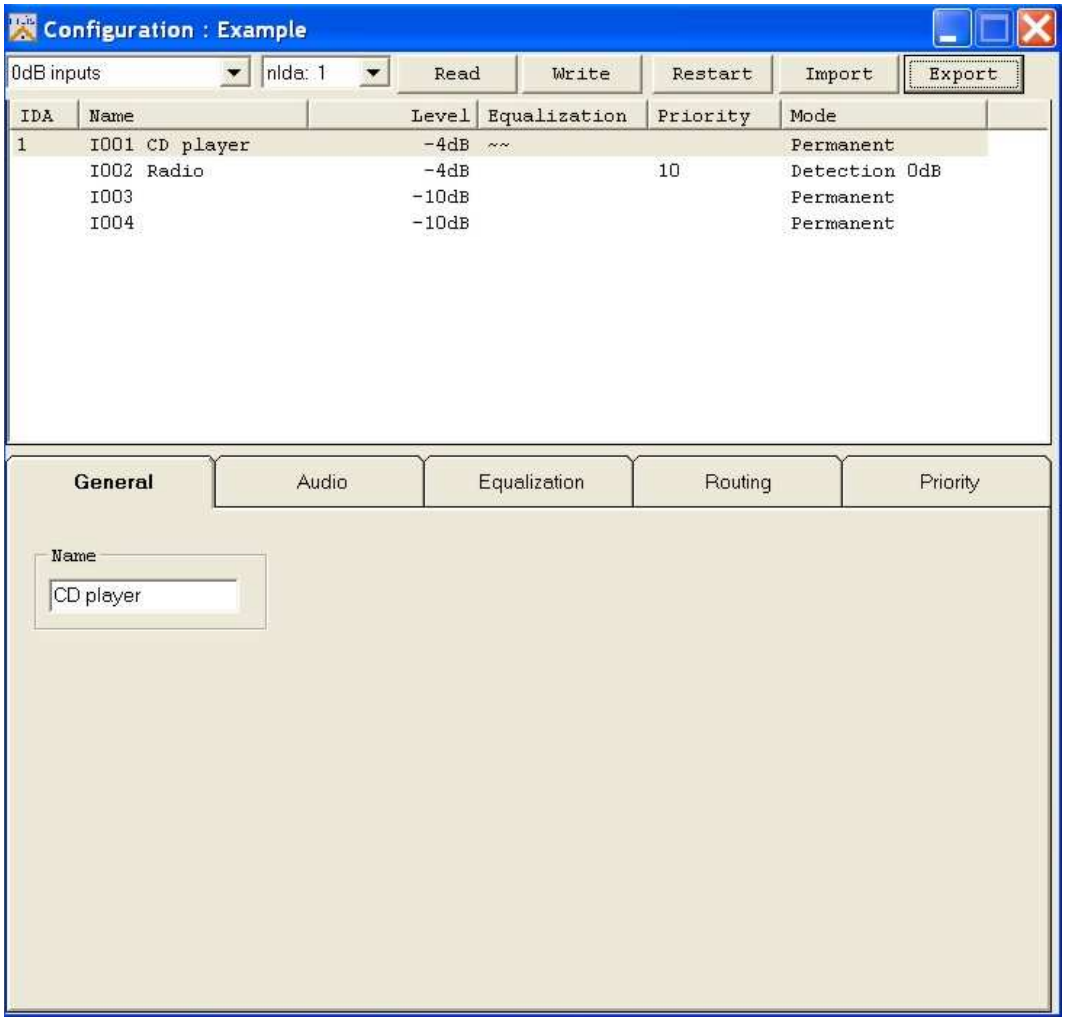
Routing

The check buttons ***Routing*** enable the routing of the control input's allocated source on defined zones.

1.3.7 Sources (0dB inputs)

Four 0dB inputs can be configured on each IDA.

