

Skyroute

Skyroute UT

Skyroute max

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 1.0

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.



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, operations at closer than this distance is not recommended.

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Contents

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 information at 1-800-503-5869 or e-mail us at support@sur-gard.com.

Skyroute *max* Tranceiver 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 *max* transmitters and central stations.

Introducing the Skyroute *max* Transceiver

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

Specifications

Compatible Control Panels

- DSC PC4020 software version v3.2 or higher

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 dB gain, TNC connector

- Extension Kits available:

LAE – 3 The 3 Foot Antenna Kit for Skyroute *max* Transceiver

LAE – 15 The 15 Foot Antenna Kit for Skyroute *max* Transceiver

LAE – 25 The 25 Foot Antenna Kit for Skyroute *max* Transceiver

RF Power Output

- 3.0 Watts maximum

Power Supply Ratings

- 12 Vdc @30mA, from Panel Combus
- 12 Vdc, from Bell Circuit
Current in Standby 90mA
Current when Receiving 135mA
Current when Transmitting 1.3A
- *For DSC PC4020 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

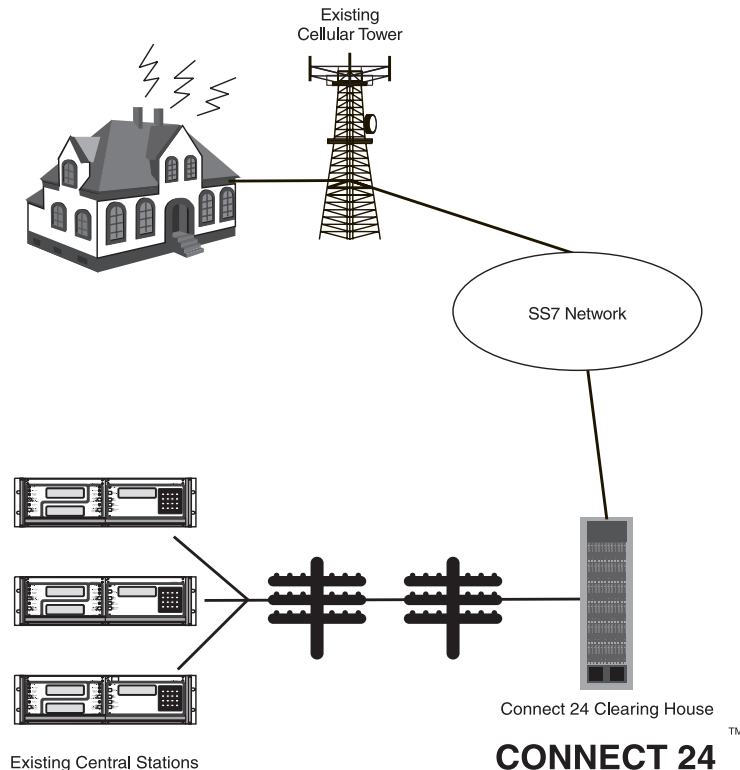
- 0°C - 49°C (32°F - 120°F)
- 90% humidity, non condensating

How the Skyroute *max* Transceiver Works

Cellemetry Communication

The Skyroute *max* 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 *max* transceiver over the network. For transmission sequence see drawing below:



CONNECT 24
DATA COMMUNICATIONS

Installation

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

Mounting the Skyroute *max* Transceiver

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

Combus Connection

The Skyroute *max* transmitter has 4 terminals marked red, black, yellow and green. Connect these four terminals to the 4 terminals on the main control panel marked COMBUS (red, blk, yel and grn).

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 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.

