

TELGUARD® DIGITAL

TG-11

**Residential and Commercial
Cellular Alarm Communicator**

**Cellular Alarm Transmission System
Using GSM Digital Cellular Technology**

MODEL TG11G001

**SECURITY
SIGNALING**



LISTED

INSTALLATION AND OPERATING INSTRUCTIONS



Technical Support: 800-229-2326
M-F 8:00AM – 8:00PM EST
Saturday 8:00 AM – 5:00 PM EST

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Revised June 1, 2009

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FOREWORD

Many customers purchase Telguard® Digital products for its competitive price and superior features. The Telguard model TG11G001 (TG-11) is UL Listed for Household Fire systems, Household Burglary systems and Commercial Burglary Systems Use. This means that the TG11 may be used in Household Burglary, Household Fire systems or Commercial Burglary as the main or secondary communication line.

ABOUT THIS MANUAL

This manual assumes that you have basic security system installation skills such as measuring voltages, stripping wire, properly connecting wires together, connecting wires to terminals, and checking phone lines. It also assumes that you have a familiarity with the proper installation and programming tasks related to various control communicator panels.

The material and instructions covered in this manual have been carefully checked for accuracy and are presumed to be reliable. However, Telular assumes no responsibility for inaccuracies and reserves the right to modify and revise this manual without notice.

It is our goal at Telular to always supply accurate and reliable documentation. If a discrepancy is found in this documentation, please mail or fax a photocopy of the corrected material to:

Telular Security Products
Technical Services Department
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NOTICES

FCC NOTICES

EXPOSURE TO RADIO FREQUENCY ENERGY

In 1991, the Institute of Electrical and Electronics Engineers (IEEE), and in 1992, the American National Standards Institute (ANSI), updated the 1982 ANSI Standard for safety levels with respect to human exposure to RF energy. Over 120 scientists, engineers and physicians from universities, government health agencies and industry, after reviewing the available body of research, developed this updated Standard. In March 1993, the U.S. Federal Communications Commission (FCC) proposed the adoption of this updated Standard.

The design of your Telular **Telguard** complies with this updated Standard. Of course, if you want to limit RF exposure even further than the updated ANSI Standard, you may choose to install the unit in a manner that locates its antenna at an even greater distance from the general public than is recommended as a minimum by the standard.

To insure compliance with the standard, when selecting a mounting location for your **Telguard** do not mount it (or its associated antenna) in an area where the general public could reasonably be within 8 inches (20 centimeters) of the antenna.

EFFICIENT OPERATION

Do not operate your Telular product when holding the antenna. Be sure to mount the unit such that its antenna is kept at a minimum of eight (8) inches (20 centimeters) away from the general public. For the best service quality, keep the antenna free from obstructions and point the antenna straight up.

ANTENNA CARE AND OPERATION

Do not use the unit with a damaged antenna. If a damaged antenna comes into contact with the skin, a minor burn may result. Have your antenna replaced by a qualified technician immediately. Use only a

manufacturer-approved antenna. Non-approved antennas, modifications, or attachments could impair service quality, damage the Telguard and violate FCC regulations.

ELECTRONIC DEVICES

Most modern electronic equipment is shielded from RF energy. However, RF energy from cellular devices may affect inadequately shielded electronic equipment. RF energy may affect improperly installed or inadequately shielded electronic equipment operating in homes and businesses. Check with the manufacturer or its representative to determine if these systems are adequately shielded from external RF energy. Consult the manufacturer of any personal medical devices (such as pacemakers, hearing aids, etc.) to determine if they are adequately shielded from external RF energy.

BLASTING AREAS

To avoid interfering with blasting operations, turn **OFF** your unit when in a “blasting area” or in areas posted: “Turn off two-way radio.” Construction crews often use remote control RF devices to set off explosives.

POTENTIALLY EXPLOSIVE ATMOSPHERES

Turn **OFF** your unit when in any area with a potentially explosive atmosphere. It is rare, but the **Telguard Digital product** or its accessories could generate sparks. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. Areas with a potentially explosive atmosphere are often, but not always, clearly marked. They include fueling areas such as gas stations; below deck on boats; fuel or chemical transfer or storage facilities; areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.

Do not transport or store flammable gas, liquid or explosives in the area of your **Telguard Digital** product and accessories.

Vehicles using liquefied petroleum gas (such as propane or butane) must comply with the National Fire Protection Standard (FPA-58). For a copy of this standard, contact the National Fire Protection Association, One Batterymarch Park, Quincy, MA 02269, Attn: Publications Sales Division.

FUTURE TESTING AND LIMITATIONS ON USE

The **Telguard® Digital** device is part of an advanced design alarm-communication system. It does not offer guaranteed protection against burglary and fire. Any alarm communication system is subject to compromise or failure.

The **Telguard® Digital** device will not work without power. Devices powered by AC will not work if the AC power supply is off for any reason, however briefly, and at the same time, a backup battery is missing, dead or not properly installed.

The cellular radio network, needed to transmit alarm signals from a protected premises to a central monitoring station, may be inoperable or temporarily out of service. Cellular radio networks are also subject to compromise by sophisticated methods of attack.

This equipment, like any other electrical device is subject to component failure. Although this equipment is designed to be long lasting, the electrical components could fail at any time.

Due to these limitations, we recommend that if the automatic self-test feature is not enabled, other arrangements be made with the user to test the system at least once every three months. Moreover, arrangements should also be made for on-site inspection/test by a licensed alarm installer at least once each year.

TERMS AND CONDITIONS FOR USE OF TELGUARD® PRODUCTS (“Product”)

These Terms and Conditions are a legal contract between you and Telular Corporation for the title to and use of the Product. **BY RETAINING AND USING THE PRODUCT YOU AGREE TO THE TERMS AND CONDITIONS INCLUDING WARRANTY DISCLAIMERS, LIMITATIONS OF LIABILITY AND INDEMNIFICATION PROVISIONS BELOW. IF YOU DO NOT AGREE TO THE TERMS AND CONDITIONS, DO NOT USE THE PRODUCT AND IMMEDIATELY RETURN THE UNUSED PRODUCT FOR A COMPLETE REFUND.** You agree to accept sole responsibility for any misuse of the Product by you; and, in addition, any negligent or illegal act or omission of your or your agents, contractors, servants, employees, or other users of the Product so long as the Product was obtained from you, in the use and operation of the Product.

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YOU SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS TELULAR FOR ANY OF THE COST, INCLUDING REASONABLE ATTORNEYS’ FEES, AND FROM CLAIMS ARISING OUT OF YOU, YOUR CLIENTS’ OR OTHER THIRD PARTIES’ USE OR OPERATION OF THE PRODUCT: (i) FOR MISUSE OR IN A MANNER NOT CONTEMPLATED BY YOU AND TELULAR OR INCONSISTENT WITH THE PROVISIONS OF THIS MANUAL; (ii) IN AN ILLEGAL MANNER OR AGAINST PUBLIC POLICY; (iii) IN A MANNER SPECIFICALLY UNAUTHORIZED IN THIS MANUAL; (iv) IN A MANNER HARMFUL OR DANGEROUS TO THIRD PARTIES; (v) FROM CLAIMS BY ANYONE RESPECTING PROBLEMS, ERRORS OR MISTAKES OF THE PRODUCT; OR (vi) COMBINATION OF THE PRODUCT WITH MATERIAL, MODIFICATION OF THE PRODUCT OR USE OF THE PRODUCT IN AN ENVIRONMENT NOT PROVIDED, OR PERMITTED, BY TELULAR IN WRITING. THE PARTIES SHALL GIVE EACH OTHER PROMPT NOTICE OF ANY SUCH COST OR CLAIMS AND COOPERATE, EACH WITH THE OTHER, TO EFFECTUATE THIS INDEMNIFICATION, DEFENSE AND HOLD HARMLESS.

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TELULAR WILL REPAIR OR REPLACE (OUR OPTION) INOPERATIVE UNITS FOR UP TO TWO YEARS FROM DATE OF MANUFACTURE. EXCLUDES DAMAGE DUE TO LIGHTNING OR INSTALLER ERROR AS WELL AS UNITS THAT INCORPORATE MATERIAL, OR USED IN A MANNER OR ENVIRONMENT, NOT SPECIFICALLY AUTHORIZED IN THIS MANUAL. UNAUTHORIZED MODIFICATIONS VOID THIS WARRANTY. NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. LIABILITY IS LIMITED TO PRICE OF UNIT. THIS IS THE EXCLUSIVE WARRANTY, IN LIEU OF ALL OTHER WARRANTIES INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY, TITLE, DELIVERY, INFRINGEMENT OR FITNESS FOR A PARTICULAR PURPOSE AND NO OTHER WARRANTIES WILL BE HONORED, WHETHER EXPRESSED OR IMPLIED.

