AR-535 Cellular Router
Installation Instruction Manual - English

Thank you for purchasing the Alarmroute AR-535 Cellular Router. You are about 15-30 minutes away from changing your alarm monitoring service and saving hundreds of dollars per year by switching to Alarmroute.

An Installation Instruction Video is also available on our website.
www.alarmroute.com

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-This alarm router is for use with an existing alarm system.

-You must be the owner of the existing alarm system.

-Before Starting the installation process ensure that you have cellular network coverage in your area. You can use the signal strength bar meter from a cellular telephone to easily verify this. Make sure you have decent signal strength. If you do not have good cell phone reception this router can be connected to the internet via the Ethernet port on top and used as Alarm over IP module only (see pg. 17).

-Before starting the installation of your AR-535 Cellular Router ensure that you have read and agree to all of the most recent legal terms and conditions.

-A copy of the legal terms and conditions are available at the back of this manual but these terms may have been modified. Please check our website for the most recent user agreement and terms and conditions. *www.alarmroute.com*

What's in the Box

1. Alarmroute AR-535 Cellular Router.
2. Antenna.
3. Magnetic antenna base with connector cable.
4. Power adapter 110 V-AC to 12 Volts D.C.
5. Adaptor for Basic Installation. RJ45 connector to Alarmroute RJ11 connector (typical Phone Jack) (For use in North America)
6. New Wire Whip for Advanced installation. (Telephone jack size plug on one end)..
7. RJ-45 Jumper Cable (Ethernet plugs on two ends).
8. Screwdriver (for advanced installation if necessary)
9. Connectors for Advanced Installation (Qty. 2)
10. Terminal Strip for Alarm Dealer Installation only.
11. Warning decals for application on your doors and windows (Not Photographed below)

For advanced installation only :

Open the box and inspect all items to ensure that there is no visible physical damage to the products. If you find evidence of physical damage that you believe may affect the operation of the hardware please initiate the return process immediately by logging into the client portal on our website **www.alarmroute.com** and follow the return instructions and we will send you a replacement unit or refund your purchase.

Part 1a: Basic Hardware Installation

(Approximately 10-20 Minutes)

If you have an existing Cellular alarm router / modem, and it has a network cord that can be unplugged you can proceed with the basic installation and use the cord from your existing cellular router in lieu of the cord from the CA-38A jack.

1. Locate the EXISTING **RJ-45 Type Jack** belonging to your alarm system. This jack is the same size as an Ethernet Port *(technically the jacks are named differently in the USA "RJ-11" and Canada "CA-38A" but are the same as an RJ-45 or Ethernet Jack)*