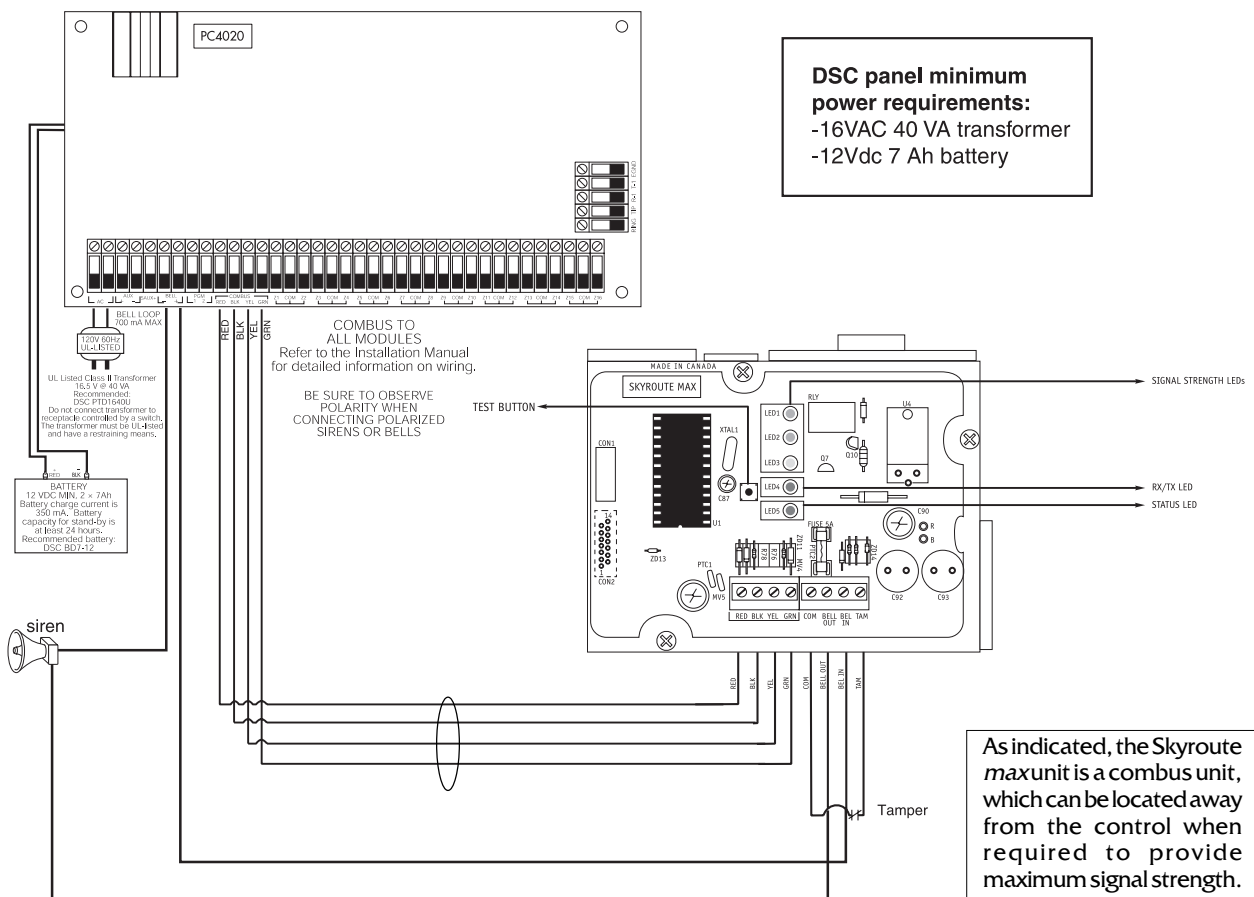
Secure Installation

For a secure installation, the Skyroute *max* 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 *max* 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

Connection Diagram

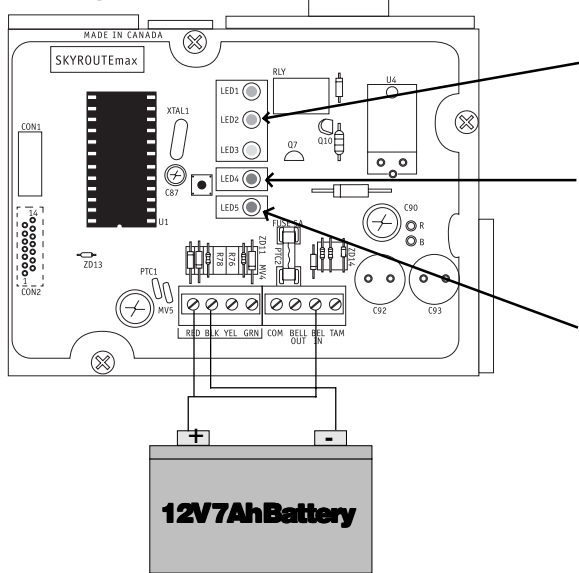


STEP 1

Location of the Skyroute max Unit

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

Verify signal strength prior to installation!



LED 1: Good signal strength
LED 2: Acceptable signal strength
LED 3: Poor signal strength

LED 4: One blink = Transmit TX
 Two blinks = Receive RX

LED 5: Status (number of blinks)
 1: Normal (activated)
 2: Radio not power-up
 3: Failed self-test
 4: No cell network
 5: Fail to communicate
 6: Ready to activate
 8: Unit not enrolled with 4020

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)

testing. If the test is successful, permanently secure the mounting bracket and antenna at the new location.

Mounting the Antenna

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

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 max 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 max 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

Relocating the Skyroute *max* Transceiver

Since the Skyroute *max* transceiver is a Combus 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. Combus (Red, Black, Yellow, Green) from the panel to the Skyroute *max* transceiver.
- A supervised power supply 12V@1A (like the PC4204) must be used (see diagram on page 14).
- The power supply (+ positive) is connected to the Skyroute *max* transceiver (BELL IN) terminal and the power supply (-negative) to the Skyroute *max* transceiver (COM) terminal.
- The cabinet must be installed in a secure location and should have a tamper circuit connected to the Skyroute *max* (TAM and COM) terminals.

Skyroute *max* Transceiver Trouble Supervision

The Skyroute *max* 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 *max* 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.

Number of Flashes	Function of Flashes
1	Radio is operating normally
2	Radio is not powered, or not responding
3	Failed selftest
4	Service is not available
5	Failure to communicate
6	Ready to activate
8	Module not enrolled with panel

- (1) Radio is operating normally: Skyroute *max* transceiver is ready to transmit.
(2) Radio not powered or not responding: Skyroute *max* transceiver initialization of Cellemetry modem has failed.
(3) Failed self-test: A self-test of the Cellemetry module has failed.
(4) Service not available: The Cellemetry modem has failed to register with the cellular network.
(5) Failure to communicate: A signal has not been successfully communicated to the central station.
(6) Not connected to clearing house: The Skyroute *max* transceiver has not been activated.
(8) Module not enrolled with panel: The Skyroute *max* transceiver is not addressed by the control panel.

STEP 2

Enrolling Skyroute *max* with PC4020

Once all the wiring is complete, you must enroll the module:

1. Enter installer's programming by pressing [*][8][Installer's Code]
2. Scroll to "Module Hardware" and press the [*] key.
3. Scroll to "Enroll Module" and press the [*] key.
4. Scroll through the different modules until "Alternate Comms" is displayed. Press the [*] key.
5. The message "Create Tamper on Desired Unit" will be displayed. To create the required tamper, secure the tamper zone on the module and then open it. The transition from secure to violated enrolls the module. After this is done, the keypad will display the module number and confirm enrollment "Alternate Comms Mod 01 Enrolled".

For more information regarding module enrollment, see the control panel Installation Manual.

STEP 3

Defaulting the Skyroute *max*

A default is performed by entering installers programming, [*][8][Installers Code]. Entering section [00][18] will enter the Skyroute *max* programming, by entering [00] or [22] in subsection [099] the Skyroute *max* will be defaulted.

[00] defaults the unit into full reporting.

[22] defaults the unit into generic reporting.