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1.0 UL LISTINGS

Model TG11G001 (TG-11) meets the requirements for all Household Burglary, Household Fire, and Combined Household Burglary/Fire installations. It has a plastic enclosure and dipole antenna. TG11 is UL Listed for the following:

- **UL Household Burglary (NBSX)**
- **UL Commercial Burglary (APAW: Police Station – Burg and AMCX: Central Station Burg)**
- **UL Household Fire (UTOU)**

2.0 PRE-INSTALLATION CHECKLIST

Before installing and configuring the TG-11, use the following checklist to ensure that you have all the necessary parts included in the TG-11 box:

Part	Quantity
ANT, 0DBD,DIPOLE 800/1900MHZ, TNC-MALE	1
WASHER, FLAT, ID .515, OD 1.220, ALUMINUM	2
WASHER, FLAT, ID.878, OD 1.248, ALUMINUM	1
CONDUIT LOCK NUT, 1/2-14, ZINC	1
BRACKET, TNC SUPPORT	1
SCREW, #6 X 1-1/4 METAL, PNH, COMBO, ZP	3

Table 2. 1

3.0 INSTALLATION STEPS

Installation of the TG11 unit shall ONLY be performed in the following ways as demonstrated. Any other method of installation is not approved by UL and not recommended.

Installation Tip: It is highly recommended to activate cellular service prior to leaving for the job site. This will avoid a second trip to the site. To register the unit, simply fill out the attached form (Page 17) and fax it back to (678) 945-1651 or email the completed form to cellservice@telular.com. For faster service, register online, at <http://www.TelguardOnline.com> or complete the registration information at www.telguard.com.

Note: These installation instructions apply to VISTA10P/15P/20P & FA148CP/168CPS.

STEP 1. Open the front of the Honeywell VISTA cabinet. Disconnect both the backup battery connection and the wall transformer, ensuring that the control panel is completely powered off. Determine whether the TG-11 can be mounted internal or external to the cabinet, based on the amount of free space within the cabinet.

If there is NOT enough room inside the cabinet, then you will need to install the TG-11 externally. To do this, knock out one of the pre-punched holes either on the top of the cabinet (Figure 3. 3 – External Top Mount) or on the right-side (Figure 3. 2 – External Side Mount). Feed the ECP wires and the antenna cable through the punch-

out, followed by the TG-11 threaded stem. Secure the TG-11 with the supplied nut and HAND TIGHTEN ONLY. Use the following diagrams as a reference:

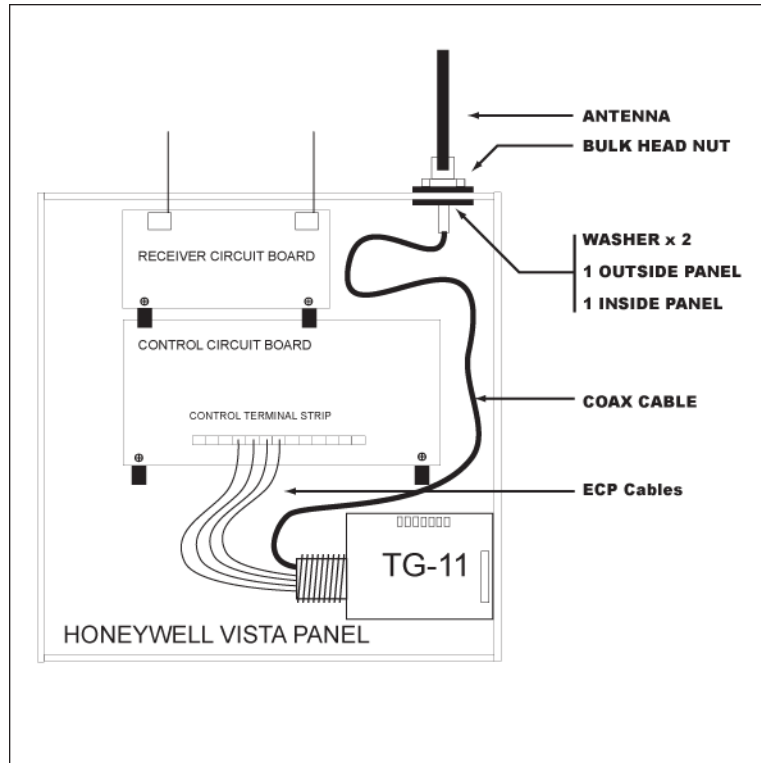


Figure 3. 1 – Internal Mount

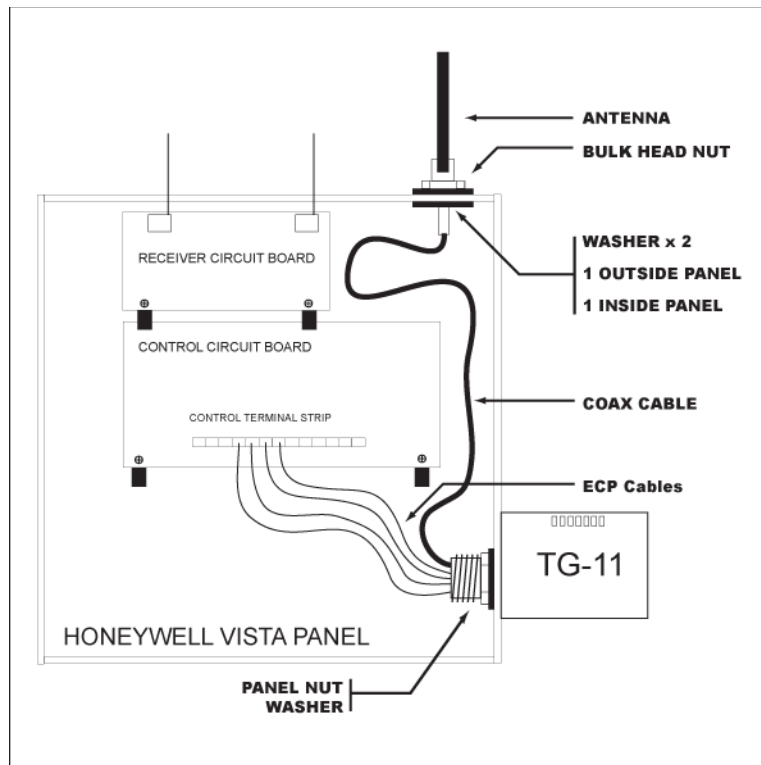


Figure 3. 2 – External Side Mount

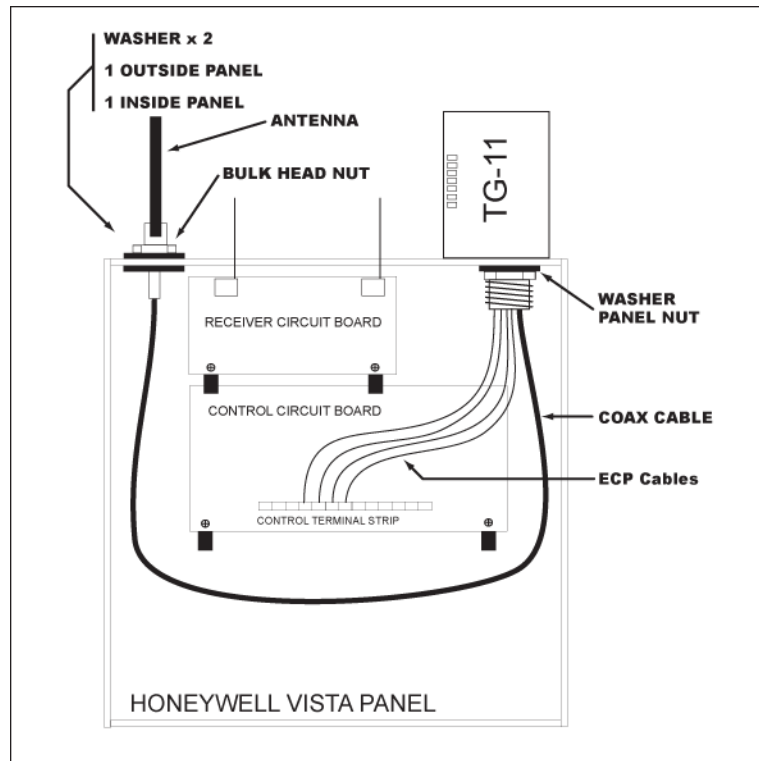


Figure 3.3 – External Top Mount

STEP 2. Once the TG-11 is secure, a location for the antenna must be chosen. In most cases, the antenna will be directly mounted to the cabinet. **To reduce the effects of RF interference, avoid routing the antenna cable over or under the alarm PCB or bundling it with other wires.**

- A. To mount the antenna directly to the cabinet, route the antenna cable to an available punch-out at the top of the cabinet. It is recommended that the antenna ALWAYS be mounted vertically. Use the included washers and hardware to secure the TNC antenna connector to the cabinet. Screw the antenna to the TNC connector.
- B. For a remote antenna installation, please use an approved Telular antenna extension kit (see section A3). *Please note, that the remote antenna will be connected to the TNC connector, at the end of the factory installed antenna cable.*

Note 1: Optimum RF performance can usually be found at the highest point within a building with the fewest number of walls between the antenna and the outside of the premises.