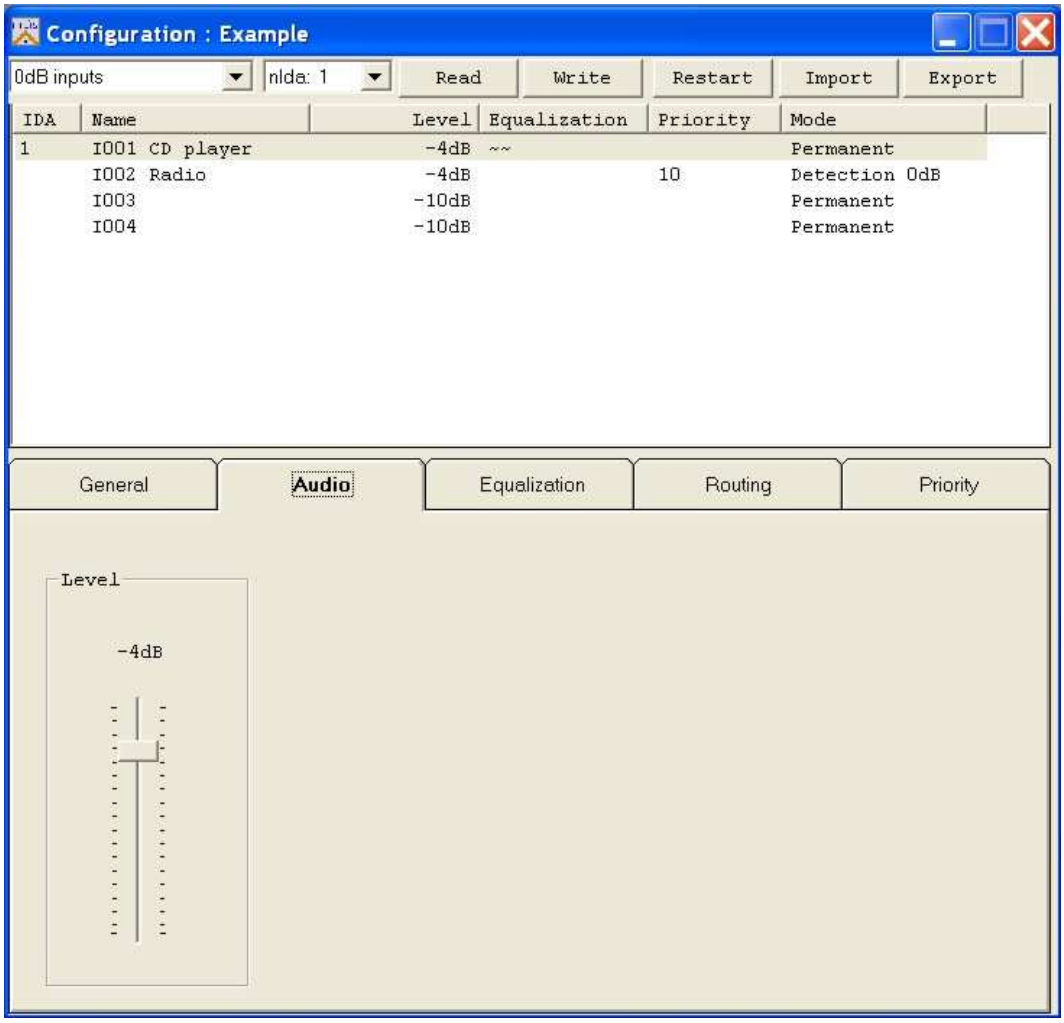
0dB INPUTS > GENERAL



Name

The text box ***Name*** defines the name of the 0dB input.
The maximal length of the 0dB input name is 11 alphanumerical characters.

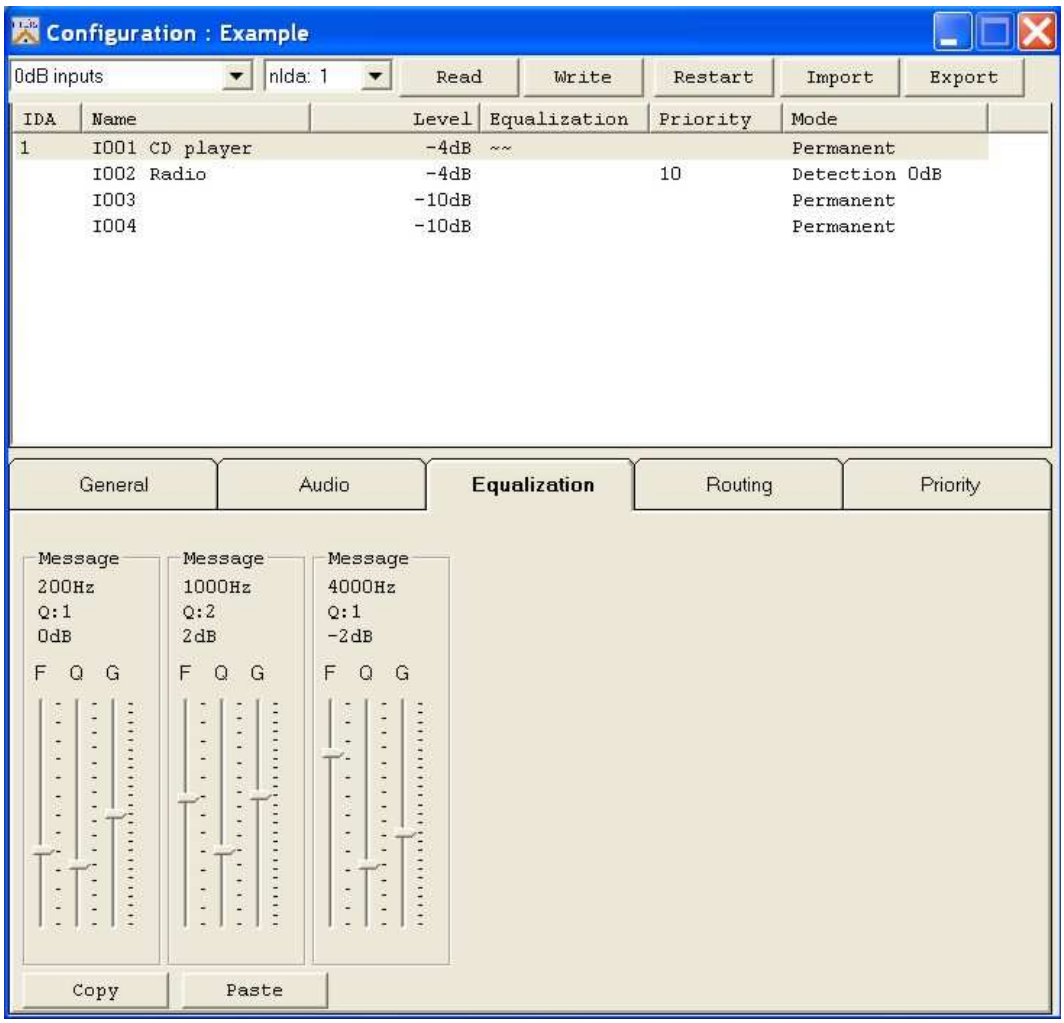
0dB INPUTS > AUDIO



Level

The slider ***Level*** adjusts the input level of the selected 0dB input.
The adjustment can be defined between –70 and +12 dB.
Input signal is OFF if the ***Level*** slider is put on its bottom end.

