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StarLink™ SLE Series Alarm Communicators INSTALLATION INSTRUCTIONS



WI1936E 12/14

INTRODUCTION

The StarLink™ alarm capture radio communicators are fully supervised, wireless digital two-way subscriber units supported by an extensive nationwide wireless network. All models are compatible with virtually any 12VDC alarm control panel and are easy to install and test (always adhere to the documentation provided by the control panel manufacturer). All can function as a backup to existing telephone lines, or as a primary communicator when telephone lines are absent and when connected directly to the control panel Telco terminals. When used as a backup communicator, all units will automatically switch the communication channel from the telephone line to the network when telephone line trouble is detected.

The StarLink radio communicators use proprietary data-capture technology that captures the alarm report from the control panel and transmits the alarm signals to the SLE Control Center; the alarm signals are then forwarded to ANY Central Station via standard CS receiver formats 4/2

and Contact ID. In addition, the SLE Control Center generates and reports a Supervisory signal in the event that the network does not receive the expected supervisory test signal from the wireless communicator during a pre-scheduled period. The following models are available:

SLE-GSM-3/4G - 2G, 3G and 4G Network Compatible GSM alarm capture Communicator, SIM card included. Black plastic enclosure.

SLE-GSM-8D-3/4G - 2G, 3G and 4G Network Compatible GSM alarm capture Communicator. Supports remote downloading to the Gemini GEM-P400, GEM-P800, GEMP-801, Express XP-400 and XP-600 series control panels. SIM card included. Black plastic enclosure.

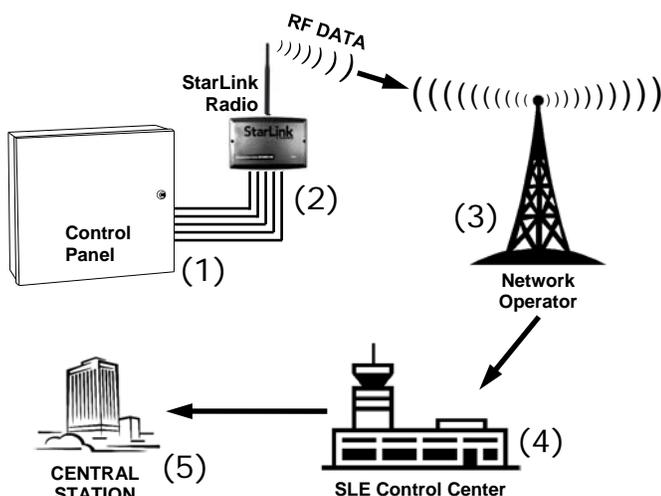
SLE-CDMA - Universal CDMA alarm capture Communicator. Black plastic enclosure.

SLE-CDMA-8D - Universal CDMA alarm capture Communicator. Supports remote downloading to the Gemini GEM-P400, GEM-P800, GEMP-801, Express XP-400 and XP-600 series control panels. Black plastic enclosure.

RADIO REPORTING PATH

The diagram below shows the transmission path of a signal from the radio to the central station.

1. **Signal from a Control Panel.**
2. **StarLink** radio receives the signal transmission (from the TIP and RING wires); sends RF signal through the network operator.
3. **Network Operator**, part of the vendor system, a section of the cellular spectrum.
4. **SLE Control Center (NOC)**, receives and routes data.
5. **Central Station.**



ADDITIONAL COMPONENTS

In addition to the models listed above, the following sub-assemblies are available:

SLE-DLEXT - Optional, for up/downloading, extends distance from radio to panel, from 10 feet, up to 100 feet. See installation instructions WI1950.

SLE-DLCBL - Download Cable, 6 feet.

SLE-SMTCHG - Smart Charge Module, optional charger / power supply.

SLE-ANTEXT - Extended antenna with 15 feet of cable.

SPECIFICATIONS

The following specifications apply to all StarLink radio models unless otherwise stated:

Electrical Ratings for +12V (all models powered by the control panel)

Input Voltage: 15-10.6VDC

Input Current: 65mA with peak RF transmission current of 400mA for models SLe-GSM-3/4G and SLE-CDMA; (80mA with peak RF transmission current of 400mA for model SLe-GSM-8D-3/4G and SLE-CDMA-8D)

Electrical Ratings for the IN 1 Burg/Fire Input:

Input Voltage: 15-9VDC

Electrical Ratings for IN 2 and IN 3:

Maximum Loop Voltage: 15VDC

Maximum Loop Current: 1.2mA

End of Line Resistor (EOLR) Value: 10K

Electrical Ratings for 3 PGM Outputs:

Open Collector Outputs: Maximum Voltage 3V when active; 15V maximum when not active

Maximum PGM Sink Current: 50mA

Physical (W x H x D)

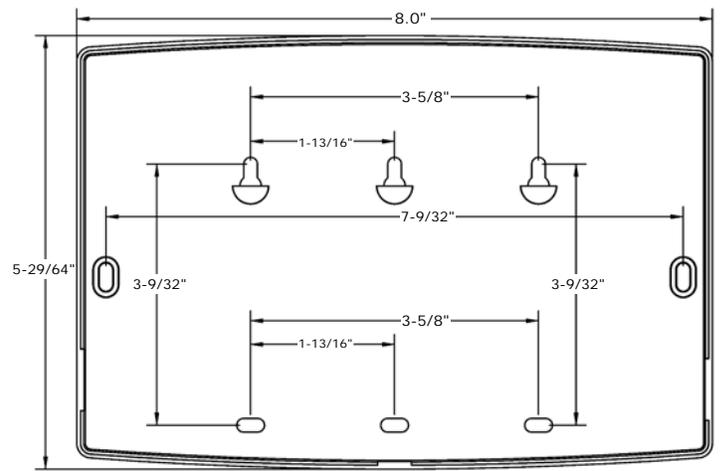
Plastic Housing: 8 x 5-²⁹/₆₄ x 1¹/₂" (20.3 x 13.9 x 3.8cm)

Mounting: Plastic housing includes three keyhole slots for triple gang boxes (see image at right and scale template on page x);

Environmental

Operating Temperature: -10°C - 49°C (14°F - 120°F)

Humidity: Maximum 95% Non-Condensing



StarLink Plastic Housing Dimensions (inches)

TERMINAL DESCRIPTIONS

Located at the bottom of the StarLink radio PC board, the 17 terminals are described as follows:

TB1: PWR (+12V)

(Refer to section "STEP 4: APPLY POWER")

TB2: PWR GND (-)

(Refer to section "STEP 4: APPLY POWER")

TB3: PGM1 (-): Open collector output. PGM1 is normally on (active low). When it is triggered (for example, a trouble is detected) it becomes open collector/high. To have a zone dedicated to an StarLink radio trouble, insert one side of the end of line resistor into this PGM1 terminal, and wire the other side of the resistor to the positive terminal of the zone. The output can be re-configured to activate on other conditions using the Management Center screen (located at www.napconoc.com).

TB4: PGM2 (-): Open collector output. This output is defaulted as "Fail to Communicate", and is normally open collector/high. When a report fails to communicate, the output is active low. The output can be re-configured to activate on other conditions using the Management Center screen (located at www.napconoc.com).

TB5: PGM3 (-): Open collector output. This output is defaulted as "Telephone Line Cut". When the 24V telephone line voltage is correct, the output is open collector/high; when the telephone line voltage is too low, the output is active low. This output can be re-configured using the Management Center screen (located at www.napconoc.com).

TB6: IN 1 (B/F): Active high input intended for wiring to the control panel bell output. When this input detects a steady high, it sends a burglary alarm; when it detects a pulsing temporal high, it sends a Fire alarm; when it detects the "CO Alarm" pattern,

a CO alarm is sent. For this input to report to a central station, the StarLink radio must be configured with the central station telephone number and correct reporting formats and codes.

When used as arm/disarm status input, a high indicates "armed" and a low indicates "disarmed".

Note: When using Napco Armed Lugs (E4 or E15), do not use **IN 1** for armed status; instead, use **IN 2** or **IN 3**.

TB7: IN 2: See TB9, below.

TB8: GND: Common ground terminal.

TB9: IN 3: Both terminals **IN 2** and **IN 3** are, by default, active low inputs. Use active low outputs to activate. For these inputs to report to a central station, the StarLink radio must be configured with the Central station telephone number and correct reporting formats and codes. Jumpers 4 and 5 may be used to make the **IN 2** and **IN 3** terminals supervised end of line resistor inputs that can be triggered with N/O or N/C relay contacts. Wire the common ground terminal **GND** (terminal **TB8**) to the relay common. When used as arm/disarm status input, a low indicates "armed" and a high indicates "disarmed".

TB10: TIP: See TB11, below.

TB11: RING: Terminals **TIP** and **RING**: When used for backup reporting, the street/cable-modem Tip and Ring telephone wires must be routed from the outside to these terminals. These wires are monitored for voltage such that if voltage falls below 1.5V, a Telco Line Fault trouble is detected and the StarLink radio switches over to apply its own Telco Line voltage to the control panel Tip and Ring, thus allowing the StarLink radio to receive and transmit any alarms sent by the control panel.

TB12: PANEL RING: See wiring diagrams.

