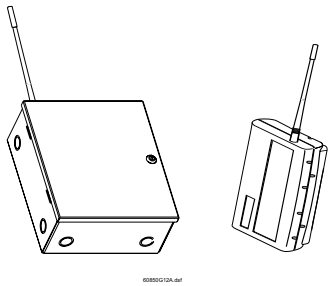
SuperBus® 2000 Cellular Backup Module



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Installation Instructions

About this Document

This document describes how to install, wire, and test the SuperBus 2000 Cellular Backup Module.

For additional module operating and panel programming details, refer to the panel *Installation Instructions* shipped with the panel.

Product Summary

The SuperBus 2000 Cellular Backup Module expands the Concord™ 2.5 security panel reporting means with cellular telephone reporting.

The module automatically reports alarms with a cellular telephone in case of inoperative landline telephone communications.

The module interfaces with the panel via the ITI® SuperBus auto addressing, high speed digital data bus. The module is powered by the panel or an auxiliary 12 VDC supply.

A Phone Line Monitor Card is provided with the SuperBus 2000 Cellular Backup Module. It is recommended that the card be connected to the panel with the module. The card monitors the voltage of the telephone landline connected to the panel. In the event of a landline communications failure, the panel having a Phone Line Monitor Card can more quickly switch to the SuperBus 2000 Cellular Backup Module. For further details see the Phone Line Monitor Card Installation Instructions included with this module.

Features

The Cellular Backup Module features the following:

- ❑ Backup for landline telephone reporting.
- ❑ SuperBus automatic device addressing.
- ❑ Received Signal Strength Indication (RSSI) LED's for positioning the module.
- ❑ A monitored input zone.

Figure 1 shows the main module components and Table 1 describes them.

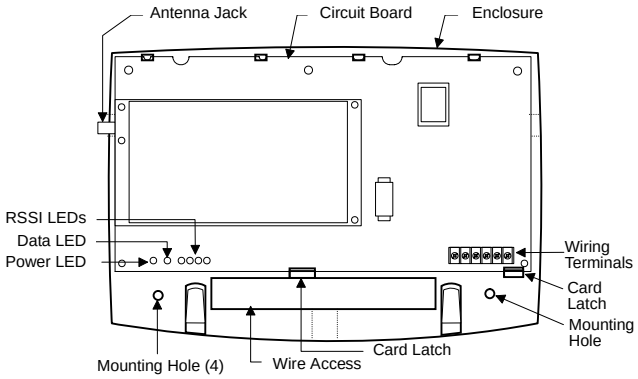

Figure 1. Main Module Components

Table 1: Module Component Descriptions

Component	Function
Enclosure	Plastic or metal wall mount enclosure.
Circuit Board	Module electronics.
RSSI LED's	Indicates received signal strength.
Power LED	Indicates module power status.
Data LED	Indicates module/panel data communications.
Wire Access	Provides wire access
Card Latches	Locks circuit board in place.
Wiring Terminals	Provides panel, and zone connections.
Mounting Holes	Provides wall mounting screw locations. (Two holes are located behind card.)

Telular® Authorized Dealer/Installer

A dealer/installer must set up an account with Telular before installing any SuperBus 2000 Cellular Backup Modules. The dealer/installer must fill out a Cellular Services Account Form and submit it to Telular. This only needs to be done once per dealer.

The Cellular Services Account Form includes information about the dealer/installer and their installers, and assigns each of them a number. Billing the Cellular Backup Module subscriber is worked out between the dealer/installer and Telular. The Cellular Services Account Form can be obtained by fax from Interlogix by calling (800) 777-1415 and asking for Inside Sales, or from the Interlogix web site at www.itii.com or www.interlogixsecurity.com.

Prior to Installation

Before installing a Cellular Backup Module, the dealer/installer must fill out a Cellular Backup Service Activation Request Form (ARF) and fax it to Telular. This must be done once for each installation. Telular enters the information from the ARF into their database and responds with a verification fax back to the dealer/installer. The verification fax includes important information which should be recorded in Table 2. Verification of the activation request is normally received within an hour, however, it can take up to eight hours so it is best to plan ahead.

