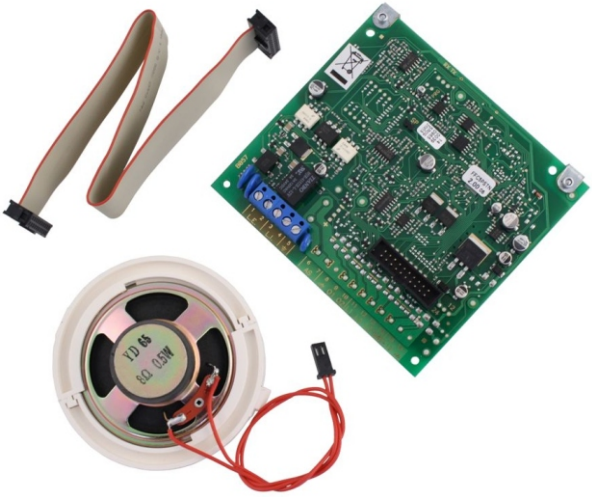
FC500PSTN

MODULO TELECOM
TELECOM MODULE
MÓDULO TELECOM
MÓDULO TELECOM



CE

0051

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0051-CPD-0198 (FC500PSTN in FC510/FC520)

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0051-CPD-0205 (FC500PSTN in TY510MX/TY520MX)

EN 54-21 Apparecchiatura di trasmissione Allarme e di segnalazione Guasto per sistemi antincendio, Installati negli edifici.	EN 54-21 Alarm transmission and fault Warning routing equipment for Fire alarm systems installed in buildings.

MANUALE D'INSTALLAZIONE
INSTALLATION MANUAL
MANUAL DE INSTALACION
MANUAL DE INSTALAÇÃO

BENTEL SECURITY®

CE 0051

CSQ H&S IQNet OHSAS 18001 9192.BSEC OHSAS 18001 IT - 60983
CSQ EC IQNet ISO 14001 9191.BNT2 ISO 14001 IT-52588
CSQ IQNet ISO 9001 9105.BNT1 ISO 9001 IT-52587

General features

- ❒ Possibility of associating up to 3 voice messages for each event
- ❒ Built-in multiprotocol digital communicator.
- ❒ 32 programmable telephone numbers.
- ❒ Programming by PC.
- ❒ Check for telephone line cutting.
- ❒ Excluded line tone check.
- ❒ Overvoltage protecction.
- ❒ Digital message recording playback.
- ❒ Built-in speaker for message playback

General description

FC500PSTN is a Telecom Module which allows implementing the functions of Channel Telephone Dialler and Telemonitoring (functions E and J of standard EN54-1:1996), within the control panels of the FC500, AFD2000 and TY500MX series.

■ Channel Telephone Dialler

The function of Channel Telephone Dialler is to send recordable Voice Messages to a series of programmable Telephone Numbers, when certain Events happen.

Events The Events which could send a Voice Message relate to the Software Zones and to the Control Panel.

■ (Software) Zone Events
- ➢ Software Zone Alarm
- ➢ Software Zone Pre-Alarm
- ➢ Software Zone Warning
- ➢ Software Zone Fault
- ➢ Software Zone Test

■ Control Panel Events

➢ The Control Panel alarm event can send a Voice Message , if:
– it arises in a Software Zone which does NOT send Voice Messages for the Alarm event, or
– it arises in a Device which does NOT belong to any Software Zone, or
– it arises in an Evacuation Switch, or
– it arises in a Conventional Zone, or
– it arises from a Network Fault Alarm Event if this device does NOT send Voice Messages.

☞ *Generally, the Control Panel alarm event can send a Voice Message if the Control Panel Alarm event has arisen from an "Item" (Event or Device) which does NOT send Voice Messages*

➢ The control Panel Pre-Alarm event can send a Voice Message, if:
– it arises in a Software Zone which does NOT send Voice Messages for the Pre-Alarm event, or
– it arises in a Device which does NOT belong to any Software Zone, or
– it arises in a Conventional Zone, or
– it arises from a Network Fault Pre-Alarm Event, if the latter does NOT send Voice Messages.

☞ *Generally, the Control Panel Pre-alarm event can send a Voice Message if the Control Panel Pre-Alarm event has arisen from an "Item" (Event or Device) which does NOT send Voice Messages*

➢ The Control Panel Warning event can send a Voice Message, if:
– it arises in a Software Zone which does NOT send Voice Messages for the Warning event, or
– it arises in a Device which does NOT belong to any Software Zone, or
– it arises from a Network Fault Warning event, if the latter does NOT send Voice Messages.

☞ *Generally, the Control Panel Warning event can send a Voice Message if the Control Panel Warning event has arisen from an "Item" (Event or Device) which does NOT send Voice Messages*

➢ The Control Panel Fault event can send a Voice Message, if:
– it arises in a Software Zone which does NOT send Voice Messages for the Fault event, or
– it arises in a Device which does NOT belong to any Software Zone, or
– it arises in a Conventional Zone, or
– it arises from a Network Fault event, if the latter does NOT send Voice Messages, or
– it arises from a fault which does NOT send Voice Messages.

