

NEW
Quick Install Guide
Please see page i

SKYROUTETM

Wireless Communications

WARNING

You must be enrolled with Connect 24 before activating this unit. Call 1-888-251-7458 in the U.S. or 1-888-955-5583 in Canada



**SG WIRELESS
COMMUNICATIONS**

A Division of the SafeLink Corporation

TM



**Installation
Manual**

Version 2.1

FCC COMPLIANCE STATEMENT

CAUTION: Changes or modifications not expressly approved by SG Wireless Communications 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-SKYROUTE

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.

CANADA: 363 182 256A



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 at least 24 hours prior to your first activation.

STEP 1 – DETERMINE BEST SIGNAL LOCATION (See Section 6.1)

Connect the Skyroute to a 7 Ah battery, as described in Section 6.1. 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 6.13)

Mount and connect the Skyroute to the control panel as shown in Section 6.13.

STEP 3 – PROGRAM THE SKYROUTE (See Section 7)

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 7.1 of this manual:

- For FULL REPORTING.....enter 00 into Section [99]
- For FALLBACK REPORTING.....enter 11 into Section [99]
- For GENERIC REPORTING.....enter 22 into Section [99]

The Skyroute 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 7.2.

SELECT THE CELLULAR CHANNEL - Section [06]

The Skyroute 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])

SELECT TEST TRANSMISSION TIME - Sections [10], [11], and [13]

- 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 7.3)

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.***

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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 / Sur-Gard. The use of any other type will invalidate the warranty and may be dangerous.

Customer Service

For customer support please call technical support at 1-800-503-5869 or e-mail us at support@sur-gard.com.

1.2 Skyroute Transceiver Glossary of Terms

The following is a description of various terms used with regards 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's New in Version 2.1

2.1 Generic Reporting Method

2.1.1 Description

A system default must be performed before activation. This is necessary to configure the communication format.

The unit can be set to Full Reporting, Full/Generic Reporting, or Generic Only. This is to be used on systems that have a telephone line as the primary means of communication and Skyroute as a redundant. This option is not meant to make the Skyroute a backup unit, but to avoid duplicate signals and large delays between signals at the central station.

There are four different zone signals; Burglary, Fire, Panic and Supervisory. The system has one timer location to program the time. By default the time is 5 minutes.

2.1.2 Normal Alarm condition

(Enter 22 in Section 8.1, sub-section [99] 'Software Defaulting of the Skyroute')

General reporting will send a generic alarm signal to the central station via the Cellemetry network when a zone or keypad alarm occurs. If multiple zones are activated, the first of each type will trigger the unit to transmit the associated generic signal. Once the Skyroute has transmitted the generic signal it ignores all other zone or keypad alarms of the same type on the system for a programmable period (default 5 minutes; see Section 8.2, sub-section [21] 'Generic Signal Timer'). Any keypad or zone alarms of the type that trigger the general transmission during the period the timer is active will be ignored by the Skyroute unit. If a new alarm of another type is triggered then the generic signal is sent and its timer is started. After the timer has elapsed the unit will then

resume standard operation. If a new keypad or zone alarm occurs after the timer has expired, the sequence restarts.

All other events will be transmitted via the unit if the appropriate toggle options or the reporting code are on. (See Section 8.2, sub-section [22] 'Transmission Options'.)

2.1.3 Alarm Condition with TLM and/or FTC Trouble (Enter 22 in Section 8.1, sub-section [99] 'Software Defaulting of the Skyroute')

At any time if the Skyroute receives either an FTC or a TLM trouble from the unit it will start transmitting full reporting of all succeeding zone or keypad alarm events. The FTC and TLM trouble will be the first signals sent. To deactivate full reporting the TLM or FTC must restore and a signal must be received via the Keybus. All signals still in the queue of the Skyroute after the trouble is cleared will be sent via the unit until the queue is empty. If new alarms occur during this period the unit will generate the generic signal and place it at the end of the queue and process generic signals as stated in 2.1.2, above.

2.1.4 Notice

All zone or keypad alarm events generated prior to the FTC and/or the TLM trouble will not be sent via the unit. Only new signals after the FTC or TLM will be sent. Previous zone alarms would have sent a generic alarm signal for each event type. Once the telephone line is restored on the control panel the telephone line will send the signals that it has in its buffer to the central station. This can cause duplicate signals if the Skyroute unit has previously transmitted them or is in the process of transmitting them.

New 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

All partitions are identified

Section 3 - What is it?

3.1 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. Skyroute has been designed for simple and straightforward installation. Using the Keybus technology, wiring connections are made directly between Skyroute and the security control panel.

3.2 Specifications

3.2.1 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

3.2.2 Communication Method

- AMPS Control Channel

3.2.3 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.

3.2.4 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

3.2.5 RF Power Output

- 3.0 Watts maximum

3.2.6 Power Supply Ratings

- 12 V_{DC} @30mA, from panel Keybus, DSC Keybus control panel required
- 12 V_{DC}, 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 a 16V_{AC} 40 VA. The minimum battery requirement is 12V_{DC} 7 Ah.*

3.2.7 Dimension

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

3.2.8 Weight

- 0.5 lbs. (0.2 kg)

3.2.9 Operating Temperature

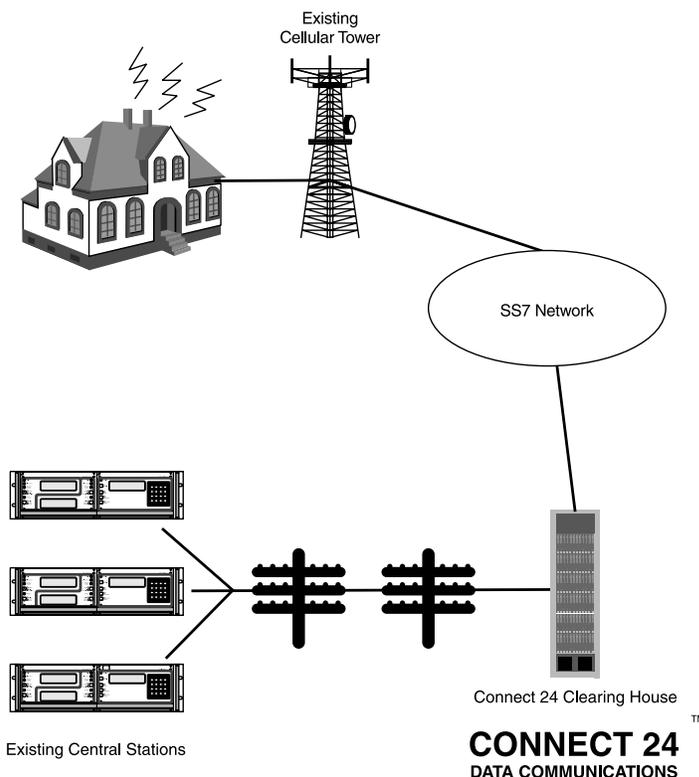
- 0°C - 49°C (32°F - 120°F)
- 85% humidity, non-condensing

Section 4 - How does it work?

4.1 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 reads the system activity directly from the Keybus. It also sends the corresponding signals over the cellular network, depending on what you have the Skyroute programmed to send.
- The Skyroute cannot be programmed as a land line backup communicator. It will transmit all signals to the central station in parallel with the land line communicator.
- Skyroute can be reprogrammed for full or generic reporting (see Section 7.1 Defaulting).
- The Skyroute 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.



CONNECT 24
DATA COMMUNICATIONS

Section 5 - 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 1-888-251-7458 "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**. 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 five digit 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 an eight or nine digit 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 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 that 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 as a separate booklet.