Generic Reporting

Description

The unit can be set to Full Reporting, or Generic Only. This is to be used on systems that have a telephone line as the primary means of communication and Skyroute *max* as a redundant. This option is not meant to make the Skyroute *max* a back-up unit, but to avoid duplicate signals and large delays between signals at the central station. The only zone signals affected are Burglary. The system has one timer for each partition, 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 burglary signal is generated. If multiple burglaries are activated, the first will trigger the unit to transmit the associated generic signal. Once the Skyroute *max* has transmitted the generic signal it ignores all other burglary alarms on the system for a period of 5 minutes. The Skyroute *max* unit will ignore any other burglary alarms that trigger the general transmission during the period the timer is active. If a new alarm of another type (trouble) is triggered then the signal is sent immediately with the corresponding zone number. After the timer has elapsed the unit will then resume standard operation. If a new burglary alarm occurs after the timer has expired, the sequence restarts. All other events will be transmitted via the unit if the appropriate toggle options are enabled. This is accomplished by defaulting the Skyroute *max* with a [22] at subsection [099]

Notice

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

NOTE-When the system is defaulted for Generic Reporting the transmission options are as follows. If a signal group is required, activate the corresponding option.

[030] SYSTEM EVENTS (PARTITION 0) TRANSMISSION OPTIONS SECTION A

Default		Option ON	Option OFF	
ON	<input type="checkbox"/>	Option 1	Alarms	Disabled
OFF	<input type="checkbox"/>	Option 2	Alarm Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Tampers	Disabled
OFF	<input type="checkbox"/>	Option 4	Tamper Restorals	Disabled
OFF	<input type="checkbox"/>	Option 5	Closings	Disabled
OFF	<input type="checkbox"/>	Option 6	Openings	Disabled
OFF	<input type="checkbox"/>	Option 7	Maintenance Alarms	Disabled
OFF	<input type="checkbox"/>	Option 8	Maintenance Alarm Restorals	Disabled

[031] SYSTEM EVENTS (PARTITION 0) TRANSMISSION OPTIONS SECTION B

Default		Option ON	Option OFF	
ON	<input type="checkbox"/>	Option 1	Trouble	Disabled
OFF	<input type="checkbox"/>	Option 2	Trouble Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Bypass	Disabled
OFF	<input type="checkbox"/>	Option 4	Unbypass	Disabled
OFF	<input type="checkbox"/>	Option 5	Supervisory Alarm	Disabled
OFF	<input type="checkbox"/>	Option 6	Supervisory Restoral	Disabled
OFF	<input type="checkbox"/>	Option 7	Access Control	Disabled
OFF	<input type="checkbox"/>	Option 8	Miscellaneous	Disabled

STEP 4

Programming Sections

All programming on the Skyroute *max* 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 [00][18] to go to the Skyroute *max* programming sections.

Configuration Options.....Section [006]

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 *max* transceiver is communicating using the proper carrier. When selected, the transceiver will only use towers with the same SID (as programmed in section [007]).

To Activate the Skyroute *max* Module in Home Mode

1. Select a channel, A or B, in address [006] (Option 1 or 2)
2. Program FF into section [099] to restart the unit
3. Wait for signal strength.
4. Enter in address [007] the Home SID number in hexadecimal format.
5. Select Home Mode (Option 3) and deactivate A or B channel in address [006].

Note: A restart of the unit is required when changes are made in section [006]. To perform the restart program FF into section [099]

Skyroute *max* Transceiver SID (System ID).....Section [007]

Please refer to the SID table included with the Skyroute *max* Module to find out the SID number for your area.

Skyroute *max* Test Time.....Section [010]

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

NOTE: Keypad will display ENT HEX. Simply enter value from 0000 to 2359.

Test Transmission Day Mask.....Section [011]

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

Activating the Skyroute *max* Transceiver

Before activating the Skyroute *max* transceiver, ensure that the control panel is wired, programmed and operating properly. Make sure that the Skyroute *max* transmitter is properly connected to the Combustion and to the bell positive circuit. When power is applied to the system, the Skyroute *max* 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 *max* module should always be performed before any other programming is done. See Default section for details.**

Calling Connect 24

Once the Skyroute *max* 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 *max* 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 *max* 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.

Testing Your Control to the Central Station

Test all zones to your Central Station on the **telephone line only**. After all zone testing, connect Skyroute *max* and verify communication to Central Station.

Skyroute *max* Programming with PC4020

[00][18] Skyroute *max* Programming

[006] Skyroute *max* Configuration Options

Default		Option ON	Option OFF
OFF	<input type="checkbox"/>	Option 1 A Channel Selected	A Channel Not Selected
ON	<input type="checkbox"/>	Option 2 B Channel Selected	B Channel Not Selected
OFF	<input type="checkbox"/>	Option 3 Home System Only	Not in Home System Operation
OFF	<input type="checkbox"/>	Options 4 to 8 For system use do not modify.	

[007] Home SID Number

Default		
0000	<input type="text"/>	This is the SID (in Hex) of the cellular service that is available on the current channel.

[010] Skyroute *max* Test Time

Default		
9999	<input type="text"/>	0000-2359 (in 24 hour time) NOTE: Keypad will display ENT HEX. Simply enter value from 0000 to 2359.

[011] Test Transmission Day Mask

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	

[013] Skyroute *max* Test Rates

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

Sections [030] to [047] will disable groups of reporting codes.