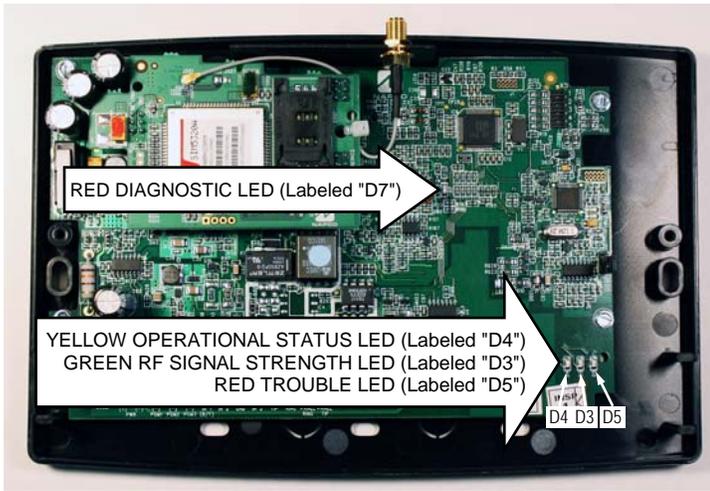
TB13: PANEL TIP: See wiring diagrams.

TB14: RTS (R): See TB17 below.

TB15: PANEL TX (B): See TB17 below.

TB16: PANEL RX (G): See TB17 below.

TB17: CTS (Y): These terminals are wired to the **SLE-**



LED LOCATIONS

DLEXT download extender (see W11950) to allow control panel downloads of the GEM-X255, GEM-P9600, GEM-P3200, GEM-P1664, GEM-P1632, GEM-P816 and Freedom F-64 control panels when the StarLink radio is mounted remotely from the control panel.

LED DESCRIPTIONS

The PC board contains several LED's, as follows:

GREEN RF SIGNAL STRENGTH LED

Labeled "D3", this LED is located at the lower right corner of the PC board.

Every 30 seconds, the StarLink radio receiver section turns on and listens to the cell tower. Depending on the signal strength detected, it will blink the Signal Strength LED from 1 to 8 times, providing a signal strength indicator that is updated constantly and is always displayed. Refer to Coverage Table below.

Operation

Signal strength (as received by the radio) is displayed by this LED blinking 1 to 8 times at a constant rate (with a short delay between blink cycles). Acceptable power level is greater than or equal to -91dBm (minimum 4 blinks at the mounting location).

GREEN RF SIGNAL STRENGTH LED RADIO RECEIVER COVERAGE TABLE								
LED Blinks	8	7	6	5	4	3	2	1
Power (dBm)	-55	-65	-75	-85	-91	-95	-99	-105
	Stronger Weaker							

YELLOW OPERATIONAL STATUS LED

Labeled "D4", this LED is located at the bottom right of the PC board. Operation is as follows:

Normal Standby Condition:

- **Blinks on momentarily every 10 seconds:** Unit is in

standby waiting for an alarm to report.

Processing Alarm Conditions:

- When processing an alarm, this LED will blink variably during each part of the process (dialing, handshaking, data transmission, etc).

RED TROUBLE LED

Labeled "D5", this LED is located at the bottom right of the PC board. Operation is as follows:

- **1 Blink:** Low Aux Power input voltage
- **2 Blinks:** Battery trouble
- **3 Blinks:** Alarm report Failed to Communicate
- **4 Blinks:** RF trouble (antenna connection or cellular registration)
- **5 Blinks:** Network trouble (signal unable to reach the SLE Control Center)
- **6 Blinks:** Unit disabled (reporting or control panel downloading not allowed)
- **7 Blinks:** Unit was shutdown and has no functionality; requires a restart (full power down and full power up sequence) to restore operation
- **8 Blinks:** Telco Line Cut

RED DIAGNOSTIC LED

Labeled "D7", this LED is located in the middle of the PC board. One blink indicates a weak or non-existent signal from the network (green LED is off). If this red LED is blinking in any other manner, please contact technical support.

SUPPLYING POWER

Control panels can provide power through their Auxiliary Power terminals if the available standby current is reduced by 65mA. When there is insufficient standby current due to the application, the SLE-SMTCHG Charger Module accessory must be used to charge an additional battery and to supply the standby current for the StarLink radio.

JUMPER DESCRIPTIONS

Jumper block labeled "X5"; from top to bottom, as detailed in the following table. **Note:** Contact ID is always available in response to a Contact ID handshake.

Jumper Block "X5" Options		
Jumper block labeled "X5" contains 5 jumper terminals; from top (labeled "1") to bottom (labeled "5") as follows:		
Jumper ON	Jumper Number	Jumper OFF
(Do not use, unless otherwise instructed for special purposes)	1	(Normal operation)
4/2 with Checksum Pulse Format	2	4/2 Pulse Format
Backup Mode	3	Primary Mode
10K EOLR Required	4	No EOLR for Zone 3
10K EOLR Required	5	No EOLR for Zone 2

PRIMARY AND BACK-UP REPORTING

The StarLink radio can function as a primary wireless communicator, in cases where there are no telephone lines present, when connected directly to the control panel Telco terminals. For primary reporting, do NOT install jumper 3 in terminal block "X5". The StarLink radio can also function as a backup to the existing telephone lines (install jumper 3 in terminal block "X5"). When used as a backup communicator and when it senses telephone line trouble, the StarLink radio automatically switches the communication channel from the telephone line to the radio network. See the following table for the maximum number of retry attempts.

NOC Telephone #	Max # of Retry Attempts	Comments
Primary	3	Primary central station telephone number used
Backup	6	Backup central station telephone number used

NETWORK COVERAGE

The StarLink radio constantly supervises the network coverage. When the StarLink radio is configured for primary reporting, and the StarLink radio detects a loss in network coverage, the StarLink radio can be configured to prompt the control panel to announce a Telco Line Cut failure trouble using the Management Center screen (located at www.napconoc.com). **Note:** This Telco Line Cut failure trouble will NOT activate when the StarLink radio is configured for backup reporting.

By default, the StarLink radio is NOT configured to cause a Telco Line Cut failure trouble, and will NOT announce at the system keypad(s).

INSTALLATION STEPS

STEP 1: ACCOUNT REGISTRATION

Create a new account and register specific StarLink radio modules at www.NapcoComNet.com. Accounts and modules registered via the Internet are enabled for activation within 24 hours.

STEP 2: SELECT A MOUNTING LOCATION

The mounting location should be selected based on RF performance and ambient climate conditions. It is HIGHLY recommended that the installer carefully adhere to the following recommendations BEFORE any wires are installed.

- Generally, high locations are best. DO NOT mount radio in basements or below grade as unpredictable performance may result.

- DO NOT mount the StarLink radio in non-climate controlled environments (i.e. attics may become extremely hot in summer, garages may become extremely cold in winter).
- Avoid mounting locations within 3 feet of AC power lines, fluorescent light fixtures, or large metal objects (air conditioners, metal garage doors, etc.) as these locations have been shown to have a detrimental effect on signal strength.
- A fair amount of care may be required to mount the StarLink radio so as to achieve an optimal RF path. The installer should spend as much time as needed to obtain the highest signal level possible.

- Before applying power, be sure to connect the antenna.** Temporarily connect power to the StarLink radio from a fully charged 12V (4AH minimum) battery. DO NOT mount the StarLink radio at this time.
- Position the unit in the desired mounting location, with antenna oriented vertically. The signal strength is displayed by the Green "Signal Strength LED" labeled "D3" (located at the lower right corner of the PC board). The radio tower signal strength may fluctuate from day to day, therefore it is best to try to find a mounting location where the LED provides a **minimum of 4 blinks**.
- Once a location has been selected based on signal coverage, permanently secure the unit using #8 screws (not supplied) in the two mounting holes.

WARNING: To ensure user safety and to satisfy FCC RF exposure requirements, this unit must be installed so that a minimum separation distance of 60cm (24") is always maintained between the antenna of the transmitting device and nearby persons. Use ONLY the existing antenna supplied by StarLink radio to comply with this warning (Exception: The SLE-ANTEXT extended antenna with 15 feet of cable).

STEP 3: WIRING (PRIMARY AND BACKUP MODES)

22-gauge wire may be used if mounted up to 50 feet from the control panel, and 18-gauge wire should be used for up to 100 feet. Reference the wiring diagrams further in this manual. **Note:** If the control panel central station receiver reporting format is "4/2 with checksum", be sure to install jumper #2 in jumper block labeled "X5". See the section **CONTROL PANEL PROGRAMMING** further in this manual.

For Primary Mode:

Remove jumper #3 in jumper block labeled "X5". The wiring between the control panel and the StarLink radio is over five (5) wires, as follows:

- **TB1: PWR (+12V)**
- **TB2: PWR GND (-)**
- **TB13: PANEL TIP**
- **TB12: PANEL RING**

- **TB3: PGM1 (-)**. Normally low output wired to the (+) of a zone dedicated to monitoring the radio status. Should be programmed on Napco control panels as Day Zone, but be programmed to sound locally and NOT activate the bell. **Note:** See steps "a" and "b", below.

