FOR BETTER PROTECTION

PIMA Electronic Systems Ltd.

www.pima-alarms.com

Part No:
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CAPTAIN-i

6 ZONES INTRUDER ALARM SYSTEM

INSTALLATION GUIDE

System ver. 6.0

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All efforts have been made to ensure that the content of this manual is accurate. Pima retains the right to modify this manual or any part thereof, from time to time, without serving any prior notice of such modification.

Please read this manual in its entirety before attempting to program or operate your system. Should you misunderstand any part of this manual, please contact the supplier or installer of this system.

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Default codes:

Master code: 5555
Technician code: 1234

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Chap 1. Introduction

This guide provides the installation, wiring and programming instructions for PIMA's CAPTAIN-i intruder alarm system. CAPTAIN-i has many features that fits customer's individual needs, and yet it remains easy to install and simple to program and use, both by the end-user and the installer.

CAPTAIN-i is secured against radio-frequency (RF) interferences and electro-magnetic interferences (EMI).

Safety Instructions

Your CAPTAIN-i Alarm System has been registered in accordance with EN60950 and its rules. EN 60950 requires us to advise you the following information:

1. In this alarm system hazards of fire and electric shock exist. To reduce the risk of fire or electric shock, do not expose this alarm system to rain or moisture. Pay attention: Telephone cords could be a good conductor for lightings energy.
2. Do not open the door of the alarm system. Dangerous high voltages are present inside of the enclosure. Refer servicing to qualified personnel only.
3. This alarm system should be used with AC 230V/110V, 50Hz, protected by anti electric shock breaker. To prevent electric shocks and fire hazards, do NOT use any other power source.
4. Do not spill liquid of any kind onto the unit. If liquid is accidentally spilled onto the unit, immediately consult a qualified service.
5. Install this product in a protected location where no one can trip over any line or power cord. Protect cords from damage or abrasion.
6. Disconnect all sources of power supply before proceeding with the installation. Pay attention: do not install low voltage wires near by AC power wires they should be separated.
7. Connect the AC transformer output to the terminal block on the control panel as marked.
8. Connect the AC line cord to line power terminals as marked. (GND; N; L)

Important! Regarding parameters such as Date and Time, User codes and Telephone numbers, refer to the CAPTAIN-i's User Guide.

1.1 Release Note - Version 6.0

- **<New>** PCB with a new jumper - JP3 - that is set according to the EOLs
- **<New>** GSM-200 module connectivity
- **<New>** VU-20N voice unit

1.2 Main features

- 6 zone intruder alarm panel
- Can be divided to 2 partitions
- Up to 4 telephone numbers to the Monitoring Station and 3 to private numbers
- Easy to install and simple to program and use
- Various ways for arming and disarming: keypad, key, remote control & auto-arming
- Two types of keypads: LCD (RXN-400/410), LED (RX-6/406)
- Can monitor up to 6 keypads
- Two operating modes: Full or Home
- System events are registered in non-volatile memory
- Various operating codes: Master Codes, 8 User codes, Short code for arming
- User Code #8 can serve as Panic code
- Temporary bypass of zones
- "Chime" mode per zone: the keypad buzzer indicates when a zone is opened
- Monitoring Station communicator: built-in dialer, integrated long-range radio transmitter and cellular transmitter
- Inhibits system from arming in case of failure
- Two keys combination for DURESS and FIRE codes

1.3 The Dialer

CAPTAIN-i includes alarm dialer that is capable of calling 3 private numbers (programmed by the customer) via PSTN network or GSM transmitter[1].

Note: It is advisable to assign a name, e.g. "Alarm at XXX" when calling a telephone with caller ID.

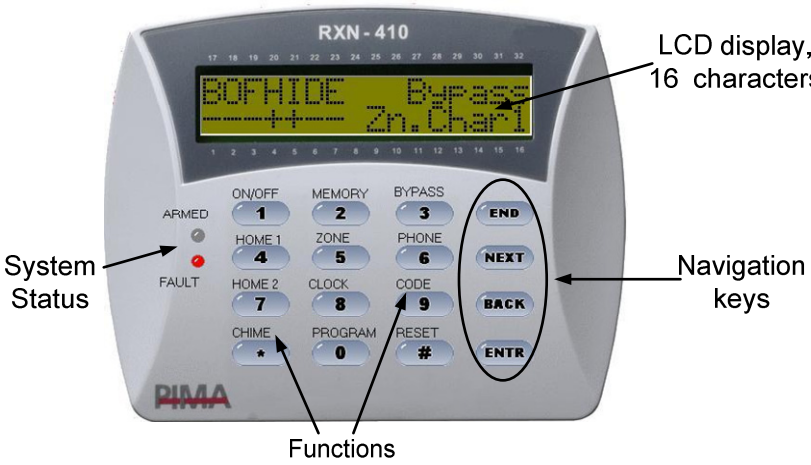
The dialer calls these numbers to report on alarms, faults etc. It calls each subscriber twice and sounds an alarm tone. If the system includes a voice unit the dialer will not sound an alarm tone, but a recorded voice message.

The dialer terminates the calling cycle in the following circumstances:

- The system was disarmed
- All calls to the subscribers were completed (two calls to each subscriber)

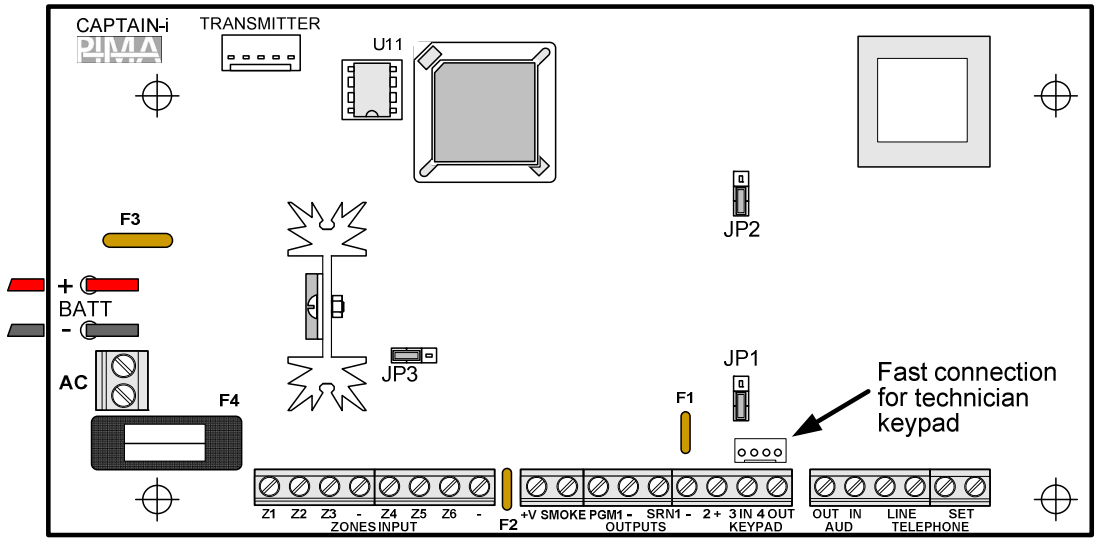
[1] Private dialer via GSM-200 transmitter is supported with CAPTAIN-i version 5.5 and up.

1.4 The LCD Keypad



CAPTAIN-i is fully controlled by the LCD keypad.

1.5 The PCB



CAPTAIN-i PCB

1.5.1 Fuses

- F1 - Siren power supply (0.9A)
- F2 - Keypad and detectors power supply (750mA). This fuse protects all the (+V) outputs
- F3 - Battery
- F4 - Transformer

1.5.2 Connection terminals

- **AC Voltage Input:** 14-16 VAC (+/- 10%) input from the transformer. The cross-section area of the main AC cable must be at least 0.75mm^2
- **Connection to Backup Battery:** Red wire for the positive (+) contact; Black wire for the negative (-) contact.

IMPORTANT! Wrong connection of battery contacts can damage the PCB

- **Z1-Z6: Zones Inputs:** Inputs for dry contact detectors from any zone, including EOL protected.
- **(+V): Detectors Voltage:** Power supply output for PIR detectors, ultrasonic detectors, etc. The output is protected by F2 thermal fuse (protects the keyboard too)
- **SMOKE: Voltage Output for Smoke Detectors:** The output is switched to minus (-) when smoke alarm occurs, for resetting the smoke detectors. When a zone programmed to "Fire" response is activated, its power is temporarily disconnected.

  To manually reset the output, press long RESET #.
  SMOKE output can be programmed to work inversely, i.e. disconnected in normal mode and switched to (–) when activated.
- **PGM: Auxiliary Output:** This output can be programmed either to be disconnected or to be switched to GND, in case of alarm (see sections 5.4.4 and 5.4.6). MIC-200 microphone or VU-20N voice Unit can be connected to this output.
- **SRN: Siren Output:** Two sirens (with or without a driver) can be connected to this output in parallel (See section 3.1.5). F1 thermal fuse protects it.
- **KEYPAD: Keypads Connection:** The output has four terminals: (+V), (–), IN (data), OUT (data). F2 thermal fuse protects the voltage supply (together with detectors voltage).
  The system can have up to 6 keypads connected to it.

Notes:
- All PIMA LED keypads can be connected to the system.
- **Do not connect anything but keypads to the keypad power source connectors**

- **SRN: Siren Output:** Two sirens (with or without driver) in parallel can be connected to this output (See section "3.1.5"). F1 thermal fuse protects it.
- **AUD: Connection to Microphone or Voice Unit:** See sections 3.1.8, 3.1.9 and 5.1.3.
- **LINE: Connections to Telephone Line:** It is recommended to connect the inputs as close as possible to the line source to prevent tampering
- **SET: Connections to Telephone Sets:** Terminals for connecting fax, answering machine, telephones etc.
- **P1: Transmitter:** A quick connector for RF and GSM transmitters
- **P2: Keypad:** A quick connector to connect a technician keypad

For setting the jumpers, see page 12.