[030] System Event (Partition 0) Transmission Options Section A				
Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Alarms	Disabled
OFF	<input type="checkbox"/>	Option 2	Alarm Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Tampers	Disabled
OFF	<input type="checkbox"/>	Option 4	Tamper Restorals	Disabled
OFF	<input type="checkbox"/>	Option 5	Closings	Disabled
ON	<input type="checkbox"/>	Option 6	Openings	Disabled
ON	<input type="checkbox"/>	Option 7	Maintenance Alarms	Disabled
ON	<input type="checkbox"/>	Option 8	Maintenance Alarm Restorals	Disabled

[031] System Events (Partition 0) Transmission Options Section B				
Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Trouble	Disabled
ON	<input type="checkbox"/>	Option 2	Trouble Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Bypass	Disabled
OFF	<input type="checkbox"/>	Option 4	Unbypass	Disabled
OFF	<input type="checkbox"/>	Option 5	Supervisory Alarm	Disabled
OFF	<input type="checkbox"/>	Option 6	Supervisory Restoral	Disabled
OFF	<input type="checkbox"/>	Option 7	Access Control	Disabled
OFF	<input type="checkbox"/>	Option 8	Miscellaneous	Disabled

[032] Partition 1 Transmission Options Section A				
Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Alarms	Disabled
OFF	<input type="checkbox"/>	Option 2	Alarm Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Tampers	Disabled
OFF	<input type="checkbox"/>	Option 4	Tamper Restorals	Disabled
OFF	<input type="checkbox"/>	Option 5	Closings	Disabled
ON	<input type="checkbox"/>	Option 6	Openings	Disabled
ON	<input type="checkbox"/>	Option 7	Maintenance Alarms	Disabled
ON	<input type="checkbox"/>	Option 8	Maintenance Alarm Restorals	Disabled

[033] Partition 1 Transmission Options Section B				
Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Trouble	Disabled
ON	<input type="checkbox"/>	Option 2	Trouble Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Bypass	Disabled
OFF	<input type="checkbox"/>	Option 4	Unbypass	Disabled
OFF	<input type="checkbox"/>	Option 5	Supervisory Alarm	Disabled
OFF	<input type="checkbox"/>	Option 6	Supervisory Restoral	Disabled
OFF	<input type="checkbox"/>	Option 7	Access Control	Disabled
OFF	<input type="checkbox"/>	Option 8	Miscellaneous	Disabled

[034] Partition 2 Transmission Options Section A				
Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Alarms	Disabled
OFF	<input type="checkbox"/>	Option 2	Alarm Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Tampers	Disabled
OFF	<input type="checkbox"/>	Option 4	Tamper Restorals	Disabled
OFF	<input type="checkbox"/>	Option 5	Closings	Disabled
ON	<input type="checkbox"/>	Option 6	Openings	Disabled
ON	<input type="checkbox"/>	Option 7	Maintenance Alarms Disabled	
ON	<input type="checkbox"/>	Option 8	Maintenance Alarm Restorals	Disabled

[035] Partition 2 Transmission Options Section B

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Trouble	Disabled
ON	<input type="checkbox"/>	Option 2	Trouble Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Bypass	Disabled
OFF	<input type="checkbox"/>	Option 4	Unbypass	Disabled
OFF	<input type="checkbox"/>	Option 5	Supervisory Alarm	Disabled
OFF	<input type="checkbox"/>	Option 6	Supervisory Restoral	Disabled
OFF	<input type="checkbox"/>	Option 7	Access Control	Disabled
OFF	<input type="checkbox"/>	Option 8	Miscellaneous	Disabled

[036] Partition 3 Transmission Options Section A

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Alarms	Disabled
OFF	<input type="checkbox"/>	Option 2	Alarm Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Tampers	Disabled
OFF	<input type="checkbox"/>	Option 4	Tamper Restorals	Disabled
OFF	<input type="checkbox"/>	Option 5	Closings	Disabled
ON	<input type="checkbox"/>	Option 6	Openings	Disabled
ON	<input type="checkbox"/>	Option 7	Maintenance Alarms	Disabled
ON	<input type="checkbox"/>	Option 8	Maintenance Alarm Restorals	Disabled

[037] Partition 3 Transmission Options Section B

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Trouble	Disabled
ON	<input type="checkbox"/>	Option 2	Trouble Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Bypass	Disabled
OFF	<input type="checkbox"/>	Option 4	Unbypass	Disabled
OFF	<input type="checkbox"/>	Option 5	Supervisory Alarm	Disabled
OFF	<input type="checkbox"/>	Option 6	Supervisory Restoral	Disabled
OFF	<input type="checkbox"/>	Option 7	Access Control	Disabled
OFF	<input type="checkbox"/>	Option 8	Miscellaneous	Disabled

[038] Partition 4 Transmission Options Section A

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Alarms	Disabled
OFF	<input type="checkbox"/>	Option 2	Alarm Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Tampers	Disabled
OFF	<input type="checkbox"/>	Option 4	Tamper Restorals	Disabled
OFF	<input type="checkbox"/>	Option 5	Closings	Disabled
ON	<input type="checkbox"/>	Option 6	Openings	Disabled
ON	<input type="checkbox"/>	Option 7	Maintenance Alarms	Disabled
ON	<input type="checkbox"/>	Option 8	Maintenance Alarm Restorals	Disabled

[039] Partition 4 Transmission Options Section B

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Trouble	Disabled
ON	<input type="checkbox"/>	Option 2	Trouble Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Bypass	Disabled
OFF	<input type="checkbox"/>	Option 4	Unbypass	Disabled
OFF	<input type="checkbox"/>	Option 5	Supervisory Alarm	Disabled
OFF	<input type="checkbox"/>	Option 6	Supervisory Restoral	Disabled
OFF	<input type="checkbox"/>	Option 7	Access Control	Disabled
OFF	<input type="checkbox"/>	Option 8	Miscellaneous	Disabled

[040] Partition 5 Transmission Options Section A

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Alarms	Disabled
OFF	<input type="checkbox"/>	Option 2	Alarm Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Tampers	Disabled
OFF	<input type="checkbox"/>	Option 4	Tamper Restorals	Disabled
OFF	<input type="checkbox"/>	Option 5	Closings	Disabled
ON	<input type="checkbox"/>	Option 6	Openings	Disabled
ON	<input type="checkbox"/>	Option 7	Maintenance Alarms	Disabled
ON	<input type="checkbox"/>	Option 8	Maintenance Alarm Restorals	Disabled

