

Stealth Labs GSM 1650 Cellular Backup System Installation Manual

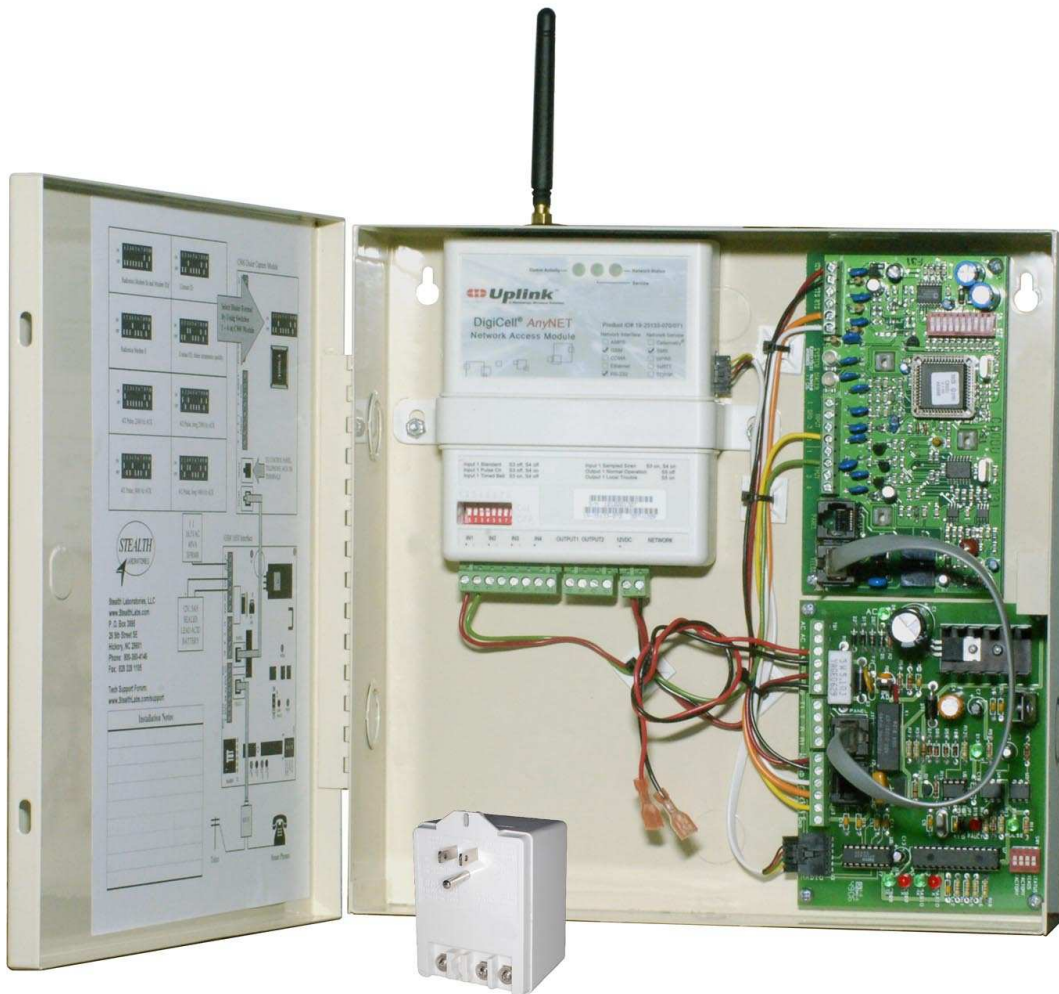


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Introduction

The Stealth Laboratories GSM 1650 cellular backup system provides wireless transmission of all Contact ID, Modem IIe/IIIa², and 4/2 alarm formats. The system uses Uplink's AnyNET technology to provide full data reporting to the central station. When a phone line is compromised, the GSM 1650 system intercepts the alarm signals and wirelessly transmits the data via the AnyNET radio. Full data means the zone / area / user information that is normally transmitted via the telephone dialer will still be transmitted.