A blank and sample ARF are attached to the back of this manual. Blank and sample forms can also be found on the Interlogix, Inc., web site. The activation request can also be done using the Telular Remote Access Management System (RAMs). For information on using the RAMs network contact Telular.

Filling Out the ARF

1. Subscriber Information, enter the subscriber's name, address, contact name and phone number. This must be the address where the module will be installed and used. Telular uses this information to determine which cellular system, System A/B, the module operates on in that area.
2. Billing Information, enter your dealer company name, the dealer account number assigned to you by Telular and a contact name with phone numbers. The FAX number is the number where the ARF verification will be sent.
3. Installer Information, enter the name and installer number on record with Telular of the installer who will do the installation.
4. Cellular Service Information, enter the following:
   - The Telular Serial Number (TSN) which is the ten-digit number on the white sticker attached to the module.
   - A four-digit central station (C/S) account number of your choice. This will be reported to the C/S when the SuperBus 2000 Cellular Backup Module sends in a report.
   - The C/S reporting format is Contact ID (CID).
   - The C/S phone numbers where you want the module reports sent.

   Note
   If the TSN is not known when the ARF is submitted, it can be supplied at a later time.
5. Central Station Information, enter the name of the C/S facility and the contact information.
6. Remote System Test, enter the self test code you want sent to the C/S when the module responds to an automatic self test, and the time you want the self test to occur.

   Note
   The dealer/installer must call the C/S once to verify the self-test is working properly.
7. At the bottom of the page, select an Industry Code which describes where the module is being used and a Monthly Rate Plan which also determines the automatic self test rate.
8. Fax the form to Telular (see Table 3).

Telular responds by faxing the ARF back to the dealer/installer with System A/B information and a confirmation number written on it. This is the verification fax. The System A/B information is the cellular system the module operates on in the installation area. The confirmation number is a unique number tied to the ARF information in Telular's database.

Once you have received the ARF verification, the installation can be performed. Be sure to record the information from the ARF verification in Table 2.

Table 2: ARF Verification Numbers

Dealer Number	
Installer Number	
Telular Serial Number (TSN) (provided w/module)	
Confirmation Number	
Cellular System A/B	

If you need to speak to a person at Telular, call the Telular Communications Center. The numbers for contacting Telular are listed in Table 3.

Table 3: Telular Phone Numbers

Telular ARF FAX	1 (678) 945-1651
Telular Comm. Center	1 (800) 229-2326, menu 9
Telular Interactive Voice Response (IVR)	1 (888) 835-8527 [1 (888) TELULAR]

Installation Guidelines

Use the following guidelines when installing the Cellular Backup Module:

- ❑ Concord systems allow a maximum of one module per system.
- ❑ Use 4-conductor, 22-gauge or larger stranded wire to connect the module to the panel.
- ❑ It is recommend that the module be mounted as close as possible to the panel.
- ❑ The standard power SuperBus 2000 Cellular Backup Module (60-850) draws a maximum1600 mA from the panel.
- ❑ The high power SuperBus 2000 Cellular Backup Module (60-850-01) draws a maximum1900 mA from the panel.
- ❑ Do not exceed the panel total output power when using panel power for bus devices and hardwired sensors (refer to the specific panel *Installation Instructions*).
- ❑ It is recommended that a Phone Line Monitor Card be connected to the Concord 2.5 or greater panel with the module.

Table 4: Maximum Wire Length

Device	Max. Wire Length to Panel
60-850 Standard Power	22 ga.—15 ft. 18 ga.—40 ft.
60-850-01 High Power	22 ga.—10 ft. 18 ga.—30 ft.

Tools and Supplies Needed

- ❑ Small blade and Phillips screwdriver.
- ❑ Drill and bits for screws and/or anchors.
- ❑ Wire cutter/stripper.
- ❑ 4-conductor, 22-gauge or larger stranded hookup wire.

Plastic case accessory kit includes:

- ❑ #6 panhead screws.
- ❑ 2K Ohm EOL resistor.
- ❑ Wall anchors.