Note 2: To avoid interference with other electronic devices operating in the area, avoid mounting the antenna near other electronic devices.

Note 3: The TG-11 is supplied with a dipole antenna, designed for indoor installations ONLY.

STEP 3. Using the chart below, connect the ECP wires from the TG-11 to the control panel's ECP bus. The TG-11 must be connected directly to the panel's terminal strip and should NOT be spliced onto existing wires. **Please refer the Power Management section to calculate the total power consumption for the system. Use supplied worksheet as a guide.**

TG-11	Control Panel
Black wire to	Ground
Red wire to	Power
Green wire to	Input
Yellow wire to	Output

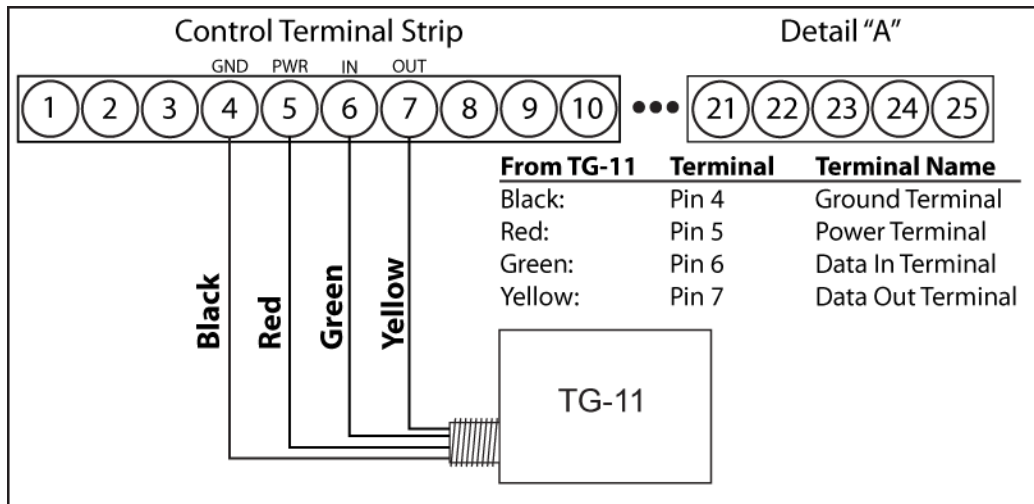


Figure 3. 4 – ECP

STEP 4. Once all the connections have been verified, power up the panel by reconnecting the power transformer and battery. Verify that the TG-11's power LED is lit.

STEP 5. Once power has been established to the TG-11, check the cellular signal strength using the RSSI button. The RSSI button is used to toggle between RSSI mode and system status mode. The unit will remain in RSSI mode for approximately 10 minutes, before reverting back to status mode. You may also press the RSSI button to exit RSSI mode and refresh system status.

Use Chart 6. 1 to determine if the TG-11 is receiving the appropriate amount of signal.

You must have signal strength greater than -90dBm (2½ RSSI), in order for the TG-11 to function properly.

If the signal strength is too low, please try the following:

- 1) Verify proper antenna connection
- 2) Relocate the antenna
- 3) Replace antenna with high gain antenna
- 4) Relocate the antenna (using external mounting kit)

STEP 6. If proper signal has been achieved, the panel can now be programmed for use with the TG-11. Generally speaking, the TG-11 is equivalent to Honeywell's Long Range Radio (LRR), therefore the same programming steps are necessary. Please refer to the panel's "Installation and Setup Guide" for details.

If panel programming is to be done locally, then you may use a 6160, two-line alpha keypad. If the system does not have one, then you must connect one temporarily, in order to program the panel. The installer should also be familiar with the mechanics of panel programming before attempting local programming. Note: Vista10P/15P/20P & FA148/168 the keypad address is 16. Upon power cycle of the panel press 1 & 3 to view keypad address. Enter correct address and press * to save. LYNXR1/2 will have an onboard keypad and there is no need to use an external keypad.

The following are the basic steps for local programming of the Vista10P/15P/20P & FA148CP/168CPS panels:

- 1) Enter programming mode using the installer code (installer code + 800).
- 2) Activate the Long Range Radio-LRR (field *29 followed by 1 + *).
- 3) Set Reporting Mode
 - o Only if the TG-11 is being setup as the **LRR Only** reporting device with no backup reporting, erase Primary/Secondary Phone number (fields *41* and *42*), and then exit programming (*99).
 - o If the TG-11 is being setup up as the **Primary** reporting device, set reporting mode (field *49) then enter 0 + *, and then exit programming (*99). TG11 and the primary number will report all alarms unless unsuccessful, then alarms will report to backup/secondary number.

- If the TG-11 is being setup up as the **Split/Dual** reporting device, set reporting mode (field *49) then enter 1 - 5 for dual reporting, and then exit programming (*99). TG11 along with primary phone number report the same alarms and secondary phone number will report the setting for field *49(1-5).

The following are the basic steps for local programming of the LYNXR-1 and LYNXR-2 panels:

- 1) Enter programming mode using the installer code (installer code + 800).
- 2) Activate the Long Range Radio-LRR enter *55 followed by 1 (LRR & Telco) or 3 (LRR only).
- 3) To Program the Priority of communication path enter field *77 followed by 0 + 0 (Telco Primary), 0 + 1 (LRR Primary), or 0 + 2 (LRR only). Note: the first value is defaulted to 0 for no delay in reporting. See LYNXR1/2 installation manual for more on delay options.
- 4) Set Reporting Options
 - Only if the TG-11 is being setup up as the **LRR ONLY** reporting device, erase Primary/Secondary Phone number (fields *41* and *42*), and then exit programming (*99).
 - If the TG-11 is being setup up as the Backup reporting device(**Telco Primary**), Set reporting mode (field *49) refer to LYNXR1/2 manual for the different options of reporting, and then exit programming (*99).
 - If the TG-11 is being setup up as the **LRR Primary** reporting device, set reporting mode (field *49) refer to LYNXR1/2 manual different options of reporting, and then exit programming (*99).

NOTE: Remote mounting limitation of the LYNXR panel is approximately 60 feet.

STEP 7. If not already done, the TG-11 needs to be registered with the Telular Communication Center. To register the unit, simply fill out the attached form (Page 17) and fax it back to (678) 945-1651 or email form to cellservice@telular.com. **Please remember to complete the MANDATORY Central Station Reporting section.** For faster service, register online, at www.TelguardOnline.com or complete registration information at www.Telguard.com.

It is highly recommended that this step be done PRIOR to going to the job site (see Installation Tip at beginning of this section).

Once the TG-11 is registered with the Telular Communication Center, an alarm must be triggered in order to activate the service for the first time.

Note the status of the TG-11, by using LEDs. Use Chart 6. 3 as a reference. Make sure the TG-11 is no longer in the RSSI mode before attempting to read the status information. To toggle between modes, press the RSSI button (this will also update status with the most recent information).

- 1) If a “NAK” error is received (LEDs 1 and 4 flashing), please call Telular Customer Service and verify that the account has been registered.
- 2) If a “Failed Registration” error occurs (LEDs 1 – 5 flashing), verify the RSSI signal. If the RSSI is good, call Telular Customer Service.
- 3) If 1 or 2 occurs, then press the RSSI button to go to RSSI mode. Leave it in that mode for 20 seconds, and then press the button again. This will reset the unit to normal status.
- 4) If LED 1 is on and solid, then the unit has been successfully installed and setup.

