91040 27/12/10

OPTIMUS

English

DC-600ETH

Control central and paging desk

Operating instructions

Nº.

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1. INTRODUCTION

Control central with connection to IP network.

Supports the broadcast of announcements and music through an IP network, via streaming, in addition to control data and equipment configuration.

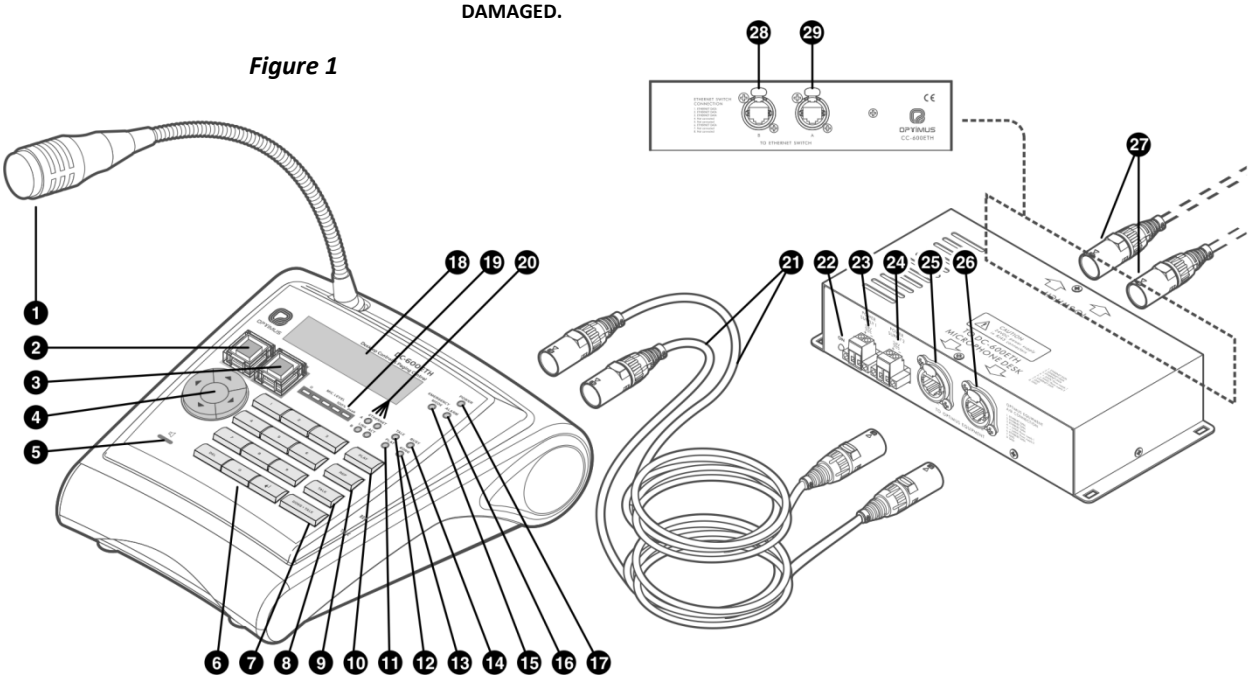
Principal characteristics:

- Digital audio and control data via an IP connection (UDP/IP Multicast).
- Double Ethernet connection for installations with redundant network systems.
- Operation in stand-alone mode or with P.A. Manager control software.
- Surveillance of equipment operation by means of P.A. Manager software and/or basic TELNET functions.
- IP address configuration:
  - By means of a DIP switch, facilitating the replacement of equipment in an installation.
  - By means of the desk configuration menus.
  - In flash memory, through software.
- Constant (IP) notification of the equipment status by means of Heart beat.
- Volume control of digital amplifiers.
- Pre-recorded messages resident in the desk, located in:
  - Flash memory (remotely updateable by IP).
  - MP3 memory, locally updateable through USB connection.
- Display of system alarms.
- Display of zone status.
- Critical path surveillance (from capsule).
- Internal status surveillance.
- Primary and secondary power supply surveillance.
- Dispatch of announcements to zones and/or groups.
- Activation of pre-recorded general purpose messages.
- Key for repetition of the last live voice message.
- Special features as an emergency desk, with broadcast of live voice messages, evacuation and warning message.
- Warning and evacuation message activation buttons.
- Distinct work modes: Zone Selection Mode and Emergency Mode.
- Activation of emergency mode:
  - By activation of a contact.
  - Via password protected keypad.
  - By pressing the Evacuation or Warning button (configurable).
- Announcements with or without a pre-announcement tone (Gong).
- Customizable gong.
- Supports the connection of a music source, sending the music program via IP.
- Alarm LED indicator.
- Configurable input contacts (emergency mode / announcement mode).
- Monitor loudspeaker.

2. FRONT VIEW

ATTENTION: WHEN CONNECTING THE CC-600ETH BOX TO THE IP NETWORK, ENSURE THAT THE CONNECTORS MARKED "TO SWITCH" ARE USED. IF THE CONNECTORS MARKED "TO OPTIMUS EQUIPMENT" ARE USED BY ERROR, THE SWITCH OR ROUTER IN THE INSTALLATION MAY BE DAMAGED.

Figure 1



(1) Microphone

(2) WARNING button

Pre-evacuation announcement activation key.

Functionality:

a) In emergency mode, it sends the message assigned to the button to the emergency group.

b) In button emergency mode, it goes into emergency mode and sends the message assigned to the button to the emergency group.

c) In zone selection mode, it sends the message assigned to the button to the zone selected.

(3) EVACUATION button

Evacuation announcement activation key.

Its functionality is the same as the Warning button, but it has priority over this button (when the EVACUATION button is activated, the assigned message is activated and it cuts off the WARNING message if this is being played).

The messages assigned to the WARNING and EVACUATION buttons can be stored in the desks or in the power units of the OPTIMAX series. Both equipment units have two memories for storing messages: flash memory (WAV) and MP3 memory.
Depending on the configuration, the messages assigned can be the following:

	Zone (amplifier)	Desk
Flash memory (WAV)	Message 1, 2 or 3	Message 1 or 2
Memory (MP3)	Message 1 or 2	Any MP3

(4) MENU navigation keys and OK/CANCEL selection

(5) Monitor loudspeaker

This serves to monitor the MP3 messages and the music input of the desk itself.

(6) Numeric keypad

(7) GONG+TALK key

Used to send a live paging preceded by a GONG. First, select the zones to which the announcement is to be sent. Hold the key down while you speak.

(8) TALK button

Used to send a live voice announcement. First, select the zones to which the announcement is to be sent. Hold the key down while you speak.

(9) REP key

Key for repetition of the last live voice message sent.

(10) PLAY key

Used to send a pre-recorded message. First, select the message as well as the zones to which it is to be sent.

(11) PLAY indicator

Indicates that a pre-recorded message is being played.

(12) TALK indicator

When it lights, it indicates that you can begin to make the announcement.

(13) GONG indicator

When it lights, it indicates that the desk is generating the GONG.

(14) BUSY indicator

When it lights, it indicates that the system is busy.

(15) EMERGENCY MODE indicator

When it lights, it indicates that the desk is in emergency mode.

(16) ALARM indicator

Indicates an alarm. Software configurable.

(17) POWER indicator

Indicates that the desk is receiving power.

(18) Display

(19) MIC LEVEL indicator

Indicates the audio level of the microphone, the MP3 messages and the music input of the desk. The LED marked Peak indicates that the signal is saturated. This LED should not light.

(20) ETH A and B indicators

LINK: When lit, it indicates connection to the network through the ETHERNET A or B inputs.

ACT: When it blinks, it indicates that data is being sent or received through the ETHERNET A or B inputs.

(21) Interconnection cables between the desk and the junction box.

(22) POWER indicator

Indicates that the interconnection box is receiving power.

(23) POWER SUPPLY 1 input

24 V DC input to power the desk.

(24) POWER SUPPLY 2 input

24 V DC input to power the desk. The power supply inputs have been doubled, so that if—on account of safety regulations—the installation so requires, two independent power supplies can be connected.

(25) Connector A "To OPTIMUS Equipment"

Connection A between the desk and the CC-600ETH connection box.

(26) Connector B "To OPTIMUS Equipment"

Connection B between the desk and the CC-600ETH connection box.

(27) ETHERCON aerial connectors for connection to the IP network.

(28) Connector B "To Ethernet Switch"

Used, in a redundant network, as a secondary connection to the ETHERNET network.

(29) Connector A "To Ethernet Switch"

Used for connection of the desk to the IP network.

3. REAR VIEW

(1) 24 V DC power supply input

It can be used to power the desk without the CC-600ETH connection box.

(2) I1, I2 and I3

Configurable input contacts.

(3) MESSAGE UPDATE connector

USB connector. Through this connector, pre-recorded messages can be copied into the internal MP3 memory of the desk, where up to 16 Mb of audio files in MP3 format can be stored.

(4) ETH B connector

Used, in a redundant network, as a secondary connection to the IP network.

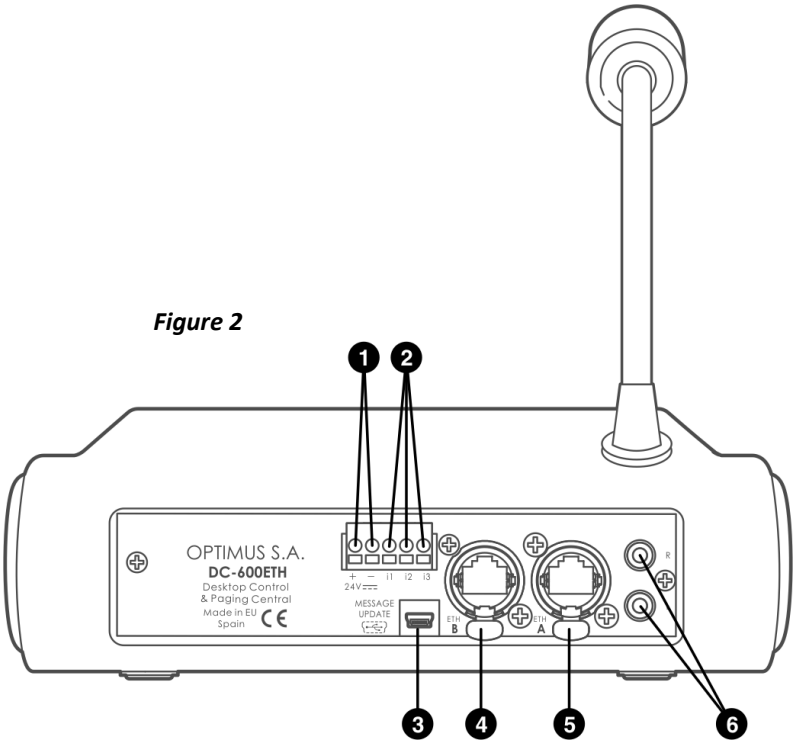
(5) ETH A connector

Used for connection of the desk to the IP network.

(6) RCA connectors R and L

They support the connection of a music source, sending the music program via IP.

Figure 2



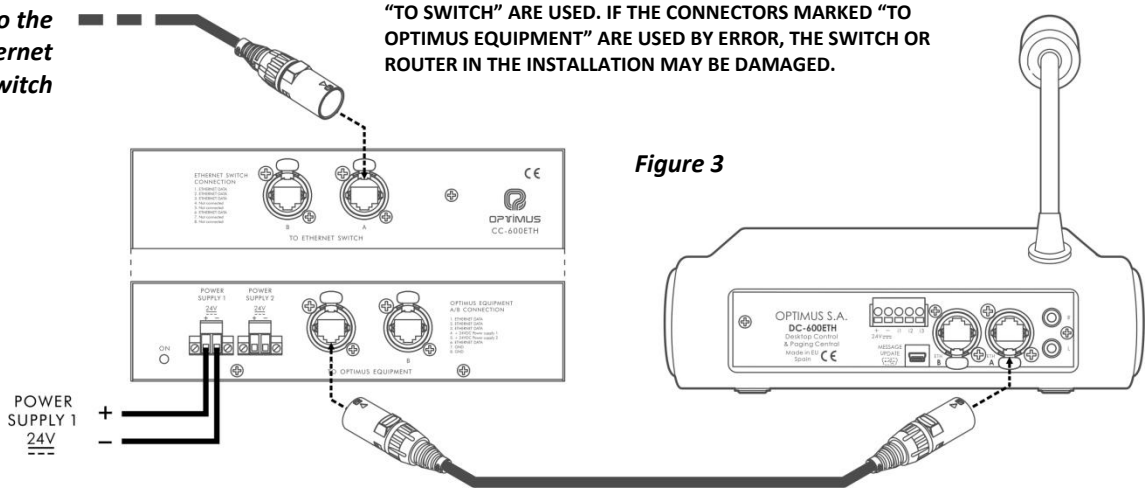
4. CONNECTIONS

4.1. Standard connection

Connection to the Ethernet switch

ATTENTION: WHEN CONNECTING THE CC-600ETH BOX TO THE IP NETWORK, ENSURE THAT THE CONNECTORS MARKED "TO SWITCH" ARE USED. IF THE CONNECTORS MARKED "TO OPTIMUS EQUIPMENT" ARE USED BY ERROR, THE SWITCH OR ROUTER IN THE INSTALLATION MAY BE DAMAGED.

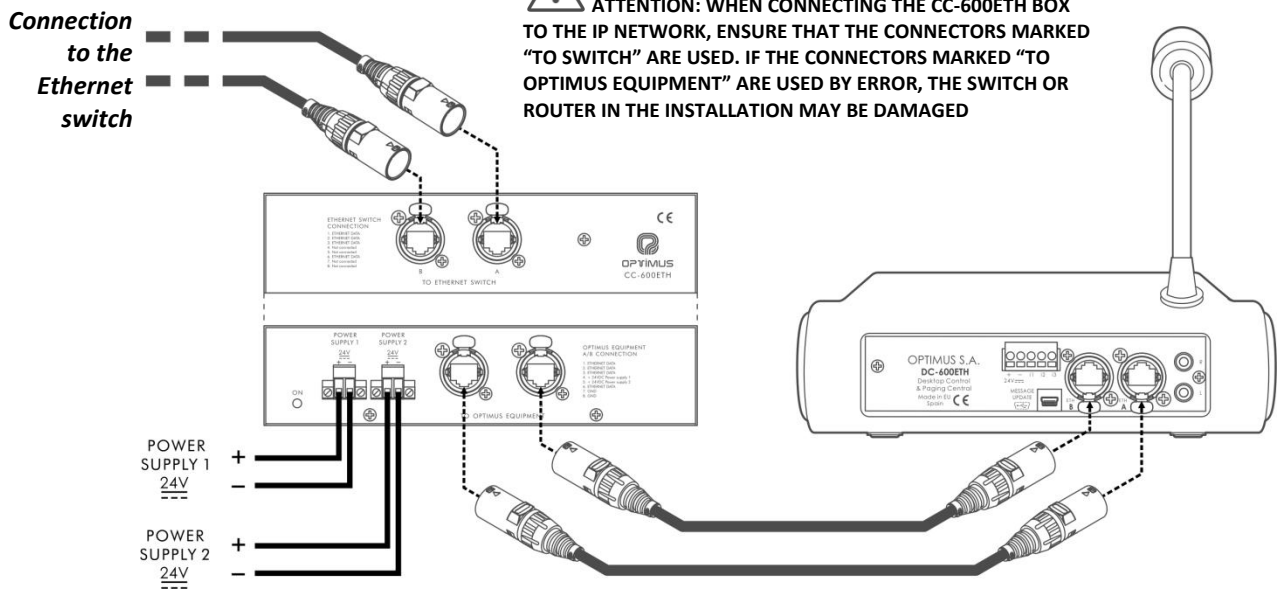
Figure 3



4.2. Connection in installations with redundant Ethernet network and double power supply

Figure 4

ATTENTION: WHEN CONNECTING THE CC-600ETH BOX TO THE IP NETWORK, ENSURE THAT THE CONNECTORS MARKED "TO SWITCH" ARE USED. IF THE CONNECTORS MARKED "TO OPTIMUS EQUIPMENT" ARE USED BY ERROR, THE SWITCH OR ROUTER IN THE INSTALLATION MAY BE DAMAGED



4.3. Connection of a music source to the desk

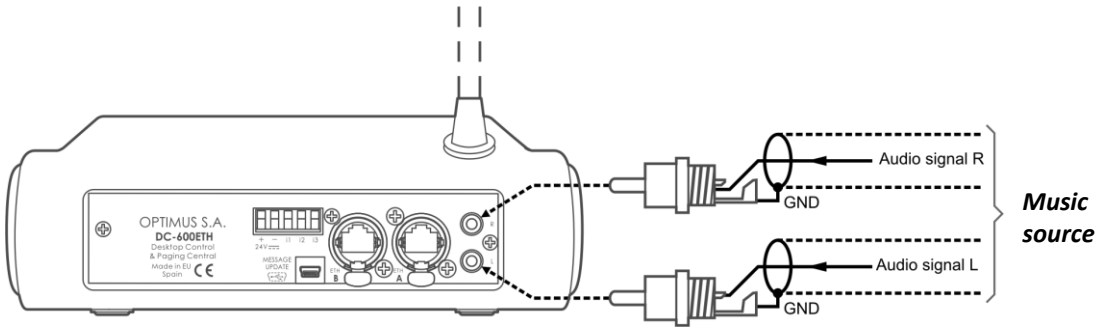


Figure 5

4.4. Connection of the input contacts

The input contacts of the DC-600ETH have two different modes of operation: *Emergency System Mode* and *Announcement System Mode.* To define the mode of operation of the contacts, see section *7.2.2*, *number (10)*.