Chap 2. Partitions

CAPTAIN-i can be configured into 2 partitions with the following settings:

1. Each zone and each user can be assigned to one of the two partitions or both
2. Each partition can have a different subscriber (account) ID
3. All keypads connected to the system show the same display, regardless their partition.

For additional information:

To assign zones to partitions: see section 5.1.3

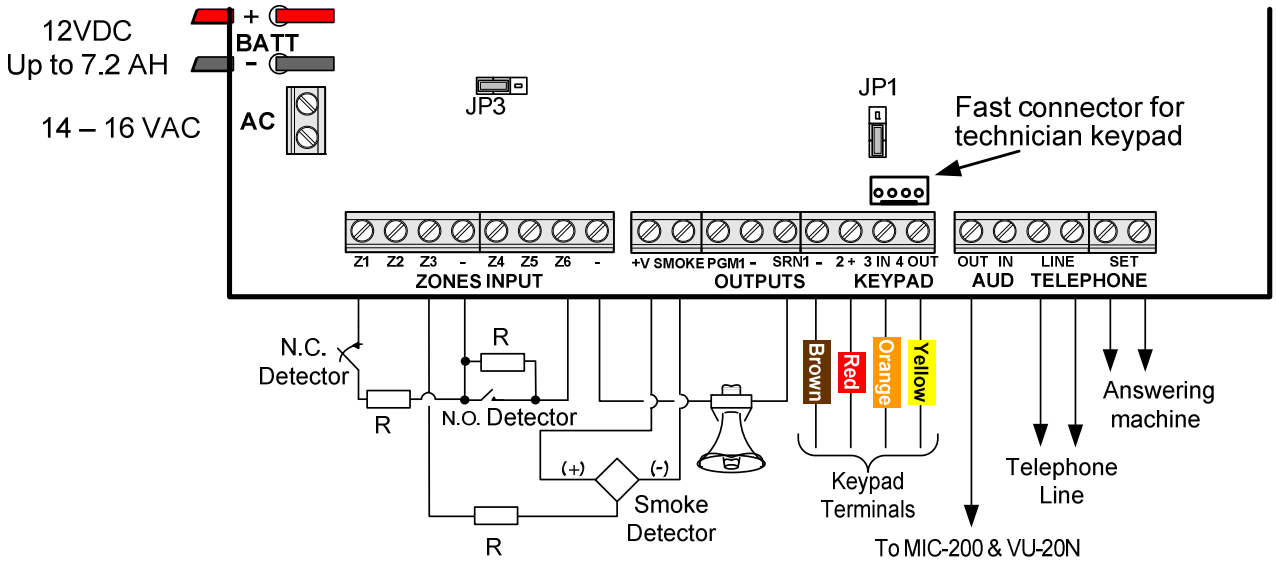
To program subscriber (account) ID: see section 5.2.5

To assign users to partitions: see section 5.4.11

See "CAPTAIN-i User Guide" for information on keypads display and partitions

Chap 3. Connecting Accessories

IMPORTANT! Disconnect all power supply before installation



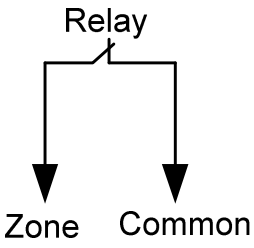
Connecting accessories scheme (optional)

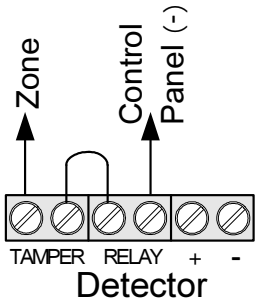
3.1 Zone Inputs

Any zone connected to the system can be set as EOL zone.

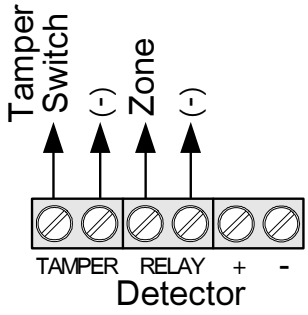
Note: CAPTAIN-i can only be set as an EOL (one or two) protected system, and not each zone separately, i.e., all zones are set as EOL zones.

3.1.1 Zones without EOL





Tamper connected in serial to the zone relay

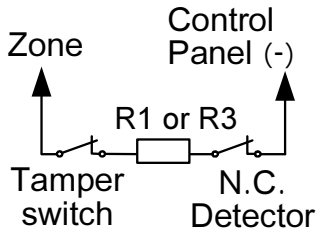


The PIR relay and the tamper are connected separately; Tamper is connected to 24H Zone

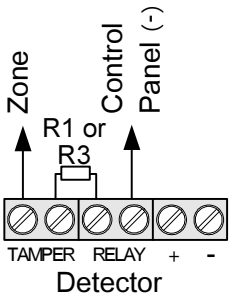
3.1.2 Single EOL protected zones

EOL resistor values in the following schemes are:
R1: 13KΩ or 6.8KΩ
R2: 10KΩ
R3: 5.1KΩ
All resistors are of ¼W

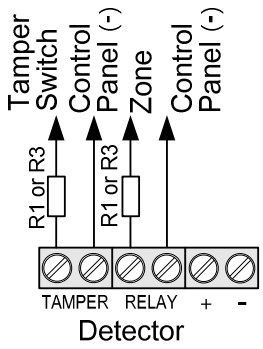
3.1.2.1 N.C. PIR



EOL connected to N.C PIR

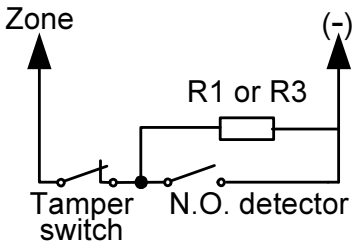


EOL in serial to a relay (zone) and a tamper

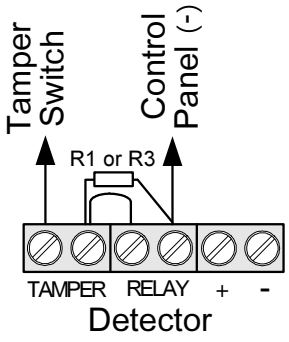


The relay and the tamper are connected, each with an EOL; The tamper is connected to 24h Zone

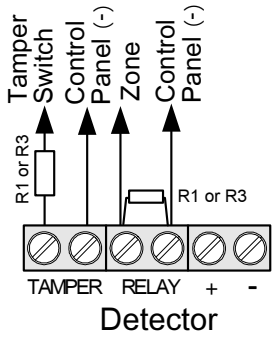
3.1.2.2 N.O. PIR



EOL connected to N.O PIR



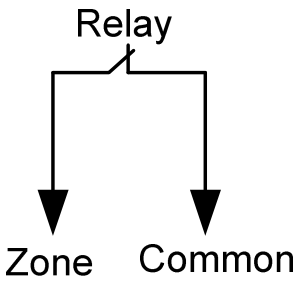
EOL connected in parallel to the a relay (zone) and in serial to a tamper



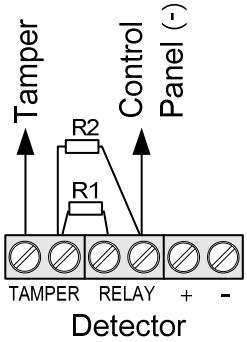
The relay and the tamper are connected, each with an EOL; The tamper is connected to 24h Zone

3.1.3 Two EOLs protected zones

3.1.3.1 N.C. PIR



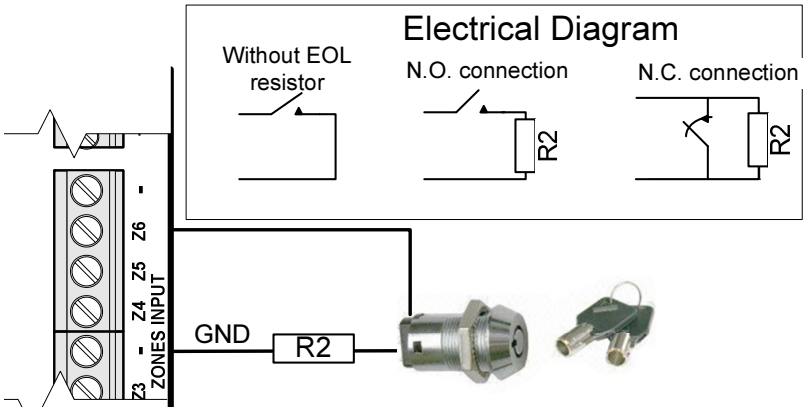
Two EOL connected to N.C PIR



Two EOLs connected to the relay (zone) and in serial to the tamper

3.1.4 Arming with key/Remote control

Connect the key or relay output of the remote control receiver to Zone 6 and GND. Zone 6 must be programmed as normally open and as Key input (see section 5.4.4). For better protection it is recommended to connect a 10KΩ EOL resistor. The key can be of momentary or latch position type (see section 5.4.4).



Key wiring

Notes:

- When using EOL resistors, the input must be programmed accordingly (see section 5.1.2).
- The key for the properties of Zone 6 may be set as either N.O. or N.C.