For Backup Mode:

Install jumper #3 in jumper block labeled "X5". The wiring between the control panel and the StarLink radio is over seven (7) wires, as follows:

- **TB1: PWR (+12V)**
- **TB2: PWR GND (-)**
- **TB10: TIP**
- **TB11: RING**
- **TB13: PANEL TIP**
- **TB12: PANEL RING**
- **TB3: PGM1 (-)**. Normally low output wired to the (+) of a zone dedicated to monitoring the radio status. Should be programmed on Napco control panels as Day Zone, but be programmed to sound locally and NOT activate the bell.
 - Without applying power (voltage)*, connect to screw terminals **TB1 (+12V)** and **TB2 (-)**. If the control panel *Aux. Output* cannot supply the necessary current, then you must use the **SLE-SMTCHG Smart Charge Module** accessory with additional battery (see WI1946). For wiring connections, see the wiring diagrams further in this manual.
 - Referencing the correct wiring diagram for the appropriate control panel (wiring diagrams are located further in this manual), connect the "TELCO" control panel terminals TIP and RING. **Do NOT** connect the StarLink radio terminals TB10-13 to house telephone lines (RJ31X modular plug wires, etc.).

STEP 4: APPLY POWER

- The StarLink radio requires 12VDC. It draws less than

STARLINK RADIO RELATED EVENT REPORT CODES (Contact ID by default)				
EVENT	AREA	CONTACT ID		PULSE 4/2
		CODE	ZONE #	
IN 1 Fire	0	E110	990	1A
IN 1 Burg	0	E130	991	31
IN 2 Panic	0	E120	992	22
IN 3 Trouble	0	E300	993	F3
Low Battery/Voltage	0	E302	994	F4
Tamper Trouble	0	E341	995	F5
Line Cut	0	E352	996	F6
Reboot	0	E625	997	F7
IN 1 CO (Carbon Monoxide)	0	E162	998	18
Panic Alarm*		E123		
Holdup Alarm*		E122		
Medical Alarm*		E100		
24 hour Aux. Alarm*		E150		
24 hour Aux. Restore*		R150		
Burg Perimeter Alarm*		E131		
Burg Interior Alarm*		E132		
Keypad Holdup Alarm (ambush)*		E121		
Keypad Panic Alarm*		E123		
Keypad Emergency Alarm*		E140		
Opening*		E401		
Closing*		R401		
A.C. Trouble*		E301		
Tel 1 Fail*		E351		

*Not generated by the StarLink radio.

SIGNALS ORIGINATED AT THE NOC				
NOC Originated Alarms	Contact ID Event Data Sent	Pulse Format Event Code Sent	Initiated By	Comments
Supervisory Fail	E356 A00 Zn000	99	Automatically by NOC if fail to receive any signal from StarLink radio within Supervisory Timeout duration.	For Auto Enroll, uses captured telephone number, Sub ID and format. For Dealer Programmed, uses entered telephone number, Sub ID and format.
Press to Send Test Signal	E601 A00 Zn000	98	Manually by dealer from the Management Center Signal Log screen (located at www.napconoc.com). Sends test into CS receiver.	Same comment as above.
Press to Send Radio Test	Not Applicable Nothing sent to CS receiver	Not Applicable	Manually by dealer from the Management Center Checkins screen (located at www.napconoc.com). Sends a command to the StarLink radio to force a check-in to the NOC.	----

65mA during standby, and almost 400mA during transmissions (for less than 1 second). (**Note:** 80mA with peak RF transmission current of 400mA for model SLE-GSM-8D-3/4G and SLE-CDMA-8D).

- **Attach antenna before applying power !**

STEP 5: SIGNAL VERIFICATION

After triggering channels, use the StarLink radio Signal Verification to ensure that the StarLink radio Network has properly received the signals.

- **Verify Online:** To verify that the signals have been received by the StarLink radio Network online, go to www.napconoc.com, log in with your Username and Password, type the StarLink radio ID# (printed on the label affixed to the radio circuit board inside the housing), then press the keyboard **Enter** key.

IMPORTANT: Verify that the signals transmitted by the StarLink radio have been properly received by your central station before leaving the premises.

NOTE: This equipment has been tested and found to comply with the limits for a Class B Unintentional Radiator, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the Instruction Manual, 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 of more of the following measures: 1. Reorient or relocate the receiving antenna; 2. Increase the separation between the equipment and receiver; 3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected; 4. Consult the dealer or an experienced radio/TV technician for help.

CONTROL PANEL PROGRAMMING

To program the central station receiver reporting format, use PCD-Windows Quickloader download software. Open the **Digital Communications** screen, **Central Station Receivers** tab, as shown in the following images:

A "4/2" receiver format programming example:

If control panel reports using "4/2 with checksum", i.e., a

pulse format is selected and the **Sum-Check** box is checked, be sure to install jumper #2 in jumper block labeled "X5".

A "Point ID" (also called "Contact ID") receiver format programming example:

The panel can transmit to any standard central-station receiver; confirm with the central station the options and type of receiver for each telephone number used.

Note: A receiver reporting format must be entered for each telephone number used, but each telephone number may be assigned a different format.

Supported alarm reporting formats include:

- Contact ID
- Ademco Slow
- Radionics Fast
- Silent Knight Fast
- Radionics Slow
- Universal High Speed

CAUTION: The installer should always be certain an area code is programmed into the control panel.

Optional: If you wish the StarLink radio to report a code and zone number (Contact ID by default) to the central station in response to a triggered input event, see the table "**STARLINK RADIO RELATED EVENT REPORT CODES**" (located on the previous page) that includes the most common Contact ID and Pulse 4/2 alarm codes.

Note: These event codes and zone numbers can be changed from the Management Center screen (located at www.napconoc.com).

Upon alarm, the NOC optionally sends an SMS message to a third party that includes the appropriate Contact ID alarm code, including the zone or user number, if applicable.

Programming StarLink Radio Troubles

The StarLink radio can detect multiple troubles as indicated by the "Red Trouble LED" (labeled "D5"). For these troubles to be annunciated, there are several methods, some of which are configurable at the Management Center screen (located at www.napconoc.com), as follows:

- **Method 1:** Dedicate a panel zone to activate a trouble sounder when an open is detected. With Napco control panels, program a dedicated zone for Day Zone, Mini-sounder on Alarm and No Bell on Alarm. Wire the zone as indicated in the wiring diagrams further in this manual.

- **Method 2:** (Dedicated zone not required). If available, program the control panel for telephone supervision. Program the StarLink radio using the Management Center "Advanced Features" screen (at www.napconoc.com) to enable Line Cut on all troubles. **Note:** Some control panels may require a different duration than the default time of 3 minutes.
- **Method 3:** Use PGMs programmed for the appropriate trouble to active sounders directly.

Supervisory Time Schedule Considerations

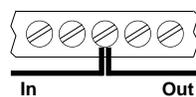
If a signal is sent to the central station, the supervisory time counter will reset to that day.

For example, if the supervisory signal is supposed to occur on March 25 at 3 AM, but an alarm signal was tripped earlier on March 15 at 3 PM, if no other signals are sent, the next time the StarLink radio will check in is on April 15, (not April 25).

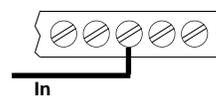
IMPORTANT WIRING METHODS



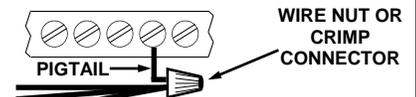
For single-conductor terminal blocks (like the type shown at left), to terminate more than one conductor to a terminal, use the wiring methods shown at right:



Incorrect



Correct -- Single incoming and/or pigtail with wire nut / crimp connectors

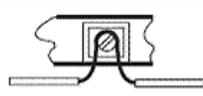


WIRE NUT OR CRIMP CONNECTOR

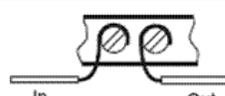
PIGTAIL



For "barrier" type terminal blocks (like the type shown at left), to terminate two conductors to a terminal, use the wiring methods shown at right:



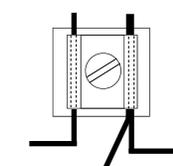
Incorrect



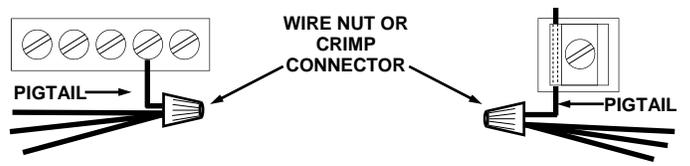
Correct -- Separate incoming and outgoing conductors



To terminate more than two conductors or conductors of different wire sizes to a terminal, use the "pigtail" type wiring method as shown at right. Use insulated wire for the pigtail, and firmly secure the conductors to the pigtail using an appropriate wire nut or crimp connector for the number and gauge of conductors used.