☞ *Generally, the Control Panel Fault event can send a Voice Message if the Control Panel Fault event has arisen from an "Item" (Event or Device) which does NOT send Voice Messages*

Generally, the Control Panel Events could send a Voice Message when they arise from any Event or Device which does NOT send Voice Messages.

☞ *The Control Panel and Control Panel Fault Alarm Events arising out of the expanders, could send a voice message even in the case of the main microcontroller of the control panel being blocked, in compliance with the requirements of standards EN54-2*

■ Other Events
- ➢ AC mains fault (230 V)
- ➢ Low Battery
- ➢ Missing Battery
- ➢ Earth fault
- ➢ Control Panel Output Fault: it happens in case of a short circuit or an interruption of connections in NAC or OS Output systems.
- ➢ Loop Fault
- ➢ Network fault (RS485) : it happens in case of communication problems on the Network.
- ➢ Logical Unit Fault: it happens when the main microcontroller of the Control Panel is blocked.

Network Events
- ➢ Network Alarm: it happens when a Network Control Panel sounds an Alarm.
- ➢ Network Pre-Alarm: it happens when a Network Control Panel sounds a Pre- Alarm
- ➢ Network fault: it happens in case of a Fault on a Network Control Panel.
- ➢ Network Warning: it happens when a Network Control Panel sounds a Warning

Telephone Numbers The Telecom Module could memorize 32 Telephone Numbers. Telephone Numbers from no. 1 to no. 8 (8 Numbers) could be called by Alarm and Pre-Alarm Events: these Telephone Numbers are reserved for organizations and persons who perform duties in case of fire (e.g. firemen, safety officers, etc.). Telephone Numbers from no. 9 to no. 16 (8 Numbers) could be called by Fault, Warning and Test Events: these Numbers are reserved for organizations and persons who perform system maintenance duties. Telephone Numbers from no. 17 to no. 32 (16 Numbers) could be called by any other event: these Numbers could be used by organizations and persons who should in any case be informed. The Telephone Numbers could consist of a maximum of 20 digits (only digits are allowed).

Voice Messages The Telecom Module could register 32 Voice Messages lasting not more than 8 seconds each.
The Voice Message which is associated with an Event is made up of three parts:

- ➢ **Header Message**, dedicated to control panel localization data;
- ➢ **Status Message**, dedicated to a status description (Alarm, Pre-Alarm, Warning, Fault, Test and Logical Unit Fault) which has caused the intervention;
- ➢ **General Message**, dedicated to giving supplementary information on the event.

The Voice Message is always made up of the Header Message and the Status Message, depending on the kind of event which has given rise to the call (Alarm, Pre-alarm, Warning, Fault, Test and Logical Unit Fault).
To these two messages, which are invariably sent, a General Message could be appended, to be chosen among 25 available messages, which could be used to better identify the event.
Message no. 1 is reserved for the recording of Header Message.
Messages from no. 2 to no. 7 (6 Messages) are reserved for the recording of Status Messages:
- ➢ **Message no. 2** = Alarm
- ➢ **Message no. 3** = Fault
- ➢ **Message no. 4** = Logical Unit Fault
- ➢ **Message no. 5** = Pre-Alarm
- ➢ **Message no. 6** = Warning

Message no. 7 = Test
Messages from no. 8 to no. 32 (25 Messages) are reserved for the recording of General Messages.

☞ *Confirm call outcome - the Telecom Module considers a call to have succeeded, ONLY when the user who has received the call presses the telephone key * (asterisk).*

Functioning of the Channel Telephone Dialler When a valid event occurs:

1. The Telecom Module will use the telephone line to which it is connected (terminals L.E.), isolating all telephone devices connected downstream (terminals L.I.).
2. If Enabled , the Telecom Module controls whether it could obtain a **Dialling Tone**, if it could obtain it move to the next step, otherwise it will consider the phone call to have failed, hook up and revert to step no. 1.
3. The Telecom Module dials the first Telephone Number which has been programmed for the event which has occurred.
4. If the **Start playing after Selection** option has been selected, the Telecom Module will move on directly to the next step, otherwise,
   if the **Start playing after Voice-on-line** option has been selected, the Telecom Module will wait for the answer from the dialled number for 30 seconds, if it does not obtain it, it will consider the phone call to have failed, hook up and revert to step no. 1, otherwise,
   if the **Start playing after Delay** option has been selected, the Telecom Module will wait for the Delay which has been programmed before moving to the next step.
5. The Telecom Module displays the **Header Message**, then the **Status Message**, depending on the kind of event which has given rise to the call, then the programmed **General Message** programmed for the event which has given rise to the call.
6. If the **Confirm Call Result** option is disenabled, the Telecom Module will give again the sequence of messages according to the number of **Repetitions** it has been programmed for, then it will consider the phone call to have failed, hook up and revert to step no. 1;
   If the **Confirm Call Result** option is enabled the Telecom Module will hook up as soon as the * key is pressed on the called telephone line, will consider the phone call to have gone through and will revert to step no. 1; if the * key is not pressed after the number of programmed Repetitions, it will hook up, consider the phone call to have failed and revert to step no. 1.