3.1.5 Sirens & Jumpers

3.1.5.1 Jumpers

- **JP1:** Sets whether the output, when triggered, is switched to (V+) or (GND)
- **JP2:** Sets whether the power source is stabilized or unregulated
- **JP3:** Is set according to the EOL values

JP 1 & 2:

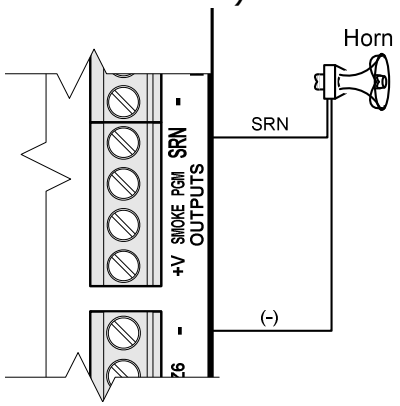
	Jumper	Pins	Connection	
Horn siren	JP1	3 2 1	Is switched to GND (-) (default)	
	JP2	Has no effect (is bypassed)		
DC siren	JP1	3 2 1	Is switched to positive (+)	
	JP2	3 2 1	Stabilized up to 13.8V (default)	**Protected with 0.9A thermal fuse**
		3 2 1	Unregulated up to 20V	

JP3:

	Pins	Values
Connected EOLs	3 2 1	10k, 13k (default)
	3 2 1	10k, 10k
	3 2 1	5.1k, 6.8k

3.1.5.2 Horn

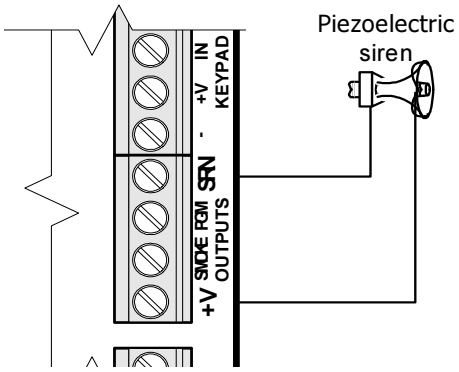
- Connect the horn to the SRN and common (-) terminals
- Program the siren tone (see section 5.4.1)



Horn (speaker siren)

3.1.5.3 Low current up to 200mA DC Siren

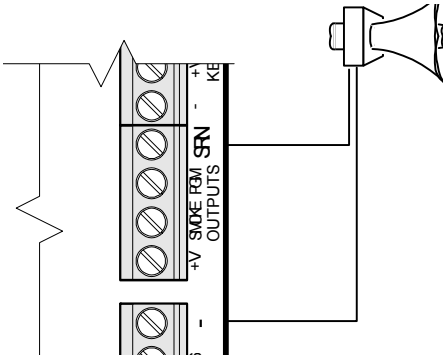
- Connect the siren's GND end to the SRN terminal and siren's power to the (+)V terminal
- Program siren tone 9 (see section 5.4.1 on page 29)



DC Siren

3.1.5.4 High current DC Siren

- Connect the siren's power end to the SRN terminal and the siren's GND to the common (-) terminal
- Program tone 9 for the siren as described in 5.4.1.



High Current Siren

Note: Unregulated siren consumes current from the control panel's battery

3.1.6 Keypad connection

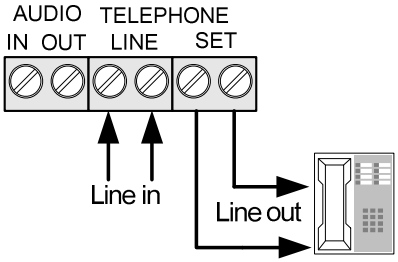
Connect all 4 wires coming from the keypad ([-], +V, IN, OUT) to the keypad terminal block.

IMPORTANT!

- **The keypad power should not be shared with any other device!**
- **The keypad wires should not be passed through the same cable as the telephone wires. Doing this may cause the keypad signal to interfere with the telephone signal**

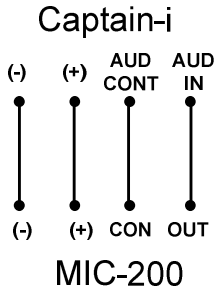
3.1.7 Telephone

Connect the pair of wires coming from the telephone line to the LINE connection terminals. Connect a telephone set to the SET terminals



Telephone Wiring

3.1.8 Microphone unit MIC-200



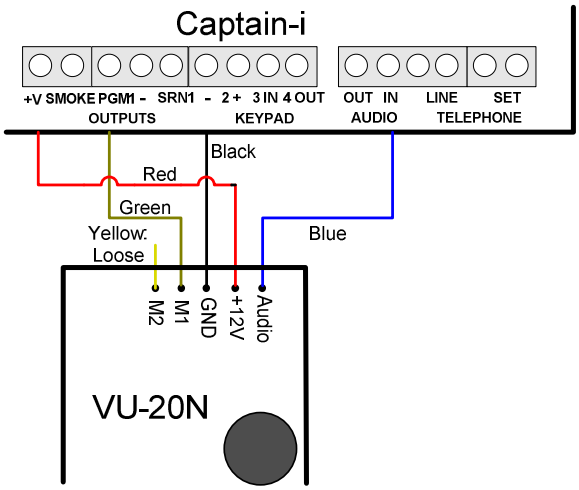
MIC-200 Wiring

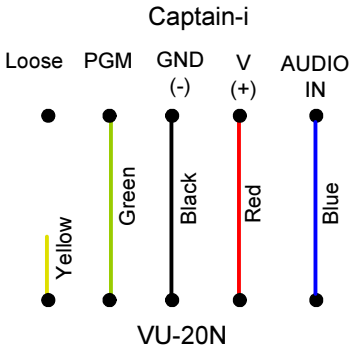
1. In the "Zone Responses" screen (see page 22), program (+) under PGM for each zone that will activate the MIC-200.
2. In the "System Configuration 3" (page 31) program (+) under the letter G (PGM delayed).

Note: Do not program delayed PGM and delayed SMOKE for the same time. In case both features are programmed together, the system will ignore delayed SMOKE

3.1.9 Programming the VU-20N

1. Navigate to "System config 3" menu (#8) and mark '+' under 'V - Voice' unit and under 'G - Delayed PGM
2. In Zone responses menu (#3), click the desired zone and mark '+' under 'P - PGM', so that the zone will trigger the PGM output (to which the VU-20N connects) in alarm.





3.1.10 GSM-200 Cellular module

<u>To connect GSM-200</u>:

1. Connect the yellow wire to AUD IN
2. Connect the orange wire to AUD OUT

3.1.10.1 <u>Connecting VU-20N with GSM-200 Cellular Transmitter</u>

To connect VU-20N together with GSM-200, connect a 5.1 kΩ resistor to one of the VU-20N blue Audio wires (The second should remain loose).

3.1.11 Mains voltage

Notes:

- The cross-section area of the AC main cable must be at least 0.75 mm^2
- The hole through which the main cable passes must have either a grommet or bushing
- The wires of the main cable must be tied together with cable tie. The flammability of the cable tie must be UL 94 V-2 or better
- The system should be connected to an automatic circuit breaker that cuts off the power supply when necessary

Connect the 3 wires to the connection terminals of the transformer housing. Be sure to connect them in the correct order. Check for continuity between the control unit grounding point and the electrical plug grounding point with an ohmmeter. The resistance must be less than 1Ω.

3.1.12 Battery

The CAPTAIN-i is designed to operate with a rechargeable 12-V battery.

The charging voltage is 13.8 V.

The system performs a load battery test each time:

- The system is armed
- Every 1 hour
- Upon connecting to power

If the test fails, the system will respond as programmed in the failures responses (sounding sirens, dialing the Monitoring Station, etc.).

3.2 Initial operations & Programming devices

Check that all the connections are as described previously and then connect the system to mains. After a few seconds, the following screens are displayed (in RXN-400/410 LCD Keypads):

Several seconds after power connection, the hour 00:00 and the status of the zones are displayed. In addition, the red Fault LED will be flashing (Other faults, if exist, will also be displayed).

Connect the battery to the black and red fast-connect terminals: the red wire to the (+) and the black wire to the (-). **Be sure to connect the wires correctly**!

Note: If the battery is connected before mains, "AC Fault" is triggered, until the mains is connected

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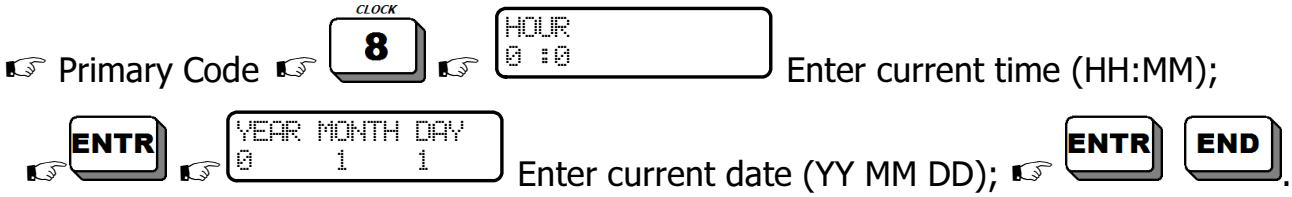
At this point, enter the Primary Code (factory default Primary (Master) Code is 5555) and set the correct hour and date as follows:



Chap 4. Programming Options

CAPTAIN-i is supplied with pre-programmed default parameters (see section "0" on page 44). In general, for a standard installation, there is no need to change these parameters, except for those that are user-specific, such as telephone numbers. Some of the default parameters are:

- Zone #1 delayed
- Zone #2 entry delay
- Entrance delay of 20 seconds and exit delay of 60 seconds

Default parameters can be changed in one of 4 ways:

1. Manual programming using the LCD keypad;
2. Quick loading from the PRG-22 programmer, which connects to an RXN-400/410 keypad and lets you program one of four different, predefined parameter groups;
3. COMAX Up/Download remote programming with a PC and modem;
4. Local loading with a computer and COMAX.

4.1 Remote Programming with COMAX

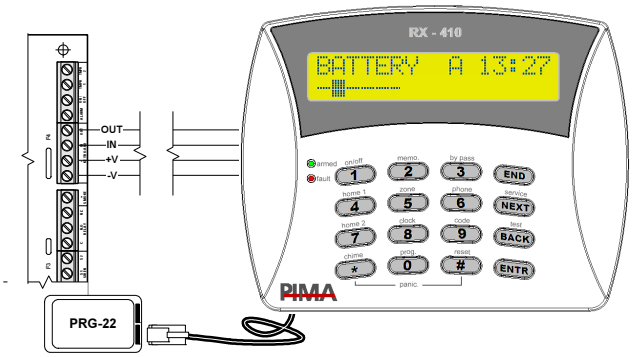
The CAPTAIN-i can be programmed remotely via a telephone line using PIMA's COMAX software.

COMAX is upload/download & control software and it enables programming of all parameters, memory check, arming, disarming, etc. A complete description and explanations are in the COMAX separate guide.

4.2 PRG-22: Local Programmer

This type of programming can be done only via the installer menu and an LCD Keypad. Connect the PRG-22 to the designated connector according to the following drawing. In RXN-400/410 LCD keypad models the RJ-11 connector is internal, on the PCB's upper left side.