In both cases, the connections are the same, although the functionality of the contacts varies.

4.4.1. Connection of the input contacts in Emergency System Mode

- **Input CONTACT "I1":**

If this is connected to the ground contact, the desk goes into emergency mode and remains in this mode as long as the contact is activated.

- **Input CONTACT "I2":**

By connecting it to the ground contact, it is used to activate the warning message.

If the desk is in selection by zones mode, it is necessary to select the zone or zones for which the message is intended by means of the numeric keypad on the desk and then to activate this contact. The warning message is repeated while the contact is activated.

If the desk is in emergency mode, when this contact is activated, the warning message will be sent to the emergency group (by default to all the zones). The message is repeated while the contact is activated or until the emergency mode is cancelled.

- **Input CONTACT "I3":**

By connecting it to the ground contact, it is used to activate the evacuation message.

If the desk is in selection by zones mode, it is necessary to select the zone or zones for which the message is intended by means of the numeric keypad on the desk and then to activate this contact. The evacuation message is repeated while the contact is activated.

If the desk is in emergency mode, when this contact is activated, the evacuation message will be sent to the emergency group (by default to all the zones). The message is repeated while the contact is activated or until the emergency mode is cancelled.

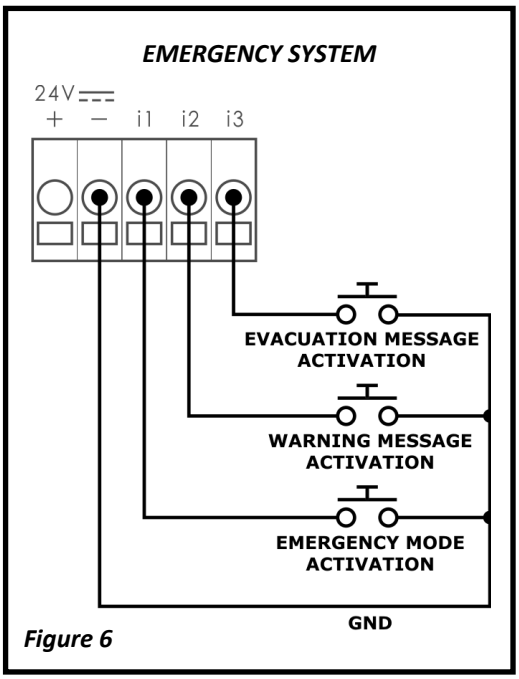


Figure 6

4.4.2. Connection of the input contacts in Announcement System Mode

In this mode, the rear contacts function as if they were the GONG+TALK, TALK and REPEAT keys on the desk.

Ideal for remote control of the desks when integrators are used.

- **Input CONTACT "I1":**

If this is connected to the ground contact, the REPEAT function is activated, in the same way as when the REP key on the desk is pressed.

This functionality is activated by pressing for at least 500 ms.

If you wish to stop the repetition of the message before it ends, activate contact I1 once again.

Before activating the repeat function, it is necessary to select the destination zones and/or groups for the message.

- **Input CONTACT "I2":**

If this is connected to the ground contact, the TALK function is activated, in the same way as when the TALK key is pressed on the desk keypad.

This functionality remains active while the contact remains activated.

Before activating the TALK function, it is necessary to select the destination zones and/or groups for the message.

- **Input CONTACT "I3":**

If this is connected to the ground contact, the GONG+TALK function is activated (Pre-announcement tone + Talk), in the same way as when the GONG+TALK key is pressed on the desk keypad.

This functionality remains active while the contact remains activated.

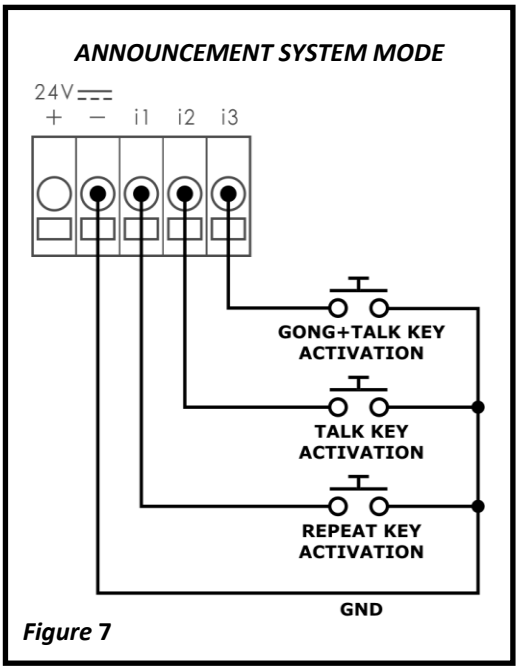


Figure 7

Before activating the GONG+TALK function, it is necessary to select the destination zones and/or groups for the message.

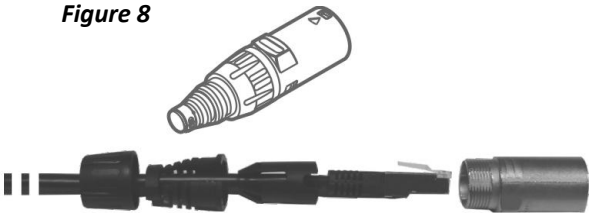
4.5. Fitting the ETHERCON NE8MC connectors and compatibility with RJ45

The desk has NE8MC model Ethercon connectors. Four are pre-fitted on the two interconnection cables between the desk and the CC-600ETH box and another two are supplied as accessories for the connection of the box with the switch.

These connectors reinforce the connection and so it is highly recommended to fit them.

The table to the right shows the RJ45 brands and models that are compatible with this connector.

Figure 8



RJ 45 CONNECTOR TYPE	RJ PART No.
HIROSE	TM11
NEXUS	E5088-011021
MOLEX	44915-0011
MH CONNECTORS	RJ45SRB-FS-R
EFB	37541.3
BOMAR	300068S
CANFORD	46-606
BLACK BOX	FM731
STEWART	943-SP-370808S
EUCON	MPS-88R30
DRATHEX	220.9026 220.0210 220.0200 220.0201

5. SETTINGS AND CONFIGURATION

Situated on the underside of the desk, these controls can be used to configure the IP address, the microphone volume, the volume of the monitor and the sensitivity of the analog input (rear RCA connectors).

(1) MIC. VOLUME

Adjustment of the microphone gain.

(2) SPEAKER VOLUME

Volume of the monitor loudspeaker.

(3) IP ADDRESS

DIP switches to configure the IP address of the desk. This address identifies the equipment unit in the network, so each unit must have a unique IP address.

> ***NB:*** *The IP address can also be set by software (see section 8) or by the keypad (see section 11.4.10). If this action is taken, the desk IP ADDRESS DIP switches cease to be operative.*

An IP address is represented by means of a 32-bit binary number. The IP addresses are expressed as decimal notation numbers: the 32 bits of the address are divided into four octets (an octet is a group of 8 bits). In the desk, each octet is represented by A0 to A7 for the first octet, B0 to B7 for the second octet, C0 to C7 for the third octet, and D0 to D7 for the fourth octet.

In an octet, each bit can have the value 0 (DIP switch OFF) or 1 (DIP switch ON). In order to obtain the decimal value of the octet, the decimal values of each bit that is in the ON position must be added up (1, 2, 4, 8, 16, 32, 64 and 128).

Remove screws **a** and **b** indicated in Figure 9 to gain access to the DIP switches. This figure shows an example in which the IP address 192.168.100.128 is configured.

On the next page, **Table I** shows all the DIP switch combinations from 0 to 255.

(4) MP3 FIRMWARE UPDATE

Firmware download connector for the MP3 circuit. Contact Optimus technical staff for its use. Remove screws **c, d, e** and **f** indicated in Figure 9 to gain access to the connector.

(5) MODE CONFIG.

Configuration DIP switch to enable the MP3 firmware download. Contact Optimus technical staff for its use. Remove screws **c, d, e** and **f** indicated in Figure 9 to gain access to the DIP switch.

(6) ANALOG INPUT SENSITIVITY

Internal jumper for configuration of the analog audio input sensitivity to either 0 dB or -20 dB. Remove screws **c, d, e** and **f** indicated in Figure 9 to gain access to the jumper.

Figure 9

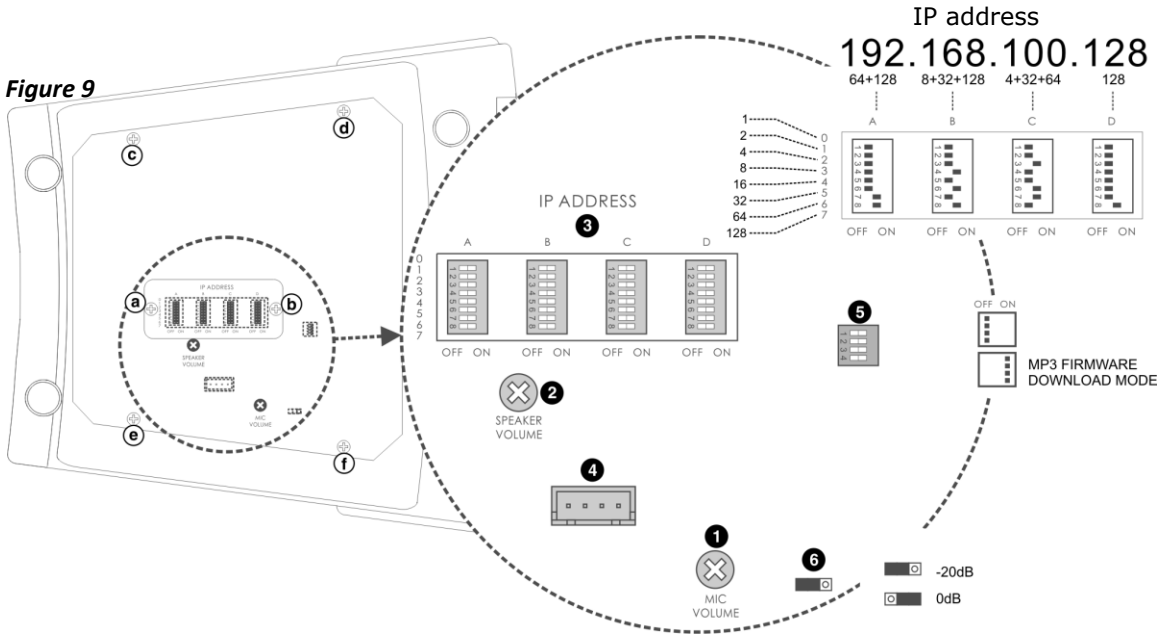
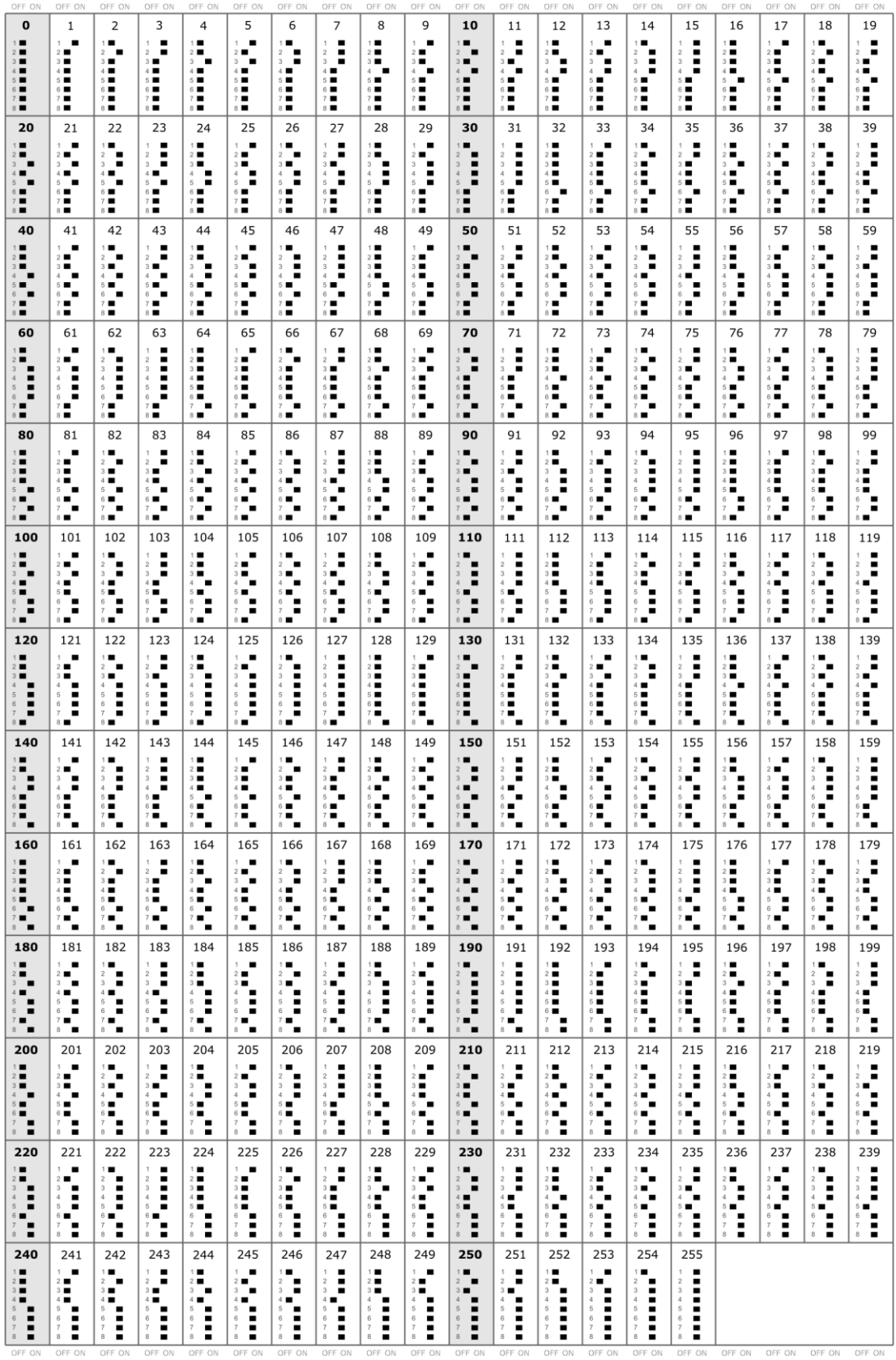


Table I. Configuration of the IP address.