0dB INPUTS > EQUALIZATION



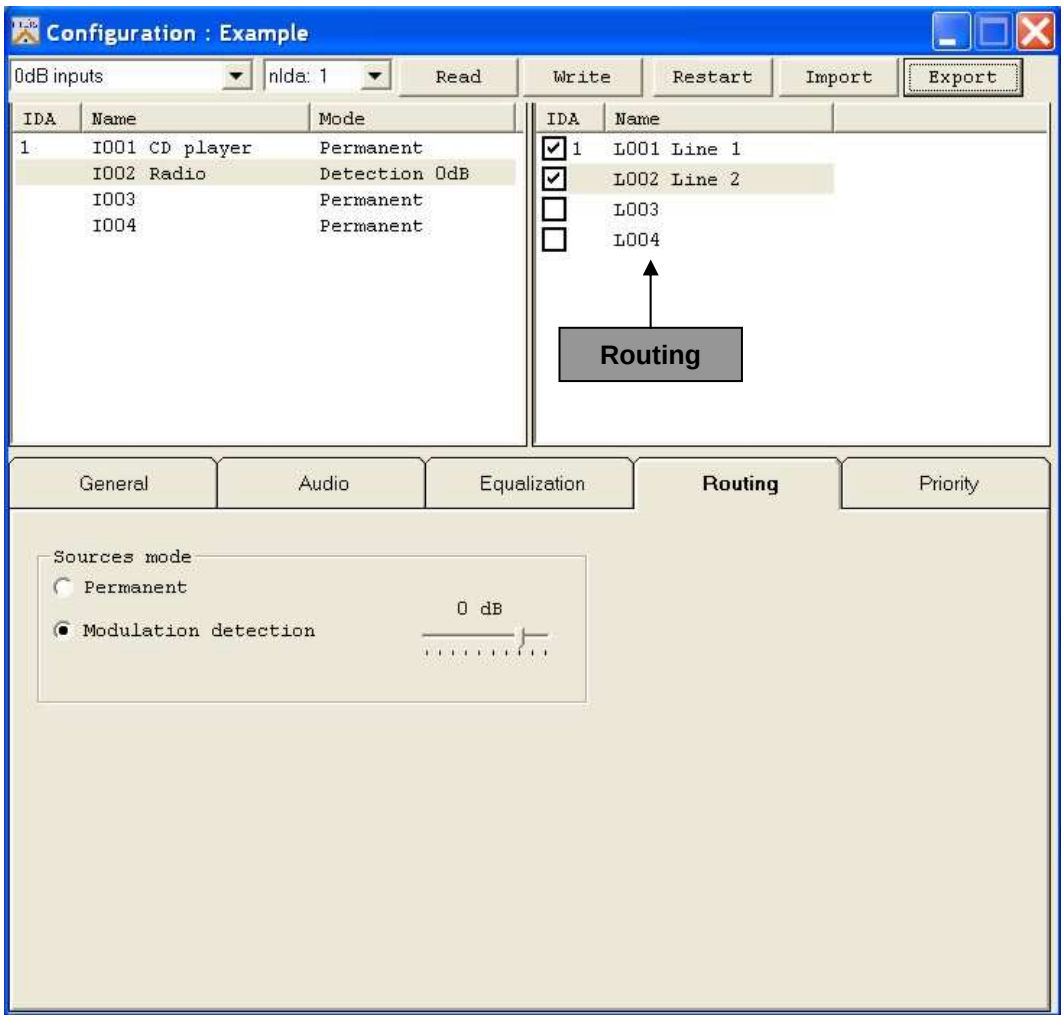
Parametric equalization

The input audio signal can be adjusted with a 3-bands equalizer.
The slider ***F*** defines the frequency between 20 and 19 000 Hz.
The slider ***Q*** defines the Q parameter (which is corresponding to the bandwidth) between 1/3 and 12.
The slider ***G*** defines the output level of the corresponding band between –12 and +12 dB.

Copy / Paste

The command buttons ***Copy*** and ***Paste*** enable the copy of one band settings on other bands.

0dB INPUTS > ROUTING



Sources mode

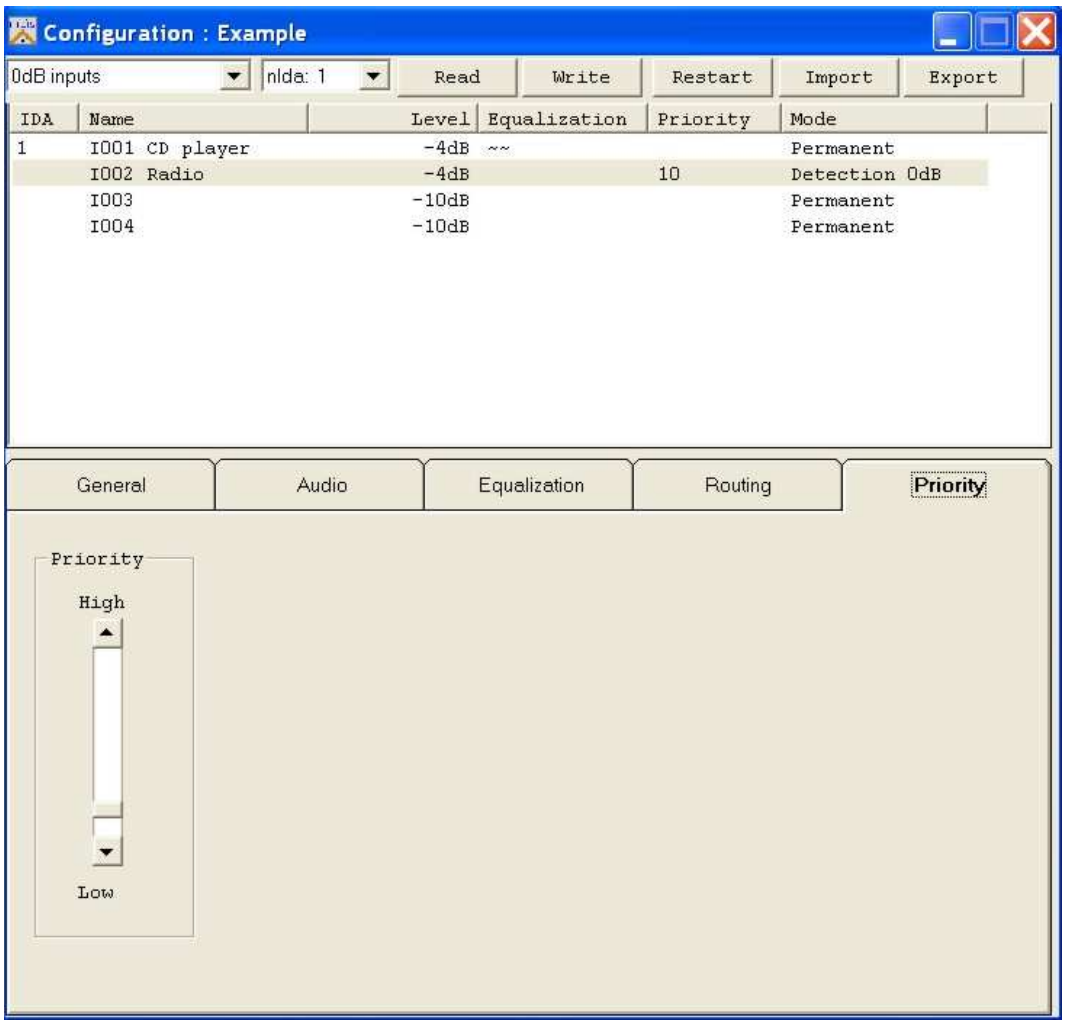
The option button ***Sources mode*** selects the mode of routing :

- Permanent The source is routed permanently to the fixed zones.
- Modulation detection (VOX activation) The Source routing is active if the source level exceeds defined threshold. This threshold is adjustable through a slider from -70 to +20 dB.

Routing

The check buttons ***Routing*** enable the routing of the corresponding source on defined zones.