IMPORTANT! Do not connect the PRG-22 to a LED keypad. It may damage the programmer



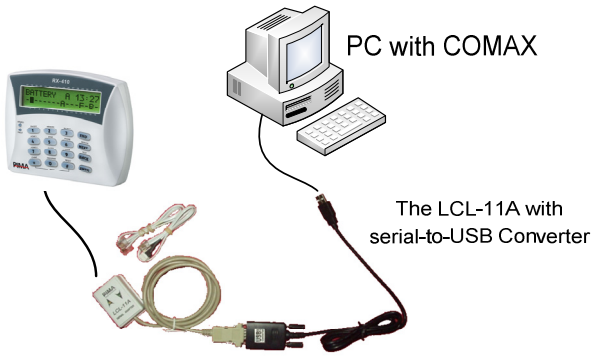
Connecting PRG-22

Note: To connect TC-3 with an LCD keypad to the RXN-406 or to connect PRG-22 to RXN-400/410, the keypad's cover should be first removed as the RJ-11 connector is internal.

4.3 LCL-11A: Adaptor for Local Programming

The LCL-11A unit is used for programming CAPTAIN-i using PC and COMAX Upload/Download software. The unit provides the technician with an easy-to-use tool for quick programming..

Note: The LCL-11A can be connected only to an LCD keypad (RXN-400/410 with TC-3 Technician Cable). If the customer has a LED keypad, connect it to the technician's LCD keypad, which you connect to the PC.



Connecting COMAX using LCL-11A with Serial-to-USB converter

4.4 Programming with an LCD Keypad

The CAPTAIN-i is operated and programmed by means of two menus: A User menu and a Technician menu. To access the User menu enter the Primary Code. The Technician menu can be accessed in two ways:

- Enter Primary Code, press SERVICE NEXT and then enter Technician Code

OR

- Access directly by entering the Technician Code (CAPTAIN-i Ver 5 and up only).

At the Technician Menu, various options can be selected by pressing the number keys. Each key leads directly to a required menu.

In certain cases, it is necessary to press SERVICE NEXT afterwards. If you do not remember the key for the required operation, simply press one of the keys, use SERVICE NEXT and BACK until you reach the display for the required menu. Always press ENTR to confirm entered data.

The END is used to exit from any state without saving the entered data.

The following pages provide detailed instructions of each function.

CAPTAIN-i factory default codes are as follows:

Primary (Master) Code: 5555

Technician Code: 1234

Some of the screens appear as an "options bar" in which you must determine whether certain option will be enabled (+) in the system or disabled (-).

For example:

- Use BACK or NEXT (SERVICE) to scroll between the options on the same screen
- Use # (RESET) to enable (mark "+") or disable (mark "-") an option. The key has a toggle function
- To save the screen, press ENTR
- When the cursor is blinking, a description of the option appears at the top right side of the screen (Bypass in the above example)
- During programming of zone characteristics, the zone number appears at the bottom right side of the screen, for example Zn.Char4. To jump directly from one zone to another, press keys 1-6 to obtain the zone number or * (CHIME) to advance the zone numbers without saving.

4.4.1 Key functions in the technician menu

Following entry of the correct technician code, the system enables modification and execution of functions that cannot be accessed by the end user. In this case, each key enables a specific function. The following are the keys and the function screens accessed from each. In some cases more than one function is allocated for one key, and in this case press NEXT (SERVICE) or ENTR for the next function of that key.

Key	Function	Page
1 (ON/OFF)	Zone sensitivity	21
2 (MEMO.)	Zone characteristics (24 hours, delayed, EOL, etc.)	21
3 (BYPASS)	Zone responses (siren, PGM, communication, SMOKE, partition)	22
	NEXT (SERVICE) Zone names	22

Key	Function		Page
HOME 1 4	Subscriber ID (telephone and radio, station format, auto tests)		23
	SERVICE NEXT	GSM Unit	26
ZONE 5	Report codes (telephone)		27
	SERVICE NEXT	Report codes (radio)	27
PHONE 6	Monitoring Station telephone numbers		28
	SERVICE NEXT	Telephone line connection characteristics (number of rings)	29
HOME 2 7	Siren and SMOKE output parameters (type of ring and time of siren)		29
CLOCK 8	System configuration (6 screens)		29
	ENTR	Config 1 – telephone, automatic bypass, etc.	29
	ENTR	Config 2 – zone reset, tone dial, etc.	30
	ENTR	Config 3 – line snapping, voice unit, zone 6 key, etc.	31
	ENTR	Config 4 – line test in mode ON/OFF, double report, etc.	32
	ENTR	Config 5 – bypass report, keypad type, bypass request, etc.	33
	ENTR	Config 6 – Panic, and disable arming during system failure.	34
CODE 9	System responses to faults and events		34
CHIME *	Delay times (Enter, Exit)		35
	SERVICE NEXT	User partitions	36
PROG. 0	Technician code		36
RESET #	System initialization – default parameters		37
	SERVICE NEXT	Fast Load (1-4)	37

Chap 5. Programming

To enter technician menu, the technician code (default: 1234) must be entered. In all the next sections, though not shown, this code is entered at the beginning of every step. Also demonstrated in the first section is the 'Select' menu.

5.1.1 Zone sensitivity

☞ Technician code 

☞ ON/OFF **1** 

☞ **ENTR**. Enter the desired zone sensitivity. ☞ **ENTR**

With the CAPTAIN-i, you may set the sensitivity level of each zone separately.
Zone sensitivity: The length of opening time of the magnet/detector after which the zone causes an alarm. For a period less than this length of time, the opening is ignored by the system. The minimum length of time that can be set is 0.05 sec. (50 milliseconds) and the maximum length of time is 12.75 seconds. The zone sensitivity is set in increments of 0.05 sec. (50 milliseconds).

For example, if you wish Zone 1 to respond to any opening longer than 200 milliseconds (=50 milliseconds x 4) and Zone 2 to respond to any opening longer than 400 milliseconds (=50 milliseconds x 8), you program Zone 1 for sensitivity 4, and Zone 2 for sensitivity 8

5.1.2 Zone characteristics

☞ MEMO. **2** 

. ☞ **ENTR** 

.

This is zone #1 screen. You can enter any zone number and program its characteristics. (See how in section 4.4). To confirm, ☞ **ENTR**

The characteristics can be programmed for each zone independently. The following is a description of the zone characteristics: 

Par.	Full name	Description
B	**Bypass**	The system will ignore this zone
O	**N.O.**	Used for detectors that are normally open, i.e. the dry contact is open when the detector is not activated
F	**24 Hours**	Opening the zone will cause an alarm in any system state: armed, home, or disarmed
H	**Active in "Home" Mode**	Zone allocated to the group of zones active in "Home"

Par.	Full name	Description
I	**Entry Delayed**	opening this zone will start the Exit or Entry time
	Note: A zone defined as entry-delayed or zone-follower is also exit-delayed	
D	**Entry Follower**	The zone will not cause an alarm if any delayed zone is open. No alarm during Entry Delayed
E	**End-of-line Resistor**	The detectors connected to this zone are EOL protected (see "System configuration 5 (config 5) " on page 33 for EOL type programming)

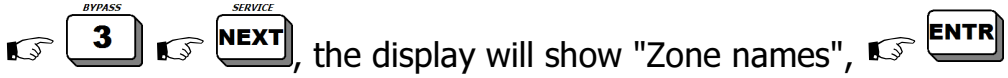
5.1.3 Zone responses

and enter the desired zone number

The system responses are programmed for each individual zone. Thus, each alarm can initiate different responses depending on the zone that caused the alarm. Following is a description of the responses if "+" is programmed:

Par.	Full name	Description
S	**Siren**	The siren will be activated
P	**Communicator**	A zone opening shall cause the system to report to the CMS via phone (PSTN and/or GSM according to programming) and long-range radio. The system shall dial to a private account if one is programmed
G	**PGM**	Switched PGM output (i.e. activating voice unit)
F	**Fire**	The ground connection to the SMOKE output will be disconnected for one minute to reset the detectors (see section Setting siren and smoke output parameters on page 29 to set the Smoke disconnected time)
1	**Partition #1**	Marking "+" for a zone will allocate it to partition #1
2	**Partition #2**	Marking "+" for a zone will allocate it to partition #2
	Note: If partitions #1 and #2 are enabled, the zone will be activated only if both partitions are armed	

5.1.4 Zone name



, the display will show "Zone names",

Up to 8 characters can be written for each zone. This name will appear in the display of the LCD keypad when viewing the memory log, in cases of an alarm caused by this zone. See Appendix C – Entering names on page 51.

5.2 Communication Parameters

5.2.1 Communication with the monitoring station

CAPTAIN-i enables event reporting to the Central Monitoring Station (CMS) by telephone, GSM, and/or radio.

A unique code can be programmed for each event in accordance with Monitoring Station and/or customer requirements, such as a response code to tampering with the box or to define zone number 5 as the zone connected to a Distress button. In the latter case, it is possible to program the Monitoring Station reporting code, telephone and/or radio, to report a distress event instead of a regular alarm by programming the appropriate code.

Note: Each of the reports mentioned above depends upon the corresponding option in the technician menu, i.e. for each type of event it is possible to include or exclude reporting to the Monitoring Station.
For example, it is possible to cancel the reporting of arming/disarming using the phone communicator leaving radio reporting unchanged.
If a fault event is reported to the Monitoring Station, the restoration of serviceability will also be reported as an event. For example, in the case of a low-battery fault, after the battery is re-charged "Battery restore" will be reported to the Monitoring Station.

Each system/partition can be programmed with an account ID number of 1 to 9999 as well as the format types for telephone reporting and long-range radio reporting.

5.2.2 Telephone communication with the CMS

Four telephone numbers to the Monitoring Station can be programmed, and the order of connection attempts to the Monitoring Station will be in the same order as programmed. Upon an unsuccessful connection attempt the system will try the next telephone number and so on until connection is established. When connection is established, the system will transmit to the Monitoring Station all events that accumulated until that time.