[041] Partition 5 Transmission Options Section B

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Trouble	Disabled
ON	<input type="checkbox"/>	Option 2	Trouble Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Bypass	Disabled
OFF	<input type="checkbox"/>	Option 4	Unbypass	Disabled
OFF	<input type="checkbox"/>	Option 5	Supervisory Alarm	Disabled
OFF	<input type="checkbox"/>	Option 6	Supervisory Restoral	Disabled
OFF	<input type="checkbox"/>	Option 7	Access Control	Disabled
OFF	<input type="checkbox"/>	Option 8	Miscellaneous	Disabled

[042] Partition 6 Transmission Options Section A

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Alarms	Disabled
OFF	<input type="checkbox"/>	Option 2	Alarm Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Tampers	Disabled
OFF	<input type="checkbox"/>	Option 4	Tamper Restorals	Disabled
OFF	<input type="checkbox"/>	Option 5	Closings	Disabled
ON	<input type="checkbox"/>	Option 6	Openings	Disabled
ON	<input type="checkbox"/>	Option 7	Maintenance Alarms	Disabled
ON	<input type="checkbox"/>	Option 8	Maintenance Alarm Restorals	Disabled

[043] Partition 6 Transmission Options Section B

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Trouble	Disabled
ON	<input type="checkbox"/>	Option 2	Trouble Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Bypass	Disabled
OFF	<input type="checkbox"/>	Option 4	Unbypass	Disabled
OFF	<input type="checkbox"/>	Option 5	Supervisory Alarm	Disabled
OFF	<input type="checkbox"/>	Option 6	Supervisory Restoral	Disabled
OFF	<input type="checkbox"/>	Option 7	Access Control	Disabled
OFF	<input type="checkbox"/>	Option 8	Miscellaneous	Disabled

[044] Partition 7 Transmission Options Section A

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Alarms	Disabled
OFF	<input type="checkbox"/>	Option 2	Alarm Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Tampers	Disabled
OFF	<input type="checkbox"/>	Option 4	Tamper Restorals	Disabled
OFF	<input type="checkbox"/>	Option 5	Closings	Disabled
ON	<input type="checkbox"/>	Option 6	Openings	Disabled
ON	<input type="checkbox"/>	Option 7	Maintenance Alarms	Disabled
ON	<input type="checkbox"/>	Option 8	Maintenance Alarm Restorals	Disabled

[045] Partition 7 Transmission Options Section B

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Trouble	Disabled
ON	<input type="checkbox"/>	Option 2	Trouble Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Bypass	Disabled
OFF	<input type="checkbox"/>	Option 4	Unbypass	Disabled
OFF	<input type="checkbox"/>	Option 5	Supervisory Alarm	Disabled
OFF	<input type="checkbox"/>	Option 6	Supervisory Restoral Disabled	
OFF	<input type="checkbox"/>	Option 7	Access Control	Disabled
OFF	<input type="checkbox"/>	Option 8	Miscellaneous	Disabled

[046] Partition 8 Transmission Options Section A

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Alarms	Disabled
OFF	<input type="checkbox"/>	Option 2	Alarm Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Tampers	Disabled
OFF	<input type="checkbox"/>	Option 4	Tamper Restorals	Disabled
OFF	<input type="checkbox"/>	Option 5	Closings	Disabled
ON	<input type="checkbox"/>	Option 6	Openings	Disabled
ON	<input type="checkbox"/>	Option 7	Maintenance Alarms	Disabled
ON	<input type="checkbox"/>	Option 8	Maintenance Alarm Restorals	Disabled

[047] Partition 8 Transmission Options Section B

Default			Option ON	Option OFF
ON	<input type="checkbox"/>	Option 1	Trouble	Disabled
ON	<input type="checkbox"/>	Option 2	Trouble Restorals	Disabled
OFF	<input type="checkbox"/>	Option 3	Bypass	Disabled
OFF	<input type="checkbox"/>	Option 4	Unbypass	Disabled
OFF	<input type="checkbox"/>	Option 5	Supervisory Alarm	Disabled
OFF	<input type="checkbox"/>	Option 6	Supervisory Restoral	Disabled
OFF	<input type="checkbox"/>	Option 7	Access Control	Disabled
OFF	<input type="checkbox"/>	Option 8	Miscellaneous	Disabled

NOTE: Default must be performed before activating the Skyroute *max*

[099] Section [099] is for software defaulting of the Skyroute *max*

Default
63

*Entering 00 will cause a software default of the Skyroute *max*

*Entering 22 will cause a software default of the Skyroute *max* to Generic reporting

*Entering FF will cause restart of the Skyroute *max* transceiver

Skyroute *max* Transceiver Trouble Shooting

1. Check all Wiring

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

4. If LED 5 flashes once every second, yet Skyroute *max* transceiver does not communicate to clearing house, call Technical Support at 1-800-503-5869 or e-mail us at support@sur-gard.com.

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

Problem: • Skyroute *max* unit displays poor signal strength.

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

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

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

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

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

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

Problem: • The Skyroute *max* 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.

