Quick Install Guide
Please see page 1

SKYROUTE™

Wireless Communications

Installation Manual

version 2.4

***WARNING**: This manual contains information on limitations regarding product use and function and information on the limitations as to liability of the manufacturer. The entire manual should be carefully read.*

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FCC COMPLIANCE STATEMENT

CAUTION: Changes or modifications not expressly approved by Digital Security Controls Ltd. could void your authority to use this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 and Part 22 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

The user may find the following booklet prepared by the FCC useful: “How to Identify and Resolve Radio/Television Interference Problems”. This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402, Stock # 004-000-00345-4.

FCC ID: PED-SKYROUTE1

INDUSTRY CANADA COMPLIANCE STATEMENT

This Class B digital apparatus meets all requirements of the Canadian interference-causing equipment regulations.

Cet appareil numérique de la Classe B respecte toutes les exigences de règlement sur le matériel brouilleur du Canada.

IC: 160A-182355A

The term “IC:” before the radio certification number only signifies that Industry Canada technical specifications were met.

WARNING: To satisfy FCC RF exposure requirements for mobile transmitting devices, a separation distance of 30 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operation at closer than this distance is not recommended.

SKYROUTE QUICK INSTALL GUIDE

IMPORTANT: You must be enrolled with CONNECT 24 to activate a Skyroute transceiver. If you are not already enrolled, please call 1-888-955-5583 in Canada or 1-888-251-7458 in the U.S. at least 24 hours prior to your first activation.

STEP 1 – DETERMINE BEST SIGNAL LOCATION *(See Section 5.1)*

Connect the Skyroute transceiver to a 7 Ah battery, as described in Section 5.1. Determine the best location for signal strength. If good signal strength cannot be found, an antenna extension or relocation may be required.

STEP 2 – CONNECT THE SKYROUTE TO THE PANEL *(See Section 5.13)*

Mount and connect the Skyroute to the control panel as shown in Section 5.13.

STEP 3 – PROGRAM THE SKYROUTE *(See Section 6)*

Enter ***8 + Installer Code** to enter Programming Mode. Go to section [803], and program the following sections:

DEFAULT THE SKYROUTE - Section [99]
Select the Default option as described in Section 6.1 of this manual:

- For FULL REPORTING…….enter 00 into Section [99]
- For FALLBACK REPORTING…..…....enter 11 into Section [99]
- For GENERIC REPORTING……..…enter 12 into Section [99]
- For BACKUP REPORTING……..…enter 03 into Section [99]

The Skyroute module will automatically restart, and default to the new setting.

PROGRAM THE ZONE DEFINITIONS - Sections [01] through [04]

- Program the Zone Definitions as described in Section 6.2.

SELECT THE CELLULAR CHANNEL - Section [06]
The Skyroute transceiver is defaulted for Channel B. If you require Channel A (see the SID List for the channel of the cellular service provider in your area), perform the following:

- In Section [06], TURN OFF OPTION 2, and TURN ON OPTION 1 (Press # to exit section [06])
- In Section [10], enter the transmission time of day in 24-hour format (HHMM).
  NOTE: Due to the volume of wireless traffic generated by test signals, please select a time which is NOT on the :30 minute marks (i.e., **NOT** 02:30, 04:00, etc. Select a time like 02:24, or 04:07, etc. wherever possible.
- In Section [11], select the transmission day of the week.
  NOTE: This section is not to be used for UL Listed applications.
- In Section [13], select Daily or Weekly testing as required.
  NOTE: Select this option in conjunction with the CONNECT 24 rate plan you are using for this installation. The default setting is weekly. For UL Listed applications daily test reports are required.

STEP 4 – ACTIVATE THE SKYROUTE WITH CONNECT 24 *(See Section 6.3)*

Call the Voice Response Unit (VRU) at the toll free number provided with your Dealer Confirmation.

Once activated, send two signals to your central station to confirm proper operation.

YOUR SKYROUTE INSTALLATION IS NOW COMPLETE.

ALL OTHER PROGRAMMING SECTIONS IN THIS MANUAL ARE OPTIONAL

Section 1 - Contents

1.1 Important Information

This manual is based on the production version of the included wireless device. Software changes may have occurred after the revision of this manual.

Caution

Any changes or modifications not expressly approved in this document could void your warranty for this equipment and void your authority to use this equipment.

Warning

Only use the antenna provided by DSC. The use of any other type will invalidate the warranty and may be dangerous.

1.2 Skyroute Transceiver Glossary of Terms

The following is a description of various terms used with respect to cellemetry technology.

Electronic Serial Number (ESN)

The ESN is used to carry data information in a Cellemetry Network

Mobile Identification Number (MIN)

A 10-digit decimal number used for registrations and pages.

Page

A transmission that is sent from the Cellemetry Gateway to the Cellemetry radio.

Registration

A transmission that is sent from the Cellemetry radio to the Cellemetry Gateway.

System Identification Number (SID)

Identification of the Cellemetry Provider.

Switch Number (SNO)

Switch number the Cellemetry radio uses to transmit pages to the Cellemetry Gateway.

Clearing House

The clearing house is a routing center that automatically forwards data between Skyroute transmitters and central stations.

Section 2 - What is it?

2.1 Introducing the Skyroute Transceiver

The Skyroute transceiver offers a new wireless communication method for the transmission of event information using the *Cellemetry™ service. Events are transmitted from the Skyroute transceiver via the Cellemetry network to the clearing house and then to the central station in a fast, reliable manner. The Skyroute receiver has been designed for simple and straightforward installation. Using Keybus™ technology, wiring connections are made directly between Skyroute module and the security control panel.

2.2 Specifications

2.2.1 Compatible Control Panels

- DSC PC5010 / Partner P-832 software version v1.XX; v2.X and higher
- DSC PC1555 / Partner P-6B software version v2.XX and higher
- DSC PC580 / Partner P-48 software version v2.XX and higher
- DSC PC5015 / Partner P-832DL software version v1.XX; v2.2X and higher
- DSC PC5020/PC5020CF / Partner P-8+/P-8+CF software version v3.2X and higher

2.2.2 Communication Method

- AMPS Control Channel

2.2.3 Dual Path Communications

- The system can be used as the sole method of communication to the central station or as a second transmission path in addition to the standard land line.
  Please contact your central station on dual signal communication.
- Automation system at central station must be able to suppress redundant signals.

2.2.4 Antenna

- 3 dB gain, TNC connector
- Extension Kits available:
  LAE - 3: The 3 Foot Antenna Kit for Skyroute Transceiver
  LAE - 15: The 15 Foot Antenna Kit for Skyroute Transceiver
  LAE - 25: The 25 Foot Antenna Kit for Skyroute Transceiver
  SKR - 025: The 25 Foot External Antenna Kit

2.2.5 RF Power Output

- 3.0 Watts maximum

2.2.6 Power Supply Ratings

- 12 VDC @30mA, from panel Keybus; DSC Keybus control panel required
- 12 VDC, from bell circuit
  Current in standby 90mA
  Current when receiving 135mA
  Current when transmitting 1.3A
- For DSC control panels the required minimum transformer is one rated at 16VAC 40 VA. The minimum battery requirement is 12VDC 7Ah.

2.2.7 Dimension

- 3.5” x 4.6” x 1.8” (85 mm x 115 mm x 45 mm)

2.2.8 Weight

- 0.5 lbs. (0.2 kg)

2.2.9 Operating Temperature

- 0°C - 49°C (32°F - 120°F)
- 85% humidity, non-condensing

*Cellemetry is a registered trademark of Numerex Corporation.

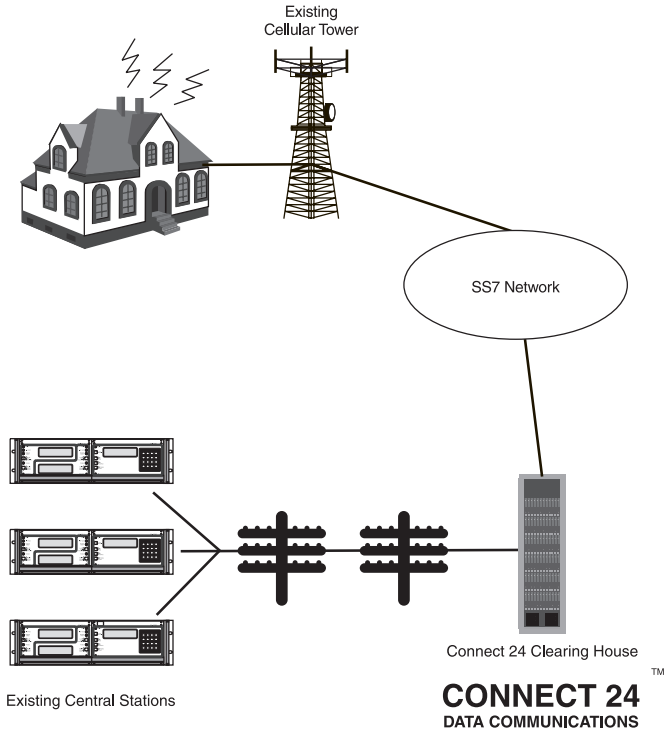
Section 3 - How Does It Work?

3.1 Cellemetry Communication

The Skyroute transceiver communicates using the control channel of the existing cellular network. Signals are routed to the Cellemetry Gateway via the SS7 cellular network. A clearing house then receives the signals and forwards the events to the central station. Upon receiving an acknowledgement signal from the central station, the clearing house then returns a confirmation of delivery signal to the Skyroute transceiver over the network. For transmission sequence see drawing below:

- The Skyroute transceiver reads the system activity directly from the Keybus. It also sends the corresponding signals over the cellular network, depending on what you have programmed the Skyroute transceiver to send.
- The Skyroute transceiver can be reprogrammed for full, backup or generic reporting (see Sections 6.1 and 7.1 'Defaulting').
- The Skyroute transceiver does not consider the signal to be received at the central station until it receives confirmation from the clearing house. Relay between signals can be up to 60 seconds apart.

NOTE: *While the panel is in walk test mode, the Skyroute will still communicate all alarms.*



3.2 Skyroute Reporting Methods

Reporting via Skyroute is in addition to landline communications. Land line communications are unaffected by which reporting method the Skyroute is using. A default of the Skyroute must be performed before activation (Enter 00, 11 or 22 in sub-section [99] 'Software Defaulting of the Skyroute'). This is necessary to configure the Skyroute for one of the four possible reporting methods:

1: 'Full Reporting' (Enter 00 in sub-section [99])

2: 'Generic Reporting' (Enter 12 in sub-section [99])

3: 'Generic Reporting with fallback to Full Reporting' (Enter 11 in sub-section [99])

4: 'Backup Reporting' (Enter 03 in sub-section [99])

Other important things to note:

- For an event to report via the Skyroute, the event reporting code in sections [30]-[78] must be programmed as [FF] and the associated 'Transmission Option' (in section [22]) must be enabled.
- To disable a specific event from reporting via the Skyroute, program the reporting code as [00].
- To disable a group of reporting codes from reporting via the Skyroute, turn OFF the respective 'Transmisison Option' in section [22].
- The Skyroute does not follow the 'Event Buffer Follows Swinger Shutdown' option in the control panel.

3.2.1 Full Reporting

(Enter 00 in sub-section [99])

All events in sections [30]-[78] are automatically programmed as [FF] and will be sent by the Skyroute. To disable a specific event from sending via the Skyroute, program the reporting code as [00]. To disable a group of reporting codes from sending via the Skyroute, Turn OFF the respective 'Transmisison Option' in section [22].

When using 'Full Reporting' it is very important to understand that when multiple signals need to be sent, there is approximately a one-minute delay between each signal sent via the Skyroute. Because of this delay, the Skyroute will buffer signals when multiple events occur and transmit them in the order received.

For example; if you need to send 4 signals (i.e. alarm zone 1, alarm restore zone 1, alarm zone 2, alarm restore zone 2), it will take approximately 4 minutes for the Skyroute to send all 4 signals. The first signal sends immediately, then the remaining three signals are each sent approximately 1 minute apart in the order that they occurred.

When using Full Reporting, the central station will receive the same signal from the panel via landline communications and from the panel via Skyroute Communications. This is why it is important to contact your central station regarding dual signal communication. The automation system at the central station must be able to suppress redundant signals.

3.2.2 Generic Reporting

(Enter 12 sub-section [99])

Generic Reporting is used to avoid duplicate alarm signals from being received at the central station. It also avoids the large delays between landline signals and Skyroute signals that occur when multiple events of the same type happen within a short time period (both of which occur when using 'Full Reporting').

Generic reporting only applies to certain types of alarm events. These events are grouped together into one of 4 categories. Each category has a specific alarm reporting code. When one of these alarms occur, the Skyroute will send the associated alarm reporting code for the category the alarm belongs to – and then start a timer for that category (5 minutes at default programmed in section [21]). If another alarm occurs in the same category while its timer is active, then no signal is generated via the Skyroute for that category. If an alarm occurs in a different category, then the Skyroute will send the associated alarm reporting code for that category – and then start a timer for that category (5 minutes at default – programmed in section [21]). Each category has it's own timer. If a new alarm event occurs after the timer has expired for its category, the sequence

restarts. All events that are not included in one of the 4 categories (noted below) will be fully transmitted by the Skyroute (if the associated reporting codes are programmed and 'Transmission Options' are ON).

While in Generic Mode, the panel will group the following alarm events together as follows:

- Burglary: Delay 1, Delay 2, Instant, Interior, Interior Stay/Away, Delay Stay/Away, 24 Hour Burglary, 24 Hour Latching Tamper, Momentary Keyswitch Arm, Maintained Keyswitch Arm, Links Answer
- Fire: Delayed Fire, Standard Fire, Delayed Fire (wireless), Standard Fire (wireless), 2-Wire Smoke (PGM2), Keypad Fire.
- Supervisory: 24 Hour Supervisory Buzzer, Silent 24 Hr (PGM2), Audible 24 Hr (PGM2), Zone Expander Supervisory Alarm.
- Panic: 24 Hour Panic, Keypad Panic

Generic Signals

	SIA	Contact ID
Burglary	Partition x Event BA zone 98	Partition x Event 130 zone 098
Fire	Partition x Event FA zone 98	Partition x Event 110 zone 098
Supervisory	Partition x Event US zone 98	Partition x Event 140 zone 098
Panic	Partition x Event PA zone 98	Partition x Event 120 zone 098

3.2.3 Generic Reporting with Fallback to Full Reporting

(Enter 11 in sub-section [99])

Normally, the Skyroute will use 'Generic Reporting' (described earlier). At any time if the Skyroute receives either a FTC (Failure to Communicate) or a TLM (Telephone Line Monitor) trouble from the main panel via the Keybus, the Skyroute will switch into 'Full Reporting' and send alarm signals as outlined above in 'Temporary Full Reporting' (Note: When using 'Generic Reporting with Fallback to Full Reporting' and the Skyroute switches to 'Full Reporting' upon receiving and 'FTC' or 'TLM' from the panel, the Skyroute will transmit the alarm signals with the specific zone numbers without restorals).

When the Skyroute switches into 'Full Reporting', the FTC or TLM trouble will be the first signal sent by the Skyroute. For the Skyroute to switch back into 'Generic Reporting', the TLM or FTC trouble must restore and a signal must be received by the Skyroute from the main panel via the Keybus.

Upon restoral of the TLM or FTC Trouble, any signals that occurred before the TLM or FTC trouble restored that still need to be transmitted will be sent via the Skyroute until the Skyroute's communications buffer is empty. In addition, if new alarms occur after switching back to 'Generic Reporting' while full reporting events are still in the Skyroute's communication buffer, the Skyroute will generate the generic signal, place it at the end of the communication buffer and function as outlined above for 'Generic Reporting'.

3.2.4 Backup Reporting

In Backup Reporting mode the Skyroute will only transmit events when the panel is unable to transmit them. It must be understood that the potential exists that in some situations events may be duplicated on the landline, however when the Skyroute is in backup mode it will attempt to not send events that can be successfully transmitted over the phone line by the panel.

Internally in the Skyroute, events are buffered with a timestamp. The timestamp is in intervals of 10 seconds yielding a maximum time of approximately 42 minutes. The Backup Timer Section[19] will control how long events will remain in the buffer before they expire. If an event in the buffer expires (ie. the timestamp on the event in the buffer is older than the current timestamp) it will be deleted from the buffer. If an FTC event is received from the Keybus, all events that have not expired in the buffer will be transmitted, and the Skyroute will temporarily go into full reporting mode. The Skyroute will remain in full reporting mode until an FTC Restore event is retrieved from the buffer. FTC and FTC Restore will also be transmitted. The Skyroute will then return to Backup mode.

TLM Trouble and TLM Trouble restore events will always be transmitted, and any events that are generated by the panel in between these events will also always be transmitted.

It is important to program the Backup Timer Section [19] to a Value that correlates to the amount of time it will take for the panel to FTC. If the panel takes longer to FTC than is programmed in Section [19], then events may expire and no transmission by the Skyroute will occur. If the panel takes less time to FTC than is programmed into Section [19] then duplicate events may occur. It is suggested to reduce the panel's number of dialing attempts to 5 (refer to the Panel's programming), in order to reduce the time it takes before the Skyroute will switch into Full Reporting. The following table can be used to help determine what value should be used in Section [19].

Panel's Max Dialing Attempts	Total Panel Time	Value to Program into Section [19]
1	90 seconds	09 (9 decimal)
5	450 seconds	2D (45 decimal)
8	720 seconds	48 (72 decimal)

NOTE: *This table refers to panel programming, with the default values for dialing the receiver. If programming has been done in the panel (for example, Post-Dial Wait for Handshake or Delay Between Dialing Attempts), then the values used in the Skyroute must reflect these changes by adding the difference in programmed time to section [19] of the Skyroute.*

If the panel is programmed for two phone numbers, then Section [19] should be doubled from what is shown.

The types of events that trigger the Skyroute to temporarily switch into full reporting mode can be configured in the Backup FTC options, in Section [18].

NOTE: *Do not use backup mode for Commercial Fire or Commercial Burglary installations. Use only in UL Residential Fire or Burglary installations.*

Section 4 - What Do I Do before Installing a Skyroute Transceiver?

CONNECT 24 is your Skyroute Cellemetry service provider.

If you have not yet enrolled as a Skyroute dealer, you must do so at least 1 business day before your first Skyroute installation.

NOTE: *If you do not have the numbers required below, please call Connect 24 at 1-888-955-5583 in Canada or 1-888-251-7458 in the U.S. "Dealer Enrolment".*

Activation of your Skyroute transmitter can be accomplished in minutes, at any time 24 hours a day, 365 days a year, by calling our toll-free CONNECT 24 **Voice Response Unit at 877-759-7688 (Canada) or 888-251-7554 (U.S.)**. This guide will provide you with an example of what to expect when you are using the VRU.