0dB INPUTS > PRIORITY



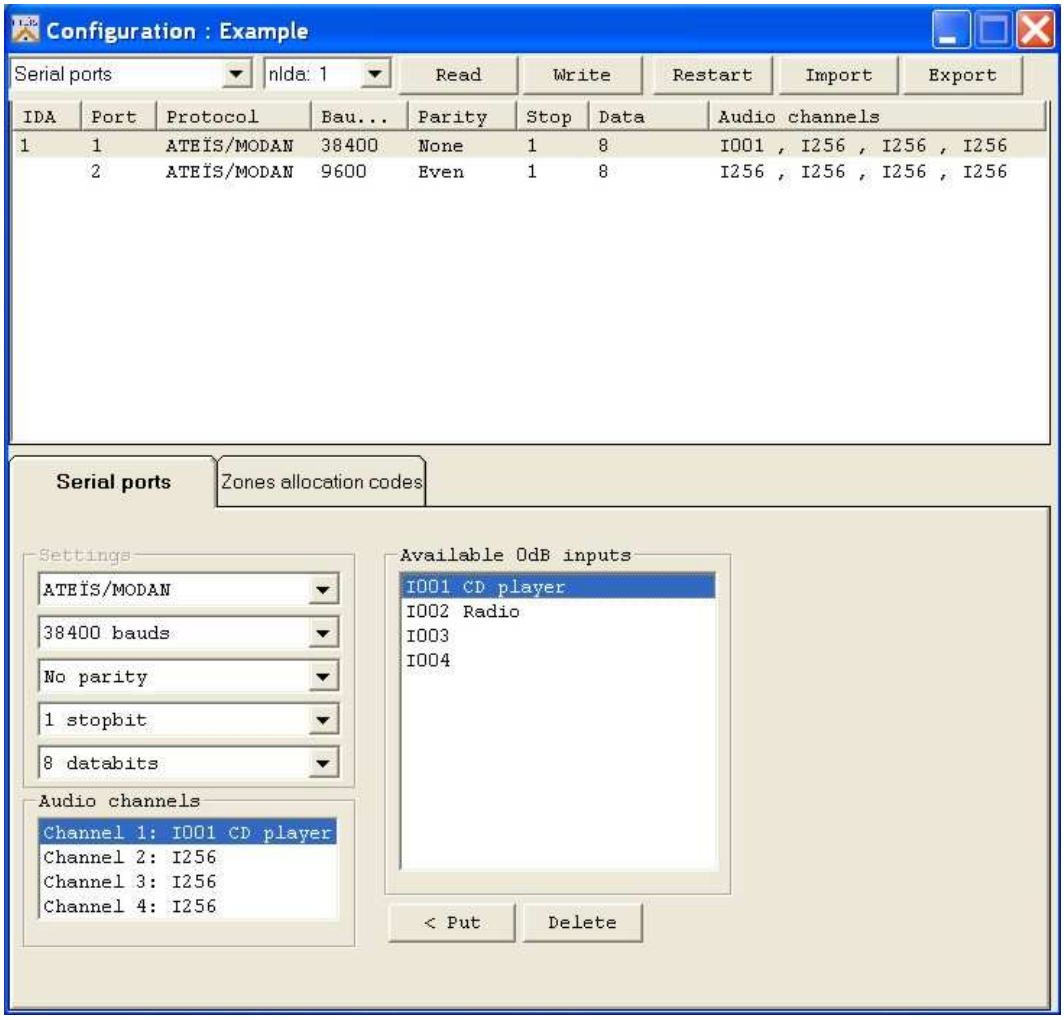
Priority

The priority of the corresponding source can be adjusted through the slider ***Priority***. In permanent mode, the priority can't be adjusted and is set to Low.

1.3.8 Serial ports

Two serial ports can be configured on each IDA.

SERIAL PORTS > SERIAL PORTS



Settings

All serial port parameters can be set through the several roll lists ***Protocol***, ***Baud rate***, ***Parity***, ***Stop*** and ***Data bits***.

Source allocation on channel

To allocate a source (0dB input) to a channel, the following procedure has to be done :

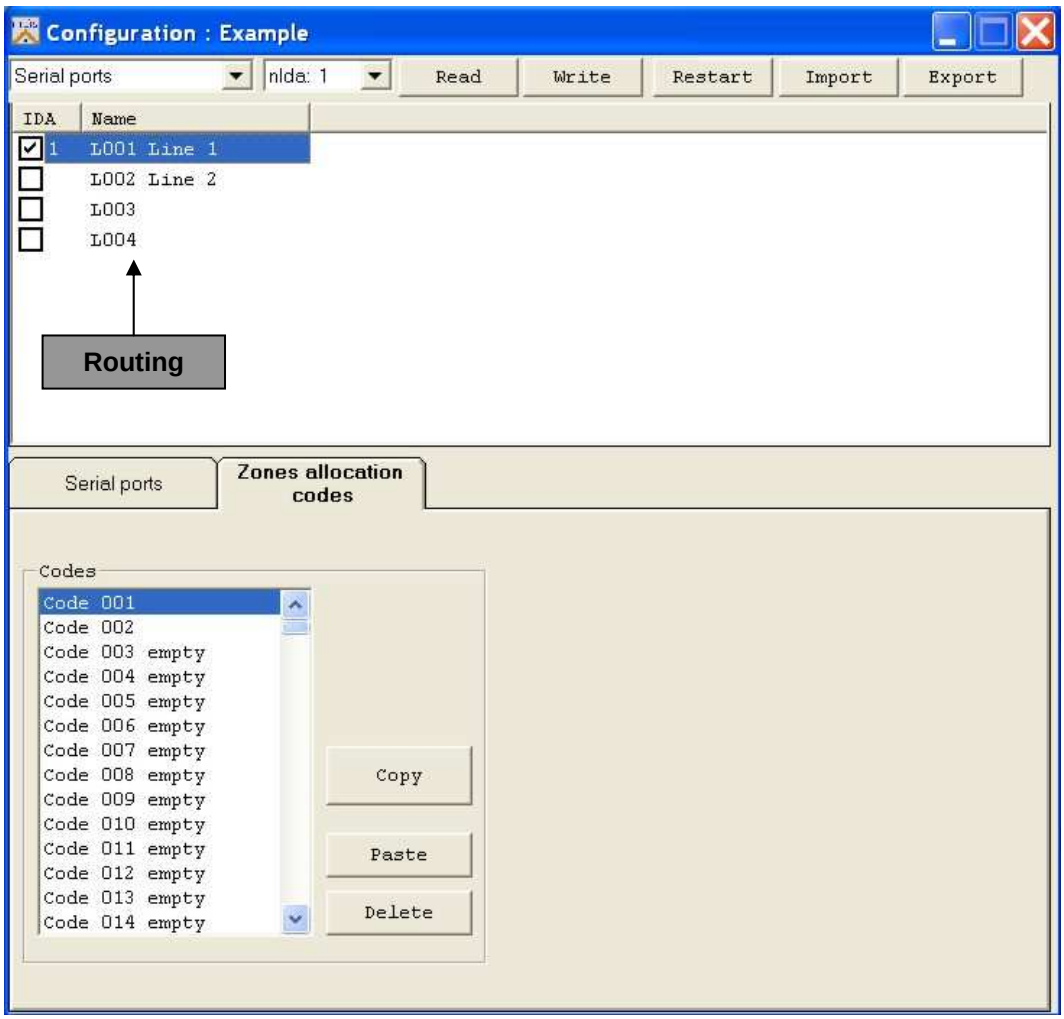
- Select a source in the ***Available 0dB inputs*** list
- Select the corresponding channel in the ***Audio channels*** list
- Click on the command button ***< Put*** to allocate the source