**FIND THE EXISTING
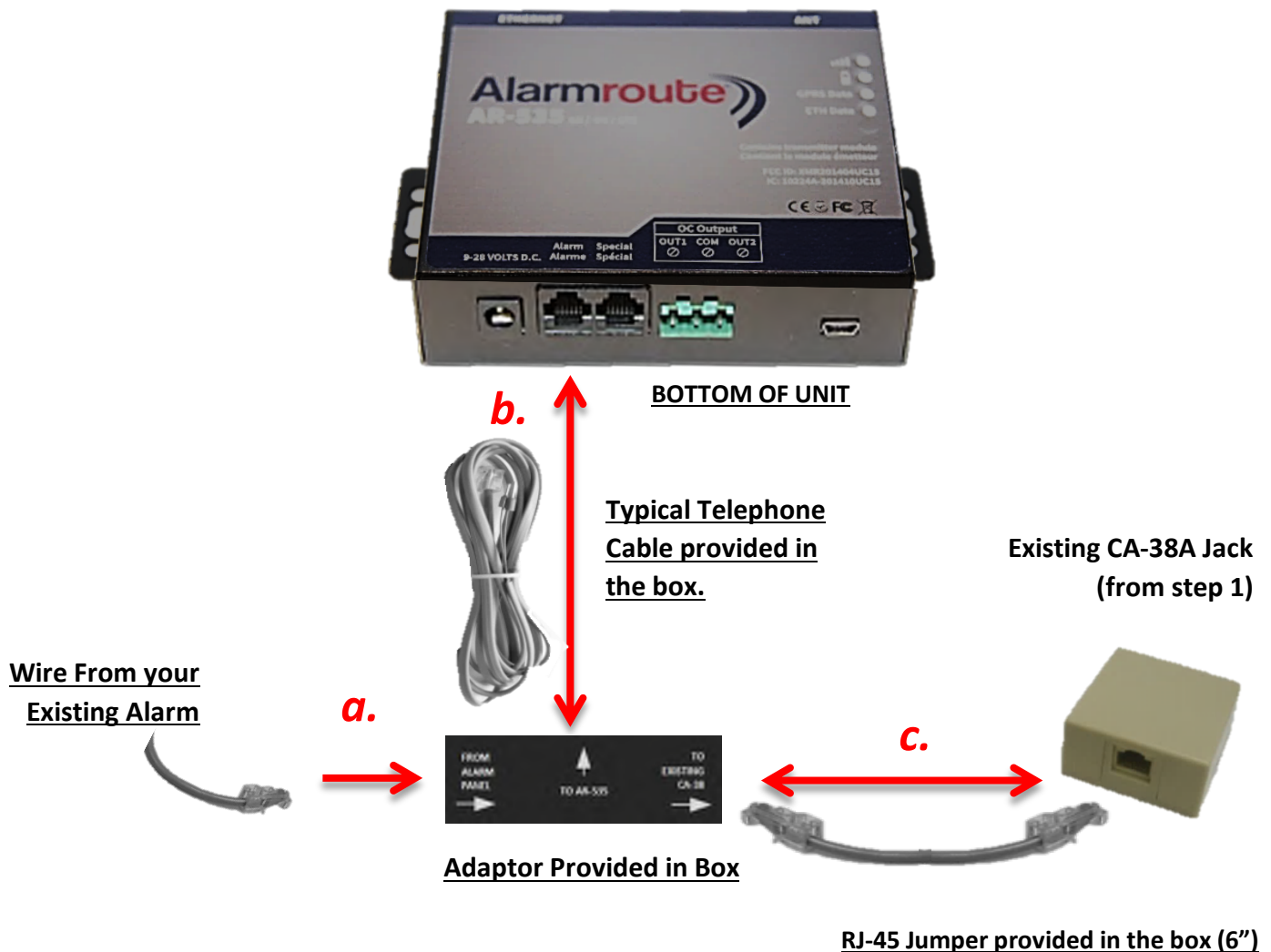RJ-45-Type Jack
PART OF YOUR
ALARM SYSTEM**

- The CA-38A jack will **typically be located close to your existing alarm panel** or the **telephone company entry-point** / **Demarcation-Point** in your home (typically near the electrical panel of the dwelling). Other locations this jack may be located are in the closet at the front entrance or in the mechanical room.

- The **CA-38A Jack** is larger than a typical telephone jack (i.e. telephone cable is too small to plug into it).

- Once you have located the **CA-38A jack unplug the existing cable from the jack** and **approximate how much slack you have on the cable.** This will help you find a suitable location to mount your new *Alarmroute-Cellular-Router.*

- **If you cannot find the CA-38A jack pictured above** Or **if you already have an existing cellular** modem/router that cannot be unplugged you will need to perform the advanced installation (see advanced installation instructions section Pg.9).

- Choose a suitable location to install your new *AR-535-Cellular-Router* in close proximity to this jack and **within reach of the existing wire if possible**. If you do not have enough slack on the existing cable or if you do not have an electrical outlet close to the existing jack you can purchase a telephone wire extension cable from a local hardware store or electronics store and install the *AR-535-Cellular-Router* elsewhere.

- Make sure there is a power outlet close to the location you choose to install the new *AR-535-Cellular-Router.* The location should also be climate controlled and in a dry area. Do not install outdoors.

2. **Anchor** the *AR-535-Cellular-Router* to the wall near the existing RJ-45 Type jack by either screwing the device into a wood surface or by installing drywall anchors into the drywall and then screwing the unit into the anchors, or use a strong two-sided-foam tape to adhere the device to a clean non-porous surface. Be sure the two sided foam tape is rated to carry the weight of the device and the surfaces are clean to ensure proper adhesion.

3.
    a. Plug the existing wire (RJ-45/ Ethernet) from your alarm panel into the Adaptor we provided in the box.

    b. Plug the (RJ-11 / Telephone size) wire we provided **into the adaptor** and to the **"Alarm Panel"** jack on your new *AR-535-Cellular-Router*

    c. Plug the RJ-55 / Ethernet type wire we provided to the adaptor and to your old CA-38A Jack

BOTTOM OF UNIT

b.

Typical Telephone Cable provided in the box.

Existing CA-38A Jack (from step 1)

Wire From your Existing Alarm

a.

c.

Adaptor Provided in Box

RJ-45 Jumper provided in the box (6")

4. Screw the antenna onto the magnetic base by turning it clockwise. ⤵

5. Screw the antenna-connector to the **Antenna connection port** on the top right of the *AR-535-Cellular-Router* by turning it clockwise. Do not over-tighten.

TOP VIEW OF UNIT

Position the antenna on a metallic surface such as the top of the metal AR-535-Cellular-Router, or the alarm control panel enclosure or another suitable location. Typically the higher the antenna is placed the better the reception. Also the closer it is placing the antenna closer to a window will offer better signal strength.

6. Plug the **AC Power Adaptor** into the bottom left of the *AR-535-Cellular-Router* where the label indicates 9-28 volts D.C.

   Caution! Make sure the antenna is connected before connecting the AC adaptor.
   Failure to do so could result in damage to the unit.