The GSM 1650 system consists of a C900 Dialer Capture Module, a GSM 1650 Interface Module (including an integrated power supply & line fault detector), and an Uplink DigiCell® AnyNET radio, all integrated into a quality metal enclosure. In addition, the serial links between the C900 Module and the AnyNET radio are fully supervised. A communications timeout or restoral is reported to the backend and can be set to report to a Central Station. Test transmissions include the status of the AnyNET radio, including Received Signal Strength (RSSI). The GSM 1650 system is installed between the alarm panel and the RJ31X jack.

1.0 Parts Needed to Complete this Installation

1. 2-RJ cords (8-pin, double-ended) for panel to C900 and RJ31X to GSM 1650 Interface. A single-ended cord may be used for a panel that uses screw terminals in place of a telephone jack.
2. A 12V, 5Ah sealed lead acid battery.
3. An RJ31X telephone interface jack.
4. Zip cord for wiring the included AC transformer.

2.0 Activation and Installation

1. The AnyNET radio must first be activated by calling Uplink Customer Support at **888-987-5465**.
2. Insert the radio antenna through the rubber grommet in the top of the metal system enclosure. Hand-tighten the gold SMA connector in a clockwise direction. Do not over-tighten.
3. Once activated, place the enclosure in an area where the antenna is free from any metal objects or obstructions. Ensure the antenna is above ground level.
4. Plug one end of a double-ended RJ cord into the premise's RJ31X jack (see Figure 1). Plug the other end into J2 of the GSM 1650 Interface Module.
5. Plug one end of the second double-ended RJ cord into the alarm panel's telephone jack, or wire the flying leads of a single-ended RJ cord to the panel's telephone terminals. Plug the other end into the C900 Capture Module's jack that is labeled "PANEL". All other connections between the modules should already be made.
6. Using good quality zip cord, connect the included 16.5VAC, 40VA transformer to the AC terminals of the GSM 1650 Interface Module (see Figure 1). Do not plug the transformer into an AC socket at this time.
7. Connect the black battery wire to the negative terminal of a 5Ah or better battery (see Figure 1). Do not connect the red wire at this time.
8. The default line fault delay setting is 30 seconds. To change the delay to 15 seconds, move mini-jumper JP1 to the bottom two posts. JP1 is located on the GSM 1650 Interface Module, next to the red "LINE FAULT" LED. NOTE: There may be an additional delay of 30 seconds or so in either setting due to capacitor discharge times.