Incorrect



WIRE NUT OR CRIMP CONNECTOR

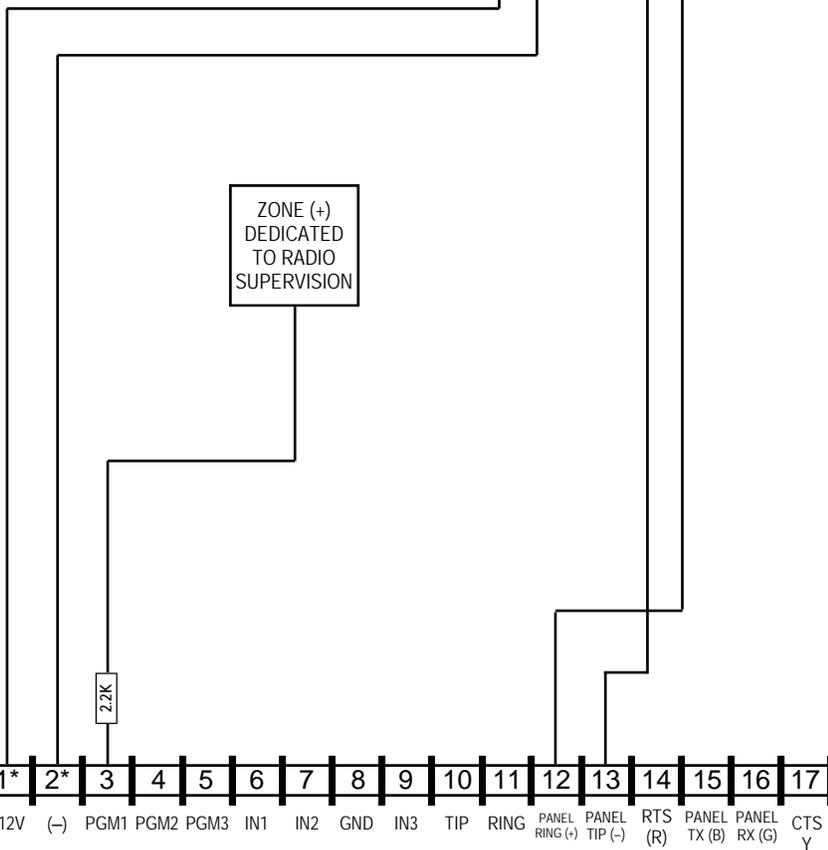
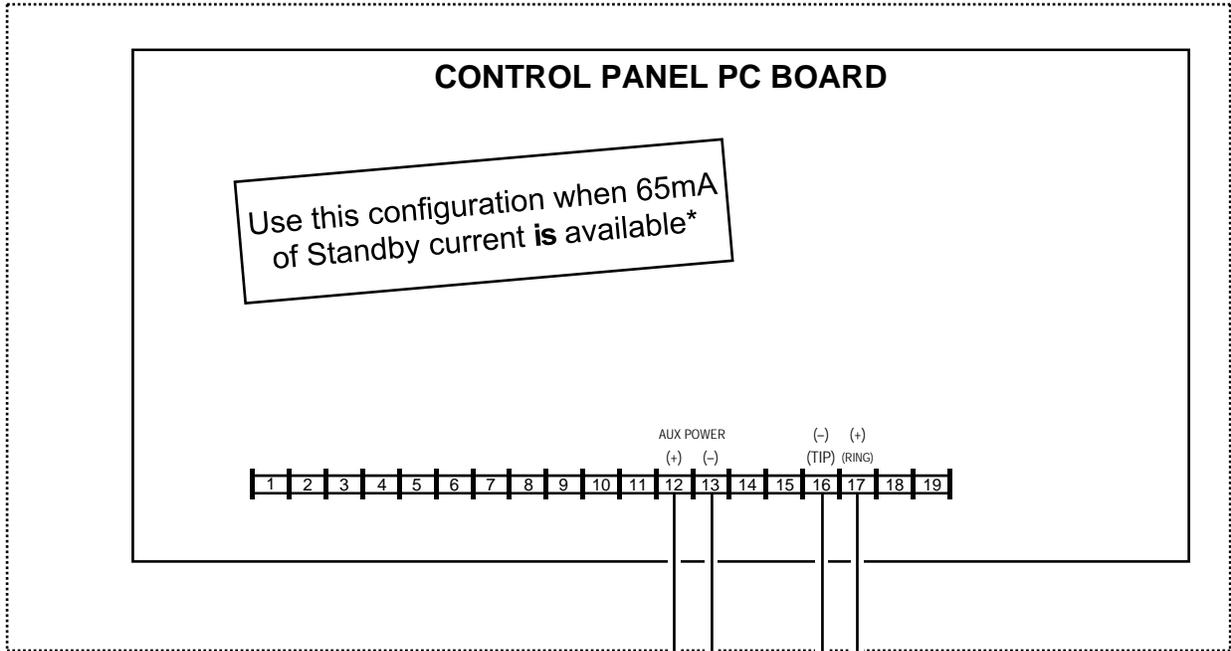
PIGTAIL

PIGTAIL

Correct -- Use pigtail and wire nut / crimp connector

Wiring Diagram for PRIMARY Reporting Configuration GEM-P400 / GEM-P800 / Express XP-400 / Express XP-600 Control Panels (Use when telephone line is NOT available)

(CONTROL PANEL HOUSING)



STARLINK RADIO HOUSING

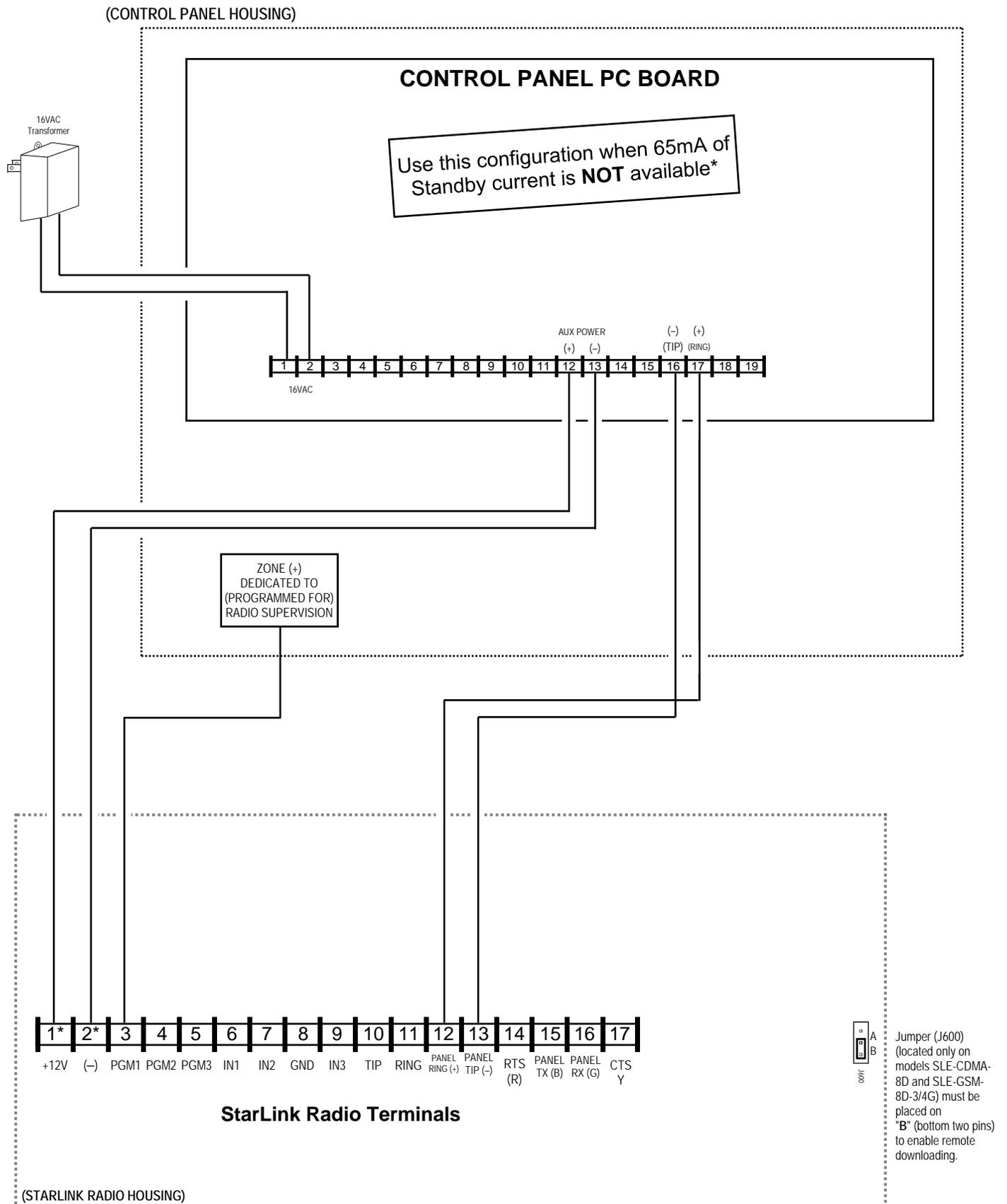


Jumper (J600)
(located only on
models SLE-CDMA-
8D and SLE-GSM-
8D-3/4G) must be
placed on
"B" (bottom two pins)
to enable remote
downloading.

*Refer to section
"SUPPLYING
POWER".

