Apartment Control Panel

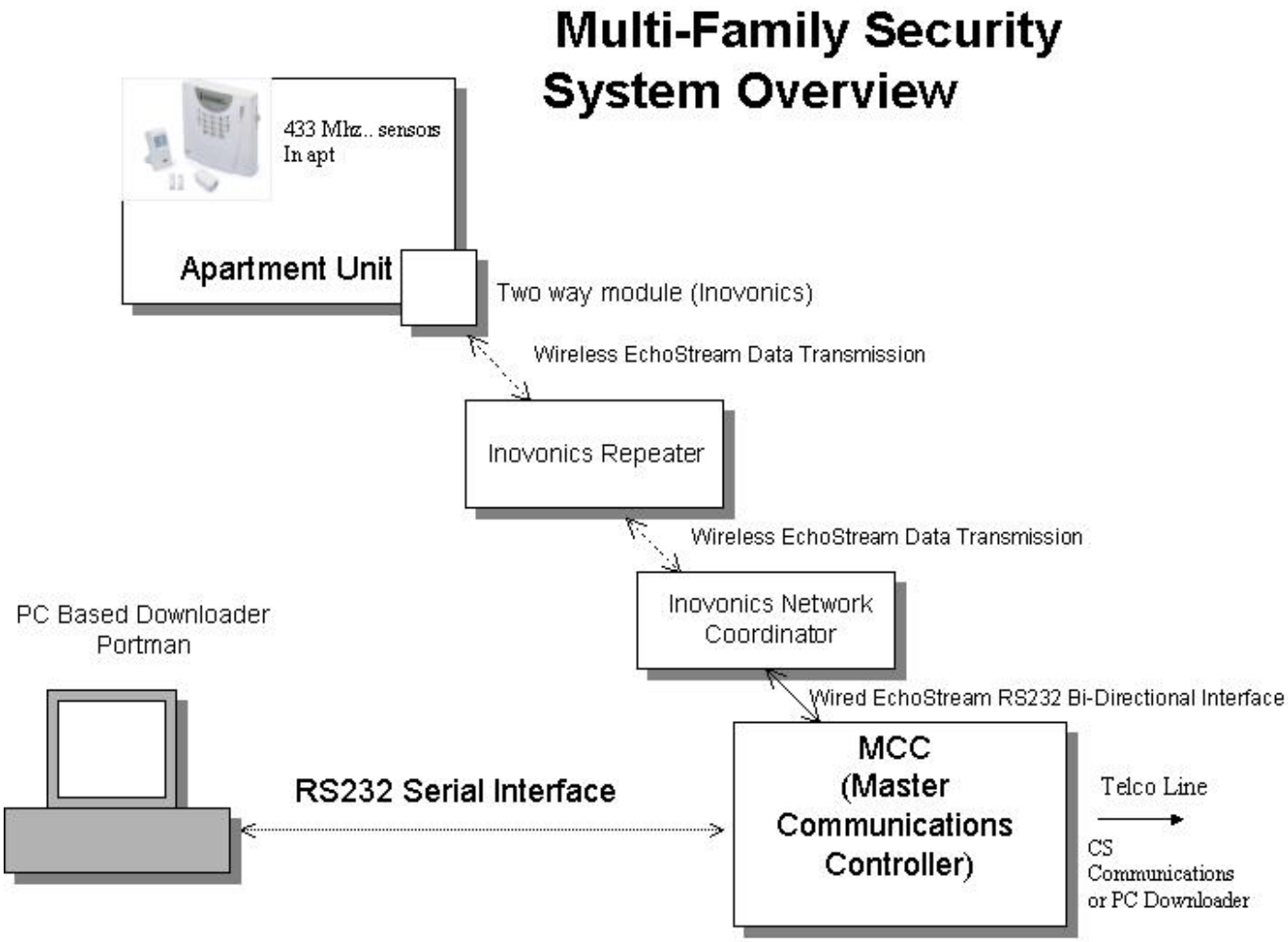
Market Requirements Document

Revision History

Rev Level	Description	Date
1	Initial Release	
2	Comments from Design Review for User Interface Section	4/22/06
3	Revised Registration, Alarm transmission, modified System Information View	5/22/06
4	Additional Comments from 5/25/06 review	5/25/06
5	Comments from 5/31/06 review	6/01/06
6	Revised system overview diagram, sect. 7 clarifications	6/02/06

1 System Overview

The Muti-Family Security System consists of multiple products as shown in the diagram below. Each Apartment unit will contain an independently operated Security System known as an Apartment Control Panel. The Apartment Control Panel contains 433 MHz based wireless sensors such as door window transmitters and motion detectors along with wireless keyfobs. Each individual Apartment Control Panel contains an Inovonics Train unit, an EchoStream 900 MHz transceiver providing two-way communications to a Master Communications Controller (MCC). The MCC is located in a central location in the facility such as a manager's office or a clubhouse and provides a centralized telephone dialing capability for alarm transmission to an Alarm Central Station. In addition the MCC can be programmed locally or remotely through a PC Based Downloader.



1.1 Product Specifications

The Apartment Control Panel contains the following overall features:

- Self contained security system with two line LCD text display
- System will contain provision for wired and wireless zones, 4 wired zones plus up to sixteen wireless zones
- Wall Mount or Table top installation
- Contains 433 MHz wireless receiver plus IWC Train 900 MHz transceiver
- Supports up to 16 433MHz based wireless sensors and up to 6 wireless keyfobs
- Keypad and remote programmable
- Communicates through Inovonics EchoStream Infrastructure to Master Communications Controller (MCC)
- Line powered unit (plug in transformer) with built in battery back-up
- Contains built in alarm sounder with min.90 dB output
- User Codes – Six homeowner codes, Installer code, Maintenance code
- Transmits CS messages to MCC for transmission to CS over telephone line in CID format
- Event log – time stamped with 99 events
- Chime mode – single button operation
- Single Button Arming modes available

1.2 Part Numbers

Inovonics will provide the stocking part numbers for each of the products prior to the initial shipments

1.3 Documentation

Inovonics will create Installation Instructions and an End Users manual for the Security System. This documentation will be included with each unit.

1.4 Packaging

Inovonics will define the packaging requirements for all products prior to the initial shipments.

1.5 Regulatory Requirements

The Security System must be designed and listed for the following regulatory standards:

FCC Part 15
UL 1023 Household Burglary Alarm System
UL 1635 Digital Alarm Communicator System

Related Documents

Inovonics EchoStream Product Developers Guide
UL Standard 1023 Household Burglary Alarm System
UL Standard 1635 Digital Alarm Communicator System
FCC Parts 15
Contact ID Standard

