Chapter 2

THE SMARTLIVING SYSTEM

Introduction 2-1

INIM Electronics wishes to thank you for choosing this SmartLiving intrusion control system. Its advanced technology and user-friendly operations provide an extremely high level of protection combined with ease-of use.

INIM Electronics recommends that all parts of this manual be read thoroughly before starting up SmartLiving system. Once you have become accustomed to the day-to-day operations, your installer will explain and if required, program the advanced functions provided by the system.

A typical system comprises:

- SmartLiving control panel
- intrusion detection devices (PIR or microwave detectors, magnetic contacts, linear beam detectors, etc.)
- system control peripherals: proximity readers, keypads
- alarm signaling devices which generally signal the events detected by the system (sounders, flashers, etc.)

The keypad (Joy/GR, Joy/MAX, nCode/G or Concept/G) is an extremely flexible peripheral device which allows you to manage the system with ease. The graphic display provides all the information necessary for fast understanding of the system status, and the steps necessary to take in the event of an alarm. All users have PINs which allow them to access and control the system in accordance with their permitted access level.

Advanced voice technology guides you through the operations by means of clear voice prompts which explain the operations you must undertake.

nBy readers (2 versions available: nBy/S wall-mount and By/X flush-mount) allow you to access and control the system. Although these devices are not as flexible as keypads, they provide a quick and easy way of carrying out day-to-day operations such as arming and disarming the system. Authorized digital-key users can operate the system in accordance with their programmed access level (enabled functions, etc.) by holding the key in front of the proximity key reader.

All SmartLiving control panels are capable of managing INIM's "Air2" two-way wireless system. This system integrates wireless devices (detectors, keyfobs, etc.) into the hardwired environment.

SmartLiving control panels are capable of managing various event types (alarms, faults, tamper, code/key identification, arm/disarm operations, etc.) and event-response actions (audible/visual signaling, telephone calls, SMS text messages over the GSM network and, with the addition of the optional SmartLan/G board, e-mails with attachments). The calls can be:

1. report calls to alarm receiving centres - via the most widely used reporting protocols.
2. voice calls to contact numbers - using advanced voice technology to inform contact persons of the active alarm condition.

Events can also be announced on JOY/MAX keypads.

The SmartLiving intrusion control panel also provides automatic features, such as:

- arm and disarm operations set up on a weekly basis
- simple yet useful access-control functions which allow the system to deny access to specific keys/codes at certain times
- pre-set activation/deactivation of household devices (building automation) such as courtesy lights
- other similar automatic facilities.

The technologies 2-2

Expertise in the arena of total security and a commitment to precision and high quality allow INIM's R & D professionals to deliver excellence in design technology and dependability through time.

EASY4U 2-2-1

This user-friendly tool provides an interesting array of graphic features and functions. All SmartLiving intrusion control panels are controlled by keypads equipped with 96x32 pixel graphic displays. The four-line alphanumeric display screen (16 characters per line) can be edited or used to view the icons associated with various customized user-operations. The keypad shortcuts allow time-consuming sequences to be transformed into simple keystroke actions. In this way, frequently-used or repetitive sequences of keystrokes can be eliminated. The shortcuts can be used for a variety of tasks and make operations less tedious and less error-prone. The use of customizable graphic-objects, which indicate the system status, helps users to understand what is happening on the system..

Besides accepting various commands (Away Arm, Stay Arm, Disarm, etc.), the nBy reader also allows users to manage the "shortcuts" programmed on the keypad.

The JOY/MAX keypad provides a built-in nBy key reader.

VOIB 2-2-2

This is an acronym for **V**oice **O**ver **I**nim-**B**us. VOIB technology allows the system to manage end-to-end digitized voice transmissions at extremely high-speed over the IBUS. Voice transmissions can be carried to all points of the IBUS. The JOY/MAX keypad provides a built-in microphone and speaker for message recording and playback. The 30 minute capacity voice board allows each event to be associated with a message. Voice digitizing and compression allow the signal to be transmitted in data packets over the bus to recipient keypads where it is announced. Voice digitizing and the characteristics of the I-BUS allow end-to-end "noise-immune" voice transmissions without the need of any additional wiring.