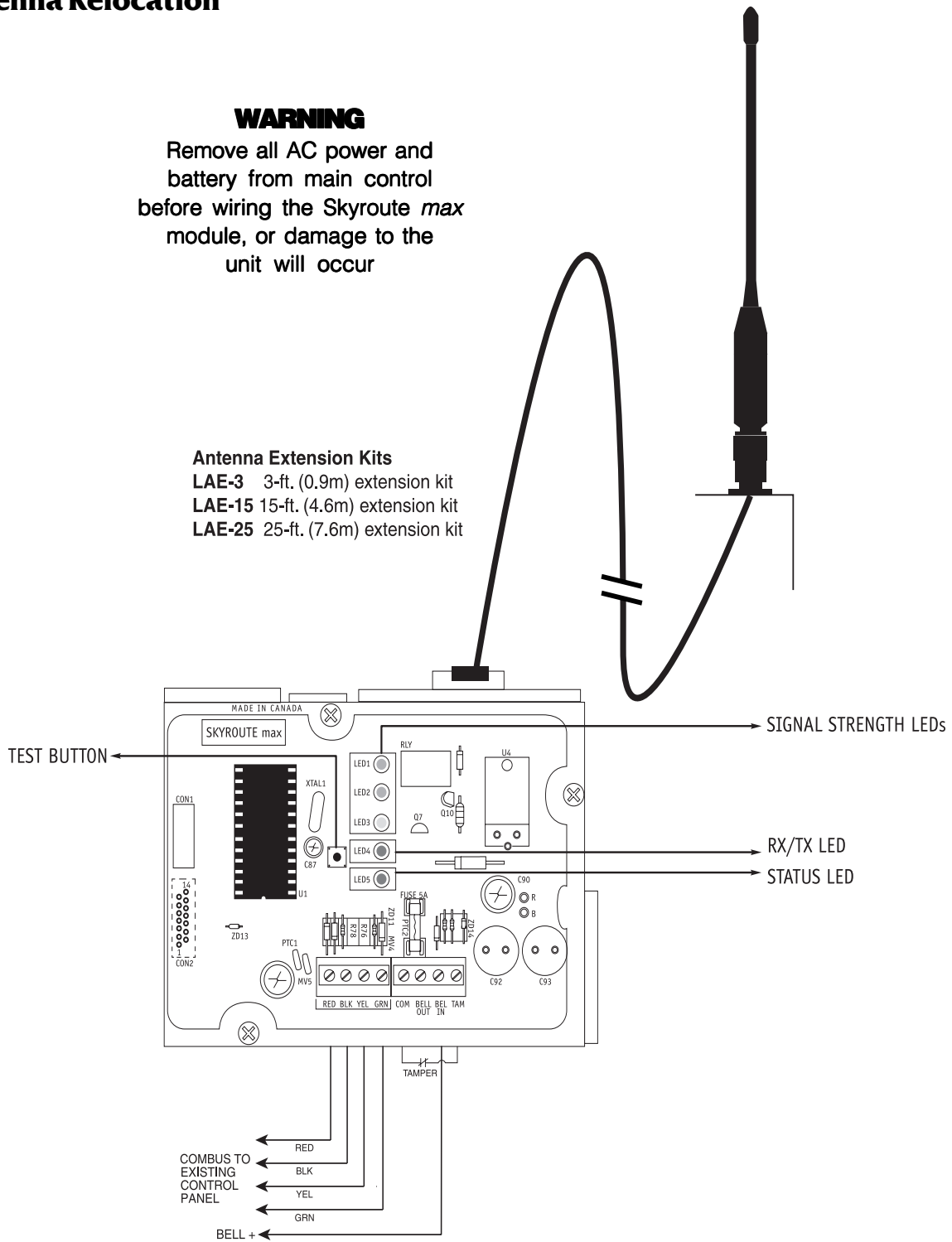
Antenna Relocation

WARNING

Remove all AC power and battery from main control before wiring the Skyroute *max* 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