Before you begin, make sure you have all of the information that you will need to enter into the VRU system.

What you will need…

- The **Profile Number** for your installation
  The Profile Number represents the Central Station Receiver/Rate Plan combination and the communication format you are using. Make sure that you know which profile number to use when doing an installation.
- Your **Installer ID** Number
  Each individual installer who was listed on your Dealer Enrolment Form was given a unique Installer ID Number. This number can be found on the Authorized Installer Card sent with the Dealer Confirmation Form.
- Your **Installer PIN**
  Each installer is provided a four digit Personal Identification Number (PIN) on the Dealer Enrolment Form. If you have forgotten your PIN, please contact CONNECT 24.
- The **Central Station Account Number** for the alarm system
  This is the account number you wish to be transmitted to the central station. If the profile is set to send SIA format, enter a maximum of six digits; if Contact ID format, enter a maximum of four digits.
- The **Skyroute MIN** (Mobile Identification Number)
  The MIN identifies the Skyroute transmitter. The 10-digit MIN is located on the label affixed to your Skyroute transmitter.
- The **System ID Number** (SID) for the cellular provider in your area
  The five-digit System ID Number tells CONNECT 24 (and the cellular network) the home area in which your transmitter is installed. When you program this number into the DSC alarm panel, it is entered in HEX format. However, when entering this number into the CONNECT 24 VRU, it is entered in DECIMAL format.

NOTE: *For US locations, please refer to the "U.S.A SID List - By State" document which comes with each Skyroute transceiver as a separate booklet.*

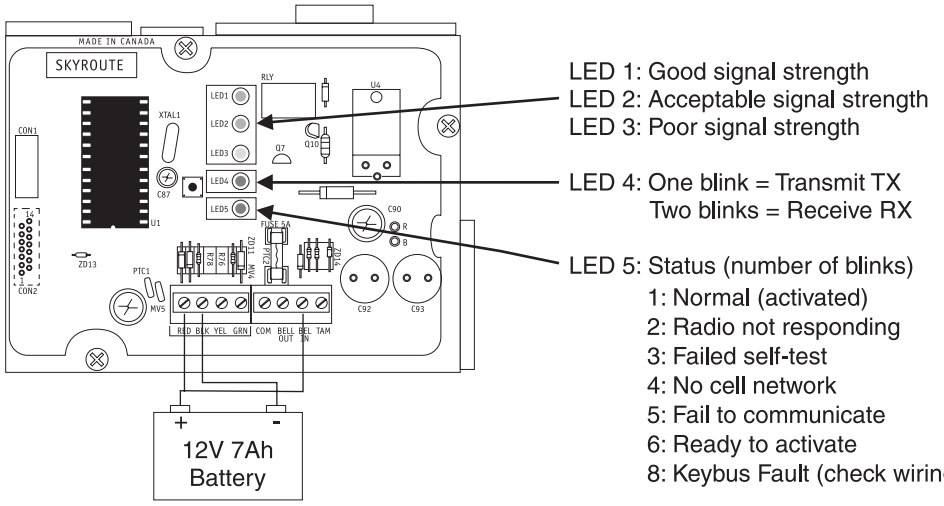
Section 5 - Installing a Skyroute Transceiver

Time-Saving Tips: By powering up the Skyroute transceiver on a battery alone (battery red to Bell In and Keybus red, battery black to Keybus black), you can quickly determine a location where your signal strength is strong prior to installing the unit. The Skyroute unit does not have to be active to show signal strength.

5.1 Location of the Skyroute Unit

It is very important to determine the best location for maximum signal strength.

Verify signal strength prior to installation!



1: **Normal (activated)** The radio is operating normally and there are no troubles with the Skyroute.

2: **Radio not Responding** Possible causes; the radio in the Skyroute is not powered up, the initialization of cellemetry radio has failed, an internal problem with the radio, bad data connections between the radio and the panel.

3: **Failed self-test** A self-test of the cellemetry module has failed.

4: **No cell network** The cellemetry modem has failed to register with the cellular network (Ie. no network coverage or very weak signal).

5: **Failure to communicate** The Skyroute has not successfully communicated a signal to the central station (the Skyroute has not received the acknowledgement that the central station successfully received a signal).

6: **Ready to Activate** The Skyrotue has not been activated with Connect 24.

8: Keybus Fault The Skyroute cannot communicate to the panel.

NOTE: *If there is a Skyroute trouble, the panel it is connected to will display a 'General System Supervisory' trouble.*

NOTE: *If the [TAM] to [COM] terminals are open on the Skyroute, the panel it is connected to will display a 'General System Tamper' trouble.*

5.2 Relocating the Skyroute Transceiver

Since the Skyroute transceiver is a Keybus accessory, it is possible to relocate the module up to 150 feet (45.4 m) from the main control panel when the panel is not located in a good Cellemetry coverage area (a control panel installed in a vault for example). When relocating the module, follow theses rules:

- Maximum of 150 feet (45.4 m) from the main control. Keybus (Red, Black, Yellow, Green) from the panel to the Skyroute transceiver.
- A UL1481 Listed power supply 12V@1.5A must be used for UL installations.
- The power supply (+ positive) is connected to the Skyroute transceiver (BELL IN) terminal and the power supply (– negative) to the Skyroute transceiver (COM) terminal.
- The cabinet must be installed in a secure location and should have a tamper circuit connected to the Skyroute (TAM and COM) terminals.

5.3 Relocating the Antenna

If a suitable location is not available for proper Cellemetry coverage, obtain an Antenna Extension Bracket Kit from your DSC supplier. Each kit contains an extension cable, a mounting bracket, instructions, and all required hardware. Three lengths of extension cable are available:

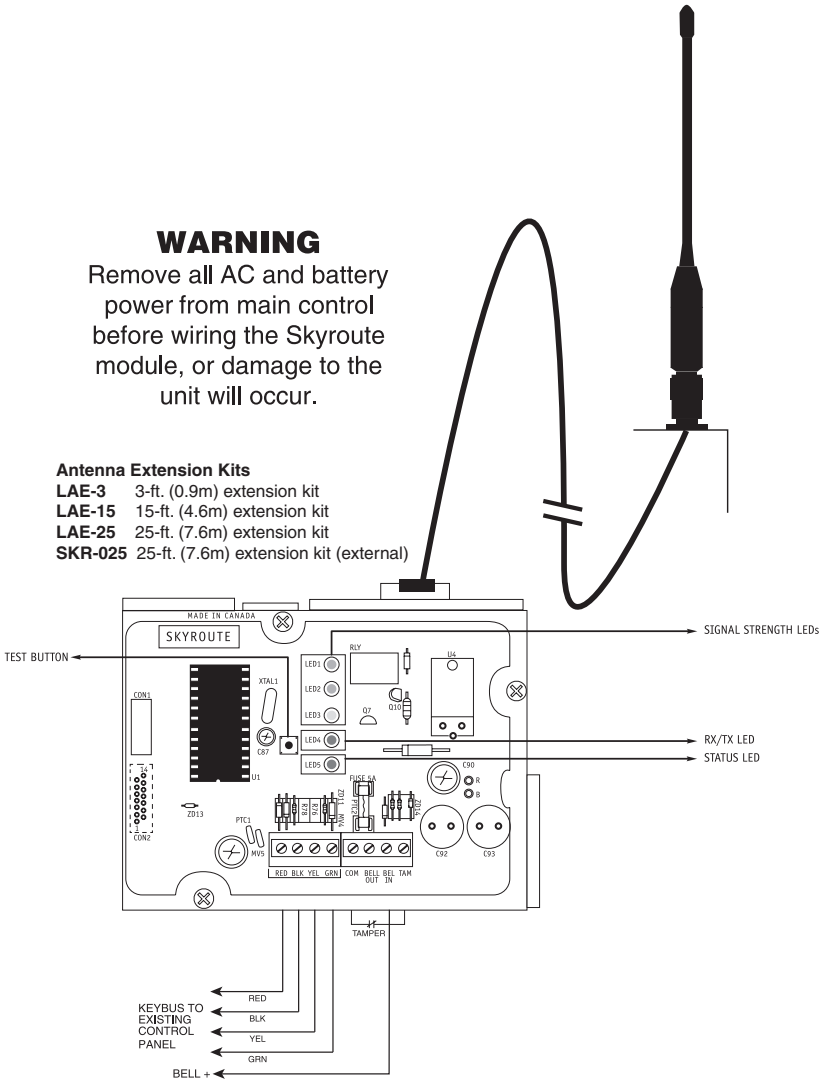
Extension Kit	Length of cable
LAE-3	3 feet (0.91 m)
LAE-15	15 feet (4.57 m)
LAE-25	25 feet (7.62 m)
SKR-025	25 feet (7.62m)

Only use the Extension Kits to extend the mounting range of the antenna. Do not cut or splice the extension cable. The maximum distance between the Skyroute transceiver and the antenna is 25 feet (7.62 m) as obtained by using the LAE-25 or SKR-025 Extension Kit. Make sure the antenna is in a physically secured location to avoid tampering.

Secure the TNC connector from the Extension Kit to the mounting bracket, ensuring that the star washers make solid electrical contact with the mounting bracket.

Remove the antenna from the Skyroute module and connect the extension cable to the TNC connector on the module. Secure the antenna to the TNC connector mounted on the Extension Kit mounting bracket. Locate the mounting bracket and antenna away from possible sources of electrical interference. Moving the antenna just a short distance will likely be adequate. Temporarily secure the mounting bracket in the new location and proceed with testing. If the test is successful, permanently secure the mounting bracket and antenna at the new location.

Antenna Relocation Diagram



Skyroute Antenna Cable Installation.

- Power down the Skyroute module, by removing both AC and DC power from the control panel.
- Attach one end of the extension cable to the Skyroute unit, and attach the bracket and antenna to the other end.
- Reapply the AC and DC power to the Skyroute unit. No reprogramming is necessary.
- Move the antenna and bracket around until you get good signal strength.
- Mount the antenna extension bracket at that location.

5.4 UL Requirements

5.4.1 Grade A - Central Station Service, Residential Fire and Burglary Installations

- Programming [13] - Option 2 Test Rates must be “ON”.
- Every 24 hours a check-in signal must be sent to the central station. Refer to compatible Listed control unit’s installation instructions for programming.
- Dialing attempts must be programmed for 5 to 10 attempts. Skyroute transmitter makes 3 attempts by default. Refer to compatible Listed control unit’s installation instructions for programming.
- The response wait time, section [24] should be set to 09.
- Alarm signals must be sent over both primary and secondary communication paths -
  1. Compatible Listed control unit’s land line to central station (primary).
  2. Skyroute transmission through Cellemetry to the clearing house (Connect 24) (secondary).
- DACT must be enabled for Listed compatible control unit.

5.4.2 Police Station Connect with Basic Line Security

- Same as Grade A Central Station Installations.

5.4.3 Commercial Fire Installations

- Same as Grade A Central Station Installations.
- The BELL+ and BELL- terminals on the control panel shall not power other devices. Refer to Compatible Listed control unit installation instructions for wiring and programming.

5.4.4 Back-up Reporting Mode (03)

- To be used only for UL/ULC residential Fire and Burglary applications.

5.4.5 For ULC Installations

- The redundant Communication mode (00) meets level 2 line security requirements.

5.5 Installation

It is mandatory that the power be removed from the system before any wiring changes are performed on the Skyroute module. Neglecting to do so will result in damage to the Skyroute transceiver.

5.6 Mounting the Skyroute Transceiver

The Skyroute transceiver can be mounted in the upper right hand corner of the panel's cabinet through the knockout. The Skyroute transceiver case attaches to the panel's cabinet through the use of clips and two screws.

5.7 Mounting the Antenna

***NOTE:** The antenna should always be attached to the Skyroute transceiver for proper operation. The unit will not function properly and/or be damaged if the antenna is not installed.*

The antenna attaches to the TNC connector of the Skyroute transceiver. The antenna should be mounted as high above ground level as possible while at the same time care should be taken not to place the antenna under a radio frequency shield of any kind. For example, do not mount the antenna directly below a metal roofing overhang. The Skyroute transceiver functions best when installed in an unobstructed line of sight to the cellular antenna site.

5.8 Keybus Connection

The Skyroute transmitter has 4 terminals marked red, black, yellow and green. Connect these four terminals to the 4 terminals on the main control panel marked Keybus (red, black, yellow and green).

5.9 Bell IN Terminal

This terminal is used to power the Cellemetry modem of the Skyroute module. This connects to the BELL + on the control panel. No other wire should be connected to the Bell+ of the control panel.

An extra power supply can be used to power the modem if it is not located near the main control panel or is located where the system cannot provide enough power for the transmissions. Connect the positive of the power supply to the BELL IN and the negative to the COM to ensure proper grounding (see diagram on this page).

5.10 Bell OUT Terminal

This terminal is used to power the siren or any other devices that would usually connect to the control panel BELL+ terminal. This output is powered through the 5A fuse for protection of the radio transmitting power.

5.11 Tamper Terminal

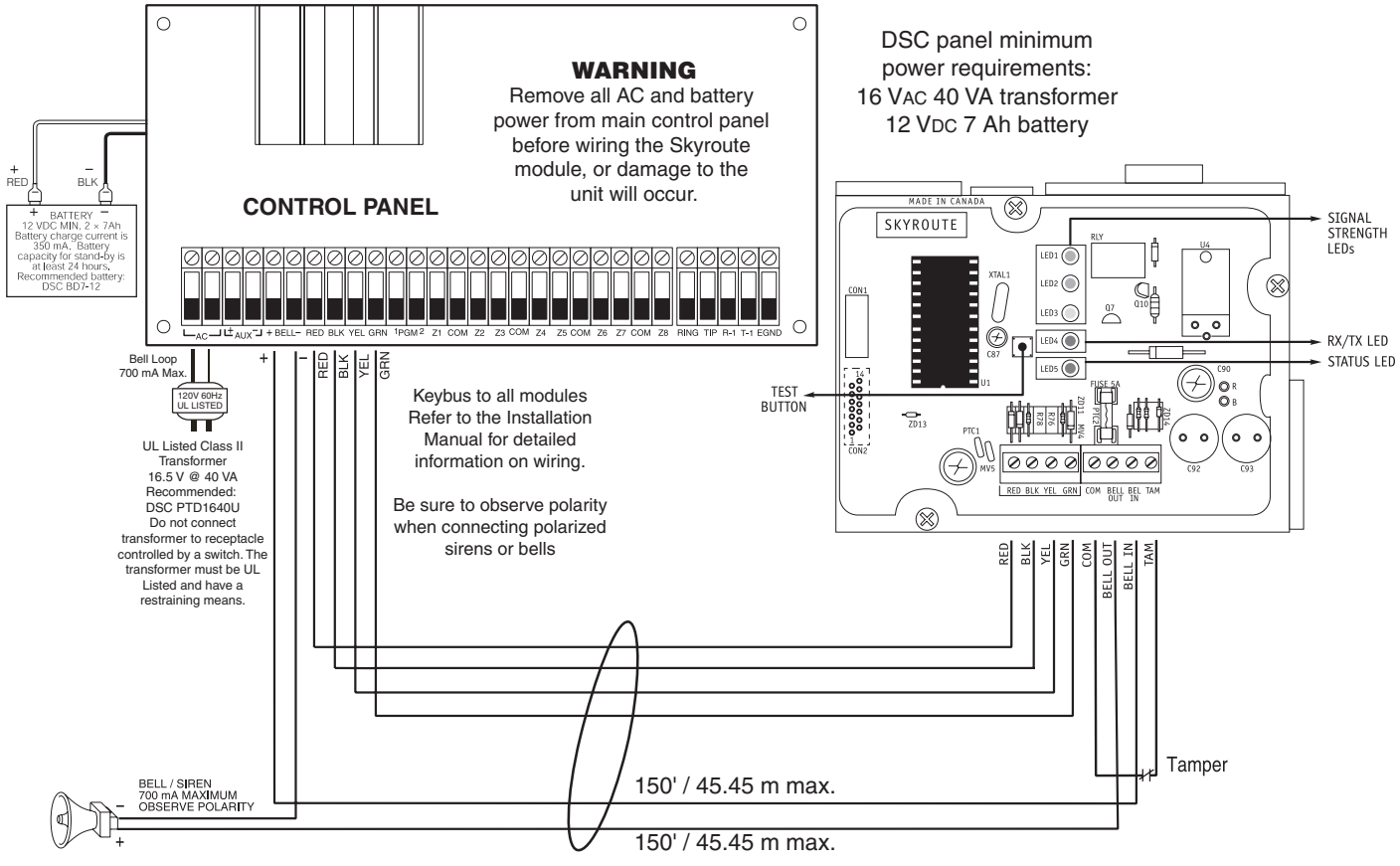
Connect TAM and COM to a normally closed switch that will be used to monitor tamper. If no tamper switch is desired place a wire between TAM and COM.

5.12 Secure Installation

For a secure installation, the Skyroute transceiver and its host panel must be locked and protected. An instant trip IR sensor would be the most appropriate for supervision of the panel. A cabinet tamper switch connected to the TAM terminal of the Skyroute transceiver is also suggested.