Keypads 2-3

The keypad allow users to manage all aspects of the security system. SmartLiving control panels support JOY/GR, JOY/MAX, nCode/G and Concept/G keypads. The features of these keypads are described in the following table:

Table 2: **Keypads - functions**

	JOY/MAX	JOY/GR	nCode/G	Concept/G
Graphic display	Yes			
Keys	23 (in soft rubber)			23 (touch)
Signaling LEDs	4			
Buzzer	Yes			
Terminals	2		1	
Microphone	Yes	No		
Loudspeaker	Yes	No		
Built-in proximity reader	Yes	No		
Temperature sensor	Yes	No		
Backlight activated by proximity sensor	No			Yes
Block keypad	No			Yes

The various keypad models provide diverse functions, casings and key access. Joy keypads have a flip which protects the keys, whereas, the keys of the nCode/G and Concept/G keypads are on view. The Concept/G is a touch keypad.

The keypad is the device that allows authorized code users to control the entire system or specific partitions. However, system control can be extended to other building occupants who do not hold a valid code.

The SmartLiving intrusion control panel offers an array of innovative features. In addition to the traditional User menu (accessed by means of user-code entry),

this system provides a series of shortcuts" (refer to "Shortcuts" in Appendix) associated with keys F1 Fn F2 F3 F4 .

Generally, intrusion control panels do not allow access to the system via keypad without code entry. However, by means of the customized (personal) shortcuts associated with keys F1 Fn, ..., F4 it is possible to enable building occupants to access and operate the system without code entry.

The installer must program the shortcuts to suit user requirements and explain how they are used. For example, it may be useful to allow all the building occupants to arm the system without code entry, as this operation increases the level of system security. However, operations which lower the level of system security should be reserved for code users only. Under normal circumstances, operations which increase system security can be allowed without valid-code entry whereas, operations which lower system security (Disarm, Delete Alarm/ Tamper memory, Deactivate Alarm/Tamper outputs) should be allowed only after valid-code entry.

Each keypad is assigned (by the installer) to the partitions it controls.

JOY/MAX keypads also provide a programmable chronothermostat function. This function allows you to set up zone management (one zone per keypad) of the heating/air-conditioning system.

The temperature is gauged by a built-in temperature sensor. The hysteresis is fixed at 0.4°C.

The Concept/G keypad provides a further two options relating to direct user access.

A special feature allows activation of the backlight of the display and keys when users approach the keypad. This is achieved through a proximity sensor which can be activated by pressing keys 1 and * simultaneously and deactivated by pressing 1 and #.

The other option, block/unblock keypad, can be achieved by pressing key * for 3 seconds. If the block keypad option is enabled, the display will show the icon opposite.

Display - description 2-3-1

The brightness and contrast of the backlit-graphic LCD (96 x 32 pixel) can be adjusted by way of the respective options on the User Menu (refer to paragraph *5-8 Keypad settings*).

The first line of the display shows the date and time. If you are using a JOY/MAX keypad, the date and room temperature will alternate on the screen every 3 seconds.

The left side of the second line shows the characters that indicate the current status of the partitions the keypad is assigned to:

- **D** = partition disarmed
- **A** = partition armed in Away mode (interior and perimeter zones armed)
- **S** = partition armed in Stay mode (perimeter zones armed)
- **I** = partition armed in Instant mode (perimeter zones armed with no delay)
- **-** = partition does not belong to the keypad

The displays of the SmartLiving 505 and 515 models show 5 characters indicating the status of partitions 1 to 5 (both models have 5 partitions).

The displays of the SmartLiving 1050 and 1050L models show 10 characters indicating the status of partitions 1 to10 (both models have 10 partitions).

The display of the SmartLiving 10100L model, alternates at 3 second intervals, between 10 characters indicating the status of partitions 1 to 10 and 5 characters indicating the status of partitions 11 to 15 (the 10100L model has 15 partitions).