If the **Call all voice messages numbers** option is enabled, the Telecom Module will call all programmed numbers for the event which has occurred, until all phone calls fully succeed according to the number of **Call Attempts** which have been programmed.
If the **Call all voice messages numbers** option is disenabled, the Telecom Module will interrupt the calls as soon as it succeeds finishing its calls.

■ Telemonitoring

The Telecom Module supplements a Digital Communicator which allows the implementation of the Telemonitoring function in the FC500 series control panels. This function allows organizations which are equipped with suitable devices, to "monitor" from a distance the status of the fire detection system.

The Telemonitoring function sends certain Event Codes, to a series of programmable Telephone Numbers, whenever specific Events occur.
To send these data, certain Protocols are used which establish how these should be formatted and the data sent.
The Telecom Module supports the two most widespread communication protocols in the field of the telemonitoring: Contact ID and SIA.

Events The events which could send an event code are the same as those of the Telephone Dialler.

Telephone Numbers For the Telephone Numbers which could be called by the Telemonitoring function, the same remarks shall apply as those made for the function of Channel Telephone Dialler.

Contact ID The Contact ID protocol relays the following information (see the CONTACT ID columns in Table 2).

- **Customer Code**: 4 digits from 0 to F for the identification of the system; the Telecom Module allows the definition of a Client Code for each Telephone number.
- **Qualifier**: 1 = a new event; 3 = re-enablement of an event.
- **Class Code** (column CL.): identify the type of event (Alarm, Fault, etc.); in the following table the pre-defined Class Codes are shown; the Class Codes could be changed.
- **Event Code** (column COD.) : identifies the event; in the following table the pre-defined Event Codes are shown; the Event Codes could be changed.
- **Group number** (column GROUP) : 2 digits for the identification of the control panel.
- **Zone number** (column ZONE): 3 digits of the Software Zone; 000 for Control Panel Events; 999 for the Conventional Zone.

SIA The SIA protocol relays the following information (see the SIA columns in Table 2).

- **Client Code**: 4 digits from 0 to 9 for the identification of the system; the Telecom Module allows the definition of a Client Code for each Telephone number.
- **Function Code**: N = New Event; O = Re-enabling Event .
- **Date**: month, day and year in which the event has occurred.
- **Time**: hour, minutes and seconds in which the event has occurred.
- **Event Type** (TYPE column): it identifies the event; the following table shows the pre-determined Event Types; the Event Types could be changed.
- **Peripheral ID** (PI column) : 2 digits for the identification of the control panel.
- **Area ID** (RI column) : 4 digits for the identification of the Software Zone; 0000 for Control panel Events; 9999 for the Conventional Zone.

	CONTACT ID				SIA		
EVENT	**CL.**	**COD.**	**GROUP**	**ZONES**	**TYPE**	**PI**	**RI**
Software Zone Alarm	1	10	Panel no.	zone no.	FA	Panel no.	zone no.
Conventional Zone Alarm	1	10	Panel no.	999	FA	Panel no.	9999
Control Panel Alarm	1	10	Panel no.	000	FA	Panel no.	0000
Software Zone Warning	1	200	Panel no.	zone no.	FS	Panel no.	zone no.
Control Panel Warning	1	200	Panel no.	000	FS	Panel no.	0000
Software Zone Fault	3	00	Panel no.	zone no.	FT	Panel no.	zone no.
Conventional Zone Fault	3	00	Panel no.	999	FT	Panel no.	9999
Control Panel Fault	3	00	Panel no.	000	FT	Panel no.	0000
Software Zone Test	6	04	Panel no.	zone no.	FX	Panel no.	zone no.
Control Panel Test	6	04	Panel no.	000	FX	Panel no.	0000
*Loop Fault**	3	31	Panel no.	000	FT	Panel no.	0000
Network fault (230 V)	3	01	Panel no.	000	AT	Panel no.	0000
Low Battery	3	02	Panel no.	000	YT	Panel no.	0000
Missing Battery	3	11	Panel no.	000	YM	Panel no.	0000
Earth fault	3	10	Panel no.	000	FT	Panel no.	0000
*Control Panel Output Fault***	3	20	Panel no.	000	YA	Panel no.	0000
*Network fault (RS485) ****	7	51	Panel no.	000	NT	Panel no.	0000
Control Panel Pre-Alarm	7	118	Panel no.	000	FG	Panel no.	0000
Software Zone Pre-Alarm	7	118	Panel no.	zone no.	FG	Panel no.	zone no.
Conventional Zone Pre-Alarm	7	118	Panel no.	999	FG	Panel no.	9999