BOTTOM VIEW OF UNIT

The Basic Hardware Installation is Now Complete. Proceed to
Part 2 -Power-Up to Verify Signal Strength and Power on pg 15

<u>Congratulations, you are now finished the basic Installation!</u>

Now that the activation and testing is complete you can rest assured that all components of the system are functioning properly and you have succeeded in the installation.

You can now contact your old alarm monitoring service provider to formally cancel their service.

Please make a habit of testing your system periodically to ensure everything is working properly.
We will notify you if we stop receiving the automatic periodic test signals from your alarm panel or if your cellular-router goes off-line for an extended period of time. Be sure to keep your credit information up to date on your account to ensure continuous service.

Your unit includes a battery back-up and can operate for up to 18 hours or more without electricity, and you will be informed of an extended power outage so that you can take action if necessary.

<u>What to do if the Basic Installation was Unsuccessful?</u>

- If your testing after the Basic Installation Process was unsuccessful please try re-installing the unit according to the advanced installation instructions and re-test.

- **If you are uncomfortable with the advanced installation instructions on the following pages you can try contacting: a friend; a family member; an electrician; a home automation specialist; an IT person; or anyone comfortable with the relatively simple instructions on following pages.**

- If not please initiate a request for refund through our website and we will gladly refund you for your purchase and we apologize for any inconvenience.

- Unfortunately we do not offer any additional technical support at this time but you may check back on our website in the future as this feature may be added in the future.

Part 1b: Advanced Hardware Installation

(Approximately 30 Minutes)

If you do not have an existing cellular-router; or you cannot find your RJ-45 Type jack; or your existing cellular router does not have a removable cable, <u>then proceed with the following Advanced Installation Instructions:</u>

1. Locate your alarm panel. (Typically in a metal box and located in the mechanical room, garage, or next to the electrical panel, or in the closet closest to the alarm keypad.)

2. Call your previous security company and tell them you would like for them to ignore all alarm signals for the next 2 hours or more to provide you more than enough time to connect your new *AR-535-Cellular-Router.* If you do not contact them first they may call you to indicate there is a trouble signal received, which you can tell them to ignore either way. If you do not currently have an alarm monitoring service ignore this step.

3. Open the alarm control panel using the small key you have or by unscrewing the screws on the sides. If you cannot locate the key search the internet for a video on how to drill open a small cam lock (very easy). Be sure to always use eye protection and ensure your personal safety when using power tools.

    Locate the terminal strip. The terminal strip is the part of the control-panel that all of the wires are connected to. Locate the section that indicates Communication or Tel-Co typically to the far right of the terminal strip. This section will be labeled **"T"** and **"R"** Terminals (or they can alternately be labeled: "**Tip**" and "**Ring**" as seen in the example photo below) as well as "**R-1**" and "**T-1**" Terminals.

Inside view of typical alarm control panel
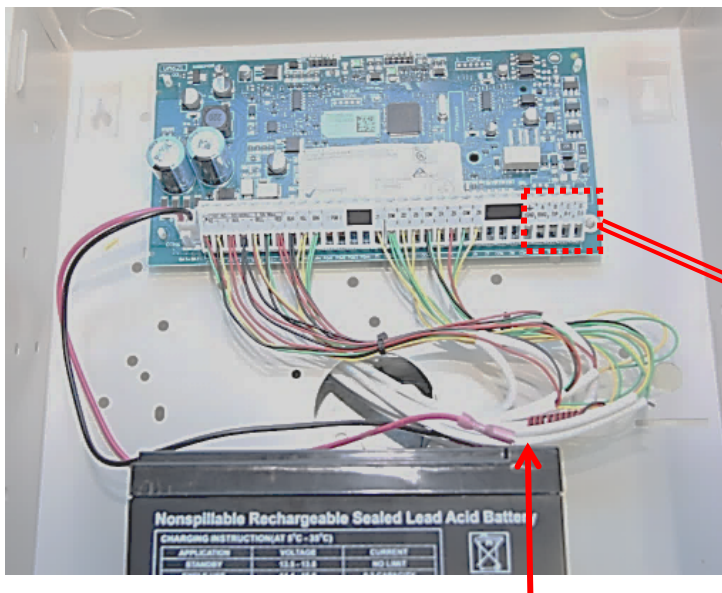
The small screws at the top of the terminal strip open and close the terminals to release or secure the wires.
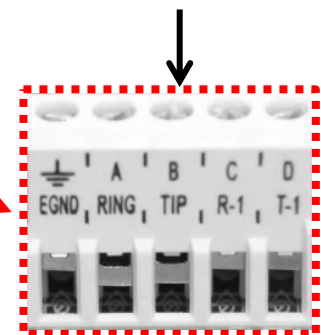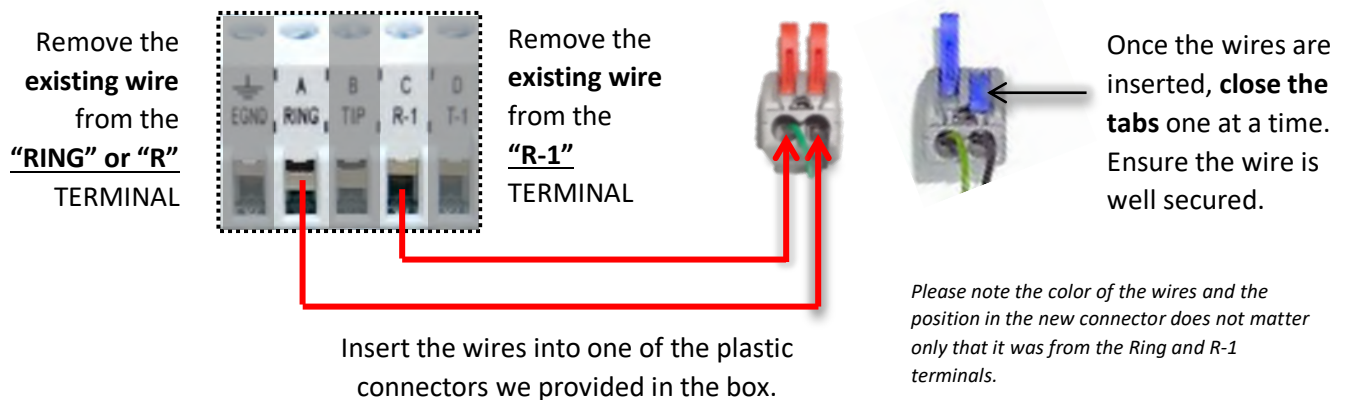
Magnified view of Terminal Strip