If a partition has memory of an alarm or tamper condition, the character that represents the partition concerned will blink.

The right side of the second line shows several icons which provide visual information regarding the system.

Table 3: **The icons (shown on the second line of the display)**

Icon	Name	Not present	On solid	Blinking or interchanging icons
	Telephone line		Telephone line busy	(Icon blinking) Telephone line down
	Peripheral tamper	All peripherals are properly placed and all enclosures covers are closed.	At least one peripheral (keypad, reader, expansion) is in tamper status (enclosure open or device dislodged).	(Interchanging icon) All peripherals are properly placed and all enclosure covers are closed, however, tamper has been detected and cleared (Tamper memory).
	Peripheral Loss	All the peripherals in the system configuration are responding properly (Present).	At least one peripheral (keypad, reader, expansion) is not responding properly.	(Interchanging icon) All the peripherals in the system configuration are responding properly, however, loss of a peripheral has been detected and cleared (Peripheral Loss memory).
	Answerphone	Answerphone function disabled	Answerphone function enabled	
	Teleservice	Teleservice disabled	Teleservice enabled	
	Key			(Icon blinking) False key
	Control panel Tamper	The Control panel is properly placed and the enclosure is closed.	The Control panel is in tamper status (enclosure open or device dislodged).	(Interchanging icon) The Control panel is properly placed and the enclosure is closed, however, panel tamper has been detected and cleared (Panel tamper memory).
	Thermostat: Winter mode	The thermostat option is disabled.	The keypad thermostat option is enabled in Winter mode (Heating).	
	Thermostat: Summer mode		The keypad thermostat option is enabled in Summer mode (Air-conditioning).	
	Thermostat: Heating/Air-conditioning	Heating/Air-conditioning Off.	Heating/Air-conditioning On.	

Note

If duly programmed by the installer, the icon will not be shown when Teleservice is enabled.

The remaining section of the display (that is, the third and fourth line) is occupied by the icons which correspond to the Shortcuts associated with keys F1 Fn, ..., F4 POL. If the function keys have not been associated with shortcuts, the third and fourth line will be empty.

Display - standby status 2-3-2

A) If the control panel is in Maintenance status, the first line on the screen will show the string indicated in the figure. The characters "K03" indicate the address assigned to the keypad (in the example, the keypad is at address 3). If you are using a Joy/MAX keypad, the string will also show "P05", which is the address assigned to the built-in proximity reader (in the example, the reader is at address 5).

B) If any of the keypad partitions has Alarm or Tamper memory, the first line of the screen will flash the descriptions of the zones concerned every 3 seconds. In the event of Alarm or Tamper memory, the red LED on the keypad and the characters corresponding to the partitions concerned will blink.

C) If the control panel is in Maintenance status and any of the keypad partitions has memory of an Alarm or Tamper condition, the first line on the screen will show the strings described in points A) and B).

D) If the "View open zones of disarmed partitions" option is enabled, the first line on the screen will flash (approximately every 3 seconds) the descriptions of any zones which are not-in-standby status when the keypad partitions disarm. Any auto-bypassable zones will be shown in white on black background.

Note

Case D is discernible from case B in the fact that in case B, the red LED on the keypad blinks.
Case D is viewable only when the conditions of cases A, B and C are not present.

Using the keypad 2-3-3

The following section describes how the keys are normally used. Some of the keys may have specific functions which will be indicated when necessary.