STEP 8. The final step is to test the TG-11 by sending a test alarm. This will authenticate the TG-11 and verify proper communication on the cellular network. This test is also used to verify that the alarm arrives correctly at the Central Station Monitoring Company.

WARNING: Before tripping any alarms, please make sure that the Central Station Monitoring Company is notified of the test.

STEP 9. To clear any error being displayed at the end of this installation (e.g., "CHECK 103 LngRng Radio 000F"), enter programming mode using the installer code (installer code + 800) and then exit programming (*99). **WARNING: Before tripping any alarms, please make sure that the Central Station Monitoring Company is notified of the test.**

4.0 POWER MANAGEMENT

The TG-11 derives all of its power via the alarm panel's Aux power (i.e., ECP bus). It very important to assure that the total current for the overall alarm installation does not exceed the panel's Aux power specifications (refer to alarm panel's Installation and Setup Guide).

TG-11 Power Requirements

- 9-15v DC, 300 mA@9V, 250mA @12V nominal

Auxiliary Device Current Draw Worksheet (typical devices)

Device	Standby mA	Peak mA		No.Units		Total (stby/max) mA
TG-11	65	250	x	1	=	65 / 250
6150 Fixed-Word Keypad	40	70	x			
6160 Alpha Keypad	40	150	x			
5881/5882 RF Receiver	60	-	x			
5883 RF Transceiver	80	-	x			
4229 Zone Expander/Relay	30	100	x			
4219 Zone Expander	30	-	x			
<i>Additional hardwired devices</i>			x		=	
			x		=	
			x		=	
			x		=	
			x		=	

Notes:

1. Max current for Auxiliary Power is 500mA (Vista ® 20P, 20PSIA, 15P, 15PSIA, 10P and 10PSIA).
2. Max current for Alarm Sounder and Auxiliary Power, combined, cannot exceed 600mA.
3. For UL Installations and Residential fire installations, please refer to battery selection chart, located in the alarm panel's Installation and Setup Guide.
4. For a detailed list of alarm system devices, please refer to the alarm panel's Installation and Setup Guide.

5.0 REMOTE PANEL DOWNLOADING

The TG-11 gives you the ability to send alarm signals and upload/download Vista panel information over-the-air. The installer can remotely upload system programming that has been manually entered into the panel, or previously downloaded.

The steps below describes the necessary steps required to configure Compass (version **1.5.8.75** or higher) for downloading control panel data over an Intranet or the Internet. **Note:** Older Version (**1.5.8.72** or higher) of Compass Software will support Private IP connection for Panel Downloading but **1.5.8.75** is needed for LYNXR-2 panel.

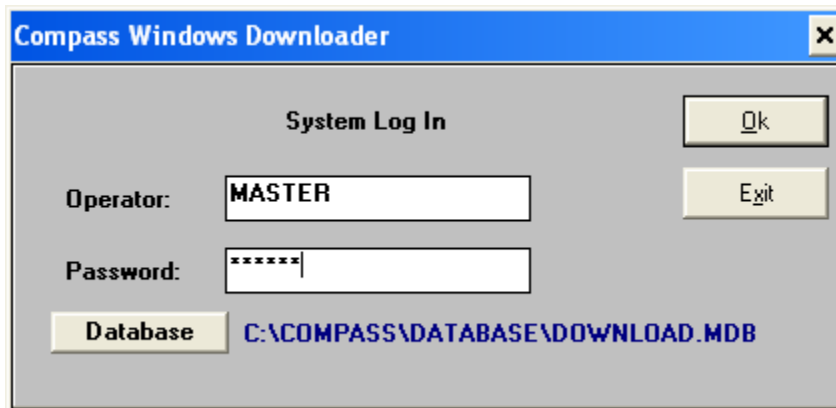
To configure the Compass software for downloading control panel data over an Intranet or the Internet, follow the steps below:

STEP 1. Register your TG-11 ([See Installation Steps on Page 1](#))

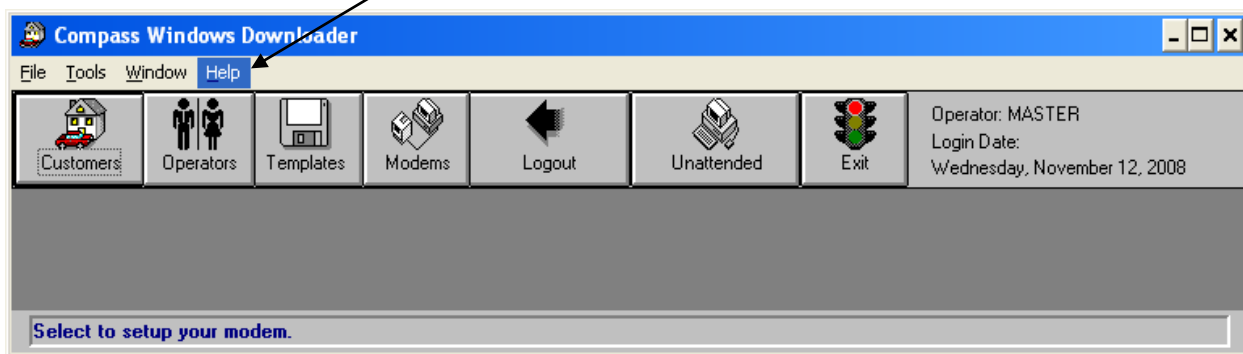
Before you begin, you must register your TG-11 unit using the activation form on page 17 or online at <http://www.TelguardOnline.com>. Your TG-11 must have software version E1.12 or higher. Ask customer service rep. while you are registering your TG-11 to upgrade your TG-11 software to the newest label.

Setup of Compass Downloader:

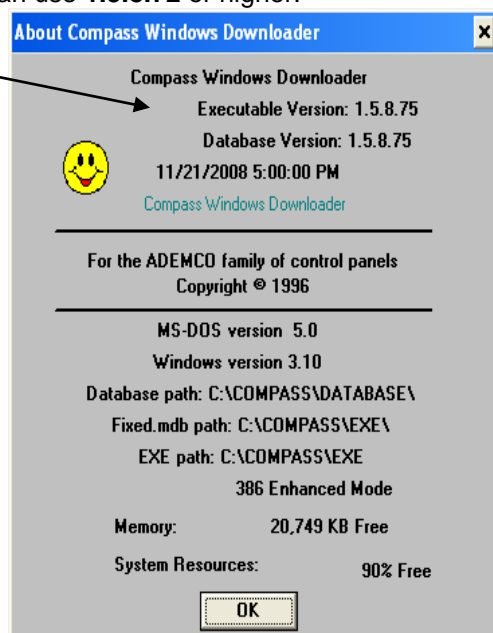
- Run Compass Windows Downloader and input
 - Operator: **"MASTER"**
 - Password: **"MASTER"**
- Click <OK> button to login.



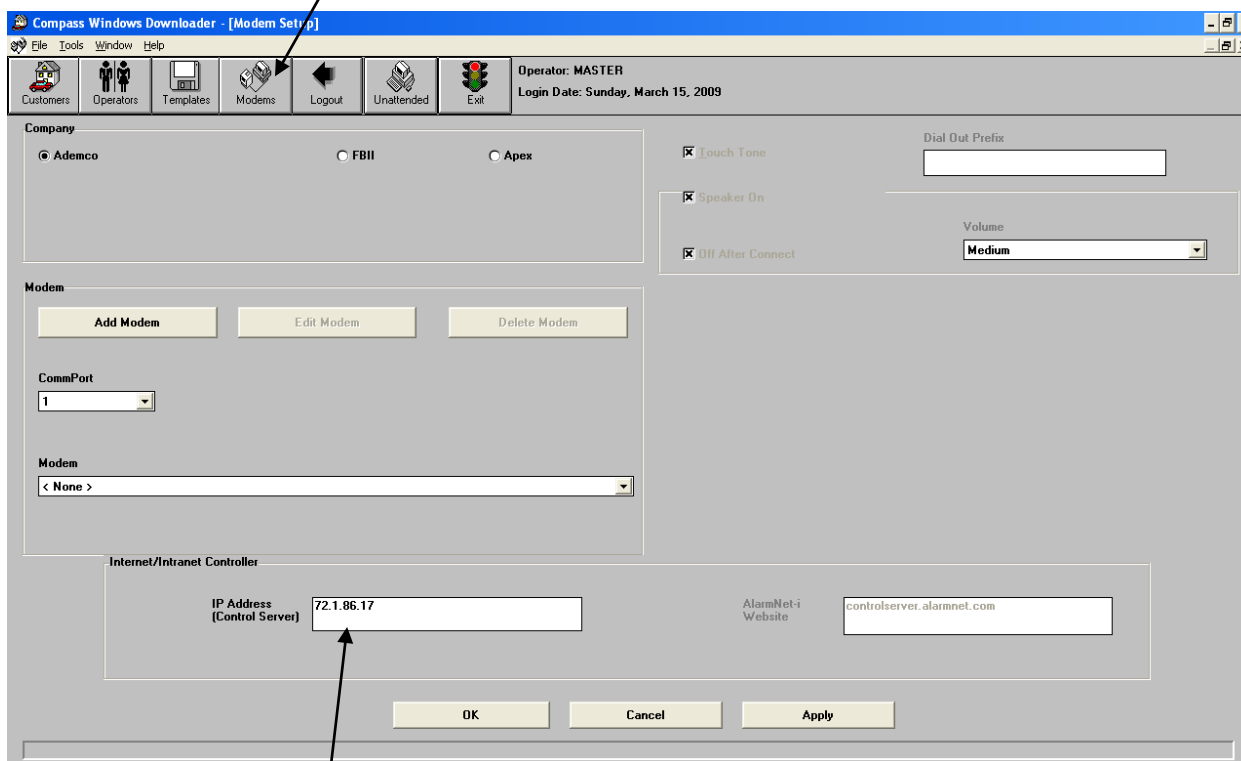
- Check Compass Software version. Version **1.5.8.75** or higher
 - Click on **"Help"** and select **"About"**