1.6 System Configurations

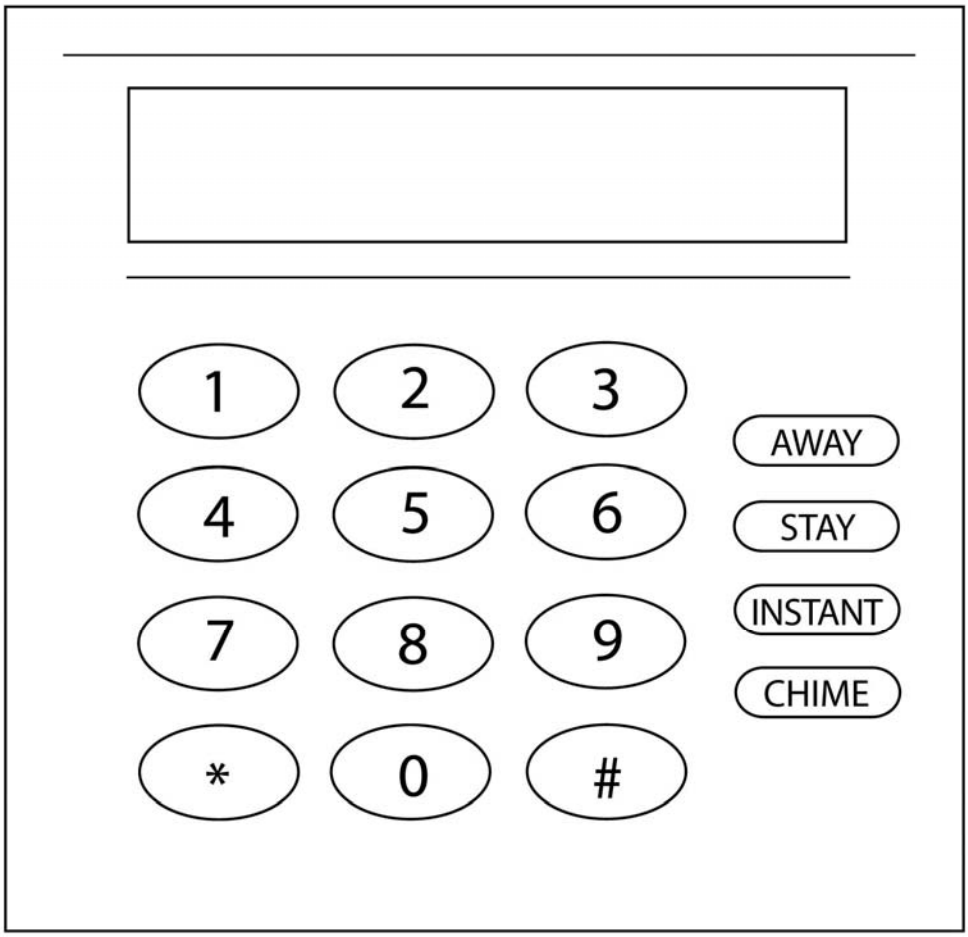
The Apartment Control Panel will contain provision for both wired and 433 MHz based wireless zones for the points located within the apartment unit. Depending on the configuration the apartment unit will contain the hardwired zones (four zones contained on the Portman PCB) and/or the wireless zones (Portman 433 MHz receiver mounted within the apartment unit). Note: All configurations will contain the Inovonics Train EchoStream transceiver module for communications to the MCC unit.

This firmware for the Apartment Control Panel ideally needs to detect the configuration for the following options:

A) Wireless Only – In this configuration the Portman wireless receiver will be connected to the unit and the wired zone hardware will not be populated on the PCB. This configuration will support 16 wireless zones (known as zones 01 – 16) and 6 wireless keyfobs.
B) Wired Only – In this configuration the Portman wireless receiver will not be connected to the apartment unit and the four wired zones would be populated on the main PCB. This configuration will support four wired zones known as zones 01 – 04.
C) Hybrid System (Wired and Wireless). This configuration will support both wired and 433 MHz wireless zones. In this configuration the Portman wireless receiver will be connected to the unit and the wired zone hardware will be populated on the PCB. This system will support a total of sixteen zones plus six keyfobs. The wired zones will be known as 01 – 04 and the wireless zones will be known a 05 – 16.

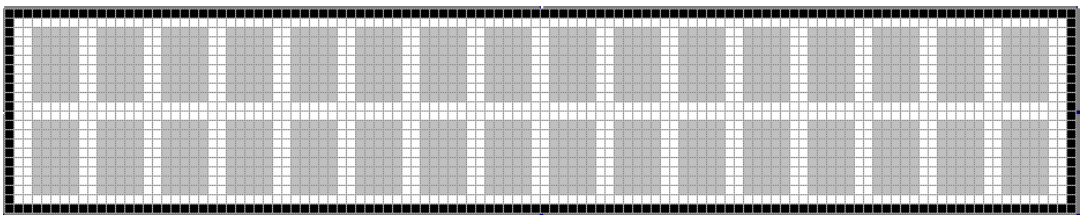
2 Keypad Layout

The front face of the Apartment Control Panel consists of a telephone style keypad (0-9 plus *, #) plus four dedicated function keys. The diagram shown below shows the labeling of the function keys and may not reflect the layout or final appearance of the keypad section.



2.1 LCD Display

The LCD can display a total of 32 characters of text, two lines of 16 characters per line.



2.2 EEPROM Memory

The Apartment Control Panel contains all programmable data in electrically erasable, non-volatile EEPROM memory, so it will not be lost in the event of a power failure. All functions will perform only after programming. Programming can be performed through keypad programming or remotely through the PC downloader communicating through the MCC using the Inovonics Wireless Network.

3 Zone Definitions

3.1 Zone Type and Definition

The Apartment Control Panel supports the following zone types. These zone types can be programmed to each of the sixteen wireless zones. If the zone types are programmed through the keypads they will be entered as keypad configurable options *001 - *016.

Note: These zone types apply to the wireless zone 01 – 16 and do not apply to keyfobs.

3.1.1 [00] Null Zone

The zone is vacant. Unused zones should be programmed as null zones

3.1.2 [01] Exit/Entry Zone

This zone type, normally used for entry/exit doors, can be violated during the exit delay period without causing an alarm. This zone type provides an entry and exit delay period while arming. During this delay period, the system will not cause an alarm, even if the zone is violated. Once the exit delay period has expired, opening the zone will start the entry delay timer. During the entry delay time, the keypad buzzer sounds to advise the user that the system should be disarmed.
If the panel is disarmed before the entry time expires, no alarm will be generated. The exit delay time can be programmed through option *81 and the duration of the exit delay can be programmed in option *82.

3.1.3 [02] Interior Zone with Follow Up

This zone is used for those positions that need an entry delay period when exit/entry zone are violated, such as an entrance containing motion detectors. This allows users to pass through motion detectors to get to a keypad.
If the zone is violated before the entry delay period has begun, it will cause an instant alarm. The delay time of this zone is the same as that of exit/entry zone.

3.1.4 [03] Perimeter Zone (Instant)

This zone is used for exterior zones such as windows, patio doors, as well as glass-break detectors. It causes an instant alarm if the zone is violated when the panel is armed. Perimeter zones do not use the exit/entry times.

3.1.5 [04] Interior Zone with Time Delay

This zone is similar to the interior zone with follow up. The difference being that the delay period is independent of whether the exit/entry zone is violated.

3.1.6 [06] 24 Hour Silent Zone

This zone is normally used for zones such as a panic button, which sends an emergency signal to the Central Station. This is a silent condition indicating that the zone number will not display on the keypad, and the keypad and sirens do not sound. This zone functions independent of the system arming status.

3.1.7 [07] 24 Hour Audible Zone

This type is used for zones such as a panic button. This zone type sends the emergency signal to the Central Station and generates an audible signal. When triggered, the siren will activate and the zone number will appear on the keypad, and the communicator reports to the control station. This zone functions independent of the arming status.

3.1.8 [08] 24 Hour Auxiliary Zone

This type is used for emergency conditions that will report to the Central Station. The keypad will generate sounds and the zone number will appear on the display, however the external siren will not sound. This zone type functions independently of the arming status.

3.2 Arming Mode and Zone Type

The following table summarizes the different system arming modes. Note: 24 hour zones are always active and are independent of the system arming status.

Arming mode	Exit delay	Entry delay	Effective zones	Bypassed zones	Purpose
Away	Yes	Yes	All	No	Leaving the premise
Stay	Yes	Yes	All except interior zones	Interior zone	Stay at home
Instant	Yes	No	All except interior zones	Interior zone	Nighttime, everyone home

4 User Codes

The Apartment Control Panel maintains three types of codes to operate the system:

User Codes – These are the four digit codes used by the homeowner to operate the Apartment Control Panel

Installer Code – Dedicated four digit code reserved for the Alarm Installer for uses such as system programming and troubleshooting

Maintenance Code – Temporary user code for a maintenance person to gain access to the apartment unit. This code has a fixed time period time period with an expiration expressed in a number of hours.

4.1 User Codes

The Apartment Control Panel maintains six different user codes. The valid range of user codes is 0001 – 9999 (0000 indicates that the user code is not being used). User codes are unique four digit values required for the homeowner to operate the system. The master code is known user code number 1 and is the only user who can program the other user codes. The duress code, if programmed, is user number 6 which will arm or disarm the Apartment Control Panel and can transmit a special duress signal to the Central Station.