Source deletion on channel

To delete a source on a channel, the following procedure has to be done :

- Select a channel in the ***Audio channels*** list
- Click on the command button ***Delete***

SERIAL PORTS > ZONES ALLOCATION CODES



Codes

Codes correspond to selected zones on which the channel must be routed.
To allocate zones on codes, the following procedure has to be done :

- Select a code in the *Codes* list
- Configure the check buttons ***Routing***

Copy

The command button ***Copy*** copies the allocated zones of the selected code.

Paste

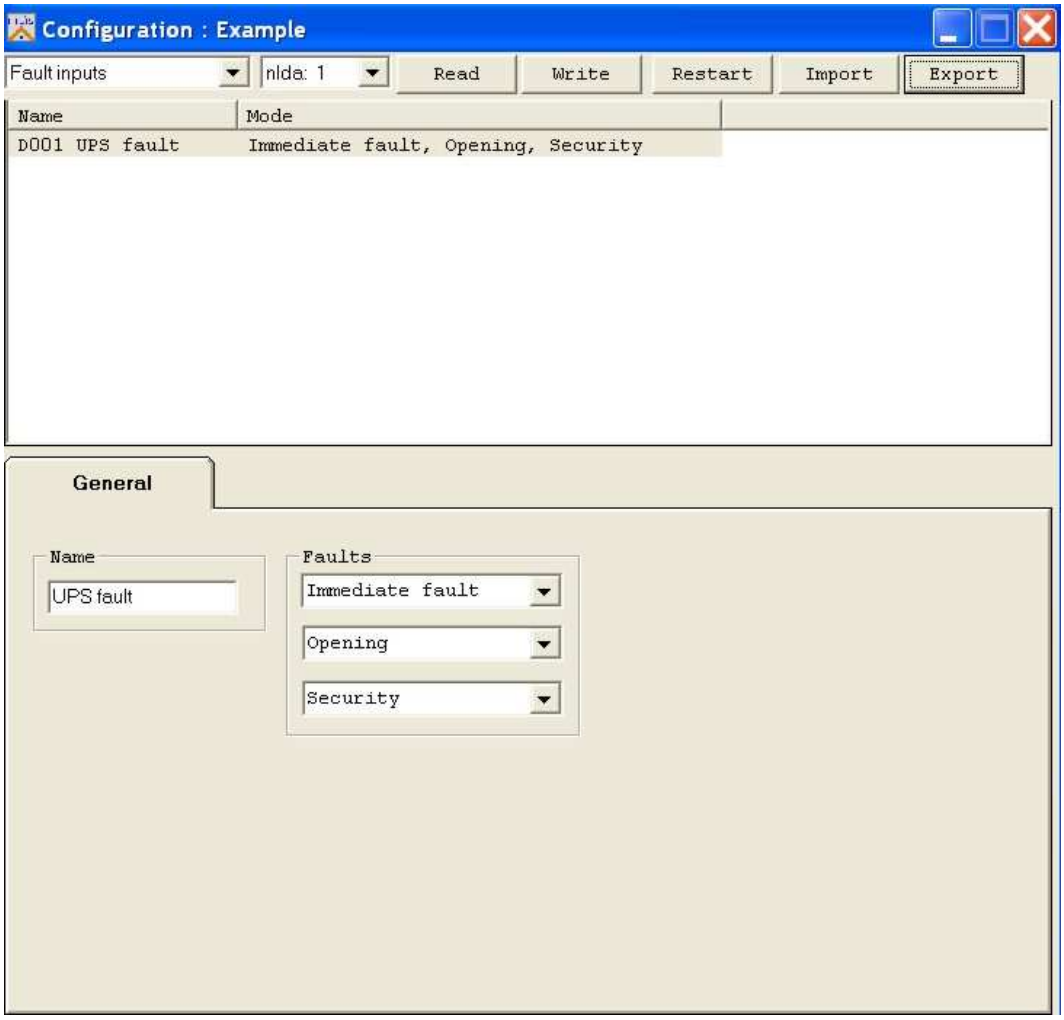
The command button ***Paste*** pastes in the selected code the zone which were first copied through the command button ***Copy***.

Delete

The command button ***Delete*** deletes the allocated zones of the selected code. After a ***Delete*** command, the code is empty.

1.3.9 Fault inputs

One fault input can be configured on each IDA.



Name

The text box ***Name*** defines the name of the fault input.
The maximal length of the fault input name is 11 alphanumerical characters.