Make sure your **Executable** and **Database Versions** match. For LYNXR-2 you will need **1.5.8.75** or higher. For Vista10P/15P/20P, LYNXR-1 you can use **1.5.8.72** or higher.



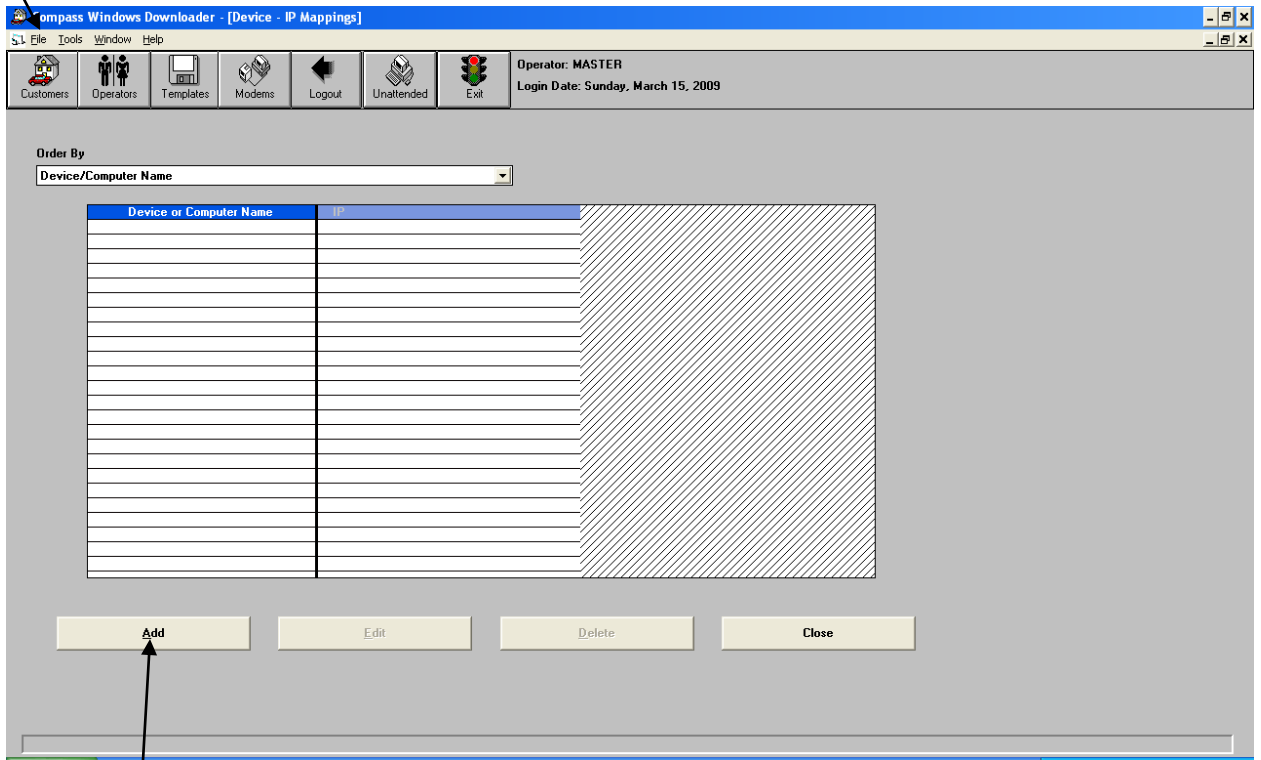
- o Click **<Modems>** tab to setup the Connect Server IP address.



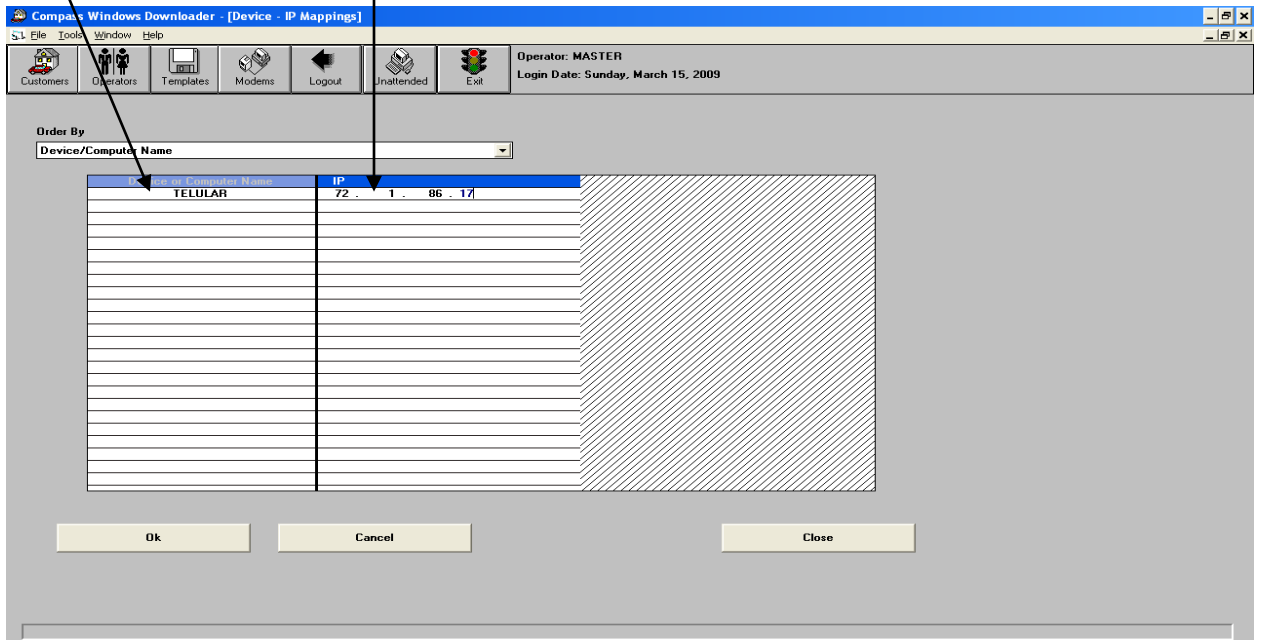
- o Set "72.1.86.17" for the IP Address [Control Server] address field.
- o Click **<OK>** button to save.

Creating Private IP address for Panel Downloading connection:

Click "File" and select "Device or Computer ID Name (7810IR Addr)" you will get the screen below.



