



# **VisorALARM PLUS 2U**

## **Operating Instructions**

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# Chapter 1

## System Overview



## 1. The VisorALARM PLUS 2U receiver

---

The IP VisorALARM PLUS 2U receiver (Model VisorALARM PLUS 2U) is a communications device developed by Teldat for security environments. The IP VisorALARM PLUS 2U receiver's principal task is to receive alarms over an IP network and to subsequently send them to an automation software (SwAut). The functionality of the Teldat VisorALARM PLUS 2U is similar to any other alarm receiver which receives alarms over the telephone line. If the automation software fails or isn't present, VisorALARM PLUS 2U is able to acoustically signal the reception of new signals. It also provides specific function keys to manually acknowledge every received signal.

The IP VisorALARM PLUS 2U receiver operates together with the IP Module (mIP/IPDACT), which receives the alarms from the alarm control panels and sends them to the Teldat VisorALARM PLUS 2U over an IP network. Additionally, the Teldat VisorALARM PLUS 2U monitors connectivity with all the registered mIP/IPDACTs. Should connection fail, then the VisorALARM PLUS 2U generates alarms for the SwAut.

The VisorALARM PLUS 2U IP receiver has the high availability feature added, which permits a mIP/IPDACT the possibility of IP backup towards another backup center made up of various VisorALARM PLUS 2U receivers.



**Figure 1. IP VisorALARM PLUS 2U Receiver**

## 2. The IP modules (mIP/IPDACTs)

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The IP Modules (mIP/IPDACTs) connected to the client control panel carry out two tasks:

1. Capture the alarms sent by the control panel and send them over the IP network to which they are connected. These alarms are then received by the Teldat VisorALARM PLUS 2U in order to be sent to the corresponding automation software (SwAut).
2. Generate monitoring traffic so that both ends of the security environment check the IP connectivity, permitting the above task to be accomplished.

The mIP/IPDACT is a device that intercepts the control panel telephone connection with two aims: firstly to detect when the panel sends an alarm in order to capture and retransmit it over the connected IP network and secondly to allow the telephone line to be used at the same time as sending alarms.

The interception of the telephone line takes place ONLY in cases where connectivity with the Teldat VisorALARM PLUS 2U has been verified. The mIP/IPDACT - VisorALARM PLUS 2U connectivity is checked through a traffic monitor which the mIP/IPDACT periodically sends and to which the Teldat VisorALARM PLUS 2U responds. If this exchange of messages does not occur during the configured time, the mIP/IPDACT tries to resend. If after a configurable number of attempts (between 1 and 9), a satisfactory response is not received, the connectivity is presumed lost. The time between polling messages is programmable between 0 and 90 seconds, a typical value being 15 seconds. The time between retries is also configurable, between 3 and 9 seconds.

If a network backup scheme is running, the mIP/IPDACT has a second IP receiver to establish communications and send alarms. If this second receiver does not respond to the communication established with it by the mIP/IPDACT (again after a configurable number of attempts), the telephone line access is returned to the control panel as if the mIP/IPDACT was no longer operative at the alarm level. From this point on, the mIP/IPDACT will try to re-establish communications with both the main Teldat VisorALARM PLUS 2U as well as the backup, if there is one. As soon as this is re-established with either of the VisorALARM PLUS 2U, the mIP/IPDACT will intercept the telephone line once more.

The monitoring traffic is encrypted UDP traffic. The Ethernet frame size does not exceed 70 bytes. The monitoring interval, the number of retries and time between retries are all configurable, both for the main VisorALARM PLUS 2U as well as for the backup. The time between retries is an important parameter as it influences the global traffic supported by the VisorALARM PLUS 2U (polling over all the devices). You also need to bear in mind that polling is a tool to control the state of both the alarm reception center and the mIP/IPDACT. A long interval between polls can lead to situations where the VisorALARM PLUS 2U delays detecting a problem with the mIP/IPDACT and consequently a problem with a customer. Finally, if the mIP/IPDACT accesses the Internet via a device which executes NAT, traffic coming from the VisorALARM PLUS 2U (configuration for example) will not reach the mIP/IPDACT if the period between polls is inferior to the outgoing router NAT tables refresh time (a typical refresh value is 5 minutes).