Metal case accessory kit includes:

- ❑ Plastic circuit board spacers.
- ❑ #6 x 1/4-inch circuit board mounting screw.
- ❑ Door key lock and keys.
- ❑ #10 sheet metal screws.
- ❑ Wall anchors.

Installation

Installation consists of positioning the module, wiring it to the panel, and mounting the module.

Positioning the Module

Before permanently mounting the module, you need to locate the area that has the best reception as follows:

- ❑ Run wire from the panel to the module.
- ❑ Connect the antenna to the module.
- ❑ Obtain the cellular system configuration from Telular or from the ARF verification.
- ❑ Apply power to the panel (see page 5).
- ❑ If cellular system A is required (B is the default), change it in installer programming under SYSTEM PROGRAMMING\ACCESSORY MODULES\BUS DEVICES\UNIT-ID\CELLULAR OPTIONS\CELLULAR SYSTEM.

Note
See the Cellular System A/B information returned on the ARF Verification for the appropriate cellular system.

- ❑ Place the module in different locations until you have located the position which has the best signal reception.

Wiring

Wiring consists of pulling wire cables from the panel and connecting them to the module.

This section describes how to wire the module to the panel and how to connect hardwire sensors to the module. Refer to Table 5 and Figures 2 and 3 for connection descriptions and wiring examples.

Table 5: SuperBus Cellular Backup Module Terminal Connections

Terminal	Name	Used for
1	+12V DC	SuperBus DC power supply input. 12 VDC
2	BUS A	SuperBus communication connection
3	BUS B	SuperBus communication connection
4	GND	SuperBus common ground connection.
5	ZONE	Zone input connection. (May be used for a case tamper switch.)
6	ZCOM	Zone input common connection.

To wire the module to the panel:

1. Make sure power is turned off to the panel.
2. Make sure the AC power and backup battery(s) are disconnected from the panel.
3. Wire the module to the panel as shown in Figure 2.

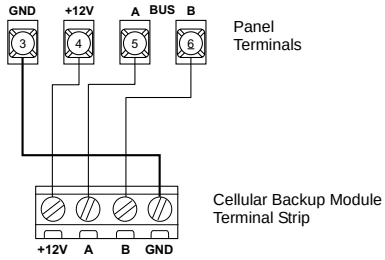

Figure 2. Concord 2.5 Panel SuperBus Wiring

To connect a device to the module:

Connect an input device (if used) to the module zone wiring terminals (Figure 3).

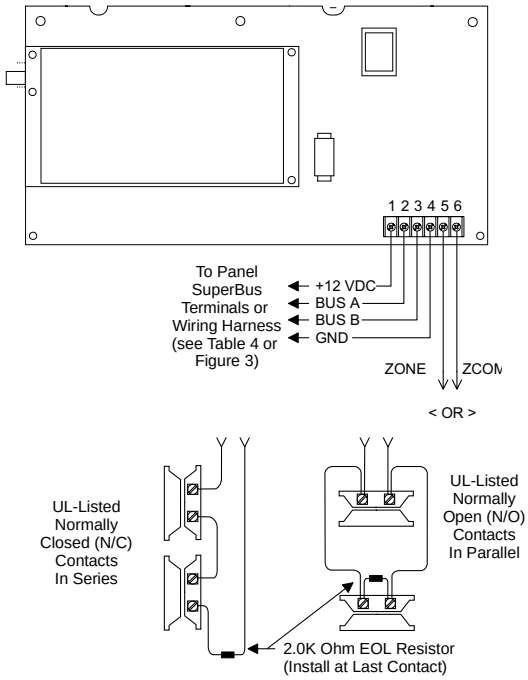

Figure 3. SuperBus 2000 Cellular Backup Module Wiring

Mounting the Plastic Case Module

The plastic case module can be wall or gang-box mounted.

CAUTION
You must be free of static electricity before handling circuit boards. Wear a grounding strap or touch a grounded bare metal surface to discharge static electricity.

To mount the plastic case module on a wall:

1. Turn off panel AC power and disconnect backup battery(s).
2. Remove the module cover and circuit board and set them aside (Figure 4).