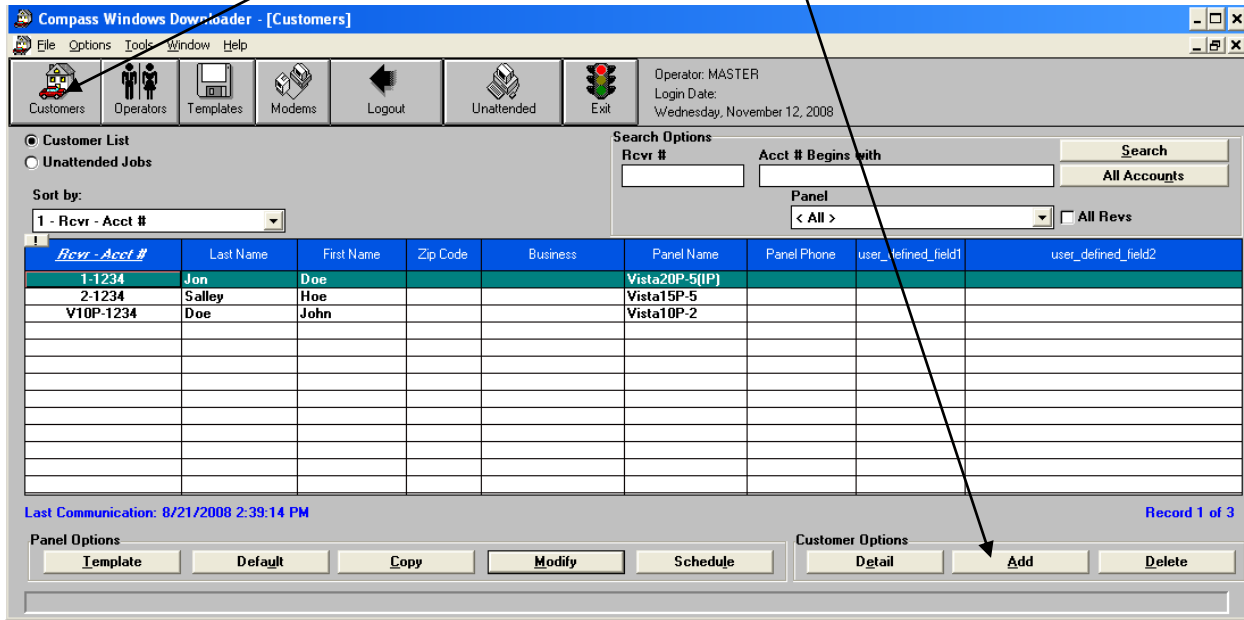
Click the <Add> button. You will get the screen below. For Device or Computer Name enter "TELULAR". For IP enter "72.1.86.17" and hit the <OK> button.



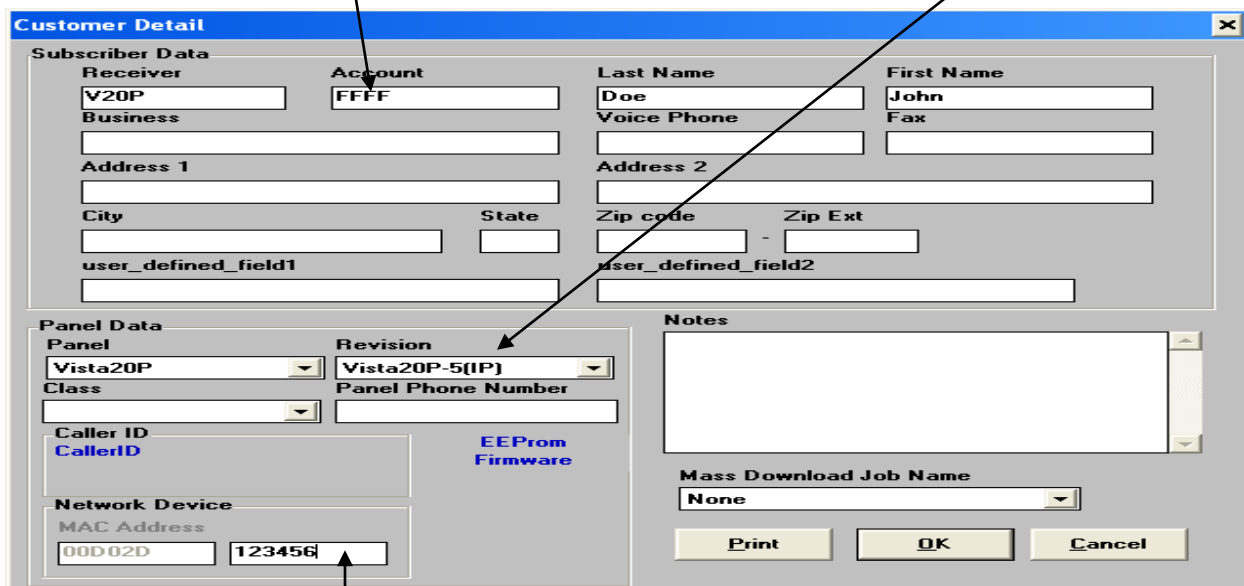
Setup a Customer Account:

The Compass Downloader User's Manual has the required information for each of the customer account fields. The section only addresses fields that are important to establishing a successful session with a panel using the TG-11.

- Click <Customers> to open a Window and click <Add> to add a new customer



- Enter in a 4 digit account number if programmed on the Vista panel or all Fs [FFFF] if a virgin panel. This has to match what the number programmed on the panel. (*43 field of the installer mode of the Vista panels) **Note:** If you never programmed this field try [FFFF]. **Note:** Enter your panel and the revision should have (IP) at the end of it. Also your Mac address fields will show up as well.



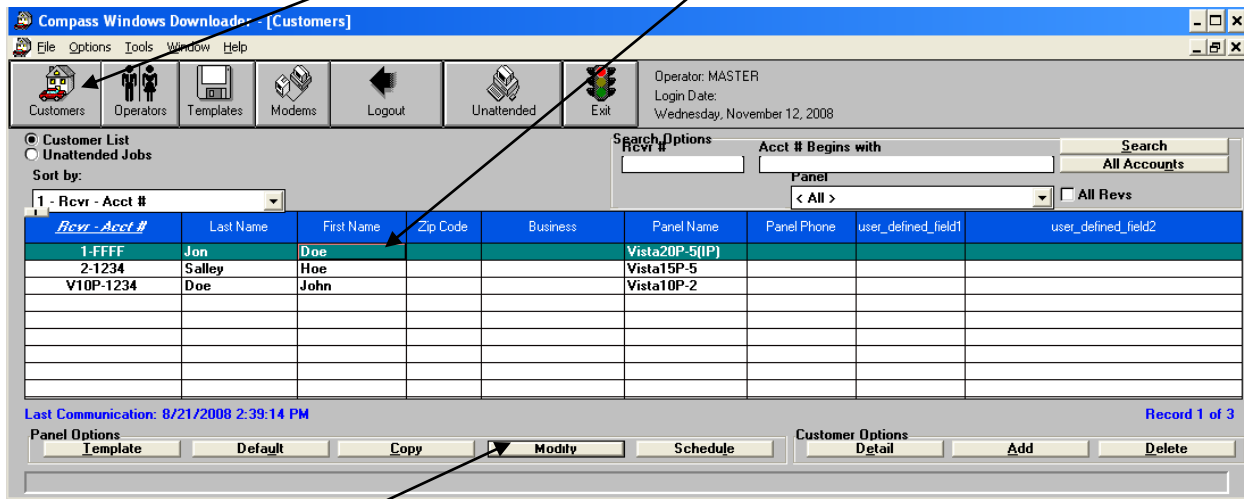
- MAC Address: This will need to match last 6 digits of the TG-11 Serial Number. **Example:** IF your TG11 SN# is 0987123456, use the last 6 digits [123456].
- Click <OK> button.