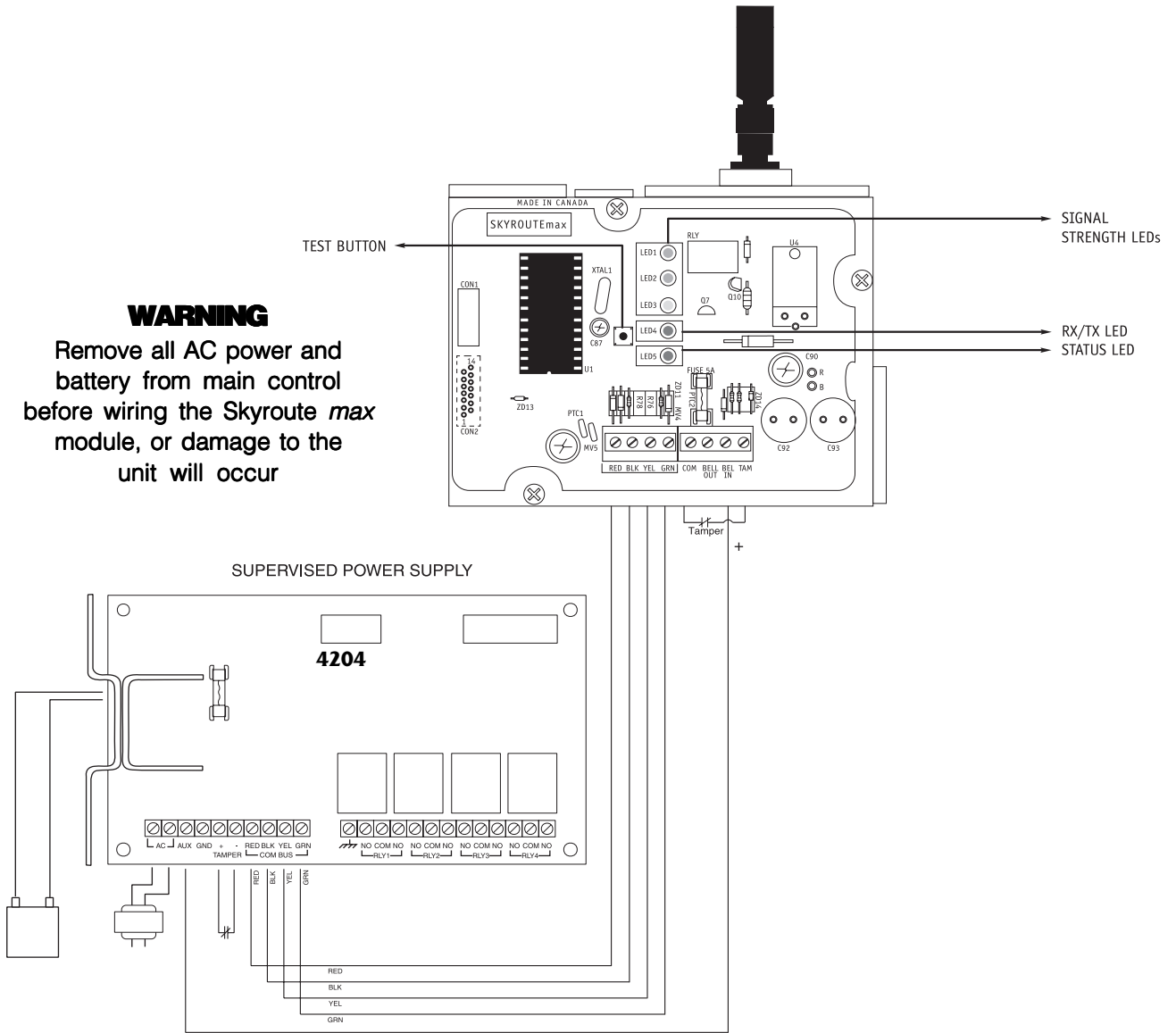


Skyroute *max* Antenna Cable Installation.

- Power down the Skyroute *max* module, by removing both AC and DC power from the control panel.
- Attach one end of the extension cable to the Skyroute *max* unit, and attach the bracket and antenna to the other end.
- Reapply the AC and DC power to the Skyroute *max* 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 *max* module, or damage to the unit will occur



POWER REQUIREMENTS

The PC4204 requires a 16V, 40VA transformer and a 12V, 7 Ah battery.

Note: If a battery is not connected to the PC4204 an expansion trouble and a restoral will be generated every time a signal is transmitted.

CONNECTIONS

The combus from the panel is connected to both the PC4204 and the Skyroute *max*

A wire is connected from the AUX terminal on the PC4204 to the BELL IN of the Skyroute *max*

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

A jumper or a normally closed switch is required between the TAM and the BLK for the Tamper of the PC4204.

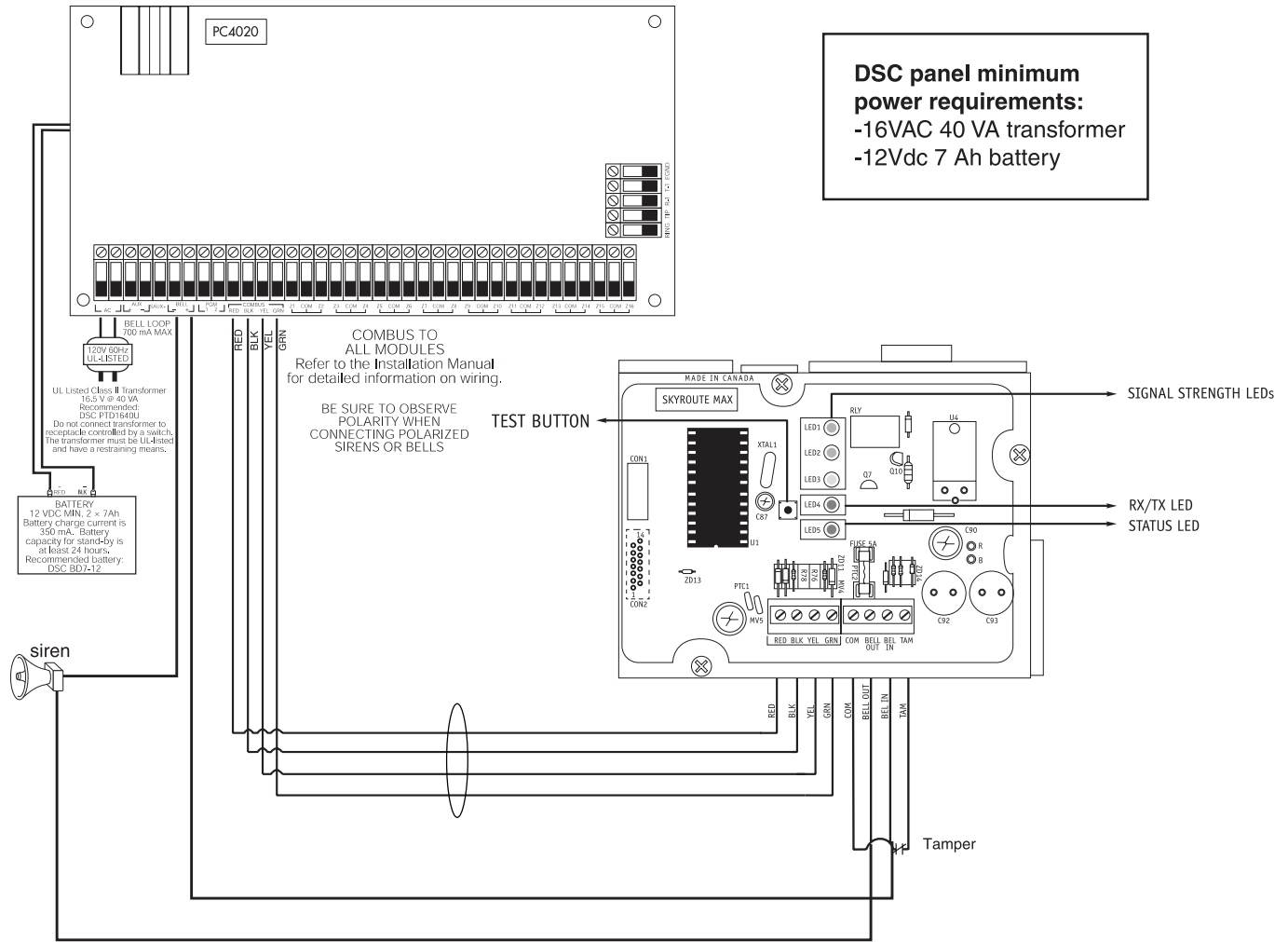
Wire the positive lead of the device to the AUX + terminal. Tamper + and -)