User codes can be established at the time of installation by the installer through keypad programming, programmed by the master user (user#1) or downloaded through PC software.

Programming User Codes:

Note: The system must be **disarmed** in order to program user codes.

Enter the master code + 8. The keypad will display

Enter User #
X (1-6)

This prompts the user to enter the user number being programmed. After entry of the user number to be created the following screen will appear.

Enter User Code n
xxxx

Enter the four-digit user code to be programmed as user n.

Upon successful entry of the user code the following screen will appear for two seconds before the system returns to the previous disarmed status.

User Code n
Entered

To delete an existing security code:

Enter the master code + 8. The keypad will display:

Enter User #
X (1-6)

This prompts the user to enter the user number being programmed. After entry of the user number to be created the following screen will appear.

Enter User Code n
xxxx

To delete an existing user code enter a user code of 0000. The system will return with the following screen:

User Code n
Deleted

This screen will appear for two seconds then the system will return to the appropriate disarmed status.

Note: User code 1 (master code) cannot be deleted.

4.2 Installer Code

The installer code is a four digit code reserved for the installer for purposes such as keypad programming and system functions. The installer code can be modified through the keypad programming sequence as keypad configurable option 00 and has an initial default value of 2468. In addition the installer code can be programmed through the PC Downloader.

4.3 Maintenance Code

The Maintenance code is a temporary user code that can be entered through the MCC or PC Downloader to allow a maintenance worker to gain access to the apartment. If this feature is enabled within the system the maintenance code can be used to disarm and arm the system. The maintenance code will have an expiration time expressed in hours to prevent the code from being permanent.

Upon entry of a valid maintenance code the system will disarm and an entry of Maintenance arm or disarm will be entered in the system log. When the maintenance person completes the work within the apartment they can re-arm the system using the maintenance code or can use the single button arming functions if they have been enabled.

Note: the maintenance code is separate from the user codes and the installer code.

5 Apartment Control Panel Functions

5.1 Power-Up Initialization

Upon initially powering up the system the LCD keypad will display:

Sys Initializing

After completion of the initialization period the system will return to the previous system condition.

5.2 System Disarm

From an armed state the system can be disarmed (turned off) by entering a valid user code. The system will transmit the disarm code to the Central Station, if programmed, and the LCD will display

System Ready

If all zones are in the normal condition

System Not Ready Zone n

If there are zones not in normal condition the second line will scroll those

5.3 Arm the System – Away Mode

Arming in the AWAY mode will activate the alarm system including all perimeter and interior zone types. Once entering the AWAY mode the user will be able to violate any of the exit/entry zones for the time period programmed as the exit delay time.

AWAY Arming Sequence: Press the AWAY key followed by the user code.
Alternately if the Quick arming keys function has been enabled just press the AWAY key without a user code.

The keypad will display:

Armed Away Exit Now

For the duration of the exit time period the second line of the display will display exit now alerting the user to leave through the exit/entry zones. The keypad buzzer will sound during the exit delay time.

At the end of the exit delay period the keypad sounder will stop and if all of the zones are in normal (secure status) then the system will be armed in the away mode with the following LCD display.

Armed Away

If zones are still violated after expiration of the exit delay then the system will go into ALARM.

5.4 Stay Arming

Arming in the STAY mode will activate the alarm system with the exception of interior zone types such as motion detectors. This allows the homeowner to remain in the premise and have all perimeter protection active. Once entering the STAY mode the user will be able to violate any of the exit/entry zones for the time period programmed as the exit delay time

STAY Arming Sequence: Press the STAY key followed by the user code.
Alternately if the Quick arming keys function has been enabled just press the STAY key without a user code.

The keypad will display:

Armed Stay Exit Now

For the duration of the exit time period the second line of the display will display exit now alerting the dealer to leave through the exit/entry zones. The keypad buzzer will sound during the exit delay time. Pressing any key during the exit time period will silence the sounder.

At the end of the exit delay period, the keypad exit sounder will stop and if all of the zones are in normal (secure status) then the system will be armed in the Stay mode with the following LCD display.

Armed Stay

If zones are still violated after expiration of the exit delay then the system will go into ALARM.

5.5 Instant Arming

Arming in the INSTANT mode will activate the entire alarm system excluding interior protection and will eliminate the entry delay providing an immediate alarm after violation of any perimeter zone. The homeowner would likely use this mode when all occupants are home.

INSTANT Arming Sequence: Enter the INSTANT key + user code.
Alternately if the Quick arming keys function has been enabled just press the INSTANT key without a user code.

The keypad will display:

Armed Instant Exit Now

For the duration of the exit time period the second line of the display will display exit now alerting the dealer to leave through the exit/entry zones. The keypad buzzer will sound during the exit delay time. Pressing any key during the exit time period will silence the keypad buzzer.

At the end of the exit delay period, the keypad exit sounder will stop and if all of the perimeter zones are in normal (secure status) then the system will be armed in the INSTANT mode with the following LCD display.

Armed Instant

If zones are still violated after expiration of the exit delay then the system will go into ALARM.

5.6 Bypassing Zones

Bypassing zones allows individual zones to be excluded from the protection scheme. For example if the user wants to leave a window open or if a zone is inoperative they can be bypassed.
The system must be in disarmed status in order to bypass zones and the zone being bypassed.
To bypass zones:

Bypass Sequence: Enter the user Code + 6. The LCD displays:

Bypass Zn #
Xx 01-16

.
Enter the two-digit (01 – 16) zone number you want to bypass. The buzzer will sound twice and the LCD will display the bypassed zone number as shown below:

Zone nn
Bypassed

This screen will appear for approx 2 seconds and the system will return to the previous disarmed state.

Note: To bypass another zone re-enter the bypass sequence.
Note: Zones will remain bypassed until the next time the system is disarmed.

To remove an existing zone bypass:
Repeat the bypass sequence listed above. The only difference is that the confirmation screen will display:

Zone nn
Un Bypassed

This confirmation screen will appear for approx two seconds and the system will return to the previous disarmed status. In order to bypass or unbypass additional zones the user will need to reenter the bypass sequence (User code + 6).

5.7 System Messages

The Apartment Control Panel has the ability to display information messages on the LCD keypad. An authorized Property Manager can initiate these text messages through the MCC or PC Downloader. These messages can contain up to four lines of text (up to sixteen characters per line).

Messages will be displayed on the second line of the LCD display when the system is in the disarmed mode. Messages will scroll one line at time on the second line of the LCD display for approximately two seconds. If there are other system indications on the second line of the display then they will appear in sequence along with the system messages. If there are fewer than four lines of system text messages then the system will only scroll through the actual number of text lines.

System messages will appear on the keypad for a time period of twenty-four hours from the initial transmission unless overwritten by another message.

Note: System Messages will not appear when the Apartment Control Panel is within any of the Installer Modes.

Sample displays;

System Ready Pool Party	System Ready Tuesday 7-10 PM	System Ready Food Served

5.8 Monitored Status

The Monitored Status for each Apartment Control panel determines the operational status for each Control Panel. This information originates in the MCC and will be transmitted to the Control Panel during the Control Panel registration sequence.

The Monitored Status states include:

- **Monitored** – This indicates that the Control Panel will be monitored by the Central Station. This means that the Control Panel can transmit signals to Central Station through the MCC unit.
- **Local.** The Local status indicates that this Control Panel will function locally as a security system but will not transmit signals to the Central Station.
- **OFF** – The OFF status indicates that the Control Panel will not operate as a local or remotely monitored security system. This could be used for a vacant apartment or for a resident who does not want a security system in their apartment. Panels in the OFF status are registered to the MCC and can receive system messages from the PC Downloader. In addition the Installer can perform any of the Installer Mode functions, however the Control Panel user functions will be inactive. In this mode the LCD display will always display:

System Inactive

Notes:

- The Monitored Status can only be updated through the MCC.
- Control Panels that have not been registered to the MCC will operate as if they were in the Local mode.