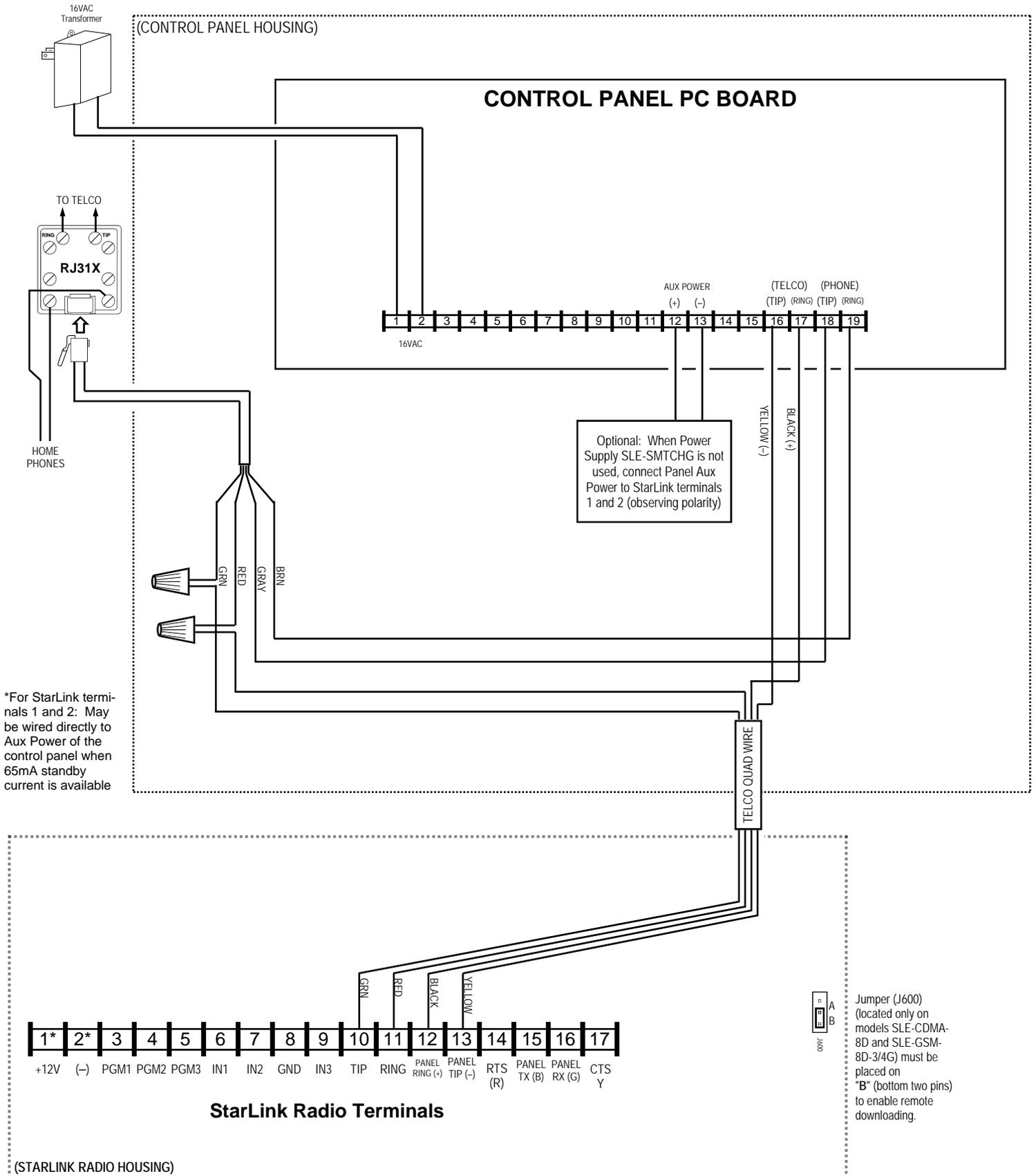
StarLink Radio Terminals

Wiring Diagram for PRIMARY Reporting Configuration GEM-P400 / GEM-P800 / Express XP-400 / Express XP-600 Control Panels (Use when telephone line is NOT available)



*Refer to section "SUPPLYING POWER".

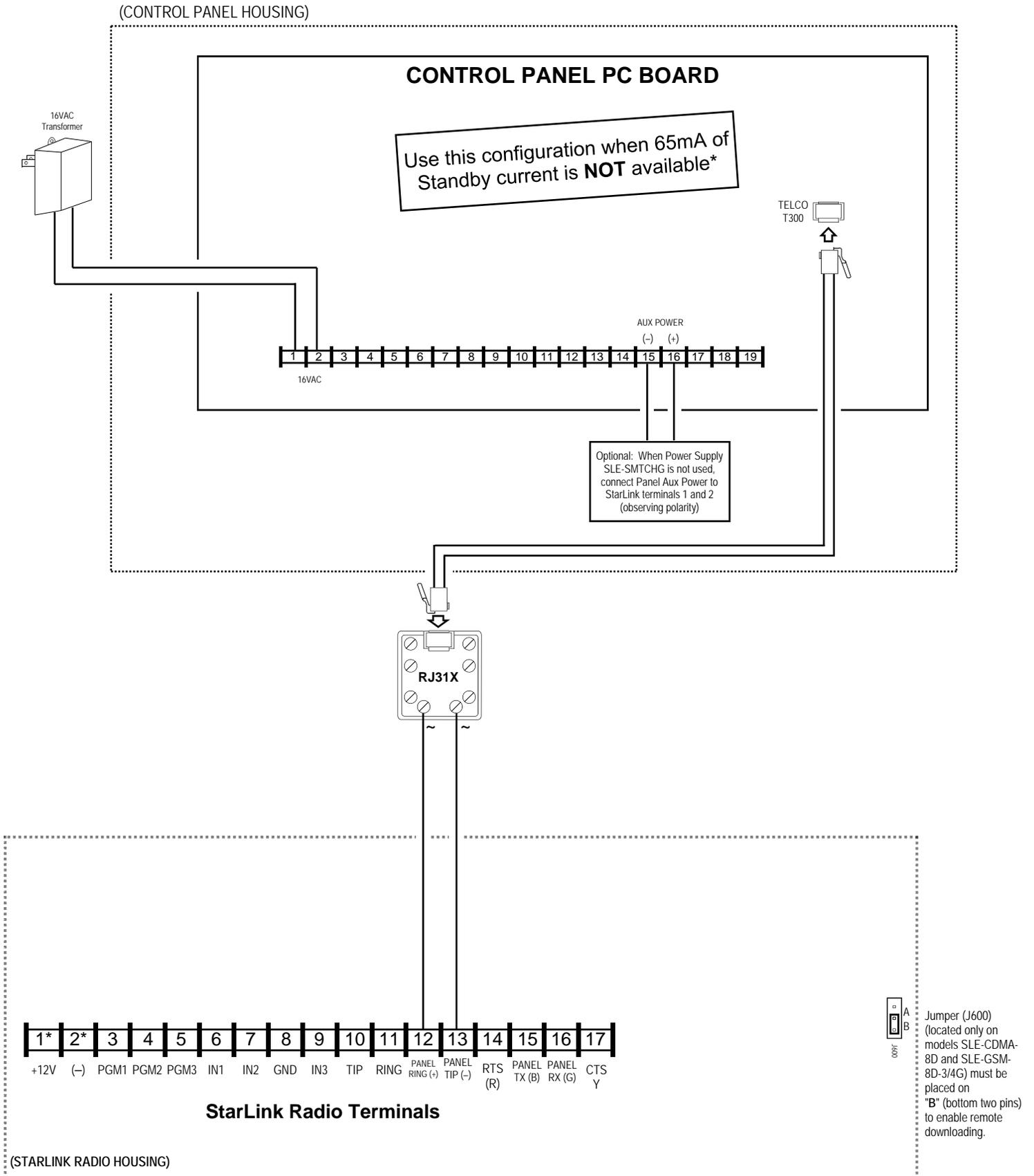
Wiring Diagram for BACKUP Reporting Configuration GEM-P400 / GEM-P800 / Express XP-400 / Express XP-600 Control Panels



*For StarLink terminals 1 and 2: May be wired directly to Aux Power of the control panel when 65mA standby current is available