6. PRE-RECORDED MESSAGES

The desk has two internal memories in which files can be stored for subsequent use as pre-recorded messages: *MP3 Circuit Memory* and *Coldfire Flash Memory.*

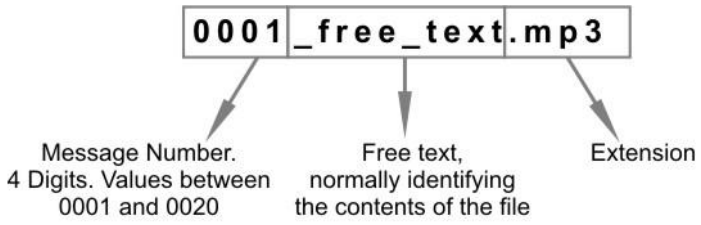
6.1. Pre-recorded messages resident in the MP3 circuit memory

6.1.1. Characteristics

Access/Updating of messages	Through the USB connector on the rear panel, by means of a PC.
Memory capacity	16 Mb
Maximum number of messages	20
File format	MP3

6.1.2. Transfer of messages to the MP3 memory of the desk

The files must be copied to the MP3 memory with a specific name format. Otherwise the messages cannot be played.



The MP3 files must have the CRC protection activated (most recording programs support this option). This ensures constant surveillance of the integrity of messages 1 and 2 in the MP3 memory (files 0001… and 0002…). If there were to be any problem in these files, the desk displays and sends an alarm message through the Ethernet connection towards the different units in the installation that have the capacity to receive it (FC-600ETH, DC-600ETH, DVA-102ETH, UMX-02/0, control computer…).

To transfer the MP3 files to the desk, connect the computer that contains the messages to the DC-600ETH by means of the USB connector on the rear panel. Use the PC browser to copy the files to the MP3 memory of the desk, which will be shown as an additional disk unit. The files must be copied into the root directory of the unit; do not use folders.

***ATTENTION**: Once the files have been copied to the desk, it is necessary to **UPDATE** the memory of the desk. To do so, follow the instructions in section 11.4.8. Updating the MP3 memory.*

6.2. Pre-recorded messages resident in the flash memory of the Coldfire circuit (WAV)

6.2.1. Characteristics

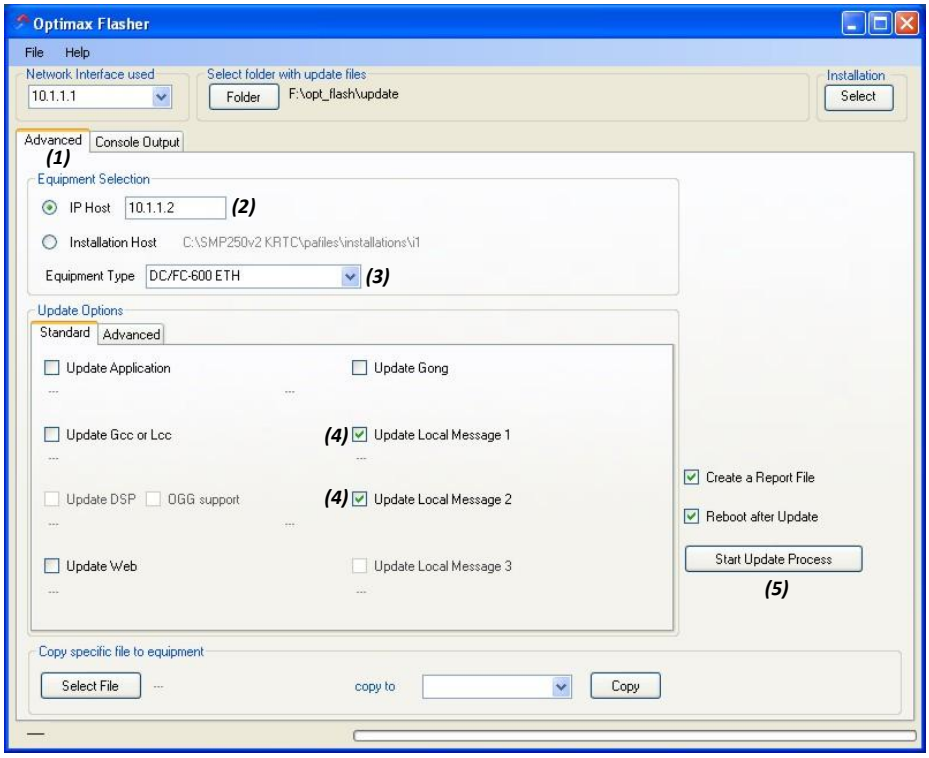
Access/Updating of messages	Remotely, by means of a PC, through the IP connection
Memory capacity	6 Mb
Maximum number of messages	2 messages (maximum size of 3 Mb/message)
File format	.WAV Sampling rate: 48000 Hz, 24000 Hz and 12000 Hz (mono) Sample size: 16 bits

6.2.2. Transfer of messages to the Coldfire flash memory

To transfer the WAV files to the flash memory, it is necessary to have a PC connected to the same IP network as the desk and to use the **Optimax Flasher** application. This application is supplied together with the P.A. Manager software. To install it, run the file **Optimax Flasher x.x.exe** which can be found in the folder *02_FIRMWARE* of the installation CD and follow the instructions of the assistant.

Once the software has been installed, proceed as follows:

NB: The file transfer operations shown hereunder can be performed with version 2.6.3 and upwards of the Optimus Flasher software.



1. Start the **Optimax Flasher** application.
2. Select the **Advanced** tab **(1).**
3. Enter the IP address of the desk in the **IP Host** field **(2).**
4. Select **DC/FC600ETH** from the **Equipment Type** drop-down menu **(3).**
5. Tick the box corresponding to the message that you wish to transfer **(4)** and indicate the route and file that you wish to use. (Local Message 1 corresponds to the EVACUATION message and Local Message 2 to the WARNING message).
6. Press the button **Start Update Process (5)** to begin to transfer the files.
7. Press **OK** when the process has been completed.
8. Exit the application **(File>Quit).**

7. STARTING UP A DESK

To start up a DC-600ETH, proceed as follows:

1. By means of the P.A. Manager software, add the desk to the installation. Refer to section 7.1.
2. Configure the parameters of the desk. Refer to section 7.2.
3. Connect the unit to the installation structure. Refer to section 7.3.
4. Configure the IP address and make the connections. Refer to section 7.4.
5. Send configurations to the desk. Refer to section 7.5.

If the desk is already configured, connect it and when it starts up, it will already be operative.

a) If the installation has a Server PC, the desk will download the configuration variations from the Server PC in the installation.

b) If the installation does not have a Server PC, on start-up the desk will use the configurations of its local memory.

7.1. Configuration of the desk in the installation by means of the P.A. Manager software

To configure the desk, it is necessary to have a PC connected to the network that has the SCF-01 or SCM-01 (P.A. Manager) software.

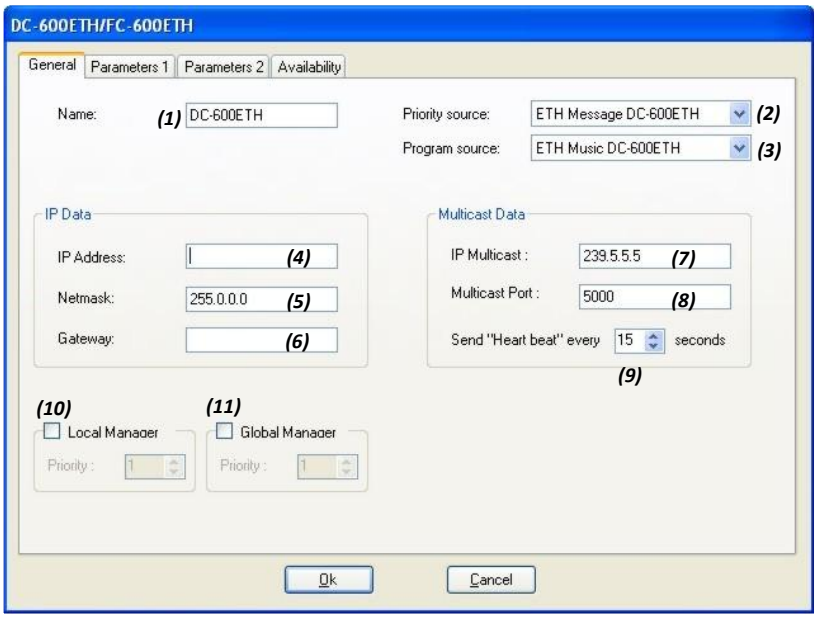
1. If the software is the SCM-01, start the application, open the *Options* menu and select *Installations* (administrator user level is required). If the software is the SCF-01, start the application.

NB: Prior to configuration of the desk parameters, it is necessary to have configured the parameters of the installation and the PA areas.

2. From the installation screen, click on the PA area to which you wish to add the desk.
3. Open the *Add Equipment* menu and select *DC600ETH/FC600ETH*. The desk configuration window appears.
4. Refer to section *7.2. Desk configuration parameters.*

7.2. Desk configuration parameters

7.2.1. General tab



(1) Name

Enter a name to identify the equipment unit. Maximum of 50 characters.

(2) Priority source

Click on the drop-down menu and assign one of the Priority type sound sources available to the desk. These sound sources are defined during the configuration of *Modes and sound sources.*

Each sound source has a *Mode* or *priority level* assigned to it, and so the source selected will determine the priority of the desk with respect to the other audio signals in the installation when an announcement is sent (for more information, see the *Optimax Installations Configuration Manual*).

(3) Program source

Configure this option if you have a music source connected to the desk (through the RCA connectors on the rear panel).

Click on the drop-down menu and assign one of the Program type sound sources available to the desk. These sound sources are defined during the configuration of *Modes and sound sources.*

Each sound source has a *Mode* or *priority level* assigned to it, and so the source selected will determine the priority with which the desk is to send the music with respect to the other audio signals in the installation (for more information, see the *Optimax Installations Configuration Manual*).

- **IP DATA**

(4) IP Address

Enter the IP address of the unit. This IP must be unique to the installation and it must coincide with the configuration of the DIP switches on the underside of the unit, or with the address configured through the Web connection (see section 8), or with the address configured through the keypad (see section 11.4.10). It must be a fixed IP address.

(5) Netmask and
(6) Gateway

In installations that require this. Consult the network administrator of the installation.

- **MULTICAST DATA** **(see also page 19)**

(7) IP Multicast

Default setting 239.5.5.5. Do not modify this field unless the installation topology makes it necessary. All the units with an IP connection in the installation must have the same IP multicast address.

(8) Multicast port

Default setting 5000. Do not modify this field unless the installation topology makes it necessary. All the units with an IP connection in the installation must have the same multicast port.

(9) Send "Heart beat" every n seconds

Frequency with which the unit sends a heart beat signal to the multicast group. This signal informs the other units with an IP connection in the installation that the desk is operating perfectly.

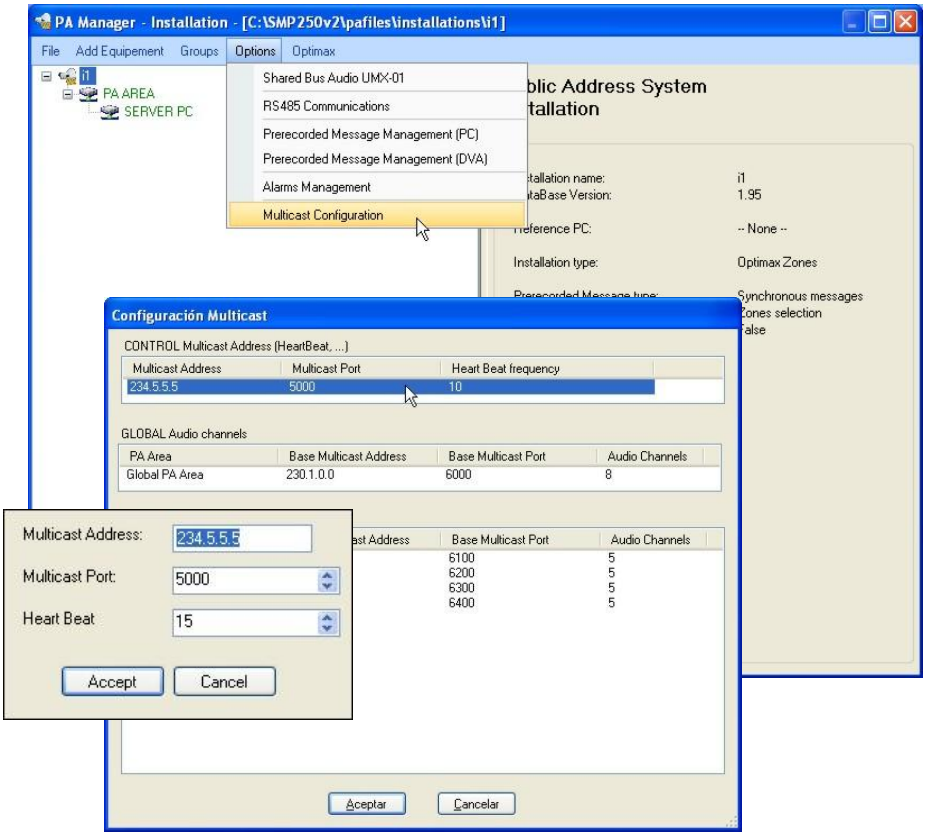
(10) Local Manager and (11) Global Manager

Defines whether the desk is to function as a priority manager of the Optimax system, either locally at PA Area level or globally for the installation, and establishes the priority of this management with respect to other equipment units (1 = maximum priority). It is not advisable to activate this management on the DC-600ETH desk (see *Notes on Local and Global Co-ordinators* on page 20).

a) Information about the multicast configuration on Optimax equipments

*It is possible to modify the multicast configuration of all the equipment units in the installation **simultaneously**. Proceed as follows:*

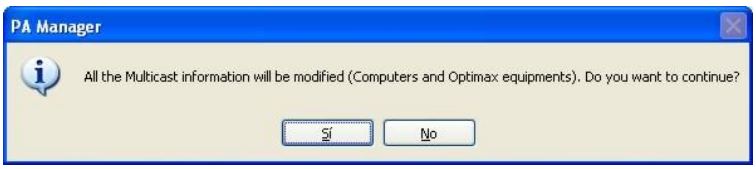
1. *From the installation screen, open the **Options** menu and select **Multicast Configuration.***



2. *A window with the configurations of the multicast group appears. Double click on the data item that you wish to change.*

3. *Modify the value and click on **OK**.*

4. *Confirm the change by clicking on **Yes**.*



5. *Close the multicast configuration window by clicking on **OK**.*

ATTENTION: The values that are modified from the multicast configuration window affect all the equipment units in the multicast group in the installation.