5.13 Connection Diagrams

Standard Connection with Compatible Control Panels (Non-Commercial Fire Applications)



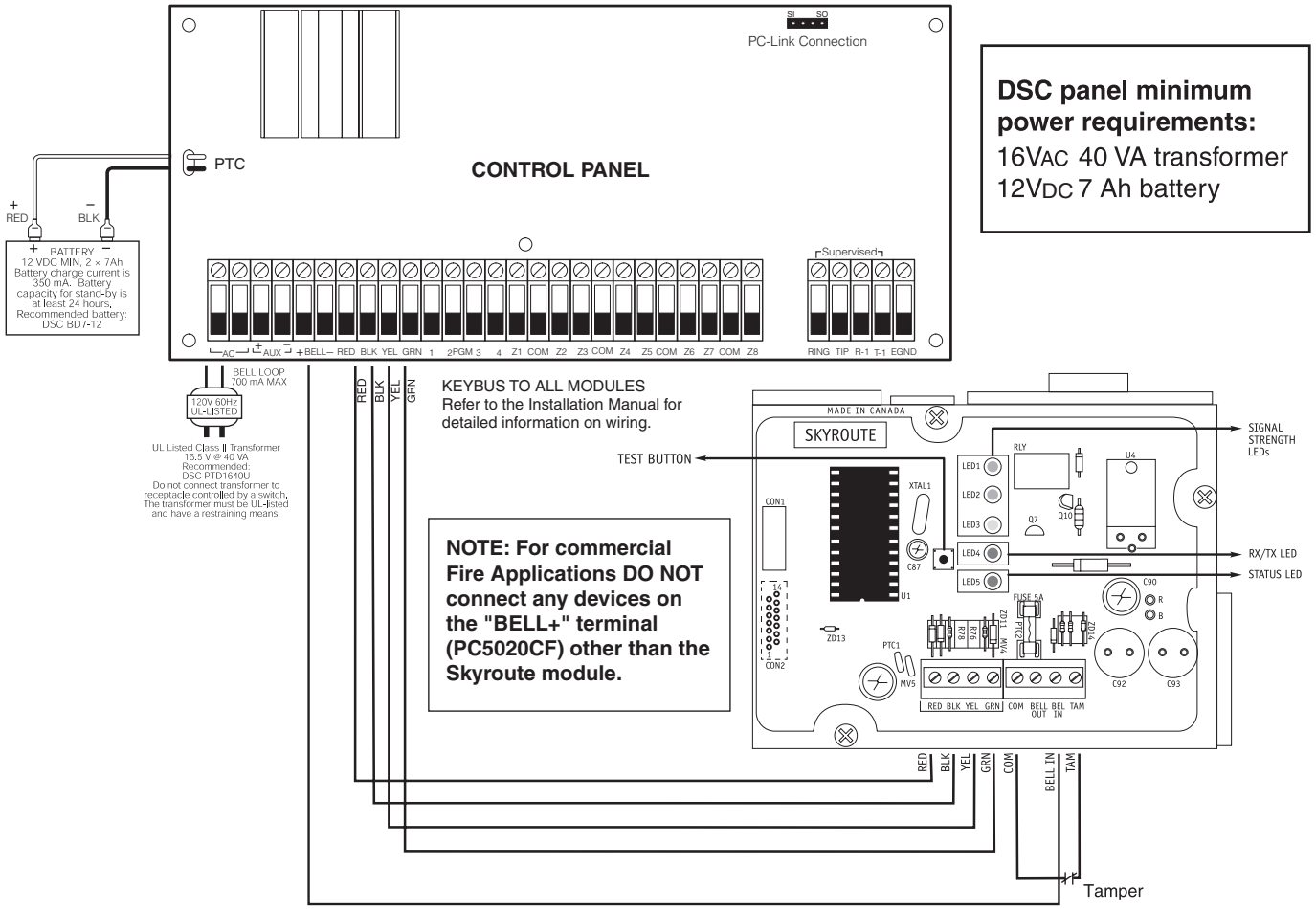
Standard Connection with PC5020CF / Partner P-8+CF (Commercial Fire Applications)

WARNING!

All connections to the Skyroute module are power limited. Do not route any wiring over the circuit boards. Maintain at least 1" (25.4mm) separation between circuit board and wiring.

A minimum of 1/4" (7mm) separation must be maintained at all points between non power limited wiring and power limited wiring.

Refer to your control panel Installation Manual for any additional information.

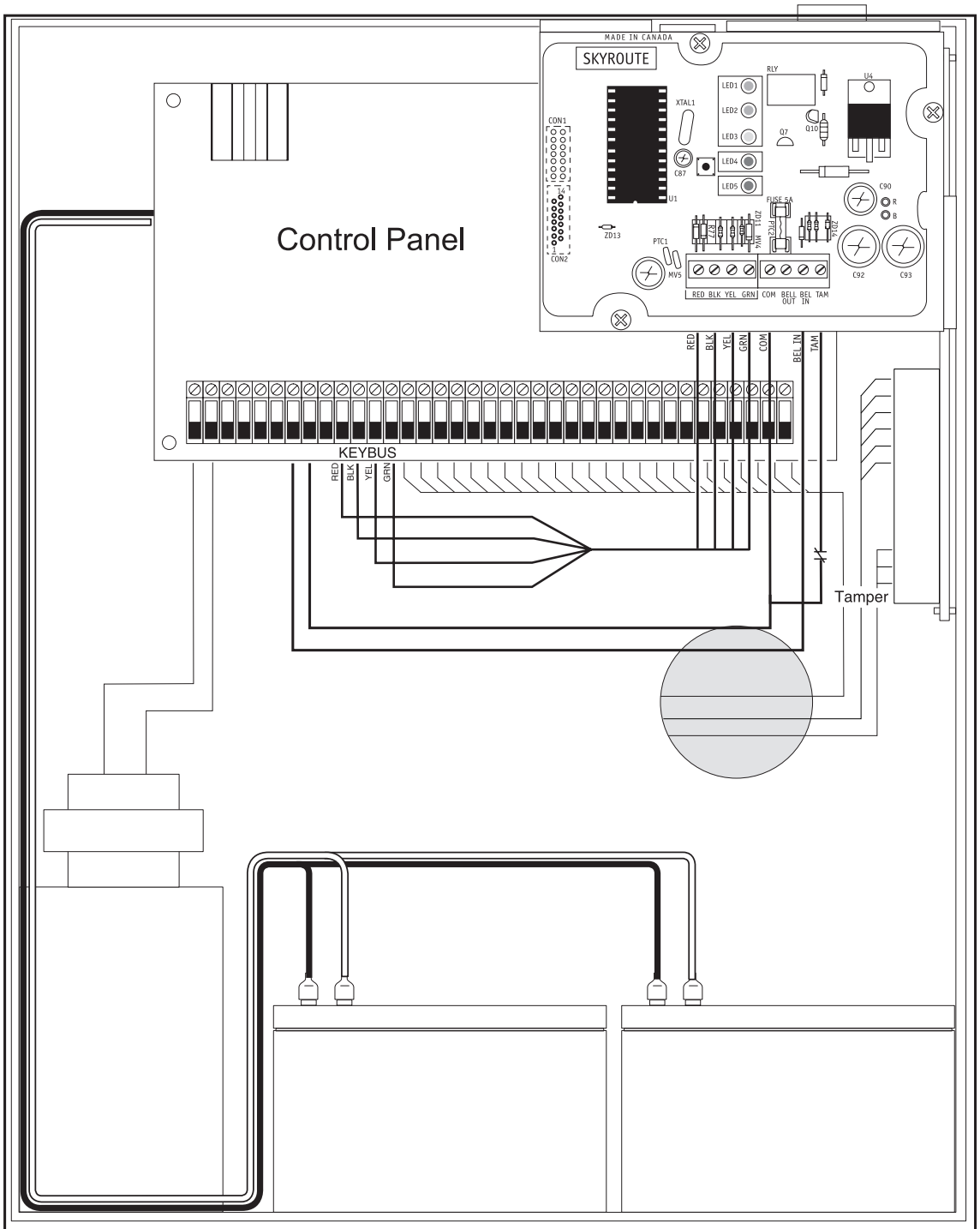


Wiring Skyroute to a DSC PC5020CF/P-8+CF

- Remove the circular knock out in the top right -hand corner of the control cabinet, and mount the Skyroute unit in its place.
- Secure the Skyroute module to the cabinet using the supplied screws.
- Attach the Skyroute antenna to the unit .
- With both AC and battery disconnected removed from the DSC control panel, wire the Skyroute to the panel using 4 wires from the Keybus of the panel to the RED, BLK, YEL and GRN terminals of the Skyroute unit.
- Wire a Normally Closed tamper switch between the COM and TAM terminals of the Skyroute unit. If a tamper switch is not going to be used place a jumper wire between the COM and TAM terminals.
- Wire the panel's BELL+ to the Skyroute BELL IN terminal.
- Apply AC and DC to the main control panel. Both the Skyroute and the panel should power up.
- Do the necessary programming that is required.
- Call Connect 24's VRU to activate your Skyroute account.

NOTE: If a Bell/Siren is not going to be used, wire the Bell/Siren terminals on the panel with a 1KΩ resistor, and then only wire the BELL (+) to the BELL IN of the Skyroute unit.

Battery Lead and AC Power Lead Routing for UL Listed Commercial Fire Systems



INSTALL BATTERY AND AC WIRING AS SHOWN ABOVE
IMPORTANT: A minimum ¼" (7mm) separation must be maintained at all points between battery/primary AC wiring and all other wiring and connections.

5.14 Wiring Skyroute to a DSC/Partner Control Panel

- Remove the circular knockout in the top left corner of the control panel cabinet. Mount the Skyroute unit in its place.
- Secure the Skyroute module to the cabinet using the supplied screws.
- Attach the Skyroute antenna to the unit.
- Disconnect and remove the AC and battery power from the control panel. Wire the red, black, yellow and green wires from the panel Keybus to the corresponding RED, BLK, YEL and GRN terminals on the Skyroute transceiver.
- Wire a normally closed tamper switch between the COM and TAM terminals of the Skyroute module. If a tamper switch is not going to be used, place a jumper wire between the COM and TAM terminals.
- Wire the BELL+ terminal of the panel to the BELL IN terminal of the Skyroute unit. The wire run must not exceed 150 ft. / 45.5 m.
- Wire the BELL- terminal of the panel to the negative (-) terminal of the bell/siren.
- Wire the BELL+/SIREN+ terminal of the bell/siren to the BELL OUT terminal of the Skyroute transceiver.
- Apply AC and DC power to the control panel. Power up both the Skyroute module and the panel.
- Do the programming if it is required.
- Call the Connect 24 VRU (Voice Reponse Unit) to activate your Skyroute account.

NOTE: *If a bell or siren is not going to be used in the system, wire the BELL/SIREN terminals on the panel with a 1000 Ohm resistor. Then wire only the BELL+ terminal of the panel to the BELL IN terminal of the Skyroute module.*

5.15 Supervised Power Supply Connection

Power Requirements

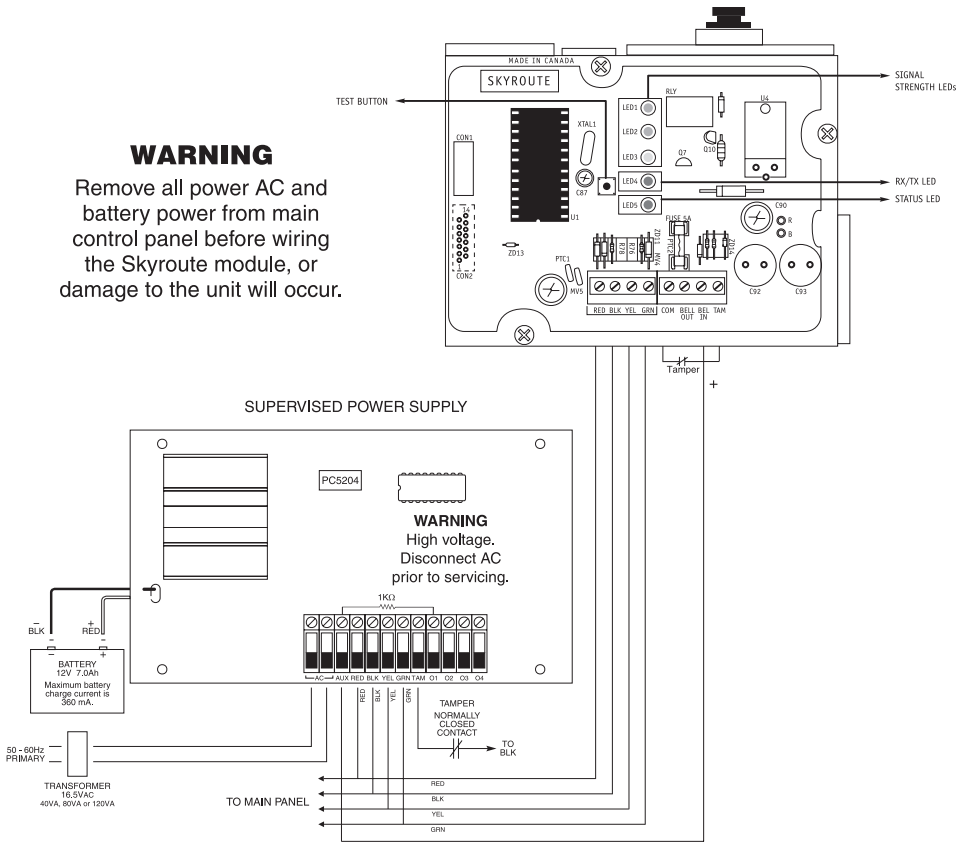
The PC5204 power supply requires a 16V, 40 VA transformer and a 12V, 7 Ah battery.

NOTE: *If a battery is not connected to the PC5204 power supply, an expansion trouble and a restoral will be generated every time a signal is transmitted.*

Connections

- The Keybus from the panel is connected to both the PC5204 module and the Skyroute transceiver.
- A wire is connected from the AUX terminal on the PC5204 module to the BELL IN of the Skyroute transceiver.
- A jumper or a normally closed switch is required between the TAM and the COM terminals on the Skyroute transceiver.
- A jumper or a normally closed switch is required between the TAM and the BLK terminals for the tamper of the PC5204 power supply.
- Wire the positive lead of the device to the AUX+ terminal.
- Connect a 1000 Ohm resistor between AUX+ and O1 terminals.

NOTE: *for secure installation a tamper switch must be installed on the Skyroute module.*
Using the PC5204 power supply module for this configuration is not UL Listed. A UL1481 Listed power supply (e.g., PS5350) must be used.



Section 6 - Programming and Activating a Skyroute

6.1 Defaulting

NOTE: *This product must be defaulted BEFORE programming/activating.*

Select the type of default as follows:

6.1.1 Full Reporting

- Entering 00 in sub-section [99]

1. A complete default of the system is performed
2. All reporting sub-sections, [30] through [78] are automatically programmed as [FF] and will be sent by the Skyroute transceiver.

6.1.2 Generic Reporting with Fallback to Full Reporting

- Entering 11 in sub-section [99]*

1. A complete default is performed.
2. Reduced Reporting as follows:

Reduced Reporting

1. Alarm Restoral Reporting Code, sub-sections [34] through [38], will be automatically programmed to [00], except the duress alarm.
2. The Keypad and PGM Restorals in section [39] will be programmed to [00]. Zone Tamper & Restoral reporting code, sub-sections [40] through [48], will be programmed to [00]**.
3. Zone Supervisory & Restoral, sub-sections [49] through [56], will be programmed to [00]**.
4. Zone Low Battery Alarm & Restoral, sub-sections [57] through [64], will be programmed to [00]***.
5. Keypad Zone Restoral, sub-section [39], last 4 programming locations, will be programmed as [00].
6. Miscellaneous Restoral and Periodic Test in sections [77] and [78] will be programmed as [00].

* Any reporting code sub-section not mentioned is programmed as [FF].

** These signals only apply to installations with double EOL.

*** These signals only apply to installations with wireless zone modules.

In Generic mode, see Appendix A for Generic signals. (See Section 3 'How Does It Work?' for description of each reporting method).

6.1.3 Generic Reporting

- Entering 12 in sub-section [99]*

1. A complete default is performed
2. Reduced Reporting as indicated above.

In Generic mode, see Appendix A for Generic signals. (See Section 3 'How Does It Work?' for description of each reporting method.)

6.1.4 Backup Reporting

- Entering 03 in sub-section [99]

1. A complete default is performed.
2. All reporting sub-sections [30] to [78] are automatically programmed as [FF] and will be sent by the Skyroute Transceiver.

- Entering 13 in sub-section [99].

1. A complete default is performed.
2. The Skyroute will be programmed for backup mode.

6.2 Programming Options

All programming on the Skyroute transceiver is done in the Installer Programming mode. Refer to the control panel's Installation Manual for instructions on how to enter Installer Programming. From Installer Programming, enter section [803] to go to the Skyroute programming sections.

Sub-sections [01] to [22] apply to all **other** installations.

6.2.1 Basic Programming

Zone Definition: Sub-sections [01] to [05]

These sections must be programmed exactly the same as the main control panel. This allows the Skyroute transceiver to translate information sent along the Keybus and identify the proper event.

NOTE: *The Skyroute module will not follow any zone transmission delays; i.e., any zones programmed with a delay will be sent immediately by the Skyroute transceiver.*

Configuration Options: Sub-section [06]

- Channel A enable/disable……..option [1]
  This option must be selected when the Cellemetry provider is an "A" side carrier.
- Channel B enable/disable……..option[2]
  This option must be selected when the Cellemetry provider is a "B" side carrier.
- Home system only enable/disable…option[3]
  This option must be programmed to ensure that the Skyroute transceiver is communicating using the proper carrier. When selected, the transceiver will only use towers with the same SID (as programmed in section [07]).

NOTE: *For US locations please refer to 'U.S.A. SID List - By State'. For Canadian locations please select channel B.*

- To activate the Skyroute module in Home mode:

1. Select a channel, A or B, in address 06 (Option 1 or 2)
2. Wait for signal strength.
3. Enter in address 07 the Home SID number in hexadecimal format.
4. Select Home mode (Option 3) and deactivate A or B channel in address 06.

NOTE: *After changing sub-section [06] or [07] a restart is required. Enter [*FF] in section [99].*

Skyroute transceiver SID (System ID):
Sub-section [07]
Please refer to the SID table included with the Skyroute module to determine the SID number for your area.

Skyroute Test Time: Sub-section [10]
In this section enter the time of the day (24-hour format) you want the test transmission to be sent.

Test Transmission Day Mask: Section [11]
In this section select the day of the week on which you want the test transmission to be sent.

NOTE: *This option cannot be used for UL Listed installations.*

Skyroute Test Rates: Sub-section [13]

- Option 1- Not used.
- Option 2- Daily Test: If this option is ON, the Skyroute will self-generate a 'Skyroute Test Transmission' signal (TX-00 or E603-000) every day.
- Option 3- Weekly Test: If this option is ON, the Skyroute will self-generate a 'Skyroute Test Transmission' signal (TX-00 or E603-000) every week.
- Option 4 – Keybus Tests Enabled: If this option is ON, the Skyroute will send a 'Periodic Test Transmission' signal (RP-00 or E602-000) at the same time the main panel sends its 'Periodic Test Transmission' via the land line.

Backup FTC Options: Sub-section [18]

All FTC or Trouble conditions must be restored for the Skyroute to return to backup mode. All trouble conditions that caused the Skyroute to switch to Temporary Full Reporting Mode must be restored before it returns to Backup Mode.

Backup Mode Timer: Sub-section [19]

This option should correlate with the timing set in the panel. Refer to Panel Programming documentation and 3.2.4.

Generic Signal Timer: Sub-section [21]

This is the timer used by Generic Reporting. See Section 3 for more information.

1E |___|___| (hex) (number x 10 seconds)

Transmission Options: Sub-section [22]

This section will enable sections of reporting codes. (See table for different service plans.)

Generic Reporting	Full Reporting	Option			
ON	ON	|___|	1	Alarms /Restoral	Disabled
OFF	ON	|___|	2	Tamper Restoral/Restoral	Disabled
OFF	ON	|___|	3	Supervisory/ Restoral	Disabled
OFF	ON	|___|	4	Low Battery/ Restoral	Disabled
OFF	OFF	|___|	5	Opening/ Closing	Disabled
ON	ON	|___|	6	Maintenance/ Restoral	Disabled
OFF	OFF	|___|	7 & 8	Not Used	

Refer to Appendices Aand B to find out which reporting codes are controlled by each transmission option.