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

Standard Connection with PC4020

WARNING

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



Wiring Skyroute *max* to a DSC PC4020

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

For Your Records

Location

Skyroute *max*MIN Number

Rate Plan

Central Station

Account Number

Test Time and Day

Additional Notes

Appendix A - Reporting codes for SIA and Contact ID

Reporting Code	Contact ID	SIA Auto Rep Codes**	Reporting Code	Contact ID	SIA Auto Rep Codes**
Zone Alarms	see Appendix B "Zone Reporting Codes"		Partition Closing	456	CG-PPP
Zone Restorals			Openings	401	OP-UUU
Zone Trouble/Tamper			Opening 129-1000	401	OP-UUU
Zone Trouble/Tamper Rest.			Special Opening	401	OP-000
Zone Fault			Automatic (Scheduled) Opening	403	OA-000
Zone Fault Rest.			Partition Opening	402	OG-PPP
[F] Key Alarm/Rest.	110	FA-000/FH-000	Battery Trouble/Rest.	302	YT-000/YR-000
[A] Key Alarm/Rest.	100	MA-000/MH-000	AC Line Trouble/Rest.	301	AT-999/AR-999
[P] Key Alarm/Rest.	120	PA-000/PH-000	Panel Bell Trouble/Rest.	321	YA-999/YH-999
Duress Alarm	122	HA-000	Panel Auxillary Trouble/Rest.	312	YP-999/YQ-999
Opening after alarm	458	OR-000	Combus Trouble/Rest.	300	UT-999/UJ-999
Recent Closing	459	CR-000	TLM Failure/Rest.	351	LT-001/LR-001
Cross Zone (Police Code) Alarm	139	BV-000	TLM Line2 Failure/Rest.	351	LT-002/LR-002
Door Forced Alarm/rest.	423	DF-ZZZ/DR-ZZZ	FTC Restoral	354	YK-000
Door open too long alarm/rest.	426	DN-ZZZ/DH-ZZZ	Buffer Near Full	622	JL-000
General system tamper/rest.	137	TA-000/TR-000	User System test	601	RX-000
Keypad lockout	461	JA-000	Periodic Test	602	RP-000
2-wire alarm/rest.	110	FA-999/FH-999	LINKS Test	603	TX-000
Waterflow alarm/rest.	110	SA-998/SH-998	Ground Fault/Rest.	140	US-000/UR-000
2-wire trouble/rest.	373	FT-999/FJ-999	DLS Lead in	627	RB-000
Waterflow trouble/rest.	200	ST-998/SJ-998	DLS Lead out	628	RS-000
Fire test begin	604	FI-000	Installer Lead In	458	LB-000
Fire test end	604	FK-000	Installer Lead Out	458	LS-000
Fire bypass.unbypass	571	FB-ZZZ/FU-ZZZ	Closing Delinquency	654	CD-000
Closings	401	CL-UUU	Walk Test Enabled	607	TS-000
Closing 129-1000	401	CL-UUU	Walk Test Disabled	607	TE-000
Partial Closing	450	CW-000	General System Trouble/Rest.	300	YX-000
Automatic (Scheduled) Closing	403	CA-000	General Device low Battery/Rest.	302	XT/XR-ZZZ XT/XR-901-904 XT/XR-921-936
Auto Arm Cancellation	405	CE-000	Gen Module Comm Fault/Rest.	330	ET-000/ER-000

* A/R = alarms/restorals; O/C = openings/closings; O = other
 **PPP = partition number; UUU = user number (user 1000=999); ZZZ = zone number

Appendix B - Zone Reporting Codes

For notes on Contact ID and SIA reporting codes, see Appendix A.

Zone Definition	Contact ID Zone Alm/Rest.	SIA Auto Rep Codes** Zone Alm/Rest.
Standard Delay, Auxillary Delay, Instant, Interior, Interior Delay, Interior Stay/Away, Delay Stay/Away	130	BA-ZZZ/BH-ZZZ
Standard Fire, Delayed Fire, Auto Verify Fire	110	FA-ZZZ/FR-ZZZ
Waterflow	110	SA-ZZZ/SH-ZZZ
Fire Supervisory	200	FS-ZZZ/FR-ZZZ
24 Hour Supervisory	140	US-ZZZ/UR-ZZZ
24 Hour Bell, 24 Hour Bell/Buzzer, 24 Hour Buzzer	130	BA-ZZZ/BH-ZZZ
24 Hour Technical	140	UA-ZZZ/UH-ZZZ
24 Hour Gas	151	GA-ZZZ/GH-ZZZ
24 Hour Heat	158	KA-ZZZ/KH-ZZZ
24 Hour Medical	100	MA-ZZZ/MH-ZZZ
24 Hour Emergency	120	QA-ZZZ/QH-ZZZ
24 Hour Water	154	WA-ZZZ/WH-ZZZ
24 Hour Freeze	140	ZA-ZZZ/ZH-ZZZ
24 Hour Hold up	122	HA-ZZZ/HH-ZZZ
24 Hour Panic	120	PA-ZZZ/PH-ZZZ
Latching 24 Hour	130	BA-ZZZ/BH-ZZZ

S** ZZZ = zones 001-128

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: 1-800-418-7618, 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 this product, you can call Sur-Gard 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 WWW site. You can search the SG technical information database and read information about our new products as well as send us any questions you may have. Our World Wide Web address is <http://www.sur-gard.com>.



© 2000 SG Wireless Communications
A Division of the SafeLink Corporation
Toronto, Ontario Canada
Tel:(416) 665-4494
Fax:(416) 665-4222
Toll Free: 1-800-418-7618
www.sur-gard.com

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