Default base Multicast addresses, ports and configurations

	Broadcast address	Broadcast port
Initial configuration download	255.255.255.255	3333

	Multicast address	Multicast port
Initial configuration download	239.5.5.5	8001

	Multicast address	Multicast port	Others
Control data	239.5.5.5	5000	Heart beat every 10 seconds
Global audio channels	239.1.0.x	6000 + x	8 simultaneous channels
Local audio channels	239.1.PAArea.x	6000 + (PAArea*100) + x	5 simultaneous channels

Valid ranges (according to the IANA Guidelines for IPv4 Multicast Address)

	Multicast address	Multicast port	Others
Control data	Between 239.0.0.0 and 239.255.255.255	Between 1025 and 65536	Heart beat between 1 and 65000 seconds.
Global audio channels	Between 239.0.0.0 and 239.255.255.255	Between 1025 and 65536	1-50 simultaneous channels
Local audio channels	Between 239.0.0.0 and 239.255.255.255	Between 1025 and 65536	1-50 simultaneous channels

b) Notes on Local and Global Co-ordinators

The system requires management of the digital audio channels at all times, so that the data may circulate freely across the network.

This function is performed by two applications: one at a local level, known as LCC, which manages the digital channels at PA Area level, and another, known as GCC, which manages the digital channels at a global level (between different PA areas and/or servers).

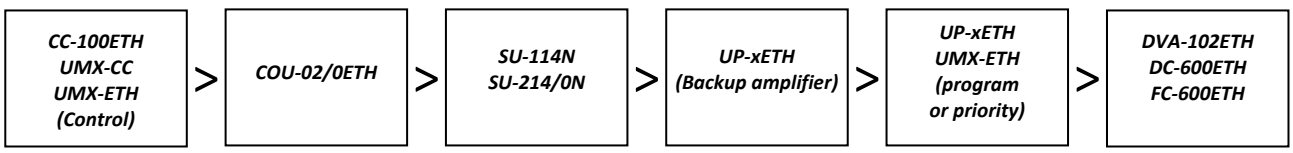
Each PA Area needs at least one LCC process on one of its equipment units.

If there is more than one PA Area in an installation, and announcements have to made or music programs have to be sent between PA Areas, a minimum of one GCC process is required on an equipment unit in the installation.

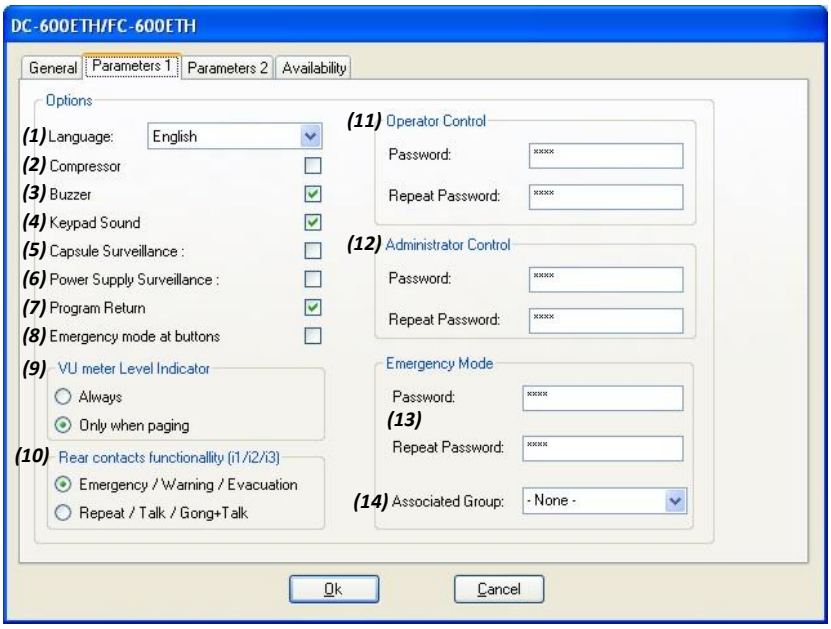
If the number of equipment units so permits, it is advisable to have each process available on at least two equipment units. In this way, the applications continue to work even when a fault in one of the equipment units occurs.

There are specific equipment to run these applications: CC-100ETH, UMX-CC and UMX-ETH (Control). It is recommended that they are the ones who made the role of coordinator. If these equipment are not present in the installation, it is advisable that the COU-02/0ETH, performs the functions of co-ordinator.

The recommended order of priority depending on the model is as follows:



7.2.2. Parameters 1 tab



(1) Language
Configures the language in which the messages appear on the LCD screen of the DC-600ETH.

(2) Compressor
Activates or deactivates the compressor of the microphone desk.

(3) Buzzer
The desk has a buzzer which is activated when an alarm is received. This control activates or deactivates the buzzer.

(4) Keypad Sound
Activates or deactivates the sound of the keys (PLAY, REP, TALK and GONG+TALK make no sound).

(5) Capsule Surveillance
Activates or deactivates surveillance of the microphone capsule. If this option is activated, the system will generate an alarm when a fault is detected in the capsule.

(6) Power Supply Surveillance
Activates or deactivates surveillance of the power supply to the junction box of the desk. If this option is activated, the system detects when either of the two power supply inputs to the junction box fails, and generates an alarm.

(7) Program Return
Activates or deactivates the return of the program signal to some zones after an announcement has been sent from the desk to these zones.

(8) Emergency mode at buttons
If this option is enabled, the desk will go into emergency mode whenever the WARNING or EVACUATION button is pressed.

(9) VU meter Level Indicator
The volume bar can show the audio signal level when a message is sent (*Only during the announcement*) or at all times.

(10) Rear contacts functionality
Configures the functionality of input contacts I1, I2 and I3 of the desk.

- **Emergency / Warning / Evacuation.** If this option is selected, when I1 is activated, the desk goes into ***Emergency System Mode***; activating I2 launches the Warning message; and activating I3 launches the Evacuation message.
- **Repeat/Talk/Gong+Talk**. Activates the ***Announcement System Mode*** functionality. Through this option the functions REP (repetition), TALK and GONG+TALK can be activated from contacts I1, I2 and I3 (I1=REP, I2=TALK, I3=GONG+TALK).

(11) Operator Control and (12) Administrator Control
In order to restrict access to certain functions of the DC-600ETH from the controls on the front, 3 user levels have been established: Basic, Operator and Administrator.

Through these parameters, the Administrator password and the Operator password can be established.

- **Basic:** Default level when the unit is switched on. Without password. Allows basic operations such as sending pre-recorded messages and viewing the status of the volume.
- **Operator:** With password (by default ***1234***). In addition to all the operations available to the basic user, the zone volume can be modified.
- **Administrator**: With password (by default ***1234***). Without any restriction.

(13) Emergency Mode
Password for access to emergency mode.

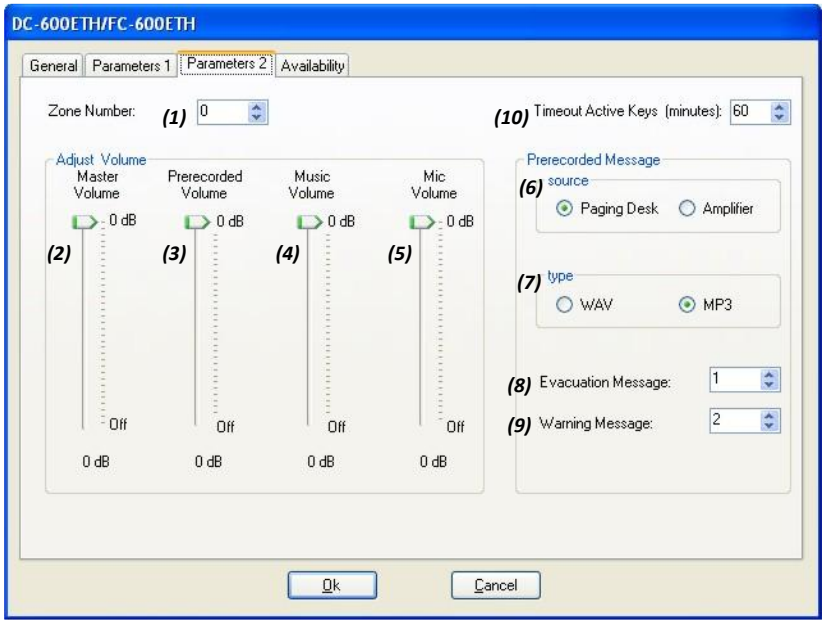
Default value ***1234.***

(14) Associated Group

Through this option, a group can be assigned to the Emergency Mode, so that this group will be the destination of the messages when the desk goes into Emergency Mode. To assign a group, the group must first have been created by means of the Groups menu on the P.A. Manager software installations screen.

If this parameter is left without configuration *(-None-),* the emergency messages are sent to all the zones.

7.2.3. Parameters 2 tab



(1) Zone number
Not used.

(2) Mater Volume
General volume of the desk audio.

(3) Prerecorded Volume
Volume of the pre-recorded messages of the desk.

(4) Music Volume
Audio volume of the music source connected to the desk.

(5) Mic. Volume
Audio volume of the desk microphone.

(6) Prerecorded message - Source
Configures the origin of pre-recorded messages activated by the WARNING and EVACUATION buttons on the desk.

- **Paging Desk**: Messages resident in the desk.
- **Amplifier**: Messages resident in the amplifier. It is only possible to select *Amplifier* if the installation has UP-ETH amplifiers.

(7) Prerecorded message - Type
Select the type of pre-recorded messages to be activated by the WARNING and EVACUATION buttons on the desk.

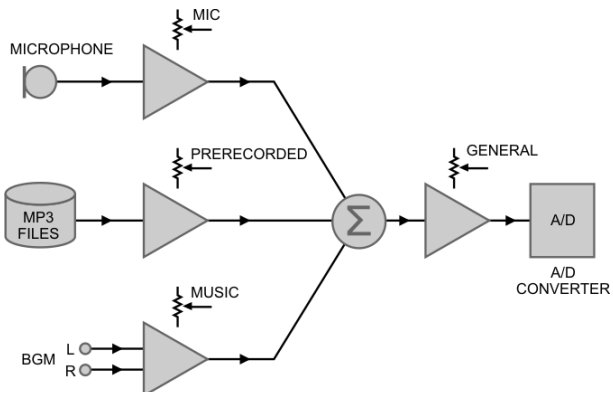
- **WAV**: Pre-recorded WAV messages resident in the Coldfire flash memory of the unit.
- **MP3**: Pre-recorded MP3 messages resident in the MP3 circuit of the unit.

(8) Evacuation Message
Enter the number of the message that will be used as the EVACUATION message (EVACUATION button).

(9) Warning Message
Enter the number of the message that will be used as the pre-evacuation message (WARNING button).

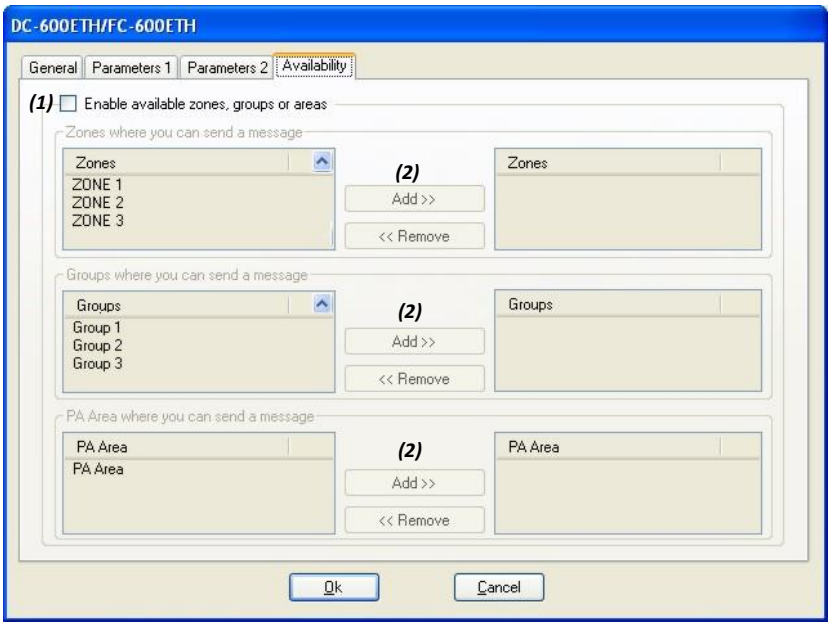
(10) Timeout Active Keys (minutes)

Time length during which the last zones and/or messages selection is available on the microphone desk display. Values between 1 and 254 minutes. Typewrite 255 to show it indefinitely.



Logic diagram of the volume controls

7.2.4. Availability tab



By clicking on this tab, it is possible to restrict or enable the access of a desk to specific zones, groups or PA Areas in the installation.

If this is not configured, the desk has access to all the zones in its own PA Area. Click on this tab if you wish to modify the default accessibility of the desk.

(1) Enable available zones, groups or areas

Tick this box if you wish to modify the default accessibility of the desk.

When this option is activated, the desk will ONLY have access to the zones, groups and PA Areas that appear in the windows on the right.

(2) Add and Remove buttons

Click on these to add or delete access to zones, groups and PA Areas.

From the windows on the left, select the elements to which you wish to allow messages to be sent and click on the button *Add* to add them to the list on the right.

7.3. Connecting the equipment in the installation structure

When equipment units are added to the installation, they appear in the structure with their name in red, preceded by the "disconnection" icon. While their status is shown as disconnected, these equipment units are not operative.

To connect the equipment, proceed as follows:

1. In the installation structure, right click with the mouse on the disconnected equipment unit.
2. Click on ***Connect Equipment***. The connection icon appears and the name of the equipment is shown in green.

= *Unit disconnected*

= *Unit connected*

7.4. Connection to the installation network

1. Before connecting the desk, configure the IP address by means of the DIP switches on the underside of the unit (see section 5).
2. Using the cables supplied with the desk, make the connections between the desk and the CC-600ETH connection box.
3. Connect the junction box to the IP network.

ATTENTION: WHEN CONNECTING THE CC-600ETH BOX TO THE IP NETWORK, ENSURE THAT THE CONNECTORS MARKED "TO SWITCH" ARE USED. IF THE CONNECTORS MARKED "TO OPTIMUS EQUIPMENT" ARE USED IN ERROR, THE SWITCH OR ROUTER IN THE INSTALLATION MAY BE DAMAGED.

4. Connect the power supply to the connection box.

7.5. Sending configurations to the desk

Before sending configurations to any equipment unit, it is advisable to save the configuration. To do this, open the ***File*** menu and select ***Save***.

1. On the installation tree, right click with the mouse on the DC-600ETH that has just been configured and select the option ***Send configurations***.
2. A progress bar appears. Upon completion, click on ***OK***.

You can exit the installation screen by opening the ***File*** menu and selecting ***Exit***. The P.A. Manager software will start up automatically.