6.2.2 Advanced Programming

Individual Event: Sub-sections [30] to [78]

These sections are used to determine if an event will be transmitted by the Skyroute transceiver. If '00' is entered, that event will not be transmitted. If 'FF' is programmed, the event will be transmitted. 'FF' is the default value.

The Skyroute module will send these events when they occur in the system unless they are programmed as '00'. Refer to Appendices A and B for more information.

6.3 Activating a Skyroute Transceiver

Before activating the Skyroute transceiver, ensure that the control panel is wired, programmed and operating properly. Make sure that the Skyroute transmitter is properly connected to the Keybus and to the bell (+ positive) circuit. When power is applied to the system, the Skyroute transceiver will perform self-diagnostics for a few seconds, before giving visual feedback by indicating signal strength on LED1, LED2 or LED3.

6.3.1 Calling Connect 24

Once the Skyroute transceiver is indicating the signal strength of the network, and the status indicator (LED5) is blinking 6 times (not connected to the clearing house), you are ready to call Connect 24's Voice Response Unit. Follow the voice prompt and when asked to perform a test, press SW1 on the Skyroute transceiver to transmit a test signal. When transmitting, LED4 blinks once. If the test is successful, the VRU will give you a confirmation and LED5 will then blink steady every second. Refer to the Connect 24 information package for more information on the activation process.

NOTE: *The confirmation of a successful test from Connect 24 does not guarantee proper transmission of the event to your central station. You must perform normal tests with your central station after activation with Connect 24.*

6.3.2 Transmitting and Receiving

LED4 on the Skyroute module will blink once (1) to indicate the cellular tower has received the signal. It will blink twice (2) to indicate the alarm central station has received and acknowledged the signal.

6.3.3 Skyroute Transceiver Trouble Supervision

The Skyroute transceiver automatically monitors its operation and indicates trouble conditions by flashing LED5 on the circuit board. LED5 normally flashes once every 2 seconds when the Skyroute transceiver is on standby (ready to transmit) mode. Troubles are indicated when LED5 flashes more than once every 2 seconds. See Section 5.1 'Location of the Skyroute Unit' for the number of flashes used to indicate each trouble condition in order of importance.

Section 7 - [803] Skyroute Programming Worksheets (PC5020/PC5010/PC580/1PC555/PC5015/P-832/P-48/P-6B/P-832DL)

7.1 Defaulting

A default must be performed before activating the Skyroute transceiver. For UL Listed installations, refer to the compatible control panel Installation Manual for programming the number of panel attempts. The number of attempts between the Skyroute and the panel must be between 5 to 10 attempts. The Skyroute transceiver's default is 3 attempts.

[99] Section [99] is for software defaulting of the Skyroute module

|___|___|

- Entering 00 will cause a software default of the Skyroute module to Full Reporting.
- Entering 11 will cause a software default of the Skyroute module and Generic reporting with fall-back to Full reporting if TLM or FTC trouble occurs.
- Entering 12 will cause a software default of the Skyroute module and Generic reporting.
- Entering FF will cause restart of the Skyroute transceiver.
- Entering 03 will cause a software default of the Skyroute module and Backup Reporting.

7.2 Basic Programming

Zone Definitions

00 Null Zone (Not Used)
01 Delay 1*
02 Delay 2*
03 Instant*
04 Interior*
05 Interior, Stay/Away*
06 Delay, Stay/Away*
07 Delayed 24 Hour Fire (Hardwired)**
08 Standard 24 Hour Fire (Hardwired)
09 24 Hour Supervisory
10 24 Hour Supervisory Buzzer*
11 24 Hour Burglary*
12 24 Hour Holdup*
13 24 Hour Gas*
14 24 Hour Heating*
15 24 Hour Auxiliary*
16 24 Hour Panic*
17 24 Hour Emergency*
18 24 Hour Sprinkler*
19 24 Hour Water*
20 24 Hour Freeze*
21 24 Hour Latching Tamper*
22 Momentary Keyswitch Arm*
23 Maintained Keyswitch Arm*
24 LINKS1000 Answer*
25 Interior Delay*
26 24 Hour Non-alarm*
27 Delayed 24 Hour Waterflow
28 Instant 24 Hour Waterflow
29 Auto Verified Fire
30 Fire Supervisory
31 Day Zone*
87 Delay 24 Hour Fire (Wireless)**
88 Standard 24 Hour Fire (Wireless)**

*For burglary applications only
** For residential fire applications only

[01] Zone 1-16 Definitions

Default		Default		Default		Default	
00	|___|___| Zone 1	00	|___|___| Zone 5	00	|___|___| Zone 9	00	|___|___| Zone 13
00	|___|___| Zone 2	00	|___|___| Zone 6	00	|___|___| Zone 10	00	|___|___| Zone 14
00	|___|___| Zone 3	00	|___|___| Zone 7	00	|___|___| Zone 11	00	|___|___| Zone 15
00	|___|___| Zone 4	00	|___|___| Zone 8	00	|___|___| Zone 12	00	|___|___| Zone 16

[02] Zone 17-32 Definitions

Default		Default		Default		Default	
00	|___|___| Zone 17	00	|___|___| Zone 21	00	|___|___| Zone 25	00	|___|___| Zone 29
00	|___|___| Zone 18	00	|___|___| Zone 22	00	|___|___| Zone 26	00	|___|___| Zone 30
00	|___|___| Zone 19	00	|___|___| Zone 23	00	|___|___| Zone 27	00	|___|___| Zone 31
00	|___|___| Zone 20	00	|___|___| Zone 24	00	|___|___| Zone 28	00	|___|___| Zone 32

[03] Zone 33-48 Definitions

Default		Default		Default		Default	
00	|___|___| Zone 33	00	|___|___| Zone 37	00	|___|___| Zone 41	00	|___|___| Zone 45
00	|___|___| Zone 34	00	|___|___| Zone 38	00	|___|___| Zone 42	00	|___|___| Zone 46
00	|___|___| Zone 35	00	|___|___| Zone 39	00	|___|___| Zone 43	00	|___|___| Zone 47
00	|___|___| Zone 36	00	|___|___| Zone 40	00	|___|___| Zone 44	00	|___|___| Zone 48

[04] Zone 49-64 Definitions

Default		Default		Default		Default	
00	|___|___| Zone 49	00	|___|___| Zone 53	00	|___|___| Zone 57	00	|___|___| Zone 61
00	|___|___| Zone 50	00	|___|___| Zone 54	00	|___|___| Zone 58	00	|___|___| Zone 62
00	|___|___| Zone 51	00	|___|___| Zone 55	00	|___|___| Zone 59	00	|___|___| Zone 63
00	|___|___| Zone 52	00	|___|___| Zone 56	00	|___|___| Zone 60	00	|___|___| Zone 64

[05] PGM2 Definition

00 |___|___| 04 = 2 Wire Smoke, 23 = silent 24 Hour Input, 24 = Audible 24 Hour Input.

[06] Skyroute Configuration Options

Default			Option ON	Option OFF
OFF	|___|	Option 1	'A' Channel Selected	'A' Channel Not Selected
ON	|___|	Option 2	'B' Channel Selected	'B' Channel Not Selected
OFF	|___|	Option 3	Home System Only	Not in Home System Operation
OFF	|___|	Option 4	Unit Active with Connect 24	Unit Not Active with Connect 24
OFF	|___|	Options 5 to 8	System Use - DO NOT CHANGE	

[07] Home SID Number

0000 |___|___|___|___| This is the SID (in Hex) of the cellular service that is available on the current channel. This section should be programmed ONLY if option 3 is turned ON in section [06].

[10] Skyroute Test Time

9999 |___|___|___|___| 0000-2359 (in 24 hour time)

[11] Test Transmission Day Mask - This section is not to be used for UL Listed applications.

Default			Option ON	Option OFF
OFF	|___|	Option 1	Test on Sunday	Disabled
OFF	|___|	Option 2	Test on Monday	Disabled
OFF	|___|	Option 3	Test on Tuesday	Disabled
OFF	|___|	Option 4	Test on Wednesday	Disabled
OFF	|___|	Option 5	Test on Thursday	Disabled
OFF	|___|	Option 6	Test on Friday	Disabled
OFF	|___|	Option 7	Test on Saturday	Disabled
OFF	|___|	Option 8	For Future Use	

[13] Skyroute Test Rates

Default			Option ON	Option OFF
OFF	|___|	Option 1	Not used	
OFF	|___|	Option 2*	Daily Test	Disabled
ON	|___|	Option 3	Weekly Test	Disabled
OFF	|___|	Option 4	Keybus Tests Enabled	Disabled
OFF	|___|	Options 5 to 8	For Future Use	

**** Option 2 must be ON for UL Listed applications.***

[18] Backup FTC Options

Default			Option ON	Option OFF
ON	|___|	Option 1	FTC Phone #1 Backup	Disabled
ON	|___|	Option 2	FTC Phone #2 Backup	Disabled
OFF	|___|	Option 3*	T-LINK Comm Fault Backup	Disabled
OFF	|___|	Option 4*	T-LINK Receiver Trb Backup	Disabled
OFF	|___|	Options 5 to 8		

**** Options 3 and 4 may be used for Generic Reporting with Fall Back to full reporting mode if a T-Link is the main communicator for the panel.***

[19] Backup Reporting Mode Timer

Default
42 |___|___| (number x 10 seconds in Hex)

[20] Communication Mode

This section will display the mode in which the Skyroute operates. To change the mode refer to section [99].

- **00** - Skyroute module is in Full Reporting Mode
- **11 -** Skyroute module is in Generic Reporting with fall-back to Full Reporting if TLM or FTC trouble occurs
- **12** - Skyroute module is in Generic Reporting Mode
- **03** - Skyroute module is in Backup Reporting Mode

[21] Generic Signal Timer

Default

1E |___|___| (number x 10 seconds in Hex)

[22] Transmission Options

Generic Reporting	Full Reporting			Option ON	Option OFF
ON	ON	|___|	Option 1	Alarms/Restoral	Disabled
OFF	ON	|___|	Option 2	Tamper/Restores	Disabled
OFF	ON	|___|	Option 3	Supervisory/Restores	Disabled
OFF	ON	|___|	Option 4	Low Battery/Restores	Disabled
OFF	OFF	|___|	Option 5	Openings/Closings	Disabled
ON	ON	|___|	Option 6	Maintenance/Restoral	Disabled
OFF	OFF	|___|	Options 7 & 8	For Future Use	

[23] Number of Attempts ***OPTIONAL***

Default

03 |___|___|___| 00-FF (HEX)

[24] Response Wait Time

Default

19 |___|___|___| (number x 10 seconds in Hex)

NOTE: *For UL Installations, this section needs to be programmed as 09 for 90 seconds.*

[90] Current Signal Strength Reading

|___|___|___| This section will show the most recent Skyroute signal strength as a percentage from 0-100%.

BASIC PROGRAMMING COMPLETED

7.3 Advanced Programming

The following sub-sections (30 -78) have automatically been programmed. How they are programmed depends on how you default the Skyroute (see Section 6.1). You may make changes if wanted.

Sub-sections [30] to [78]: If '00' is entered, reporting code is disabled.

If 'FF' is entered, default reporting code is enabled.

[30] Alarm Reporting Codes, Zones 1-16

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
FF	FF	|___|	Zone 1 Alarm	FF	FF	|___|	Zone 9 Alarm
FF	FF	|___|	Zone 2 Alarm	FF	FF	|___|	Zone 10 Alarm
FF	FF	|___|	Zone 3 Alarm	FF	FF	|___|	Zone 11 Alarm
FF	FF	|___|	Zone 4 Alarm	FF	FF	|___|	Zone 12 Alarm
FF	FF	|___|	Zone 5 Alarm	FF	FF	|___|	Zone 13 Alarm
FF	FF	|___|	Zone 6 Alarm	FF	FF	|___|	Zone 14 Alarm
FF	FF	|___|	Zone 7 Alarm	FF	FF	|___|	Zone 15 Alarm
FF	FF	|___|	Zone 8 Alarm	FF	FF	|___|	Zone 16 Alarm

[31] Alarm Reporting Codes, Zones 17-32

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
FF	FF	|___|	Zone 17 Alarm	FF	FF	|___|	Zone 25 Alarm
FF	FF	|___|	Zone 18 Alarm	FF	FF	|___|	Zone 26 Alarm
FF	FF	|___|	Zone 19 Alarm	FF	FF	|___|	Zone 27 Alarm
FF	FF	|___|	Zone 20 Alarm	FF	FF	|___|	Zone 28 Alarm
FF	FF	|___|	Zone 21 Alarm	FF	FF	|___|	Zone 29 Alarm
FF	FF	|___|	Zone 22 Alarm	FF	FF	|___|	Zone 30 Alarm
FF	FF	|___|	Zone 23 Alarm	FF	FF	|___|	Zone 31 Alarm
FF	FF	|___|	Zone 24 Alarm	FF	FF	|___|	Zone 32 Alarm

[32] Alarm Reporting Codes, Zones 33-48

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
FF	FF	|___|___|	Zone 33 Alarm	FF	FF	|___|___|	Zone 41 Alarm
FF	FF	|___|___|	Zone 34 Alarm	FF	FF	|___|___|	Zone 42 Alarm
FF	FF	|___|___|	Zone 35 Alarm	FF	FF	|___|___|	Zone 43 Alarm
FF	FF	|___|___|	Zone 36 Alarm	FF	FF	|___|___|	Zone 44 Alarm
FF	FF	|___|___|	Zone 37 Alarm	FF	FF	|___|___|	Zone 45 Alarm
FF	FF	|___|___|	Zone 38 Alarm	FF	FF	|___|___|	Zone 46 Alarm
FF	FF	|___|___|	Zone 39 Alarm	FF	FF	|___|___|	Zone 47 Alarm
FF	FF	|___|___|	Zone 40 Alarm	FF	FF	|___|___|	Zone 48 Alarm

[33] Alarm Reporting Codes, Zones 49-64

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
FF	FF	|___|___|	Zone 49 Alarm	FF	FF	|___|___|	Zone 57 Alarm
FF	FF	|___|___|	Zone 50 Alarm	FF	FF	|___|___|	Zone 58 Alarm
FF	FF	|___|___|	Zone 51 Alarm	FF	FF	|___|___|	Zone 59 Alarm
FF	FF	|___|___|	Zone 52 Alarm	FF	FF	|___|___|	Zone 60 Alarm
FF	FF	|___|___|	Zone 53 Alarm	FF	FF	|___|___|	Zone 61 Alarm
FF	FF	|___|___|	Zone 54 Alarm	FF	FF	|___|___|	Zone 62 Alarm
FF	FF	|___|___|	Zone 55 Alarm	FF	FF	|___|___|	Zone 63 Alarm
FF	FF	|___|___|	Zone 56 Alarm	FF	FF	|___|___|	Zone 64 Alarm

[34] Alarm Restoral Reporting Codes, Zones 1-16

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
00	FF	|___|___|	Zone 1 Alarm Restoral	00	FF	|___|___|	Zone 9 Alarm Restoral
00	FF	|___|___|	Zone 2 Alarm Restoral	00	FF	|___|___|	Zone 10 Alarm Restoral
00	FF	|___|___|	Zone 3 Alarm Restoral	00	FF	|___|___|	Zone 11 Alarm Restoral
00	FF	|___|___|	Zone 4 Alarm Restoral	00	FF	|___|___|	Zone 12 Alarm Restoral
00	FF	|___|___|	Zone 5 Alarm Restoral	00	FF	|___|___|	Zone 13 Alarm Restoral
00	FF	|___|___|	Zone 6 Alarm Restoral	00	FF	|___|___|	Zone 14 Alarm Restoral
00	FF	|___|___|	Zone 7 Alarm Restoral	00	FF	|___|___|	Zone 15 Alarm Restoral
00	FF	|___|___|	Zone 8 Alarm Restoral	00	FF	|___|___|	Zone 16 Alarm Restoral

[35] Alarm Restoral Reporting Codes, Zones 17-32

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
00	FF	|___|___|	Zone 17 Alarm Restoral	00	FF	|___|___|	Zone 25 Alarm Restoral
00	FF	|___|___|	Zone 18 Alarm Restoral	00	FF	|___|___|	Zone 26 Alarm Restoral
00	FF	|___|___|	Zone 19 Alarm Restoral	00	FF	|___|___|	Zone 27 Alarm Restoral
00	FF	|___|___|	Zone 20 Alarm Restoral	00	FF	|___|___|	Zone 28 Alarm Restoral
00	FF	|___|___|	Zone 21 Alarm Restoral	00	FF	|___|___|	Zone 29 Alarm Restoral
00	FF	|___|___|	Zone 22 Alarm Restoral	00	FF	|___|___|	Zone 30 Alarm Restoral
00	FF	|___|___|	Zone 23 Alarm Restoral	00	FF	|___|___|	Zone 31 Alarm Restoral
00	FF	|___|___|	Zone 24 Alarm Restoral	00	FF	|___|___|	Zone 32 Alarm Restoral

[36] Alarm Restoral Reporting Codes, Zones 33-48

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
00	FF	|___|___|	Zone 33 Alarm Restoral	00	FF	|___|___|	Zone 41 Alarm Restoral
00	FF	|___|___|	Zone 34 Alarm Restoral	00	FF	|___|___|	Zone 42 Alarm Restoral
00	FF	|___|___|	Zone 35 Alarm Restoral	00	FF	|___|___|	Zone 43 Alarm Restoral
00	FF	|___|___|	Zone 36 Alarm Restoral	00	FF	|___|___|	Zone 44 Alarm Restoral
00	FF	|___|___|	Zone 37 Alarm Restoral	00	FF	|___|___|	Zone 45 Alarm Restoral
00	FF	|___|___|	Zone 38 Alarm Restoral	00	FF	|___|___|	Zone 46 Alarm Restoral
00	FF	|___|___|	Zone 39 Alarm Restoral	00	FF	|___|___|	Zone 47 Alarm Restoral
00	FF	|___|___|	Zone 40 Alarm Restoral	00	FF	|___|___|	Zone 48 Alarm Restoral

[37] Alarm Restoral Reporting Codes, Zones 49-64

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
00	FF	|___|___|	Zone 49 Alarm Restoral	00	FF	|___|___|	Zone 57 Alarm Restoral
00	FF	|___|___|	Zone 50 Alarm Restoral	00	FF	|___|___|	Zone 58 Alarm Restoral
00	FF	|___|___|	Zone 51 Alarm Restoral	00	FF	|___|___|	Zone 59 Alarm Restoral
00	FF	|___|___|	Zone 52 Alarm Restoral	00	FF	|___|___|	Zone 60 Alarm Restoral
00	FF	|___|___|	Zone 53 Alarm Restoral	00	FF	|___|___|	Zone 61 Alarm Restoral
00	FF	|___|___|	Zone 54 Alarm Restoral	00	FF	|___|___|	Zone 62 Alarm Restoral
00	FF	|___|___|	Zone 55 Alarm Restoral	00	FF	|___|___|	Zone 63 Alarm Restoral
00	FF	|___|___|	Zone 56 Alarm Restoral	00	FF	|___|___|	Zone 64 Alarm Restoral