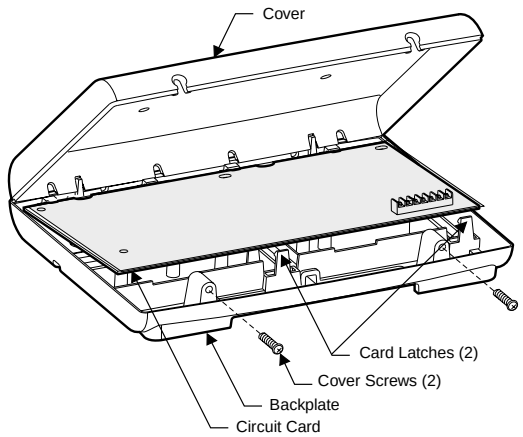

Figure 4. Removing Plastic Case Cover and Circuit Board

3. Place the module back plate on the wall and mark the mounting hole locations (Figure 5).

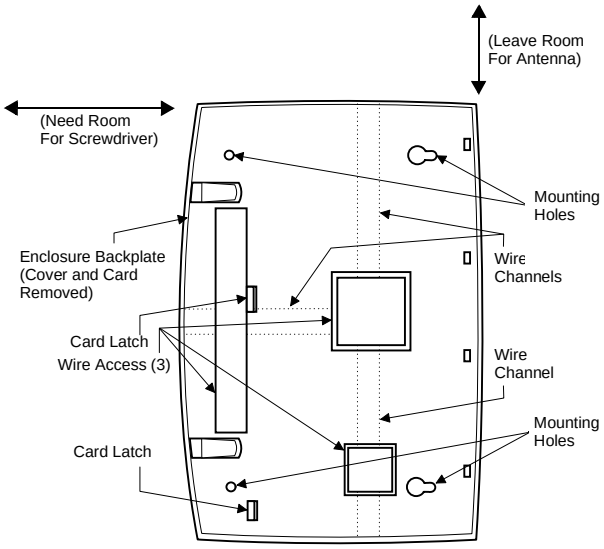

Figure 5. Plastic Case Mounting Holes

4. Drill the holes and insert the appropriate anchors.
5. Secure the back plate to the wall with panhead screws.
6. Snap the circuit board into the back plate.
7. Attach the antenna to the antenna connector.
8. Secure the plastic cover in place.

Mounting the Metal Case Module

The SuperBus 2000 Cellular Backup Module may also be installed in a metal accessory enclosure box.

CAUTION
You must be free of static electricity before handling circuit boards. Wear a grounding strap or touch a bare metal surface to discharge static electricity.

To mount the metal case module:

1. Remove the metal case cover and set it aside.
2. Hold the case against the mounting surface and mark the four (larger) mounting holes (Figure 7).
3. Drill the mounting holes in the wall and insert the appropriate anchors.
4. Remove case wiring knockouts as necessary.
5. Remove case round antenna knockout.
6. Secure the case to the wall with panhead screws.

To mount the board into the metal case:

1. Snap the included 1/4 inch plastic spacers into the back of the circuit board as shown in Figure 6.
2. Slide the board into the three board slots in the left side of the enclosure as shown in Figure 7. Make sure the antenna connector fits through the case knockout.
3. Secure the board to the enclosure with the included screw.

4. Attach the antenna to the antenna connector.

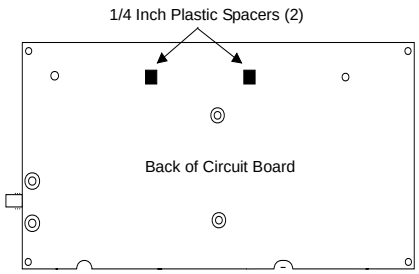

Figure 6. Installing the Board Mounting Spacers

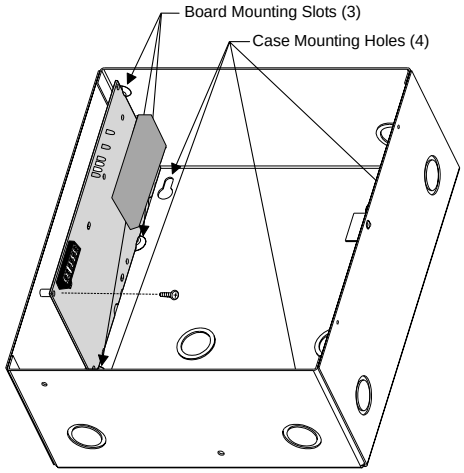

Figure 7. Mounting the Board into Metal Case

Installing the Optional Key Lock

To install the optional key lock into the metal case:

1. Remove the lock knockout from the panel door.
2. With the key in the lock, insert the lock into the knockout hole as shown in Figure 8.
3. Slide the lock clip onto the lock body as shown.

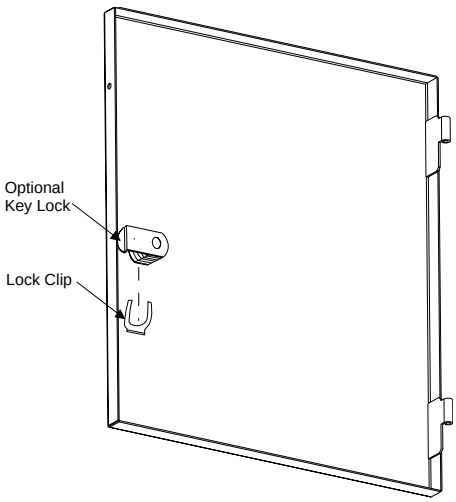

Figure 8. Optional Key Lock Mounting

Installing a Case Tamper Switch

If the module is visible, you may want to add case tamper detection. Then, if someone opens the cover, the switch opens and causes an alarm or trouble (depending on panel programming).To add module case tampering, install a magnet in the cover and a reed switch into the back plate or case. Wire the switch to the module or one of the panel zone inputs. See Figure 3 or panel *Installation Instructions*.

Power Up and Bus Communication

This section describes how to power up the panel and the module and get them communicating with each other.

To power up the panel and the module:

1. Verify that all wiring at the panel and the module are correct.
2. Reconnect the panel batteries and apply AC power. The module power LED should be on.

On initial power up, the module will automatically be learned on the bus and registered on the cellular network. If cellular system A is required (B is the default), change it in installer programming under SYSTEM PROGRAMMING\ACCESSORY MODULES\BUS DEVICES\UNIT-ID\CELLULAR OPTIONS\CELLULAR SYSTEM. When the cellular system is changed, the module will be automatically re-registered.

After a few seconds, the module bus status LED should flash to indicate successful communication with the panel.

If the module does not communicate with the panel, the module must be manually added (learned) into panel memory. Refer to the panel *Installation Instructions* for adding/deleting SuperBus modules.

Activating the Module

After power-up the panel keypad displays an Auxiliary Phone Trouble 0 message until the module has been activated. This message goes away after the module has been activated.

The module can be activated over the Telular Interactive Voice Recognition System (IVR) as follows:

1. Call the Telular IVR (see Table 3).
2. Give your dealer number followed by a pound sign and a confirmation pound sign.
3. Give your installer number followed by a pound sign and a confirmation pound sign.
4. Press 1 for a new installation.
5. Press 1 for a programmed unit.
6. Enter the Telular Serial Number (TSN) followed by a pound sign and a confirmation pound sign.

Telular then pages the module. The panel and module respond by sending in two set-up packets. After the set-up packets have been successfully received the module is ready for use or activated.

Programming/Operating the Module

Refer to the panel *Installation Instructions* for module input/output programming and operation.

Testing Communication Path

The cellular communication path can be tested as follows:

1. Under SYSTEM PROGRAMMING\PHONES\CS PHONE 1, program a phone number and turn CELLULAR BACKUP on.
2. Disconnect the phone line.
3. Perform a phone test.
4. The phone test attempt should fail via the land line within 5 minutes. The panel will emit a long low tone (and speak "phone failure 1" if so equipped).

   Note
   This failure may take longer if phone 1 is programmed for land line backup.