CAUTION ! DO NOT SHORT-OUT THE BATTERY + and – TERMINALS OF YOUR EXISTING ALARM. (i.e. do not place a metal object between the two battery terminals. Even though it is low-voltage it can still cause harm to you or your control panel if you short the battery).
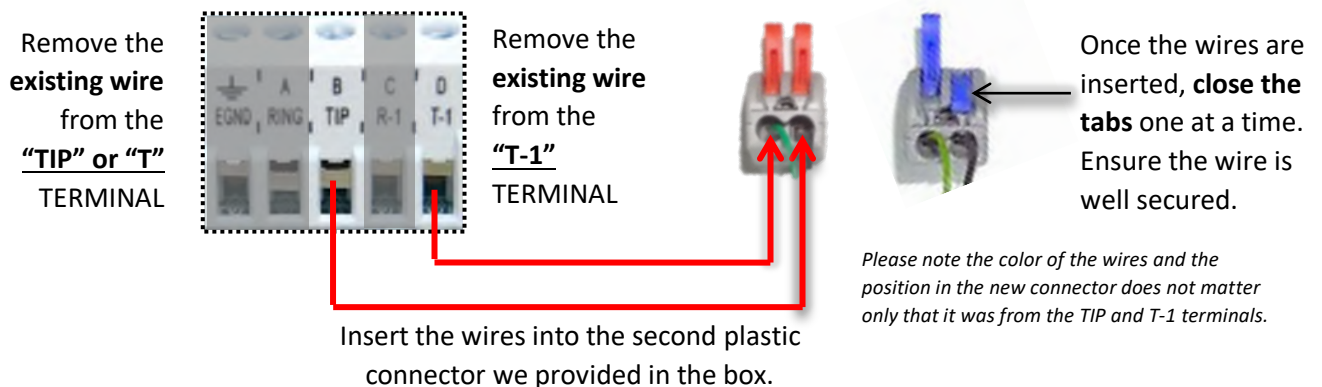
4. <u>**Remove the Ring and R-1 Wires and Splice them together using the connector we provided:**</u>

a) Use the plastic screwdriver provided in the box to **LOOSEN the TWO terminals** labeled "**Ring or R**" and "**R-1**" by gently turning the screwdriver we provided you **counter-clockwise**. ⟳

b) **Remove** the old "**Ring or R**" and "**R-1**" wires from the terminal strip.