5.9 Central Station Message Transmission

Each Apartment Control Panel performs independent security system processing within the apartment unit. This includes zone alarm processing as well as system conditions such as low battery, inactive RF devices etc. The programming section of the Control Panel contains system attributes for each of these conditions to determine whether the condition should be reported to the Central Station. Please refer to the System Keypad Programming Section of the Apartment Control Panel Requirements document.

When the Apartment Control Panel has a reportable CS condition (example alarm zone 1) from a **monitored** control panel (Monitored Status = Monitored) then the following will take place:

- Apartment Control panel will initiate transmission of a CS transmission message to the MCC. The payload of this message will contain the following information:
  - Panel Number
  - Contact ID number for condition to be transmitted
  - Event Qualifier 1 = New Event, 3 = Restoral per contact ID specification
  - User Code or Zone number.
- The CS Transmission message will pass through IWC Repeaters and Network Coordinator to be processed by the MCC. The MCC will validate that the Panel number is a monitored account. Assuming validation the MCC will compile the complete Contract ID transmission using the CS Account number contained within the MCC for the specified Panel number.
- The MCC unit will return an application level acknowledgement message to the Apartment Control unit indicating the CS Message transmission was received by the MCC.
- The MCC will transmit the CS transmission over the telephone line connected to the MCC. The CS telephone number is maintained within the MCC.

Note: The Control panel will attempt to transmit CS transmissions to the Train unit for eight attempts (wait two seconds (timing to be reviewed).

6 Contact ID Codes

The MCC will transmit Central Station messages using the MCC CS telephone number in ADEMCO Contact ID Protocol. This format is defined in the Digital Communication Standard – ADEMCO Contact ID Protocol for Alarm System Communications published by the Security Industry Association (SIA) in May 1999.

The following contact ID message codes can be transmitted by the MCC to the Central Station:

Contact ID Code	Description	Application
120	Panic	Audible Panic Zone 96/97
121	Duress Signal	Control Panel User 6
122	Silent	Silent Panic zone 95
130	Burglary	Zone Alarms - Control Panel
134	Ext/Ent	Ext/Ent Zone Triger or restore
132	Interior1	Interior1 Zone Triger or restore
131	Perimeter	Perimeter Zone Triger or restore
132	Interior2	Perimeter Zone Triger or restore
122	24Hr_Silen	24Hr_Silen Zone Triger or restore
123	24Hr_Audib	24Hr_Audib Zone Triger or restore
150	24Hr_Auxil	24Hr_Auxil Zone Triger or restore
301	AC Loss	Control Panel or MCC Power Loss
302	LowBatt	ACP low battery
321	Sien loss	Sien is bad,or loss
355	Loss of Radio Supervision	Network Coordinator Inactive
381	RF Loss Supervision	Wireless transmitter Inactive
383	RF Sensor Tamper	Wireless transmitter tamper
384	RF Low Battery	W/L transmitter or repeater low battery
400	Open/Close	Arm/Disarm from Control Panel
407	Open/Close	Arm/Disarm use keyfob
570	Zone Bypass	Bypass zones from Control Panel
602	Periodic Test	Control Panel or MCC Test
654	Inactivity	Control Panel or Repeater Inactive

For each of these conditions the MCC can transmit alarm and restore conditions. In addition the system will transmit a zone or user number as applicable to the condition

7 Installer Mode

The following modes are reserved for the Installer and require use of the Installer Code. The system must be in a disarmed status in order to access the Installer Functions

Function	Keystroke Sequence
System Keypad Programming	# Installer Code + 1 Timeout after 1 minute
View System Information	# Installer Code + 2 Timeout after 1 minute
Wireless Registration – Transmitters	# Installer Code + 3 Timeout after 1 minute
Wireless Registration - Keyfobs	# Installer Code + 4 Timeout after 1 minute
Installer Walk Test	# Installer Code + 5 Timeout after 10 minute
Default Reset	# Installer Code + 6 Timeout after 1 minute
Event Log View	# Installer Code + 7 Timeout after 1 minute
Apartment Control Panel Registration	# Installer Code + 9 Timeout after 1 minute

Notes: The installer mode can be exited by pressing the *** * (pressing * twice)** on the keypad.

Each of the installer modes will time out after the inactive time period shown above.

7.1 System Keypad Programming

System keypad programming can be performed by the installer through entry of # Installer Code + 1.
Full details of system keypad programming can be found in the chapter titled System Keypad Programming.

7.2 View System Information

The installer can view various system level information of the Apartment Control Panel through entry of # Installer Code + 2.
The keypad will display:

Vxx.yy MON 013 1234567890 1234

The first line will display the following information:

- **Firmware version** for the Apartment Control Panel displayed as Vxx.yy where xx.yy is the panel firmware version
- **Monitored Status**: Reflects whether the Apartment Control Panel is Monitored (MON) or Local (LOC) or Off (OFF). If this field is blank then the Apartment Control Panel has not yet been registered. This information can only be changed within the MCC. After successful registration the monitored Status is transmitted to the Control Panel and can be viewed on this display.
- **Panel Number** – Indicates the panel number of this Apartment Control Panel within the MCC unit. The Panel Number ranges from 001 – 512. If this field is blank then this Apartment Control Panel has not been registered to the MCC.

The second line displays the following information:

- **TXID _** this reflects the transmitter ID for the Inovonics Train two-way module currently connected to the Apartment Control Panel.
- **CS Account Number**: This indicates the CS account number for the Apartment Control Panel. If this Control Panel is monitored then transmissions to the Central Station will use this account number. If the field is blank then the Control Panel has not been registered to the MCC. This CS Account number can only be changed within the MCC. Upon successful registration of this Apartment Control Penal to the MCC the CS Account Number is transmitted and stored within the Apartment Control panel for viewing only.

This display will appear for approx 1 minute then return to the previous system status. Pressing ** will exit from the View System Information mode.

7.3 Wireless Registration – Transmitters

Wireless registration of transmitters is used to enroll devices such as the door window transmitters to the specific zone numbers. The Apartment Control Panel contains up to sixteen transmitters known as zones 01 – 16.
Alternately the transmitter serial numbers can be manually entered through configurable options 101 – 116.
Note: The zone types can be configured through options 01 - 16.

Wireless Registration – Transmitters Sequence - Enter # Installer Code + 3.

Trans. Registr. Enter Zone nn

Enter the zone number to be registered 01 – 16
Note: If the system type is hybrid (wired plus wireless) then the wireless transmitters start at zone 05.

Zone nn. Activate Now

This display instructs the installer to activate the device to initiate a wireless transmission to the Apartment Control Panel. This can be performed by opening the cover to initiate the case tamper switch or by activating the device (open the door/window or initiate motion through the motion detector).

The following confirmation display will appear showing the zone number programmed along with the serial number which has been registered to that zone number. The serial number that appears on the second line should match the serial number on the transmitter to confirm that the desired device has been programmed.
If the device programmed was incorrect then re-enter the zone number and register the zone a second time.

Zone nn. Prog 57123

This display will appear for approx. 2 seconds and the display will return to the registration screen for input of another zone number.
Note: Transmitter serial numbers will always be displayed and programmed as decimal digits (not hex).

Note: To delete a wireless transmitter proceed to the transmitter zone type configurable option (01 - 16) and change the zone type to the unused or null type (type 0)

Note: To exit this function press the * * keys.

7.4 Wireless Registration – Keyfobs

Wireless registration of keyfobs is used to enroll wireless keyfobs to the Apartment Control Panel. The Apartment Control Panel supports up to six keyfobs per system (known as keyfobs 1-6). Alternately the serial numbers for the keyfobs can be manually entered through programming options 201-206.

Wireless Registration – Transmitters Sequence - # Enter Installer Code + 4.

Keyfob Registr Enter Key n

Enter the keyfob to be registered 1 - 6

Keyfob n. Activate Now

This display instructs the installer to activate any button on the keyfob being programmed.

The following confirmation display will appear showing the keyfob number programmed along with the serial number received from that keyfob. The serial number appearing on the second line should match the serial number on the keyfob to confirm that the desired device has been registered.
If the device programmed was incorrect then the installer should re-register that key to the desired keyfob number.