5. Wait for the phone test to succeed via the cell backup. The panel should emit a short high tone (and speak "phone test ok" if so equipped).
6. Verify the Central Station (CS) report.

If success does not occur, verify that the signal strength (RSSI) shown on the Cellular Backup Module is acceptable and repeat steps 3-5.

A status message to Telular can be sent on demand by reprogramming the Cellular System A/B setting in installer programming to its current value. A status message can also be generated using the Telular IVR system.

Specifications

Compatibility: ..... Concord 2.5.

Power Requirements:
60-850 ..... 12V nominal, 1600 mA (from panel or auxiliary power supply).
60-850-01 ..... 12V nominal, 1900 mA, (from panel or auxiliary power supply).

Inputs:..... One hardwire zone input.

Cellular I/O: ..... One cellular telephone transmitter/ receiver.

Power/Data Bus: ..... One 4-wire ITI SuperBus 2000 auto addressing, power/communications data bus.

Indicators: ..... One module/panel communications status LED. One module power LED. Four RSSI LED's.

Temperature:
Operating ..... 32° to 120° F (0° to 49° C).
Storage ..... -30° to 140° F (-34° to 60° C).

Humidity: ..... 90% relative humidity, non-condensing.

Dimensions:
Plastic ..... 6.0" x 8.5" x 1.5" (L x W x D).
Metal ..... 11.25" x 9.75" x 4.63" (L x W x D).

Case Material:
Plastic ..... High-Impact, ABS plastic.
Metal ..... 16 Gauge Steel.

Case Color:
Plastic ..... Belgian gray.
Metal ..... White.

Installation: ..... Wall mount.

Notices

FCC Part 15 Information to the User

This device complies with parts 15 of the FCC rules. Operation is subject to the following two conditions:

- ❑ This device may not cause harmful interference.
- ❑ This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Interactive Technologies, Inc. can void the user's authority to operate the equipment.

interlogix
SECURITY & LIFE SAFETY GROUP
2266 Second Street North | North Saint Paul Mn | 55109 | 800-777-2624 | www.itii.com | www.interlogixsecurity.com

Cellular Backup Service Activation Request Form

Please fax this form to Telular's Communication Center at 678-945-1651

Confirmation Number _____

Subscriber Information

This data is pertinent to the installation and location of the system.

Subscriber Name: _____

Subscriber Address: _____

City, ST, Zip: _____

Contact Name: _____

Contact Phone: _____

Billing Information

In order to activate systems on the cellular network, you must be a registered Dealer. Enter your Dealer account number below. If you are not registered as a dealer and would like more information, contact Telular at (800) 229-2326, Sales Department.

Dealer Company Name: _____

Dealer Account Number: _____

Contact Name: _____

Contact Phone: _____

Fax Phone: _____

Installer Information

In order to activate the unit from the toll free IVR, your installer must be registered under your Dealer Account. This information will be recorded during the remote activation process.

Installer Name: _____

Installer Number: _____

(IVR #) 1-888-TELULAR

Cellular Service Information

The following data must be entered into the Telular Communication Center computers ***prior*** to activation on the cellular network.

Telular Serial Number (TSN):_____

C/S Account Number: _____

C/S Reporting Format: _____

Primary C/S Receiver Number: _____

Secondary C/S Receiver Number: _____

Central Station Information

Name of Central Station: _____

Contact Name: _____

Contact Phone: _____

Remote System Test

Most rate plans include options for a Remote System Test signal to be sent to your Central Station. This test signal verifies the integrity of the system to your central station, and logs status information for that system at the Telular Communication Center. Please select the Test Code, which is transmitted to your central station, and the time of day the Test should be transmitted. The frequency of the Remote System Test is selected when you choose a Cellular Service Rate Plan (Monthly Test, Weekly Test, and Daily Test).

Automatic Self-Test Code: _____

Automatic Self-Test Time: _____am/pm

NOTE: When activating the unit using the Interactive Voice Recognition (IVR) system, you will be required to enter the Dealer number, Installer number, and the unit's Serial number or Confirmation number.