5.2.3 GSM communication with the CMS

The GSM communicate with the CMS in the same manner the telephone communicator does with the following optional differences:

- When programmed, the GSM transmitter will use the account ID of the radio channel
- When programmed, the GSM transmitter will add the 'area code for GSM' number as programmed in the GSM programming screen

5.2.4 Radio communication with the CMS

The CAPTAIN-i enables radio (wireless) communication to the Monitoring Station. The communication configuration is defined at installation.

The reporting options and their control are similar to those for telephone communication with the Monitoring Station (see the preceding section). A separate account number to the radio Monitoring Station may be set up.

5.2.5 Subscriber ID for partitions and/or double report

In this screen you program subscriber IDs for partitions and/or Double Report.

The CAPTAIN-i allows each Monitoring Station subscriber to be given a personal customer ID for telephone communication and a number for radio communication. These numbers, which can be the same number or two different ones, identify the subscriber upon communication with the Monitoring Station. A second personal customer ID can be programmed for double reporting, i.e. reporting to two Monitoring Stations.

In case partitions are used, the second programmed ID will be used for the second partition.

	Partitions enabled	**Double report enabled**	**2nd ID is used for…**
1	X	X	Not used
2	X	✓	2nd CMS
3	✓	X	2nd Partition
4	✓	✓	2nd Partition

Table 3. Partitions & double report

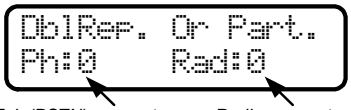
Important:

- **A subscriber number of 0 is as if no subscriber number was programmed, and thus there is no communication with the Monitoring Station**
- **The largest subscriber number for PIMA format is 8000 (for other formats, this depends on the specific format)**

Enter Technician Menu ☞ HOME 1 **4** ☞ **ENTR** and receive the following screen:

. ☞ Telephone (PSTN) ID ☞ SERVICE **NEXT** Radio ID

☞ **END** to exit, OR ☞ **ENTR** to program Subscriber IDs for **second CMS or**



partition #2: ☞ Program Telephone (PSTN) ID ☞ SERVICE **NEXT** ☞ Radio ID ☞ **ENTR**

5.2.6 Setting CMS format

The CAPTAIN-i enables communication with various Monitoring Stations. The format definition determines the method of communication between the system and the Monitoring Station. See Appendix B – Programming formats on page 48 for a description of the possible formats, and select the format that is suitable for the specific Monitoring Station.

☞ HOME 1 **4** ☞ **ENTR** X3 : `Station Format:` `0 230 <T=0000` ☞ Format numbers (see table on page 48) ☞ SERVICE **NEXT** ☞ Radio format ☞ **ENTR**

Note: The T= parameter in this screen is for radio format (given by the Monitoring Station)

5.2.7 Ack. time & transmission count

In this section you can program the number of transmissions for the long-range radio channel. The default number is 5.

ACK time (in seconds) is the time that the system waits for a response from the Monitoring Station ("Handshake"). Minimum waiting time: 20 seconds. Maximum waiting time:
60 seconds.

Notes: The duration between the transmissions is 10 seconds, and cannot be changed.

☞ HOME 1 **4** ☞ **ENTR** X4 : `Ack Time(sec) 20` `Radio Trans. 5` ☞ Program ACK Time (in seconds) as "20" ☞ SERVICE **NEXT** ☞ Program number of Radio Transmissions as "5" ☞ **ENTR**

Notes:

- Radio Trans. Is the number of transmissions per event in the radio channel.
- In Radio Trans. programming "0" means "5".

5.2.8 Auto test

The system will perform an automatic communication test with the Monitoring Station once a day at the hour set.

☞ HOME 1 **4** ☞ **ENTR** X5 : `Auto test hour` `0 :0` ☞ Enter time (24 hours format HH:MM) for the automatic test ☞ **ENTR**

5.2.9 Auto test interval

The system will perform an automatic self-check with the Monitoring Station at set intervals. This parameter sets the number of hours between checks, such as every two hours.

Note: In case you will define a test hour and a time interval for tests, the system will run a test at the preset hour **and** between the time intervals you defined

☞ HOME 1 **4** ☞ **ENTR** X6 : Auto test time / 0 hr. 0 min ☞ Enter time interval in hours and minutes ☞ **ENTR**

5.3 GSM-200

Important: If GSM-200 is installed as a primary dialer with no PSTN connection, verify that the system is programmed as NOT connected to phone line ("-" under P in the 'Config 1' screen, see page 29).

For information on how to install GSM-200, turn to GSM-200 Installation guide.

To program CAPTAIN-i for GSM-200 do the following:

Enter Technician Menu ☞ HOME 1 **4** ☞ SERVICE **NEXT** : GSM Unit / ENTER/NEXT/END . ☞ **ENTR**: GERTP GSM Exists / ▒———

Par.	Description	Settings
G	GSM-200	+ GSM-200 is installed and monitored by the system
E	Arming/Disarming Reported via GSM	+ Arming/Disarming is reported after one PSTN dialer failure - Arming/Disarming is reported after 4 successive PSTN dialer failures
R	Radio Account No. Reported via GSM	+ Account Number reported to CMS is taken from the Radio Account Config. - Account Number reported is identical to PSTN
T	Automatic Test Reported via GSM	+ Automatic reports are sent via GSM as well
P	Parallel Report via PSTN and GSM	+ All events are reported both via PSTN and GSM

Notes:

- When the alarm system identifies a failure in the PSTN line, the events are immediately transmitted through the GSM (including arming/disarming) regardless of the "E" parameter.
- While sending events via GSM, the system continues trying to send them via PSTN line.

Important: If no radio transmitter is connected to the system, parameter 't' in "Comm. Format" screen must be configured as "t=0" (zero).

5.3.1 Programming area code number for GSM

The GSM Pre Number is the constant digit(s) that will be added to the CMS numbers for GSM communication. The pre number is usually used for adding the area code of the PSTN number.

☞ HOME 1 **4** ☞ SERVICE **NEXT** ☞ **ENTR** **ENTR**:

```
GSM Pre Number
0192
```

☞ Enter the designated pre number (up to 4 digits) ☞ **ENTR**

5.3.2 Report codes

Note: When using protocols other than ContactID, PAF, NPAF, the default "FF" codes must be programmed.

To set telephone report codes, ☞ ZONE **5** "**Report Codes <P>**". ☞ **ENTR**, enter the required report code and ☞ **ENTR**. To set radio report codes, ☞ ZONE **5** **ENTR** SERVICE **NEXT** "**Report Codes <T>**". Enter the required report code and ☞ **ENTR**

A code can be comprised of one or two digits in accordance with the report format. Each digit can take on the values 0 through 15, whereby the values 10 through 15 are represented by the letters A-F as follows:

A-10, B-11, C-12, D-13, E-14, F-15

These values are entered using CHIME *****, as follows:

1. Verify that the display cursor is on the digit that you wish to change.
2. To obtain a digit between 0-9, press on the corresponding key directly.
3. To obtain a letter between A and F, press ***** until you obtain the desired letter.

The default codes are as follows:

Code	**Report**
Z1 - Z6	Alarm from zones 1 - 6
RS1 - RS6	Restore code from zones 1 - 6
Zone Fail	Zone fail

Code	Report
AC/RESTR	AC failure/Restore
LB/RESTR	Low battery failure/Restore
PF/RESTR	Low card voltage (less than 9V)/ Restore
PH/RESTR	Telephone failure/ Restore
TST	Test code (automatic, manual, remote)
PNC	Panic code (pressing both * and # keys)
FUS/RESTR	Detector power failure/ Restore
ONG/OFG	System armed with a non-user code (short code, for example)/ System disarmed with a non-user code
ON1/OFF1 - ON8/OFF8	System armed/disarmed with User #1 to user #8 code
BPS/RST	System armed with bypassed zones/ code for stopping of siren operation

Table 4. Default report codes

Note: The PF reporting code (low voltage) indicates that the battery is about to be empty. This should be defined at the Monitoring Station as an emergency event requiring immediate attention.

5.3.3 Setting monitoring station telephone numbers

☞ 6, the display will show "Station Phone". ☞ ENTR, the display will show "Telephone 1", enter the telephone number and press ENTR. The display will show "Telephone 2", enter the telephone number and press ENTR, the display will show "Telephone 3", enter the telephone number and press ENTR, the display will show "Telephone 4", enter the telephone number and press ENTR

CAPTAIN-i is capable of calling the Monitoring Station and reporting various types of events. It is possible to program four different numbers (up to 16 digits per number). The system begins to call the first number. If the connection is unsuccessful, the system will try (8 trials) to dial the other numbers, until a successful connection is made or until eight trials have been made. If a successful connection is not established, a Communication Fault is recorded in the memory and FAULT Led will blink.

Note: If dialing is done through a switchboard and there is a digit to get an outside line (usually 9), a 1-second delay between the dialing of that digit and the rest of the number may be programmed by entering *. For example, if the number to be dialed via a switchboard is 3.586.9313, the number should be programmed as follows: 9*35869313

After setting "Telephone 4," the display will show "Pre Number." The installer may program one or more digits to be dialed before all the above four Monitoring Station telephone numbers. Programming this screen increases the number of digits available for the Monitoring Station telephone numbers from 16 to 22. This option should be used when the system will be dialing the Monitoring Station via a local service provider who requires the use of pre-dialing digits.

Set "Pre Number" and ☞ ENTR

5.3.4 Setting telephone line characteristics

Program in this screen the number of rings is designed for remote programming with COMAX via telephone line. In general, the number of rings should be left at its default setting (10 rings).

☞ PHONE 6 ☞ SERVICE NEXT, the display will show "Phone Line:" ☞ ENTR, enter the number of rings and ☞ ENTR

5.4 Programming System Characteristics

5.4.1 Setting siren and smoke output parameters

Set the following in this screen:

- The duration (in seconds) of the siren alarm time
- The length of time that SMOKE output will disconnect the (-) [0 = 60 seconds]
- The type of siren tone which will sign (There is a choice of 10 types: 0-9)

Note: Sound type 9 should be chosen only when a self-drive siren is being used (in which case, it is also necessary to move Jumper JP1 to the left side, see page 13).