The Teldat VisorALARM PLUS 2U receives monitoring messages from the mIP/IPDACTs. If these are registered, they are assumed alive and an acknowledgement response is sent to them; if the mIP/IPDACTs are not registered, they are ignored. Periodically the status of all the registered mIP/IPDACTs is checked and an alarm is generated for all those which have not notified their availability (i.e. those which have not responded since the last check). This is a 350 code alarm from the Contact-ID protocol (*Communication trouble*) which is received in the SwAut. Default is 350. As each mIP/IPDACT can have a different polling time with the center, the VisorALARM PLUS 2U checks the status of each mIP/IPDACT according to the polling time value for each of them.

In order to prevent the Teldat VisorALARM PLUS 2U from sending hundreds or thousands of communication failure alarms when faced with a situation of general failure of IP traffic reception, the device itself monitors the network access through ICMP echo packets (ping) to a known address: if the

echo packets towards this address fail then a code 356 alarm is generated from the Contact-ID protocol (*Loss of central polling*). Default is 356.

In order to simplify installation and updating of the registered mIP/IPDACTs, the IP VisorALARM PLUS 2U receiver has additional facilities.

To install new mIP/IPDACTs, the Teldat VisorALARM PLUS 2U holds configuration patterns associated to installer passwords. These permit you to automatically register new mIP/IPDACTs in the supported mIP/IPDACT list and at the same time enable the mIP/IPDACT to request the necessary configuration for start up. The device can simultaneously have multiple patterns; the choice of one or other depends on the installer password used in the mIP/IPDACT to request the service.

In order to maintain and update the registered mIP/IPDACTs base, the Teldat VisorALARM PLUS 2U has commands available to remotely update one or multiple configuration parameters used by the mIP/IPDACTs.

### 3. Management and Monitoring

---

The IP VisorALARM PLUS 2U receiver can be managed and configured through a local console and also remotely (telnet). In both cases, the access is restricted to users who are identified by a user name and a password. Also the receiver can be monitored through a local console, remotely through telnet and from the receiver's keypad and LCD display.

The configuration is displayed in text mode, consequently edition and support in other platforms is simpler and more comfortable.

# Chapter 2

## Controls and Indicators



# 1. Unit Controls and Indicators

---

VisorALARM PLUS 2U receiver control panel includes an LCD display, a keypad and several LED indicators.



## 1.1. LCD Display

VisorALARM PLUS 2U uses a 40-character (2 lines of 20 characters each) high viewing angle LCD display. The display includes a long life white backlight that remains illuminated while system is

PRIMARY VisorALARM  
Waiting for signals

running.

When there is no pending signal, the first line of the display shows the type of the receiver.

When the receiver forms part of a high availability group, the type of receiver appearing on the display is:

- For main receivers with identifier N:

PRI. VisorALARM N  
Waiting for signals

- For backup receivers with identifier N:

BCK. VisorALARM N  
Unit in standby

When the main and backup centers are respectively made up of a single device, the type of receiver appearing on the display is:

- For the main receiver:

PRIMARY Vi sorALARM  
Wai t i n g f o r s i g n a l s

- For the backup receiver:

BACKUP Vi sorALARM  
Uni t i n s t a n d b y

Independently to the scenario, the maintenance receiver appears on the display in the following way:

MAI NTEN. Vi sorALARM  
Wai t i n g f o r s i g n a l s

The second display line shows the state of the receiver.  
La segunda línea del display muestra el estado de la receptora.