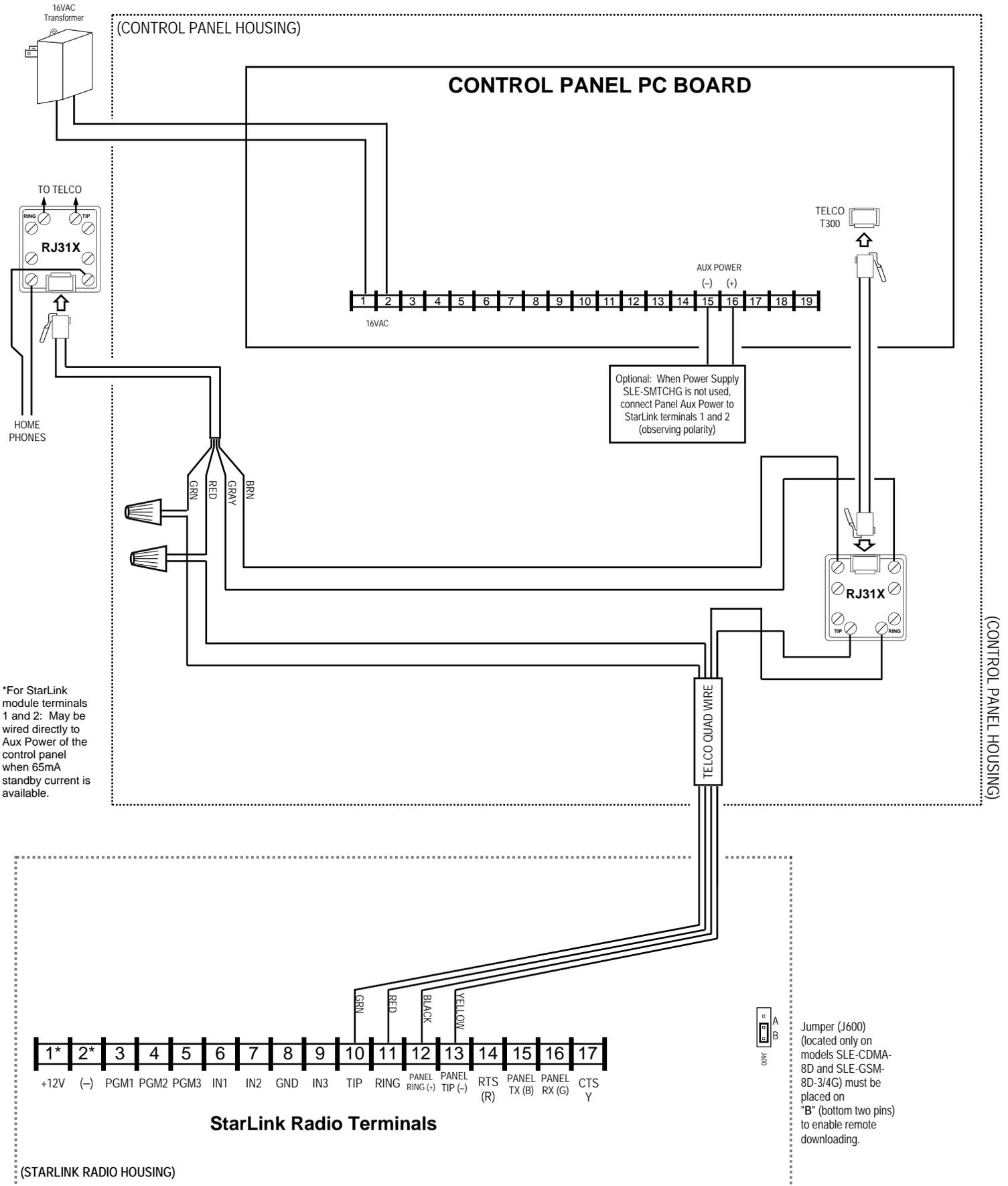
*Refer to section "SUPPLYING POWER".

Wiring Diagram for PRIMARY Reporting Configuration GEM-P801 Control Panel (Use when telephone line is NOT available)



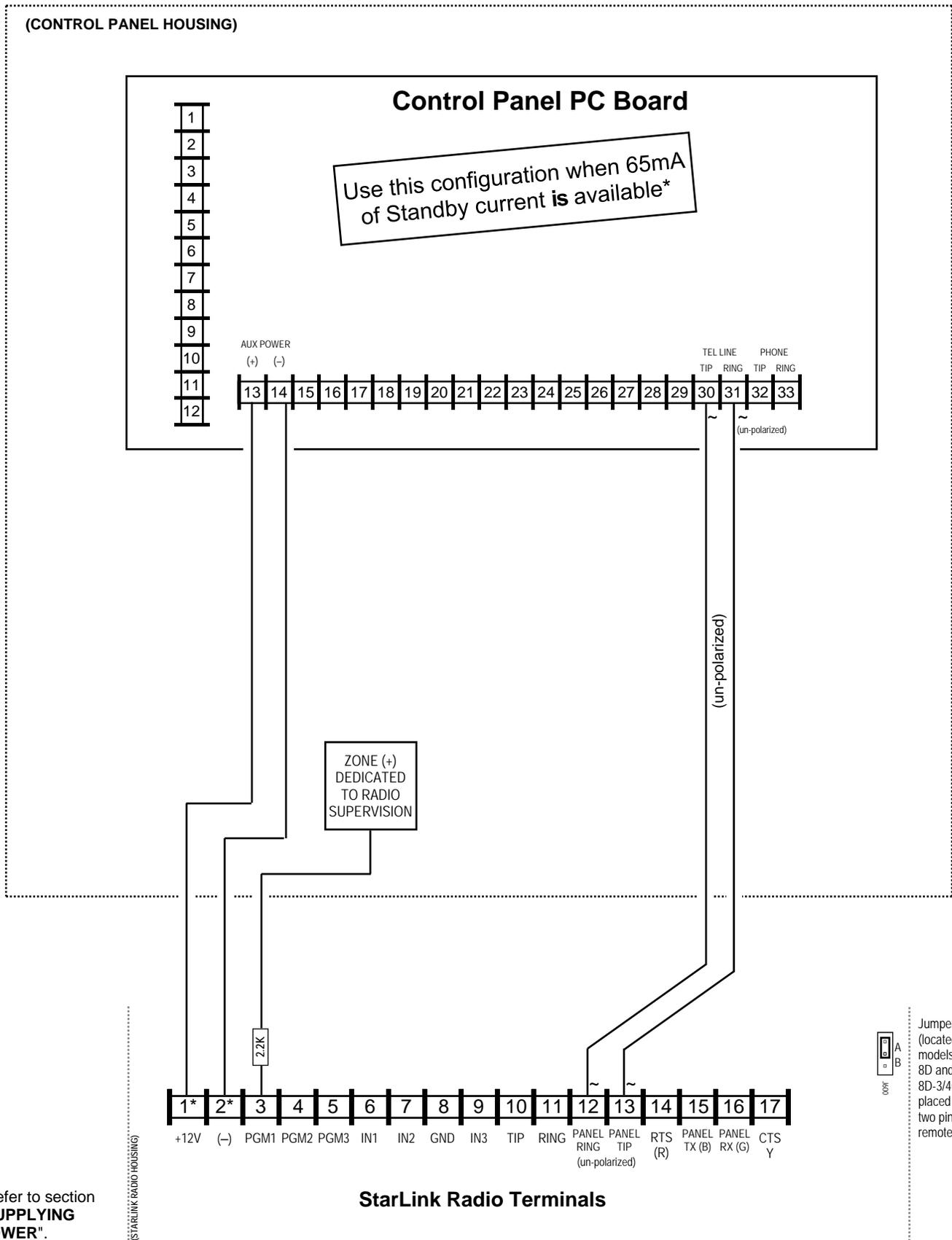
*Refer to section "SUPPLYING POWER".

Wiring Diagram for BACKUP Reporting Configuration GEM-P801 Control Panel

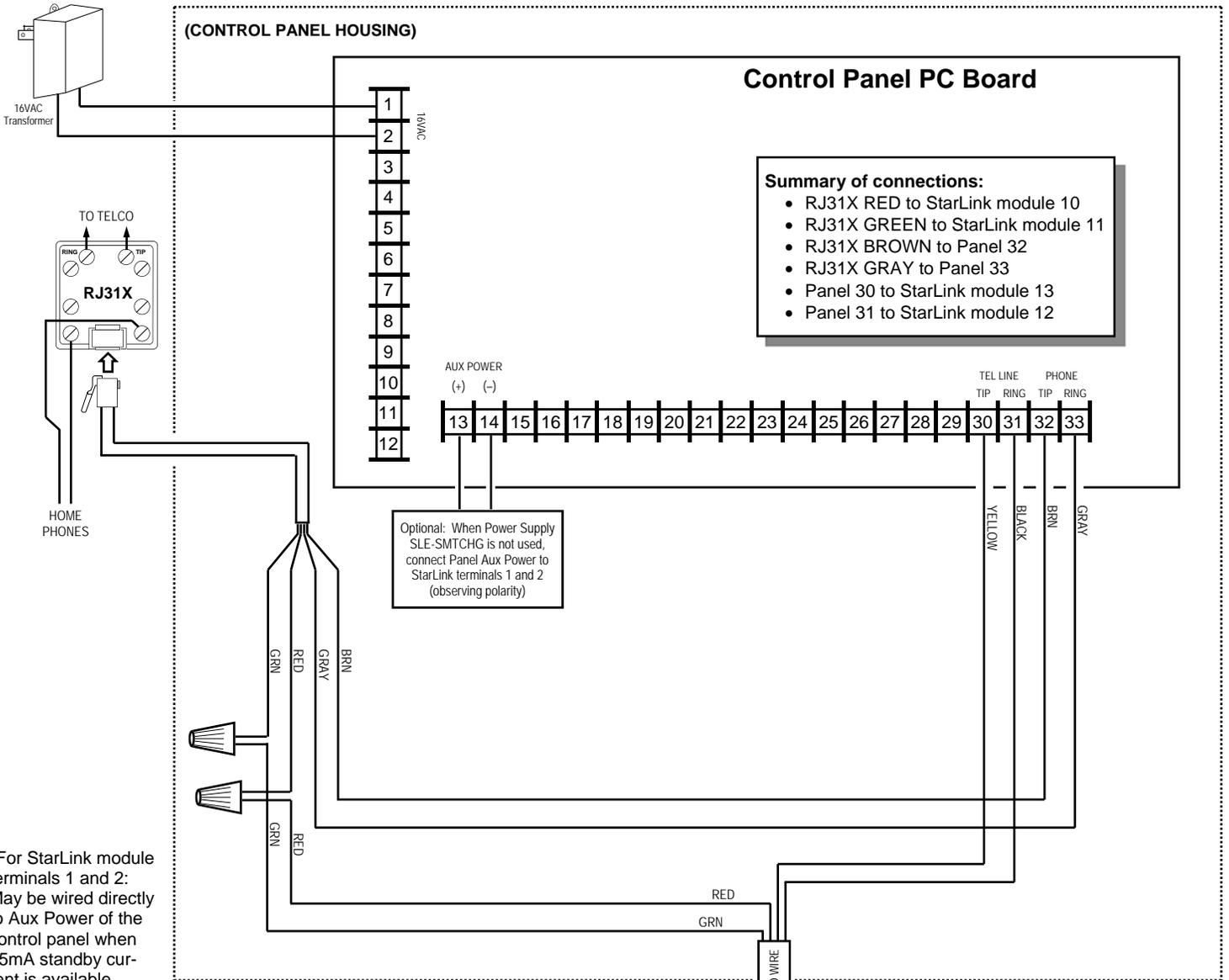


*Refer to section "SUPPLYING POWER".