c) **Insert** the old "**Ring or R**" and "**R-1**" wires into one of the **plastic-connectors** we provided in the box with the orange tabs in an upward position. Make sure the wire is fully pushed towards the back of the connector and close one at a time. This step is only necessary if you need to maintain an existing telephone land line. This connector is simply splicing the two wires together.
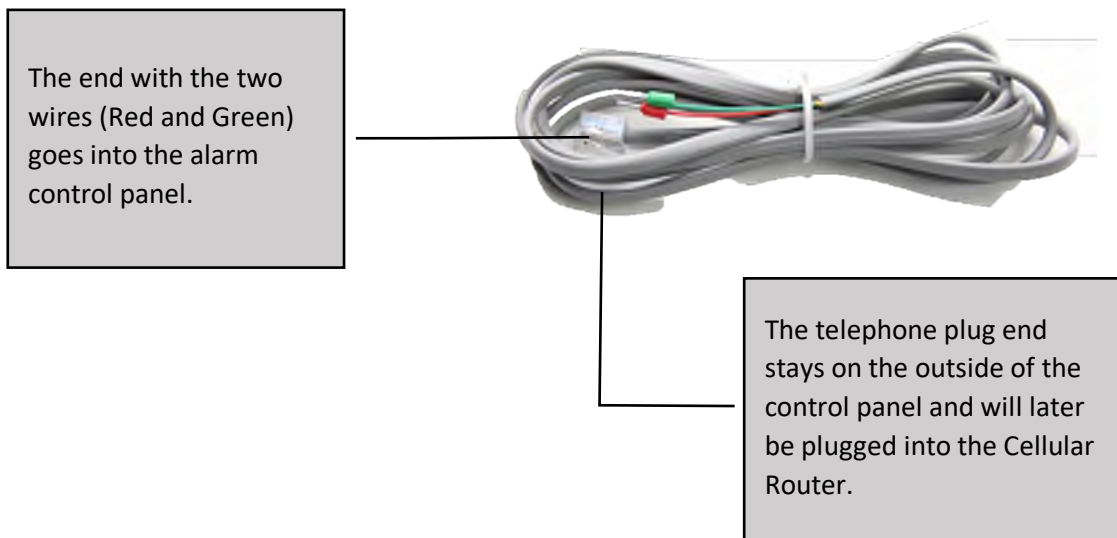
Remove the **existing wire** from the <u>**"RING" or "R"**</u> TERMINAL

Remove the **existing wire** from the <u>**"R-1"**</u> TERMINAL

Once the wires are inserted, **close the tabs** one at a time. Ensure the wire is well secured.

Please note the color of the wires and the position in the new connector does not matter only that it was from the Ring and R-1 terminals.

Insert the wires into one of the plastic connectors we provided in the box.

5. <u>**Remove the Tip and T1 Wires and Splice them together using the other plastic connector.**</u>

a) Use the plastic screwdriver provided in the box to **LOOSEN the TWO terminals** labeled "**Tip or T**" and "**T-1**" by gently turning the screwdriver we provided you **counter-clockwise**. ⟳

b) **Remove** the old "**Tip or T**" and "**T-1**" wires from the terminal strip.

c) **Insert** the old "**Tip or T**" and "**T-1**" wires into the second **plastic-connector** we provided in the box with the orange tabs in an upward position. Make sure the wire is fully pushed towards the back of the connector and close one tab at a time. This connector is simply splicing the old "Tip or T" wire with the "T-1" wire. This step is only necessary if you need to maintain an existing telephone land line.

Remove the **existing wire** from the <u>**"TIP" or "T"**</u> TERMINAL

Remove the **existing wire** from the <u>**"T-1"**</u> TERMINAL

Once the wires are inserted, **close the tabs** one at a time. Ensure the wire is well secured.

Please note the color of the wires and the position in the new connector does not matter only that it was from the TIP and T-1 terminals.

Insert the wires into the second plastic connector we provided in the box.

6. Find an existing hole in the side of the metal box or open one of the pre-punched holes in the metal box and pass the **wire we included with the** *AR-535-Cellular-Router* through the hole so that the **exposed-wire-ends** are on the **inside** of the control-panel-box, and the **connector-end** is on the **outside of the box**.

> The end with the two wires (Red and Green) goes into the alarm control panel.

> The telephone plug end stays on the outside of the control panel and will later be plugged into the Cellular Router.

7. Using the wire we provided you **Insert** the **GREEN-wire-end** into the **"TIP"** or **"T"** terminal **and gently but firmly tighten the terminal strip** by turning the screwdriver **clockwise**. ⟳

8. Using the same wire we provided you in the box connect the **Red-wire-end** into the **"Ring"** or **"R"** terminal and gently but firmly tighten the terminal strip by turning the screwdriver **clockwise**. ⟳