Faults

The roll lists ***Faults*** define the kind of fault :

- Immediate or deferred fault, or inactive
- Opening or closing (contact normally close or normally open)
- Security or normal

1.4 FAULT DESCRIPTION

1.4.1 Fault type

Immediate faults

- All call station-related faults
- Fault inputs if immediate type selected
- All LS line-related faults (except leakage fault)
- Power amplifier-related faults if no backup amplifier
- Power amplifier-related faults if backup amplifier OL
- No message in memory fault

Deferred faults

- Power amplifier-related faults if backup amplifier OK
- Backup amplifier-related faults if all power amplifiers OK
- LS line earth leakage fault
- Fault inputs if deferred type selected

Security faults

- Fault inputs if security type selected

1.4.2 Fault consequences

Immediate faults

On IDA Master

- Yellow LED “Fault” lighted
- Fault display on LCD
- Remote control outputs open
- Immediate fault general relay open
- Deferred fault general relay closed

On IDA Slave

- Yellow LED “Fault” lighted if link with Master disconnected or presence of immediate fault on this unit

On call station (if option ***Fault display on call station*** selected – see section 1.3.4)

- Yellow LED “Fault” blinking
- “DEF I” display on the zones (keys) concerned by the immediate fault
- Fault display on the screen right bottom
- Buzzer on

Deferred faults

On IDA Master

- Fault display on LCD
- Deferred fault general relay open
- Immediate fault general relay closed

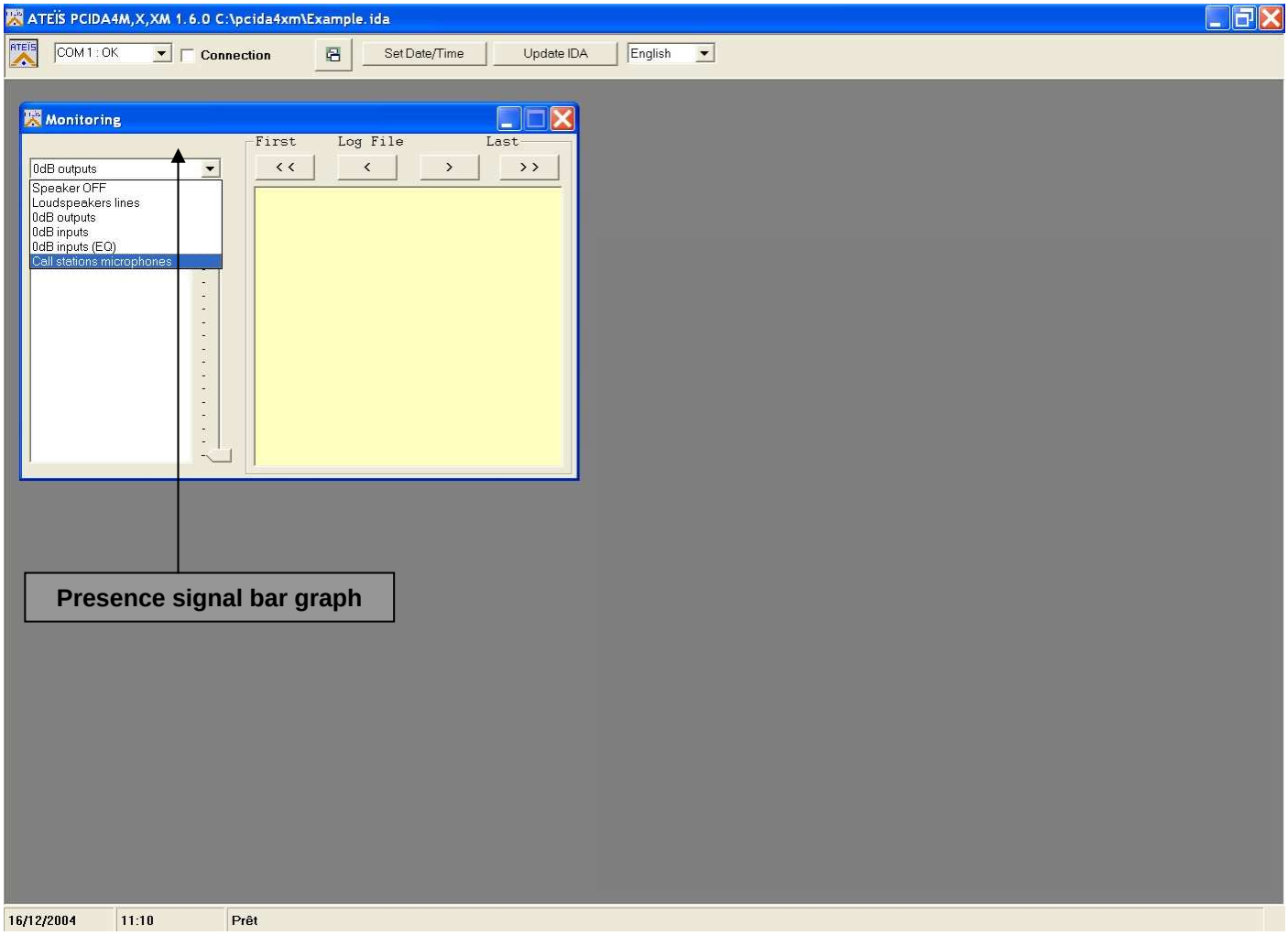
On call station (if option ***Fault display on call station*** selected – see section 1.3.4)

- Yellow LED “Fault” blinking
- “DEF D” display on the zones (keys) concerned by the deferred fault
- Fault display on the screen right bottom

Security faults

Evacuation messages and call stations defined as security call stations are allowed. All other functions are not allowed. Music is switched OFF, calls on not security call stations are not permitted …

1.5 MONITORING



Monitoring selection

The roll list ***Monitoring selection*** enables the selection of the signal which has to be routed to the monitoring loudspeaker (8 ohms).

- Speaker OFF — No signal
- Loudspeakers lines — Zone signal after amplification
- 0dB outputs — Zone signal before amplification
- 0dB inputs — Source signal before equalization
- 0db inputs (EQ) — Source signal after equalization
- Call stations microphones — Call station microphone signal