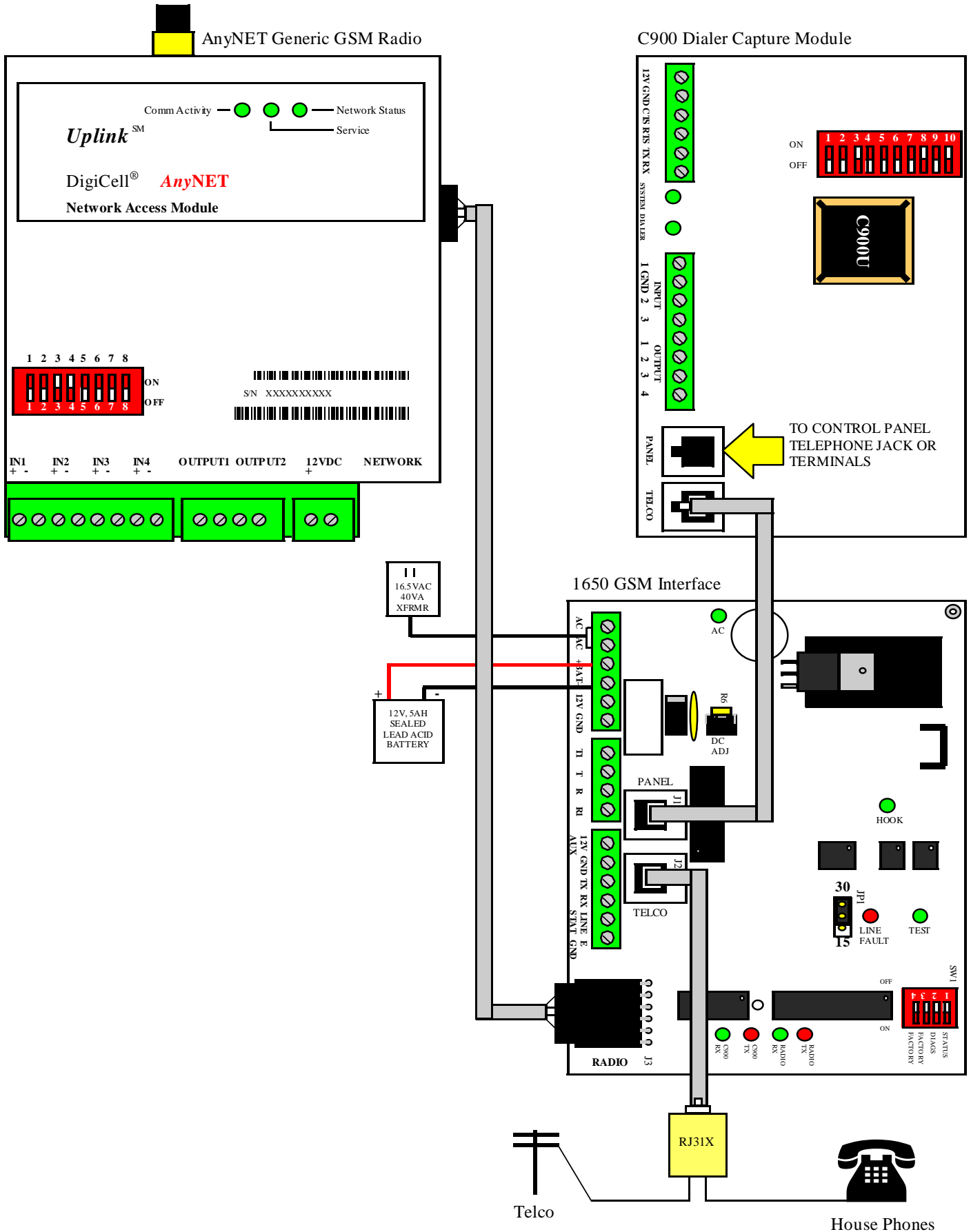


Figure 1 - Telephone and Power Connections (other factory wiring omitted for clarity).

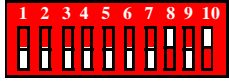
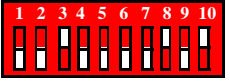
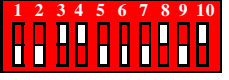
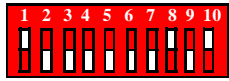
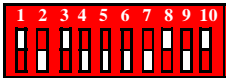
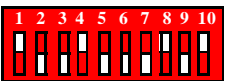

 <p>ON OFF</p> <p>Radionics Modem IIe and Modem IIIa²</p>	 <p>ON OFF</p> <p>Contact ID</p>
 <p>ON OFF</p> <p>Contact ID, dialer retransmits quickly.</p>	<p>Select Dialer Format By Using Switches 1 – 4 on C900 Module</p>
 <p>ON OFF</p> <p>4/2 Pulse, 2300 Hz ACK</p>	 <p>ON OFF</p> <p>4/2 Pulse, long 2300 Hz ACK</p>
 <p>ON OFF</p> <p>4/2 Pulse, 1400 Hz ACK</p>	 <p>ON OFF</p> <p>4/2 Pulse, long 1400 Hz ACK</p>

Figure 2 - C900 Dialer Format Settings (set by switch positions 1-4)