INSERT THE **RED WIRE** INTO THE **"RING" or "R"** TERMINAL

INSERT THE **GREEN WIRE** INTO THE **"TIP" or "T"** TERMINAL
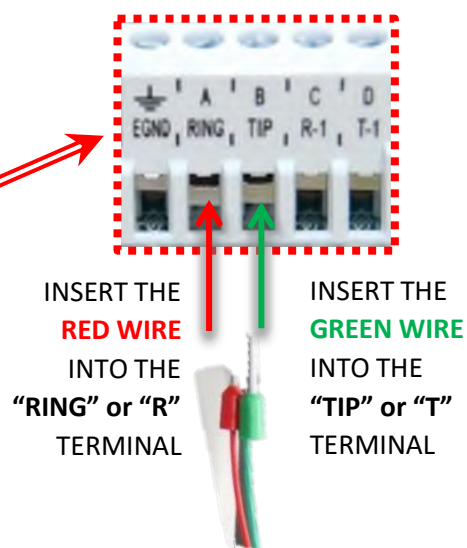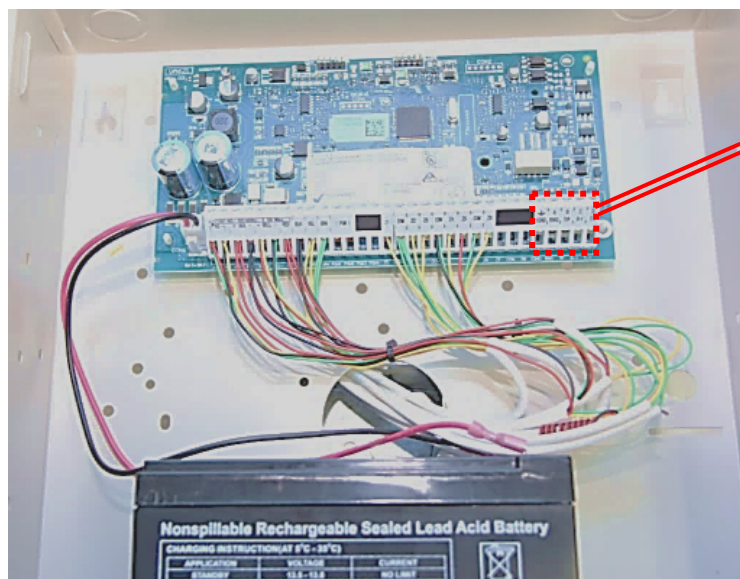
Insert the wire ends from the wire we provided you in the box.

9. **Close the alarm control panel box**. Use your small key to re-lock the control panel box shut.

    If you drilled the lock because you could not find the key you can simply screw the panel closed by inserting small screws into the small holes on the existing metal box's side, or you can buy a replacement cam-lock from the local hardware store for approximately $5-$10 and it is very simple to install (find a video on *youtube™* for instructions, takes approximately 3 minutes to install).

    CAUTION! If you do not properly close your alarm control panel cover and your panel has a tamper switch you may cause future false alarm signals or trouble signals known as a "tamper" signal. Be sure that the panel cover is properly closed and that there are no wires preventing the cover from completely closing on all sides.

10. **Anchor** the *AR-535-Cellular-Router* to the wall within reach of the new cable you just installed in the alarm panel by either screwing the device into a wood surface or by installing drywall anchors into the drywall and then screwing the unit into the anchors, or use a two-sided-foam tape to adhere the device to a clean non-porous surface. Be sure the two sided foam tape is rated to carry the weight of the device and the surfaces are clean to ensure proper adhesion.

11. Plug the telephone type plug from the wire you just installed into the **"Alarm Panel"** jack on your new *AR-535-Cellular-Router*.
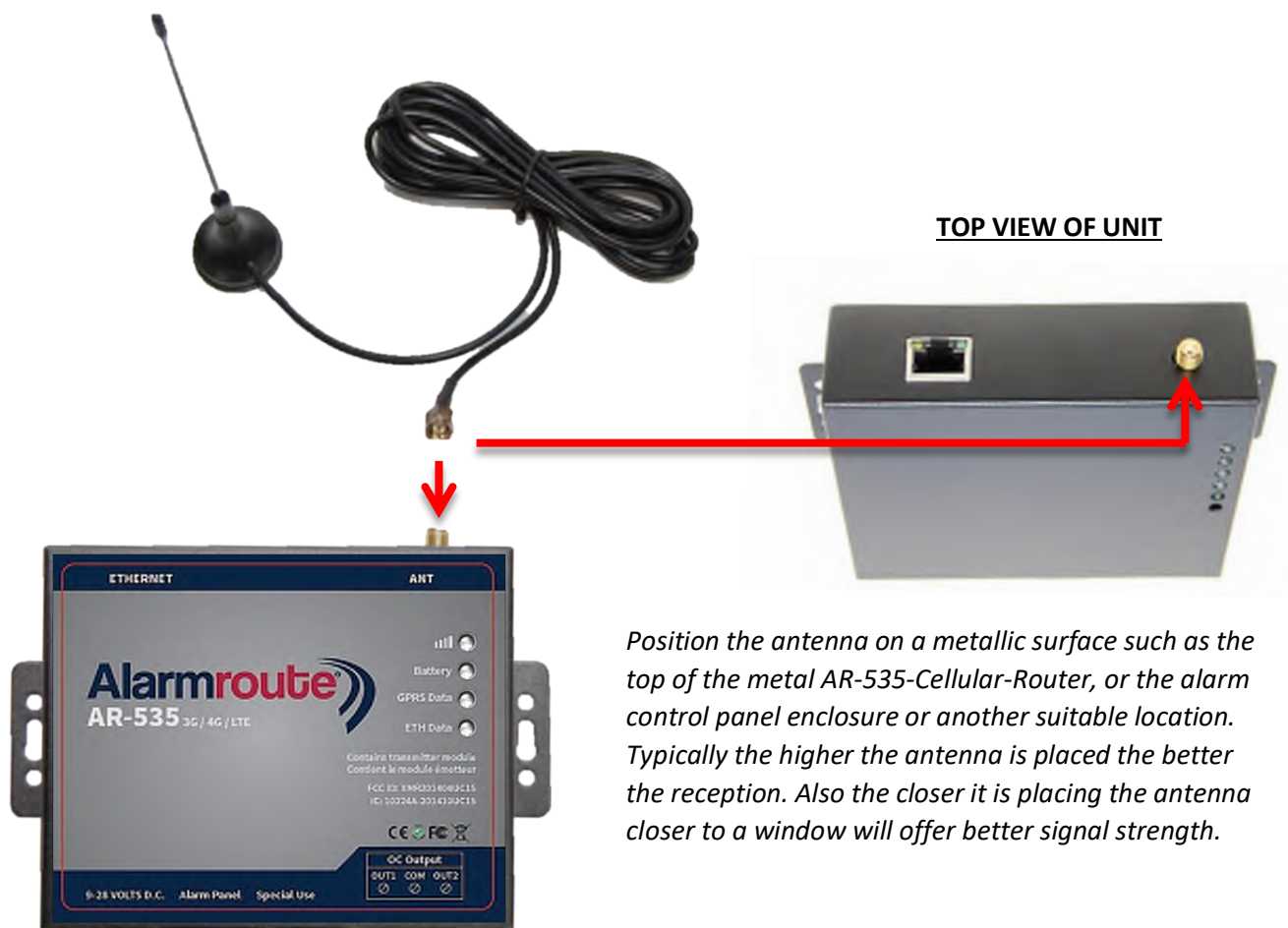