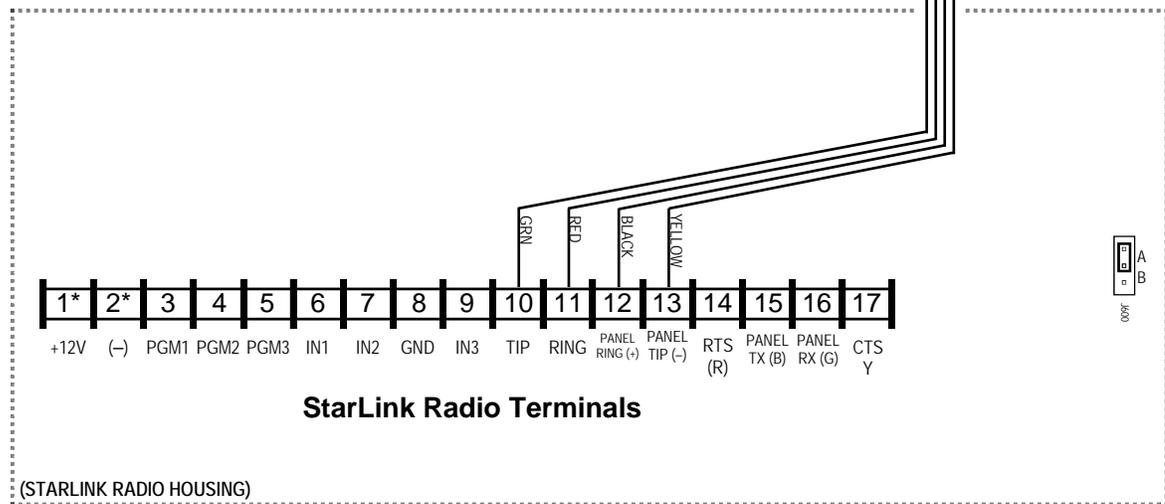
Wiring Diagram for PRIMARY Reporting Configuration GEM-X255 / GEM-P9600 / GEM-P3200 Control Panels (Use when telephone line is NOT available)



Wiring Diagram for BACKUP Reporting Configuration GEM-X255 / GEM-P9600 / GEM-P3200 Control Panels

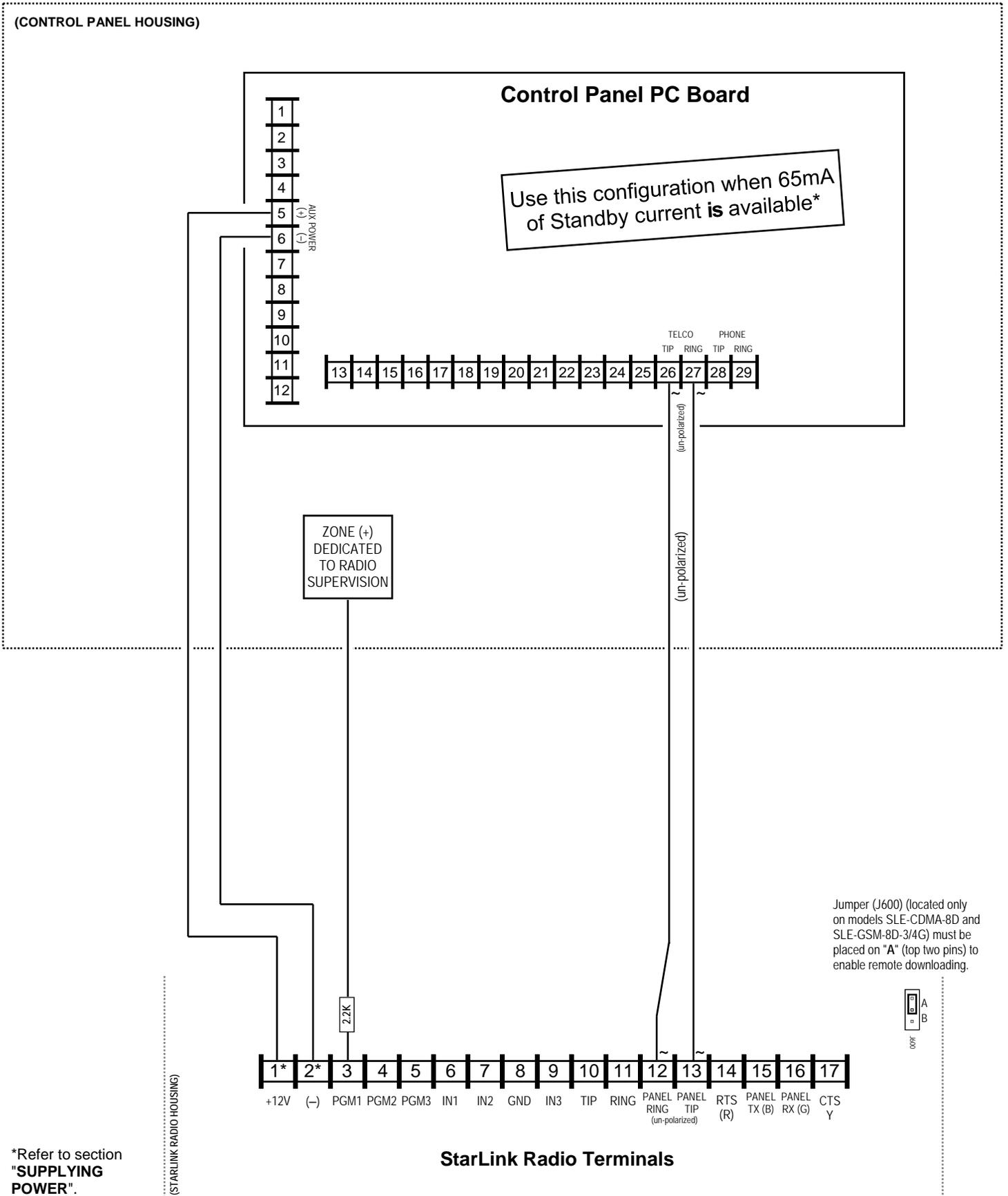


*For StarLink module terminals 1 and 2: May be wired directly to Aux Power of the control panel when 65mA standby current is available.