Table 4: **The keys**

Keys	Name	Typical application
1 ., 2 abc, 3 def, 4 ghi, 5 jkl, 6 mno, 7 pqrs, 8 tuv, 9 wxyz, 0 ␣	**Number keys**	Used to type in User PINs
OK	**OK**	Confirms the selected item (parameter, etc.)
	UP, DOWN	Navigate through the menu lists or adjust keypad volume
	LEFT, RIGHT	Scroll along the data rows (for example, partitions in the events log, etc.).
C	**C**	Steps back on the open menu without changing the selected item (parameter, etc.) or, after entering a User PIN and pressing OK, runs through the 3 User-menu templates (refer to paragraph *2-5 User Codes*) each time it is pressed.
Esc	**ESC**	Exits the User menu without changing the selected item (parameter, etc.).
*	**ENABLE**	Enables options (refer to paragraph *5-4 Activations*)
#	**DISABLE**	Disables options
F1 Fn, F2, F3, F4	**F1, F2, F3, F4 or function keys**	Activate the shortcuts which correspond to the associated icons. Can be used also as Emergency keys (refer to paragraph *2-3-4 Emergency keys*).

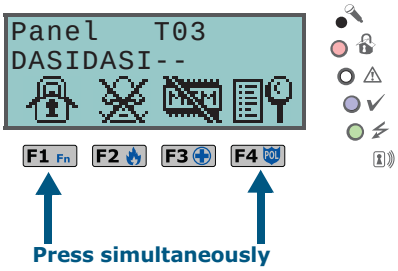
Emergency keys 2-3-4

This control panel provides 3 "key-duos" for Emergency Calls which can be activated by pressing the respective keys on any of the system keypads:

1. F1 Fn + F2 = Fire Emergency
2. F1 Fn + F3 = Ambulance Emergency
3. F1 Fn + F4 = Police Emergency

Utilization of any of the "key-duos" will generate the respective events and actions (e.g. activation of outputs and calls).

To activate an emergency call, press simultaneously and hold keys F1 Fn + F2, or F1 Fn + F3, or F1 Fn + F4 for at least 3 seconds until the selected emergency call is confirmed by a beep.



Note

If any two function keys are pressed at the same time, the functions relating to the icons associated with the keys will not be activated.

Visual signals on the keypad LEDs 2-3-5

The following table describes the visual signals on the keypad LEDs.

Table 5: **Keypad LEDs**

LED	Red	Yellow	Blue	Green
OFF (no light)	All the keypad partitions are disarmed.	No faults present.	Open zones on the keypad partitions.	Primary power failure (230V a.c.)
ON (Solid)	At least one of the keypad partitions is armed.	At least one fault has been detected.	All the zones on the keypad partitions are in standby status: Ready to arm.	Primary power OK (230V a.c.)
Slow blinking (ON: 0.5sec OFF: 0.5sec)	All the keypad partitions are disarmed. Memory of alarm/ tamper on at least one of the keypad partitions or memory of a system alarm.	No faults present. At least one of the zones belonging to the keypad partitions is either disabled (inhibited) or is in Test status	All the zones belonging to the keypad partitions are in standby status. (For JOY/MAX only: an unplayed voice message is present in the memo box).	
Fast blinking (ON: 0.15sec OFF: 0.15sec)	At least one keypad-partition is armed. Memory of alarm/ tamper on at least one of the keypad partitions or memory of a system alarm.	At least one fault is active and at least one zone belonging to the keypad partitions is either disabled (inhibited) or is in Test status.	Open zones on the keypad partitions. (For JOY/MAX only: an unplayed voice message is present in the memo box).	

The list of faults signaled on the yellow fault LED ⚠ can be found in the table in *Appendix C, Fault signals*.

Following is the list of events which cause the Red System Alarm LED to blink:

- Open panel tamper
- Dislodged panel tamper
- Expansion tamper
- Keypad Tamper
- Reader Tamper
- Expansion Loss
- Keypad Loss
- Reader Loss
- False key

If the "False key" event is configured as a "Silent event", the red LED will not blink.