Table 2 *Factory Event Codes: *) Open or short loop. **) NAC or OS Outputs, open or short. ***)....*

Functioning of the Digital Communicator When a valid event occurs:

1. The Telecom Module will use the telephone line to which it is connected (terminals L.I.), isolating all telephone devices connected downstream (terminals L.E.).
2. If Enabled , the Telecom Module controls whether it could obtain a **Dialling Tone**, if it could obtain it move to the next step, otherwise it will consider the phone call to have failed, hook up and revert to step no. 1.
3. The Telecom Module dials the first Telephone Number which has been programmed for the event which has occurred.
4. The Telecom Module will wait for the receiver's reply, and if it does not receive it, the Module shall consider the telephone call to have failed, hook up and revert to step no. 1.
5. The Telecom Module sends the **Customer Code** which has been programmed for the Control Panel which is making the phone call and after that, the **Event Code** which has been programmed for the event which has given rise to the phone call, by using the **Protocol** which has been programmed for the called number.
6. The Telecom Module waits for the receiver's confirmation and if it does not receive it, the Module shall consider the telephone call to have failed, hook up and revert to step no. 1.
7. Should there be any further events to be sent to the same number, the Telecom Module will send them without hooking up, otherwise it will consider the telephone call as having succeeded, hook up and revert to step no. 1.

If the **Call all surveillance numbers** option is enabled, the Telecom Module calls all the numbers which have been programmed for the event which has occurred, up to the time when all telephone calls succeed or, at the most, for the number of **Call Attempts** which has been programmed.
If the **Call all surveillance numbers** option is disenabled, the Telecom Module will interrupt the call as soon as it succeeds.

■ Programming

The programming of the Telecom Module is done by applying the **FireClass500 Console**,or AFD200 Console or TY500MX Console as described in the paragraph entitled "Programming". The registration of Voice Messages is done from the Control panel board, as described in the paragraph entitled "Registration/Reproduction of Voice Messages".

■ Fault

The Telecom module provides an alert on the control unit display after detecting the following faults:

Fault	String	Description
PSTN Communicator	*PSTN COMMUNICATOR*	*The PSTN micro is not communicating with the main controller*
Action not acknowledged (1)	*PSTN ACTION NOT ACK*	*A phone action has not been successfully*
Phone Line	*TELEPHONE LINE*	*No phone line detected*
Programming Data telephone board	*PROG. DATA TEL. BOARD*	*The data used to program the telephone PCB are corrupted*
Periodic message	*PERIODIC TEST*	*The phone action associated to the periodic test event has not been successfully*

(1) The **Action not acknowledged** is the one indicated as unsuccessful in the Log, immediately before the Fault.

Parts description

In the instructions, numbers in bold refer to the described parts in Figure 1 and described in the following table, unless otherwise stated.

P.	Description
1	*Clamp supports (4)*
2	*Holes, on Telecom Module, for mounting*
3	*Connector for connection to control panel Mainboard*
4	*Connection terminal board*
5	*Connector for Speaker*
6	*Control panel front plate*
7	*Microphone for recording messages*
8	*Holes, on the front of the control panel, for the mounting of the Telecom Module*
9	*Control panel backplate*
10	*Control panel mainboard*
11	*Openings for the mounting of the Speaker*
12	*Pivot for connection of Telecom Module to earth*

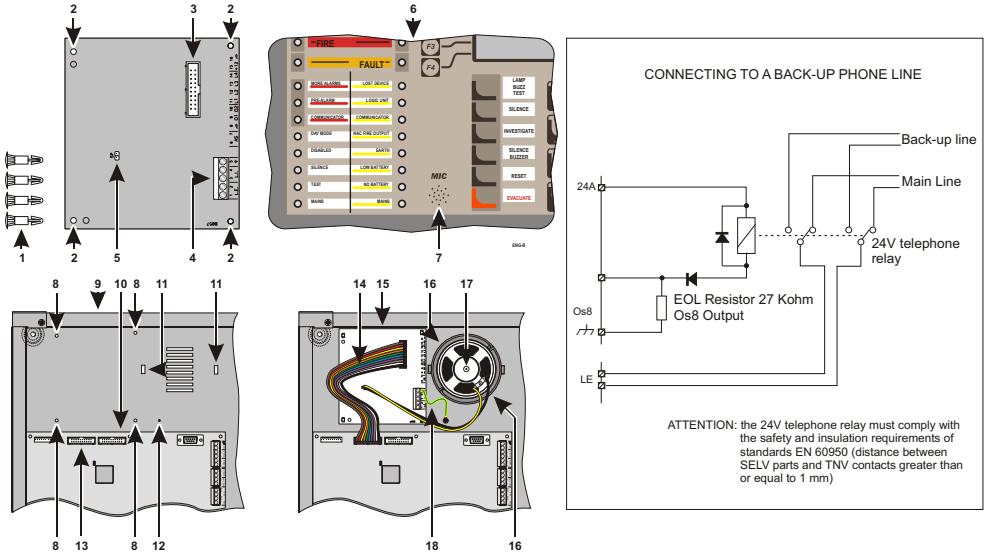

Figure 2 *Parts Description and Installation of Telecom Module*

P.	Description
13	*Connector for connection to Telecom Module*
14	*Flat cable for connecting the Telecom Module to the control panel mainboard*
15	*Telecom Module*
16	*Plastic ring for mounting the Speaker*
17	*Speaker*
18	*Earth connection wires*

Installation

The Telecom Module is installed on the backplate of the control panel, as shown in Figure 1 and described below.