[38] Miscellaneous Alarm Reporting Codes

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
FF	FF	|___|___|	Duress Alarm	00	FF	|___|___|	Zone Expander Supervisory Alarm
00	FF	|___|___|	Opening After Alarm	00	FF	|___|___|	Zone Expander Supervisory Restoral
00	FF	|___|___|	Recent Closing	00	FF	|___|___|	Cross Zoning (Burglary Verified) Alarm

[39] Priority Alarm and Restoral Reporting Codes

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
FF	FF	|___|___|	Keypad [F]ire Alarm	00	FF	|___|___|	Keypad [F]ire Restoral
FF	FF	|___|___|	Keypad [A]uxiliary Alarm	00	FF	|___|___|	Keypad [A]uxiliary Restoral
FF	FF	|___|___|	Keypad [P]anic Alarm	00	FF	|___|___|	Keypad [P]anic Restoral
FF	FF	|___|___|	PGM2 Alarm	00	FF	|___|___|	PGM2 Restoral

[40] Tamper Reporting Codes, Zones 1-16

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
00	FF	|___|___|	Zone 1 Tamper	00	FF	|___|___|	Zone 9 Tamper
00	FF	|___|___|	Zone 2 Tamper	00	FF	|___|___|	Zone 10 Tamper
00	FF	|___|___|	Zone 3 Tamper	00	FF	|___|___|	Zone 11 Tamper
00	FF	|___|___|	Zone 4 Tamper	00	FF	|___|___|	Zone 12 Tamper
00	FF	|___|___|	Zone 5 Tamper	00	FF	|___|___|	Zone 13 Tamper
00	FF	|___|___|	Zone 6 Tamper	00	FF	|___|___|	Zone 14 Tamper
00	FF	|___|___|	Zone 7 Tamper	00	FF	|___|___|	Zone 15 Tamper
00	FF	|___|___|	Zone 8 Tamper	00	FF	|___|___|	Zone 16 Tamper

[41] Tamper Reporting Codes, Zones 17-32

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
00	FF	|___|___|	Zone 17 Tamper	00	FF	|___|___|	Zone 25 Tamper
00	FF	|___|___|	Zone 18 Tamper	00	FF	|___|___|	Zone 26 Tamper
00	FF	|___|___|	Zone 19 Tamper	00	FF	|___|___|	Zone 27 Tamper
00	FF	|___|___|	Zone 20 Tamper	00	FF	|___|___|	Zone 28 Tamper
00	FF	|___|___|	Zone 21 Tamper	00	FF	|___|___|	Zone 29 Tamper
00	FF	|___|___|	Zone 22 Tamper	00	FF	|___|___|	Zone 30 Tamper
00	FF	|___|___|	Zone 23 Tamper	00	FF	|___|___|	Zone 31 Tamper
00	FF	|___|___|	Zone 24 Tamper	00	FF	|___|___|	Zone 32 Tamper

[42] Tamper Reporting Codes, Zones 33-48

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
00	FF	|___|___|	Zone 33 Tamper	00	FF	|___|___|	Zone 41 Tamper
00	FF	|___|___|	Zone 34 Tamper	00	FF	|___|___|	Zone 42 Tamper
00	FF	|___|___|	Zone 35 Tamper	00	FF	|___|___|	Zone 43 Tamper
00	FF	|___|___|	Zone 36 Tamper	00	FF	|___|___|	Zone 44 Tamper
00	FF	|___|___|	Zone 37 Tamper	00	FF	|___|___|	Zone 45 Tamper
00	FF	|___|___|	Zone 38 Tamper	00	FF	|___|___|	Zone 46 Tamper
00	FF	|___|___|	Zone 39 Tamper	00	FF	|___|___|	Zone 47 Tamper
00	FF	|___|___|	Zone 40 Tamper	00	FF	|___|___|	Zone 48 Tamper

[43] Tamper Reporting Codes, Zones 49-64

Generic Reporting	Full Reporting		Generic Reporting	Full Reporting	
00	FF	|___|___| Zone 49 Tamper	00	FF	|___|___| Zone 57 Tamper
00	FF	|___|___| Zone 50 Tamper	00	FF	|___|___| Zone 58 Tamper
00	FF	|___|___| Zone 51 Tamper	00	FF	|___|___| Zone 59 Tamper
00	FF	|___|___| Zone 52 Tamper	00	FF	|___|___| Zone 60 Tamper
00	FF	|___|___| Zone 53 Tamper	00	FF	|___|___| Zone 61 Tamper
00	FF	|___|___| Zone 54 Tamper	00	FF	|___|___| Zone 62 Tamper
00	FF	|___|___| Zone 55 Tamper	00	FF	|___|___| Zone 63 Tamper
00	FF	|___|___| Zone 56 Tamper	00	FF	|___|___| Zone 64 Tamper

[44] Tamper Restoral Reporting Codes, Zones 1-16

Generic Reporting	Full Reporting		Generic Reporting	Full Reporting	
00	FF	|___|___| Zone 1 Tamper Restoral	00	FF	|___|___| Zone 9 Tamper Restoral
00	FF	|___|___| Zone 2 Tamper Restoral	00	FF	|___|___| Zone 10 Tamper Restoral
00	FF	|___|___| Zone 3 Tamper Restoral	00	FF	|___|___| Zone 11 Tamper Restoral
00	FF	|___|___| Zone 4 Tamper Restoral	00	FF	|___|___| Zone 12 Tamper Restoral
00	FF	|___|___| Zone 5 Tamper Restoral	00	FF	|___|___| Zone 13 Tamper Restoral
00	FF	|___|___| Zone 6 Tamper Restoral	00	FF	|___|___| Zone 14 Tamper Restoral
00	FF	|___|___| Zone 7 Tamper Restoral	00	FF	|___|___| Zone 15 Tamper Restoral
00	FF	|___|___| Zone 8 Tamper Restoral	00	FF	|___|___| Zone 16 Tamper Restoral

[45] Tamper Restoral Reporting Codes, Zones 17-32

Generic Reporting	Full Reporting		Generic Reporting	Full Reporting	
00	FF	|___|___| Zone 17 Tamper Restoral	00	FF	|___|___| Zone 25 Tamper Restoral
00	FF	|___|___| Zone 18 Tamper Restoral	00	FF	|___|___| Zone 26 Tamper Restoral
00	FF	|___|___| Zone 19 Tamper Restoral	00	FF	|___|___| Zone 27 Tamper Restoral
00	FF	|___|___| Zone 20 Tamper Restoral	00	FF	|___|___| Zone 28 Tamper Restoral
00	FF	|___|___| Zone 21 Tamper Restoral	00	FF	|___|___| Zone 29 Tamper Restoral
00	FF	|___|___| Zone 22 Tamper Restoral	00	FF	|___|___| Zone 30 Tamper Restoral
00	FF	|___|___| Zone 23 Tamper Restoral	00	FF	|___|___| Zone 31 Tamper Restoral
00	FF	|___|___| Zone 24 Tamper Restoral	00	FF	|___|___| Zone 32 Tamper Restoral

[46] Tamper Restoral Reporting Codes, Zones 33-48

Generic Reporting	Full Reporting		Generic Reporting	Full Reporting	
00	FF	|___|___| Zone 33 Tamper Restoral	00	FF	|___|___| Zone 41 Tamper Restoral
00	FF	|___|___| Zone 34 Tamper Restoral	00	FF	|___|___| Zone 42 Tamper Restoral
00	FF	|___|___| Zone 35 Tamper Restoral	00	FF	|___|___| Zone 43 Tamper Restoral
00	FF	|___|___| Zone 36 Tamper Restoral	00	FF	|___|___| Zone 44 Tamper Restoral
00	FF	|___|___| Zone 37 Tamper Restoral	00	FF	|___|___| Zone 45 Tamper Restoral
00	FF	|___|___| Zone 38 Tamper Restoral	00	FF	|___|___| Zone 46 Tamper Restoral
00	FF	|___|___| Zone 39 Tamper Restoral	00	FF	|___|___| Zone 47 Tamper Restoral
00	FF	|___|___| Zone 40 Tamper Restoral	00	FF	|___|___| Zone 48 Tamper Restoral

[47] Tamper Restoral Reporting Codes, Zones 49-64

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
00	FF	|___|___|	Zone 49 Tamper Restoral	00	FF	|___|___|	Zone 57 Tamper Restoral
00	FF	|___|___|	Zone 50 Tamper Restoral	00	FF	|___|___|	Zone 58 Tamper Restoral
00	FF	|___|___|	Zone 51 Tamper Restoral	00	FF	|___|___|	Zone 59 Tamper Restoral
00	FF	|___|___|	Zone 52 Tamper Restoral	00	FF	|___|___|	Zone 60 Tamper Restoral
00	FF	|___|___|	Zone 53 Tamper Restoral	00	FF	|___|___|	Zone 61 Tamper Restoral
00	FF	|___|___|	Zone 54 Tamper Restoral	00	FF	|___|___|	Zone 62 Tamper Restoral
00	FF	|___|___|	Zone 55 Tamper Restoral	00	FF	|___|___|	Zone 63 Tamper Restoral
00	FF	|___|___|	Zone 56 Tamper Restoral	00	FF	|___|___|	Zone 64 Tamper Restoral

[48] Miscellaneous Tamper Reporting Codes

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
00	FF	|___|___|	General System Tamper	00	FF	|___|___|	Keypad Lockout
00	FF	|___|___|	General System Tamper Rest.				

[49] Supervisory Reporting Codes, Zones 1-16

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
00	FF	|___|___|	Zone 1 Supervisory	00	FF	|___|___|	Zone 9 Supervisory
00	FF	|___|___|	Zone 2 Supervisory	00	FF	|___|___|	Zone 10 Supervisory
00	FF	|___|___|	Zone 3 Supervisory	00	FF	|___|___|	Zone 11 Supervisory
00	FF	|___|___|	Zone 4 Supervisory	00	FF	|___|___|	Zone 12 Supervisory
00	FF	|___|___|	Zone 5 Supervisory	00	FF	|___|___|	Zone 13 Supervisory
00	FF	|___|___|	Zone 6 Supervisory	00	FF	|___|___|	Zone 14 Supervisory
00	FF	|___|___|	Zone 7 Supervisory	00	FF	|___|___|	Zone 15 Supervisory
00	FF	|___|___|	Zone 8 Supervisory	00	FF	|___|___|	Zone 16 Supervisory

[50] Supervisory Reporting Codes, Zones 17-32

00	FF	|___|___|	Zone 17 Supervisory	00	FF	|___|___|	Zone 25 Supervisory
00	FF	|___|___|	Zone 18 Supervisory	00	FF	|___|___|	Zone 26 Supervisory
00	FF	|___|___|	Zone 19 Supervisory	00	FF	|___|___|	Zone 27 Supervisory
00	FF	|___|___|	Zone 20 Supervisory	00	FF	|___|___|	Zone 28 Supervisory
00	FF	|___|___|	Zone 21 Supervisory	00	FF	|___|___|	Zone 29 Supervisory
00	FF	|___|___|	Zone 22 Supervisory	00	FF	|___|___|	Zone 30 Supervisory
00	FF	|___|___|	Zone 23 Supervisory	00	FF	|___|___|	Zone 31 Supervisory
00	FF	|___|___|	Zone 24 Supervisory	00	FF	|___|___|	Zone 32 Supervisory

[51] Supervisory Reporting Codes, Zones 33-48

00	FF	|___|___|	Zone 33 Supervisory	00	FF	|___|___|	Zone 41 Supervisory
00	FF	|___|___|	Zone 34 Supervisory	00	FF	|___|___|	Zone 42 Supervisory
00	FF	|___|___|	Zone 35 Supervisory	00	FF	|___|___|	Zone 43 Supervisory
00	FF	|___|___|	Zone 36 Supervisory	00	FF	|___|___|	Zone 44 Supervisory
00	FF	|___|___|	Zone 37 Supervisory	00	FF	|___|___|	Zone 45 Supervisory
00	FF	|___|___|	Zone 38 Supervisory	00	FF	|___|___|	Zone 46 Supervisory
00	FF	|___|___|	Zone 39 Supervisory	00	FF	|___|___|	Zone 47 Supervisory
00	FF	|___|___|	Zone 40 Supervisory	00	FF	|___|___|	Zone 48 Supervisory

[52] Supervisory Reporting Codes, Zones 49-64

00	FF	|___|___|	Zone 49 Supervisory	00	FF	|___|___|	Zone 57 Supervisory
00	FF	|___|___|	Zone 50 Supervisory	00	FF	|___|___|	Zone 58 Supervisory
00	FF	|___|___|	Zone 51 Supervisory	00	FF	|___|___|	Zone 59 Supervisory
00	FF	|___|___|	Zone 52 Supervisory	00	FF	|___|___|	Zone 60 Supervisory
00	FF	|___|___|	Zone 53 Supervisory	00	FF	|___|___|	Zone 61 Supervisory
00	FF	|___|___|	Zone 54 Supervisory	00	FF	|___|___|	Zone 62 Supervisory
00	FF	|___|___|	Zone 55 Supervisory	00	FF	|___|___|	Zone 63 Supervisory
00	FF	|___|___|	Zone 56 Supervisory	00	FF	|___|___|	Zone 64 Supervisory

[53] Supervisory Restoral Reporting Codes, Zones 1-16

00	FF	|___|___|	Zone 1 Supervisory Restoral	00	FF	|___|___|	Zone 9 Supervisory Restoral
00	FF	|___|___|	Zone 2 Supervisory Restoral	00	FF	|___|___|	Zone 10 Supervisory Restoral
00	FF	|___|___|	Zone 3 Supervisory Restoral	00	FF	|___|___|	Zone 11 Supervisory Restoral
00	FF	|___|___|	Zone 4 Supervisory Restoral	00	FF	|___|___|	Zone 12 Supervisory Restoral
00	FF	|___|___|	Zone 5 Supervisory Restoral	00	FF	|___|___|	Zone 13 Supervisory Restoral
00	FF	|___|___|	Zone 6 Supervisory Restoral	00	FF	|___|___|	Zone 14 Supervisory Restoral
00	FF	|___|___|	Zone 7 Supervisory Restoral	00	FF	|___|___|	Zone 15 Supervisory Restoral
00	FF	|___|___|	Zone 8 Supervisory Restoral	00	FF	|___|___|	Zone 16 Supervisory Restoral

[54] Supervisory Restoral Reporting Codes, Zones 17-32

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
00	FF	|___|___|	Zone 17 Supervisory Restoral	00	FF	|___|___|	Zone 25 Supervisory Restoral
00	FF	|___|___|	Zone 18 Supervisory Restoral	00	FF	|___|___|	Zone 26 Supervisory Restoral
00	FF	|___|___|	Zone 19 Supervisory Restoral	00	FF	|___|___|	Zone 27 Supervisory Restoral
00	FF	|___|___|	Zone 20 Supervisory Restoral	00	FF	|___|___|	Zone 28 Supervisory Restoral
00	FF	|___|___|	Zone 21 Supervisory Restoral	00	FF	|___|___|	Zone 29 Supervisory Restoral
00	FF	|___|___|	Zone 22 Supervisory Restoral	00	FF	|___|___|	Zone 30 Supervisory Restoral
00	FF	|___|___|	Zone 23 Supervisory Restoral	00	FF	|___|___|	Zone 31 Supervisory Restoral
00	FF	|___|___|	Zone 24 Supervisory Restoral	00	FF	|___|___|	Zone 32 Supervisory Restoral

[55] Supervisory Restoral Reporting Codes, Zones 33-48

00	FF	|___|___|	Zone 33 Supervisory Restoral	00	FF	|___|___|	Zone 41 Supervisory Restoral
00	FF	|___|___|	Zone 34 Supervisory Restoral	00	FF	|___|___|	Zone 42 Supervisory Restoral
00	FF	|___|___|	Zone 35 Supervisory Restoral	00	FF	|___|___|	Zone 43 Supervisory Restoral
00	FF	|___|___|	Zone 36 Supervisory Restoral	00	FF	|___|___|	Zone 44 Supervisory Restoral
00	FF	|___|___|	Zone 37 Supervisory Restoral	00	FF	|___|___|	Zone 45 Supervisory Restoral
00	FF	|___|___|	Zone 38 Supervisory Restoral	00	FF	|___|___|	Zone 46 Supervisory Restoral
00	FF	|___|___|	Zone 39 Supervisory Restoral	00	FF	|___|___|	Zone 47 Supervisory Restoral
00	FF	|___|___|	Zone 40 Supervisory Restoral	00	FF	|___|___|	Zone 48 Supervisory Restoral

[56] Supervisory Restoral Reporting Codes, Zones 49-64

00	FF	|___|___|	Zone 49 Supervisory Restoral	00	FF	|___|___|	Zone 57 Supervisory Restoral
00	FF	|___|___|	Zone 50 Supervisory Restoral	00	FF	|___|___|	Zone 58 Supervisory Restoral
00	FF	|___|___|	Zone 51 Supervisory Restoral	00	FF	|___|___|	Zone 59 Supervisory Restoral
00	FF	|___|___|	Zone 52 Supervisory Restoral	00	FF	|___|___|	Zone 60 Supervisory Restoral
00	FF	|___|___|	Zone 53 Supervisory Restoral	00	FF	|___|___|	Zone 61 Supervisory Restoral
00	FF	|___|___|	Zone 54 Supervisory Restoral	00	FF	|___|___|	Zone 62 Supervisory Restoral
00	FF	|___|___|	Zone 55 Supervisory Restoral	00	FF	|___|___|	Zone 63 Supervisory Restoral
00	FF	|___|___|	Zone 56 Supervisory Restoral	00	FF	|___|___|	Zone 64 Supervisory Restoral

[57] Low Battery Reporting Codes, Zones 1-16

00	FF	Zone 1 Low Battery	00	FF	Zone 9 Low Battery
00	FF	Zone 2 Low Battery	00	FF	Zone 10 Low Battery
00	FF	Zone 3 Low Battery	00	FF	Zone 11 Low Battery
00	FF	Zone 4 Low Battery	00	FF	Zone 12 Low Battery
00	FF	Zone 5 Low Battery	00	FF	Zone 13 Low Battery
00	FF	Zone 6 Low Battery	00	FF	Zone 14 Low Battery
00	FF	Zone 7 Low Battery	00	FF	Zone 15 Low Battery
00	FF	Zone 8 Low Battery	00	FF	Zone 16 Low Battery