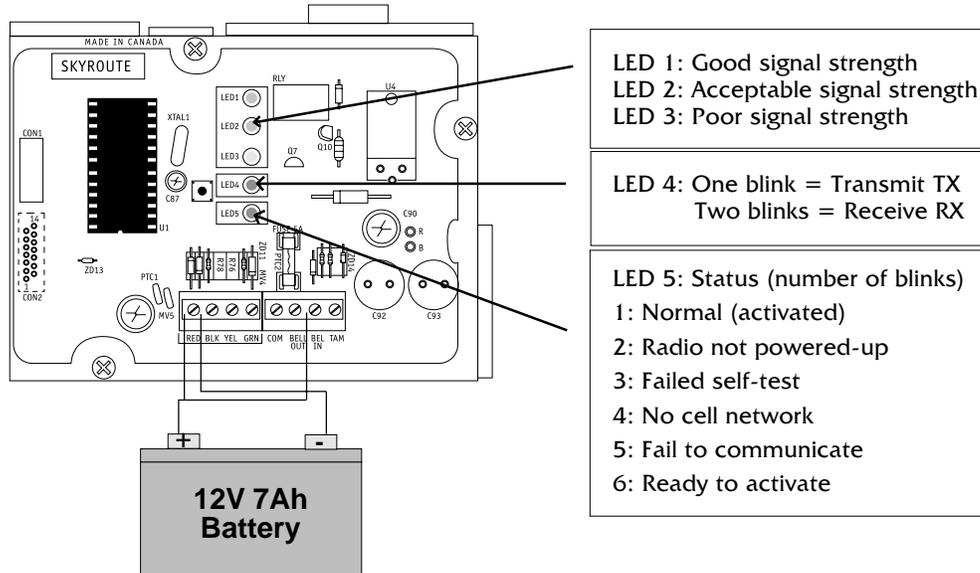
Section 6 - Installing a Skyroute Transceiver

Time-Saving Tips: By powering up the Skyroute on a battery alone (battery red to Bell Inv 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 does not have to be active to show signal strength.

6.1 Location of the Skyroute Unit

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

Verify signal strength prior to installation!



6.2 Relocating the Skyroute Transceiver

Since the Skyroute transceiver is a Keybus accessory, it is possible to relocate the module up to 1000 feet 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 these rules:

- Maximum of 1000 feet 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.

6.3 Relocating the Antenna

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

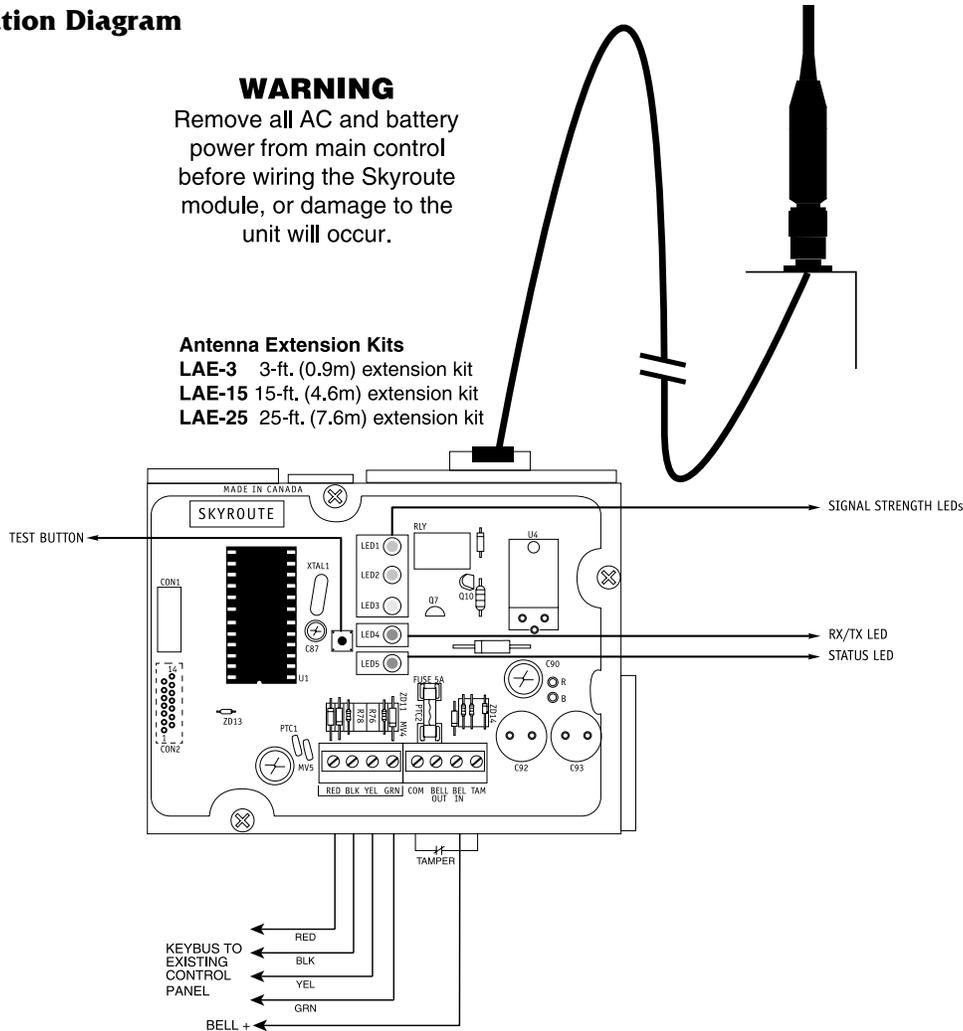
Extension Kit	Length of cable
LAE-3	3 feet (0.91 m)
LAE-15	15 feet (4.57 m)
LAE-25	25 feet (7.62 m)

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 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.

6.4 UL Requirements

6.4.1 Grade A - Central Station

- Programming [13] - Option 2 Daily Test must be "ON".
- Every 24 hours a checkin 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 4 attempts which is not programmable. Refer to compatible Listed control unit's installation instructions for programming.
- Alarm signals must be sent over both primary and secondary communication paths -
 1. Compatible Listed control unit's land line to central station.
 2. Skyroute transmission through Cellemetry to the clearing house (Connect 24).

6.4.2 Police Station Connect with Basic Line Security

- Programming [13] - Option 2 Daily Test must be "ON".
- Every 24 hours a checkin 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 4 attempts which is not programmable. Refer to compatible Listed control unit's installation instructions for programming.
- Alarm signals must be sent over both primary and secondary communication paths -
 1. Compatible Listed control unit's land line to central station.
 2. Skyroute transmission through Cellemetry to the clearing house (Connect 24).

6.5 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.

6.6 Mounting the Skyroute Transceiver

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

6.7 Mounting the Antenna

NOTE: The antenna should always be attached to the Skyroute transceiver for proper operation. The unit will not function properly 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 should be taken care 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.

6.8 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).

6.9 Bell IN Terminal

This terminal is used to power the Cellemetry modem of the Skyroute. 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 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 page 6).

6.10 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.