7.6. Editing the configured parameters

If required, the configurations of the desk can be edited. Proceed as follows:

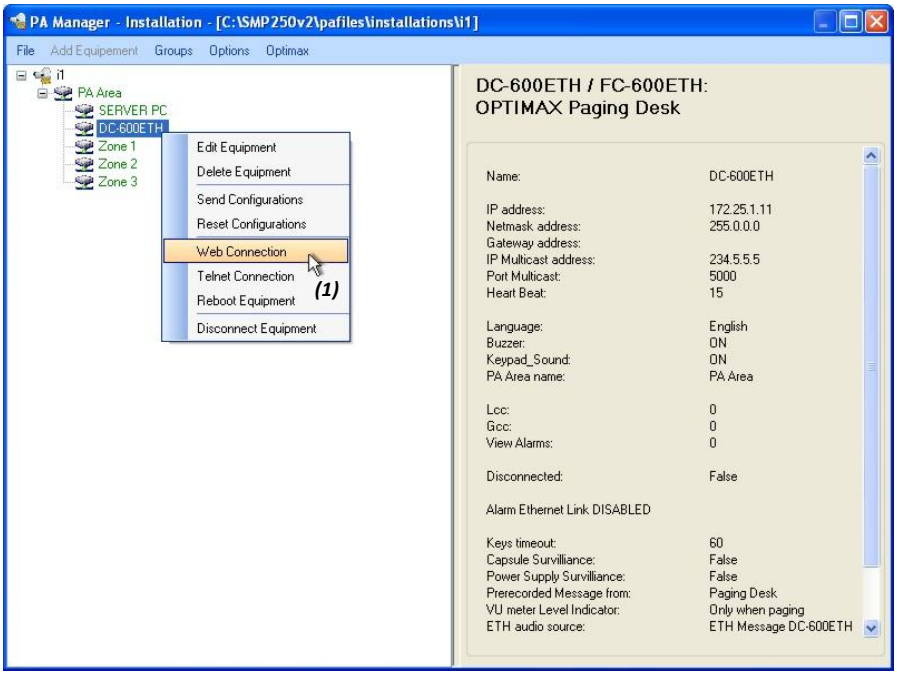
1. Open the installation screen of the P.A. Manager software.
2. In the installation structure, right click with the mouse on the name of the DC-600ETH desk whose configuration you wish to edit.
3. Select ***Edit Equipment***.
4. The desk configuration window appears. Edit the parameters as required.
5. Once the parameters have been configured, click on the button ***OK***.
6. Save the configuration by opening the ***File*** menu and selecting ***Save***.
7. Send the configurations to the unit (Section 7.5).

8. CHANGE OF THE IP ADDRESS OF THE UNIT BY SOFTWARE

It is possible to change the IP address of the unit by means of the DIP switches situated on the underside of the unit, by means of the desk configuration menus and by software.

The software option allows the change to be made remotely, without the need for access to the desk.

To make the change by software, from the installation screen of the P.A. Manager software right click with the mouse on the name of the unit and select the option **Web Connection (1).**



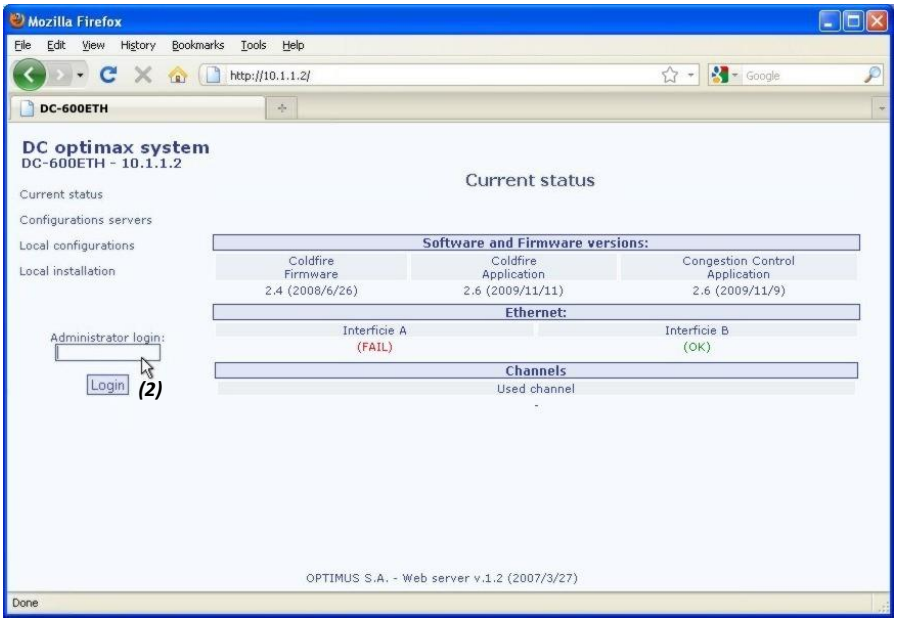
If the PC is remote with respect to the installation, open the Internet browser and enter the IP of the unit in the address bar (for example: http://10.1.1.2).
This IP address is the address configured by means of the IP ADDRESS DIP switches situated on the underside of the desk or the address configured from the menus of the desk.

In both cases, a web page belonging to the unit will load.

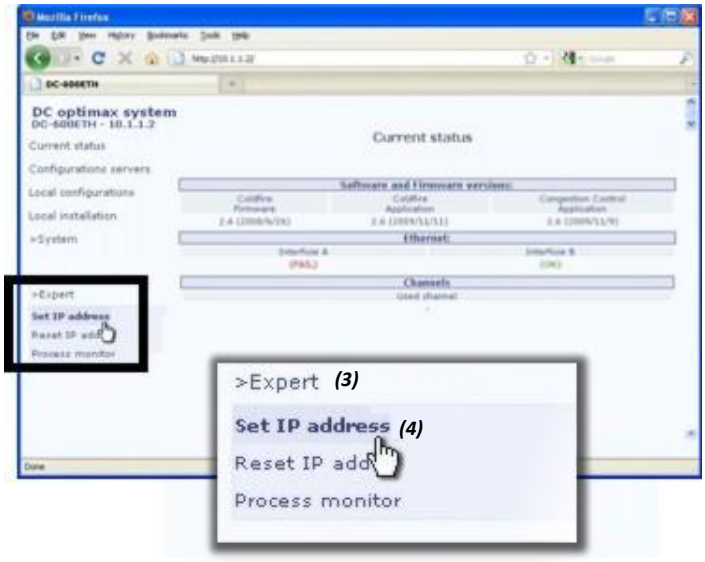
NB: To view the page, it is necessary to deactivate the proxy in the configuration of the web page browser.

Proceed as follows:

1. Enter the password in the **Administrator Login** section **(2)** (contact technical staff at Optimus and they will provide you with this) and click on the button **Login**.



2. Open the **Expert** menu **(3)** and click on the **Set IP address** option **(4).**

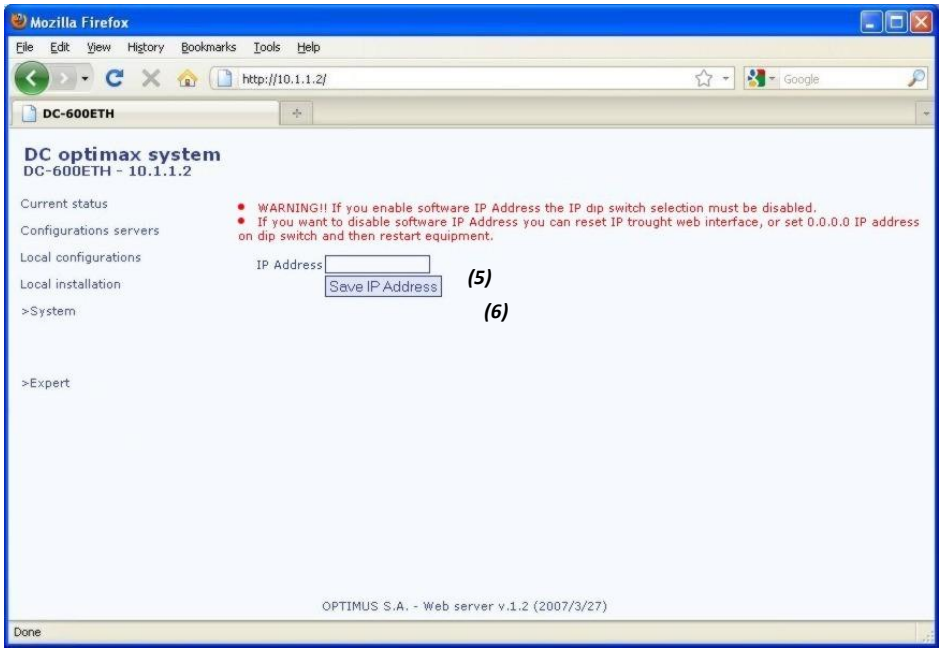


ATTENTION:

If the IP is activated by software, the functionality of IP address selection by DIP switches will be deactivated.

Once the change has been made, it can be undone by deleting the IP software via the web, or by selecting the address 0.0.0.0 on the DIP switches and restarting the unit.

3. Write the new IP in the **IP Address** field **(5)** (for example: 10.1.1.100) and click on **Save IP Address (6)**.

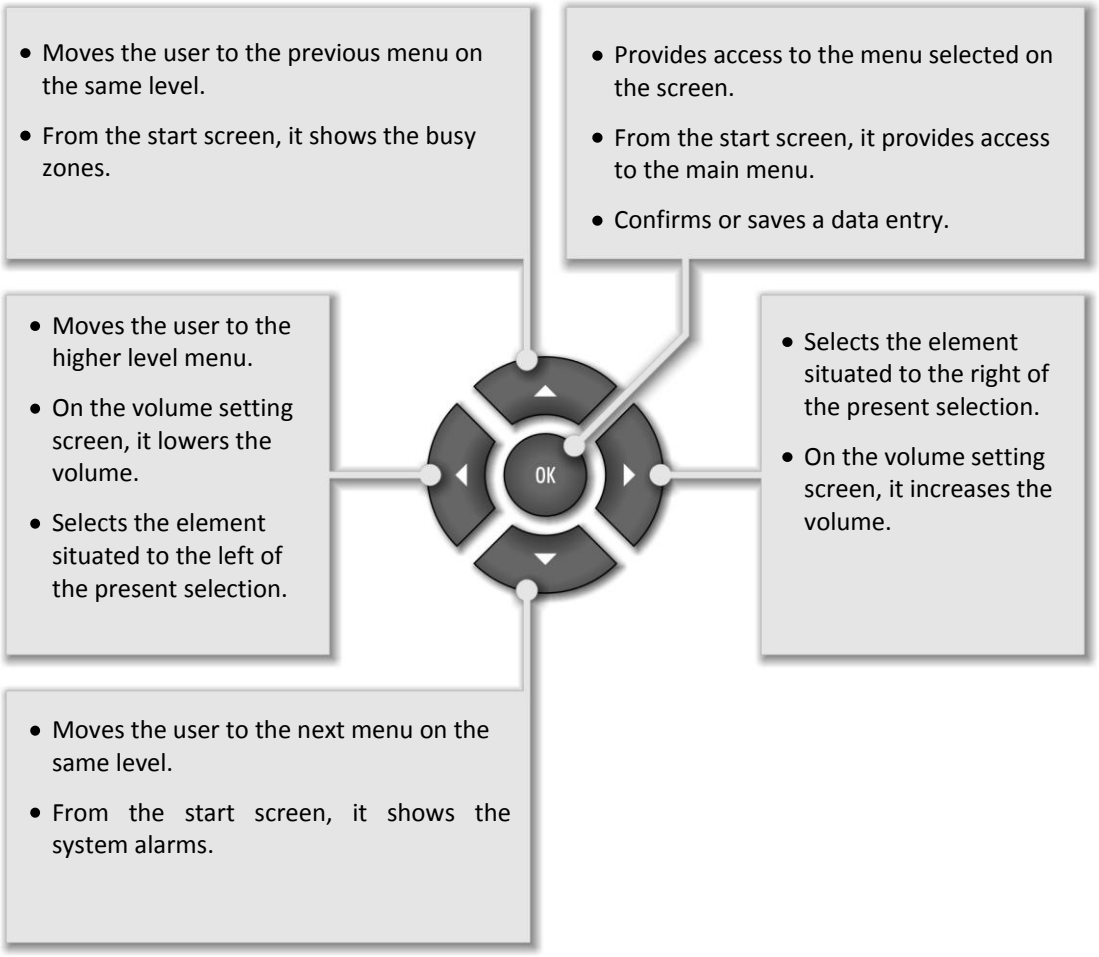


ATTENTION:

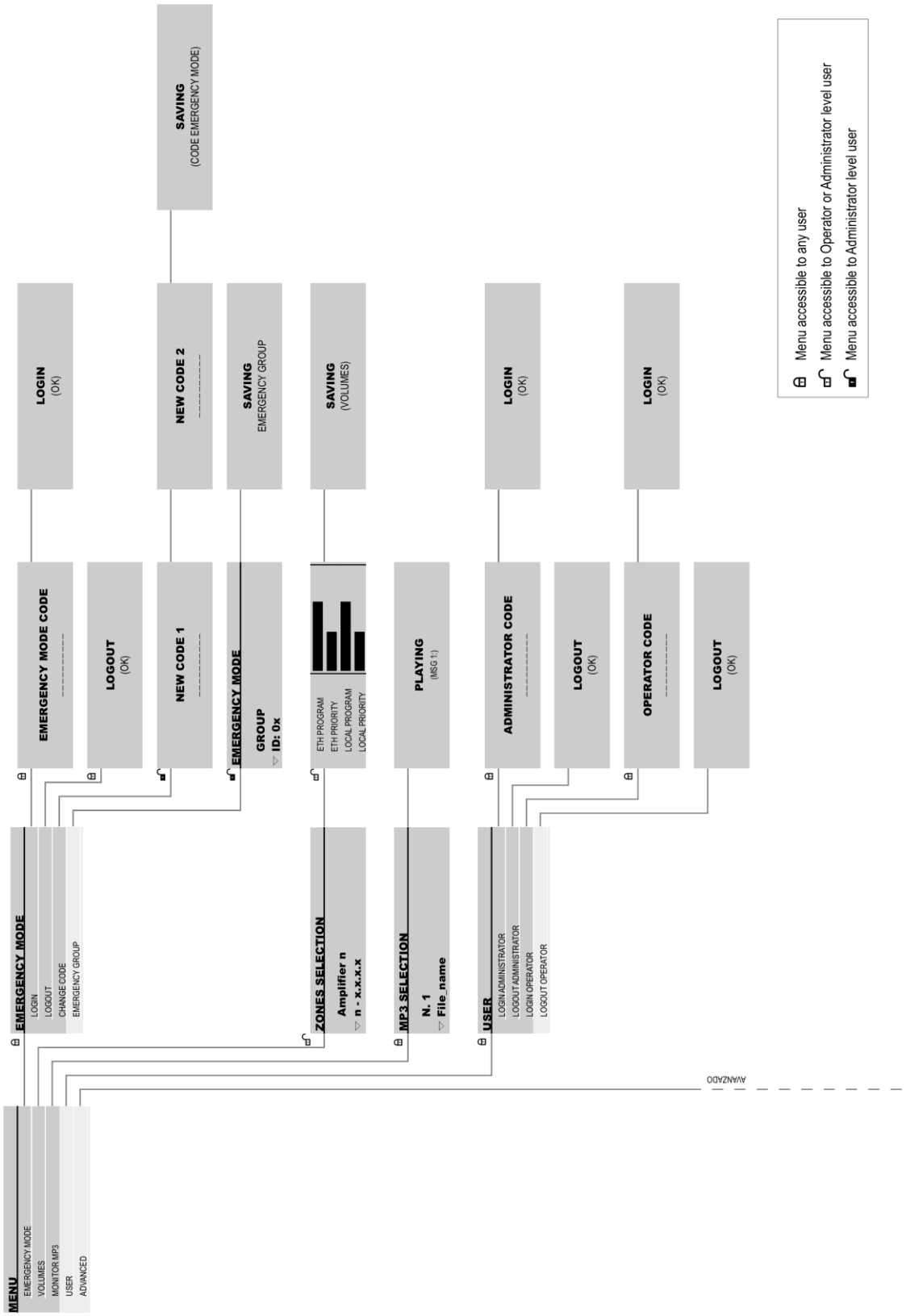
Once the IP address of the unit has been changed, it is necessary to modify this in the P.A. Manager software as well (see section 7.2.1) and send configurations to the unit (see section 7.5).