[58] Low Battery Reporting Codes, Zones 17-32

00	FF	Zone 17 Low Battery	00	FF	Zone 25 Low Battery
00	FF	Zone 18 Low Battery	00	FF	Zone 26 Low Battery
00	FF	Zone 19 Low Battery	00	FF	Zone 27 Low Battery
00	FF	Zone 20 Low Battery	00	FF	Zone 28 Low Battery
00	FF	Zone 21 Low Battery	00	FF	Zone 29 Low Battery
00	FF	Zone 22 Low Battery	00	FF	Zone 30 Low Battery
00	FF	Zone 23 Low Battery	00	FF	Zone 31 Low Battery
00	FF	Zone 24 Low Battery	00	FF	Zone 32 Low Battery

[59] Low Battery Reporting Codes, Zones 33-48

Generic Reporting	Full Reporting		Generic Reporting	Full Reporting	
00	FF	Zone 33 Low Battery	00	FF	Zone 41 Low Battery
00	FF	Zone 34 Low Battery	00	FF	Zone 42 Low Battery
00	FF	Zone 35 Low Battery	00	FF	Zone 43 Low Battery
00	FF	Zone 36 Low Battery	00	FF	Zone 44 Low Battery
00	FF	Zone 37 Low Battery	00	FF	Zone 45 Low Battery
00	FF	Zone 38 Low Battery	00	FF	Zone 46 Low Battery
00	FF	Zone 39 Low Battery	00	FF	Zone 47 Low Battery
00	FF	Zone 40 Low Battery	00	FF	Zone 48 Low Battery

[60] Low Battery Reporting Codes, Zones 49-64

00	FF	Zone 49 Low Battery	00	FF	Zone 57 Low Battery
00	FF	Zone 50 Low Battery	00	FF	Zone 58 Low Battery
00	FF	Zone 51 Low Battery	00	FF	Zone 59 Low Battery
00	FF	Zone 52 Low Battery	00	FF	Zone 60 Low Battery
00	FF	Zone 53 Low Battery	00	FF	Zone 61 Low Battery
00	FF	Zone 54 Low Battery	00	FF	Zone 62 Low Battery
00	FF	Zone 55 Low Battery	00	FF	Zone 63 Low Battery
00	FF	Zone 56 Low Battery	00	FF	Zone 64 Low Battery

[61] Low Battery Restoral Reporting Codes, Zones 1-16

00	FF	Zone 1 Low Battery Restoral	00	FF	Zone 9 Low Battery Restoral
00	FF	Zone 2 Low Battery Restoral	00	FF	Zone 10 Low Battery Restoral
00	FF	Zone 3 Low Battery Restoral	00	FF	Zone 11 Low Battery Restoral
00	FF	Zone 4 Low Battery Restoral	00	FF	Zone 12 Low Battery Restoral
00	FF	Zone 5 Low Battery Restoral	00	FF	Zone 13 Low Battery Restoral
00	FF	Zone 6 Low Battery Restoral	00	FF	Zone 14 Low Battery Restoral
00	FF	Zone 7 Low Battery Restoral	00	FF	Zone 15 Low Battery Restoral
00	FF	Zone 8 Low Battery Restoral	00	FF	Zone 16 Low Battery Restoral

[62] Low Battery Restoral Reporting Codes, Zones 17-32

00	FF	|___|___|	Zone 17 Low Battery Restoral	00	FF	|___|___|	Zone 25 Low Battery Restoral
00	FF	|___|___|	Zone 18 Low Battery Restoral	00	FF	|___|___|	Zone 26 Low Battery Restoral
00	FF	|___|___|	Zone 19 Low Battery Restoral	00	FF	|___|___|	Zone 27 Low Battery Restoral
00	FF	|___|___|	Zone 20 Low Battery Restoral	00	FF	|___|___|	Zone 28 Low Battery Restoral
00	FF	|___|___|	Zone 21 Low Battery Restoral	00	FF	|___|___|	Zone 29 Low Battery Restoral
00	FF	|___|___|	Zone 22 Low Battery Restoral	00	FF	|___|___|	Zone 30 Low Battery Restoral
00	FF	|___|___|	Zone 23 Low Battery Restoral	00	FF	|___|___|	Zone 31 Low Battery Restoral
00	FF	|___|___|	Zone 24 Low Battery Restoral	00	FF	|___|___|	Zone 32 Low Battery Restoral

[63] Low Battery Restoral Reporting Codes, Zones 33-48

00	FF	|___|___|	Zone 33 Low Battery Restoral	00	FF	|___|___|	Zone 41 Low Battery Restoral
00	FF	|___|___|	Zone 34 Low Battery Restoral	00	FF	|___|___|	Zone 42 Low Battery Restoral
00	FF	|___|___|	Zone 35 Low Battery Restoral	00	FF	|___|___|	Zone 43 Low Battery Restoral
00	FF	|___|___|	Zone 36 Low Battery Restoral	00	FF	|___|___|	Zone 44 Low Battery Restoral
00	FF	|___|___|	Zone 37 Low Battery Restoral	00	FF	|___|___|	Zone 45 Low Battery Restoral
00	FF	|___|___|	Zone 38 Low Battery Restoral	00	FF	|___|___|	Zone 46 Low Battery Restoral
00	FF	|___|___|	Zone 39 Low Battery Restoral	00	FF	|___|___|	Zone 47 Low Battery Restoral
00	FF	|___|___|	Zone 40 Low Battery Restoral	00	FF	|___|___|	Zone 48 Low Battery Restoral

[64] Low Battery Restoral Reporting Codes, Zones 49-64

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
00	FF	|___|___|	Zone 49 Low Battery Restoral	00	FF	|___|___|	Zone 57 Low Battery Restoral
00	FF	|___|___|	Zone 50 Low Battery Restoral	00	FF	|___|___|	Zone 58 Low Battery Restoral
00	FF	|___|___|	Zone 51 Low Battery Restoral	00	FF	|___|___|	Zone 59 Low Battery Restoral
00	FF	|___|___|	Zone 52 Low Battery Restoral	00	FF	|___|___|	Zone 60 Low Battery Restoral
00	FF	|___|___|	Zone 53 Low Battery Restoral	00	FF	|___|___|	Zone 61 Low Battery Restoral
00	FF	|___|___|	Zone 54 Low Battery Restoral	00	FF	|___|___|	Zone 62 Low Battery Restoral
00	FF	|___|___|	Zone 55 Low Battery Restoral	00	FF	|___|___|	Zone 63 Low Battery Restoral
00	FF	|___|___|	Zone 56 Low Battery Restoral	00	FF	|___|___|	Zone 64 Low Battery Restoral

[65] Closing (Arming) Reporting Codes, Access Codes 1-8

FF	FF	|___|___|	Closing By Access Code 1	FF	FF	|___|___|	Closing By Access Code 5
FF	FF	|___|___|	Closing By Access Code 2	FF	FF	|___|___|	Closing By Access Code 6
FF	FF	|___|___|	Closing By Access Code 3	FF	FF	|___|___|	Closing By Access Code 7
FF	FF	|___|___|	Closing By Access Code 4	FF	FF	|___|___|	Closing By Access Code 8

[66] Closing (Arming) Reporting Codes, Access Codes 9-16

FF	FF	|___|___|	Closing By Access Code 9	FF	FF	|___|___|	Closing By Access Code 13
FF	FF	|___|___|	Closing By Access Code 10	FF	FF	|___|___|	Closing By Access Code 14
FF	FF	|___|___|	Closing By Access Code 11	FF	FF	|___|___|	Closing By Access Code 15
FF	FF	|___|___|	Closing By Access Code 12	FF	FF	|___|___|	Closing By Access Code 16

[67] Closing (Arming) Reporting Codes, Access Codes 17-24

FF	FF	|___|___|	Closing By Access Code 17	FF	FF	|___|___|	Closing By Access Code 21
FF	FF	|___|___|	Closing By Access Code 18	FF	FF	|___|___|	Closing By Access Code 22
FF	FF	|___|___|	Closing By Access Code 19	FF	FF	|___|___|	Closing By Access Code 23
FF	FF	|___|___|	Closing By Access Code 20	FF	FF	|___|___|	Closing By Access Code 24

[68] Closing (Arming) Reporting Codes, Access Codes 25-32

FF	FF	|___|___|	Closing By Access Code 25	FF	FF	|___|___|	Closing By Access Code 29
FF	FF	|___|___|	Closing By Access Code 26	FF	FF	|___|___|	Closing By Access Code 30
FF	FF	|___|___|	Closing By Access Code 27	FF	FF	|___|___|	Closing By Access Code 31
FF	FF	|___|___|	Closing By Access Code 28	FF	FF	|___|___|	Closing By Access Code 32

[69] Miscellaneous Closing (Arming) Reporting Codes

FF	FF	|___|___|	Closing by Duress Code 33	FF	FF	|___|___|	Closing by System Code 42
FF	FF	|___|___|	Closing by Duress Code 34	FF	FF	|___|___|	Partial Closing
FF	FF	|___|___|	Closing by System Code 40	FF	FF	|___|___|	Special Closing
FF	FF	|___|___|	Closing by System Code 41	FF	FF	|___|___|	Late to Close

[70] Opening (Disarming) Reporting Codes, Access Codes 1-8

FF	FF	|___|___|	Opening By Access Code 1	FF	FF	|___|___|	Opening By Access Code 5
FF	FF	|___|___|	Opening By Access Code 2	FF	FF	|___|___|	Opening By Access Code 6
FF	FF	|___|___|	Opening By Access Code 3	FF	FF	|___|___|	Opening By Access Code 7
FF	FF	|___|___|	Opening By Access Code 4	FF	FF	|___|___|	Opening By Access Code 8

[71] Opening (Disarming) Reporting Codes, Access Codes 9-16

FF	FF	|___|___|	Opening By Access Code 9	FF	FF	|___|___|	Opening By Access Code 13
FF	FF	|___|___|	Opening By Access Code 10	FF	FF	|___|___|	Opening By Access Code 14
FF	FF	|___|___|	Opening By Access Code 11	FF	FF	|___|___|	Opening By Access Code 15
FF	FF	|___|___|	Opening By Access Code 12	FF	FF	|___|___|	Opening By Access Code 16

[72] Opening (Disarming) Reporting Codes, Access Codes 17-24

Generic Reporting	Full Reporting			Generic Reporting	Full Reporting		
FF	FF	|___|___|	Opening By Access Code 17	FF	FF	|___|___|	Opening By Access Code 21
FF	FF	|___|___|	Opening By Access Code 18	FF	FF	|___|___|	Opening By Access Code 22
FF	FF	|___|___|	Opening By Access Code 19	FF	FF	|___|___|	Opening By Access Code 23
FF	FF	|___|___|	Opening By Access Code 20	FF	FF	|___|___|	Opening

[73] Opening (Disarming) Reporting Codes, Access Codes 25-32

FF	FF	|___|___|	Opening By Access Code 25	FF	FF	|___|___|	Opening By Access Code 29
FF	FF	|___|___|	Opening By Access Code 26	FF	FF	|___|___|	Opening By Access Code 30
FF	FF	|___|___|	Opening By Access Code 27	FF	FF	|___|___|	Opening By Access Code 31
FF	FF	|___|___|	Opening By Access Code 28	FF	FF	|___|___|	Opening By Access Code 32

[74] Miscellaneous Opening (Disarming) Reporting Codes

FF	FF	|___|___|	Opening by Duress Code 33	FF	FF	|___|___|	Opening by System Code 42
FF	FF	|___|___|	Opening by Duress Code 34	FF	FF	|___|___|	Auto-Arm Cancellation
FF	FF	|___|___|	Opening by System Code 40	FF	FF	|___|___|	Special Opening
FF	FF	|___|___|	Opening by System Code 41				

[75] Maintenance Alarm Reporting Codes

FF	FF	|___|___|	Battery Trouble Alarm	FF	FF	|___|___|	Auxiliary Power Supply Trouble Alarm
FF	FF	|___|___|	AC Failure Trouble Alarm	FF	FF	|___|___|	TLM Trouble Code
FF	FF	|___|___|	Bell Circuit Trouble Alarm	FF	FF	|___|___|	General System Trouble
FF	FF	|___|___|	Fire Trouble Alarm	FF	FF	|___|___|	General System Supervisory

[76] Maintenance Restoral Reporting Codes

FF	FF	|___|___|	Battery Trouble Restoral	FF	FF	|___|___|	Auxiliary Power Supply Trouble Restoral
FF	FF	|___|___|	AC Failure Trouble Restoral	FF	FF	|___|___|	TLM Restoral
FF	FF	|___|___|	Bell Circuit Trouble Restoral	FF	FF	|___|___|	General System Trouble Restoral
FF	FF	|___|___|	Fire Trouble Restoral	FF	FF	|___|___|	General System Supervisory Restoral

[77] Miscellaneous Maintenance Restoral Reporting Codes

00*	FF	|___|___|	Phone #1 FTC	00	FF	|___|___|	Event Buffer 75% Full
00*	FF	|___|___|	Phone #2 FTC	00	FF	|___|___|	DLS Lead IN
00*	FF	|___|___|	Phone #1 FTC Restore	00	FF	|___|___|	DLS Lead OUT
00*	FF	|___|___|	Phone #2 FTC Restore	00	FF	|___|___|	Delinquency Reporting Code

* ***For UL Listed applications this reporting code must be activated.***

[78] Test Transmission Reporting Codes

00	FF	|___|___|	Periodic Test Transmission	FF	FF	|___|___|	Skyroute Test TX Code
00	FF	|___|___|	System Test				

[79] T-Link Trouble Reporting Codes

00	00	|___|___|	T-Link Communication Fault	00	00	|___|___|	T-Link Network Restore
00	00	|___|___|	T-Link Communication Restore	00	00	|___|___|	T-Link Receiver Trouble
00	00	|___|___|	T-Link Network Fault	00	00	|___|___|	T-Link Receiver Trouble Restore

Section 8 - Testing

Testing your control to the Central Station

Be sure to perform normal tests with your central station via the land line.

There is a 1-minute delay between successive signals sent by the Skyroute transmitter.

For example: If you trip 3 zones and you have the Skyroute module programmed to send the alarm and restoral reporting codes for each zone (6 signals in total), it will take about 5 minutes for all the signals to go through. The first signal goes through immediately. There will be a 1-minute delay before the second signal is sent and another 1-minute delay before the third signal is sent, etc.

Section 9 - Troubleshooting

Problem: • LED5 is blinking 2 times - Radio is not powered

Solution: • Make sure that BELL(+) on the panel is connected to BELL IN on the Skyroute module.
• Perform a default on the Skyroute module.

Problem: • LED5 is blinking 4 times - No service

Solution: • Relocate either the Skyroute transmitter or the antenna to a different location on the premises. Higher or closer to a window usually improves the signal strength.
• Remove the Skyroute transmitter from any environmental interference such as AC power lines or large pieces of metal duct work, water heater, electrical box, etc.

Problem: • LED5 is blinking 5 times - Failure to communicate

Solution: • This trouble means that the Skyroute transceiver was not acknowledged from the central station. To clear this trouble, perform a reset: [*8] [Installer code] [803] [99] [FF]. To prevent this trouble in the future, make sure your signal strength is good.

Problem: • LED5 is blinking 6 times - Skyroute transceiver is not activated with Connect 24

Solution: • Activate the Skyroute transceiver with Connect 24. Please have your information ready when you call the VRU. If you do not have these numbers, please call 888-251-7458 (US) or 888-955-5583 (Canada).

Problem: • Skyroute unit displays poor signal strength.

Solution: • Relocate either the Skyroute transmitter or the antenna to a different location on the premises. Higher or closer to a window usually improves the signal strength.
• Remove the Skyroute transmitter from any environmental interference such as AC power lines or large pieces of metal duct work, water heater, electrical box, etc.

Problem: • Skyroute transmitter unit has good signal strength but it is not transmitting the signals.

Solution: • Make sure that the Skyroute transmitter is programmed for the proper channel (A or B). Correct channel for your area can be obtained from the SID list provided by Connect 24. The default channel is B.

Problem: • My Skyroute transmitter is sending Zone 98 when I wanted to send the actual zone numbers.

Solution: • Enter the installer ID in Installer Programming (*8). Enter 00 in sub-section [99] of section [803]. This will default all the programming to factory settings. You will then have to program your Skyroute module completely. You will notice that LED5 is blinking 6 times. Please see the following problem for solution.

Problem: • The Skyroute transmitter was activated, but a default was performed; now LED5 is blinking 6 times.

Solution: • Enter the installer ID in Installer Programming (*8). Enter sub-section [06] of section [803] and turn bit# 4 on.
• Enter FF (which is *66) in sub-section [99]. The Skyroute module will restart.
• LED5 should be blinking once.