## 1.2. LED Indicators

LED Indicators are provided to annunciate the following conditions:

LED	OFF	RED
PWR (AC Power)	No power	Power present

LED	OFF	Blinking RED	RED
ACK (Pending signals)	No pending signals	Signals pending to acknowledge	Signals pending to restore

LED	Blinking RED	RED	GREEN
TRB (Trouble signals)	System Trouble signals pending to acknowledge	System Trouble signals pending to restore	No System troubles

LED	RED	GREEN
PRN (Printer)	Printer not present	Printer present

LED	RED	GREEN
AUT (Automation software)	Automation software failure Receiver in manual mode	Automation software is running Receiver in auto mode

LED	RED	YELLOW	GREEN
LAN1, LAN2 (Ethernet LANs)	Ethernet not detected	Testing	Ethernet detected

LED	OFF	RED	GREEN
A (SLOT1..SLOT3) Expansion card indicator	com1 not active	Upload/download communication in progress through com1	Upload/download communication established through com1

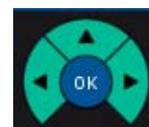
LED	OFF	RED	GREEN
B (SLOT1..SLOT3) Expansion card indicator	com2 not active	Upload/download communication in progress through com2	Upload/download communication established through com2

### 1.3. Keypad

The unit keypad includes 5 function keys and 12 additional alpha-numeric keys.

The function keys are:

- ▶ key: This is used to select an alternative view of a signal or to go to the next signal when navigating signal database.
- ◀ key: This is used to select a primary view of a signal or to return to the previous signal when navigating signal database. In addition, it is used as a backspace when the user is introducing a password or account numbers.
- ▲ key: This is used to go to the previous menu in the receiver menu tree.
- Enter key (OK)
- Acknowledgement key



The alpha-numeric keys are:

- Keys labeled 0 to 9
- Key \*
- Key #



### 1.4. Local Piezo Sounder

A piezo sounder provides distinct audible indications for alarm, trouble and supervisory signals.

<b>Signal</b>	<b>Sound</b>
Alarm	Sounds continuously
Supervisory	Sounds on and off at a half of a second rate
Trouble	Sounds on and off at a second rate

Chapter 3  
Operating VisorALARM PLUS 2U



# 1. Accessing the receiver

---

Access to receiver keypad functions is password protected.

If you are not logged into the VisorALARM PLUS 2U receiver a password is needed, either when the ACK key is pressed twice or the OK key is pressed to gain access to the receiver menu. The LCD shows a prompt as in the figure:

**USER MODE**  
Password: \* \* \* \* \* \_

The numeric keys must be used to introduce a valid numeric password for the system. There are three privilege levels with different passwords to access the receiver. The default receiver passwords for the three privilege levels are:

User/Privilege	Factory Password
Manager	24680
Supervisor	13579
Operator	11111

All the users (“Manager”, “Supervisor” and “Operator”) can monitor the receiver and acknowledge signal one by one.

User “Manager” and “Supervisor” have the additional permission to acknowledge all the signals simultaneously.

## 2. Operating in manual mode

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When the VisorALARM PLUS 2U receiver has no Automation Software connected or the Automation Software has failed, the receiver must be operated in manual mode.

In manual mode signals must be visualized and acknowledged from the receiver through the receiver LCD and keypad.

When a signal arrives at the receiver in manual mode, the LCD shows a status line as follows:

PRIMARY VisorALARM  
1 Signal pending

If you are not logged into the VisorALARM PLUS 2U receiver when events are received pressing the ACK key for the first time will display the highest priority event and silence the receiver piezo. If the ACK key is pressed a second time you will be prompted for a password. Once you have entered the password, the highest priority event is displayed once more and the piezo sounder buzzes again. Repeatedly pressing the ACK key will now display and acknowledge subsequent events.