BOTTOM OF UNIT

RJ-11 (Telephone type) plug-end from your alarm panel that you just installed in step 11

12. Screw the antenna onto the magnetic base by turning it clockwise.

13. Screw the antenna-connector to the **Antenna connection port** on the top right of the *AR-535-Cellular-Router* by turning it clockwise. Do not over-tighten.

TOP VIEW OF UNIT

Position the antenna on a metallic surface such as the top of the metal AR-535-Cellular-Router, or the alarm control panel enclosure or another suitable location. Typically the higher the antenna is placed the better the reception. Also the closer it is placing the antenna closer to a window will offer better signal strength.

14. Plug the **AC Power Adaptor** into the bottom left of the *AR-535-Cellular-Router* where the label indicates 9-28 volts D.C.


BOTTOM VIEW OF UNIT
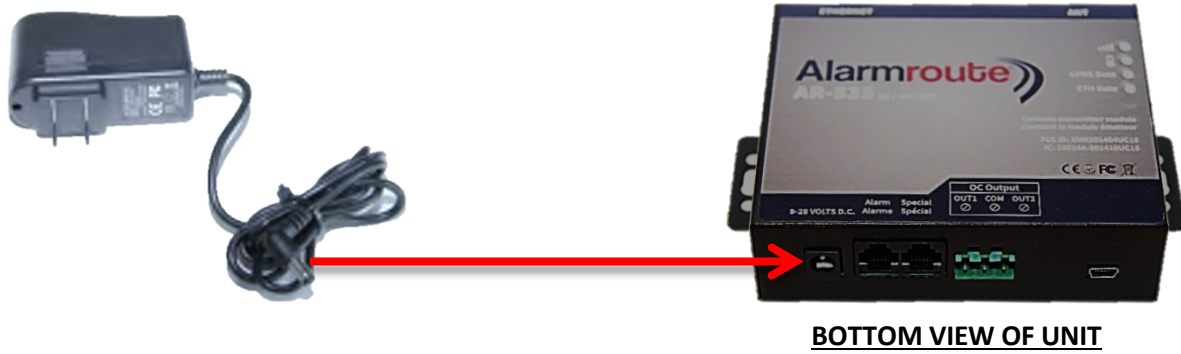
The Advanced Hardware Installation is Now Complete. Proceed to Part 2 -Power-Up to Verify Signal Strength and Power on the following page.

Part 2: Power-Up to Verify Signal Strength and Power

(Approximately 2 Minutes)

Now that the hardware installation is complete and the unit is plugged-in check the LED indicators on the right-hand side of the unit.