☞ HOME 2 7, the display will show "Siren & Smoke" ☞ ENTR enter the duration (in seconds) of the alarm ☞ ENTR the display will show "Smoke time (sec)", enter the time (in seconds) ☞ ENTR, the display will show "Alarm tones:"; enter the number ☞ ENTR

5.4.2 System configuration 1 (config 1)

☞ CLOCK 8, the display will show "System config.:" ☞ ENTR

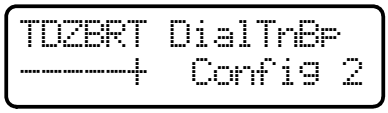
Notes:

- Scroll through the various functions with SERVICE NEXT and BACK
- Marking "+" under a parameter enables it. Marking a "-" disables it.
- In order to change the mark from "-" to "+" (and vise versa) use RESET #
- To confirm, ☞ ENTR

Par.	Descr.	Settings
P	Telephone	The system will perform all the functions associated with the telephone, such as: dial to Monitoring Station, dial to private numbers, respond to a call, test the line during operation, etc. If the CAPTAIN-i is not connected to a telephone line, program a "-" to avoid telephone FAULT display
P	Remote Test by Phone	If two or maximum three rings are detected while the system is ARMED, the system will dial to the Monitoring Station by telephone and report a TEST event
T	Remote Test by Radio	If two or maximum three rings are detected while the system is ARMED the system will transmit a TEST event by radio
P	Automatic Test to Monitoring Station by Phone	The system will send a TEST event to the Monitoring Station by telephone at a preset time interval (see page 25)
T	Automatic Test to Monitoring Station by Radio	The system will send a TEST event to the Monitoring Station by radio (see page 25)
B	Automatic Zone Bypass	If this feature is enabled, a zone that causes an alarm 3 times will be automatically bypassed until the system is disarmed. Note that only the zone that caused the alarm will be bypassed

5.4.3 System configuration 2 (config 2)

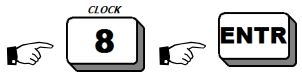
☞ CLOCK 8 ☞ ENTR ☞ ENTR:



Par.	Descr.	Settings
T	Dial Tone Bypass	Enables the system to bypass dial tone detection before dialing. This is intended for places with non-standard dial tones. When this option is enabled, there will be no telephone line check when the panel is armed or disarmed

Par.	Descr.	Settings
D	Delayed on	"+" The system will be armed after an arming report is received by the Monitoring Station. "Message received" is displayed in the LCD display area
Z	Zone Display	"+" When the system is armed, the zone status is shown on the lower line of the LCD display (as it is when in disarmed mode).On the LED keypad, open zones are displayed in both ARMED and DISARMED states
B	Keypad Buzzer Activated with Alarm	"-" Keypad buzzer is not activated when the alarm is activated. "+" Keypad buzzer is activated every time the alarm is activated
R	Reset per Zone	"-": Restore is reported only for siren and is only after it stops, without indicating which zones are opened or closed. "+": Restore of zone after alarm is reported. Reports which zones have been closed and which are still open after siren stops. Note: Do not use this parameter with PAF (PIMA) format
T	Tone Dialing	"+" The system will dial using tones. "-" The system will dial using pulses

5.4.4 System configuration 3 (config 3)

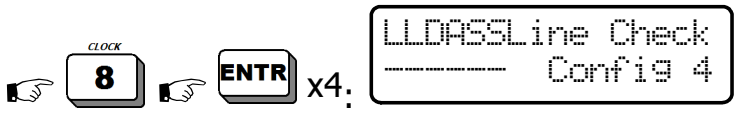


X3:

Par.	Descr.	Settings
S	Line Snapping	This feature allows the CAPTAIN-i to share the phone line with other devices such as telephone or answering machine. When calling to the control panel, the control panel picks up the line after a programmable number of rings (see section "Setting telephone line characteristics" on page 29). Note: When using this option do not connect a fax machine or modem to the same line as that of the control panel
D	Download Disable	Setting a "+" will block the Up/Download process if the primary code has not been entered. Thus, remote download via telephone lines cannot be done without the customer being present (Entering the Primary Code and pressing ENTR twice allows you to unblock the Up/Download process for 4 minutes)
V	Voice Unit	"+" Programs the system to a voice unit that is connected to the CAPTAIN-i. In this case the CAPTAIN-i will not sound the synthesized alarm tone when dialing to a telephone Note: The voice unit is activated per zone. To fully program the system if a voice unit is connected, two things must be done: (1) A "+" must be set under the G option in the Zone Response

Par.	Descr.	Settings
		screen (see section Zone responses on page 22), and (2) a "+" must be set under the G (PGM Delayed) in the Config. 3 screen (the current screen)
K	Zone 6 Key	"-" Defines Zone 6 as connected to a key
K	Key Type	"-" Momentary key. The normal state is N.O. When applying ground to the input for a short time and returning to "open circuit", the system changes its state from armed to disarmed or vice versa. This application is suitable for momentary keys or wireless remote keys "+" Two-state key. The system is armed if "open" is detected. If "close" is detected the system is disarmed
G	PGM Delayed	When a voice unit is connected to the PGM output, the output will switch the "-" only after the system completes dialing a subscriber (so that the recorded message will not be heard at the same time as the dialing is occurring, which could cause communications problems

5.4.5 System configuration 4 (config 4)



Par.	Descr.	Settings
L	Telephone Line Check in ON	When armed, the system checks the telephone line every minute
L	Telephone Line Check in OFF	When disarmed, the system checks the telephone line every minute
D	Double report (D)/ Double Report All (A)	See the following table

Double report:

A	D	Description
-	-	Regular report: Report only once
-	+	Double report: Report all events to station #1 and report only irregular events to station #2
+	+	Double report: Report all events to stations #1 and #2

When using double or split-reporting, telephone station #1 & #2 will report to central station #1, and telephone station #3 and #4 will call central station #2 (see page 33).

Par.	Descr.	Settings
S	Invert Smoke	The smoke output will work in an inverted manner from the ordinary situation, i.e. when a "+" is displayed under the letter S, the smoke output is disengaged in an ordinary situation, and during an event (if thus programmed), the smoke output will be switched to GND. This is useful when this output is used to operate a Piezo siren or as an output to track the siren state. The length of time that the smoke output is active may be programmed in section Setting siren and smoke output parameters on page 29.
S	2 Ring Snapping	"+" Enables this feature. To do so: 1. Call the system wait for 2 rings and hang up 2. Wait 5 seconds. 3. Call the system again. 4. The system will pick up the line immediately

5.4.6 System configuration 5 (config 5)

Par.	Descr.	Settings
B	Bypass Report	"+" The panel will report the CMS when a zone is bypassed
K	RX-130 Keypad	Selecting keypad type
B	Bypass Request	"+" While arming the system, if one or more zones that are programmed to be "Delayed" or "Entry Follower" are opened, the system will alert. "-" Only the immediate zones will alert
2	EOL 2 Res.	All zones are defined as 2 EOL (End of Line) protected
L	Listen-in	For operation of microphone with CMS. Zones that are programmed to operate PGM (see "Zone responses" on page 22), and Delayed PGM (see System configuration 3 (config 3) on page 31), will activate the microphone after reporting to the CMS, and will keep the line open for 3 minutes. Note: Relevant only for ContactID
S	Delay Smoke	When a voice unit is connected to the SMOKE output, the output will switch the "-" only after the system completes dialing a subscriber (so that the recorded message will not be heard at the same time as the dialing is occurring, which could cause communications problems)
4	RXN-406 Keypad	Selecting keypad type. See the following table.

LED Keypad Used	K	4
RX-180, RXN-200	-	-
RX-6 / RX-406	-	+
Not Used	+	+

Table 5. Selecting Keypad Type

5.4.7 System configuration 6 (config 6)

☞ CLOCK 8 ☞ ENTR X6: User code #8 as panic code

Par.	Descr.	Settings
P	Panic	"+" Entering User code #8 will send panic alert to the CMS
D	Disable Arm with fails	"+" The system cannot be armed in case of AC or telephone failure or low battery
X	Not in use	-

5.4.8 System responses to faults and events

Note: **Response Time:** Time between the moment the system identifies a fault until it is reported. Each fault has a different time response. Response time zero means immediate report.

☞ CODE 9 ENTR: Panic code entered

.

Par.	Descr.	Settings
S	Siren	"+" The siren is triggered
P	Communication	"+" The system will dial and/or send radio transmission to the Monitoring Station and the private account (if programmed.)
G	PGM	"+" PGM output is triggered
F	Fire	"+" Smoke output is triggered

☞ ENTR: AC failure

Par.	Descr.	Settings
S	Siren	"+" The siren is triggered
P	Communication	"+" The system will dial and/or send radio transmission to the CMS and the private account
B	Buzzer	"+" keypad buzzer activated
G	PGM	"+" PGM output is triggered

☞ ENTR: Enter AC failure response time in minutes

☞ ENTR: Battery failure

Par.	Descr.	Settings
S	Siren	"+" The siren is triggered
P	Communication	"+" The system will dial and/or send radio transmission to the CMS and the private account.
B	Buzzer	"+" keypad buzzer activated
G	PGM	"+" PGM output is triggered

☞ ENTR: Telephone line failure

```
SPBG        Siren
----     Phn.fail
```

Par.	Descr.	Settings
S	Siren	"+" The siren is triggered
P	Communication	"+" The system will dial and/or send radio transmission to the Monitoring Station and the private account (if programmed.)
B	Buzzer	"+" keypad buzzer activated
G	PGM	"+" PGM output is triggered

☞ ENTR: Enter Telephone line response time in minutes.