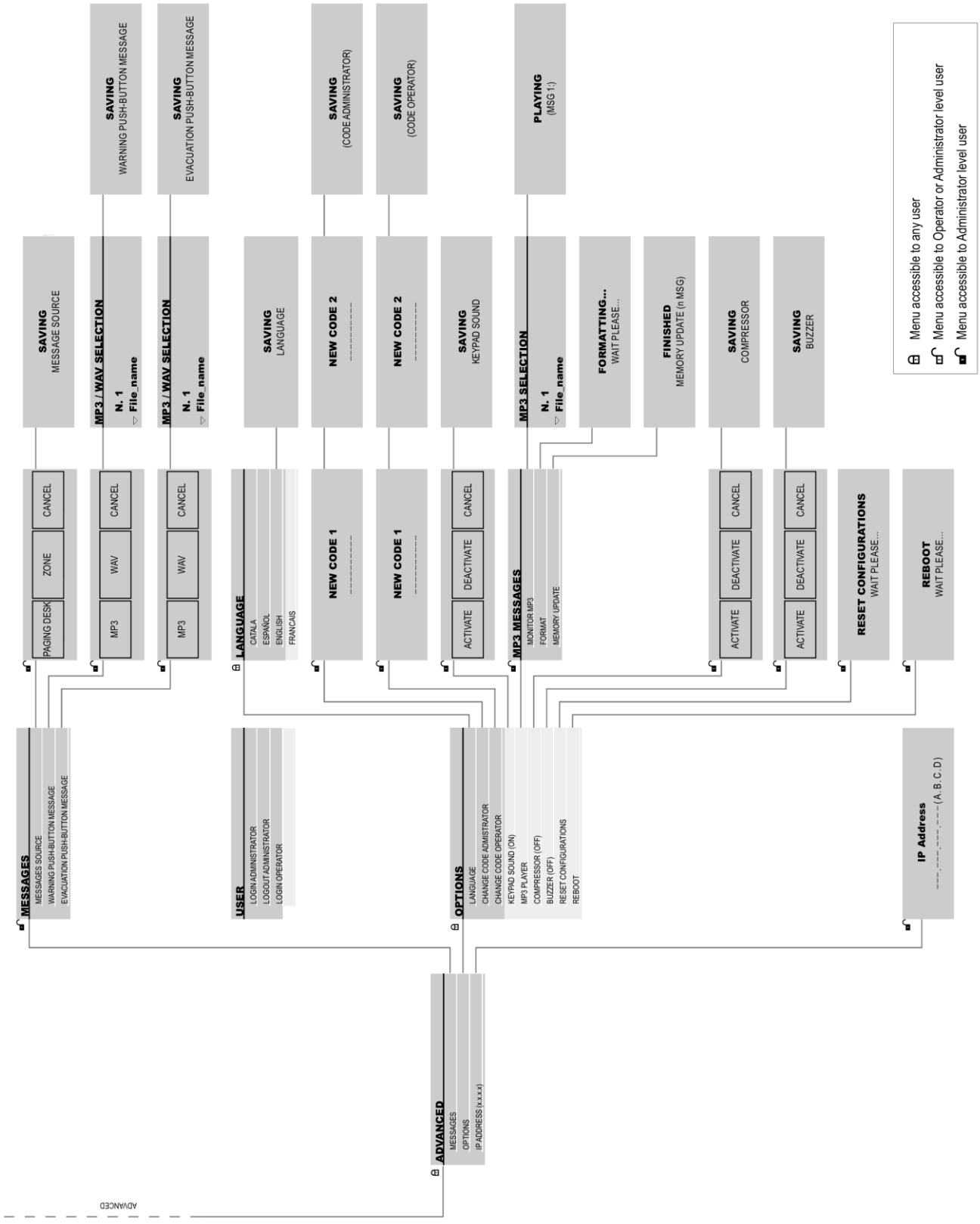
9. NAVIGATION THROUGH THE DESK MENUS

The navigation buttons provide access to the various menus and configurations of the DC-600ETH.
Basic menu navigation:



10. MENU STRUCTURE




Menu accessible to any user
Menu accessible to Operator or Administrator level user
Menu accessible to Administrator level user
MESSAGES
MESSAGES SOURCE
WARNING PUSH-BUTTON MESSAGE
EVACUATION PUSH-BUTTON MESSAGE
USER
LOGIN ADMINISTRATOR
LOGOUT ADMINISTRATOR
LOGIN OPERATOR
OPTIONS
LANGUAGE
CHANGE CODE ADMISTRATOR
CHANGE CODE OPERATOR
KEYPAD SOUND (ON)
MP3 PLAYER
COMPRESSOR (OFF)
BUZZER (OFF)
RESET CONFIGURATIONS
REBOOT
IP Address
___.___.___.___ (A . B . C . D)
ADVANCED
MESSAGES
OPTIONS
IP ADDRESS (x.x.x.x)
ADVANCED
PAGING DESK
ZONE
CANCEL
SAVING
MESSAGE SOURCE
MP3
WAV
CANCEL
MP3 / WAV SELECTION
N. 1
File_name
SAVING
WARNING PUSH-BUTTON MESSAGE
MP3
WAV
CANCEL
MP3 / WAV SELECTION
N. 1
File_name
SAVING
EVACUATION PUSH-BUTTON MESSAGE
LANGUAGE
CATALA
ESPAÑOL
ENGLISH
FRANCAIS
SAVING
LANGUAGE
NEW CODE 1
_ _ _ _ _ _ _ _ _
NEW CODE 2
_ _ _ _ _ _ _ _ _
SAVING
(CODE ADMINISTRATOR)
NEW CODE 1
_ _ _ _ _ _ _ _ _
NEW CODE 2
_ _ _ _ _ _ _ _ _
SAVING
(CODE OPERATOR)
ACTIVATE
DEACTIVATE
CANCEL
SAVING
KEYPAD SOUND
MP3 MESSAGES
MONITOR MP3
FORMAT
MEMORY UPDATE
MP3 SELECTION
N. 1
File_name
PLAYING
(MSG 1:)
FORMATTING...
WAIT PLEASE...
FINISHED
MEMORY UPDATE (n MSG)
ACTIVATE
DEACTIVATE
CANCEL
SAVING
COMPRESSOR
ACTIVATE
DEACTIVATE
CANCEL
SAVING
BUZZER
RESET CONFIGURATIONS
WAIT PLEASE...
REBOOT
WAIT PLEASE...

11. OPERATIONS FROM THE DESK

In installations with a Server PC, when the DC-600ETH is restarted, this will download the configurations from the PC, so all the changes in configuration made from the desk keypad will be lost.

11.1. General operations

11.1.1. User levels and changes

To restrict access to certain functions of the desk, 3 user levels have been established: Basic, Operator and Administrator.

Basic
Default level when the desk is switched on. Without password. Allows basic operations such as making live voice announcements, sending pre-recorded messages and viewing the status of the volume.

Operator
With password (by default **1234**). In addition to all the operations available to the basic user, the zone volume can be modified. To change the password, refer to section 11.4.2.

Administrator
With password (by default 1234). Without any restriction. To change the password, refer to section 11.4.1.

A. Enter as ADMINISTRATOR USER

1. Press **OK** to access the main menu.
2. Select **USER** and press **OK**.
3. Select **LOGIN ADMINISTRATOR** and press **OK**.
4. Enter the administrator user password (**1 2 3 4** by default) and press **OK**.

B. End ADMINISTRATOR session

1. Press **OK** to access the main menu.
2. Select **USER** and press **OK**.
3. Select **LOGOUT ADMINISTRATOR** and press **OK**.

   If no key is pressed for 8 minutes, this operation is performed automatically.

C. Enter as OPERATOR USER

1. Press **OK** to access the main menu.
2. Select **USER** and press **OK**.
3. Select **LOGIN OPERATOR** and press **OK**.
4. Enter the operator user password (**1 2 3 4** by default) and press **OK**.

D. End OPERATOR session

1. Press **OK** to access the main menu.
2. Select **USER** and press **OK**.
3. Select **LOGOUT OPERATOR** and press **OK**.

   If no key is pressed for 8 minutes, this operation is performed automatically.

11.1.2. Change of menu language

1. Press **OK** to access the main menu.
2. Select **ADVANCED** and press **OK**.
3. Select **OPTIONS** and press **OK**.
4. Select **LANGUAGE** and press **OK**.
5. Using the navigation keys ▼/▲ select a language and press **OK**.
6. Press the navigation key ◄ until you return to the start menu.

11.2. Basic operations in zone selection mode

11.2.1. Sending a live paging to a zone

1. Using the numeric keypad, enter the identifier number of the zone where you wish to send the announcement.

   If you do not know the identifier number corresponding to the zone where you wish to send the announcement, press the ▶ key and then **OK**. A list will appear with the name of each of the zones. Use the navigation keys ▼/▲ to locate the required zone and press **OK**.

   To delete, use the **DEL** key.
2. Press and hold down **GONG+TALK** (or **TALK**).
3. When the green TALK LED lights and **TALK...** appears on the screen, you can begin to speak.
4. To end the announcement, release **GONG+TALK** (or **TALK**).
5. Press the navigation key ◀ to return to the start screen.

11.2.2. Sending a live paging to a group

1. Using the numeric keypad, press 0 and the identifier number of the group where you wish to send the announcement (groups always begin with the number **0**).

   If you do not know the identifier number corresponding to the group where you wish to send the announcement, press the ▶ key and then **OK**. A list will appear with the name of each of the zones. Press ▶ once again and the list of groups will appear. Use the navigation keys ▼/▲ to locate the required group and press **OK**.

   To delete, use the **DEL** key.
2. Press and hold down **GONG+TALK** (or **TALK**).
3. When the green TALK LED lights and **TALK...** appears on the screen, you can begin to speak.
4. To end the announcement, release **GONG+TALK** (or **TALK**).
5. Press the navigation key ◀ to return to the start screen.

11.2.3. Sending a live paging to several zones and/or groups

1. Using the numeric keypad, enter the identifier numbers of each of the zones or groups where you wish to send the announcement, separating each element by means of the ↵ key (remember that the group identifier must begin with 0).

   If you do not know the identifier number corresponding to a zone or group where you wish to send the message:

   1) Press the ▶ key and then **OK**. A list will appear with the name of each of the zones. Press the ▶ key once again and the list of groups will appear. Using the ◀ and ▶ keys, you can alternate between the list of groups and the list of zones.
   2) From any of the lists, use the navigation keys ▼/▲ to select the element required and press **OK**.

      To delete, use the **DEL** key.
2. Press and hold down **GONG+TALK** (or **TALK**).
3. When the green TALK LED lights and **TALK...** appears on the screen, you can begin to speak.
4. To end the announcement, release **GONG+TALK** (or **TALK**).
5. Press the navigation key ◀ to return to the start screen.

11.2.4. Sending a pre-recorded general purpose message to zones or groups

1. Using the numeric keypad, enter the identifier numbers of the zone or group where you wish to send the message.

   If you do not know the identifier number corresponding to a zone or group, follow points 1) and 2) in section 11.2.3.

   To delete, use the **DEL** key.
2. Press ▼ or ▲ to position the cursor on the **MP3:** line and proceed to select the pre-recorded message.
3. Using the numeric keypad, enter the identifier of the message that you wish to send. To send several messages in a chain, enter the identifiers of each message, separating each element by means of the ↵ key.

If you do not know the identifier of the message, press **OK** and a list with the name of each message and its identifier will appear. Use the navigation keys ▼/▲ to locate the pre-recorded message that you require and press **OK**.

To delete, use the **DEL** key.

> In zone selection mode, the messages assigned to the WARNING and EVACUATION buttons are not available when these messages are selected from the keypad.

4. Press the **PLAY** key.

   If you wish to stop the message before it ends, press the **PLAY** key.
5. Once the message has ended, press the navigation key ◄ to return to the start screen.

11.2.5. Sending a Warning message to zones or groups

1. Using the numeric keypad, enter the identifier numbers of the zone or group where you wish to send the message.

   If you do not know the identifier number corresponding to a zone or group, follow points 1) and 2) in section 11.2.3.

   To delete, use the **DEL** key.
2. Press the **WARNING** key.

   The message is repeated until the **WARNING** key is pressed once again.
3. Press the navigation key ◄ to return to the start screen.

> If you have configured the desk enabling the option **Emergency mode at buttons** (see section 7.2.2), when **WARNING** or **EVACUATION** is pressed, the desk automatically goes into emergency mode and plays the message to the emergency group, **regardless of the zone selected.**

11.2.6. Sending an Evacuation message to zones or groups

1. Using the numeric keypad, enter the identifier numbers of the zone or group where you wish to send the message.

   If you do not know the identifier number corresponding to a zone or group, follow points 1) and 2) in section 11.2.3.

   To delete, use the **DEL** key.
2. Press the **EVACUATION** key.

   The message is played indefinitely until the **EVACUATION** key is pressed once again.

   The evacuation message takes priority over the warning message. If the evacuation message is activated while the warning message is being played, the warning message will stop.
3. Press the navigation key ◄ to return to the start screen.

11.2.7. Display of busy zones

It is possible to view a list of busy zones (the zones must belong to the same PA Area as the desk or the desk must belong to a Global PA Area).

1. From the start menu, press ▲.
2. The list of busy zones appears. You can navigate through the list by means of the ▼ and ▲ keys.

   The list shows the name of the busy zone and the mode (priority level) of the source occupying that zone.
3. Press the navigation key ◄ to return to the start screen.

11.2.8. Information about busy zones, unavailable zones and zone errors, after sending an announcement or message

Once an announcement has been sent, if it has not been possible to broadcast this in any of the zones or groups selected, a list appears of the zones in which an incident has occurred, classifying the incident as follows:

- **Busy**: Zones in which it has not been possible to play the announcement because an announcement of higher priority is being played.
- **Unavailable**: The zones or groups do not exist or access to these zones or groups from the desk is restricted.
- **Zones error**: Zones in which it has not been possible to play the announcement.

Use the ◄ and ► keys to move from one list to another.

Press **OK** to return to the start screen.

11.3. Basic operations in Emergency Mode

Access to Emergency Mode is PASSWORD protected: 1 2 3 4 (by default).

All the messages, be they live voice or pre-recorded, will be sent to the EMERGENCY GROUP (see sections 7.2.2. (14) and 11.4.7).

The live voice announcement has priority over the Evacuation message, which in turn has priority over the Warning message.

11.3.1. Enter Emergency Mode

1. Press **OK** to enter the main menu.
2. Press **OK** once again to enter the **EMERGENCY MODE** menu.
3. Press **OK** once again to enter the **LOGIN** menu.
4. Using the numeric keypad, enter the emergency mode password (**1234** by default) and press **OK**. The EMERGENCY MODE LED flashes.
5. Press the navigation key ◄ until you return to the start screen.