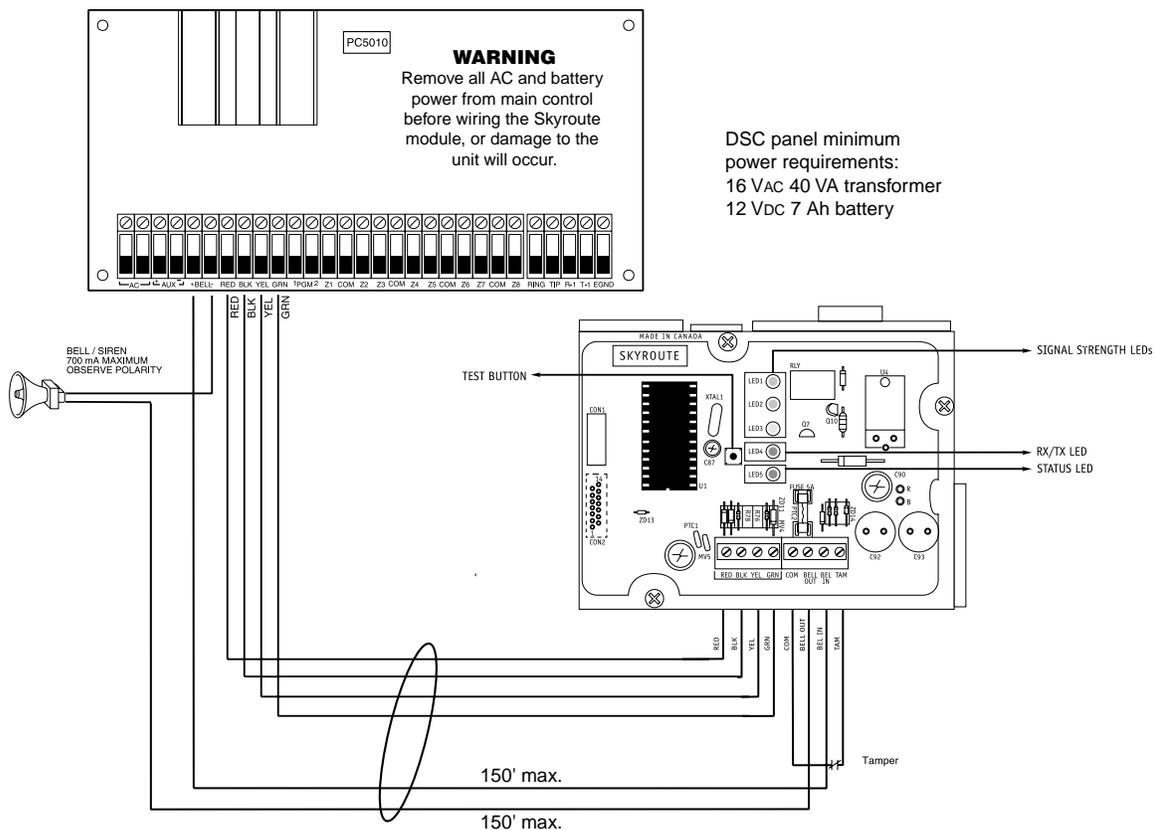
6.11 Tamper Terminal

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.

6.12 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.

Connection Diagram



6.13 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 panel 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.

WARNING

Remove all power AC and battery from main control before wiring the Skyroute module, or damage to the unit will occur.

6.14 Supervised Power Supply Connection

Power Requirements

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

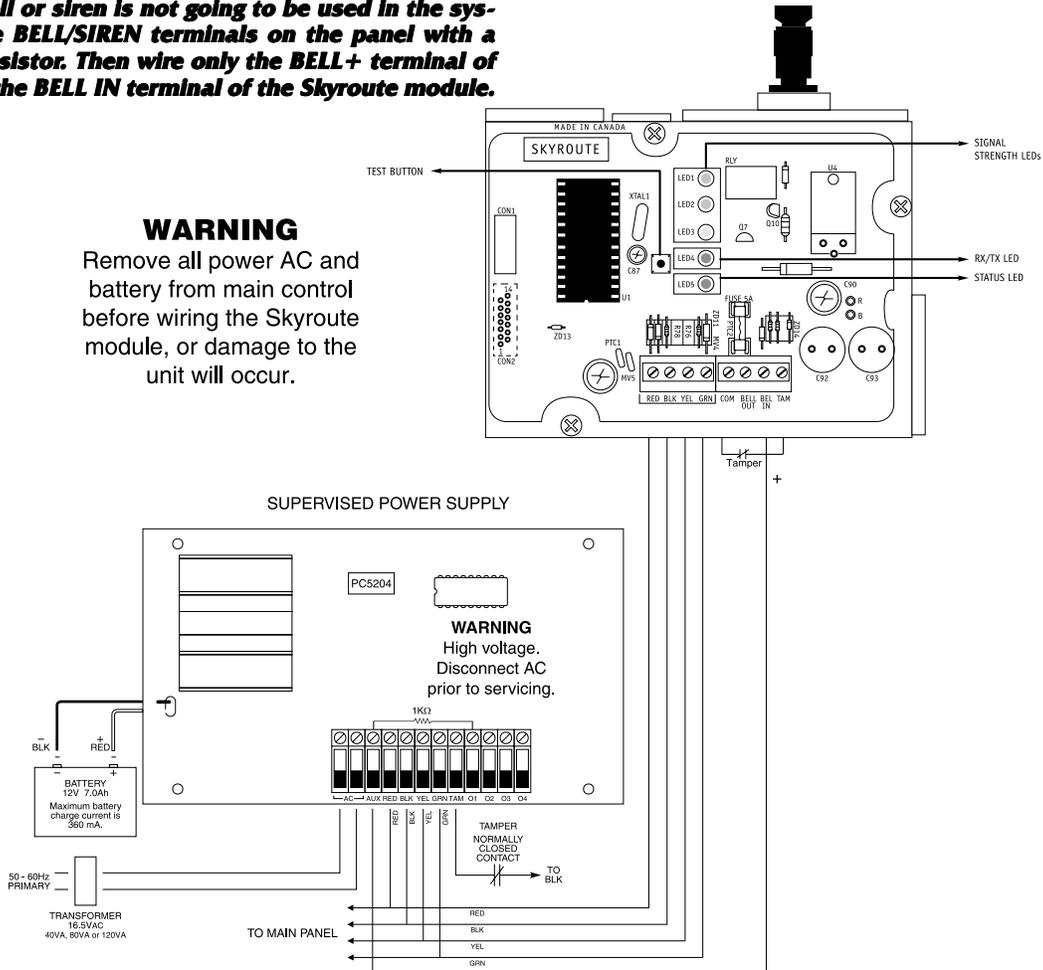
NOTE: If a battery is not connected to the PC5204, an expansion trouble and a restoral will be generated every time a signal is transmitted.

Connections

- The Keybus from the panel is connected to both the PC5204 and the Skyroute transceiver.
- A wire is connected from the AUX terminal on the PC5204 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.
- Wire the positive lead of the device to the AUX+ terminal.
- Connect a 1000 Ohm resistor between AUX+ and O1 terminals.

NOTES: for secure installation a tamper switch must be installed on the Skyroute module.

Using PC5204 power supply module for this configuration is not UL Listed. A UL1481 Listed power supply (e.g., PS5350) must be used.



Section 7 - Programming and Activating a Skyroute

7.1 Defaulting

This product must be defaulted BEFORE programming/activating.

Select the type of default as follows:

7.1.1 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.

7.1.2 Generic Reporting with Fallback to Full Reporting

- Entering 11 in sub-section [99]*
 1. A complete default is performed
 2. Alarm Restoral Reporting Code, sub-sections [34] through [37], will be automatically programmed to [00].
 3. Zone Tamper & Restoral Reporting code, sub-sections [40] through [47], will be programmed to [00]**.
 4. Zone Supervisory & Restoral, sub-sections [49] through [56], will be programmed to [00]**.
 5. Zone Low battery Alarm & restoral, sub-sections [57] through [64], will be programmed to [00]***.
 6. Keypad zone restoral, sub-section [39], last 4 programming locations, will be programmed as [00].

7.1.3 Generic Reporting

- Entering 22 in sub-section [99]*
 1. A complete default is performed
 2. Alarm Restoral Reporting Code, sub-sections [34] through [37], will be automatically programmed to [00].
 3. Zone Tamper & Restoral Reporting code, sub-sections [40] through [47], will be programmed to [00]**.
 4. Zone Supervisory & Restoral, sub-sections [49] through [56], will be automatically programmed to [00]**.
 5. Zone Low battery Alarm & restoral, sub-sections [57] through 64, will be automatically programmed to [00]***.
 6. Keypad zone restoral, sub-section [39], last 4 programming locations, will be programmed as [00].
 7. Maintenance Alarm & restoral reporting code, sub-sections [75] and [76], will be programmed as [00].