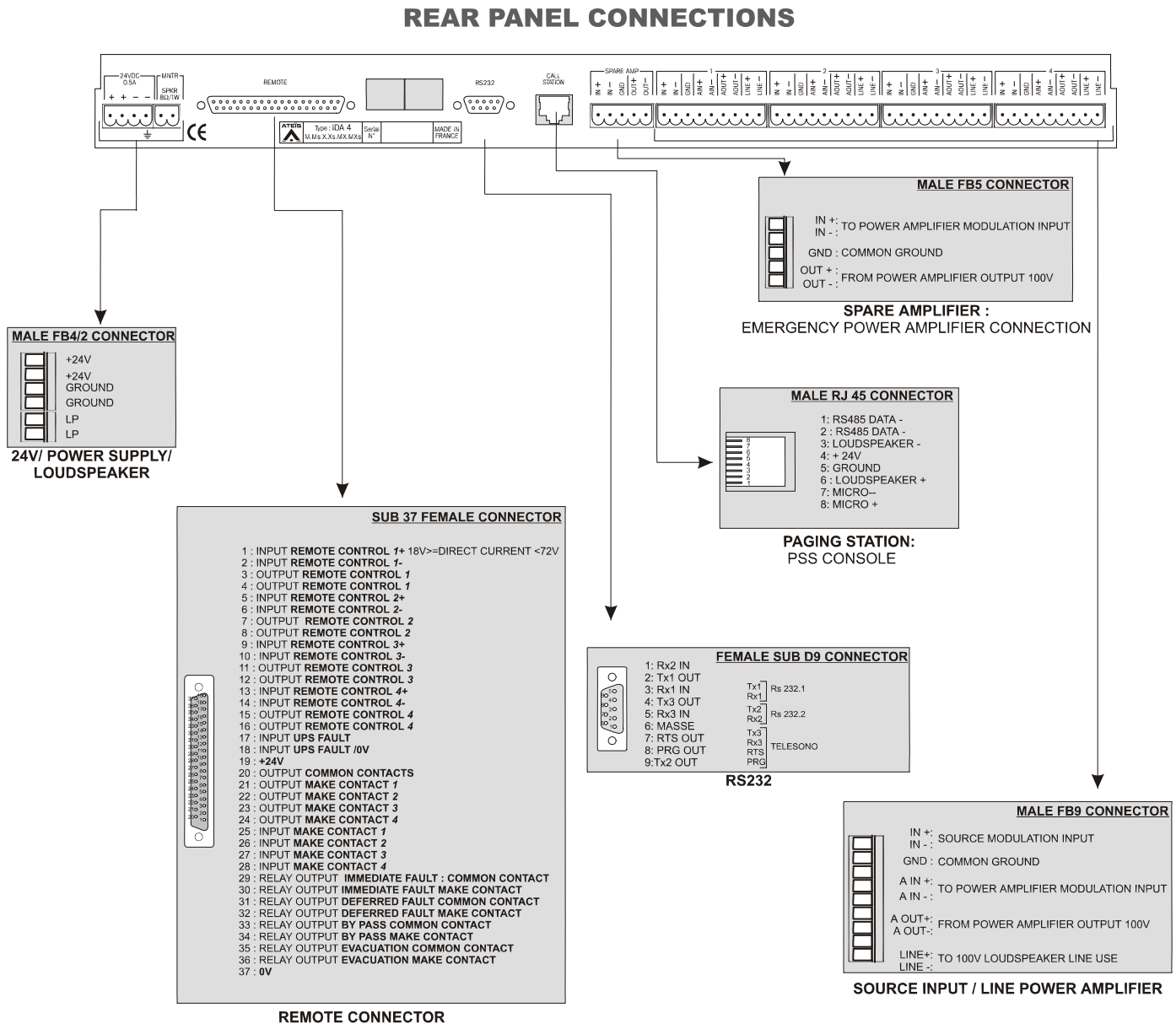
Volume setting

The slider adjusts the volume of the signal on the monitoring loudspeaker.

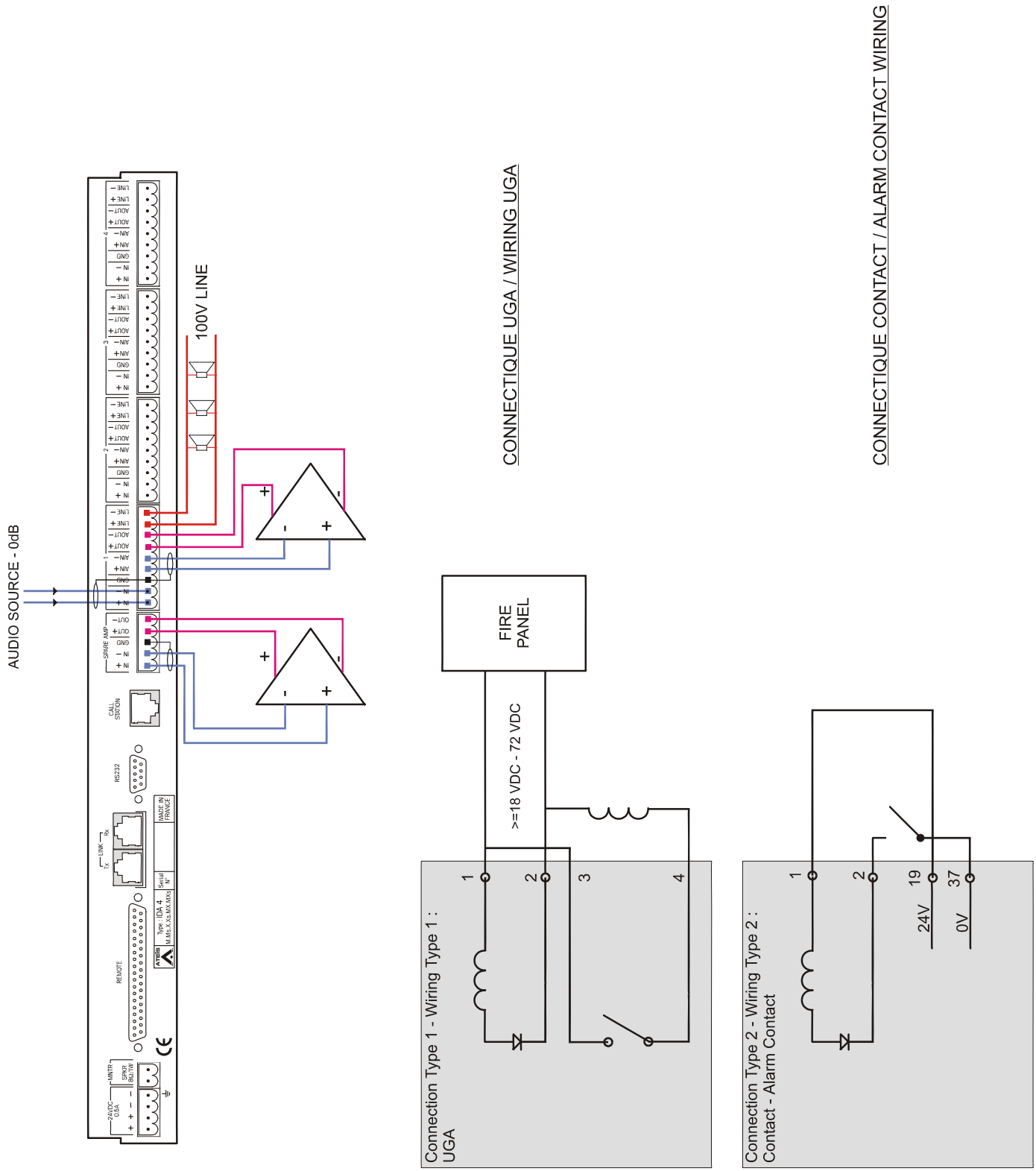
Signal presence

The presence of signal can be controlled by a bar graph which appears on the top of the window (only if signal is present).