⚠ **Before installing the Telecom Module, cut off the supply to the Control Panel (the electric power supply and batteries should be disconnected).**

1. Open the control panel, as described in the relative instructions.
2. Insert the four Clamp supplied with the pack, into holes 8, from the rear side of the backplate.
3. Rest the Telecom Module on the four supports and push towards the rear end of the control panel, until it fits into its right position.
4. Fix the Speaker 17 to the two halves of the ring in plastic base 16, then screw all together on the rear end of the control panel.
5. Connect the Speaker to connector 5 of the Telecom Module.
6. Connect Telecom Module connector 3 to control panel Mainboard connector 13, by means of Plate 14 supplied with the pack.
7. Connect terminal [⏚] 5 of the Telecom Module to pivot 12 which is positioned on the rear end of the control panel, by means of wire 18 supplied with the pack.

⚠ **Terminal 5 [⏚] should be connected to the electrical plant's earth to protect the Telecom Module from high tension on the telephone line and to comply with the safety requirements of the telecommunications network.**

8. Connect the External Telephone Line Ester with terminals 1-2 [L.E.] of the Telecom Module.

⚠ **To make the installation according to law, terminals 1-2 [L.E.] should be connected to the telephone line by means of the appropriate plug or else by means of a telephone switch.**

⚠ **Do not connect telephone sets in parallel to terminals 1-2 [L.I.]**

☞ *This Telecom Module DOES NOT support pulse selection (decadic dialling), so ensure that it is connected to a telephone line which supports tone selection (multi- frequency dialling)*

9. Connect the telephone sets sharing the same Telephone Line with the Telecom Module, to terminals 3-4[L.E.].
10. Select the label for the relevant panel, supplied with the Telecom Module and position so that it is near the label data already applied to one side of the control panel.

☞ *When the Telecom Module connects with the telephone line, the sets connected to the terminals 3-4[L.I.] are isolated.*

■ Back-up line

It is possible to implement a line protection scheme using an external switch (relay) driven by the open-collector supervised output number 8 (OS8) on the main card. Note that the two lines must have the same dial mode (Program, via software, the OS8 output as "Back-up PSTN Line), see Fig.1). The panel after its power–up and during the normal operation do not activate the selected output (0S8) that drives the external switch. In this case the external switch must implement the connection to the main external telephone line. When the FC500PSTN senses a fault over its incoming external telephone line, generates a "line fault" message to the panel that will activate the selected output OS8 in order to force the line switch to the back-up external line. It remains on the external back-up line until a panel reset is executed.
In case of a fault on the external backup line arises it is signalled by the panel.

Programming

The setting and programming of the Telecom Module parameters are effected by applying the FireClass500 Console.
This paragraph describes the parameters relating to the Telecom Module. For further information on the installation and use of the FireClass500 Console application, on the programming procedures and on the other parameters which are not described in this paragraph, read the control panel INSTALLATION MANUAL.

☞ *The Telecom Module should be connected to the Control panel mainboard for it to be programmed.*

☞ *To set the Telecom Module parameters, the Telecom Module option in the Communicators section, in the General Options page,should be re-enabled.*

The setting and programming of Telecom Module parameters is effected through the pages dealing with the PSTN Interface, as described in the following paragraphs.

☞ *The setting and programming of Telecom Module parameters for Software Zones, are effected through the Zones page.*

■ Listings Page

The Listings Page programs those Telephone Numbers which could be used to send Voice Messages (Channel Telephone Dialler function) or data packets (Telemonitoring function), when events which are recognized by the control panel occur.
The left-hand side of the Listings Page shows, for each Telephone Number, the information described below.

No. shows the Identification Number of the Telephone Number. The Identification Number is used to identify the corresponding Telephone number.

Description It shows the Description of the Telephone Number. The Description could be changed on the right-hand side of the page.

Telephone Number It shows the Telephone number. The Telephone number could be changed on the right-hand side of the page.
The colour of the Digit indicates the mode in which it has been programmed to function, as can be seen in the Explanatory Notes on the right-hand side of the page:

- Black = Nil - The telephone number IS NOT USED;
- Green = Telemonitoring - The telephone number is used for Telemonitoring;
- Blue = Voice Message - The telephone number is used to send Voice Messages (Channel Telephone Dialler).