Section 10 - For Your Records

Location _____

_____

_____

_____

Skyroute MIN _____

Rate Plan _____

Central Station _____

Account Number _____

Test Time and Day _____

Additional Notes _____

_____

_____

Appendix A - Reporting Codes

Skyroute Programming Section	Description	Skyroute Transmission Option Section [22]	Full Reporting		Generic Reporting	
			SIA (event code-zone #)	Contact ID (event code-zone #)	SIA (event code-zone #)	Contact ID (event code-zone #)
30	Zone Alarm (Zone 1 to Zone 64)	See Appendix B				
35	Zone Restore (Zone 1 to Zone 64)					
38	Duress Alarm	1 (Alarms/Restoral)	HA-00	E122-000	HA-00	E122-000
38	Opening After Alarm	1 (Alarms/Restoral)	OR-00	E458-000	OR-00	E458-000
38	Recent Closing	1 (Alarms/Restoral)	CR-00	E459-000	CR-00	E459-000
38	Zone Expander Supervisory Alarm	1 (Alarms/Restoral)	UA-00	E140-000	UA-98	E140-098
38	Zone Expander Supervisory Restore	1 (Alarms/Restoral)	UH-00	R140-000	UH-00	R140-000
39	Keypad Fire	1 (Alarms/Restoral)	FA-00	E100-000	FA-98	E110-098
39	Keypad Medical	1 (Alarms/Restoral)	MA-00	E100-000	MA-00	E100-000
39	Keypad Panic	1 (Alarms/Restoral)	PA-00	E120-000	PA-98	E120-098
39	PGM 2 Alarm	See Appendix B				
39	Keypad Fire Restore	1 (Alarms/Restoral)	FH-00	R110-000	FH-00	R110-000
39	Keypad Medical Restore	1 (Alarms/Restoral)	MH-00	R100-000	MH-00	R100-000
39	Keypad Panic Restore	1 (Alarms/Restoral)	PH-00	R120-000	PH-00	R120-000
39	PGM 2 Restore	See Appendix B				
40	Tamper Alarm Z1-Z16	See Appendix C				
41	Tamper Alarm Z17-Z32					
42	Tamper Alarm Z33-Z48					
43	Tamper Alarm Z49-Z64					
44	Tamper Restore Z1-Z16					
45	Tamper Restore Z17-Z32					
46	Tamper Restore Z33-Z48					
47	Tamper Restore Z49-Z64					
48	General System Tamper	2 (Tampers/Restoral)	ES-00	E145-000	ES-00	E145-00
48	General System Tamper Restore	2 (Tampers/Restoral)	ES-00	R145-000	EJ-00	R145-000
48	Keypad Lock Out	2 (Tampers/Restoral)	JA-00	E461-000	JA-00	E461-000
48	General system Tamper Restore	6 (Maintenance/Restoral)	TR-00	R137-000	TR-00	R137-000
48	General system Tamper Alarm	6 (Maintenance/Restoral)	TA-00	E137-000	TA-00	E137-000
49	Zone Supervisory Alarm Z1-Z16	3 (Supervisory/Restoral)	UT-XX*	E300-0XX	UT-XX	E300-0XX
50	Zone Supervisory Alarm Z17-Z32	3 (Supervisory/Restoral)	UT-XX*	E300-0XX	UT-XX	E300-0XX
51	Zone Supervisory Alarm Z33-Z48	3 (Supervisory/Restoral)	UT-XX*	E300-0XX	UT-XX	E300-0XX
52	Zone Supervisory Alarm Z49-Z64	3 (Supervisory/Restoral)	UT-XX*	E300-0XX	UT-XX	E300-0XX
53	Zone Supervisory Restoral Z1-Z16	3 (Supervisory/Restoral)	UJ-XXX*	R300-0XX	UJ-XXX	R300-0XX
53	Zone Supervisory Restoral Z17-Z32	3 (Supervisory/Restoral)	UJ-XXX*	R300-0XX	UJ-XXX	R300-0XX
53	Zone Supervisory Restoral Z33-Z48	3 (Supervisory/Restoral)	UJ-XXX*	R300-0XX	UJ-XXX	R300-0XX
53	Zone Supervisory Restoral Z49-Z64	3 (Supervisory/Restoral)	UJ-XXX*	R300-0XX	UJ-XXX	R300-0XX
57	Zone Low Battery Z1-Z8	4 (Low Battery/Restoral)	XT-XX	E302-0XX	XT-XX	E302-0XX
58	Zone Low Battery Z9-Z16	4 (Low Battery/Restoral)	XT-XX	E302-0XX	XT-XX	E302-0XX
59	Zone Low Battery Z17-Z24	4 (Low Battery/Restoral)	XT-XX	E302-0XX	XT-XX	E302-0XX
60	Zone Low Battery Z25-Z32	4 (Low Battery/Restoral)	XT-XX	E302-0XX	XT-XX	E302-0XX
61	Zone Low Battery Restore Z1-Z8	4 (Low Battery/Restoral)	XR-XX	R302-0XX	XR-XX	R302-0XX
62	Zone Low Battery Restore Z9-Z16	4 (Low Battery/Restoral)	XR-XX	R302-0XX	XR-XX	R302-0XX
63	Zone Low Battery Restore Z17-Z24	4 (Low Battery/Restoral)	XR-XX	R302-0XX	XR-XX	R302-0XX
64	Zone Low Battery RestoreZ25-Z32	4 (Low Battery/Restoral)	XR-XX	R302-0XX	XR-XX	R302-0XX
65	Closing (User 1 to User 16)	5 (Opening/Closing)	CL-XX	R401-0XX	CL-XX	R401-0XX
67	Closing (User 17 to User 34)	5 (Opening/Closing)	CL-XX	R401-0XX	CL-XX	R401-0XX
69	Closing (User 40 to User 42)	5 (Opening/Closing)	CL-XX	R401-0XX	CL-XX	R401-0XX
69	Partial Closing	5 (Opening/Closing)	CF-XX	R456-0XX	CF-XX	R456-0XX
69	Special Closing	5 (Opening/Closing)	CL-00	R401-000	CL-00	R401-000
69	Late to Close	5 (Opening/Closing)	CI-XX	E454-0XX	CI-XX	E454-0XX
70	Openings (User 1 to User 34)	5 (Opening/Closing)	OP-XX	E401-0XX	OP-XX	E401-0XX
74	Opening (User 40 to User 42)	5 (Opening/Closing)	OP-XX	E401-0XX	OP-XX	E401-0XX
74	Auto-Arm Cancellation	5 (Opening/Closing)	CI-00	E454-000	CI-00	E454-000
74	Special Opening	5 (Opening/Closing)	OP-00	E401-000	OP-00	E401-000
75	Battery Trouble	6 (Maintenance/Restoral)	YT-00	E302-000	YT-00	E302-000
75	AC Failure	6 (Maintenance/Restoral)	AT-00	E301-000	AT-00	E301-000
75	Bell Circuit Trouble	6 (Maintenance/Restoral)	YA-00	E321-000	YA-00	E321-000
75	Fire Trouble	6 (Maintenance/Restoral)	FT-00	E373-000	FT-00	E373-000
75	Aux. Power Trouble	6 (Maintenance/Restoral)	YP-00	E312-000	YP-00	E312-000
75	TLM Trouble	6 (Maintenance/Restoral)	LT-00	E351-000	LT-00	E351-000
75	General System Trouble	6 (Maintenance/Restoral)	YX-00	E300-000	YX-00	E300-000
75	General System Supervisory	6 (Maintenance/Restoral)	ET-00	E330-000	ET-00	E330-000
75	General System Supervisory Alarm	6 (Maintenance/Restoral)	ET-00	E330-000	ET-00	E330-000
76	Battery Trouble Restore	6 (Maintenance/Restoral)	YR-00	E302-000	YR-00	E302-000
76	AC Failure Restore	6 (Maintenance/Restoral)	AR-00	R301-000	AR-00	R301-000
76	Bell Circuit Trouble Restore	6 (Maintenance/Restoral)	YH-00	R321-099	YH-00	R321-000
76	Fire Trouble Restore	6 (Maintenance/Restoral)	FJ-00	R373-000	FJ-00	R373-000
76	Aux. Power Trouble Restore	6 (Maintenance/Restoral)	YQ-00	R312-000	YQ-00	R312-000
76	TLM Trouble Restore	6 (Maintenance/Restoral)	LR-00	R351-000	LR-00	R351-000

Skyroute Programming Section	Description	Skyroute Transmission Option Section [22]	Full Reporting		Generic Reporting	
			SIA (event code-zone #)	Contact ID (event code-zone #)	SIA (event code-zone #)	Contact ID (event code-zone #)
76	General System Trouble Restore	6 (Maintenance/Restoral)	YZ-00	R300-000	YZ-00	R300-000
76	General System Supervisory Restore	6 (Maintenance/Restoral)	ER-00	R330-000	ER-00	R330-000
76	General System Supervisory Restore	6 (Maintenance/Restoral)	ER-00	R330-000	ER-00	R330-000
77	FTC Phone #1	6 (Maintenance/Restoral)	YC-00	E354-000	YC-00	E354-000
77	FTC Phone #2	6 (Maintenance/Restoral)	YC-00	E354-000	YC-00	E354-000
77	Event Buffer 75% Full	6 (Maintenance/Restoral)	JL-00	E622-000	JL-00	E622-000
77	DLS Lead IN	6 (Maintenance/Restoral)	RB-00	E627-000	RB-00	E627-000
77	DLS Lead OUT	6 (Maintenance/Restoral)	RS-00	R628-000	RS-00	R628-000
77	FTC Phone #1 Restore	6 (Maintenance/Restoral)	YK-00	R354-000	YK-00	R354-000
77	FTC Phone #2 Restore	6 (Maintenance/Restoral)	YK-00	R354-000	YK-00	R354-000
78	Periodic Test Transmission	6 (Maintenance/Restoral)	RP-00	E602-000	RP-00	E602-000
78	System Test	6 (Maintenance/Restoral)	RX-00	E601-000	RX-00	E601-000
78	Skyroute Test Transmission	6 (Maintenance/Restoral)	TX-00	E603-000	TX-00	E603-000
78	Police Code	1 (Alarms/Restoral)	BM-00	E139-000	BM-00	E139-000
78	Delinquency Reporting Code	6 (Maintenance/Restoral)	CD-00	E654-000	CD-00	E654-000

** When the corresponding zone definition is programmed for Fire or Waterflow, Zone Supervisories will be sent as FT-XX/FJ-XX or ST-XX/SJ-XX respectively (E373-0XX/R373-0XX for Contact ID).*

Appendix B - Zone Alarms/Restorals

Only SIA event code-zone # has been done. Connect24 does conversion from SIA to Contact ID. This has been done using PC5020 v3.2 and Skyroute v2.4 test 11.

PGM2 Definition	Zone Definition	Description	Skyroute Transmission Option Section [22]	Full Reporting		Generic Reporting	
				SIA (event code-zone #)	Contact ID (event code-zone#)	SIA (event code-zone#)	Contact ID (event code-zone#)
-	01	Delay 1	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-98 / BH-XX	E130-0098 / R130-0XX
-	02	Delay 2	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-98 / BH-XX	E130-0098 / R130-0XX
-	03	Instant	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-98 / BH-XX	E130-0098 / R130-0XX
-	04	Interior	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-98 / BH-XX	E130-0098 / R130-0XX
-	05	Interior, Stay-Away	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-98 / BH-XX	E130-0098 / R130-0XX
-	06	Delay, Stay-Away	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-98 / BH-XX	E130-0098 / R130-0XX
-	07	Delayed 24 Hour Fire (Hardwired0	1 (Alarm/Restoral)	FA-XX / FH-XX	E110-0XX / R110-0XX	FA-98 / FH-XX	E110-098 / R110-0XX
-	08	Standard 24 Hour Fire (Hardwired)	1 (Alarm/Restoral)	FA-XX / FH-XX	E110-0XX / R110-0XX	FA-98 / FH-XX	E110-098 / R110-0XX
-	09	24 Hour Supervisory (LINKS)	1 (Alarm/Restoral)	US-XX / UR-XX	E150-0XX / R150-0XX	UA-98 / UR-XX	E140-098 / R140-0XX
-	10	24 Hour Supervisor Buzzer	1 (Alarm/Restoral)	UA-XX / UH-XX	E140-0XX / R140-0XX	UA-98 / UH-XX	E140-098 / R140-0XX
-	11	24 Hour Burglary	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-98 / BH-XX	E130-0XX / R130-0XX
-	12	24 Hour Hold-Up	1 (Alarm/Restoral)	HA-XX / HH-XX	E122-0XX / R122-0XX	PA-98 / HH-XX	E120-098 / R122-0XX
-	13	24 Hour Gas	1 (Alarm/Restoral)	GA-XX / GH-XX	E151-0XX / R151-0XX	GA-XX / GH-XX	E151-0XX / R151-0XX
-	14	24 Hour Heat	1 (Alarm/Restoral)	KA-XX / KH-XX	E158-0XX / R158-0XX	KA-XX / KH-XX	E158-0XX / R158-0XX
-	15	24 Hour Medical	1 (Alarm/Restoral)	MA-XX / MH-XX	E100-0XX / R100-0XX	MA-98 / MH-XX	E100-0098 / R100-0XX
-	16	24 Hour Panic	1 (Alarm/Restoral)	PA-XX / PH-XX	E120-0XX / R120-0XX	PA-98 / PH-XX	E120-0098 / R120-0XX
-	17	24 Hour Emergency	1 (Alarm/Restoral)	QA-XX / QH-XX	E101-0XX / R101-0XX	UA-98 / QH-XX	E140-0098 / R101-0XX
-	18	24 Hour Sprinkler	1 (Alarm/Restoral)	SA-XX / SH-XX	E113-0XX / R113-0XX	SA-XX / SH-XX	E113-0XX / R113-0XX
-	19	24 Hour Water	1 (Alarm/Restoral)	WA-XX / WH-XX	E154-0XX / R154-0XX	WA-XX / WH-XX	E154-0XX / R154-0XX
-	20	24 Hour Freeze	1 (Alarm/Restoral)	ZA-XX / ZH-XX	E159-0XX / R159-0XX	ZA-XX / ZH-XX	E159-0XX / R159-0XX
-	21	24 Hour Latching Tamper	1 (Alarm/Restoral)	UA-XX / UH-XX	E140-0XX / R140-0XX	UA-98 / UH-XX	E140-0098 / R140-0XX
-	*22	Momentary Keyswitch Arm	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-98 / BH-XX	E130-0098 / R130-0XX
-	*23	Maintained Keyswitch Arm	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-98 / BH-XX	E130-0098 / R130-0XX
-	*24	LINKS Answer	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-98 / BH-XX	E130-0098 / R130-0XX
-	25	Interior Delay	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA 98 / BH-XX	E130-0098 / R130-0XX
-	*26	24 Hr Non Alarm	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-98 / BH-XX	E130-0098 / R130-0XX
-	27	Delayed 24Hr Waterflow	1 (Alarm/Restoral)	SA-XX / SH-XX	E113-0XX / R113-0XX	SA-XX / SH-XX	E113-0XX / R113-0XX
-	28	Instant 24Hr Waterflow	1 (Alarm/Restoral)	SA-XX / SH-XX	E113-0XX / R113-0XX	SA-XX / SH-XX	E113-0XX / R113-0XX
-	29	Auto Verified Fire	1 (Alarm/Restoral)	FA-XX / FH-XX	E110-0XX / R110-0XX	FA-98 / FH-XX	E110-098 / R110-0XX
-	30	Fire Supervisory	1 (Alarm/Restoral)	FS-XX / FV-XX	E200-0XX / R200-0XX	FA-98 / FV-XX	E110-098 / R200-0XX
-	31	Day Zone	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-98 / BH-XX	E130-0098 / R130-0XX

PGM2 Definition	Zone Definition	Description	Skyroute Transmission Option Section [22]	Full Reporting		Generic Reporting	
				SIA (event code-zone #)	Contact ID (event code-zone#)	SIA (event code-zone#)	Contact ID (event code-zone#)
-	*32	Instant Stay/Away	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-XX / BH-XX	E130-0XX / R130-0XX
-	*33	24 Hr. Bell/Buzzer	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-XX / BH-XX	E130-0XX / R130-0XX
-	*34	Delay Night/Away	1 (Alarm/Restoral)	BA-XX / BH-XX	E130-0XX / R130-0XX	BA-XX / BH-XX	E130-0XX / R130-0XX
-	87	Delayed 24 Hour Fire (wireless)	1 (Alarm/Restoral)	FA-XX / FH-XX	E110-0XX / R110-0XX	FA-98 / FH-XX	E110-098 / R110-0XX
-	88	Standard 24 Hour Fire (wireless)	1 (Alarm/Restoral)	FA-XX / FH-XX	E110-0XX / R110-0XX	FA-98 / FH-XX	E110-098 / R110-0XX
04	-	2-Wire Smoke	1 (Alarm/Restoral)	FA-00 / FH-00	E110-0XX / R110-0XX	FA-98 / FH-98	E110-098 / R110-098
23	-	Silent 24Hr	1 (Alarm/Restoral)	UA-00 / UH-00	E140-0XX / R140-0XX	UA-98 / UH-98	E140-0098 / R140-0XX
24	-	Audible 24 Hour	1 (Alarm/Restoral)	UA-00 / UH-00	E140-0XX / R140-0XX	UA-98 / UH-98	E140-0098 / R140-0XX

NOTE: *The alarm/restoral reporting codes for zone types 22, 23, 24, 26 are done using the Walk test mode of the panel.*

Appendix C - Tamper Alarms /Restorals For Different Zone Definitions in Full Mode and Generic Mode

Only SIA event code-zone # has been done, Connect 24 does conversion from SIA to Contact ID. This has been done using PC5020 Version 3.20 and Skyroute Version 2.4 test 11.

Zone Definition	Description	Skyroute Transmission Option Section [22]	Full Reporting		Generic Reporting	
			SIA (event code-zone #)	Contact ID (event code-zone #)	SIA (event code-zone #)	Contact ID (event code-zone #)
01	Delay 1	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
02	Delay 2	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
03	Instant	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
04	Interior	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
05	Interior, Stay-Away	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
06	Delay, Stay-Away	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
07	Delayed 24 Hour Fire (Hardwired0	2 (Tampers/Restoral)	FT-XX / FJ-XX	E373-0XX / R373-0XX	FT-XX / FJ-XX	E373-0XX / R373-0XX
08	Standard 24 Hour Fire (Hardwired)	2 (Tampers/Restoral)	FT-XX / FJ-XX	E373-0XX / R373-0XX	FT-XX / FJ-XX	E373-0XX / R373-0XX
09	24 Hour Supervisory (LINKS)	2 (Tampers/Restoral)	UT-XX / UJ-XX	E380-0XX / R380-0XX	UT-XX / UJ-XX	E380-0XX / R380-0XX
10	24 Hour Supervisor Buzzer	2 (Tampers/Restoral)	UT-XX / UJ-XX	E380-0XX / R380-0XX	UT-XX / UJ-XX	E380-0XX / R380-0XX
11	24 Hour Burglary	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
12	24 Hour Hold-Up	2 (Tampers/Restoral)	HT-XX / HJ-XX	E380-0XX / R380-0XX	HT-XX / HJ-XX	E380-0XX / R380-0XX
13	24 Hour Gas	2 (Tampers/Restoral)	GT-XX / GJ-XX	E380-0XX / R380-0XX	GT-XX / GJ-XX	E380-0XX / R380-0XX
14	24 Hour Heat	2 (Tampers/Restoral)	KT-XX / KJ-XX	E380-0XX / R380-0XX	KT-XX / KJ-XX	E380-0XX / R380-0XX
15	24 Hour Medical	2 (Tampers/Restoral)	MT-XX / MJ-XX	E380-0XX / R380-0XX	MT-XX / MJ-XX	E380-0XX / R380-0XX
16	24 Hour Panic	2 (Tampers/Restoral)	PT-XX / PJ-XX	E380-0XX / R380-0XX	PT-XX / PJ-XX	E380-0XX / R380-0XX
17	24 Hour Emergency	2 (Tampers/Restoral)	QT-XX / QJ-XX	E380-0XX / R380-0XX	QT-XX / QJ-XX	E380-0XX / R380-0XX
18	24 Hour Sprinkler	2 (Tampers/Restoral)	ST-XX / SJ-XX	E373-0XX / R373-0XX	ST-XX / SJ-XX	E373-0XX / R373-0XX
19	24 Hour Water	2 (Tampers/Restoral)	WT-XX / WJ-XX	E380-0XX / R380-0XX	WT-XX / WJ-XX	E380-0XX / R380-0XX
20	24 Hour Freeze	2 (Tampers/Restoral)	ZT-XX / ZJ-XX	E380-0XX / R380-0XX	ZT-XX / ZJ-XX	E380-0XX / R380-0XX
21	24 Hour Latching Tamper	2 (Tampers/Restoral)	UT-XX / UJ-XX	E380-0XX / R380-0XX	UT-XX / UJ-XX	E380-0XX / R380-0XX
*22	Momentary Keyswitch Arm	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
*23	Maintained Keyswitch Arm	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
*24	LINKS Answer	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
25	Interior Delay	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
*26	24 Hr Non Alarm	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
27	Delayed 24Hr Waterflow	2 (Tampers/Restoral)	ST-XX / SJ-XX	E373-0XX / R373-0XX	ST-XX / SJ-XX	E373-0XX / R373-0XX
28	Instant 24Hr Waterflow	2 (Tampers/Restoral)	ST-XX / SJ-XX	E373-0XX / R373-0XX	ST-XX / SJ-XX	E373-0XX / R373-0XX
29	Auto Verified Fire	2 (Tampers/Restoral)	FT-XX / FJ-XX	E373-0XX / R373-0XX	FT-XX / FJ-XX	E373-0XX / R373-0XX
30	Fire Supervisory	2 (Tampers/Restoral)	FT-XX / FJ-XX	E373-0XX / R373-0XX	FT-XX / FJ-XX	E373-0XX / R373-0XX
31	Day Zone	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
*32	Instant Stay/Away	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
*33	24 Hr. Bell/Buzzer	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
*34	Delay Night/Away	2 (Tampers/Restoral)	BT-XX / BJ-XX	E380-0XX / R380-0XX	BT-XX / BJ-XX	E380-0XX / R380-0XX
87	Delayed 24 Hour Fire (wireless)	2 (Tampers/Restoral)	FT-XX / FJ-XX	E373-0XX / R373-0XX	FT-XX / FJ-XX	E373-0XX / R373-0XX
88	Standard 24 Hour Fire (wireless)	2 (Tampers/Restoral)	FT-XX / FJ-XX	E373-0XX / R373-0XX	FT-XX / FJ-XX	E373-0XX / R373-0XX