Keyfob n Prog 123456

This display will appear for approx. 2 seconds and the display will return to the registration screen for input of another keyfob number.

Note: To exit this function press the * * keys.

7.5 Installer Walk Test

The Installer Test mode allows the installer to place the system into a test mode where the installer can verify operation of each transmitter and transmit a Central Station message if enabled for each device. This should be performed after the system has been registered

and all sensors have been installed. This mode will generate a keypad sound when each device has been activated but will not initiate the alarm sound within the apartment.

Enter # Installer Code + 5. The keypad will display:

System Test Zone nn

With each zone or keyfob activation the keypad will emit a keypad sound and the second line of the display will display either the zone number or Keyfob number that has been activated. If CS reporting has been enabled then a CS report will be transmitted and the installer can verify signal receipt by the CS.

This function will time out automatically after 10 minutes or it can be terminated through pressing the * * keys.

7.6 Default Reset

The Apartment Control Panel contains factory default values for each of the configurable options. The default values can be viewed in the Keypad Configurable Options section of this document. The purpose of this function is to revert to the factory default values. This will return all of the attributes including the user codes, installer code, transmitter/keyfob ID's back to the initial factory status. It will be necessary to reprogram the Apartment Control Panel after performing this function

Default Reset Sequence: # Installer Code + 6

Default Reset? 1 to Confirm

Enter 1 to confirm a default reset, 0 to exit.
Note: * * will exit this sequence without performing the default function.

Default Complete

After completion of the default reset function the Default Complete display will appear for approx. 2 seconds then the system will restart. Since the system has now reverted to the original factory default values it will be necessary to re-enter the system using the factory default values for the installer code and user codes.

7.7 Event Log View

The Apartment Control Panel contains a time stamped event code of up to 99 events. This is a circular file which overwrites itself when full. The installer at the keypad can retrieve the event log or the log can be retrieved remotely from the PC Downloader through the MCC communicating through the Inovonics EchoStream wireless network.
Event Log View Sequence: # Installer Code + 7

LOG 01 ALRM ZN01 Jun 28 05 10:05 AM

Navigation Keystrokes:

AWAY key Advance to the **next** event log
STAY key **Previous** event log message
* * key **Exit** from Event Log View mode

The event log contains the following time stamped events independent of whether these conditions are transmitted to the Central Station:

Event	**Display**
Alarm Zone 1-16	ALRM ZNxx
Rest Zone 1-16	REST ZNxx
ARM user 1-6	ARM USx
ARM – Single Key	ARM
ARM Maint User	ARM MNT
Disarm Maint Code	OFF MNT
Disarm User 1-6	OFF USx
Bypass ZN 1-16	BYP ZNxx
Duress	DUR US6
KP Emergency Cond x	KP EMGx
Trouble ZN 1-16	TRB ZNxx
Tamper ZN 1-16	TAM ZNxx
Transmitter Low Bat ZN1-16	TRLB ZNxx
Keyfob Low battery 1-6	KFLB x
AC Loss	AC Loss
AC Loss Restore	AC Rest
Low Battery	Low Bat
Low Battery Restore	LB Rest
RF fail	RF two way bad

7.8 Apartment Control Panel Registration

The installer can perform registration of the Apartment Control Panel (ACP) to the Master Communications Controller (MCC) during the initial system installation or at a later date. Each Apartment Control Panel must be registered to the MCC in order for the Control Panel to function properly with the Central Station and PC Downloader.

Prior to initiating the registration sequence from the Apartment Control Panel the following actions need to take place at the MCC:

- MCC must be placed in registration mode. This is performed at the MCC through Installer mode 0. This insures that the desired MCC is performing the registration.
- Panel number information must be defined within the MCC. Mandatory entries for each panel number record (001 – 512) includes the Central Station (CS) Account Number, and the Monitoring Status (Monitored, Local or Off). Optional

entries include the Building name, and Apartment number. These entries can be made into the MCC through MCC keypad programming or through the PC Downloader.

- You must set this information ,such as Acct Number, Mon Type , Panel Number ,site ID, network ID on the ACP,Consistent with MCC.

Apartment Control Panel Registration Sequence: # Installer Code + 9

Upon completion of the keypad programming the Installer can enter the Apartment Control Panel Registration sequence through entry of # Installer Code + 9.

This sequence will attempt to register the Apartment Control Panel to the MCC using the Panel number entered on the following display of the Apartment Control Panel:

Enter Panel #
Xxx 001 - 512

The Installer will enter the panel number to be registered.

Next a confirmation screen will appear displaying the panel unit number to be registered.

Reg Panel# xxx
1 = Yes, 0 = No

Entry of no (keystroke of 0) will return to the Apartment Control Panel registration screen. The Registration mode can also be exited through entry of * * on the keypad (pressing * twice).

Entry of Yes (keystroke of 1) will transmit a registration message to the MCC using the standard EchoStream protocol. The payload section for the registration message will contain the Panel number entered through keypad programming. The TXID for the Train unit will be part of the message per the standard EchoStream message as described in the EchoStream Developers guide.

If this is the first time that this Control Panel has communicated through the Inovonics EchoStream Network to the IWC Network coordinator then the Train transceiver within the control unit will obtain the correct Network ID (See EchoStream Developers Guide for details).

The MCC will register the control panel into the specified Panel number entry of the MCC providing the all of that following conditions are met:

- Panel number requested for registration is currently unprogrammed (TXID field is blank), **or**, Panel number within the MCC already contains the same

TXID as the registration message and is not trying to overwrite another registered Control Panel within the MCC.
- CS account number has been defined for the Panel number within the MCC (non blank entry)
- Monitored status has been defined for the Panel number within the MCC (Monitored, Local, or Off)

7.8.1 Control Panel Successful Registration

If the conditions listed above are met the MCC will register the TXID of the Apartment Control Panel into the appropriate Panel number record entry of the MCC.

In addition the MCC will transmit a message back to the Apartment Control Panel containing the CS account number and Monitored Status (Monitored, Local, or Off) and the panel number. This information will be written into the Apartment Control Panel. Note: The CS Account number, Monitored Status and panel number can be viewed but not modified from within the Apartment Control Panel. This information can be viewed through the View System Information function (# Installer Code + 2).

Upon successful registration the following confirmation message will appear on the Apartment Control Panel display:

Panel # xxx Reg. Complete

7.8.2 Control Panel Registration Error Conditions

If the registration is not successful then one of the following messages can appear on the Control Panel LCD display.

Panel #xxx Reg. Dup Record

The “Duplicate Record” display indicates that there was a different TXID in the unit number being registered.

In order to correct this situation one of the following actions must take place:
- Installer can try to register the control panel into another slot in the MCC (unused record)

- Installer can go to the MCC or PC Downloader to remedy the situation (example find out what unit is in the record, delete the record, or find the correct panel number).

Panel #xxx Reg. Comm Incomplete

The “Comm Incomplete” display indicates that the Control Panel failed to communicate with the MCC. This could indicate that the MCC was not placed into the registration mode prior to initiation of the Apartment Control Panel registration command. Alternately, this could indicate inadequate wireless coverage at the Apartment Control Panel.

Panel #xxx Reg. CS Acct Missing

The CS Acct Missing error message indicates that the panel number within the MCC did not contain a valid CS Account number. In order to correct this situation the installer needs to enter a valid CS account number into the MCC via the keypad programming sequence or through the PC Downloader.

Panel #xxx Reg. Mon. Stat Missing

The Monitored Status Missing error message indicates that the Monitored Status within the MCC did not contain a valid Monitored Status for this Panel number. In order to correct this situation the installer needs to enter a valid Monitored Status (Monitored, Local or Off) into the MCC via the keypad programming sequence or through the PC Downloader.

8 System Keypad Programming

The installer through the keypad can program the Apartment Control Panel . System programming can occur at the time of installation or at any time afterwards to view or modify the configurable options of the Apartment Control Panel.