The Background colour indicates the type of events which could call the corresponding number, as shown in the Explanatory Notes on the right-hand side of the page:

- Pink = Alarm Number - A telephone number which can ONLY be called by Alarm and Pre-alarm ;
- Yellow = Fault number - A telephone number which can ONLY be called by Fault, Warning and Test Events;
- Lilac = General Number - A telephone number which can be called by ALL events.

The right-hand side of the Listings Page sets the parameters relating to the selected Telephone Numbers on the left-hand side of the page, as described below.

Description Insert a significant description for the Telephone number: more than 20 chars could be input.

Telephone Number Insert the telephone numbero: up to 20 digits could be input.

Behaviour Select the use intended to be made of the Telephone number:

- None - the Telephone number WILL NOT be called. To disable a Telephone number, while still having it memorized for subsequent use, select the **None** option.
- Telemonitoring - the Telephone number will be used for Telemonitoring;
- Voice Message - the Telephone number will be used to send Voice Messages.

Telemonitoring This section is only activated if Telemonitoring is selected in the Mode section:

- Protocol - select the Protocols which shall be used to send the data pakets to the Telephone Number which is being programmed.
- Client Code - insert the Client Code which has been assigned to the system.

■ Options Page

The Options page programs the Telecom Module parameters as described below.

Start Playing after This section sets the condition for the playing back of the Voice Message.

- Selection - the Message is played back as soon as the Telephone number is dialled.
- On-line Voice - the message is played back when the Telecom Module obtains a voice message.
- Delay - the Message is played back when the programmed Delay lapses after that the Telephone number has been dialled: the Delay could be set at between 0 and 99 seconds, with 1 second gradings; the factory setting is 10 seconds.

General options This section sets the general Telecom Module options.

- Call attempts - Set the maximum number of attempts which the Telecom Module can dial as to each Telephone number: the number of Call attempts could be set from 1 to 9; the factory setting is 5 attempts.
- Iterations - Set the number of times the Telecom Module repeats the Voice Message: the Repetitions could be set from 1 to 9; the factory setting is 3 repetitions.
- Call all Telemonitoring Numbers

- If enabled (as set by the factory) the Telecom Module calls ALL Telephone Numbers which are programmed for Telemonitoring and are associated with an event.
- If disenabled the Telecom Module will end the call as soon as one such call succeeds to get through.

➢ Call all voice Messages Numbers

- If enabled (as set by the factory) Telecom Module calls ALL Telephone Numbers which are programmed to send a Voice Message associated with an event.
- If disenabled the Telecom Module will end the call as soon as one such call succeeds to get through.

■ Messages Page

The Messages page programs Voice Message parameters, as described below.

➢ Fixed Messages - This section shows the descriptions assigned to the first seven recorded Messages.

- Message 1: Header Mess.
- Message 2: Alarm Mess.
- Message 3: Fault Mess.
- Message 4: Logic Fault Mess.
- Message 5: Pre-Alarm Mess.
- Message 6: Warning Mess.
- Message 7: Walk Test Mess.

These descriptions could NOT be changed.

➢ General Messages - In this section it would be possible to assign a description of up to 20 letters at the most to the Message nos. from 8 to 32.

■ Events Page

The Events page allows the programming, for each event which is recognized by the Control panel, of the Telephone Numbers to be dialled, the Event Code and the Voice Message to be sent, as described below.

Events The Events column shows the events which are recognized by the Control panel.

Alarm Numbers/Fault Numbers/General Numbers The Alarm Numbers/Fault Numbers/General Numbers refer to the Telephone Numbers in the memory of the Listings Page. Select the Telephone Numbers which have to be called for each event: a symbol will indicate that the corresponding Telephone number shall be called by the corresponding event.

☞ *The Telephone Numbers from no. 1 to no. 8 could only be called by Alarm and Pre-AlarmEvents. The Telephone Numbers from no. 9 to no. 16 could only be called by Fault, Warning and Test Events. The Telephone Numbers from no. 17 to no. 32 could be called by all events.*

C-ID The C-ID column shows the Event Code which is sent by the corresponding event, when a Telephone Number which is programmed for Telemonitoring is called with ID Contact Protocol (see the Listings Page) : digitize the Event Code which identifies the corresponding event, in ID Contact format (three hexadecimal digits). The factory Event Codes appear in Table 2 at page 10.

SIA The SIA column shows the Event Code whiche is sent from the corresponding event, when a Telephone number which is programmed for Telemonitoring is called with SIA Protocol (see the Listings Page): digitize the Event Code which identifies the corresponding event, in SIA format (two letters).
The factory Event Codes appear in Table 2 at page 10.