Subsequently the signal information is shown in the display with the next format:

16: 33: 23 00001234 »  
E110 01 001 Fire

The LCD shows the following information:

hh: mm: ss aaaaaaaaa »  
QXYZ GG CCC TTTTTTTT

- **hh:mm:ss:** The hour, minutes and seconds of the alarm in a 24 hours format
- **aaaaaaaa:** The eight digit account code
- **Q:** Qualificator, E= New event or opening; R=Restoration or closing; P=Status report.
- **XYZ:** Event code
- **GG:** Number or group or partition.
- **CCC:** Zone number or user identifier.
- **TTTTTTT:** Textual description for the event code. This contemplates the following values:

Event Code	TTTTTTT
10x	Medical
11x	Fire
12x	Panic
13x	Burglar
14x, ..., 1Fx	Alarm
2xx	Superv
3xx	Trouble
4xx	Opn/Cls

5xx	Dis/Byp
6xx	Test
Others	Other

If the ► key is pressed, extended info is shown in the display:

```

« 11/17/06 16: 33: 23
00001234 E110 01 001

```

where the date is shown in MM/DD/YY format.

The previous view can be selected by pressing the ◀ key.

In order to acknowledge a signal the user must press the ACK key again.

If there are more pending signals the receiver shows the following:

```

PRI MARY Vi sorALARM
xx Si gnal s pendi ng

```

And the user must press the ACK again in order to visualize the highest priority signal.

When there are no more pending signals the receiver returns to its idle state displaying a status line indicating that it is waiting for new signals.

```

PRI MARY Vi sorALARM
Wai ti ng for si gnal s

```

### 3. Operating with Automation Software

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When the VisorALARM PLUS 2U receiver operates with an Automation Software connected through the serial AUT port, the signals are automatically sent to the Automation Software for acknowledgement. Signals are also stored in the signal database for further review and the ACK and TRB LEDs still indicate alarm signals and trouble signals pending to restore.

While operating in this mode signals are displayed for a short time in the LCD display but the operator does not have to manually acknowledge any of the displayed signals.

## 4. Monitoring the receiver

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The VisorALARM PLUS 2U receiver includes monitoring capabilities for the signal history log and account status that can be accessed and displayed through the keypad and the LCD display.

A User Mode menu is displayed by pressing the OK key on the keypad. If this is the first time the User Mode menu has been accessed, the receiver prompts the user for a valid operator, supervisor or manager password. If a valid password is entered the LCD display will show a menu as follows:

USER MODE      »  
{Signal Database} Acc

The ◀ and ▶ keys let the user change the selected option enclosed in brackets. By pressing the OK key the receiver will show the selected option submenu. The full set of options in the USER MODE menu is shown in the next figure:

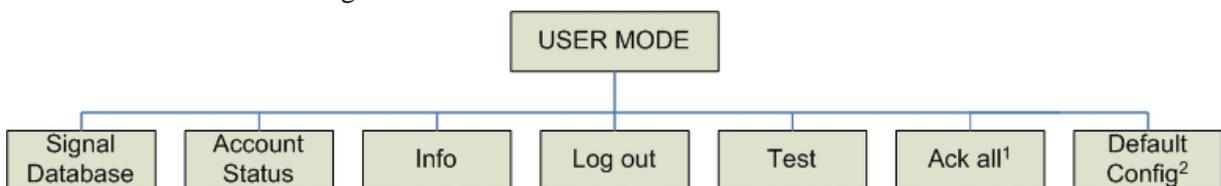


Figure : User Mode root menu options

When navigating by menus the ▲ key goes back to the previous menu. If the menu is the USER MODE root menu the receiver exits the root menu and resumes normal or automatic operation of signals.

The “Info” option displays information on the receiver’s version and IP configuration. In addition, this includes the number of the client accounts registered in the receiver and how many of these are operative.

The “Log out” option resumes the receiver’s normal operation in such a way that the user must re-enter a valid password to access the User Mode again.