Start the Compass Session:

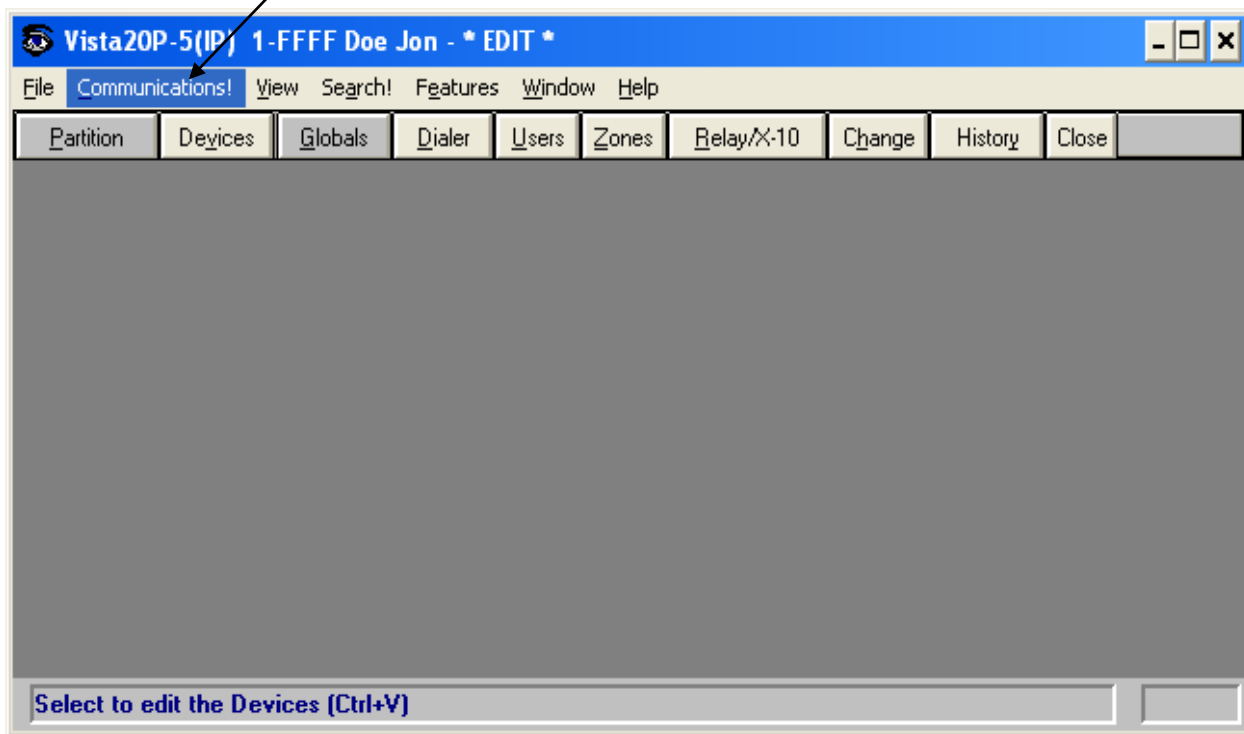
This is the last step in the process to start the compass session:

- Start Compass downloader

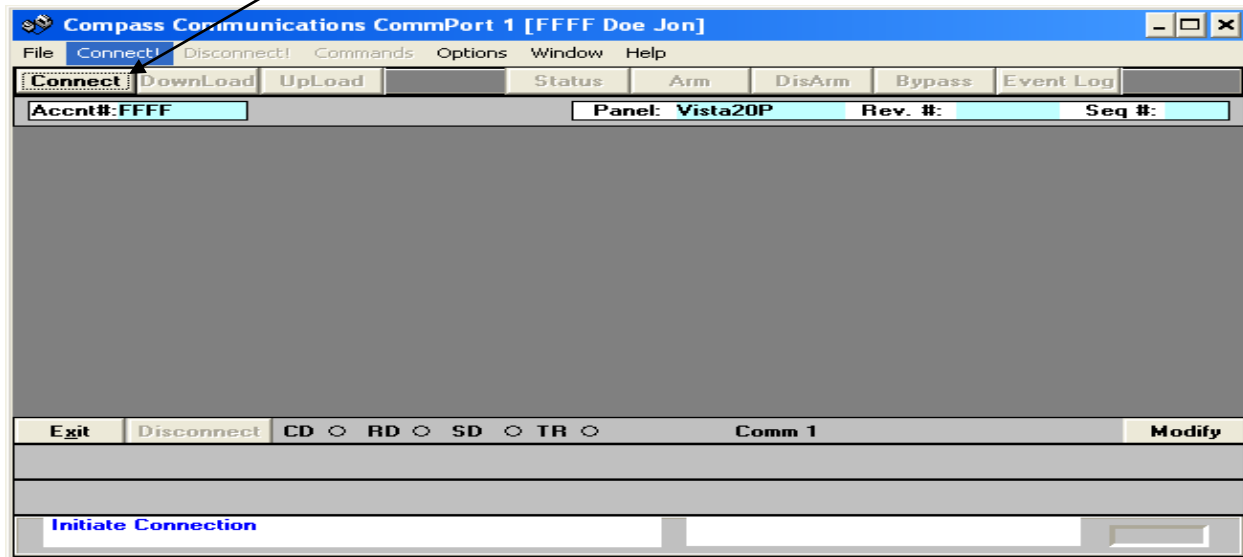
- Click the <Customers> button and select a customer from the customer list.



- Click <Modify> button to open the “*EDIT*” menu.
- Click “Communications!” to open the “Compass Communications CommPort” menu.

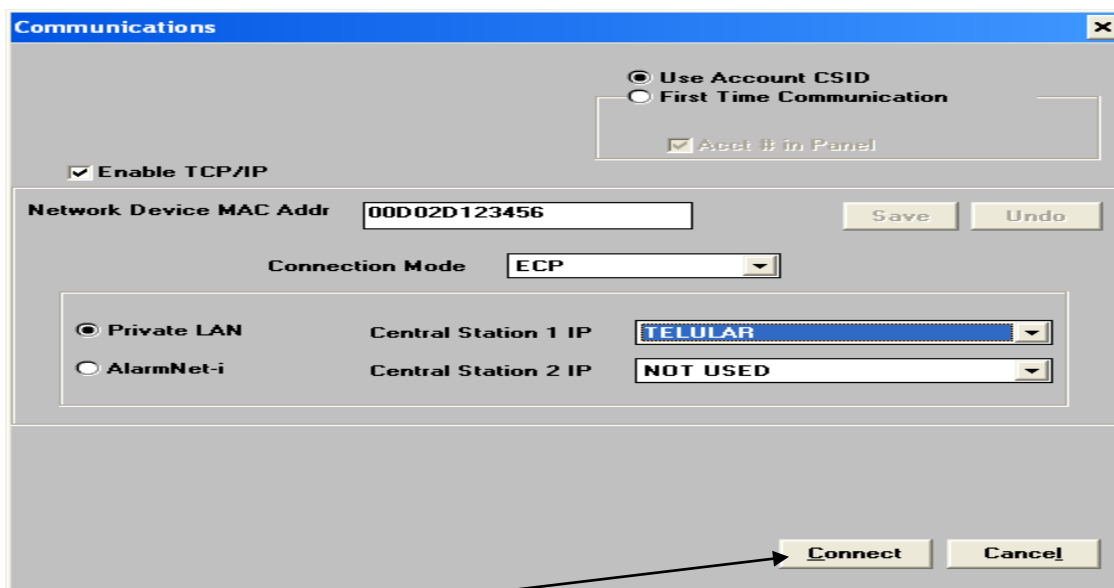


- Click <Connect> button to open the “Communications” menu.



- Click radio button for “**Use Account CSID**” or “**First Time Communication**” for virgin panels. Note: If you have entered a CSID on the panel before you must click the Check box for “**Enable TCP/IP**”
- Connect Mode chose “**ECP**” from the drop down menu.
- Click radio button for “**Private LAN**”
- For Central Station 1 IP select “**TELULAR**” for the drop down menu.

Note: TELUAR Private IP has to be created first in order to see it in on the drop down menu. Please refer to the “**Creating Private IP address for Panel Downloading connection:**” section above.



STEP 5. Connect - Click “Connect” to start to connect to Alarm Panel. If a connection is not made, then a self-explanatory Error Code will display on the screen. Please contact Telular Technical Support for recurring connection issues.

This information is also available on the Telular website via <http://www.telular.com/paneldownloading>.

6.0 LED DESCRIPTIONS

6.1 SYSTEM TROUBLE CONDITIONS

Power Failure Condition (PFC)

The TG-11 monitors input DC voltage. If a low voltage is identified, (voltage below 7.2 vdc) a power failure condition (PFC) is declared; the System Trouble Condition LED (STC LED) will flash 1 time. Upon restoration of power, the TG-11 will restart and the STC LED is returned to normal.

No Service Condition (NSC)

The TG-11 declares a no service condition (NSC) when the measured "receive" cellular radio signal strength at the protected premises drops to -114 dBm or less; the STC LED will flash 4 times. Restoration of this condition occurs when a measurable signal strength greater than -114 dBm is maintained for a period of time.

Radio Communications Failure Condition (RFC)

Radio communications failure condition (RFC) is declared when the TG-11 is unable to transmit over the cellular network even with acceptable signal strength. RFC is indicated by the STC LED flashing 5 times.

Panel Presence Failure Condition (PPF)

The TG-11 monitors connection to the control panel. A panel presence failure condition (PPF) is declared when communications with the panel is lost. PPF is indicated by STC LED flashing 7 times. The PPF condition is cleared when the panel communication's is restored. An alarm is generated to the central station when PPF is declared and cleared.