11.3.2. Exit Emergency Mode

1. Press **OK** to enter the main menu.
2. Press **OK** once again to enter the **EMERGENCY MODE** menu.
3. Select **LOGOUT** and press **OK**.
4. Press the navigation key ◄ to return to the start screen.

11.3.3. Sending a live voice emergency announcement

1. Press and hold down **GONG+TALK** (or **TALK**).
2. When the green TALK LED lights up, begin to speak. When you have finished, release **GONG+TALK** (or **TALK**).

11.3.4. Sending a pre-recorded warning message in Emergency Mode

1. Press the **WARNING** key. The message assigned to the Warning button is continuously repeated.
2. To stop it, press the **WARNING** key once again.

11.3.5. Sending a pre-recorded evacuation message in Emergency Mode

1. Press the **EVACUATION** key. The message assigned to the Evacuation button is continuously repeated.
2. To stop it, press the **EVACUATION** key once again.

ATTENTION:

If you have configured the desk enabling the option **Emergency mode at buttons** (see section 7.2.2, no.(8)), when the WARNING or EVACUATION button is pressed, the desk automatically goes into Emergency Mode, without the need for a password to be entered, and the message assigned is played.

To exit Emergency Mode, refer to section 11.3.2.

11.4. Advanced operations

Remember that in installations with a Server PC, when the DC-600ETH is restarted, this will download the configurations from the PC, so all the changes in configuration made from the desk keypad will be lost.

11.4.1. Changing the ADMINISTRATOR password

(Requires Administrator user level).

1. Press **OK** to access the main menu.
2. Select **ADVANCED** and press **OK**.
3. Select **OPTIONS** and press **OK**.
4. Select **CHANGE CODE ADMINISTRATOR** and press **OK**.
5. Enter the new administrator password and press **OK**.
6. Repeat the new password and press **OK**.

11.4.2. Changing the OPERATOR password

(Requires Administrator user level).

1. Press **OK** to access the main menu.
2. Select **ADVANCED** and press **OK**.
3. Select **OPTIONS** and press **OK**.
4. Select **CHANGE CODE OPERATOR** and press **OK**.
5. Enter the new operator password and press **OK**.
6. Repeat the new password and press **OK**.

11.4.3. Modifying the volume of a zone

(Requires Administrator user level)

Only the volume of zones that correspond to digital amplifiers can be modified.

1. Press **OK** to access the main menu.
2. Select **VOLUMES** and press **OK**.
3. Use the navigation keys ▼/▲ to locate the zone where you wish to modify the volume and press **OK**.
4. Using the navigation keys ▼/▲, select the volume channel that you wish to modify (LOCAL PROGRAM, LOCAL PRIORITY, ETH PROGRAM and ETH PRIORITY).
5. Modify the volume of the option selected by means of the navigation keys ◄/►.
6. Save the volume configuration by pressing the **OK** key or reject the changes by pressing **DEL**.

   The data with respect to the volume established are saved in the digital amplifier of the corresponding zone and in the Server PC, so the volume level established is maintained although the unit may be restarted.
7. Press the navigation key ◄ to return to the start screen.

11.4.4. Monitoring pre-recorded MP3 messages

(Requires Administrator user level).

NB: This functionality is not available when the desk is sending a music program.

1. Press **OK** to access the main menu.
2. Select **MONITOR MP3** and press **OK**.
3. Use the navigation keys ▼/▲ to locate the message that you wish to monitor.
4. Press **OK** to begin monitoring.
5. If you wish to stop the message, press **OK** once again.
6. Press the navigation key ◄ to return to the start screen.

11.4.5. Configuring the origin of the WARNING and EVACUATION messages

(Requires Administrator user level).

The WARNING and EVACUATION messages can be stored in the DC-600ETH desk or in the power units of the OPTIMAX series.

If the desk is configured to store these messages, when they are activated, they are sent through the Ethernet connection to the emergency group zones. If, on the other hand, the configuration is such that the amplifiers contain these messages, when they are activated, the desk sends the order to the amplifiers to play the message.

1. Press **OK** to access the main menu.
2. Select **ADVANCED** and press **OK**.
3. Select **MESSAGES** and press **OK**.
4. Select **MESSAGES SOURCE** and press **OK**.
5. Using the navigation keys ◄/►, select the origin of the WARNING and EVACUATION messages: **PAGING DESK** or **ZONE**.
6. Press **OK**.
7. Press the navigation key ◄ to return to the start screen.

11.4.6. Configuring the WARNING and EVACUATION button messages

(Requires Administrator user level).

Both the desks and the amplifiers in the OPTIMAX series have two internal memories in which files can be stored for subsequent use as pre-recorded messages:

- MP3 circuit memory, for files in MP3 format
- Coldfire flash memory, for files in WAV format.

This configuration establishes which memory the desk is to access in order to search for the evacuation or warning message, and what the content of each of these messages is.

1. Press **OK** to access the main menu.
2. Select **ADVANCED** and press **OK**.
3. Select **MESSAGES** and press **OK**.
4. Select **WARNING PUSH-BUTTON MESSAGE** or **EVACUATION PUSH-BUTTON MESSAGE**.
5. Use the navigation keys ◄/► to select the type of message that you wish to assign (**MP3** or **WAV**) and press **OK**.
6. Use the navigation keys ▼/▲ to locate the message that you wish to assign and press **OK**.
7. Press the navigation key ◄ to return to the start screen.

NB: If this option is not configured and there are messages in the memory, message 1 in the MP3 memory of the desk is automatically assigned to the EVACUATION button and message 2 in the MP3 memory of the desk is assigned to the WARNING button.

ATTENTION:

The messages from the desk assigned to the WARNING or EVACUATION buttons cannot be used as general purpose messages.

11.4.7. Assigning the Emergency Group

(Requires Administrator user level).

This group will be the destination of the messages whenever the desk goes into Emergency Mode. To assign a group, the group must first have been created by means of the Group menu on the P.A. Manager software installations screen.

If this is left unconfigured, the emergency messages are sent to all the zones.

To configure this, proceed as follows:

1. Press **OK** to enter the main menu.
2. Press **OK** once again to enter the **EMERGENCY MODE** menu.
3. Select **EMERGENCY GROUP** and press **OK**.
4. Use the navigation keys ▼/▲ to select the group that you wish to assign and press **OK**.
5. Press the navigation key ◄ to return to the start screen.

11.4.8. Updating the MP3 memory

(Requires Administrator user level).

Whenever files are recorded in or deleted from the MP3 memory of the desk, it is necessary to update the memory.

1. Press **OK** to access the main menu.
2. Select **ADVANCED** and press **OK**.
3. Select **OPTIONS** and press **OK**.
4. Select **MP3 PLAYER** and press **OK**.
5. Select **MEMORY UPDATE** and press **OK**.
6. Press the navigation key ◄ to return to the start screen.

11.4.9. Formatting the MP3 memory

(Requires Administrator user level).

ATTENTION: This action deletes all files from the MP3 memory of the desk.

1. Press **OK** to access the main menu.
2. Select **ADVANCED** and press **OK**.
3. Select **OPTIONS** and press **OK**.
4. Select **MP3 PLAYER** and press **OK**.
5. Select **FORMAT** and press **OK**.
6. Press the navigation key ◄ to return to the start screen.

11.4.10. Changing the IP address of the desk by means of the keypad

(Requires Administrator user level).

1. Press **OK** to access the main menu.
2. Select **ADVANCED** and press **OK**.
3. Select **IP ADDRESS (X.X.X.X)** and press **OK**.
4. Use the numeric keypad to enter the IP address, separating each octet by means of the ↵ key.
5. Press **OK** to save the IP address.
6. Press the navigation key ◄ to return to the start screen.

11.4.11. Re-establishing the IP address on the desk by DIP switch

(Requires Administrator user level).

1. Disconnect the power supply to the desk.
2. Remove the panel from the underside of the desk and compose the IP ADDRESS 0.0.0.0 by means of the DIP switches.
3. Reconnect the power supply to the desk.
4. Once the desk has started up, turn it off again.
5. Compose the IP address required by means of the bottom DIP switches. Put the panel back on and turn the desk on.

12. SYSTEM ALARMS

The desk has several alarm systems which indicate that a fault has occurred in an element of the PA system.

- Information on the LCD screen: On-screen display of icons indicating an alarm and information about the alarm.
- Alarm light indicator: Red LED on the front panel of the desk.
- Alarm acoustic indicator: Intermittent beep.

12.1. Alarms on the LCD screen of the desk

The appearance of alarm icons on the screen of the desk indicates that the desk is receiving one or several alarms from the system, or the desk itself is generating an alarm.

These icons are visible on any of the desk menus.


Alarm generated by the desk itself


System alarm

The number that appears next to each alarm indicates the number of alarms that exist of each type (alarms generated by the desk and system alarms).

To view each of the alarms in detail:

1. From the start screen, press ▼.
2. Use the navigation keys ▼/▲ to view each of the alarms.

   The name of the unit causing the alarm appears on the top line and the category of alarm appears on the bottom line. In the case of alarms generated by the desk itself, *"(INTERNAL MIC.)"* appears instead of the name.

3. Press the navigation key ◄ to return to the start screen.

ATTENTION: Depending on the configuration of the P.A. Manager software, some of the alarms may not appear on the list (***Installations*** Screen, menu ***Options>Alarm Management***).

12.2. Alarm acoustic indicator (buzzer)

The desk has a buzzer which sounds whenever an alarm is received. The acoustic indication, a beep lasting 0.5 seconds, is repeated every 5 seconds until the alarm is accepted (see section 12.2.1).

12.2.1. Acceptance of an alarm

Reception of an alarm activates the acoustic indicator. When an alarm is accepted, the acoustic indicator for that alarm stops (if there are more unaccepted alarms, the acoustic indicator will remain activated).

To accept an alarm:

1. Press ▼ to access the list of alarms.
2. Use the navigation keys ▼/▲ to view the alarm that you wish to accept.
3. Press **OK**. When the alarm is accepted, the ✓ validation symbol appears.
4. Press the navigation key ◄ to return to the start screen.

12.2.2. Activation or deactivation of the acoustic indicator

(Requires Administrator user level).

The acoustic indicator can be activated or deactivated. If it is deactivated, the alarm acoustic indicator stops operating.

Press **OK** to access the main menu.

1. Select **ADVANCED** and press **OK**.
2. Select **OPTIONS** and press **OK**.
3. Select **BUZZER** and press **OK**.

Select **ACTIVATE** or **DEACTIVATE** and press **OK** to save.

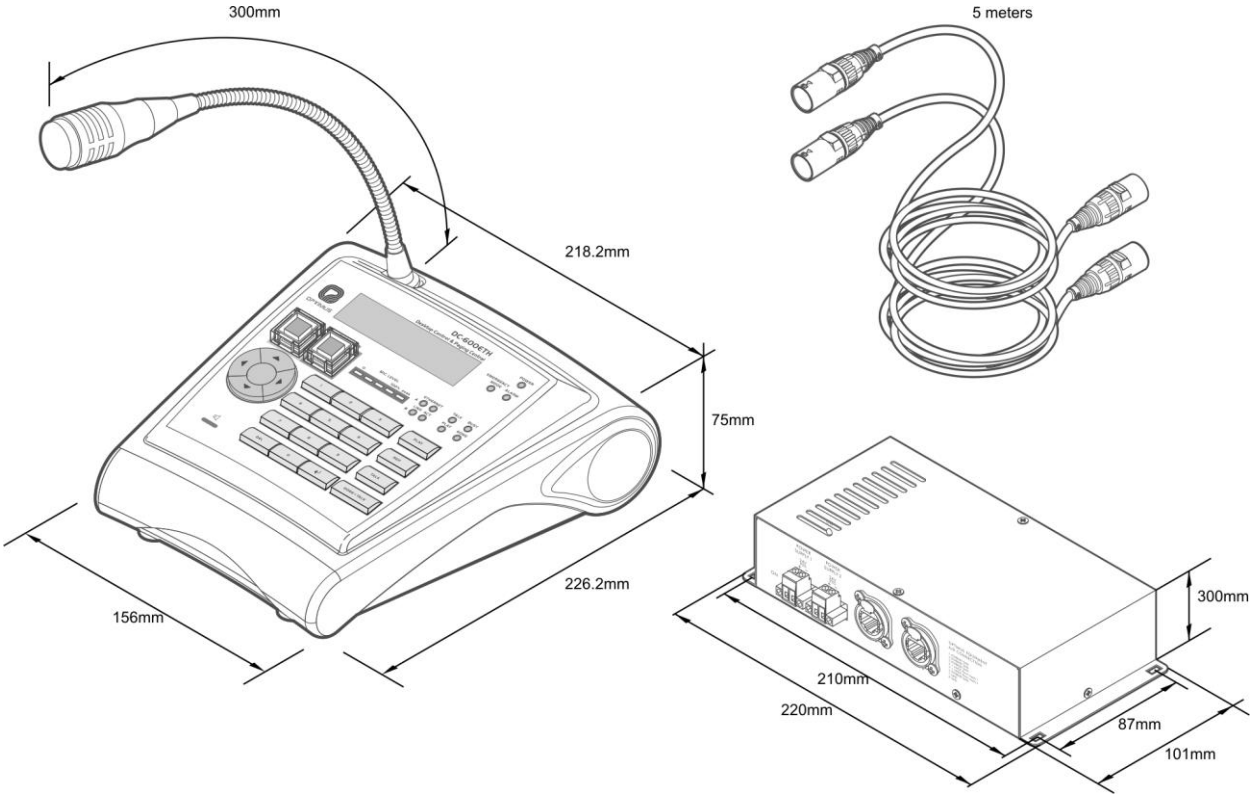
12.3. Alarm light indicator

This lights when the desk receives one or several system alarms, or when it generates an alarm itself. Acceptance of the alarms does not turn the ALARM LED off.

12.4. List of alarms

IP DISCONNECTION	Occurs when a unit loses the Ethernet connection.
DSP FAIL	Error in the DSP of the unit
SPI(n) FAIL	Internal hardware error in the unit
LINK A FAIL	Unit without Ethernet connection in port A
LINK B FAIL	Unit without Ethernet connection in port B
POWER SUPPLY A FAIL	In OPTIMAX power units with dual power supply (230 V AC mains supply and 24 V DC battery supply), failure of the 230 V AC power supply. In DC-600ETH or FC-600ETH desks, failure of power supply A (24 V DC).
POWER SUPPLY B FAIL	In OPTIMAX power units with dual power supply (230 V AC mains supply and 24 V DC battery supply), failure of the 24 V DC battery supply. In DC-600ETH or FC-600ETH desks, failure of power supply B (24 V DC).
ANM SENSOR FAIL	Failure of RS485 communication between the OPTIMAX power unit and the NS-485 noise sensor.
DIF TEMP SENSORS>20	There is a difference in temperature of more than 20 °C between the values read by the internal temperature sensors of the amplifier.
TEMPERATURE ALARM	The temperature of the amplifier is higher than the temperature set by configuration.
LINE FAIL – HIGH	Appears if a high impedance error occurs in Optimax amplifiers whose line surveillance is activated.
LINE FAIL – LOW	Appears if a low impedance error occurs in Optimax amplifiers whose line surveillance is activated.
EMERG. LINK FAIL	Appears if the emergency input connection fails on Optimax amplifiers with emergency input surveillance activated.
EVAC. CONTACT FAIL	Appears if the connection of the contact activating the emergency input evacuation message fails. Only on Optimax amplifiers with surveillance of emergency input contacts activated.
WARNING CONTACT FAIL	Appears if the connection of the contact activating the emergency input pre-evacuation message fails. Only on Optimax amplifiers with surveillance of emergency input contacts activated.
EMERG. CONTACT FAIL	Appears if the connection of the priority contact of the emergency input of the amplifier fails. Only on Optimax amplifiers with surveillance of emergency input contacts activated.
PROTECTION ALARM	Protection of the amplifier is activated.
MP3 FILE FAIL	Possible corruption of the data corresponding to the MP3 file in the OPTIMAX power unit memory.
FRONT SENSOR FAIL	The internal temperature sensor at the front of the OPTIMAX amplifier is not communicating correctly.
REAR SENSOR FAIL	The internal temperature sensor at the rear of the OPTIMAX amplifier is not communicating correctly.
CAPSULE FAIL – HIGH	Detection of open line in the capsule of a DC-600ETH or FC-600ETH desk.