The “Test” option performs a test on the receiver Indicators (LEDs, LCD and Piezo Sounder) in order to verify the device is operating correctly.

The “Ack all”<sup>1</sup> option acknowledges all the signals pending acknowledgment.

The “Default Config”<sup>2</sup> option restores the VisorALARM PLUS 2U equipment to its factory default configuration. Please use this option only if you are fully aware and understand its reach and consequences.

The “Signal Database” option enters the “SIGNAL DATABASE” menu where the signal history log can be reviewed using different search criteria. This option is described in depth in next paragraphs.

The “Account Status” option enters the “ACCOUNT STATUS” menu where the status and communication parameters for a specific mIP/IPDACT device can be monitored. This option is also fully described in next paragraphs.

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<sup>1</sup> Only for “Manager” and “Supervisor” users.

<sup>2</sup> Only for “Manager” user.

## 5. Accessing the Signal History Log

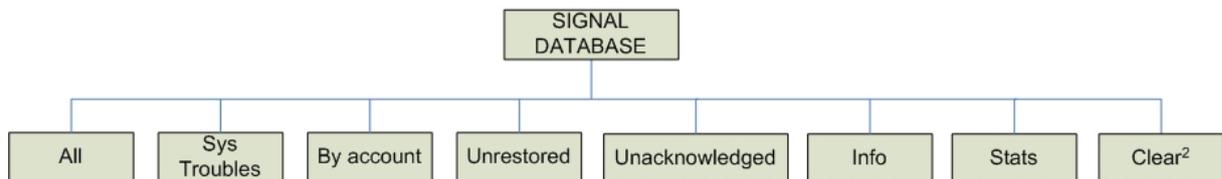
---

The receiver includes a Signal History Log that tracks every received signal. This log is stored in non-volatile memory and is preserved when power supply is lost. This Signal History Log can be accessed for review by selecting the “Signal Database” option found in the USER MODE root menu.

The “SIGNAL DATABASE” menu is shown in the LCD display as seen in the next figure:

```
SIGNAL DATABASE »
{All} Sys Troubles By
```

The set of available options included in the “SIGNAL DATABASE” menu is shown in the next figure:



The first five options represent different search criteria for unrestored signals which can be used in the Signal History Register. The option “Info” will display the total number of stored signals and the percentage of occupation.

```
24027 Signals stored
■■■■■■■■ 42%
```

The “Stats” option summarizes the number of unrestored and unconfirmed signals in the system.

```
3038 Unrestored
0 Unacknowledged
```

The “Clear” option is available only for Managers and it deletes all the content of the signal history log. Please use this option only if you are fully aware and understand its reach and consequences.

Signals can be reviewed using four different search filters:

1. Search “All” signals.

With this option the receiver does not apply any filters and displays all the stored signals beginning with the most recent.

Each signal is displayed as in the next figure:

```
16: 33: 23 00001234
E110 01 001 Fire
```

The list can be navigated using the ◀ and ▶ keys. Use the left arrow to go to a newer signal and the right one to go to an older one.

If the OK key is pressed while one signal is being displayed, extended info for that signal is shown on the display:

```
11/17/06 16: 33: 23
00001234 E110 01 001
```

By pressing OK again the previous view is recovered.

2. Search only the System Troubles.

System troubles are unrestored trouble signals generated by the receiver itself. The signals generated by the VisorALARM PLUS 2U receiver always have the 00000000 account code that is reserved and cannot be assigned to a mIP/IPDACT device.