Note: The system must be disarmed in order to enter the keypad programming mode. In addition the system can be programmed remotely through the PC downloader if the downloading option has been enabled in the programming sequence:

System Programming	**Keystrokes**:
Enter Programming mode:	# [Installer Code] 1
Access direct option number	* [option number] ex. *020 proceed to option 020
Move to next position within option:	#
Enter Data	0-9

Note: Hex digits A-F no longer needed within the apartment system, serial numbers for the transmitters and keyfobs will be entered as the decimal value of the serial number.

Exit Programming * * key

Enter # [Installer Code] + 1 to enter keypad programming.
LCD screen will display:

Enter Option. nnn

Navigation Rules:

- Enter * + option number to advance a specific configurable option (allows modification)
- Enter # + the option number to review the item's current programming.
- Pressing the # button to review the rest of the items.

Note: Upon entering keypad programming the system will revert to the previous disarmed status automatically after 1 minute of inactivity.

8.1 Keypad Configurable Options

The keypad configurable options have been organized into the following categories:

000 – 005	Setup Questions (installer code, Acct Number, Mon Type , Panel Number ,site ID, network ID)
010 – 025	Zone Types
030 – 035	User Codes
040 – 068	CS Reporting/System Attributes

080 – 082 System Timing
100 – 115 Transmitter Serial Numbers (Manual Entry)
200 – 205 Keyfob Serial Numbers (Manual Entry)

Note: Spaces have been provided for future options. When sequencing through configurable options the system will skip the unused options (for example after option 025the system will proceed to 030).

Enter	LCD Display	Parameter Description	Factory Default
*000	Installer Code	This is the unique code reserved for the installer. This code is required to perform system programming as well as other reserved installer functions such as default reset. Notes: a) The installer code is distinct from the user codes that are used to operate the Security System. b) This programming question needs to be directly accessed as question * 000. Enter the four digit master code, using 0-9.	2468
*001	Acct Number	Enter the Central Station account number which this panel should use for CS transmissions. Note: Alarm conditions transmitted by this system will communicate Contact ID messages to the MCC using this account number. Enter a four digit account number using digits 0-9	1234
*002	Mon Type	Enter the system type for this Security System. 1 = CS Monitored: This system will transmit messages through the MCC to the Central Station. 2 = Local System. This system will not transmit to the Central Station and will act as	1: CS Monitored

		a local alarm system 3 = System Not Used. This system will not operate locally as an alarm system and will not transmit signals to the CS.	
*003	Panel Number	Panel Number Selects the Panel number within the Master Communications Controller (MCC), which this Alarm Control Panel will be known. Each Alarm Control Panel must be established with a unique Unit number within the MCC. Enter a value between 001 and 512	1
*004	Site ID	The address of the Master Communications Controller (MCC). Enter a value between 01 and 99	00
*005	Network Id	RF two way's Network id, Enter a value between 01 and 31	00
*010	Zone Type 01	Enter the zone type for zone 1. Options 0: Unused 1: Ext/Ent 2: Interior1 3: Perimeter 4: Interior2 6: 24Hr_Silen 7: 24Hr_Audib 8: 24Hr_Auxil Explanation of the zone types can be found in the zone type section of this document. Transmitter serial numbers can be manually entered through programming questions *100 - *115.	1:Ext/Ent

*011	Zone Type 02	Enter the zone type for zone 2 See *010 for options	1 : Exit/Entry
*012	Zone Type 03	Enter the zone type for zone 3 See *010 for options	0 : Unused
*013	Zone Type 04	Enter the zone type for zone 4 See *010 for options	0 : Unused
*014	Zone Type 05	Enter the zone type for zone 5 See *010 for options	0 : Unused
*015	Zone Type 06	Enter the zone type for zone 6 See *010 for options	0 : Unused
*016	Zone Type 07	Enter the zone type for zone 7 See *010 for options	0 : Unused
*017	Zone Type 08	Enter the zone type for zone 8 See *010 for options	0 : Unused
*018	Zone Type 09	Enter the zone type for zone 9 See *010 for options	0 : Unused
*019	Zone Type 10	Enter the zone type for zone 10 See *010 for options	0 : Unused
*020	Zone Type 11	Enter the zone type for zone 11 See *010 for options	0 : Unused
*021	Zone Type 12	Enter the zone type for zone 12 See *010 for options	0 : Unused
*022	Zone Type 13	Enter the zone type for zone 13 See *010 for options	0 : Unused
*023	Zone Type 14	Enter the zone type for zone 14 See *010 for options	0 : Unused
*024	Zone Type 14	Enter the zone type for zone 14	0 : Unused

		See *010 for options	
*025	Zone Type 16	Enter the zone type for zone 16 See *010 for options	0 : Unused
*030	User Code 1	Enter the master user code for the Security System. The master user code is also known as user code number 1 and can be used to create or modify other users. Note: The master code cannot be deleted Enter a four-digit user code from 0001 – 9999. Note: Entry of user code 0000 indicates that the code is unused.	1234
*031	User Code 2	Enter user code 2 for the Security System. See *030 for options	0000
*032	User Code 3	Enter user code 3 for the Security System. See *030 for options	0000
*033	User Code 4	Enter user code 4 for the Security System. See *030 for options	0000
*034	User Code 5	Enter user code 5 for the Security System. See *030 for options	0000
*035	Duress Code	The system wide duress code is also known as user code number 6. If this code is defined then its use will arm or disarm the system just like an ordinary user code but will send a duress signal to the CS if the duress feature has been enabled. (See question *068 for CS Duress Enable)	0000

*040	CS Test Freq	Determines whether this unit will transmit a periodic test signal to the Central Station. Options: 0 = None 1 = Daily 2 = Weekly	0: None
*041	Zone Bypass	Determines whether the system will allow bypassing of zones. If enabled then users can bypass individual non 24-hour zones in order to remove them from the protection scheme. Enter 0 to disable zone bypasses, 1 to enable zone bypassing	1 : Enable
*042	One Key Arming	Determines whether the user can arm the system by pressing a single key without a user code. If this feature is enabled then pressing either the AWAY, STAY, or INSTANT key for two seconds will arm the system in that mode without entry of a user code. If this feature is not selected then arming in either the AWAY, STAY or INSTAND mode requires entry of a user code followed by the appropriate function key. Enter 0 to disable single button arming, enter 1 to enable single button arming.	1 : Enabled
*050	Remote Commands	Specified whether this control panel can be remotely programmed and operated from the PC Downloader through the MCC device. If enabled then this panel can be uploaded, downloaded and remotely operated. In addition the PC downloader	1 : Enabled

		can obtain a copy of the event log from this panel. Enter 0 to disable remote operations, enter 1 to enable remote operations.	
*051	Messages	Determines whether this control panel can accept text messages from the PC downloader. If enabled then text messages can appear on the second line of the LCD display when transmitted from the PC Downloader. Enter 0 to disable messages, enter 1 to enable remote messages.	1 : Enabled
*052	CS Alarm	Determine whether alarm messages will be transmitted to the Central Station. Enter 0 to disable CS restore signals, enter 1 to enable CS restore transmission.	1 : Disable
*053	CS Restore	Determine whether alarm restore messages will be transmitted to the Central Station. Enter 0 to disable CS restore signals, enter 1 to enable CS restore transmission.	1 : Disable
*054	CS Arm	Determine whether arming messages will be transmitted to the Central Station. Enter 0 to disable CS arming signals, enter 1 to enable CS arming transmission.	0 : Disable
*055	CS Disarm	Determine whether disarm messages will be transmitted to the Central Station. Enter 0 to disable CS disarm signals, enter 1 to enable CS disarm transmission.	0 : Disable
*056	CS Bypass	Determine whether bypass messages will be transmitted to the Central Station. Enter 0 to disable CS bypass	0 : Disable