9. Refer to Figure 2 to program the C900 Capture Module to match the dialer format being used by the alarm panel. Switch positions 1 – 4 select the dialer format. Switch position 8 selects handshake after a 1 second break in dialing if set to “OFF” or handshake after a 6 second break in dialing if set to “ON”. It should normally be set to “ON”. **Do not change any of the other switch settings.** Switch positions 5, 6, 7, and 9 must be “OFF” and position 10 must be “ON” for correct C900 operation with the GSM 1650 Interface Module.
10. The AnyNET radio DIP switch should not be changed. Switch positions 3 and 4 should be “ON”; all other positions should be “OFF”.
11. The GSM 1650 Interface Module DIP switch should only be changed at the request of a Numerex or Stealth Labs support technician. Switch position 1 enables forwarding of C900 status messages to the radio. Switch position 2 enables forwarding of C900 dialer diagnostic messages to the radio. Switch Positions 3 & 4 are for factory use only. All 4 switch positions should be set to “OFF” under normal circumstances.
12. Once all telephone and power wiring is complete, apply 16.5VAC by plugging the transformer into an un-switched AC outlet. Connect the battery wires to the backup battery, being careful to observe polarity.

3.0 Operation and Troubleshooting

All 3 modules in the GSM 1650 cellular backup system employ several LEDs to indicate operational status and aid in troubleshooting. They are described by individual module in the following sections.

3.1 AnyNET Radio Module

The AnyNET radio module has 3 green LED indicators, described in Table 1.

Table 1: AnyNET Radio LED indications

Comm Activity	
Intermittent Blink	Active (internal device communications only)

Service	
OFF	No GSM service
Slow Blink	Service and signal less than -111 dBm (not recommended)
Fast Blink	Service and signal between -109 dBm and -53 dBm (good)
ON	Service and signal greater than -51 dBm (best)

Network Status	
ON	GSM and GPRS networks available
Slow Blink	Only one network available
Fast Blink	No network available
NOTE	If the unit continues with a fast blink after 3 or more minutes, call Uplink customer support at 1-888-987-5465 to check network availability in your area.

IMPORTANT! Read the safety guidelines in section 5.2 prior to using your Module. Failure to follow these rules and guidelines may be dangerous and/or illegal.

See Section 4.0 for information on obtaining technical support for the AnyNET radio.

3.2 C900 Dialer Capture Module

The C900 Capture Module has 2 bi-color LED indicators, described in Table 2.

Table 2: C900 LED Status Indicators

SYSTEM	
Blinking green	The GSM 1650 Interface is responding normally.
Blinking red	The GSM 1650 Interface is not responding.
Blinking red (repeating code)	A self-test error has occurred.
Steady green, red or off	The C900 has crashed or has no power.

DIALER	
Off	The C900 is disabled or has no power.
Steady green	No phone line; C900 in intercept mode; no active dial.
Blinking green	No phone line; C900 in intercept mode, dialer is dialing.
Steady red	The C900 is in fallback mode; normal phone line.
Alternating red / green	Dialer active but last message was rejected due to error.

Note: The C900 will revert to fallback mode if communication with the GSM 1650 Interface fails for any reason, regardless of the telephone line state. The C900 output 2

will trigger the AnyNET radio's Input 1 if this occurs. The AnyNET radio will forward this communication failure to the backend server.

See Section 4.0 for information on obtaining technical support for the C900 Capture Module.

3.3 GSM 1650 Interface Module

The GSM 1650 Interface has several red and green LED indicators, described in Table 3.

Table 3: GSM 1650 Status LED Indicators

AC (green)	
ON	AC power is present.
OFF	No AC power is present.
HOOK (green)	
ON	Dialer or a house phone is off-hook (in use).
OFF	Phone line is idle.
LINE FAULT (red)	
ON	No phone line.
OFF	Phone line is normal.
TEST (green)	
5 Sec ON, 5 Sec OFF	Indicates phone line is being tested.
C900 RX (green)	
Brief blink (~every 30 Secs)	Received poll or data from C900 Module.
Rapid flash - alternates with C900 TX LED.	No data received from C900 in more than 1 minute.
C900 TX (red)	
Brief blink (~every 30 Secs)	Replied to poll or transmitted data to C900 Module.
Rapid flash-alternates with C900 RX LED.	No data received from C900 in more than 1 minute.
RADIO RX (green)	
Brief blink (~every 5 Secs)	Received poll or data from radio.
Rapid flash - alternates with RADIO TX LED	No data received from radio in more than 1 minute or SMS service not available.
RADIO TX (red)	
Brief blink (~every 5 Secs)	Replied to poll or transmitted data to radio.
Rapid flash - alternates with RADIO RX LED	No data received from radio in more than 1 minute or SMS service not available.