The set of trouble signals that VisorALARM PLUS 2U can raise is described in the next table:

Trouble signal	Description
Hdw failure: Fan 0	Fan #0 has failed
Hdw failure: Fan 1	Fan #1 has failed
Hdw failure: LCD	Failure in the LCD device
Hdw failure: Buzzer	Failure in the Local Piezo Sounder
Hdw failure: Printer	Printer not detected
Network failure	The device specified in the monitor_ip_address configuration parameter does not answer. Probably the internet link is down
Receiver is down	The receiver cannot receive signals
Primary is down	The Backup receiver has detected that the Primary receiver is down
Backup is down	The Primary receiver has detected that the Backup receiver is down
Storage full	Received signals queue is full
Time is inaccurate	The NTP server specified in the NTP configuration does not answer. The synchronization of the Primary and Backup receivers can fail
Signal DB overflowed	The stored signals database has been overwritten

AC Loss	AC loss has been detected through one of the inputs
Low system battery	Low system battery has been detected through one of the inputs.

System Trouble signals are displayed by default like any other signal, but when the user selects the extended info using the OK key the info shown includes a textual description of the trouble as in the figure:

E 11/16/06 02:10:11  
Hdw failure: Printer

This view shows if the signal is an Event (E) or a Restore (R), the date and time of the signal and the description.

3. Search signals for a specific account:

In this case signals are filtered in order to display only the unrestored signals for one particular account. When the option “By account” is selected the receiver prompts the user for an account code:

ACCOUNT SIGNALS  
Accn No. : \_

The user must introduce the account code using the numeric keys for numbers and using the following combination of keys for alpha digits:

Alpha digit	Keys
A	* 0
B	* 1
C	* 2
D	* 3
E	* 4
F	* 5

The left arrow key (◀) has the “Clear” function to delete previous digits and the ACK key clears all the digits.

When the account code is completed the user must press the OK key to validate the code. As for previous signal lists, the list can be navigated using the ◀ and ▶ keys. Use the left arrow to go to a newer signal and the right one to go to an older one.

4. Search “Unrestored” signals.

The “Unrestored” option displays the received signals for which an Event (E qualifier) has been received but where the Restore signal (R qualifier) has not been received as yet.

Signals stay in this list until the corresponding restore is received and the list is navigated as described in previous paragraphs.

5. Search “Unacknowledged” (unconfirmed) signals. These are signals that have not been delivered to the automation software or have not been confirmed through the ACK key located on the receiver’s front panel.

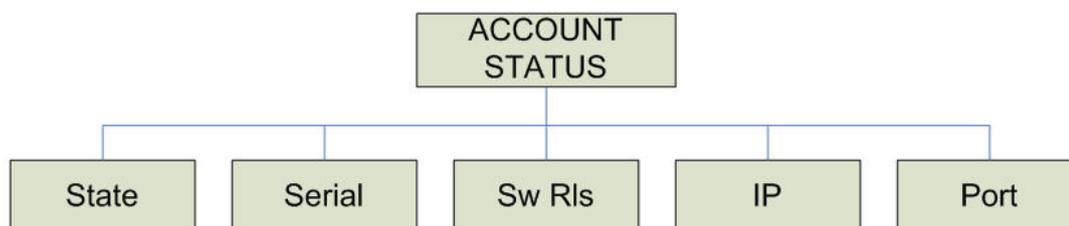
## 6. Monitoring the status of an account

The VisorALARM PLUS 2U receiver includes an option to display the communication status of a given account. This can be done through the “Account Status” option found in the receiver’s “USER MODE” menu.

The “ACCOUNT STATUS” menu is shown in the LCD display, as seen in the following figure:

ACCOUNT STATUS »  
 {State} Serial Sw RIs

The set of options included in the “ACCOUNT STATUS” menu is shown in the following figure:



1. The “State” option gives information about the connectivity state of the account. It displays a screen as shown below:

State  
 Alive

The set of possible states are:

	State	Description
Alive	Device is all normal	Supervision messages for the device are received as expected.
Registered	Device is not connected	Device is present in the Account Database but no message has been received from the device since last receiver reboot
Contacted	Device is not connected	Device is present in the Account Database and a “Contact” message has been received. Receiver is waiting for “KeepAlive” messages from the device
Loss signaled	Device is not connected	The timeout for the “KeepAlive” messages from the device has expired. The receiver has raised a “Communications Trouble” signal
Changed	Device is not connected	A replacement of the device has been detected. The device has been replaced without previously unregistering the account