☞ ENTR: Zone failure (for EOL protected zones)

```
SPBG        Siren
----     Zon.fail
```

Par.	Descr.	Settings
S	Siren	"+" The siren is triggered
P	Communication	"+" The system will dial and/or send radio transmission to the Monitoring Station and the private account
B	Buzzer	"+" keypad buzzer activated
G	PGM	"+" PGM output is triggered

☞ ENTR: Arming/Disarming with a key

```
STPG Siren check
----    Key stat
```

Par.	Descr.	Settings
S	Siren	"+" The siren beeps to indicate arming/disarming with a key
T	Report by Radio	"+" Report to CMS by radio
P	Report by Phone	"+" Report to CMS by phone
G	PGM	"+" PGM output is triggered

5.4.9 Setting entry delay time

☞ CHIME *, the display will show: "Delay times", ☞ ENTR and the display will show: "Ent. Delay time:" enter the required delay time in seconds (up to 250 seconds)

5.4.10 Setting exit delay time

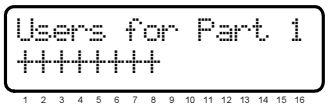
☞ CHIME * , the display will show: "Delay times", ☞ ENTR ☞ ENTR and the display will show: "Exit Delay time:" enter the required delay time in seconds (up to 250 seconds)

5.4.11 Allocating users to partitions

In this screen you assign user codes for partitions #1 and #2.

A user allocated to both partitions can arm/disarm the entire system.

Technician Menu ☞ CHIME * ☞ SERVICE NEXT ("User Partitions") ☞ ENTR The following screen is displayed:



☞ Mark "+" above the user/s no. designated for partition #1 ☞ ENTR to allocate users to Partition #2, in the same manner. When finished ☞ ENTR.

To exit at any stage, press ☞ END

Important:

- **Entering the Primary Code + ON/OFF 1 when one of the partitions is already armed will arm the other partitions as well.**
- **Entering the Primary Code + ON/OFF 1 when both partitions are armed will disarm the entire system**

5.5 General Issues

5.5.1 Changing the Technician code

☞ PROG. 0 , the display will show: "**Technician code**" ☞ ENTR and enter the new technician code (4-6 digits)

The technician code provides access to the Service menus from the customer menu.

Important: When the control panel is re-connected to power, the Primary Code and the Technician Code default to the factory settings for 30 seconds (i.e., Primary Code is 5555 and Technician Code is 1234). This is useful when these codes where lost and new ones should be programmed.
In case the technician code begins with 0 (zero), it will not default to 1234 when reconnecting the power.

5.5.2 Defaulting the system

☞ RESET # , the display will show: "Defaults?". ☞ ENTR , the display will show:

"Are you sure?" ☞ ENTR

The CAPTAIN-i allows restoring all system parameters to their factory defaults (except for the Master and Technician codes). See Appendix A – Default system parameters on page 44 for the factory default values.

Note: Defaulting erases all previous programming (memory, codes, etc.)

5.5.3 Fast loading

☞ RESET # ☞ SERVICE NEXT , the display will show: "Fast-Load?"' press 1, 2, 3 or 4

Connect the PRG-22 to an LCD keypad using a special connector.

The CAPTAIN-i allows fast programming with the use of PRG-22, saving programming time of parameters such as Monitoring Station.

Important: In case the system was installed with an LCD keypad, connect the programmer to the installed unit. In case the system was installed with a LED/digital keypad, connect the keypad to an LCD keypad, and connect the LCD keypad to the programmer. See figure on page 17

Chap 6. Faults and Troubleshooting

6.1 General

The CAPTAIN-i possesses many operating parameters and options. Some of the system operations depend on the manner of programming, and if one of the parameters is not programmed correctly, the operation depending on it will not be executed. This chapter describes the faults displayed on the keypad and their meanings, as well as various problems that may be encountered due to improper programming, and options for troubleshooting the faults that can occur due to incorrect installation and/or programming.

6.2 Faults Displayed on the LCD Keypad

In the event of a system fault, the "Fault" lamp flashes. On the LCD keypad, a description of the fault appears on the left side of the upper line in the display area. On the SEVEN SEGMENT keypad, a description of the fault or faults appears (and remains) in the alphanumeric display area. The following are the faults displayed when they occur:

6.2.1 General fail indications

LCD (RXN-400/410)	**DESCRIPTION**
Clock	Appears after initial power input or after total power reset (AC and battery)
Keyboard not connected	A problem with keypad connection to the panel
Power fail indications	
Battery	Low battery power
Low DC	Very low DC supply to the PCB
DC FUSE	Failure in detectors power line (+/-)
AC Line	AC mains power failure
Zones fail indications	
Trouble	Failure in one or more EOL protected zones (i.e., detector was shorten or cutoff)
Communication & GSM fail indications	
Communic.	Communication problem between control panel and the Monitoring Station
Phone	The system did not recognize a dial tone
GSM Unit	GSM is not connected/operating properly
GSM Sgnl	Bad reception or interference in GSM channel
GSM SIM	No SIM Card detected in GSM or fault detected with card
GSM Com.	Communication failure between GSM and CMS

6.3 Retrieving the Primary Code

To assure maximum protection and security, it is not possible to program the system without entering the Primary Code. When the Primary Code is not known, however (if it is forgotten, for example), the following operations must be performed:

1. Disconnect mains AC voltage from the system
2. Open the control unit box
3. Disconnect the battery
4. Wait several seconds, connect the battery
5. Wait until the display with the clock appears on the keypad
6. Enter the factory default Primary Code (5555)
7. Program a new Primary Code (it is not possible to see the old code)
8. Close the control unit box
9. Connect mains AC voltage

Note: After battery connection the system enables access by means of the factory code for 30 seconds only. If you do not gain entry in this time, repeat the operations from the beginning**.**
The above procedure is to be followed also if the technician code has been forgotten (unless the technician code was programmed to begin with digit 0)

6.4 Troubleshooting

Clock

This fault appears after initial power input such as first time operation, or operation after AC failure and battery failure.

- Enter new time and date (see section "Initial operation ″on page 16)

Battery

Indicates low battery power and appears after battery test and after a prolonged AC failure.

- Allow the battery to recharge; wait for about 24 hours
- If the fault persists replace the battery

Low DC

Indication of a very low DC supply to the PCB. This failure is a result of a prolonged AC failure. The system parameters cannot be programmed while the system displays this message. Expected duration of operation with this fault is approximately one hour depending on the detectors' power consumption.

- Connect AC
- Replace battery if necessary

AC Line

AC power failure. If other electrical appliances are working, check the switch or fuse connected to the system.

- Connect AC power
- Blown AC fuse (F4)

Trouble

Indicates either a short line or an open line and can appear only if the zone is EOL protected. The flashing red failure light will be accompanied by an indication, "F", above the zone number on the LCD display

KEYBOARD NOT CONNECTED

This is an indication that there is no data transfer between the control panel and the keypad. Check the following:

- A proper connection between the "OUT" terminal block on the control panel and the input to the keypad via the yellow wire
- The Jumper at the back of the keypad is set over the leftmost and middle pins
- Low DC voltage indication if the PCB is connected without AC. If this is the case replace the battery
- Check for malfunction in the keypad and replace keypad if necessary
- Replace the control panel PCB if the problem persists

If there are several keypads connected to the control panel and all show the same indication then either the control panel PCB is malfunctioning or there is a short on one of the wires.

Telephone

Indicates no dial tone for the telephone line connected to the control panel. This fault appears if there was no dial tone the last time the system checked the line.

If this fault appeared when the system was in disarmed mode, it will continue to appear even when the line returns, unless there is a telephone line check in the OFF state.

To remove the fault indication in this case, arm and then disarm the system.

No telephone communication to Monitoring Station, including while in test mode (the display shows "communic.")

This indication appears if the CAPTAIN-i phone communicator cannot transfer reports to the Monitoring Station. Possible reasons for this: phone failure or line is not connected. Check the following:

- The telephone line is properly connected to the IN inputs on the terminal block
- In "Config 1" the P for telephone is programmed with "**+**"
- At least one telephone number is programmed for the Monitoring Station
- The telephone Customer ID for the Monitoring Station is different than 0
- The station telephone ID corresponds to the Monitoring Station

- Format is compatible with the one used in the Monitoring Station
- Correct dial method, i.e. pulse or tone
- Correct telephone numbers have been entered
- A prefix (usually 9) is programmed if the system works through a switchboard

No radio transmission to Monitoring Station

Check the following:

- Proper connection from the Captain-i PCB to the transmitter
- Radio Customer ID is not 0
- Station radio ID corresponds to the Monitoring Station
- Format is compatible with the one used in the Monitoring Station

No telephone connection to private telephone numbers

Check the following:

- The telephone line is properly connected to the IN inputs on the terminal block
- In "Config 1" the P for telephone is programmed with "**+**"
- At least one telephone number is programmed for private numbers
- Correct telephone numbers have been entered
- Correct dial method (pulse or tone)
- A prefix (usually 9) is programmed if the system works through a switchboard

System is not answering telephone calls

Check the following:

- The telephone line is properly connected to the IN inputs on the terminal block
- In "Config 1" the P for telephone is programmed with "**+**"
- The system is programmed to pick up after a reasonable number of rings – Not more than 10

Automatic arming is not functioning

Check the following:

- Clock fault (clock is set to the correct time)
- The Automatic arming feature is activated. See user's manual.

Activation of a zone does not cause an alarm

Check the following:

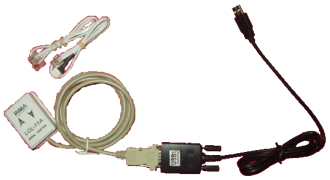
- The Zone is not temporarily or permanently bypassed
- The zone is programmed for the correct response (siren, relay, etc.)
- Power supply is not low – AC or correct battery backup power supply
- Detectors are installed correctly and not malfunctioning

Chap 7. Accessories

7.1 PRG-22 fast programmer

Used for fast programming of the control panel from 4 predefined programs. See section PRG-22: Local Programmer on page 17 and section Fast loading on page 37.

7.2 LCL-11A programming adaptor unit



The LCL-11A unit is a USB uploading adaptor for local system programming using COMAX software. This add-on allows the technician to program the panels through the PC, using COMAX software.

Note: The LCL-11A can be connected ONLY to an LCD keypad (RXN-400/410)

7.3 MIC-200 microphone unit

Used for listening in via the telephone line. See section Microphone unit MIC-200 page 14 for a description of the connection of this unit to the control panel.