The GSM 1650 Interface Module powers up in “Radio Fail” mode, as indicated by the rapidly flashing RADIO RX and RADIO TX LEDs. The GSM 1650 Interface will not attempt to communicate with the C900 Module until the radio begins communicating. This prevents the C900 Module from intercepting a dialer report that cannot be forwarded via the radio link. Upon receipt of valid data from the radio, the GSM 1650 Interface will begin communicating with the C900 Module. From this point on, the GSM 1650 Interface will continuously monitor the serial data from the radio and the C900. If either module fails to communicate for more than one minute, the GSM 1650 Interface will flash the TX and RX LEDs as an indication of the failed module, i.e., a failed C900 will result in the C900 RX and C900 TX LEDs flashing in a rapid alternating pattern. A failed radio will cause flashing RADIO RX and RADIO TX LEDs.

4.0 Support Information

Technical issues with the AnyNET radio module should be directed to:

UPLINK Technical Support
1600 Parkwood Circle, Suite 500
Atlanta, GA 30339
Fax: 770-693-3501

For Customer Support, call 888-987-5465, or visit www.uplink.com. Be sure to mention that this version of the AnyNET radio is product ID # **19-25136-040**.

Technical issues with the C900 Dialer Capture Module should be directed to:

Bosch Security Systems
130 Perinton Parkway
Fairport, NY 14450-9199

For Customer Service, call 800-538-5807, or visit www.boschsecurity.com
For Technical Support, call 888-886-6189

Technical issues with the GSM 1650 Interface Module should be directed to:

Stealth Laboratories, LLC
26 5th Street SE
Hickory, NC 28601

For Customer Service, call 800-360-4146 ext. 23
For Technical Support, call 800-360-4146 ext 25, or visit www.stealthlabs.com/support

5.0 Warranty & Compliance Information

5.1 Warranty Information & Liability Waiver

The Company's Products Are Subject To The Following Limited Warranty:
The company's products are warranted against defects in materials and workmanship for a period of one (1) year following the date of purchase, under normal use and service. The company's obligation under this limited warranty is limited to repairing or replacing with reconditioned parts, at its option, any product proven to be defective in materials or workmanship under normal use and service. The company shall have no obligation if its products are altered or improperly repaired by any party other than the company. Except as set forth herein, the company's products are delivered without warranty of any kind, whether express or implied, including any warranty of merchantability and any warranty that the company's products are fit for any particular purpose. In no event shall company be liable for actions of third parties which may affect the performance of its products or other factors outside the company's control which may require installation of additional equipment or affect the performance of the products.

5.2 FCC & Industry Canada Regulatory Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, 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 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:

- Reorient or relocate 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 technician for help.

FCC RF Exposure Information

In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard

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for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters. Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of this module complies with the FCC guidelines and these international standards. For more information about RF exposure, please visit the FCC website at www.fcc.gov. THE TERM "IC:" BEFORE THE CERTIFICATION/REGISTRATION NUMBER ONLY SIGNIFIES THAT THE INDUSTRY CANADA TECHNICAL SPECIFICATIONS WERE MET.

THE EXTERNAL ANTENNAS USED FOR THIS MODULE MUST PROVIDE A SEPARATION DISTANCE OF AT LEAST 20 CM FROM ALL PERSONS AND MUST NOT BE CO-LOCATED OR OPERATING IN CONJUNCTION WITH ANY OTHER ANTENNA OR TRANSMITTER.

WARNING: Unauthorized antennas, modifications, or attachments could impair call quality, damage the Module, or result in violation of FCC regulations. Do not use the Module with a damaged antenna. Please contact your local authorized dealer for antenna replacement.