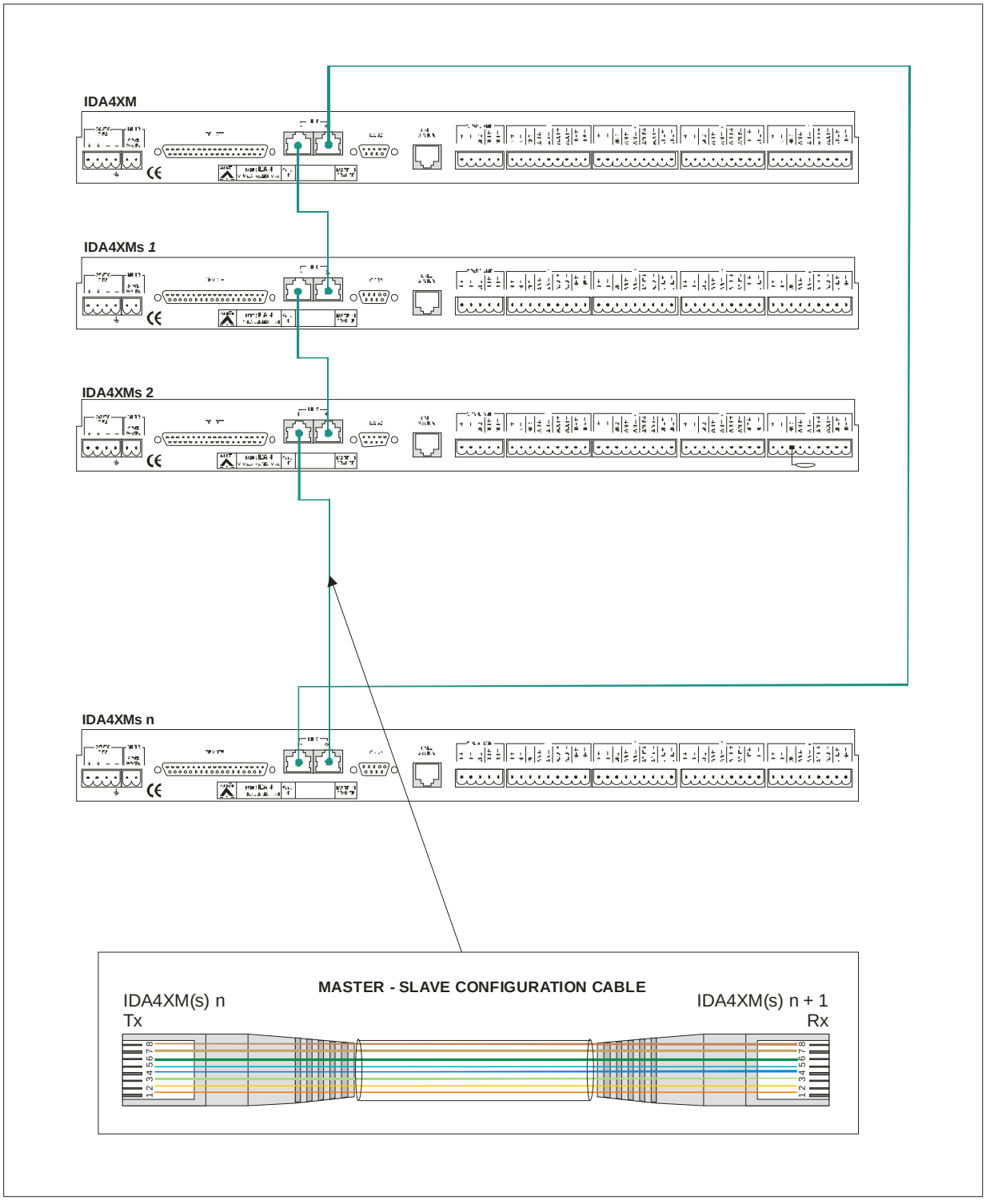
2 HARDWARE
2.1 REAR PANEL CONNECTIONS



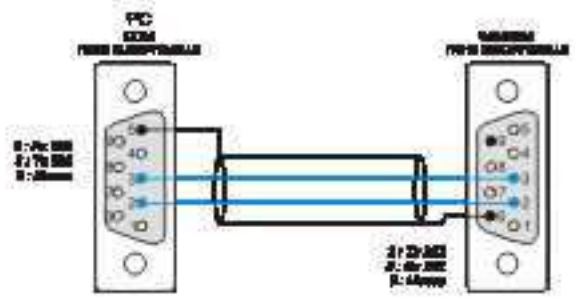
2.2 BASE WIRING DIAGRAM



2.3 MASTER – SLAVE WIRING DIAGRAM



2.4 PC – IDA WIRING DIAGRAM



2.5 TECHNICAL FEATURES

0 dB inputs / outputs	Audio input impedance: 10 kOhms (balanced, screw terminal) Input sensivity: 0 dB Audio output impedance: 50 Ohms (balanced, screw terminal) Output level: 0 dB Max. input / output level: +14 dBv Audio bandwidth: 10 Hz to 22 kHz Sampling: 48 kHz 24 bits Distortion: 0.02 % to 1 kHz Output noise: < -84 dBu Lin, < -88 dBu A-weighted Output dynamic: > 98 dBu Lin, > 102 dBu A-weighted
100 V inputs / outputs	Max. power per channel: 500 W Amplifier gain measurement: 1 kHz, 18 kHz Line impedance measurement: 100 V 1 kHz 18 kHz
Digital audio messages	Bandwidth: 8 kHz Sampling 16 kHz 16 bits 4 messages, total length 2 minutes and 11 seconds
Evacuation / control inputs / outputs	4 evacuation (alarm) inputs (activation 24 – 72 V) 4 contact outputs 1 contact input (main power fault or battery backup fault) 1 contact output (fault synthesis)
Serial connections	1 RS485 connection to PSS microphone 2 RS232 connections to a configuration PC or a message base
Size and material	Metal enclosure 1U 19” grey RAL 7016 L * W * D: 430 * 44 * 230 mm Weight: 3 Kg
Power supply	24 VDC (power supply 230 VAC / 24 VDC included) 300 mA without PSS microphone, 750 mA with PSS microphone