☞ *The Event Codes which are programmed for Control panel Alarm, Alarm Pre-Alarm, Control panel Warning, Control Panel Fault and Control panel Test Events, are the same as those sent for the respective Zone Events and Network Events: Software Zone, Conventional Zone and Network Alarms, Software Zone, Conventional Zone and Network Pre-Alarms, Software Zone and Network, Software Zone Fault, Conventional Zone and Network Warnings, Software Zone and Network Test.*

Message The General Message column shows the Voice Message which is sent by the corresponding event, when a Telephone Number which is programmed for the sending of Voice Messages is called (see the Listings Page) : click twice on a cell of the General Message column, to select the Voice Message you wish.

☞ *The selected Voice Message is linked to the Header Message and to the Status Message. This latter depends on the type of event which gives rise to the call (Alarm, Fault, Logical Unit Fault, Pre-Alarm, Warning, Test). See "Voice Messages" in the "General Description" paragraph for further details.*

Period Test The Period Test box is used to program the parameters corresponding to the Period Test, as described below.

- **First Test Date and Time** – Set the date and time for the first Periodic Test.
- **Interval** – Set the interval between two Periodic Tests: the interval may be set to a period of between 1 and 25 hours, in steps of one hour; the default setting is 24 hours.

☞ *The Periodic Test event IS NOT recorded in the Events Log.*

■ Zones Page

The Zones page programs the parameters relating to the Software Zones. This paragraph describes the programming of the Software Zones as relating to the Telecom Module.

Events Select the events which should give rise to the calls.

Telephone Numbers Select the Telephone Numbers which should be called by the selected events in the Events section.

☞ *The Telephone Numbers from no. 1 to no. 8 could only be called by Alarm and Pre-Alarm Events. The Telephone Numbers from no. 9 to no. 16 could only be called by Fault, Warning and Test Events. The Telephone Numbers from no. 17 to no. 32 could be called by all events.*

General Message Select the Voice Message which should be sent by the selected events in the Events section, when a Telephone Number which is programmed to send Voice Messages is called (see the Listings Page).

☞ *The selected Voice Message is linked to the Header Message and to the Status Message. This latter depends on the type of event which gives rise to the call (Alarm, Fault, Pre-Alarm, Warning, Test). See "Voice Messages" in the "General Description" paragraph for further details.*

Event Codes When a Zones Event calls a Telephone number which is programmed for Telemonitoring (see the Listings Page), the same Event Code which is programmed for the Control Panel Event is sent (see the Events Page):

➢ for the Software Zone and Conventional Zone Alarm event, the Event Code which is programmed for the Control Panel Alarm event is sent;
➢ for the Software Zone and Conventional Zone Pre-Alarm event, the Event Code which is programmed for the Control Panel Pre-Alarm event is sent;
➢ for the Software Zone Warning event, the Event Code which is programmed for the Control Panel Warning event is sent;
➢ for the Software Zone and Conventional Zone Fault event, the Event Code which is programmed for the Control panel Fault event is sent;
➢ for the Software Zone Test event, the Event Code which is programmed for the Control panel Test event is sent.

■ Network Events Page

The Network Events page programs the Telecom Module relating to Network Events. The left-hand side of the Network Events page shows the information described below for each Control Panel Network.

Ind. Shows the address of the Control Panel Network.

Control panel Shows the name of the Control Panel Network.

Description Shows the description assigned to the Control Panel Network.
On the right-hand side of the Network Events page are set the parameters relating to the Control Panel Network selected on the left-hand side, as described below.

Events Select the events which should give rise to the calls.

Telephone Numbers Select the Telephone Numbers which should be called by the selected events in the Events section.

☞ *+ The Telephone Numbers from no. 1 to no. 8 could only be called by Alarm and Pre-Alarm Events. The Telephone Numbers from no. 9 to no. 16 could only be called by Fault, Warning and Test Events. The Telephone Numbers from no. 17 to no. 32 could be called by all events.*

General Message Select the Voice Message which should be sent by the selected events in the Events section, when a Telephone Number which is programmed to send Voice Messages is called (see the Listings Page).

☞ *The selected Voice Message is linked to the Header Message and to the Status Message. This latter depends on the type of event which gives rise to the call (Alarm, Fault, Pre-Alarm, Warning, Test). See "Voice Messages" in the "General Description" paragraph for further details.*

Event Codes When a Network Event calls a Telephone number which is programmed for Telemonitoring (see the Listings Page), the same Event Code which is programmed for the Control Panel Event is sent (see the Events Page):

➢ for the Network Alarm event, the Event Code which is programmed for the the Control panel Alarm event is sent;
➢ for the Network Pre-Alarm event, the Event Code which is programmed for the Control panel Pre-Alarm event is sent;

- for the Network Warning event, the Event Code which is programmed for the Control panel Warning event is sent;
- for the event Fault di Network, the Event Code which is programmed for the Control panel Fault event is sent;
- for the Network Test event, the Event Code which is programmed for the Control panel Test event is sent.

Recording/Playback of Voice Messages

The recording/ playback of Voice Messages is obtained from the control panel front plate, as described below.