		signals, enter 1 to enable CS bypass transmission.	
*057	CS Bypass Rest	Determine whether bypass restore (un-bypass) messages will be transmitted to the Central Station. Enter 0 to disable CS bypass restore signals, enter 1 to enable CS bypass transmission.	0 : Disable
*058	CS Low Battery	Determine whether system low battery messages will be transmitted to the Central Station. Note: This applies only to the control panel backup battery, not the battery associated with wireless transmitters and pendants. Enter 0 to disable CS system low battery signals, enter 1 to enable CS system battery transmission.	0 : Enable
*059	CS Battery Rest	Determine whether system low battery restore messages will be transmitted to the Central Station. Note: This applies only to the control panel backup battery, not the battery associated with wireless transmitters and pendants. Enter 0 to disable CS system low battery restore signals, enter 1 to enable CS system battery restore transmission	1 : Disable
*060	CS AC Power	Determine whether system AC Power loss messages will be transmitted to the Central Station. Note: If AC loss is detected then the system will delay CS transmission if selected for a randomized period from 1 minute to 60 minutes in order to stagger CS transmission in the event that power has been lost by the	1 : Enable

		entire complex. If power has been restored in this time period then the signal will not be transmitted. Enter 0 to disable CS system AC power loss signals, enter 1 to enable CS system AC power loss.	
*061	CS AC Rest	Determine whether system AC Power loss restore messages will be transmitted to the Central Station. Note: If AC loss is detected then the system will delay CS transmission if selected for a randomized period from 1 minute to 60 minutes in order to stagger CS transmission in the event that power has been lost by the entire complex. If power has been restored in this time period then the signal will not be transmitted. If the AC loss signal has been transmitted then a restore signal will be transmitted upon power restore. Enter 0 to disable CS system AC power loss restore signals, enter 1 to enable CS system AC power loss restore.	1 : Enable
*062	CS TX Low Batt	Determine whether wireless transmitter low battery signals will be transmitted to the CS. Note: This applies to wireless transmitters such as door window transmitters and PIR's as well as wireless key fobs. Enter 0 to disable transmitter low battery signal CS transmission, enter 1 to enable CS transmitter low battery signals.	0 : Disable
*063	CS TX Batt Rest	Determine whether wireless transmitter low battery restore	0 : Disable

		signals will be transmitted to the CS. Note: This applies to wireless transmitters such as door window transmitters and PIR's as well as wireless key fobs. Enter 0 to disable transmitter low battery restore signal CS transmission, enter 1 to enable CS transmitter low battery restore signals.	
*064	CS TX Tamper	Determine whether wireless transmitter tamper signals will be transmitted to the CS. Note: This applies to wireless transmitters such as door window transmitters and PIR's . Enter 0 to disable transmitter tamper signal CS transmission, enter 1 to enable CS transmitter tamper signals.	0 : Disable
*065	CS TX Tamp Rest	Determine whether wireless transmitter tamper restorals will be transmitted to the CS. Enter 0 to disable transmitter tamper restore transmission, enter 1 to enable CS transmitter of tamper restore signals.	0 : Disable
*066	CS TX Miss	Determines whether transmitter inactive (transmitter missing) messages will be transmitted to the CS. Enter 0 to disable transmitter inactive CS reporting, enter 1 to enable CS transmission of missing transmitters	1: Enable
*067	CS TX Miss Rest	Determines whether restorals of inactive transmitters (transmitter missing) will be transmitted to the CS. Enter 0 to disable transmitter inactive restores CS reporting, enter 1 to enable CS transmission of	1: Enable

		restored transmitters	
*068	CS Duress	If this feature is enabled then the system will send a duress signal to the Central Station if user code 6 is used. This feature requires that a user code number 6 is defined. Enter 0 to disable duress reporting enter 1 to enable duress reporting	0: Disable
*080	Siren Timer	Determines the siren cutoff time for audible conditions. Enter a value between 000 and 255 minutes	Four minutes
*081	Entry time	Entry Delay Time. Choose an entry delay time between 000 and 199 seconds.	30 seconds
*082	Exit time	Exit Delay Time. Choose an exit delay time between 000 and 199 seconds.	60 seconds
*090	KP #1 1+*	Determines whether keypad emergency condition #1 is activated. If enabled then pressing the 1+* keys on the keypad will act as a 24 hour silent zone. This condition would be known as zone 95 to the system for display and CS reporting purposes. Enter 0 to disable keypad condition #1, enter 1 to enable this condition	0: Disable
*091	KP #2 3+#	Determines whether keypad emergency condition #2 is activated. If enabled then pressing the 3+# keys on the keypad on the keypad will act as a 24 hour audible zone. This condition would be known as zone 96 to the system for display and CS reporting purposes. Enter 0 to disable keypad condition #2, enter 1 to enable this condition	0: Disable
*092	KP #3 *+#	Determines whether keypad	0: Disable

		emergency condition #3 is activated. If enabled then pressing the *+# keys or on the keypad will act as a 24 hour audible zone. This condition would be known as zone 96 to the system for display and CS reporting purposes. Enter 0 to disable keypad condition #3, enter 1 to enable this condition	
*093	CS KP#1	Determines whether keypad condition #1 will transmit to the Central station. If enabled this 24 hour silent condition will transmit as zone 95 to the CS. Enter 0 to disable CS transmission, enter 1 to enable CS reporting for this condition	0: Disable
*094	CS KP#2	Determines whether keypad condition #2 will transmit to the Central station. If enabled this 24-hour audible condition will transmit as zone 96 to the CS. Enter 0 to disable CS transmission, enter 1 to enable CS reporting for this condition	0: Disable
*095	CS KP#3	Determines whether keypad condition #3 will transmit to the Central station. If enabled this 24-hour silent condition will transmit as zone 97 to the CS. Enter 0 to disable CS transmission, enter 1 to enable CS reporting for this condition	0: Disable
*100	Zone 01 Serial #	Enter the serial number for Zone 01 wireless transmitter. Enter six digit decimal value. Note: the transmitter serial number is a unique value, which will be printed on a label on each device.	
*101	Zone 02 Serial #	Enter the serial number for	=

		Zone 02 wireless transmitter. Enter six digit value located on transmitter label.	
*102	Zone 03 Serial #	Enter the serial number for Zone 03 wireless transmitter. Enter six digit value located on transmitter label..	
*103	Zone 04 Serial #	Enter the serial number for Zone 04 wireless transmitter. Enter six digit value located on transmitter .	
*104	Zone 05 Serial #	Enter the serial number for Zone 05 wireless transmitter. Enter six digit value located on transmitter	
*105	Zone 06 Serial #	Enter the serial number for Zone 06 wireless transmitter. Enter six digit value located on transmitter	
*106	Zone 07 Serial #	Enter the serial number for Zone 07 wireless transmitter. Enter six digit value located on transmitter	
*107	Zone 08 Serial #	Enter the serial number for Zone 08 wireless transmitter. Enter six digit value located on transmitter	
*108	Zone 09 Serial #	Enter the serial number for Zone 09 wireless transmitter. Enter six digit value located on transmitter	
*109	Zone 10 Serial #	Enter the serial number for Zone 10 wireless transmitter. Enter six digit value located on transmitter	
*110	Zone 11 Serial #	Enter the serial number for Zone 11 wireless transmitter. Enter six digit value located on transmitter	
*111	Zone 12 Serial #	Enter the serial number for Zone 12 wireless transmitter. Enter six digit value located on transmitter	
*112	Zone 13 Serial #	Enter the serial number for Zone 13 wireless transmitter. Enter six digit value located	

		on transmitter	
*113	Zone 14 Serial #	Enter the serial number for Zone 14 wireless transmitter. Enter six digit value located on transmitter	
*114	Zone 15 Serial #	Enter the serial number for Zone 15 wireless transmitter. Enter six digit value located on transmitter	
*115	Zone 16 Serial #	Enter the serial number for Zone 16 wireless transmitter. Enter six digit value located on transmitter	
*200	Keyfob 01 S/N	Enter the serial number for Keyfob 01. Enter six digit value located on transmitter Note: The serial number for the keyfob can be located on a label attached to the device.	
*201	Keyfob 02 S/N	Enter the serial number for Keyfob 02. Enter six digit value located on transmitter	
*202	Keyfob 03 S/N	Enter the serial number for Keyfob 03. Enter six digit value located on transmitter	
*203	Keyfob 04 S/N	Enter the serial number for Keyfob 04. Enter six digit value located on transmitter	
*204	Keyfob 05 S/N	Enter the serial number for Keyfob 05. Enter six digit value located on transmitter	
*205	Keyfob 06 S/N	Enter the serial number for Keyfob 06. Enter six digit value located on transmitter	

9 Wireless Device Registration

The Apartment Control Panel contains wireless devices such as door window transmitters, motion detectors and keyfobs. These devices can be programmed manually into the system through the keypad programming sequence or can be registered through a wireless registration method as described in this section.