In Generic mode, see **Appendix A** for new signals. If the installation requires any other signal be sent then the installer can program [FF] into any of the reporting locations to allow that signal to be sent. The generic signal option will only affect zone alarms, sub-sections [30] through [33] and the Keypad alarms, sub-section [39], the first four programming slots.

Generic defaults are meant to reduce the total number of zone transmissions but still allow for some flexibility to send certain signals. The reporting method can be selected by simply programming the appropriate value at its location and leaving all the reporting sections as default. The restorals have to be deprogrammed or the system will send the restorals.

Example: An installer who wants to know when a freezer zone is restored would program the zone restoral as [FF]. When the alarm is tripped the central station would receive US98. When the zone is restored the central station would receive ZHxx, where xx is the zone number.

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

** These signals only apply to installations that have double EOL.

*** These signals only apply to installations that have wireless zone modules.

7.2 Programming Options

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

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

Sub-sections [30] to [78] are only relevant when using the Skyroute transceiver for either Full Reporting or for Generic Reporting with Fallback to Full Reporting. These sections are not relevant when using the Skyroute transceiver for Generic Reporting only.

7.2.1 Basic Programming (applies to all installation)

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 Keypus 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 find out the SID number for your area.

Skyroute Test Time: Sub-section [10]

In this section enter the time of the day (24 hour format) when 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.

Generic Signal Timer: Sub-section [21]

1E (number x 10 seconds)

Transmission Options: Sub-section [22]

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

Default	Option			
ON	<input type="checkbox"/>	1	Alarms/Restoral	Disabled
ON	<input type="checkbox"/>	2	Tamper Restoral/Restoral	Disabled
ON	<input type="checkbox"/>	3	Supervisory/Restoral	Disabled
ON	<input type="checkbox"/>	4	Low Battery/Restoral	Disabled
OFF	<input type="checkbox"/>	5	Opening/ Closing	Disabled
ON	<input type="checkbox"/>	6	Maintenance	Disabled
OFF	<input type="checkbox"/>	7 & 8	Not Used	

7.2.2 Advanced Programming

Individual Event - Transmission Toggle: 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'.

Zone table

The following table is found in the Skyroute manual. The letters in bold indicate what event the zone type falls under using the SIA event descriptor.

00	Null Zone (No Alarm)	
01	Delay 1	BA
02	Delay 2	BA
03	Instant	BA
04	Interior	BA
05	Interior, Stay/Away	BA
06	Delay, Stay/Away	BA
07	Delayed 24 Hour Fire	FA
08	Standard 24 Hour Fire	FA
09	24 Hour Supervisory (LINKS)	UA
10	24 Hour Supervisory Buzzer	UA
11	24 Hour Burglary	BA
12	24 Hour Hold-up	PA
13	24 Hour Gas	UA
14	24 Hour Heat	FA
15	24 Hour Medical	PA
16	24 Hour Panic	PA
17	24 Hour Emergency	PA
18	24 Hour Sprinkler	UA
19	24 Hour Water	UA
20	24 Hour Freeze	UA
21	24 Hour Latching Tamper	BA
22	Momentary Keyswitch Arm	
23	Maintained Keyswitch Arm	
24	LINKS Answer	
87	Delayed 24 Hour Fire	FA
88	Standard 24 Hour Fire	FA

- PGM #2 on the panel will be treated as a zone alarm.
- Keypad Fire will be controlled by the **FA** timer and will send the **FA** signal / E110.
- Keypad Panic will be controlled by the **BA** timer and will send the **BA** signal / E130.
- Keypad Medical will be controlled by the **UA** timer and will send the **UA** signal / E140.

7.3 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 will perform self-diagnostics for a few seconds, before giving visual feedback by indicating signal strength on LED1, LED2 or LED3.

7.3.1 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 Connect24 information package for more information on the activation process.

Phone number for VRU:

- CANADA: 1-877-759-7688 • U.S.: 1-888-251-7554

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.

7.3.2 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.

7.3.3 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 'Location of the Skyroute Unit' section for the number of flashes used to indicate each trouble condition in order of importance.

Section 8 - [803] Skyroute Programming Worksheets (PC5010/580/1555/5015/P-832/P-48/P-6B/P-832DL)

8.1 Defaulting

NOTE: 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 total attempts between control panel and Skyroute unit. The number has to be a total of 5 to 10 attempts. The Skyroute transceiver is set to make 4 attempts, which is not a programmable setting.

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

C2

- 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 22 will cause a software default of the Skyroute module and Generic reporting
- Entering FF will cause restart of the Skyroute transceiver.

8.2 Basic Programming

[01] Zone 1-8 Definitions

Default

00 Zone 1
 00 Zone 2
 00 Zone 3
 00 Zone 4

Default

00 Zone 5
 00 Zone 6
 00 Zone 7
 00 Zone 8

[02] Zone 9-16 Definitions

00 Zone 9
 00 Zone 10
 00 Zone 11
 00 Zone 12

00 Zone 13
 00 Zone 14
 00 Zone 15
 00 Zone 16

[03] Zone 17-24 Definitions

00 Zone 17
 00 Zone 18
 00 Zone 19
 00 Zone 20

00 Zone 21
 00 Zone 22
 00 Zone 23
 00 Zone 24

[04] Zone 25-32 Definitions

00 Zone 25
 00 Zone 26
 00 Zone 27
 00 Zone 28

00 Zone 29
 00 Zone 30
 00 Zone 31
 00 Zone 32

[05] PGM2 Definition

00 If PGM2 is used as 2 wire smoke

NOTE: This option must be programmed as 04 (fire / includes the options for PGM2 input, 23, 24) to activate.

[06] Skyroute Configuration Options

Default

OFF Option 1
 ON Option 2
 OFF Option 3
 OFF Option 4
 OFF Options 5 to 8

Option ON

A Channel Selected
 B Channel Selected
 Home System Only
 Unit Active with Connect 24
 System Use - DO NOT CHANGE

Option OFF

A Channel Not Selected
 B Channel Not Selected
 Not in Home System Operation
 Unit Not Active with Connect 24

[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	<input type="checkbox"/>	Option 1	Test on Sunday	Disabled
OFF	<input type="checkbox"/>	Option 2	Test on Monday	Disabled
OFF	<input type="checkbox"/>	Option 3	Test on Tuesday	Disabled
OFF	<input type="checkbox"/>	Option 4	Test on Wednesday	Disabled
OFF	<input type="checkbox"/>	Option 5	Test on Thursday	Disabled
OFF	<input type="checkbox"/>	Option 6	Test on Friday	Disabled
OFF	<input type="checkbox"/>	Option 7	Test on Saturday	Disabled
OFF	<input type="checkbox"/>	Option 8	For Future Use	

[13] Skyroute Test Rates

OFF	<input type="checkbox"/>	Option 1	For Future Use	Disabled
OFF	<input type="checkbox"/>	Option 2*	Daily Test	Disabled
ON	<input type="checkbox"/>	Option 3	Weekly Test	Disabled
OFF	<input type="checkbox"/>	Option 4	Keybus Tests Enabled	Disabled
OFF	<input type="checkbox"/>	Options 5 to 8	For Future Use	

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

[21] Generic Signal Timer

1E (number x 10 seconds in Hex)

[22] Transmission Options

ON	<input type="checkbox"/>	Option 1	Alarms/Restoral	Disabled
ON	<input type="checkbox"/>	Option 2	Tamper Restoral/Restoral	Disabled
ON	<input type="checkbox"/>	Option 3	Supervisory/Restoral	Disabled
ON	<input type="checkbox"/>	Option 4	Low Battery/Restoral	Disabled
OFF	<input type="checkbox"/>	Option 5	Opening/ Closing	Disabled
ON	<input type="checkbox"/>	Option 6	Maintenance	Disabled
OFF	<input type="checkbox"/>	Options 7 & 8	For Future Use	

BASIC PROGRAMMING COMPLETED

8.3 Advanced Programming **OPTIONAL**

The following sub-sections (30 -78) have automatically been programmed to '00' or 'FF' if using 'Full Reporting' or 'Generic Reporting with Fall Back to Full Reporting'. You may make changes if wanted.