13. DIMENSIONS



14. TECHNICAL SPECIFICATIONS

DC-600ETH	
Inputs	2 Ethernet and 1 music program input (RCA connectors)
Power supply	24 V DC
Consumption	500 mA
Weight	Desk + junction box + accessories: 2.7 kg
Finishing	Desk: Plastic Bayblend RAL7021 Front polyester adhesive Pantone 447C Junction box: Black skinplate

MICROPHONE	
Capsule	Dynamic
Polar diagram	Unidirectional
Frequency response	150 Hz ~8 kHz
Sensitivity	-76dB ± 3 dB (0 dB = 1 V/microbar at 10,000 Hz)
Output impedance	500 Ohm ± 30% (at 1 kHz)
Finishing	Aluminium

15. NETWORK SPECIFICATIONS

The Optimax PA system supports audio and control data communication through Ethernet and IP networks. Since it works on levels 3 and 4 of the OSI scale, the Optimax protocol supports communication through routers (IP protocol) by means of the configurations of the gateways and subnetwork masks. Thanks to these features, Optimax can work on both LANs and WANs.

Most of the communications in the Optimax systems use multicast. Multicast is an effective means of providing transit services from one sender to many receivers. It is absolutely essential to exhaustively and rigorously check the network configuration in order to ensure that the system operates correctly.

The multicast networks include a wide range of protocols, from filter protocols (IGMP, MLD) to routing protocols (MOSPF, DVMRP, PIM-DM and PIM-SM/SSM).

Optimax incorporates an application-level control (ACK) (level 7 of the OSI scale) of the management data sent.

1. Default multicast base addresses, ports and configurations

	Dirección Broadcast	Puerto Broadcast
Initial configuration download	255.255.255.255	3333

	Dirección Multicast	Puerto Multicast
Initial configuration download	239.5.5.5	8001

	Multicast address	Multicast port	Others
Control data	239.5.5.5	5000	Heart beat every 10 seconds
Global audio channels	239.1.0.x	6000 + x	8 simultaneous channels
Local audio channels	239.1.PAArea.x	6000 + (PAArea*100) + x	5 simultaneous channels

2. Valid ranges (according to the IANA Guidelines for IPv4 Multicast Address)

	Multicast address	Multicast port	Others
Control data	Between 239.0.0.0 and 239.255.255.255	Between 1025 and 65536	Heart beat between 1 and 65000 seconds.
Global audio channels	Between 239.0.0.0 and 239.255.255.255	Between 1025 and 65536	1-50 simultaneous channels
Local audio channels	Between 239.0.0.0 and 239.255.255.255	Between 1025 and 65536	1-50 simultaneous channels

3. Local network (LAN) specifications

- Dedicated VLAN
- Bandwidth: 4 Mb for each audio channel.
- Number of audio channels:
  - Up to 50 global channels (from the exchange to the satellites)
  - Up to 50 local channels (internal to the satellite, they do not consume backbone bandwidth)

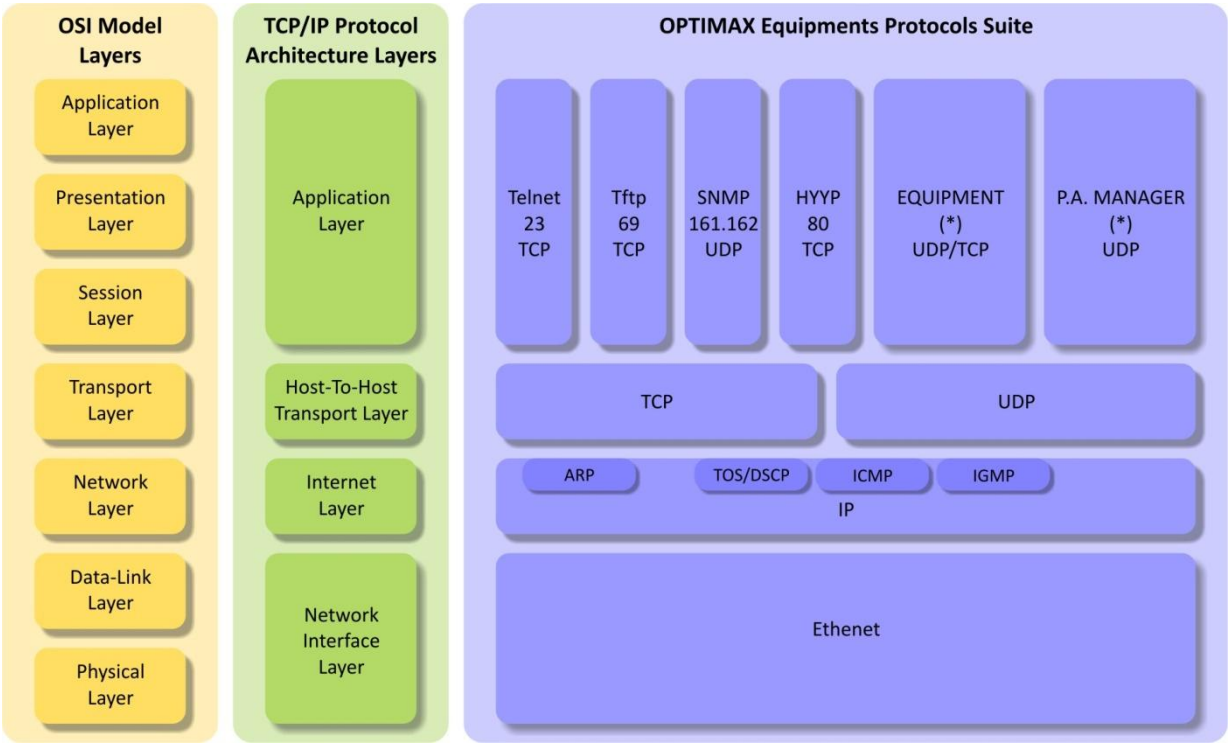
4. Switch/router specifications for LAN and WAN networks

- **Protocols:**
  - UDP/ IP multicast for Audio.
  - UDP/ IP multicast for Control. Security of reception by means of ACK management protocol in Application Layer.
- **Multicast snooping:**
  - Multicast filtering
  - IGMP v2
- **For large installations:**
  - Multicast routing (Spanning Tree)
  - Capacity to handle TOS (Type Of Service)

5. Certified hardware

- **Large installations:**
  - Nortel: BayStack 470, Ethernet Routing Switch 3510 and higher
  - Cisco: 36XX or higher
  - Alcatel: Level 3 switches
- **Medium-sized installations:**
  - NKF: XSNET 1800
  - Hirschmann: RS30-0802O6O6SDAEHH01.0
- **Small installations, with a proprietary network:**
  - Nortel: BayStack 425
  - Cisco: 500G and 29600 families
  - Equitel: N950

6. Network protocol stack



(*) Multicast addresses and reserved ports

16. SOFTWARE AND FIRMWARE VERSIONS

The functionalities described in this user's manual are valid for the following software and firmware versions (or later versions):

DC-600ETH Firmware	Image (Operating System) 2.4 Coldfire Application 2.6.13
P.A. Manager Software	Version 2.6 / Revision 3995.26517
Optimus Flasher Software	Version 2.6.7

17. DOCUMENT VERSION TRACKING

Reference system	**Type of Document**	**Confidentiality**	**N/A**
Optimax	Installation and operation guide		

Rev	Date	Modifications Content	Written by:
1.0	September 06	First version	R&D Department
1.1	October 07	The following sections are added: MENU STRUCTURE OPERATIONS DIMENSIONS	R&D Department
1.2	September 08	Pagination and spelling corrections	R&D Department
1.3	November 09	The following sections are added or modified: 1. INTRODUCTION 2. FRONT VIEW 3. REAR VIEW 4. CONNECTIONS 5. SETTINGS AND CONFIGURATION 6. PRE-RECORDED MESSAGES 7. STARTING UP THE DESK 8. CHANGE OF THE IP ADDRESS OF THE UNIT BY SOFTWARE 9. NAVIGATION THROUGH THE DESK MENUS 10. MENU STRUCTURE 11. OPERATIONS FROM THE DESK 12. SYSTEM ALARMS 15. NETWORK SPECIFICATIONS 16. SOFTWARE AND FIRMWARE VERSIONS 17. DOCUMENT VERSION TRACKING	R&D Department
1.4	December 10	7.2.1. General tab. Multicast addresses and valid ranges 7.2.3. Parameters 2 tab 15. NETWORK SPECIFICATIONS 16. SOFTWARE AND FIRMWARE VERSIONS	R+D Department

Approved By	**Function**	**Date**
Ferran Gironès i Puig	R&D Director	01/2010

18. GUARANTEE

1. GUARANTEE CERTIFICATE

1. OPTIMUS S.A. guarantees that its products are free from material and manufacturing defects when they are first delivered to the purchaser.

2. In accordance with the conditions outlined here, OPTIMUS S.A. guarantees its products for two (2) years from the date on which the purchaser acquires the product. If, within this guarantee period, defects appear which are not due to factors outlined in section 2, OPTIMUS S.A. shall replace or repair the unit using equivalent, new or reconstructed replacement parts, as it deems fit. If replacement parts are applied which improve the unit, OPTIMUS S.A. reserves the right to charge the client for the additional cost of these components.

3. No guarantee benefits shall be provided other than those cited here.

4. In order to claim the guarantee rights, it shall be an essential requirement to present the original purchase invoice or the guarantee certificate.

2. GUARANTEE PROVISIONS

1. In the event that the product had to be modified or adapted to comply with local requirements concerning technical specifications or safety, and if the country in question is not the country for which the product was originally designed and manufactured, defects are not considered to be material or manufacturing defects. Furthermore, the guarantee does not cover the execution of these modifications or adaptations, regardless of whether or not they have been carried out correctly.

Nor shall OPTIMUS S.A. be responsible for any costs under this guarantee for these types of modifications.

2. The guarantee shall not entitle the purchaser to inspection or free maintenance or repair of the unit, particularly if the defects are due to inappropriate use. Nor do the guarantee rights cover defects in wearing parts that become worn as a result of normal wear and tear. Wearing parts are, in particular, potentiometers, switches/keys, and similar parts.

3. The guarantee does not cover defects in the equipment unit caused by:

- Abuse or incorrect use of the unit for purposes other than those for which it is intended, in non-compliance with the service and maintenance instructions specified in the Manual and/or Technical Instructions for the unit.
- Connection or use of the product in a manner that does not correspond to the technical or safety requirements of the country in which the unit is used.
- Installation in conditions other than those indicated in the Manual and/or Technical Instructions.
- Deficiency or interruptions in the electricity supply or installation defects which imply use in abnormal conditions.
- Damage caused by other equipment units that are connected to the product.
- The use or installation of Software (programmes), interfaces, parts or supplies not provided and/or not authorised by OPTIMUS S.A.
- Failure to use the original packaging for transportation.
- Damage caused by force majeure or other causes not attributable to OPTIMUS S.A.

4. The following elements are not covered by this guarantee:

- All plastic surfaces and all parts exposed to outdoor conditions which have been scratched or damaged as a result of normal or abnormal use.
- Breakages, knocks, damage due to a fall or scratches caused by moving the unit in any way.
- Damage caused by tests, use, maintenance, installation or inappropriate adjustments, or as a result of any alteration or modification of any kind not carried out by a Service Authorised by OPTIMUS S.A. in compliance with this guarantee.
- Damage to persons or property that might be caused by the improper use of the equipment, including lack of maintenance.

5. The guarantee shall not be valid whenever the following is observed:

- Amendments or corrections made to the details of the guarantee certificate or purchase invoice.
- Failure to produce the original invoice or the absence of a date on this.
- Absence of the serial or batch number on the equipment.

6. In the case of personal computers, the guarantee will not cover the elimination of computer viruses, the restoration of programmes damaged by these or the reinstallation of the disk following its deletion.

7. The rights of this guarantee are invalidated if the product has been repaired or opened by staff unauthorised by OPTIMUS S.A. or by the client himself.

8. If OPTIMUS S.A. were to establish before the client that the damage affecting the unit does not entitle a claim to be made under the guarantee, the costs of checking the equipment incurred by OPTIMUS S.A. shall be borne by the client.

9. Products not covered by the guarantee shall only be repaired once payment has been effected by the client. In the event that the guarantee rights do not apply, OPTIMUS S.A. shall duly inform the client. If, within a period of 6 weeks from this communication, no written repair order is received from the client confirming acceptance of the costs, OPTIMUS S.A. shall return the unit in question to the client. In this case, the transport and packaging costs shall be invoiced separately and payment shall be made on delivery. In the event that a repair order is sent by the client, confirming that he assumes the costs of repair, the transport and packaging costs shall be invoiced additionally, and also separately.

10. If the equipment needs to be transferred to the Authorised Service Centre, transportation shall be effected by the responsible party according to the guarantee, who will also bear the freight and insurance costs.

11. In the event of a defect, OPTIMUS S.A. guarantees that the repair and/or replacement of parts so that the unit operates correctly will be made within a period of no more than 30 days. Nevertheless, OPTIMUS S.A. would like to clarify that the normal period does not exceed 30 days.

12. All parts or products replaced as part of the guarantee services shall become the property of OPTIMUS S.A.

3. TRANSFER OF GUARANTEE

The guarantee is solely awarded to the original purchaser (principal client) and is not transferable. With the exception of OPTIMUS S.A., no third party (dealers, etc.) is authorised to award additional guarantees on behalf of OPTIMUS S.A.

4. CLAIMS FOR DAMAGE

In the event that OPTIMUS S.A. cannot provide a suitable guarantee service, the purchaser shall not be entitled to claim any indemnity for damages arising. The responsibility held by OPTIMUS S.A. is limited in all cases to the invoicing price of the product.

5. RELATION WITH OTHER GUARANTEE RIGHTS AND NATIONAL LAW

1. This guarantee does not affect the rights of the purchaser with respect to the vendor arising from the contract of sale accomplished.

2. These conditions of the guarantee provided by OPTIMUS S.A. are valid as long as they do not contradict the corresponding national law on guarantee provisions.

3. OPTIMUS S.A. guarantees that this product complies with the safety regulations in force in the country.

THIS LIMITED GUARANTEE DECLARATION IS THE EXCLUSIVE GUARANTEE OFFERED BY OPTIMUS S.A. ALL OTHER EXPLICIT OR IMPLICIT GUARANTEES ARE EXCLUDED, AND THIS ALSO APPLIES TO GUARANTEES OF MARKETABILITY AND SUITABILITY FOR A PARTICULAR PURPOSE. (EXCEPT WHEN THESE GUARANTEES ARE REQUIRED BY AN APPLICABLE LAW). NO GUARANTEE, EITHER EXPLICIT OR IMPLICIT, SHALL BE APPLIED ONCE THE GUARANTEE PERIOD HAS EXPIRED

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