9.1 Manual Entry

Manual entry involves programming the serial number of the device into the appropriate programming option of the keypad programming sequence. For wireless devices (door window transmitters and PIR's) this can be performed as keypad configurable options 101 – 116 and keyfobs can be enrolled as options 201– 206.

9.2 Wireless Registration

Wireless registration can be performed through Installer functions 3 and 4. Consult the Installer Mode Functions sections 6.3 and 6.4 for more information.

10 LCD Display Messages

10.1 LCD Display Messages

The following table explains each of the messages that can appear on the LCD display.

Operation	**Sample LCD Display**
Initial Power-up.	Initializing System……
System Ready. System Ready message will appear if all non 24 hour zones are in their normal (ready) condition. The system can be armed using any of the available arming methods	System Ready
System Not Ready While disarmed, activation of any non 24 hour zone will cause the zone number(s) to scroll on the second line of the LCD display. Each zone will scroll on the second line for approx 2 seconds. When a zone returns to normal condition it will be removed from the list. When all zones have returned to normal condition the System Ready display will appear	System Not Ready Zone 1
Alarm Memory When disarming the system if there was an alarm while the premise was armed the zone(s) that were in alarm will scroll on the second line of the display.	System Ready Zone 1 Alarm

To clear the zones from the display enter a valid User code. The zones will be removed from the second line of the display and the display will return back to the appropriate disarmed condition (System Ready or System Not Ready).	
Silent Alarm If any zone type 6 (24 hour silent) is activated, there will be no keypad display, sounder or siren activation. If the Monitored Status is monitored then this signal will be transmitted to the Central Station. The keypad will not display any indication of the alarm condition.	System Ready
Audible Alarm While disarmed if any of the audible 24-hour zone types (5, 7, 8, or 9) are activated, System disarmed HD zone n alarm displays. If the Monitored Status is monitored then this signal will be transmitted to the Central Station. To clear the alarm conditions enter a valid user code. The system alarm condition will no longer appear on the display and the display will return to the appropriate system disarmed mode (System Ready or System Not Ready).	Alarm Zone nn Alarm
Transmitter Low Battery Wireless low battery signals will display on the second line of key as shown along with a keypad sounder. Entry of a valid user code will silence the sounder and the low battery message will appear until the low battery condition has been resolved. If the low battery condition has been resolved the line on the display will disappear.	Zone nn Low Batt
Transmitter Tamper Wireless zone tamper signals (example, if the transmitter's cover is open) will display on the second line of the keypad and generate an audible keypad sound. Central station transmission depends on system programming. Entry of a valid user code will silence the sounder. Removal of the transmitter tamper will clear the display.	Zone nn Tamper

Transmitter Inactive When the system has not heard from a wireless transmitter in 8 hours the transmitter inactive display will appear on the second line of the keypad. This will generate a keypad sound that can be silenced by entering a valid user code. Upon receiving a signal (check-in or activation) from the transmitter the inactive message will be cleared from the display.	Zone nn Inactive
Door Chime If the chime feature has been activated in programming then pressing the Chime button while the system is disarmed will enable and disable the Chime feature. The Chime mode will momentarily activate the keypad sounder whenever any of the exit/entry zones are violated. This will notify the user that the door was opened when the system is disarmed. This feature is a toggle feature, it will change states whenever the Chime button is pressed when the system is disarmed.	Chime mode ON Chime Mode Off
Quick Away Arming If the quick arming functions are enabled the pressing the Away button for two seconds will arm the system in the AWAY mode without entry of a user code. The LCD display sequence is identical to the ARM AWAY mode.	ARM AWAY Exit now
Quick Stay Arming If the quick arming functions are enabled the pressing the Stay button for two seconds will arm the system in the STAY mode without entry of a user code. The LCD display sequence is identical to the ARM STAY mode.	Arm Stay Exit Now
Quick Instant Arm If the quick arming functions are enabled the pressing the Away button for two seconds will arm the system in the AWAY mode without entry of a user code. The LCD display sequence is identical to the ARM AWAY mode.	Arm Instant Exit Now
Time Set Display Enter code + 8 to enter system set time mode. The system will display the current date in mm/dd/yy mode 12:00Su displays, with the	Set Time * exit 01/06/06 12:00Su

year flashing. Use the keypad to set the current year. Use the # button to cycle through the date and time. When the date and time is set correctly, use the * to exit set time mode.	
Disarm System – Entry Delay If the system is armed upon entering an exit entry zone the user will have the entry time to enter a user code to disarm the system. The first line of the display will show the current arming status, the second line will inform the user to enter their user code to disarm the system. This message will appear for the op to the duration of the entry time period . The keypad buzzer will sound indicating entry time and the keypad will alert the user to disarm. If the system is not disarmed by the end of the entry time period the system will go into alarm. Enter User code to disarm.	Arm Away Enter User Code
Press 1 + * to activate the 24-hour silent alarm. An alarm message is sent to the control center, but the LCD message display does not change.	
Press 3 + # to activate the 24-hour audible alarm. Both the keypad and siren will sound.	Audible alarm
Press * + # to activate the zone 97 alarm. If the zone type is 0, there is no change. If the zone type is 5, 6, 7, 8 or -, Zone 97 alarm displays.	Zone 97 alarm

11 System Operations Summary

11.1 Keypad Operation

System functions are controlled through the keypad. When an operation is performed correctly, the keypad will beep twice.

When entering a code on the keypad, the pause between pushing buttons must be no more than five seconds. Longer pauses will cause the system to cancel the operation.

11.2 Keypad Emergency Conditions

Emergency response conditions can be initiated through the keypad through the keystroke combinations listed below.

Keypad Condition	Button Combinations	Functions
1	1 + *	Zone 95: Silent emergency response
2	3 + #	Zone 96: Audible emergency response
3	* + #	Zone 97: Audible Panic

Note: These conditions must be enabled through the keypad programming sequence in order to be active. The zone numbers listed above reflect the zone numbers to be transmitted to the Central Station if CS reporting has been enabled for the conditions.

The keypad emergency conditions can be programmed as options 90 – 95 in the keypad programming sequence.

11.3 End User Function Summary

The homeowner using one of the programmed User Codes can perform the following functions

Functions	**Keystroke Sequence**
Arm Away	AWAY + User Code.
Arming Stay	STAY + User Code.
Arming Instant	INSTANT + User Code
System Time Date	User Code + 8
Canceling the alarm	User Code
System Disarm	User Code
Bypass single zone	User Code + 6 + Zone No. (2 digits)
Chiming mode ON	CHIME
Chiming mode OFF	CHIME
User Code Entry	Master code + 8 + user number + user code
User Code Deletion	Master code + 8 + user number + 0000

11.4 Installer Functions

The following modes are reserved for the installer and require use of the Installer Code.

Function	**Keystroke Sequence**
Keypad Programming	# + Installer Code + 1
View System Information	# + Installer Code + 2
Wireless Registration – Transmitters	# + Installer Code + 3
Wireless Registration - Keyfobs	# + Installer Code + 4
Installer Walk Test	# + Installer Code + 5
Default Reset	# + Installer Code + 6
Event Log View	# + Installer Code + 7
Alarm Control Panel Registration	# + Installer Code + 9

Note: Exit from any of the Installer functions can be performed by pressing * * (* key twice).

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications

Any changes or modification not expressly approved by the party responsible could void the user's authority to operate the device.