The LEDs are used to indicate either operational status or received cellular signal (RSSI). The RSSI button is used to toggle the mode of the LEDs.

6.2 RSSI Mode

The RSSI button on the front of the TG-11 is used to toggle RSSI mode. RSSI mode uses the LEDs to indicate received signal strength and the number of detected cellular towers. Slowly move the antenna to achieve maximum signal strength. Locate where the most LEDs (up to four) are lighted. The minimum RSSI is 2½.

Chart 6. 1

LED #1		Detected Cellular Towers			
on		> 1			
off		1			

RSSI	LED #2 	LED #3 	LED #4 	LED #5 	RF dBm
NO SVC	off	off	off	flash	N/A
1	off	off	off	on	≤ -111dBm
1 ½	off	off	flash	on	≥ -110 dBm
2	off	off	on	on	≥ -100 dBm
2 ½	off	flash	on	on	≥ -90 dBm (minimum value)
3	off	on	on	on	≥ -80 dBm
3 ½	flash	on	on	on	≥ -70 dBm
4	on	on	on	on	≥ -60 dBm

LED #6	Panel Connection
on	good panel connection
off	incomplete panel connection

6.3 Operational Status

Registration

The LEDs provide registration indications as shown in the following table.








Chart 6. 2

System Status LEDs	Registration Indications
LEDs #1 thru #5 Flashing	Failed Registration /Weak Signal
LED #1 and #4 Flashing	NAK - Registration Error
LED #1 On and solid	Registration Successful

Functionality

Seven (7) LEDs provide an immediate visual indication of system status.

Chart 6. 3

Status LED	Color	State	Indication
LED #1 REG 	Green	on	Registered and Enabled
		off	Not Registered
		flash	Registered, but Disabled
LED #2 System Trouble Condition (STC) 	Red	off	Normal / No failures
		1 flash	Power Failure Condition (PFC)
		4 flash	No Service Condition (NSC)
		5 flash	Radio Failure Condition (RFC)
LED #3 	Yellow	On/Off	Used only in RSSI Mode
		LED #4 ACK 	Red
off	Idle		
LED #5 RADIO 	Green	on	Initializing / Sending Data
		off	Idle
		flash	Connecting
LED #6 PANEL 	Red	on	Panel Communication
		off	No Panel Communication
LED #7 POWER 	Green	on	Power /On
		off	No Power

7.0 SYSTEM SPECIFICATIONS

Digital Cellular Radio

The Telular TG-11 radio supports GSM/GPRS cellular protocol. It is equipped with an integrated radio transceiver conforming to all the requirements of the GSM Phase 2+ tests specified in GSM 11.10. The TG-11 transceiver is FCC compliant, meeting all of the requirements of Part 24 and SAR testing. It is also compliant to the PTCRB NAPRD03 requirements.

Frequency range:	GSM 850/1900	
	Transmit	Receive
850:	824MHz – 849MHz	869MHz – 894MHz
1900:	1850MHz – 1910MHz	1930Hz – 1990MHz

Antenna Port:

SMA (Female) on main PCB, 50-ohm
TNC (Female), bulkhead mount, via 24" cable, 50-ohm

Alarm Panel Communication and Models Supported:

Honeywell®/Ademco® ECP bus
Vista 20P, 20PSIA, 15P, 15PSIA, 10P, 10PSIA
LYNXR-1, LYNXR-2
First Alert(FA) 148CP, 168CPS, 148CPSIA, 168CPSSIA

Receiver Sensitivity:

-109dBm (Wireless Microprocessor WMP100 Technical Specification, WM_DEV_WUP_PTS_004)

Transmit Power:

EGSM 850 MHz: Class 4 (2 watts)
PCS 1900 MHz: Class 1 (1 watt)

Power Requirements

9-15v DC, 300 mA@9V, 250mA @12V nominal via Alarm Panel Aux Power
Current Consumption
65 mA (standby)
250 mA (transmit)

Supplied Antenna:

Dipole, TNC (Male)

Physical Size and Weight:

5.0" H x 3.125" W x 1.5" D
6.1 oz

Operating Environment:

0°C to +49°C
0 - 85% humidity (non-condensing)

FCC RF Exposure Information

The external antenna used for this radio module must provide a separation of at least 8 inches (20 centimeters) from the general public.

NOTE: Dealer Account Establishment and Cellular Activation must be completed prior to Installation (see section A1)

A1 ACTIVATION FORM

Telguard® Digital TG-11

TELULAR CELLULAR SERVICE REGISTRATION REQUEST

To activate your Telguard, fax this form to **(678)945-1651** or complete the Registration Request at **www.telguard.com**
 You may also e-mail the form to **cellservice@telular.com**

PLEASE PRINT LEGIBLY ♦ ALL INFORMATION REQUIRED (INCOMPLETE REGISTRATION REQUEST WILL NOT BE PROCESSED)

Telguard Digital Serial Number	TELULAR USE ONLY - CONFIRMATION NUMBER:

RESIDENTIAL COMMERCIAL

SUBSCRIBER INFORMATION

LAST NAME	FIRST NAME	MIDDLE INITIAL
STREET ADDRESS	CITY	ST ZIP CODE

DEALER INFORMATION

DEALER ACCOUNT NUMBER	DEALER COMPANY NAME
DEALER STREET ADDRESS	CITY ST ZIP
CONTACT LAST NAME	CONTACT FIRST NAME
CONTACT PHONE	CONTACT FAX CONTACT EMAIL

CENTRAL STATION REPORTING - This information is MANDANTORY! (INCOMPLETE REGISTRATION REQUEST WILL NOT BE PROCESSED)

PRIMARY RECEIVER NUMBER	SECONDARY RECEIVER NUMBER
CENTRAL STATION ACCOUNT CODE	

ALARM FORMAT

<u>CID</u>	<u>PASS</u>	<u>FAIL</u>	<u>BOTH</u>	<u>PASS CODE</u>	<u>FAIL CODE</u>	<u>OTHER PASS/FAIL</u>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	603	358	/

RATE PLAN SELECTION (SELECT ONE OF THE FOLLOWING)

RESIDENTIAL PRIMARY (FIXED RATE 1 TEST SIGNAL AND NORMAL RESIDENTIAL ALARMS)	<input type="checkbox"/>	DAY OF MONTH (1 TO 28)
MONTHLY TEST 10 SIGNALS (1 TEST & 9 ALARMS PER MONTH)	<input type="checkbox"/>	DAY OF MONTH (1 TO 28)
WEEKLY TEST 20 SIGNALS (5 TESTS & 15 ALARMS PER MONTH)	<input type="checkbox"/>	DAY OF WEEK (MON - SUN)
DAILY TEST 46 SIGNALS (31 TESTS & 15 ALARMS PER MONTH)	<input type="checkbox"/>	DAILY

DEALER ACCEPTANCE

Dealer acknowledges and accepts all Telular Terms and Conditions. Dealer authorizes the immediate registration of service.

SIGNATURE	PRINT NAME	DATE

A2 WARRANTY

Telular will repair or replace (our option) inoperative units for up to two years from date of manufacture. This excludes damage due to lightning or installer error. Unauthorized modifications void this warranty. Not responsible for incidental or consequential damages. Liability limited to price of unit. This is the exclusive warranty and no other warranties will be honored, whether expressed or implied. An RMA must be assigned by calling tech support 800-229-2326 before returning product to:

Telular Corporation
Attention: Repair Depot
294 W Palatine Rd
Wheeling, IL 60090

RMA number must be on outside of box or product will not be accepted.

A3 PARTS LIST

Part No.	Description
<i>Basic Hardware:</i>	
TG-11	
Model TG11G001	Model TG11G001 (TG-11) meets the requirements for Household Burglary, Household Fire, and Commercial Burglary installations. TG11G001 is UL Listed for the following: <ul style="list-style-type: none"><input type="checkbox"/> UL Household Burglary (NBSX)<input type="checkbox"/> UL Commercial Burglary (APAW: Police Station – Burg and AMCX: Central Station Burg)<input type="checkbox"/> UL Household Fire (UTOU)
<i>General Accessories:</i>	
ACD-12	12 feet of antenna cable and mounting bracket
ACD-35	35 feet of low loss high performance antenna cable and mounting bracket
ACD-50	50 feet of low loss high performance antenna cable and mounting bracket
ACD-100	100 feet of low loss high performance antenna cable and mounting bracket
HGD-0	High Gain Directional Antenna
EXD-0	Antenna - External with ground plane