Sub-sections [30] to [78]:

If '00' is entered, reporting code is disabled (OFF).

If 'FF' is entered, default reporting code is enabled (ON). 'FF' is the default value.

[30] Alarm Reporting Codes, Zones 1-8

Default			Default		
FF	□□□□	Zone 1 Alarm	FF	□□□□	Zone 5 Alarm
FF	□□□□	Zone 2 Alarm	FF	□□□□	Zone 6 Alarm
FF	□□□□	Zone 3 Alarm	FF	□□□□	Zone 7 Alarm
FF	□□□□	Zone 4 Alarm	FF	□□□□	Zone 8 Alarm

[31] Alarm Reporting Codes, Zones 9-16

FF	□□□□	Zone 9 Alarm	FF	□□□□	Zone 13 Alarm
FF	□□□□	Zone 10 Alarm	FF	□□□□	Zone 14 Alarm
FF	□□□□	Zone 11 Alarm	FF	□□□□	Zone 15 Alarm
FF	□□□□	Zone 12 Alarm	FF	□□□□	Zone 16 Alarm

[32] Alarm Reporting Codes, Zones 17-24

FF	□□□□	Zone 17 Alarm	FF	□□□□	Zone 21 Alarm
FF	□□□□	Zone 18 Alarm	FF	□□□□	Zone 22 Alarm
FF	□□□□	Zone 19 Alarm	FF	□□□□	Zone 23 Alarm
FF	□□□□	Zone 20 Alarm	FF	□□□□	Zone 24 Alarm

[33] Alarm Reporting Codes, Zones 25-32

FF	□□□□	Zone 25 Alarm	FF	□□□□	Zone 29 Alarm
FF	□□□□	Zone 26 Alarm	FF	□□□□	Zone 30 Alarm
FF	□□□□	Zone 27 Alarm	FF	□□□□	Zone 31 Alarm
FF	□□□□	Zone 28 Alarm	FF	□□□□	Zone 32 Alarm

[34] Alarm Restoral Reporting Codes, Zones 1-8

FF	□□□□	Zone 1 Alarm Restoral	FF	□□□□	Zone 5 Alarm Restoral
FF	□□□□	Zone 2 Alarm Restoral	FF	□□□□	Zone 6 Alarm Restoral
FF	□□□□	Zone 3 Alarm Restoral	FF	□□□□	Zone 7 Alarm Restoral
FF	□□□□	Zone 4 Alarm Restoral	FF	□□□□	Zone 8 Alarm Restoral

[35] Alarm Restoral Reporting Codes, Zones 9-16

FF	□□□□	Zone 9 Alarm Restoral	FF	□□□□	Zone 13 Alarm Restoral
FF	□□□□	Zone 10 Alarm Restoral	FF	□□□□	Zone 14 Alarm Restoral
FF	□□□□	Zone 11 Alarm Restoral	FF	□□□□	Zone 15 Alarm Restoral
FF	□□□□	Zone 12 Alarm Restoral	FF	□□□□	Zone 16 Alarm Restoral

[36] Alarm Restoral Reporting Codes, Zones 17-24

FF	□□□□	Zone 17 Alarm Restoral	FF	□□□□	Zone 21 Alarm Restoral
FF	□□□□	Zone 18 Alarm Restoral	FF	□□□□	Zone 22 Alarm Restoral
FF	□□□□	Zone 19 Alarm Restoral	FF	□□□□	Zone 23 Alarm Restoral
FF	□□□□	Zone 20 Alarm Restoral	FF	□□□□	Zone 24 Alarm Restoral

[37] Alarm Restoral Reporting Codes, Zones 25-32

FF	□□□□	Zone 25 Alarm Restoral	FF	□□□□	Zone 29 Alarm Restoral
FF	□□□□	Zone 26 Alarm Restoral	FF	□□□□	Zone 30 Alarm Restoral
FF	□□□□	Zone 27 Alarm Restoral	FF	□□□□	Zone 31 Alarm Restoral
FF	□□□□	Zone 28 Alarm Restoral	FF	□□□□	Zone 32 Alarm Restoral

[38] Miscellaneous Alarm Reporting Codes

FF	□□□□	Duress Alarm	FF	□□□□	Zone Expander Supervisory Alarm
FF	□□□□	Opening After Alarm	FF	□□□□	Zone Expander Supervisory Restoral
FF	□□□□	Recent Closing	FF	□□□□	Cross Zoning (Burglary Verified) Alarm

[39] Priority Alarm and Restoral Reporting Codes

FF	□□□□	Keypad [F]ire Alarm	FF	□□□□	Keypad [F]ire Restoral
FF	□□□□	Keypad [A]uxiliary Alarm	FF	□□□□	Keypad [A]uxiliary Restoral
FF	□□□□	Keypad [P]anic Alarm	FF	□□□□	Keypad [P]anic Restoral
FF	□□□□	PGM2 Alarm	FF	□□□□	PGM2 Restoral

[40] Tamper Reporting Codes, Zones 1-8

FF	□□□□	Zone 1 Tamper	FF	□□□□	Zone 5 Tamper
FF	□□□□	Zone 2 Tamper	FF	□□□□	Zone 6 Tamper
FF	□□□□	Zone 3 Tamper	FF	□□□□	Zone 7 Tamper
FF	□□□□	Zone 4 Tamper	FF	□□□□	Zone 8 Tamper

[41] Tamper Reporting Codes, Zones 9-16

FF	□□□□	Zone 9 Tamper	FF	□□□□	Zone 13 Tamper
FF	□□□□	Zone 10 Tamper	FF	□□□□	Zone 14 Tamper
FF	□□□□	Zone 11 Tamper	FF	□□□□	Zone 15 Tamper
FF	□□□□	Zone 12 Tamper	FF	□□□□	Zone 16 Tamper

[42] Tamper Reporting Codes, Zones 17-24

FF	□□□□	Zone 17 Tamper	FF	□□□□	Zone 21 Tamper
FF	□□□□	Zone 18 Tamper	FF	□□□□	Zone 22 Tamper
FF	□□□□	Zone 19 Tamper	FF	□□□□	Zone 23 Tamper
FF	□□□□	Zone 20 Tamper	FF	□□□□	Zone 24 Tamper

[43] Tamper Reporting Codes, Zones 25-32

FF	□□□□	Zone 25 Tamper	FF	□□□□	Zone 29 Tamper
FF	□□□□	Zone 26 Tamper	FF	□□□□	Zone 30 Tamper
FF	□□□□	Zone 27 Tamper	FF	□□□□	Zone 31 Tamper
FF	□□□□	Zone 28 Tamper	FF	□□□□	Zone 32 Tamper

[44] Tamper Restoral Reporting Codes, Zones 1-8

FF	□□□□	Zone 1 Tamper Restoral	FF	□□□□	Zone 5 Tamper Restoral
FF	□□□□	Zone 2 Tamper Restoral	FF	□□□□	Zone 6 Tamper Restoral
FF	□□□□	Zone 3 Tamper Restoral	FF	□□□□	Zone 7 Tamper Restoral
FF	□□□□	Zone 4 Tamper Restoral	FF	□□□□	Zone 8 Tamper Restoral

[45] Tamper Restoral Reporting Codes, Zones 9-16

FF	□□□□	Zone 9 Tamper Restoral	FF	□□□□	Zone 13 Tamper Restoral
FF	□□□□	Zone 10 Tamper Restoral	FF	□□□□	Zone 14 Tamper Restoral
FF	□□□□	Zone 11 Tamper Restoral	FF	□□□□	Zone 15 Tamper Restoral
FF	□□□□	Zone 12 Tamper Restoral	FF	□□□□	Zone 16 Tamper Restoral

[46] Tamper Restoral Reporting Codes, Zones 17-24

FF	□□□□	Zone 17 Tamper Restoral	FF	□□□□	Zone 21 Tamper Restoral
FF	□□□□	Zone 18 Tamper Restoral	FF	□□□□	Zone 22 Tamper Restoral
FF	□□□□	Zone 19 Tamper Restoral	FF	□□□□	Zone 23 Tamper Restoral
FF	□□□□	Zone 20 Tamper Restoral	FF	□□□□	Zone 24 Tamper Restoral

[47] Tamper Restoral Reporting Codes, Zones 25-32

FF	□□□□	Zone 25 Tamper Restoral	FF	□□□□	Zone 29 Tamper Restoral
FF	□□□□	Zone 26 Tamper Restoral	FF	□□□□	Zone 30 Tamper Restoral
FF	□□□□	Zone 27 Tamper Restoral	FF	□□□□	Zone 31 Tamper Restoral
FF	□□□□	Zone 28 Tamper Restoral	FF	□□□□	Zone 32 Tamper Restoral

[48] Miscellaneous Tamper Reporting Codes

FF	□□□□	General System Tamper	FF	□□□□	Keypad Lockout
FF	□□□□	General System Tamper Rest.			

[49] Supervisory Reporting Codes, Zones 1-8

FF	□□□□	Zone 1 Supervisory	FF	□□□□	Zone 5 Supervisory
FF	□□□□	Zone 2 Supervisory	FF	□□□□	Zone 6 Supervisory
FF	□□□□	Zone 3 Supervisory	FF	□□□□	Zone 7 Supervisory
FF	□□□□	Zone 4 Supervisory	FF	□□□□	Zone 8 Supervisory

[50] Supervisory Reporting Codes, Zones 9-16

FF	□□□□	Zone 9 Supervisory	FF	□□□□	Zone 13 Supervisory
FF	□□□□	Zone 10 Supervisory	FF	□□□□	Zone 14 Supervisory
FF	□□□□	Zone 11 Supervisory	FF	□□□□	Zone 15 Supervisory
FF	□□□□	Zone 12 Supervisory	FF	□□□□	Zone 16 Supervisory

[51] Supervisory Reporting Codes, Zones 17-24

FF	□□□□	Zone 17 Supervisory	FF	□□□□	Zone 21 Supervisory
FF	□□□□	Zone 18 Supervisory	FF	□□□□	Zone 22 Supervisory
FF	□□□□	Zone 19 Supervisory	FF	□□□□	Zone 23 Supervisory
FF	□□□□	Zone 20 Supervisory	FF	□□□□	Zone 24 Supervisory

[52] Supervisory Reporting Codes, Zones 25-32

FF	□□□□	Zone 25 Supervisory	FF	□□□□	Zone 29 Supervisory
FF	□□□□	Zone 26 Supervisory	FF	□□□□	Zone 30 Supervisory
FF	□□□□	Zone 27 Supervisory	FF	□□□□	Zone 31 Supervisory
FF	□□□□	Zone 28 Supervisory	FF	□□□□	Zone 32 Supervisory

[53] Supervisory Restoral Reporting Codes, Zones 1-8

FF	□□□□	Zone 1 Supervisory Restoral	FF	□□□□	Zone 5 Supervisory Restoral
FF	□□□□	Zone 2 Supervisory Restoral	FF	□□□□	Zone 6 Supervisory Restoral
FF	□□□□	Zone 3 Supervisory Restoral	FF	□□□□	Zone 7 Supervisory Restoral
FF	□□□□	Zone 4 Supervisory Restoral	FF	□□□□	Zone 8 Supervisory Restoral

[54] Supervisory Restoral Reporting Codes, Zones 9-16

FF	□□□□	Zone 9 Supervisory Restoral	FF	□□□□	Zone 13 Supervisory Restoral
FF	□□□□	Zone 10 Supervisory Restoral	FF	□□□□	Zone 14 Supervisory Restoral
FF	□□□□	Zone 11 Supervisory Restoral	FF	□□□□	Zone 15 Supervisory Restoral
FF	□□□□	Zone 12 Supervisory Restoral	FF	□□□□	Zone 16 Supervisory Restoral

[55] Supervisory Restoral Reporting Codes, Zones 17-24

FF	□□□□	Zone 17 Supervisory Restoral	FF	□□□□	Zone 21 Supervisory Restoral
FF	□□□□	Zone 18 Supervisory Restoral	FF	□□□□	Zone 22 Supervisory Restoral
FF	□□□□	Zone 19 Supervisory Restoral	FF	□□□□	Zone 23 Supervisory Restoral
FF	□□□□	Zone 20 Supervisory Restoral	FF	□□□□	Zone 24 Supervisory Restoral

[56] Supervisory Restoral Reporting Codes, Zones 25-32

FF	□□□□	Zone 25 Supervisory Restoral	FF	□□□□	Zone 29 Supervisory Restoral
FF	□□□□	Zone 26 Supervisory Restoral	FF	□□□□	Zone 30 Supervisory Restoral
FF	□□□□	Zone 27 Supervisory Restoral	FF	□□□□	Zone 31 Supervisory Restoral
FF	□□□□	Zone 28 Supervisory Restoral	FF	□□□□	Zone 32 Supervisory Restoral

[57] Low Battery Reporting Codes, Zones 1-8

FF	<input type="text"/>	Zone 1 Low Battery	FF	<input type="text"/>	Zone 5 Low Battery
FF	<input type="text"/>	Zone 2 Low Battery	FF	<input type="text"/>	Zone 6 Low Battery
FF	<input type="text"/>	Zone 3 Low Battery	FF	<input type="text"/>	Zone 7 Low Battery
FF	<input type="text"/>	Zone 4 Low Battery	FF	<input type="text"/>	Zone 8 Low Battery

[58] Low Battery Reporting Codes, Zones 9-16

FF	<input type="text"/>	Zone 9 Low Battery	FF	<input type="text"/>	Zone 13 Low Battery
FF	<input type="text"/>	Zone 10 Low Battery	FF	<input type="text"/>	Zone 14 Low Battery
FF	<input type="text"/>	Zone 11 Low Battery	FF	<input type="text"/>	Zone 15 Low Battery
FF	<input type="text"/>	Zone 12 Low Battery	FF	<input type="text"/>	Zone 16 Low Battery

[59] Low Battery Reporting Codes, Zones 17-24

FF	<input type="text"/>	Zone 17 Low Battery	FF	<input type="text"/>	Zone 21 Low Battery
FF	<input type="text"/>	Zone 18 Low Battery	FF	<input type="text"/>	Zone 22 Low Battery
FF	<input type="text"/>	Zone 19 Low Battery	FF	<input type="text"/>	Zone 23 Low Battery
FF	<input type="text"/>	Zone 20 Low Battery	FF	<input type="text"/>	Zone 24 Low Battery

[60] Low Battery Reporting Codes, Zones 25-32

FF	<input type="text"/>	Zone 25 Low Battery	FF	<input type="text"/>	Zone 29 Low Battery
FF	<input type="text"/>	Zone 26 Low Battery	FF	<input type="text"/>	Zone 30 Low Battery
FF	<input type="text"/>	Zone 27 Low Battery	FF	<input type="text"/>	Zone 31 Low Battery
FF	<input type="text"/>	Zone 28 Low Battery	FF	<input type="text"/>	Zone 32 Low Battery

[61] Low Battery Restoral Reporting Codes, Zones 1-8

FF	<input type="text"/>	Zone 1 Low Battery Restoral	FF	<input type="text"/>	Zone 5 Low Battery Restoral
FF	<input type="text"/>	Zone 2 Low Battery Restoral	FF	<input type="text"/>	Zone 6 Low Battery Restoral
FF	<input type="text"/>	Zone 3 Low Battery Restoral	FF	<input type="text"/>	Zone 7 Low Battery Restoral
FF	<input type="text"/>	Zone 4 Low Battery Restoral	FF	<input type="text"/>	Zone 8 Low Battery Restoral

[62] Low Battery Restoral Reporting Codes, Zones 9-16

FF	<input type="text"/>	Zone 9 Low Battery Restoral	FF	<input type="text"/>	Zone 13 Low Battery Restoral
FF	<input type="text"/>	Zone 10 Low Battery Restoral	FF	<input type="text"/>	Zone 14 Low Battery Restoral
FF	<input type="text"/>	Zone 11 Low Battery Restoral	FF	<input type="text"/>	Zone 15 Low Battery Restoral
FF	<input type="text"/>	Zone 12 Low Battery Restoral	FF	<input type="text"/>	Zone 16 Low Battery Restoral

[63] Low Battery Restoral Reporting Codes, Zones 17-24

FF	<input type="text"/>	Zone 17 Low Battery Restoral	FF	<input type="text"/>	Zone 21 Low Battery Restoral
FF	<input type="text"/>	Zone 18 Low Battery Restoral	FF	<input type="text"/>	Zone 22 Low Battery Restoral
FF	<input type="text"/>	Zone 19 Low Battery Restoral	FF	<input type="text"/>	Zone 23 Low Battery Restoral
FF	<input type="text"/>	Zone 20 Low Battery Restoral	FF	<input type="text"/>	Zone 24 Low Battery Restoral

[64] Low Battery Restoral Reporting Codes, Zones 25-32

FF	<input type="text"/>	Zone 25 Low Battery Restoral	FF	<input type="text"/>	Zone 29 Low Battery Restoral
FF	<input type="text"/>	Zone 26 Low Battery Restoral	FF	<input type="text"/>	Zone 30 Low Battery Restoral
FF	<input type="text"/>	Zone 27 Low Battery Restoral	FF	<input type="text"/>	Zone 31 Low Battery Restoral
FF	<input type="text"/>	Zone 28 Low Battery Restoral	FF	<input type="text"/>	Zone 32 Low Battery Restoral

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

FF	<input type="text"/>	Closing By Access Code 1	FF	<input type="text"/>	Closing By Access Code 5
FF	<input type="text"/>	Closing By Access Code 2	FF	<input type="text"/>	Closing By Access Code 6
FF	<input type="text"/>	Closing By Access Code 3	FF	<input type="text"/>	Closing By Access Code 7
FF	<input type="text"/>	Closing By Access Code 4	FF	<input type="text"/>	Closing By Access Code 8

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

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

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

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

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

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

[69] Miscellaneous Closing (Arming) Reporting Codes

FF		Closing by Duress Code 33	FF		Closing by System Code 42
FF		Closing by Duress Code 34	FF		Partial Closing
FF		Closing by System Code 40	FF		Special Closing
FF		Closing by System Code 41			

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

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

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

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

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

FF		Opening By Access Code 17	FF		Opening By Access Code 21
FF		Opening By Access Code 18	FF		Opening By Access Code 22
FF		Opening By Access Code 19	FF		Opening By Access Code 23
FF		Opening By Access Code 20	FF		Opening By Access Code 24

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

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

[74] Miscellaneous Opening (Disarming) Reporting Codes

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

[75] Maintenance Alarm Reporting Codes

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

[76] Maintenance Restoral Reporting Codes

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

[77] Miscellaneous Maintenance Restoral Reporting Codes

FF	□□□□	Phone #1 FTC	FF	□□□□	Event Buffer 75% Full
FF	□□□□	Phone #2 FTC	FF	□□□□	DLS Lead IN
FF	□□□□	Phone #1 FTC Restore	FF	□□□□	DLS Lead OUT
FF	□□□□	Phone #2 FTC Restore	FF	□□□□	Delinquency Reporting Code

[78] Test Transmission Reporting Codes

FF	□□□□	Periodic Test Transmission	FF	□□□□	Skyroute Test TX Code
FF	□□□□	System Test			

Section 9 - 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 each signal 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 10 - 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 premise. 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 not acknowledged from the central station. To clear this trouble, perform a reset: [*8] [Installer's 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 premise. 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 a 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's Programming (*8). Enter 00 in sub-section [99] of section [803]. This will default all the programming back to factory settings. You will then have to program your Skyroute module from scratch. 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's 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. Your LED5 should be blinking once.

For Your Records

Location

Skyroute MIN Number

Rate Plan

Central Station

Account Number

Test Time and Day

Additional Notes

Appendix A - Reporting Codes for SIA and Contact ID

SIA Communication Format:

The SIA communication format used in this product follows the Level 2 specifications of the SIA Digital Communication Standard - February 1993. This format will send the Account Code along with its data transmission. Below are the Zone Alarms & Alarm Restorals (Zones 01-32), as well as any additional codes that can be transmitted:

SIA and Contact ID Reporting Codes

Events	SIA	Contact ID
Zone Alarms & Alarm Restorals (Zones 01-32)		
Delay Zone Alarm / Restoral	BA-XX / BH-XX	E130 OXX/ R130 OXX
Instant Zone Alarm / Restoral	BA-XX / BH-XX	E130 OXX/ R130 OXX
Interior Zone Alarm / Restoral	BA-XX / BH-XX	E130 OXX/ R130 OXX
Delay H.A. Zone Alarm / Restoral	BA-XX / BH-XX	E130 OXX/ R130 OXX
Interior H.A. Zone Alarm / Restoral	BA-XX / BH-XX	E130 OXX/ R130 OXX
24 Hr Burg Zone Alarm / Restoral	BA-XX / BH-XX	E130 OXX/ R130 OXX
Standard Fire Zone Alarm / Restoral	FA-XX / FH-XX	E110 OXX/ R110 OXX
Delayed Fire Zone Alarm / Restoral	FA-XX / FH-XX	E110 OXX/ R110 OXX
24 Hr Supervisory Buzzer Zone Alarm / Restoral	UA-XX/ UH-XX	E140 OXX/ R140 OXX
24 Hr Supervisory Zone Alarm / Restoral	UA-XX / UR-XX	E140 OXX/ R140 OXX
24 Hr Medical Zone Alarm / Restoral	MA-XX / MH-XX	E100 OXX/ R100 OXX
24 Hr Panic Zone Alarm / Restoral	PA-XX / PH-XX	E120 OXX/ R120 OXX
24 Hr Hold-up Zone Alarm / Restoral	HA-XX / HH-XX	E122 OXX/ R122 OXX
24 Hr Gas Zone Alarm / Restoral	GA-XX / GH-XX	E151 OXX/ R151 OXX
24 Hr Heat Zone Alarm / Restoral	KA-XX / KH-XX	E158 OXX/ R158 OXX
24 Hr Emergency Zone Alarm / Restoral	QA-XX / QH-XX	E120 OXX/ R120 OXX
24 Hr Sprinkler Zone Alarm / Restoral	SA-XX / SH-XX	E110 OXX/ R110 OXX
24 Hr Water Zone Alarm / Restoral	WA-XX / WH-XX	E154 OXX/ R154 OXX
24 Hr Freeze Zone Alarm / Restoral	ZA-XX / ZH-XX	E140 OXX/ R140 OXX
24 Hr Latching Tamper Alarm / Restoral	BA-XX / BH-XX	E130 OXX/ R130 OXX
Duress Alarm	HA-00	E122 000
Opening After Alarm	OR-00	E458 000
Keypad [F]ire Alarm / Restoral	FA-00 / FH-00	E110 000/ R110 000
Keypad [A]uxiliary Alarm / Restoral	MA-00 / MH-00	E100 000/ R100 000
Keypad [P]anic Alarm / Restoral	PA-00 / PH-00	E120 000/ R120 000
PGM2 Alarm / Restoral		
2-Wire Smoke	FA-99 / FH-99	E110 099/ R110 099
Audible 24 Hour	UA-99 / UH-99	E140 099/ R140 099
Silent 24 Hour	UA-99 / UH-99	E140 099/ R140 099

XX - Represents the Zone or User

Events

Zone Tamper (1-32)
 Zone Tamper Restorals (1-32)
 General System Tamper / Restoral (Skyroute Tamper)
 Closing By Access Codes 1-32,33,34,40,41,42
 Partial Closing
 Opening By Access Codes 1-32,33,34,40,41,42
 Battery Trouble Alarm / Restoral
 AC Failure Trouble Alarm / Restoral
 Bell Circuit Trouble Alarm / Restoral
 Fire Trouble Alarm / Restoral
 Auxiliary Power Supply Trouble Alarm / Restoral
 TLM Trouble Code
 General System Supervisory / Restoral (Keybus Fault)
 General System Trouble / Restoral
 TLM Restoral
 FTC Fail / FTC Restoral
 Event Buffer 75% Full Since Last Upload
 Periodic Test Transmission
 Periodic Test Transmission Trouble
 System Test
 LINKS3000 Test Transmission Code
 Zone Fault Alarm/Restoral
 Burglary Verified
 Delinquency Code
 Zone Low Battery
 Recent Closing
 Zone Expander Supervisory Alarm / Restoral
 Keypad Lockout
 Special Closing (DLS, Keys, Maint., Quick)
 Special Opening (DLS, Keys, Maint.)
 DLS Lead In
 DLS Lead Out (Successful)
 Auto-Arm Cancellation
 Late to Close

SIA

TA-XX
 TR-XX
 TA-00 / TR-00
 CL-XX
 CG-XX
 OP-XX
 YT-00 / YR-00
 AT-00 / AR-00
 UT-99 / UJ-99
 FT-00 / FJ-00
 YP-00 / YQ-00
 LT-00
 ET-00 / ER-00
 YX-00 / YZ-00
 LR-00
 YC-00 / YK-00
 JL-00
 RP-00
 RP-001
 RX-00
 TX-00
 UT-XX/ UJ-XX
 BV-00
 CD-00
 XT-XX / XR-XX
 CR-00
 UA-00 / UH-00
 JA-00
 CL-00
 OP-00
 RB-00
 RS-00
 CE-00
 CI-00

Contact ID

E137 0XX
 R137 0XX
 E137 000/ R137 000
 R401 0XX
 R456 0XX
 E401 0XX
 E302 000/ R302 000
 E301 000/ R301 000
 E300 099/ R300 099
 E373 000/ R373 000
 E312 000/ R312 000
 E351 000
 E330 000/ R330 000
 E300 000/ R300 000
 R351 000
 E354 000/ R354 000
 E622 000
 E602 000
 E602 001
 E601 000
 E603 000
 E300 0XX/ R300 0XX
 E139 000
 E654 000
 E302 0XX/ R302 0XX
 E459 000
 E140 000/ R140 000
 E461 000
 R401 000
 E401 000
 E627 000
 R628 000
 E455 000
 E452 000

XX - Represents the Zone or User

New 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 UA zone 98	Partition x Event 140 zone 098
Panic	Partition x Event PA zone 98	Partition x Event 120 zone 098

All partitions are identified

Appendix B - Decimal - Hex Conversion Chart

DEC	HEX	DEC	HEX	DEC	HEX	DEC	HEX
000	00	064	40	128	80	192	C0
001	01	065	41	129	81	193	C1
002	02	066	42	130	82	194	C2
003	03	067	43	131	83	195	C3
004	04	068	44	132	84	196	C4
005	05	069	45	133	85	197	C5
006	06	070	46	134	86	198	C6
007	07	071	47	135	87	199	C7
008	08	072	48	136	88	200	C8
009	09	073	49	137	89	201	C9
010	0A	074	4A	138	8A	202	CA
011	0B	075	4B	139	8B	203	CB
012	0C	076	4C	140	8C	204	CC
013	0D	077	4D	141	8D	205	CD
014	0E	078	4E	142	8E	206	CE
015	0F	079	4F	143	8F	207	CF
016	10	080	50	144	90	208	D0
017	11	081	51	145	91	209	D1
018	12	082	52	146	92	210	D2
019	13	083	53	147	93	211	D3
020	14	084	54	148	94	212	D4
021	15	085	55	149	95	213	D5
022	16	086	56	150	96	214	D6
023	17	087	57	151	97	215	D7
024	18	088	58	152	98	216	D8
025	19	089	59	153	99	217	D9
026	1A	090	5A	154	9A	218	DA
027	1B	091	5B	155	9B	219	DB
028	1C	092	5C	156	9C	220	DC
029	1D	093	5D	157	9D	221	DD
030	1E	094	5E	158	9E	222	DE
031	1F	095	5F	159	9F	223	DF
032	20	096	60	160	A0	224	E0
033	21	097	61	161	A1	225	E1
034	22	098	62	162	A2	226	E2
035	23	099	63	163	A3	227	E3
036	24	100	64	164	A4	228	E4
037	25	101	65	165	A5	229	E5
038	26	102	66	166	A6	230	E6
039	27	103	67	167	A7	231	E7
040	28	104	68	168	A8	232	E8
041	29	105	69	169	A9	233	E9
042	2A	106	6A	170	AA	234	EA
043	2B	107	6B	171	AB	235	EB
044	2C	108	6C	172	AC	236	EC
045	2D	109	6D	173	AD	237	ED
046	2E	110	6E	174	AE	238	EE
047	2F	111	6F	175	AF	239	EF
048	30	112	70	176	B0	240	F0
049	31	113	71	177	B1	241	F1
050	32	114	72	178	B2	242	F2
051	33	115	73	179	B3	243	F3
052	34	116	74	180	B4	244	F4
053	35	117	75	181	B5	245	F5
054	36	118	76	182	B6	246	F6
055	37	119	77	183	B7	247	F7
056	38	120	78	184	B8	248	F8
057	39	121	79	185	B9	249	F9
058	3A	122	7A	186	BA	250	FA
059	3B	123	7B	187	BB	251	FB
060	3C	124	7C	188	BC	252	FC
061	3D	125	7D	189	BD	253	FD
062	3E	126	7E	190	BE	254	FE
063	3F	127	7F	191	BF	255	FF

Limited Warranty

SG Wireless Communications warrants that for a period of sixty months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use and that in fulfillment of any breach of such warranty, SG Wireless Communications shall, at its option, repair or replace the defective equipment upon return of the equipment to its repair depot. This warranty applies only to defects in parts and workmanship and not to damage incurred in shipping or handling, or damage due to causes beyond the control of SG Wireless Communications, such as lightning, excessive voltage, mechanical shock, water damage, or damage arising out of abuse, alteration or improper application of the equipment.

The foregoing warranty shall apply only to the original buyer, and is and shall be in lieu of any and all other warranties, whether expressed or implied and of all other obligations or liabilities on the part of SG Wireless Communications. This warranty contains the entire warranty. SG Wireless Communications 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.

In no event shall SG Wireless Communications be liable for any direct, indirect or consequential damages, loss of anticipated profits, loss of time or any other losses incurred by the buyer in connection with the purchase, installation or operation or failure of this product.

Warning

SG Wireless Communications 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.

How to contact us:**• Sales**

For information about additional products, please call our sales number: 1-800-418-7618, fax us at 905-760-3030 or e-mail us at sales@sur-gard.com.

• Technical Support

If you have questions or problems when using this product, you can call Technical Support. If you are within the United States or Canada, you can get support by dialing 1-800-503-5869, or e-mail us at support@sur-gard.com.

• Internet

Visit our new Sur-Gard web site. You can search the SG technical information database and read about our new products. You can also send us any questions you may have. Our address is www.dsc.com; click on the Sur-Gard logo to access sales, technical and general information.