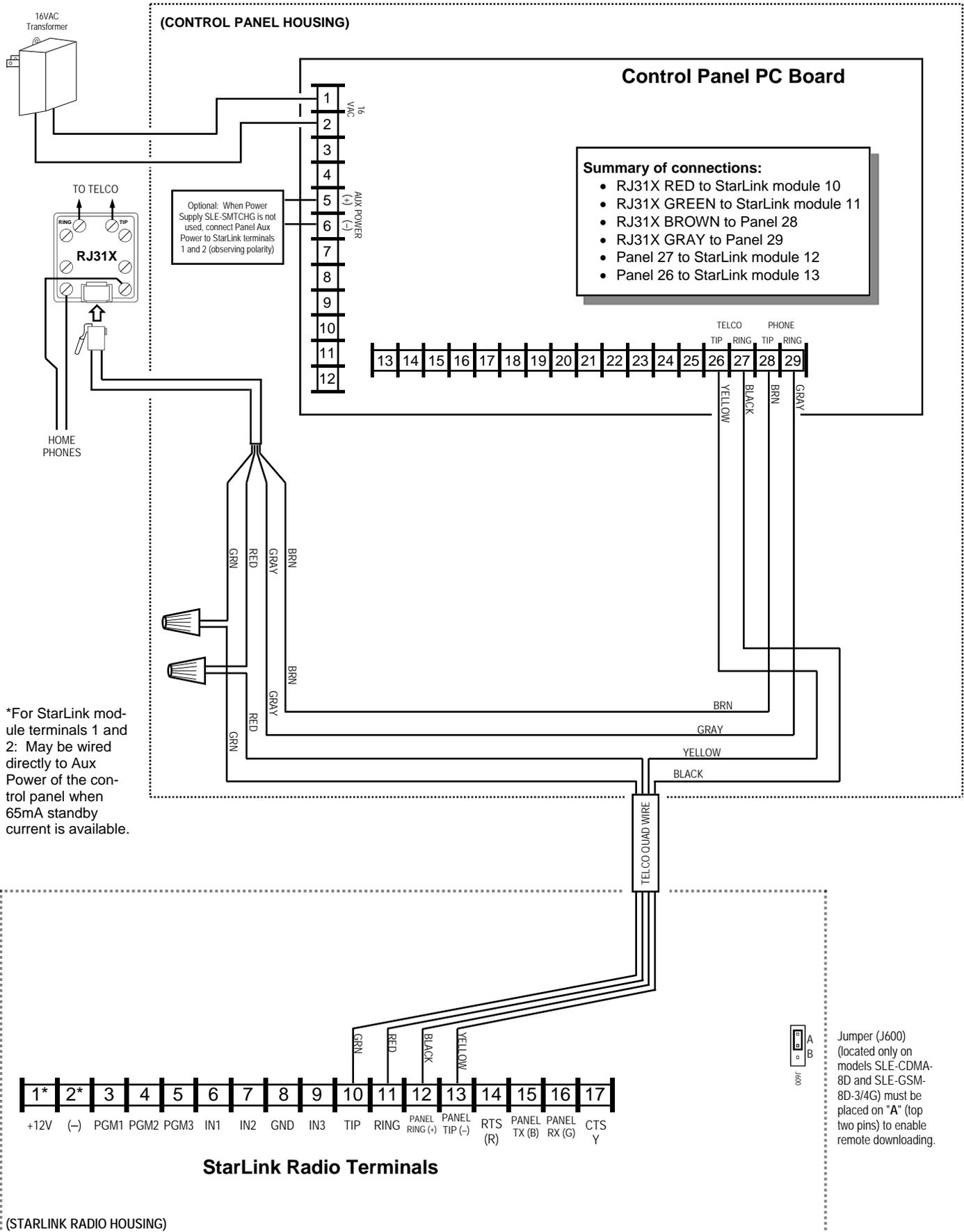
*Refer to section "SUPPLYING POWER".

Wiring Diagram for PRIMARY Reporting Configuration GEM-816 / GEM-P1632 / GEM-P1664, Freedom F-64 Control Panels (Use when telephone line is NOT available)



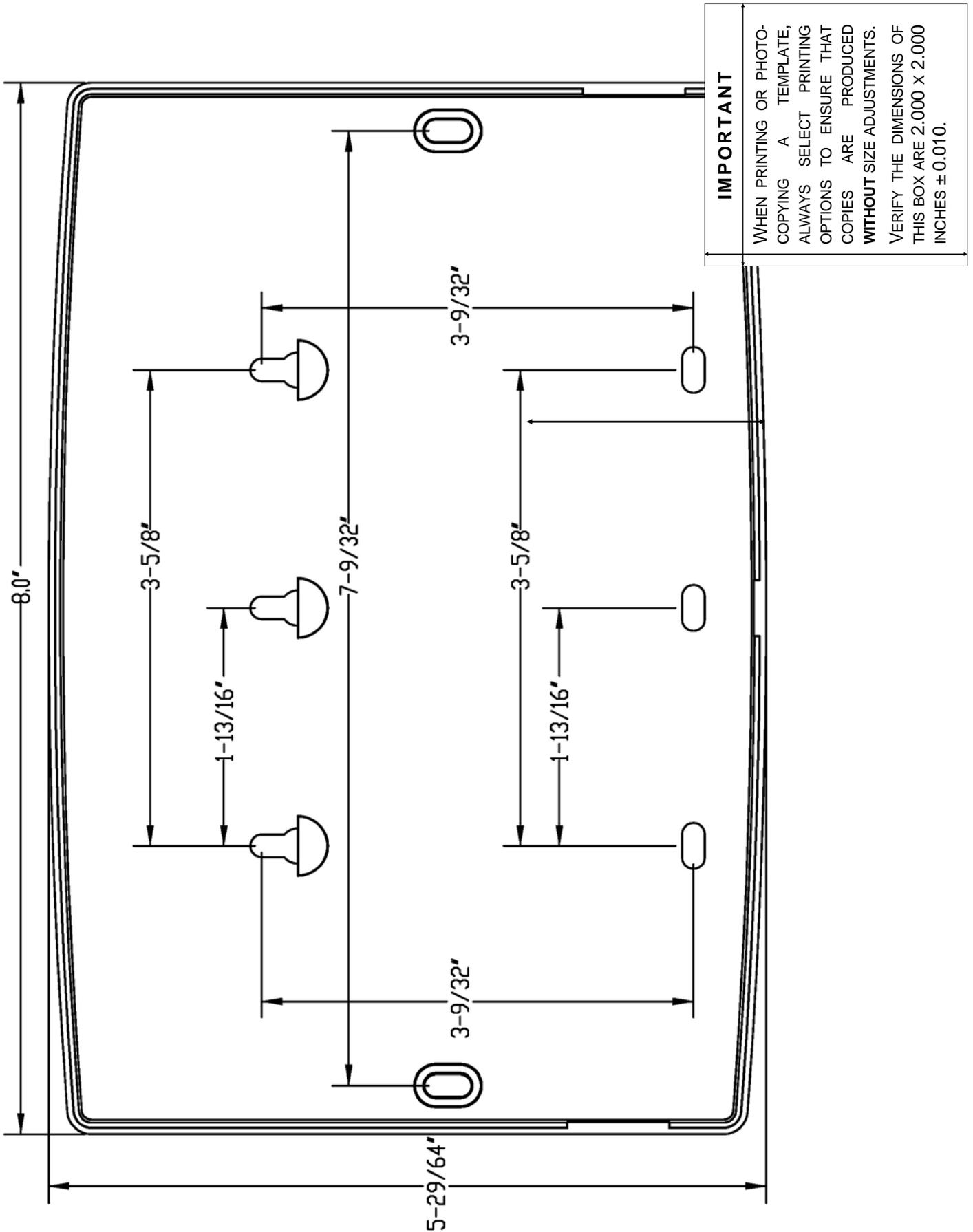
*Refer to section "SUPPLYING POWER".

Wiring Diagram for BACKUP Reporting Configuration GEM-816 / GEM-P1632 / GEM-P1664, Freedom F-64 Control Panels



*Refer to section "SUPPLYING POWER".

Housing Template



Notes

NAPCO LIMITED WARRANTY

NAPCO SECURITY SYSTEMS, INC. (NAPCO) warrants its products to be free from manufacturing defects in materials and workmanship for *eighteen months* following the date of manufacture. NAPCO will, within said period, at its option, repair or replace any product failing to operate correctly without charge to the original purchaser or user.

This warranty shall not apply to any equipment, or any part thereof, which has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to acts of God, or on which any serial numbers have been altered, defaced or removed. Seller will not be responsible for any dismantling or reinstallation charges.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF NAPCO.

Any action for breach of warranty, including but not limited to any implied warranty of merchantability, must be brought within the six months following the end of the warranty period. IN NO CASE SHALL NAPCO BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT.

In case of defect, contact the security professional who installed and maintains your security system. In order to exercise the warranty, the product must be returned by the security professional, shipping costs prepaid and insured to NAPCO. After repair or replacement, NAPCO assumes the cost of returning products under warranty. NAPCO shall have no obligation under this warranty, or otherwise, if the product has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to accident, nuisance, flood, fire or acts of God, or on which any serial numbers have been altered, defaced or removed. NAPCO will not be responsible for any dismantling, reassembly or reinstallation charges.

This warranty contains the entire warranty. It is the sole warranty and any prior agreements or representations, whether oral or written, are either merged herein or are expressly cancelled. NAPCO neither assumes, nor authorizes any other person purporting to act on its behalf to modify, to change,

or to assume for it, any other warranty or liability concerning its products.

In no event shall NAPCO be liable for an amount in excess of NAPCO's original selling price of the product, for any loss or damage, whether direct, indirect, incidental, consequential, or otherwise arising out of any failure of the product. Seller's warranty, as hereinabove set forth, shall not be enlarged, diminished or affected by and no obligation or liability shall arise or grow out of Seller's rendering of technical advice or service in connection with Buyer's order of the goods furnished hereunder.

NAPCO RECOMMENDS THAT THE ENTIRE SYSTEM BE COMPLETELY TESTED WEEKLY.

Warning: Despite frequent testing, and due to, but not limited to, any or all of the following; criminal tampering, electrical or communications disruption, it is possible for the system to fail to perform as expected. NAPCO does not represent that the product/system may not be compromised or circumvented; or that the product or system will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; nor that the product or system will in all cases provide adequate warning or protection. A properly installed and maintained alarm may only reduce risk of burglary, robbery, fire or otherwise but it is not insurance or a guarantee that these events will not occur. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE, OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE WARNING. Therefore, the installer should in turn advise the consumer to take any and all precautions for his or her safety including, but not limited to, fleeing the premises and calling police or fire department, in order to mitigate the possibilities of harm and/or damage.

NAPCO is not an insurer of either the property or safety of the user's family or employees, and limits its liability for any loss or damage including incidental or consequential damages to NAPCO's original selling price of the product regardless of the cause of such loss or damage.

Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, or differentiate in their treatment of limitations of liability for ordinary or gross negligence, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.