Select a Industry Code:

(B) - Banks/Financial Institutions _____

(C) - Manufacturing/Industrial/ Office Facilities _____

(D) - Hospital/Medical _____

(E) - Educational/Campus _____

(F) - Food/Restaurants _____

(G) - Government _____

(H) - Residential _____

(R) - Retail Stores _____

(O) - Unknown Category/Other _____

Check a Monthly Rate Plan and enter test day and date.

Monthly Test (Please enter Day that test is scheduled) This rate plan includes 1 automatic self-test to allow for monthly network testing and includes 2 free monthly alarm signals.	Standard ❑	Day of Month 1 to 28
Weekly Test (Please enter Day that test is scheduled) This rate plan includes 5 automatic self-tests to allow for weekly network testing and includes 2 free monthly alarm signals.	Standard ❑	Day of Week Mon. to Sun.
Daily Test This rate plan includes 31 automatic self-tests to allow for daily network testing and includes 2 free monthly alarm signals.	❑	

Cellular Backup Service Activation Request Form

Please fax this form to Telular's Communication Center at 678-945-1651

Confirmation Number _____

Subscriber Information

This data is pertinent to the installation and location of the system.

Subscriber Name: Jane and John Smith

Subscriber Address: 1234 Main Street

City, ST, Zip: Anyplace, MN 54321

Contact Name: Jane and John Smith

Contact Phone: (651) 555-4321

Billing Information

In order to activate systems on the cellular network you must be a registered Dealer. Enter your Dealer account number below. If you are not registered as a dealer and would like more information, contact Telular at (800) 229-2326 and ask for the Department.

Dealer Company Name: Security Company

Dealer Account Number: 6789

Contact Name: Daniel Dealer

Contact Phone: (651) 555-9876

Fax Phone: (651) 555-5678

Installer Information

In order to activate the unit from the toll free IVR, your installer must be registered under your Dealer Account. This information will be recorded during the remote activation process.

Installer Name: Steve Installer

Installer Number: 8765

(IVR #) 1-888-TELULAR

Cellular Service Information

The following data must be entered into the Telular Communication Center computers ***prior*** to activation on the cellular network.

Telular Serial Number (TSN): 5902007890

C/S Account Number: 4567

C/S Reporting Format: CID

Primary C/S Receiver Number: (651) 555-7654

Secondary C/S Receiver Number: (651) 555-3210

Central Station Information

Name of Central Station: Monitoring Inc.

Contact Name: Marsha Monitor

Contact Phone: (651) 555-0123

Remote System Test

Most rate plans include options for a Remote System Test signal to be sent to your Central Station. This test signal verifies the integrity of the system to your central station, and logs status information for that system at the Telular Communication Center. Please select the Test Code, which is transmitted to your central station, and the time of day the Test should be transmitted. The frequency of the Remote System Test is selected when you choose a Cellular Service Rate Plan (Monthly Test, Weekly Test, and Daily Test).

Automatic Self-Test Code: 1602

Automatic Self-Test Time: 2:00 (am)/pm

NOTE: When activating the unit using the Interactive Voice Recognition (IVR) system, you will be required to enter the Dealer number, Installer number, and the unit's Serial number or Confirmation number.

Select a Industry Code:

(B) - Banks/Financial Institutions _____

(C) - Manufacturing/Industrial/ Office Facilities _____

(D) - Hospital/Medical _____

(E) - Educational/Campus _____

(F) - Food/Restaurants _____

(G) - Government _____

(H) - Residential ✓

(R) - Retail Stores _____

(O) - Unknown Category/Other _____

Check a Monthly Rate Plan and enter test day and date.

Monthly Test (Please enter Day that test is scheduled) This rate plan includes 1 automatic self-test to allow for monthly network testing and includes 2 free monthly alarm signals.	Standard ❑	Day of Month 1 to 28
Weekly Test (Please enter Day that test is scheduled) This rate plan includes 5 automatic self-tests to allow for weekly network testing and includes 2 free monthly alarm signals.	Standard ☑	Day of Week Mon. to Sun. Monday
Daily Test This rate plan includes 31 automatic self-tests to allow for daily network testing and includes 2 free monthly alarm signals.	❑	