☞ *To improve the quality of the recording, open the cover of the control unit before recording voice messages.*

From the main screen:

```
F1=Program            11-stat:ACTIVE

F2=Change       Master Control panel
F3=Analyze        IS SCANNING LOOPs
F4=More        11:20:25 - 02/08/2008
```

1. Press F1 (Program) :

```
Master Control panel 11-stat:PROGRAM

              INSTALLER
           Insert Password
              [_____]
```

2. DigitIze the Password Installer (factory setting: 00000) and press GO:

```
Master Control panel 13-stat:PROGRAM

1=Auto 2=Disp 3= SW Zones 4=Outputs
5=Network 6=Comm.7=Options 8=System
9=Default 0=PWD L3
```

3. Press key 6 (Communic.) :

```
Master Control panel 13-stat:PROGRAM

PSTN i/f :

       Up or down to select Type
```

4. Press ↑ or ↓ to view PSTN i/f, so press GO:

```
Master Control panel 13-stat:PROGRAM

F2=REC                  MESSAGE [01]
F3=PLAY
F4=STOP   STOP Header Message
```

- MESSAGE [01] - shows the Voice Message number which will be recorded/ played back;
- STOP - shows Voice Message status;
- Header Message - shows the Description assigned to the Voice Message.

5. Press ← or → to view the Message which you want record/ playback:

```
Master Control panel 13-stat:PROGRAM

F2=REC                  MESSAGE [02]
F3=PLAY
F4=STOP        STOP     Alarm Message
```

6. Press F2 (REC) to start recording the Message, press F3 (PLAY) to start the Message playback or press ESC to select another Message (step no. 5) :

```
Master Control panel 13-stat:PROGRAM

F2=REC                  MESSAGE [02]
F3=PLAY
F4=STOP        REC      Alarm Message
```

- - shows the recording/ playback time (vertical dashes) with regard to the available time (horizontal dashes): each horizontal dash represents 1 second;
- REC - indicates that the Voice Message is being recorded;
- PLAY - indicates that the Voice Message is being played back.

7. To record the Message, speak into the microphone which is positioned on the front plate of the control panel (MIC), from a distance of about 20 cm, with normal tone and pitch.
8. Press F4 (STOP) to stop the recording/ playback of the Message and go back to step no. 6.

Description of terminals

1-2 [L.E.]	*External telephone line*
3-4 [L.I.]	*Internal telephone line*
5 [⏚]	*Earth*

Tecnichal Specifications

Nominal Voltage	**27,6 V**
Min. Voltage	**19,0 V**
Max Voltage	**27,6 V**
Maximum drain	**200 mA**
Stand-by drain	**50 mA**
Working temperature	**-5 ÷ +40 °C**
*Dimensionis(L*H)*	**103,5*113,35 mm**

Note: observance of Standards

The standard EN 50136-1-1 (General requirements for alarm transmission systems) requires the transmission system (FC500PSTN P.C.B., transmission network and receiver) to observe specific values in terms of availability (the percentage of time during which the system may be used to transmit information to the monitoring centre). The following table is supplied for the calculation of the maximum annual transmission network and receiver unavailability; it lists the unavailability (the 100 complement of availability) of the FC500PSTN P.C.B. and the residual unavailability (the 0.2% complement of the FC500PSTN unavailability) of the transmission network and receiver, based on the repair time guaranteed for that particular P.C.B.

Repair time (days)	Availability (%)	Unavailability (%)	Residual Unavailability (%)
1	99,989583875840	0,0104	0,1896
2	99,979169921366	0,0208	0,1792
3	99,968758135902	0,0312	0,1688
4	99,958348518769	0,0417	0,1583
5	99,947941069290	0,0521	0,1479
6	99,937535786789	0,0625	0,1375
7	99,927132670588	0,0729	0,1271
8	99,916731720010	0,0833	0,1167
9	99,906332934381	0,0937	0,1063
10	99,895936313024	0,1041	0,0959
11	99,885541855263	0,1145	0,0855
12	99,875149560422	0,1249	0,0751
13	99,864759427828	0,1352	0,0648
14	99,854371456806	0,1456	0,0544
15	99,843985646680	0,1560	0,0440
16	99,833601996776	0,1664	0,0336
17	99,823220506421	0,1768	0,0232
18	99,812841174942	0,1872	0,0128
19	99,802464001664	0,1975	0,0025
20	99,792088985914	0,2079	-0,0079

For example: if the repair time is one day, the transmission network and the receiver cannot have – in one year – an unavailability value (calculated as indicated in standard EN 50136-1-1) greater than 0.1896%.
We can see from the table that, if the repair time is equal to or greater than 20 days, it will not be possible to meet the requirements of the standard, even if the transmission network and receiver function perfectly (i.e. they are always available).
Furthermore, still in accordance with EN 50136-1-1, the transmission time must be guaranteed as being shorter than 60 seconds.
The receiver for the surveillance control unit must be programmed in compliance with this requirement.