Appendix D - Decimal - Hex - Binary Conversion Chart

DEC	HEX	Binary	DEC	HEX	Binary	DEC	HEX	Binary	DEC	HEX	Binary
000	00	0000 0000	064	40	0100 0000	128	80	0100 0000	192	C0	0100 0000
001	01	0000 0001	065	41	0100 0001	129	81	0100 0001	193	C1	0100 0001
002	02	0000 0010	066	42	0100 0010	130	82	0100 0010	194	C2	0100 0010
003	03	0000 0011	067	43	0100 0011	131	83	0100 0011	195	C3	0100 0011
004	04	0000 0100	068	44	0100 0100	132	84	0100 0100	196	C4	0100 0100
005	05	0000 0101	069	45	0100 0101	133	85	0100 0101	197	C5	0100 0101
006	06	0000 0110	070	46	0100 0110	134	86	0100 0110	198	C6	0100 0110
007	07	0000 0111	071	47	0100 0111	135	87	0100 0111	199	C7	0100 0111
008	08	0000 1000	072	48	0100 1000	136	88	0100 1000	200	C8	0100 1000
009	09	0000 1001	073	49	0100 1001	137	89	0100 1001	201	C9	0100 1001
010	0A	0000 1010	074	4A	0100 1010	138	8A	0100 1010	202	CA	0100 1010
011	0B	0000 1011	075	4B	0100 1011	139	8B	0100 1011	203	CB	0100 1011
012	0C	0000 1100	076	4C	0100 1100	140	8C	0100 1100	204	CC	0100 1100
013	0D	0000 1101	077	4D	0100 1101	141	8D	0100 1101	205	CD	0100 1101
014	0E	0000 1110	078	4E	0100 1110	142	8E	0100 1110	206	CE	0100 1110
015	0F	0000 1111	079	4F	0100 1111	143	8F	0100 1111	207	CF	0100 1111
016	10	0001 0000	080	50	0101 0000	144	90	0101 0000	208	D0	0101 0000
017	11	0001 0001	081	51	0101 0001	145	91	0101 0001	209	D1	0101 0001
018	12	0001 0010	082	52	0101 0010	146	92	0101 0010	210	D2	0101 0010
019	13	0001 0011	083	53	0101 0011	147	93	0101 0011	211	D3	0101 0011
020	14	0001 0100	084	54	0101 0100	148	94	0101 0100	212	D4	0101 0100
021	15	0001 0101	085	55	0101 0101	149	95	0101 0101	213	D5	0101 0101
022	16	0001 0110	0860	56	0101 0110	150	96	0101 0110	214	D6	0101 0110
023	17	0001 0111	87	57	0101 0111	151	97	0101 0111	215	D7	0101 0111
024	18	0001 1000	088	58	0101 1000	152	98	0101 1000	216	D8	0101 1000
025	19	0001 1001	089	59	0101 1001	153	99	0101 1001	217	D9	0101 1001
026	1A	0001 1010	090	5A	0101 1010	154	9A	0101 1010	218	DA	0101 1010
027	1B	0001 1011	091	5B	0101 1011	155	9B	0101 1011	219	DB	0101 1011
028	1C	0001 1100	092	5C	0101 1100	156	9C	0101 1100	220	DC	0101 1100
029	1D	0001 1101	093	5D	0101 1101	157	9D	0101 1101	221	DD	0101 1101
030	1E	0001 1110	094	5E	0101 1110	158	9E	0101 1110	222	DE	0101 1110
031	1F	0001 1111	095	5F	0101 1111	159	9F	0101 1111	223	DF	0101 1111
032	20	0010 0000	096	60	0110 0000	160	A0	0110 0000	224	E0	0110 0000
033	21	0010 0001	097	61	0110 0001	161	A1	0110 0001	225	E1	0110 0001
034	22	0010 0010	098	62	0110 0010	162	A2	0110 0010	226	E2	0110 0010
035	23	0010 0011	099	63	0110 0011	163	A3	0110 0011	227	E3	0110 0011
036	24	0010 0100	100	64	0110 0100	164	A4	0110 0100	228	E4	0110 0100
037	25	0010 0101	101	65	0110 0101	165	A5	0110 0101	229	E5	0110 0101
038	26	0010 0110	102	66	0110 0110	166	A6	0110 0110	230	E6	0110 0110
039	27	0010 0111	103	67	0110 0111	167	A7	0110 0111	231	E7	0110 0111
040	28	0010 1000	104	68	0110 1000	168	A8	0110 1000	232	E8	0110 1000
041	29	0010 1001	105	69	0110 1001	169	A9	0110 1001	233	E9	0110 1001
042	2A	0010 1010	106	6A	0110 1010	170	AA	0110 1010	234	EA	0110 1010
043	2B	0010 1011	107	6B	0110 1011	171	AB	0110 1011	235	EB	0110 1011
044	2C	0010 1100	108	6C	0110 1100	172	AC	0110 1100	236	EC	0110 1100
045	2D	0010 1101	109	6D	0110 1101	173	AD	0110 1101	237	ED	0110 1101
046	2E	0010 1110	110	6E	0110 1110	174	AE	0110 1110	238	EE	0110 1110
047	2F	0010 1111	111	6F	0110 1111	175	AF	0110 1111	239	EF	0110 1111
048	30	0011 0000	112	70	0111 0000	176	B0	0111 0000	240	F0	0111 0000
049	31	0011 0001	113	71	0111 0001	177	B1	0111 0001	241	F1	0111 0001
050	32	0011 0010	114	72	0111 0010	178	B2	0111 0010	242	F2	0111 0010
051	33	0011 0011	115	73	0111 0011	179	B3	0111 0011	243	F3	0111 0011
052	34	0011 0100	116	74	0111 0100	180	B4	0111 0100	244	F4	0111 0100
053	35	0011 0101	117	75	0111 0101	181	B5	0111 0101	245	F5	0111 0101
054	36	0011 0110	118	76	0111 0110	182	B6	0111 0110	246	F6	0111 0110
055	37	0011 0111	119	77	0111 0111	183	B7	0111 0111	247	F7	0111 0111
056	38	0011 1000	120	78	0111 1000	184	B8	0111 1000	248	F8	0111 1000
057	39	0011 1001	121	79	0111 1001	185	B9	0111 1001	249	F9	0111 1001
058	3A	0011 1010	122	7A	0111 1010	186	BA	0111 1010	250	FA	0111 1010
059	3B	0011 1011	123	7B	0111 1011	187	BB	0111 1011	251	FB	0111 1011
060	3C	0011 1100	124	7C	0111 1100	188	BC	0111 1100	252	FC	0111 1100
061	3D	0011 1101	125	7D	0111 1101	189	BD	0111 1101	253	FD	0111 1101
062	3E	0011 1110	126	7E	0111 1110	190	BE	0111 1110	254	FE	0111 1110
063	3F	0011 1111	127	7F	0111 1111	191	BF	0111 1111	255	FF	0111 1111

WARNING Please Read Carefully

Note to Installers

This warning contains vital information. As the only individual in contact with system users, it is your responsibility to bring each item in this warning to the attention of the users of this system.

System Failures

This system has been carefully designed to be as effective as possible. There are circumstances, however, involving fire, burglary, or other types of emergencies where it may not provide protection. Any alarm system of any type may be compromised deliberately or may fail to operate as expected for a variety of reasons. Some but not all of these reasons may be:

■ Inadequate Installation

A security system must be installed properly in order to provide adequate protection. Every installation should be evaluated by a security professional to ensure that all access points and areas are covered. Locks and latches on windows and doors must be secure and operate as intended. Windows, doors, walls, ceilings and other building materials must be of sufficient strength and construction to provide the level of protection expected. A reevaluation must be done during and after any construction activity. An evaluation by the fire and/or police department is highly recommended if this service is available.

■ Criminal Knowledge

This system contains security features which were known to be effective at the time of manufacture. It is possible for persons with criminal intent to develop techniques which reduce the effectiveness of these features. It is important that a security system be reviewed periodically to ensure that its features remain effective and that it be updated or replaced if it is found that it does not provide the protection expected.

■ Access by Intruders

Intruders may enter through an unprotected access point, circumvent a sensing device, evade detection by moving through an area of insufficient coverage, disconnect a warning device, or interfere with or prevent the proper operation of the system.

■ Power Failure

Control units, intrusion detectors, smoke detectors and many other security devices require an adequate power supply for proper operation. If a device operates from batteries, it is possible for the batteries to fail. Even if the batteries have not failed, they must be charged, in good condition and installed correctly. If a device operates only by AC power, any interruption, however brief, will render that device inoperative while it does not have power. Power interruptions of any length are often accompanied by voltage fluctuations which may damage electronic equipment such as a security system. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.

■ Failure of Replaceable Batteries

This system's wireless transmitters have been designed to provide several years of battery life under normal conditions. The expected battery life is a function of the device environment, usage and type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. While each transmitting device has a low battery monitor which identifies when the batteries need to be replaced, this monitor may fail to operate as expected. Regular testing and maintenance will keep the system in good operating condition.

■ Compromise of Radio Frequency (Wireless) Devices

Signals may not reach the receiver under all circumstances which could include metal objects placed on or near the radio path or deliberate jamming or other inadvertent radio signal interference.

■ System Users

A user may not be able to operate a panic or emergency switch possibly due to permanent or temporary physical disability, inability to reach the device in time, or unfamiliarity with the correct operation. It is important that all system users be trained in the correct operation of the alarm system and that they know how to respond when the system indicates an alarm.

■ Smoke Detectors

Smoke detectors that are a part of this system may not properly alert occupants of a fire for a number of reasons, some of which follow. The smoke detectors may have been improperly installed or positioned. Smoke may not be able to reach the smoke detectors, such as when the fire is in a chimney, walls or roofs, or on the other side of closed doors. Smoke detectors may not detect smoke from fires on another level of the residence or building.

Every fire is different in the amount of smoke produced and the rate of burning. Smoke detectors cannot sense all types of fires equally well. Smoke detectors may not provide timely warning of fires caused by carelessness or safety hazards such as smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches or arson.

Even if the smoke detector operates as intended, there may be circumstances when there is insufficient warning to allow all occupants to escape in time to avoid injury or death.

■ Motion Detectors

Motion detectors can only detect motion within the designated areas as shown in their respective installation instructions. They cannot discriminate between intruders and intended occupants. Motion detectors do not provide volumetric area protection. They have multiple beams of detection and motion can only be detected in unobstructed areas covered by these beams. They cannot detect motion which occurs behind walls, ceilings, floor, closed doors, glass partitions, glass doors or windows. Any type of tampering whether intentional or unintentional such as masking, painting, or spraying of any material on the lenses, mirrors, windows or any other part of the detection system will impair its proper operation.

Passive infrared motion detectors operate by sensing changes in temperature. However their effectiveness can be reduced when the ambient temperature rises near or above body temperature or if there are intentional or unintentional sources of heat in or near the detection area. Some of these heat sources could be heaters, radiators, stoves, barbeques, fireplaces, sunlight, steam vents, lighting and so on.

■ Warning Devices

Warning devices such as sirens, bells, horns, or strobes may not warn people or waken someone sleeping if there is an intervening wall or door. If warning devices are located on a different level of the residence or premise, then it is less likely that the occupants will be alerted or awakened. Audible warning devices may be interfered with by other noise sources such as stereos, radios, televisions, air conditioners or other appliances, or passing traffic. Audible warning devices, however loud, may not be heard by a hearing-impaired person.

■ Telephone Lines

If telephone lines are used to transmit alarms, they may be out of service or busy for certain periods of time. Also an intruder may cut the telephone line or defeat its operation by more sophisticated means which may be difficult to detect.

■ Insufficient Time

There may be circumstances when the system will operate as intended, yet the occupants will not be protected from the emergency due to their inability to respond to the warnings in a timely manner. If the system is monitored, the response may not occur in time to protect the occupants or their belongings.

■ Component Failure

Although every effort has been made to make this system as reliable as possible, the system may fail to function as intended due to the failure of a component.

■ Inadequate Testing

Most problems that would prevent an alarm system from operating as intended can be found by regular testing and maintenance. The complete system should be tested weekly and immediately after a break-in, an attempted break-in, a fire, a storm, an earthquake, an accident, or any kind of construction activity inside or outside the premises. The testing should include all sensing devices, keypads, consoles, alarm indicating devices and any other operational devices that are part of the system.

■ Security and Insurance

Regardless of its capabilities, an alarm system is not a substitute for property or life insurance. An alarm system also is not a substitute for property owners, renters, or other occupants to act prudently to prevent or minimize the harmful effects of an emergency situation.

Limited Warranty

Digital Security Controls Ltd. warrants the original purchaser that for a period of twelve months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use. During the warranty period, Digital Security Controls Ltd. shall, at its option, repair or replace any defective product upon return of the product to its factory, at no charge for labour and materials. Any replacement and/or repaired parts are warranted for the remainder of the original warranty or ninety (90) days, whichever is longer. The original purchaser must promptly notify Digital Security Controls Ltd. in writing that there is defect in material or workmanship, such written notice to be received in all events prior to expiration of the warranty period. There is absolutely no warranty on software and all software products are sold as a user license under the terms of the software license agreement included with the product. The Customer assumes all responsibility for the proper selection, installation, operation and maintenance of any products purchased from DSC. Custom products are only warranted to the extent that they do not function upon delivery. In such cases, DSC can replace or credit at its option.

International Warranty

The warranty for international customers is the same as for any customer within Canada and the United States, with the exception that Digital Security Controls Ltd. shall not be responsible for any customs fees, taxes, or VAT that may be due.

Warranty Procedure

To obtain service under this warranty, please return the item(s) in question to the point of purchase. All authorized distributors and dealers have a warranty program. Anyone returning goods to Digital Security Controls Ltd. must first obtain an authorization number. Digital Security Controls Ltd. will not accept any shipment whatsoever for which prior authorization has not been obtained.

Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

- damage incurred in shipping or handling;
- damage caused by disaster such as fire, flood, wind, earthquake or lightning;
- damage due to causes beyond the control of Digital Security Controls Ltd. such as excessive voltage, mechanical shock or water damage;
- damage caused by unauthorized attachment, alterations, modifications or foreign objects;
- damage caused by peripherals (unless such peripherals were supplied by Digital Security Controls Ltd.);
- defects caused by failure to provide a suitable installation environment for the products;
- damage caused by use of the products for purposes other than those for which it was designed;
- damage from improper maintenance;
- damage arising out of any other abuse, mishandling or improper application of the products.

Items Not Covered by Warranty

In addition to the items which void the Warranty, the following items shall not be covered by Warranty: (i) freight cost to the repair centre; (ii) products which are not identified with DSC's product label and lot number or serial number; (iii) products disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection or testing to verify any warranty claim. Access cards or tags returned for replacement under warranty will be credited or replaced at DSC's option. Products not covered by this warranty, or otherwise out of warranty due to age, misuse, or damage shall be evaluated, and a repair estimate shall be provided. No repair work will be performed until a valid purchase order is received from the Customer and a Return Merchandise Authorisation number (RMA) is issued by DSC's Customer Service.

Digital Security Controls Ltd.'s liability for failure to repair the product under this warranty after a reasonable number of attempts will be limited to a replacement of the product, as the exclusive remedy for breach of warranty. Under no circumstances shall Digital Security Controls Ltd. be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, but are not limited to, loss of profits, loss of the product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property. The laws of some jurisdictions limit or do not allow the disclaimer of consequential damages. If the laws of such a jurisdiction apply to any claim by or against DSC, the limitations and disclaimers contained here shall be to the greatest extent permitted by law. Some states do not allow the exclusion or limitation of incidental or consequential damages, so that the above may not apply to you.

Disclaimer of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose) And of all other obligations or liabilities on the part of Digital Security Controls Ltd. Digital Security Controls Ltd. neither assumes responsibility for, nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

This disclaimer of warranties and limited warranty are governed by the laws of the province of Ontario, Canada.

WARNING: Digital Security Controls Ltd. recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

Installer's Lockout

Any products returned to DSC which have the Installer's Lockout option enabled and exhibit no other problems will be subject to a service charge.

Out of Warranty Repairs

Digital Security Controls Ltd. will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to Digital Security Controls Ltd. must first obtain an authorization number. Digital Security Controls Ltd. will not accept any shipment whatsoever for which prior authorization has not been obtained.

Products which Digital Security Controls Ltd. determines to be repairable will be repaired and returned. A set fee which Digital Security Controls Ltd. has predetermined and which may be revised from time to time, will be charged for each unit repaired.

Products which Digital Security Controls Ltd. determines not to be repairable will be replaced by the nearest equivalent product available at that time. The current market price of the replacement product will be charged for each replacement unit.

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