2. The “Serial” option displays the mIP/IPDACT device Serial Number.

```
Serial Number  
583/00251
```

3. The “Sw Rls” option displays the mIP/IPDACT device software release.

```
Software Release  
V4.1 EU Nov 06 2006
```

4. The “IP” option displays the mIP/IPDACT device IP address:

```
Remote IP Address  
60.78.34.89
```

5. The “Port” option displays the mIP/IPDACT device UDP port:

```
Remote UDP Port  
20300
```

## 7. General Information on the Receiver

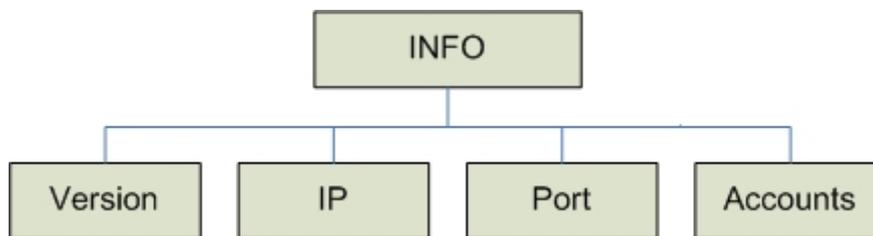
---

The general information is accessed through the “Info” option, which is found in the “USER MODE” menu in the receiver.

The “Info” menu appears in the LCD display in the following way:

```
Vi sorALARM I NFO.  »
{Versi on} IP Port Acc
```

The set of options included in the “VisorALARM INFO.” menu can be seen below:



1. The “Version” option displays the firmware version running in the receiver.

```
Softw are Versi on
10. 6. 43
```

2. The “IP” option shows the receiver’s local IP address.

```
Local IP Address
192. 168. 1. 200
```

3. The “Port” option shows the receiver’s monitoring port.

```
Local UDP Port
80
```

4. The “Accounts” option shows the number of accounts registered in the receiver and how many of these are operative, i.e. polling the receiver.

Al i ve/Supervi sed 2989/3000
----------------------------------

## 8. Logout

---

The “logout” option found in the “USER MODE” menu implies that the next time the user menu is accessed or alarm confirmation, the user will be asked for the access password.

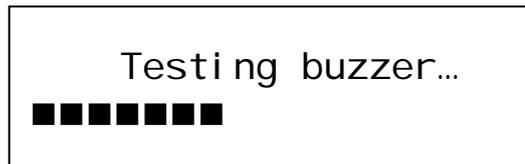
## 9. Test

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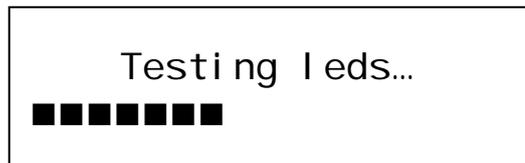
The “Test” option found in the “USER MODE” menu executes a check on the receiver’s indicators (LEDs, LCD display and the buzzer), with the aim of verifying that the device is operating correctly.

The test process is as follows:

1. Buzzer test using various sound frequencies.
2. LEDs on and off test.
3. Display test:
  - a. During the buzzer test, the display shows the following:



- b. During the LEDs on and off test, the display shows the following:



## 10. Confirming Signals

---

The “Ack All” option found on the “USER MODE” menu confirms all the signals that are stored in the receiver and that have not been confirmed, either because the automation software is not connected to the receiver’s serial port or because each of the signals received in the system has not been manual confirmed by using the confirmation key (“ACK”).

## 11. Factory Configuration

---

The “Default Config” option eliminates the receiver configuration and activates the factory settings. This operation should only be carried out if the manager is fully informed on the reach and consequences of this.