"FALSE KEY"

If this option is enabled, the status of the partitions will be hidden. If a valid code is entered at a keypad, the real-time status will be indicated on the keypad concerned for 30 seconds. Additionally:

"50131STATHIDDEN"

- If the partitions are armed, the status of the system will be hidden from non-authorized users.
  - •• Red keypad LED Off
  - •• Yellow keypad LED Off
  - •• Green keypad LED On solid
  - •• Status icons not present
  - •• Alarm and Tamper memory hidden
  - •• If a particular event occurs more than 5 times when the partitions are armed, it will not be signaled as having occurred more than 5 times. This is due to the limitation placed on the counter of each event. The counters will reset to zero each time all the partitions are disarmed.
- If the partitions are DISARMED:
  - •• LEDs operating normally.
  - •• Status icons present
  - •• Alarm and Tamper memory visible

Signaling on the Buzzer 2-3-6

The buzzer signals the running Entry, Exit and Pre-arm times (refer to *Appendix A, Technical terminology and Glossary*) of enabled partitions.

Buzzer signal	Description
8 pulses with 5 second pause	Entry time
3 pulses with 5 second pause; 4 short pulses with 5 second pause during the final 20 seconds of the Exit Time	Exit time
1 pulse with 5 second pause	Pre-arm time

Emergency status 2-3-7

In the event of a keypad configuration or communication error between the system peripherals, the display will show one of the templates opposite.

If this occurs, you must contact your installer immediately and get the fault cleared.

```
  - JOY/MAX -
FW RELEASE  3.00
NO COMMUNICATION
K01 P14
```

```
  - JOY/MAX -
FW RELEASE  3.00
NOT ENROLLED
K01 P14
```

Appendix C

FAULT SIGNALS

The following table shows how system faults, indicated by the yellow LED, are signaled clearly on the keypad ⚠ :

FAULT	User menu string: "View/ Faults"	Probable cause	Note
Zone fuse blown	Zone fuse fault	Excessive current draw on the "+AUX" terminals on the control panel	
BUS fuse blown	IBUS fuse fault	Excessive current draw on the "+" terminal on the control panel	
Backup battery low or disconnected	Low battery	The control panel backup-battery is running low or is not connected properly	
Primary power source failure	Mains failure	The primary power source (230 Vac) has failed (blackout) or is not connected properly	
Telephone line down	Tel. line down	The telephone line is not working	
Wireless noise	Jamming	Rogue wireless signal	
Low wireless-detector battery	Low battery WLS	The battery of at least one wireless detector is running out	For information relating to "Low battery WLS" and "WLS zone loss" signaling, access the User menu, "View/Faults", press OK to view the list of devices involved
Wireless detector loss	WLS zone loss	At least one wireless detector is not responding (lost)	
Fault on Nexus GSM dialer	GSM fault / Low signal	The GSM network signal is insufficient	Press OK on "GSM fault" to access the list of current faults.
	GSM fault / GSM module fault	The GSM module of the Nexus dialer is not operating properly. Call your Installer company	
	GSM fault / SIM commun.fault	The SIM card does not respond or is not present. The SIM card PIN is not disabled.	
	GSM fault / Low credit	The remaining credit on the SIM card is below the minimum credit threshold.	
	GSM fault / Provider missing	The GSM network provider of the SIM in use is unavailable.	
Loss or tamper running	LossTamp.ongoing	One of the following events is present: • Panel open • Panel dislodged • Expansion tamper • Keypad tamper • Reader tamper • Sound.flash.Tamp • Expansion loss • Keypad loss • Reader loss • Sound.flash.Loss	
Faults on IVY-BUS sounderflasher	Sounder faults / Horn fault	A defect/damage has been detected on the horn/ sounder.	Press OK on "Sounder faults" to access the list of devices which have at least one fault present. Press OK on the selected sounderflasher to access the list of current faults on the device concerned.
	Sounder faults / LowBatt.Soundfl.	A low-voltage value has been detected on the sounderflasher battery. If the voltage drops below 10V, the device will inhibit the sounder and activate only the flasher (in the event of an alarm). If the voltage drops below 8V, the device will inhibit both the sounder and the flasher.	
	Sounder faults / Battery resist.	An excessive internal resistance has been detected on the sounderflasher battery. This type of deep fault indicates corrosion inside the battery, therefore, the battery must be replaced.	
Violation of zones with faults	Faults on zones	Violation has occurred on one or more zones with the "Fault zone" option enabled.	Press OK to access the list of zones involved.

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