7.4 VU-20N Voice unit

The system can be connected to a voice unit. In case of burglary, the unit calls a private phone number and plays the message recorded on the voice unit, instead of a siren tone (see page 15.)

7.5 Long-range radio transmitter

Used to connect the wireless Monitoring Station to the system. Long range radio that transmits full data in VHF or UHF.

7.6 GSM-200 Cellular Transmitter

Used to connect the Monitoring Station to the system via the cellular network (GSM). Based on a quadric-band Telit engine.

7.7 Keypads

RXN-400

Regular 32 (2X16) characters LCD keypads (Green screen)

RXN-410

Large 32 (2X16) characters LCD keypads (Blue screen)

RX-406

LED keypad

RX-6

Economic LED keypad

VKD

Virtual keypad software for remote programming and controlling PIMA's panels

Appendix A – Default system parameters

1. Zones

Zone Definition/ Zone Number	**1**	**2**	**3**	**4**	**5**	**6**
Bypass	-	-	-	-	-	-
N.O.	-	-	-	-	-	-
24 hours	-	-	-	-	-	-
Home	+	+	+	+	+	+
Entry Delayed	+	-	-	-	-	-
Entry Follower	-	+	-	-	-	-
End of line	-	-	-	-	-	-
Siren	+	+	+	+	+	+
Communication	+	+	+	+	+	+
PGM	-	-	-	-	-	-
Fire detector	-	-	-	-	-	-
Sensitivity	8	8	8	8	8	8
Partition #1	+	+	+	+	+	+
Partition #2	-	-	-	-	-	-

2. Codes and delays

To program these parameters, except the Technician Code, enter the Primary Code and press CODE **9** . The Technician's Code is programmed through the Technician Menu.

Primary Code: 5555	User Code #1 to #8: ------
Technician Code: 1234	Short Code: --
Entry Delay: 20 seconds	Exit Delay: 60 seconds

3. Siren outputs

Siren (Alarm) Time: 240 seconds	SMOKE exit timer: 60 seconds	Siren (Alarm) tones: 0 seconds

4. System configuration, general parameters

Telephone (P)	Remote test (P)	Remote test (T)	Auto Test (P)	Auto Test (T)	Auto Bypass (B)
+	-	-	-	-	+
Dial Tone Bypass (T)	Delayed ON (D)	Zone Display (Z)	Buzzer with Siren (B)	Reset by Zone (R)	Tone Dialing (T)
-	-	-	-	-	+

Line Snapping (S)	Download Disable (D)	Voice Unit (V)	Zone 6 Key (K)	Type of Key (K)	Delayed PGM (G)
-	-	-	-	-	-

Telephone Test in ON (L)	Telephone Test in OFF (L)	Double Report (D)	Report All (A)	SMOKE Invert (S)	2 Ring Snapping (S)
-	-	-	-	-	-

Bypass Report (B)	RX-130 Keypad (K)	Bypass Request (B)	2 EOL (2)	Listen-In (L)	SMOKE DELAY (S)	RX/N-406 (4)
-	-	-	-	-	-	-

Panic (P)	Failure disables Arming (D)	Not used- TDB (X)
-	-	-

Automatic testing time: 00:00	Interval between tests: 0

5. Telephones dialer to subscriber

Telephone 1: ------	Dialing Method: Tone
Telephone 2: ------	Number of Rings: 10
Telephone 3: ------	

6. System responses to events

Fault	Siren (S)	Commun-ication (P)	PGM(G)	Smoke Detectors (F)
Panic	-	-	-	-

Fault	Siren (S)	Commun-ication (P)	Buzzer (B)	PGM (G)	Response Time (sec)
AC Fail	-	-	-	-	240

Fault	Siren (S)	Commun-ication (P)	Buzzer (B)	PGM (G)
Low Battery	-	-	-	-

Fault	Siren (S)	Commun-ication (P)	Buzzer (B)	PGM (G)	Response Time (sec)
Telephone Line	-	-	-	-	240

Fault	Siren (S)	Commun-ication (P)	Buzzer (B)	PGM (G)
Zone	-	-	-	-

Event	Siren (S)	Radio Report (T)	Telephone Report (P)	PGM (G)
Key State	-	-	-	-

Fault	GSM unit installed (G)	Arming/ Disarming Reports via GSM (E)	Radio Account No. Reported via GSM (R)	Automatic Test Reports via GSM (T)	Parallel Report via PSTN and GSM (P)
GSM	-	-	-	-	-

7. Monitoring station

Telephone 1: ------	Subscriber I.D: Phone=0	Auto Test Hour: 0
Telephone 2: ------	Subscriber I.D: Radio=0	Auto test time = 0
Telephone 3: ------	Second Subscriber Number: 0	Station Format: 0 0 T=0
Telephone 4: ------	Subscriber I.D: Phone=0	Time for Acknowledge=20Sec
Pre-Number: ------		

8. Reporting codes (phone)

Zone	Z 1	Z 2	Z 3	Z 4	Z 5	Z 6
Alarm Phone Reports	FF	FF	FF	FF	FF	FF
Reset Phone Reports	FF	FF	FF	FF	FF	FF

Event	Mains Voltage		Battery		Card Voltage		Telephone Line	
	Fault	OK	Low	OK	Low	OK	Fault	OK
Telephone	FF	FF	FF	FF	FF	FF	FF	FF

Event	Panic ("#"+"*")	End of Siren Time	Arming/ Disarming Main Code	Arming/ Disarming User 1 to user 8	Arming with Bypassed Zones	General Reset	Detector Power
Phone	FF	FF	FF	FF	FF	FF	FF

9. Reporting codes (radio)

Zone	Z 1	Z 2	Z 3	Z 4	Z 5	Z 6
Alarm Radio Reports	FF	FF	FF	FF	FF	FF
Reset Radio Reports	FF	FF	FF	FF	FF	FF

Event	Mains Voltage		Battery		Card Voltage		Telephone Line	
	Fault	OK	Low	OK	Low	OK	Fault	OK
Radio	FF	FF	FF	FF	FF	FF	FF	FF

Event	Panic ("#"+"*")	End of Siren	Arming/ Disarming Main Code	Arming/ Disarming User 1 to user 8	Arming with Bypassed Zones	General Reset	Detector Power
Radio (T)	FF	FF	FF	FF	FF	FF	FF

Appendix B – Programming formats

1. Pulse formats

Name	Rate (pps)	ACK (Hz)	Error Control	ID Event	A	B
Ademco Slow	10	1400	Double Round	3 - 1	162	1
				3 - 2	163	1
				4 - 1	162	129
				4 - 2	163	129
			Checksum	3 - 1	162	65
				3 - 2	163	65
				4 - 1	162	193
				4 - 2	163	193
		2300	Double Round	3 - 1	162	17
				3 - 2	163	17
				4 - 1	162	145
				4 - 2	163	145
			Checksum	3 - 1	162	81
				3 - 2	163	81
				4 - 1	162	209
				4 - 2	163	209
Silent Knight Fast	14	1400	Double Round	3 - 1	170	1
				3 - 2	171	1
				4 - 1	170	129
				4 - 2	171	129
			Checksum	3 - 1	170	65
				3 - 2	171	65
				4 - 1	170	193
				4 - 2	171	193
		2300	Double Round	3 - 1	170	17
				3 - 2	171	17
				4 - 1	170	145
				4 - 2	171	145
			Checksum	3 - 1	170	81
				3 - 2	171	81
				4 - 1	170	209
				4 - 2	171	209
Franklin	20	1400	Double Round	3 - 1	208	1
				3 - 2	209	1
				4 - 1	208	129
				4 - 2	209	129
			Checksum	3 - 1	208	65
				3 - 2	209	65
				4 - 1	208	193
				4 - 2	209	193

Name	Rate (pps)	ACK (Hz)	Error Control	ID Event	A	B
		2300	Double Round	3 - 1	208	17
				3 - 2	209	17
				4 - 1	208	145
				4 - 2	209	145
			Checksum	3 - 1	208	81
				3 - 2	209	81
				4 - 1	208	209
				4 - 2	209	209
Universal High-Speed	20	2300	Double Round	3 - 1	82	17
				3 - 2	83	17
				4 - 1	82	145
				4 - 2	83	145
			Checksum	3 - 1	82	81
				3 - 2	83	81
				4 - 1	82	209
				4 - 2	83	209
Radionics	40	1400	Double Round	3 - 1	120	1
				3 - 2	121	1
				4 - 1	120	129
				4 - 2	121	129
			Checksum	3 - 1	120	65
				3 - 2	121	65
				4 - 1	120	193
				4 - 2	121	193
Radionics	40	2300	Double Round	3 - 1	120	17
				3 - 2	121	17
				4 - 1	120	145
				4 - 2	121	145
			Checksum	3 - 1	120	81
				3 - 2	121	81
				4 - 1	120	209
				4 - 2	121	209

2. DTMF formats

Name	Rate (pps)	ACK (Hz)	Error Control	ID Event	A	B
DTMF		1400	Double Round	3 - 1	0	2
				3 - 2	1	2
				4 - 1	0	130
				4 - 2	1	130
			Checksum	3 - 1	0	66
				3 - 2	1	66
				4 - 1	0	194
				4 - 2	1	194

Name	Rate (pps)	ACK (Hz)	Error Control	ID Event	A	B
		2300	Double Round	3 - 1	0	18
				3 - 2	1	18
				4 - 1	0	146
				4 - 2	1	146
			Checksum	3 - 1	0	82
				3 - 2	1	82
				4 - 1	0	210
				4 - 2	1	210
Contact ID		1400/2300			0	230
PAF™		1400			0	5
		2300			0	21
EPAF™					Call PIMA support	
NPAF™					Call PIMA support	

Appendix C – Entering names

Entering names/digits is done similar as in cellular phones: Each key represents 3 letters and a number. When you want to enter a particular letter, press its key until the desired letter or number is obtained. Then press the "NEXT" key for the next letter.

Following is the allocation of letters to keys: