

Whats New
Please see page ii

SKYROUTETM

Wireless Communications



**SG WIRELESS
COMMUNICATIONS**TM
A Division of the SafeLink Corporation

**Installation
Manual**

Version 2.X

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.

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.

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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 Sur-Gard technical support at 416-665-4494 ext. 1, toll free at 1-800-503-5869 ext. 1, or e-mail us at support@sur-gard.com.

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.

What's New on Version 2.1

Generic Reporting Method

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 back-up 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.

Normal Alarm condition

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 new timer sub-section 21). 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 (sub-section [22], opening, closing, maintenance, etc..).

Alarm Condition with TLM and/or FTC Trouble

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 signal 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 the above point.

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
	<i>All partitions are identified</i>	

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.

Specifications

Compatible Control Panels

- DSC PC5010 software version v1.XX; v2.02
- DSC PC1555 software version v2.XX
- DSC PC580 software version v2.XX
- DSC PC5015 software version v1.XX; v2.2X

Communication Method

- AMPS Control Channel

Dual Path Communications

- The system can be used as the sole method of communication to the monitoring station or as a dual transmission path with the standard land line.

Please contact your monitoring station on dual signal communication.

Antenna

- 3 – 5 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

RF Power Output

- 3.0 Watts maximum

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 a 16VAC 40 VA. The minimum Battery requirement is 12Vdc 7 Ah.

Dimension

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

Weight

- 0.5 lbs. (0.2 kg)

Operating Temperature

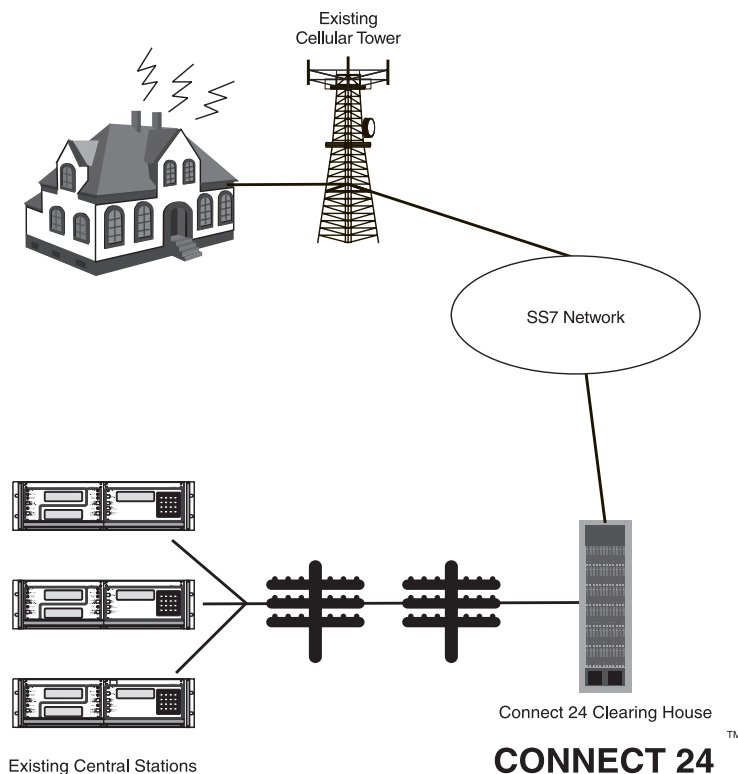
- 0°C - 50°C
- 90% humidity, non condensating

How the Skyroute Transceiver Works

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:



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 Cellemetry modem.

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.

Mounting the Antenna

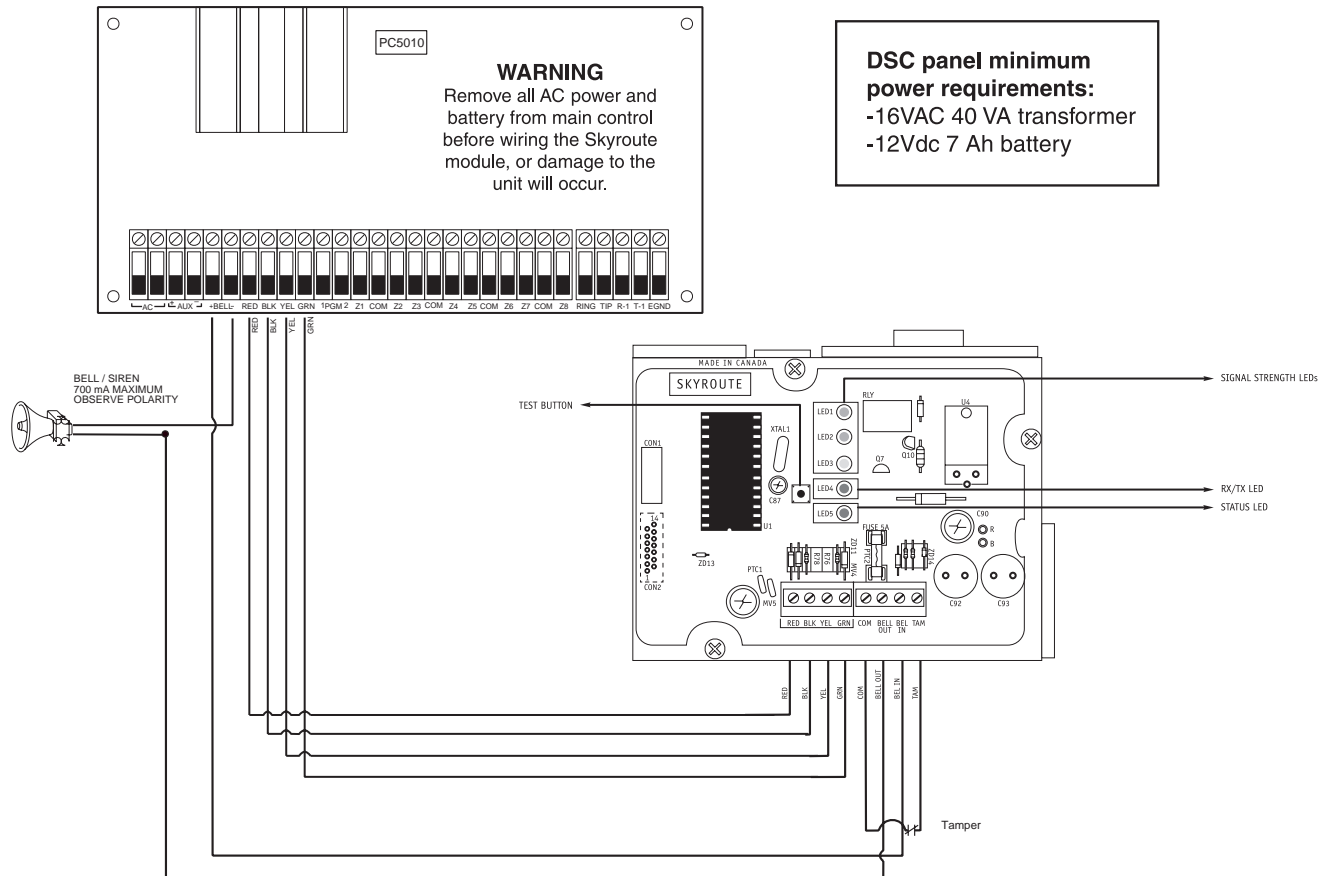
NOTE: The antenna should always be attached to the Skyroute Transceiver for proper operation. The unit will not function properly if the antenna is not installed.

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 taking 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.

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).

Connection Diagram



Bell IN Terminal

This terminal is used to power the cellemetry modem. 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.

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 (F1) for protection of the radio transmitting power.

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.

Secure Installation

For a secure installation, the Skyroute Transceiver module 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.

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.

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 supervised power supply 12V@1A (like the PC5204) must be used (see diagram on page 17).
- 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.

Programming Sections

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.

Zone Definition.....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 will not follow any zone transmission delays, i.e. any zones programmed with a delay will be sent immediately by the Skyroute.

Configuration Options.....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]).

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.

Skyroute Transceiver SID (System ID).....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.....Section [10]

Enter in this section the time of the day (24 hour format) that you want the test transmission to be sent.

Test Transmission Day Mask.....Section [11]

Select in this section the day of the week you want the test transmission to be sent.

Generic Signal Timer.....Section [21]

1E I I I (number x 10 seconds)

Transmission Options.....Section [22]

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

ON	<input type="checkbox"/>	Option 1	Alarms/Restores	Disabled
ON	<input type="checkbox"/>	Option 2	Tamper Restoral/Restores	Disabled
ON	<input type="checkbox"/>	Option 3	Supervisory/Restores	Disabled
ON	<input type="checkbox"/>	Option 4	Low Battery/Restores	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	Not Used	

Individual Event - Transmission Toggle.....Sections [30] to [78]

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

Activating the 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. **A complete default of the Skyroute module should always be performed before any other programming is done. See Default section for details.**

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 on 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 event to your central station. You must perform normal tests with your monitoring station after activation with Connect 24.

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.

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 stand-by (ready to transmit) mode. Troubles are indicated when LED5 flashes more than once every 2 seconds. Shown below is the number of flashes used to indicate each trouble condition in order of importance.

Number of Flashes	Function of Flashes
2	Radio is not powered, or not responding
4	Service is not available
6	Not connected to clearing house
5	Failure to communicate
3	Failed selftest
1	Radio is operating normally

(2) Radio not powered or not responding: Skyroute Transceiver initialization of Cellemetry modem has failed.

(4) Service not available: The Cellemetry modem has failed to register with the cellular network.

(6) Not connected to clearing house: The Skyroute Transceiver has not been activated.

(5) Failure to communicate: A signal has not been successfully communicated to the central station.

(3) Failed self-test: A self-test of the Cellemetry module has failed.

(1) Radio is operating normally: Skyroute Transceiver is ready to transmit.

Defaulting

Select the type of default as follows:

By Entering 00 in subsection [99]

1. A complete default of the system is performed
2. All reporting sub-sections, [30] through [78] are programmed as [FF]

Entering 11 in subsection [99]*

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

By entering 22 in subsection [99] *

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

*** 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.**

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 section [30] through [33] and the Keypad alarms, sub-section [39] the first four programming slots.

Generic defaults are meant to reduce the total amount of zone transmissions but still allow for some flexibility to send certain signals. The Reporting method can be selected by simply programming its location with the appropriate value 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 would receive US98 at the central station. When the zone is restored the central would receive ZHxx, where xx is the zone number.

[803] Skyroute Programming (PC5010/580/1555/5015)

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)		09 24 Hour Supervisory (LINKS) UA	18 24 Hour Sprinkler	UA
01 Delay 1	BA	10 24 Hour Supervisory Buzzer UA	19 24 Hour Water	UA
02 Delay 2	BA	11 24 Hour Burglary BA	20 24 Hour Freeze	UA
03 Instant	BA	12 24 Hour Hold-up PA	21 24 Hour Latching Tamp.	BA
04 Interior	BA	13 24 Hour Gas UA	22 Momentary Keyswitch Arm	
05 Interior, Stay-Away	BA	14 24 Hour Heat FA	23 MaintainedKeyswitch Arm	
06 Delay, Stay-Away	BA	15 24 Hour Medical PA	24 LINKS Answer	
07 Delayed 24 Hour Fire	FA	16 24 Hour Panic PA	87 Delayed 24 Hour Fire	FA
08 Standard 24 Hour Fire	FA	17 24 Hour Emergency PA	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.

Keypad Panic will be controlled by the **BA** timer and will send the **BA** signal.

Keypad Medical will be controlled by the **UA** timer and will send the **UA** signal.

[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

[06] Skyroute Configuration Options

Default

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

Option ON

A Channel Selected
 B Channel Selected
 Home System Only
 For Future Use

Option OFF

A Channel Not Selected
 B Channel Not Selected
 Not in Home System Operation

[07] Home SID Number

0000

This is the SID (in Hex) of the cellular service that is available on the current channel.

[10] Skyroute Test Time
 9999 | | | | 0000-2359 (in 24 hour time)

[11] Test Transmission Day Mask

Default		Option	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

OFF		Option 1	For Future Use	Disabled
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	

[21] Generic Signal Timer
 1E | | | | (number x 10 seconds in Hex)

[22] Transmission Options

ON		Option 1	Alarms/Restores	Disabled
ON		Option 2	Tamper Restoral/Restores	Disabled
ON		Option 3	Supervisory/Restores	Disabled
ON		Option 4	Low Battery/Restores	Disabled
OFF		Option 5	Opening/ Closing	Disabled
ON		Option 6	Maintenance	Disabled
OFF		Options 7 & 8	For Future Use	

Sections [30] to [78]: if '00' is entered, then that reporting code is disabled. If 'FF' is in the section, then the default reporting code is enabled. 'FF' is the default value.

[30] Alarm Reporting Codes, Zones 1-8

Default		Zone	Default		Zone
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		Zone 1 Low Battery	FF		Zone 5 Low Battery
FF		Zone 2 Low Battery	FF		Zone 6 Low Battery
FF		Zone 3 Low Battery	FF		Zone 7 Low Battery
FF		Zone 4 Low Battery	FF		Zone 8 Low Battery

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

FF		Zone 9 Low Battery	FF		Zone 13 Low Battery
FF		Zone 10 Low Battery	FF		Zone 14 Low Battery
FF		Zone 11 Low Battery	FF		Zone 15 Low Battery
FF		Zone 12 Low Battery	FF		Zone 16 Low Battery

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

FF		Zone 17 Low Battery	FF		Zone 21 Low Battery
FF		Zone 18 Low Battery	FF		Zone 22 Low Battery
FF		Zone 19 Low Battery	FF		Zone 23 Low Battery
FF		Zone 20 Low Battery	FF		Zone 24 Low Battery

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

FF		Zone 25 Low Battery	FF		Zone 29 Low Battery
FF		Zone 26 Low Battery	FF		Zone 30 Low Battery
FF		Zone 27 Low Battery	FF		Zone 31 Low Battery
FF		Zone 28 Low Battery	FF		Zone 32 Low Battery

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

FF		Zone 1 Low Battery Restoral	FF		Zone 5 Low Battery Restoral
FF		Zone 2 Low Battery Restoral	FF		Zone 6 Low Battery Restoral

FF		Zone 3 Low Battery Restoral	FF		Zone 7 Low Battery Restoral
FF		Zone 4 Low Battery Restoral	FF		Zone 8 Low Battery Restoral

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

FF		Zone 9 Low Battery Restoral	FF		Zone 13 Low Battery Restoral
FF		Zone 10 Low Battery Restoral	FF		Zone 14 Low Battery Restoral
FF		Zone 11 Low Battery Restoral	FF		Zone 15 Low Battery Restoral
FF		Zone 12 Low Battery Restoral	FF		Zone 16 Low Battery Restoral

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

FF		Zone 17 Low Battery Restoral	FF		Zone 21 Low Battery Restoral
FF		Zone 18 Low Battery Restoral	FF		Zone 22 Low Battery Restoral
FF		Zone 19 Low Battery Restoral	FF		Zone 23 Low Battery Restoral
FF		Zone 20 Low Battery Restoral	FF		Zone 24 Low Battery Restoral

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

FF		Zone 25 Low Battery Restoral	FF		Zone 29 Low Battery Restoral
FF		Zone 26 Low Battery Restoral	FF		Zone 30 Low Battery Restoral
FF		Zone 27 Low Battery Restoral	FF		Zone 31 Low Battery Restoral
FF		Zone 28 Low Battery Restoral	FF		Zone 32 Low Battery Restoral

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

FF		Closing By Access Code 1	FF		Closing By Access Code 5
FF		Closing By Access Code 2	FF		Closing By Access Code 6
FF		Closing By Access Code 3	FF		Closing By Access Code 7
FF		Closing By Access Code 4	FF		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 Restore
FF		Fire Trouble Restoral	FF		General System Supervisory Restore

[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			

NOTE: Default must be performed before activating the Skyroute

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

C2 | | |

- Entering 00 will cause a software default of the Skyroute.
- Entering 11 will cause a software default of the Skyroute 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 and generic reporting
- Entering FF will cause restart of the Skyroute Transceiver.

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 Restores (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 Restores (Zones 01-32)		
Delay Zone Alarm / Restore	BA-XX / BH-XX	E130 0XX/ R130 0XX
Instant Zone Alarm / Restore	BA-XX / BH-XX	E130 0XX/ R130 0XX
Interior Zone Alarm / Restore	BA-XX / BH-XX	E130 0XX/ R130 0XX
Delay H.A. Zone Alarm / Restore	BA-XX / BH-XX	E130 0XX/ R130 0XX
Interior H.A. Zone Alarm / Restore	BA-XX / BH-XX	E130 0XX/ R130 0XX
24 Hr Burg Zone Alarm / Restore	BA-XX / BH-XX	E130 0XX/ R130 0XX
Standard Fire Zone Alarm / Restore	FA-XX / FH-XX	E110 0XX/ R110 0XX
Delayed Fire Zone Alarm / Restore	FA-XX / FH-XX	E110 0XX/ R110 0XX
24 Hr Supervisory Buzzer Zone Alarm / Restore	UA-XX/ UH-XX	E140 0XX/ R140 0XX
24 Hr Supervisory Zone Alarm / Restore	US-XX/ UR-XX	E140 0XX/ R140 0XX
24 Hr Medical Zone Alarm / Restore	MA-XX / MH-XX	E100 0XX/ R100 0XX
24 Hr Panic Zone Alarm / Restore	PA-XX / PH-XX	E120 0XX/ R120 0XX
24 Hr Holdup Zone Alarm / Restore	HA-XX / HH-XX	E122 0XX/ R122 0XX
24 Hr Gas Zone Alarm / Restore	GA-XX / GH-XX	E151 0XX/ R151 0XX
24 Hr Heat Zone Alarm / Restore	KA-XX / KH-XX	E158 0XX/ R158 0XX
24 Hr Emergency Zone Alarm / Restore	QA-XX / QH-XX	E120 0XX/ R120 0XX
24 Hr Sprinkler Zone Alarm / Restore	SA-XX / SH-XX	E110 0XX/ R110 0XX
24 Hr Water Zone Alarm / Restore	WA-XX / WH-XX	E154 0XX/ R154 0XX
24 Hr Freeze Zone Alarm / Restore	ZA-XX / ZH-XX	E140 0XX/ R140 0XX
24 Hr Latching Tamper Alarm / Restore	BA-XX / BH-XX	E130 0XX/ R130 0XX
Duress Alarm	HA-00	E122 000
Opening After Alarm	OR-00	E458 000
Keypad [F]ire Alarm / Restore	FA-00 / FH-00	E110 000/ R110 000
Keypad [A]uxiliary Alarm / Restore	MA-00 / MH-00	E100 000/ R100 000
Keypad [P]anic Alarm / Restore	PA-00 / PH-00	E120 000/ R120 000
PGM2 Alarm / Restore		
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 - Represent the Zone or User

Events	SIA	Contact ID
Zone Tamper (1-32)	TA-XX	E137 0XX
Zone Tamper Restorals (1-32)	TR-XX	R137 0XX
General System Tamper / Restore (Skyroute Tamper)	TA-00 / TR-00	E137 000/ R137 000
Closing By Access Codes 1-32,33,34,40,41,42	CL-XX	R401 0XX
Partial Closing	CG-XX	R456 0XX
Opening By Access Codes 1-32,33,34,40,41,42	OP-XX	E401 0XX
Battery Trouble Alarm / Restore	YT-00 / YR-00	E302 000/ R302 000
AC Failure Trouble Alarm / Restore	AT-00 / AR-00	E301 000/ R301 000
Bell Circuit Trouble Alarm / Restore	UT-99 / UJ-99	E300 099/ R300 099
Fire Trouble Alarm / Restore	FT-00 / FJ-00	E373 000/ R373 000
Auxiliary Power Supply Trouble Alarm / Restore	YP-00 / YQ-00	E312 000/ R312 000
TLM Trouble Code	LT-00	E351 000
General System Supervisory / Restore (Keybus Fault)	ET-00 / ER-00	E330 000/ R330 000
General System Trouble / Restore	YX-00 / YZ-00	E300 000/ R300 000
TLM Restoral	LR-00	R351 000
FTC Fail / FTC Restoral	YC-00 / YK-00	E354 000/ R354 000
Event Buffer 75% Full Since Last Upload	JL-00	E622 000
Periodic Test Transmission	RP-00	E602 000
System Test	RX-00	E601 000
LINKS 3000 Test Transmission Code	TX-00	E603 000
Zone Fault Alarm/Restoral	UT-XX/ UJ-XX	E300 0XX/ R300 0XX
Burglary Verified	BV-00	E139 000
Delinquency Code	CD-00	E654 000
Zone Low Battery	XT-XX / XR-XX	E302 0XX/ R302 0XX
Recent Closing	CR-00	E459 000
Zone Expander Supervisory Alarm / Restore	UA-00 / UH-00	E140 000/ R140 000
Keypad Lockout	JA-00	E461 000
Special Closing (DLS, Keys, Maint, Quick)	CL-00	R401 000
Special Opening (DLS, Keys, Maint)	OP-00	E401 000
DLS Lead In	RB-00	E627 000
DLS Lead Out (Successful)	RS-00	R628 000
Auto-Arm Cancellation	CE-00	E455 000
Late to Close	CI-00	E452 000

XX - Represent 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 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

Appendix B - Trouble Shooting

Skyroute Transceiver Trouble Shooting

1. Check all Wiring

- A. Make sure all the Keybus connections are correct.
- B. Make sure Bell+ is connected to the BELL IN of the Skyroute module.

2. Check LED 5

- A. Check number of flashes on LED 5. If LED flashes more than once every second, refer to the above table.
- B. 6 flashes means not connected to the clearing house. A failed activation attempt, reactivate.

3. If Intermittant failure to communicate is seen (5 flashes), number of attempts (option 23) should be increased to 10 and/or response wait time should be increased to 60 (option 24=60).

4. If LED 5 flashes once every second, yet Skyroute Transceiver does not communicate to clearing house, call Sur-Gard Technical Support at 1-800-503-5869 ext.1 or 416-665-4494 ext.1.

5. Before contacting Technical Support, Please have the following information ready: MIN number of the Skyroute unit; SID and Installer numbers.

Problem: • Skyroute unit displays poor signal strength.

Solution: • Relocate either the Skyroute transmitter or the antenna to a higher location in the premise.
• Remove the Skyroute transmitter from any environmental interference such as high-power AC power lines, large pieces of metal ductwork that can act as RF shielding.

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

Solution: • Verify the wiring between the Alarm Control Panel and the Skyroute Transmitter.
• Make sure that the Alarm Control Panel that the Skyroute transmitter is connected to has the correct power requirement (16Vac 40VA transformer and 12Vdc 7Ah battery).

Problem: • The Skyroute transmitter was Activated, but a chip upgrade was performed; now the Skyroute transmitter LED 5 is flashing 6 times.

Solution: • Please call Technical Support at 1-800-503-5869, they will be able to provide the programming to be done.

Problem: • The Skyroute transmitter does not show any signal strength.

Solution: • Verify the programming within the Skyroute transmitter, making sure that the correct channel has been selected.

Problem: • The Skyroute transmitter has good signal strength, but LED 5 is flashing 6 times (Not connected to clearing house)

Solution: • Call into the VRU and activate the unit. Please make sure you have your Dealer Confirmation Form.

Appendix c - 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

Antenna Relocation

WARNING

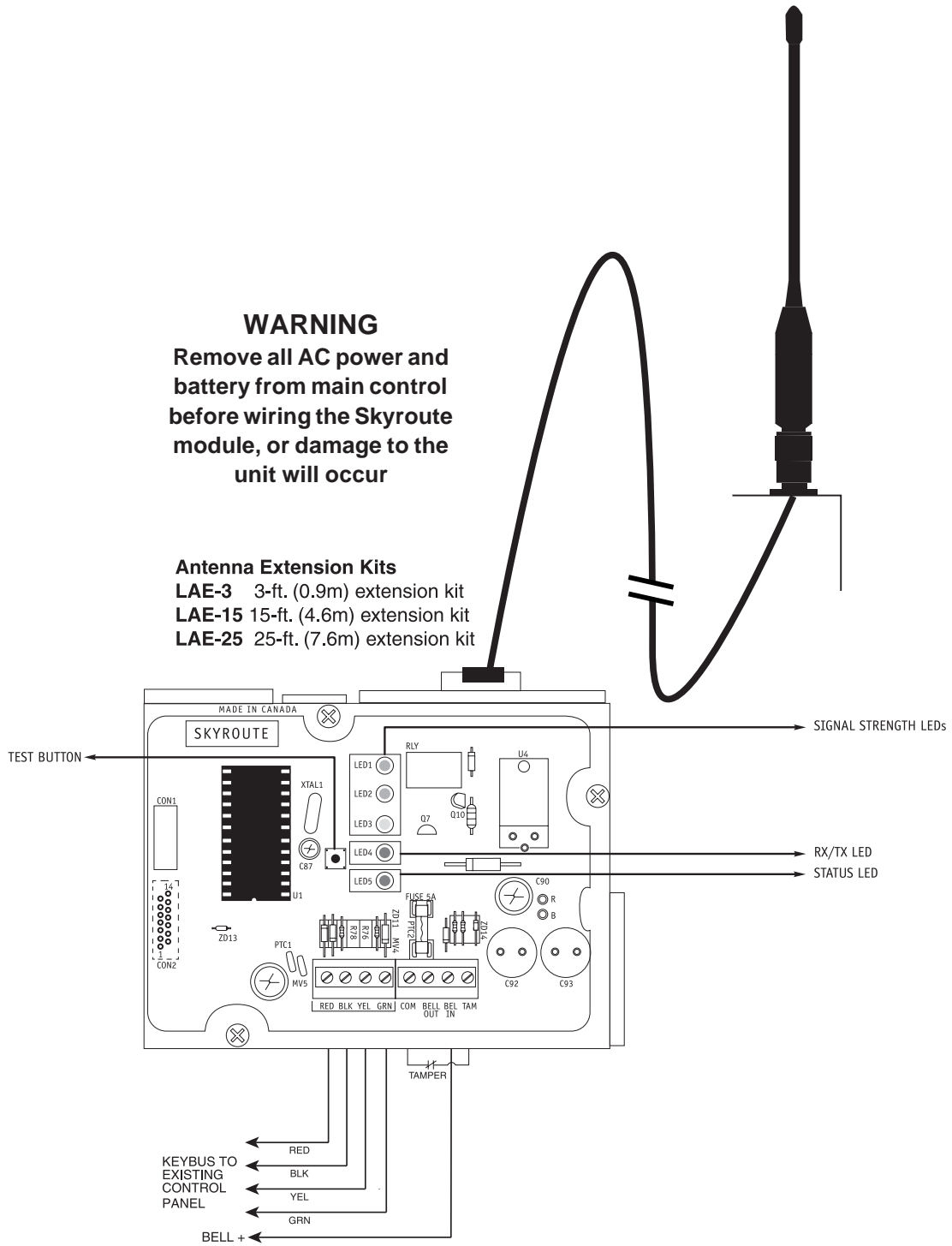
Remove all AC power and battery from main control before wiring the Skyroute module, or damage to the unit will occur

Antenna Extension Kits

LAE-3 3-ft. (0.9m) extension kit

LAE-15 15-ft. (4.6m) extension kit

LAE-25 25-ft. (7.6m) extension kit

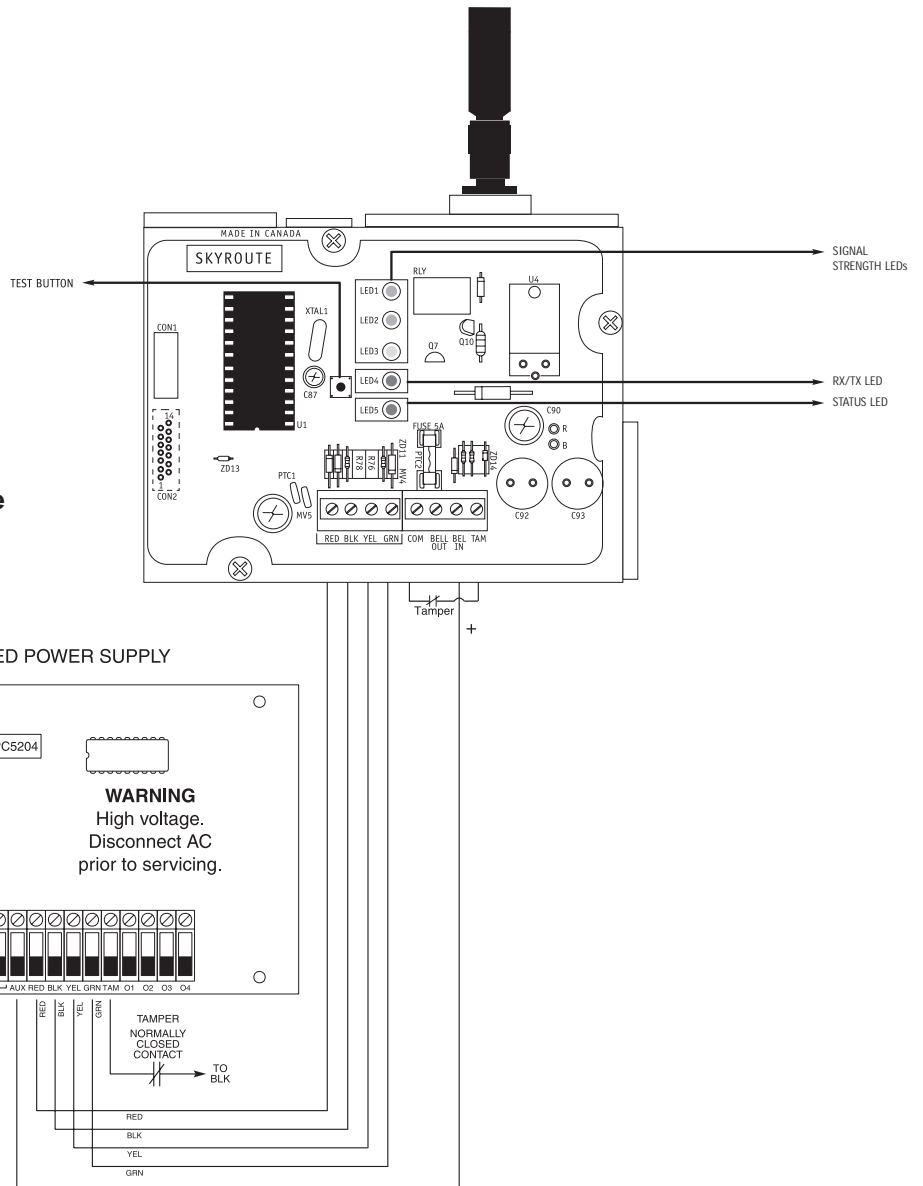


Skyroute Antenna Cable Installation.

- 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.

Supervised Power Supply Connection

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



POWER REQUIREMENTS

The PC5204 requires a 16V, 40VA 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.

A wire is connected from the AUX terminal on the PC5204 to the BELL IN of the Skyroute.

A jumper or a normally closed switch is required between the TAM and the COM on the Skyroute.

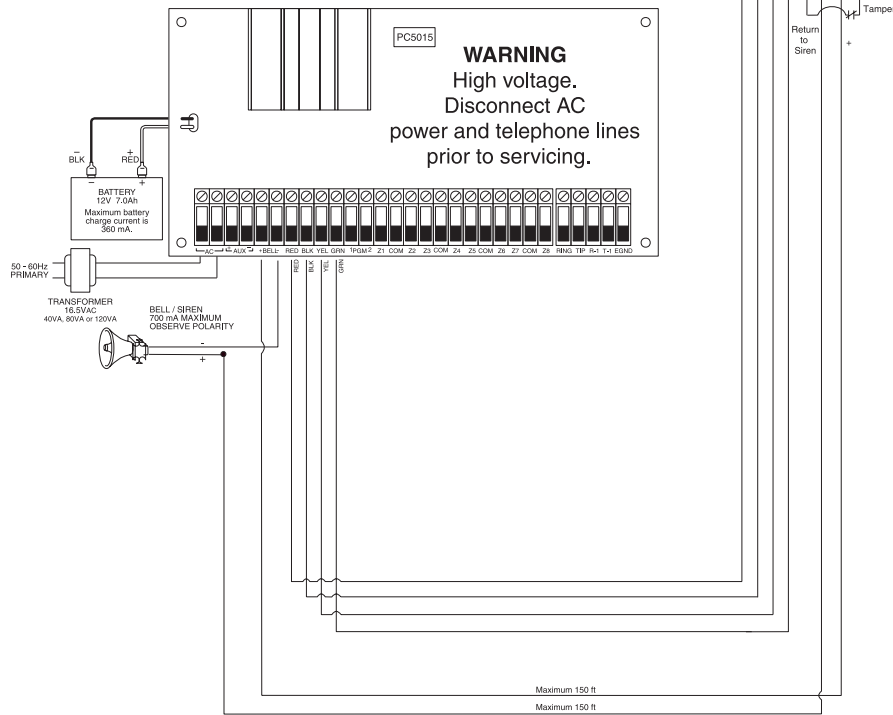
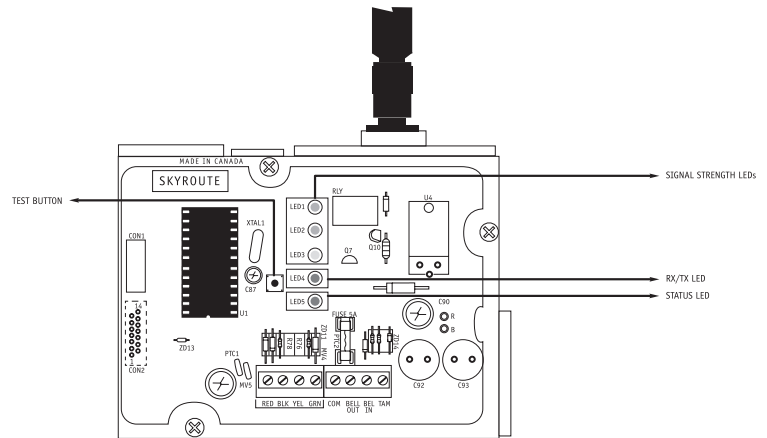
A jumper or a normally closed switch is required between the TAM and the BLK for the Tamper of the PC5204.

Wire the positive lead of the device to the AUX + terminal.

For secure installation a tamper switch must be installed on the SKYROUTE unit.

Standard Connection with DSC Control Panel

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



Wiring Skyroute to a DSC Control Panel.

- Remove the circular knock out in the top left-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 Skyroutes BELL IN terminal. This wire run must not exceeded 150ft.
- Wire the panel's BELL- to the Negative (-) terminal of the Bell/Siren that is going to be used.
- From the Bell/Siren Positive (+) terminal, wire it to the Skyroutes BELL OUT 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 1K Ω resistor, and then only wire the BELL (+) to the BELL IN of the Skyroute unit.

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, 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: 1-888-623-7873, fax us at 416-665-4222 or e-mail us at sales@sur-gard.com.

Technical Support

If you have questions or problems when using Sur-Gard products, you can call technical support. If you are within the United States, Puerto Rico, the U.S. Virgin Islands or Canada, you can get support by dialing 1-800-503-5869 ext.1. If you are outside these areas, please call (416) 665-4494 ext.1, or e-mail us at support@sur-gard.com.

Internet

Visit our new Sur-Gard WWW site. You will be able to search the SG technical information database and read information about new products. You will also be able to send us your questions. Our World Wide Web address is <http://www.sur-gard.com>.



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