- If the LED's have illuminated then the power is connected and the device is on.
- The Battery Symbol should be flashing to indicate that the battery is now charging.
- Please allow the unit to charge for up to 6 hours and then the battery LED will stop flashing.
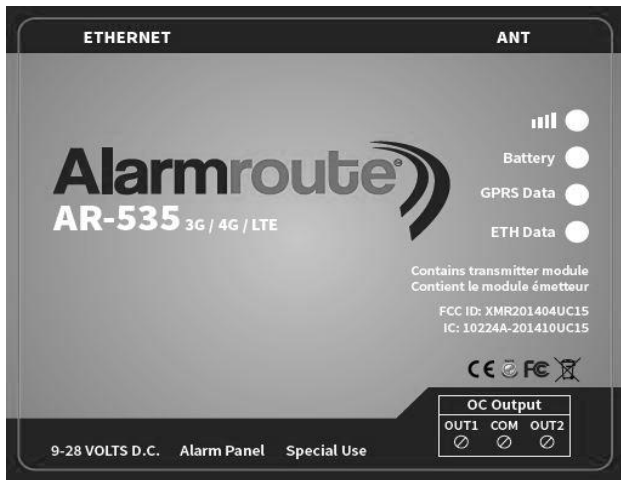
Check the **Cellular Signal Bars** to ensure you have a connection to the local cellular network.

Battery Symbol Flashing means the backup battery is charging. Steady Led indicates the battery is charged.

GPRS Data and **ETH Data** will **only flash** when the alarm panel is actually **communicating** to the central *(i.e. only when there is an alarm or test signal going through)*

[Battery] If the **Battery LED** is not illuminated and is not flashing but the other LED's are on then the unit is running on battery power and is not receiving power from the outlet. If none of the LED's are on then the unit is not plugged in and has no battery available. A steady battery LED indicated the battery is fully charged.

[signal] If the **Cellular GSM Signal LED** is flashing very quickly or not on at all, this indicates poor or no cellular network connection. In this case try re-positioning the antenna to a more suitable location / higher location that will provide better cellular network access.

(**TIP:** If there are metallic heating/AC ducts then the antenna can be attached to the top of the duct at ceiling height)

(**TIP:** Monitoring the signal strength bars on a cellular telephone will offer an accurate idea of where the best reception can be obtained before repositioning the antenna).

The LED Indicator Section at the end of this manual will provide more details and the meaning of all the various intermittent flashing signals the LED's can make.

Please Proceed to Part 3: Activation and Test

Part 3: Activation and Test

a. **Register the SIM # of your new cellular router to your existing client account**

- Write down the SIM # or photograph it from the sticker on the front of the unit and go to the Alarmroute client portal and Activate the AR-535 Device by filling out the form online.

  The SIM # is located in the box highlighted in RED in the photo below:

b. **Complete the entire registration process through our website**, including adding the service address associated with the unit you are activating, making sure the recurring-payment information is up to date, and providing the emergency contact list. If members of your emergency contact list wish to receive text messages in addition to the regular phone call priority calling process, please be sure to activate that option with the associated contacts by checking off the SMS box next to the phone numbers that want to receive SMS notifications.

Please allow up to 2 hours for your account to be activated with the monitoring central during normal business hours. Call 1-855-733-1166 to reach the central monitoring station and confirm the account has been activated.

c. The final step in is to test your alarm system by causing an alarm and wait for the central monitoring station to call the emergency contact number(s) you previously provided during the registration process on our website.

- You should also expect to receive an SMS text message from the central indicating an alarm signal has been received if you have activated this feature on your accounts emergency contact phone numbers.

- Once you receive a call from the central indicate that you have just activated your *AR-535-Cellular-Router* and tell them your phone password or pass-number and ask them to verify that it is correct.

- The password or pass-number for the central monitoring station is the one you provided for each different emergency-contact during the registration process and is not necessarily the same as your account login password.

Congratulations, you are now protected by Alarmroute.

Now that the activation and testing is complete you can rest assured that all components of the system are functioning properly and you have succeeded in the installation.

You can now contact your old alarm provider to formally cancel their service.

Please make a habit of testing your system periodically to ensure everything is working properly.
We will notify you if we stop receiving the automatic periodic test signals from your alarm panel or if your cellular-router goes off-line for an extended period of time. Be sure to keep your credit information up to date on your account to ensure continuous service.

If you are still unsuccessful please initiate a request for refund through our website and we will gladly refund you for your purchase and we apologize for any inconvenience.

Unfortunately we do not offer any additional technical support at this time but check back on our website in the future as we may add this feature.

Additional Hardware Information- Optional Paths of Communication and SIM Card Location

Dual-Path Communication (*Optional*) If you wish to have a primary communication to the central over Ethernet, then plug an **Ethernet Network cable** (Category 5E or Category 6) from the Ethernet port on the TOP of the *AR-535-Cellular-Router* **to your Internet router** or Internet switch and this will automatically enable the unit to have dual-path communication to the central whereby **the primary connection is via the internet** and the **cellular modem** will serve as a backup only used if the internet connection was cut. There is no additional charge for this service and the increased polling frequency of the Ethernet connection adds additional security.
If this is not connected then the unit will simply rely on the cellular link as the primary communication method independent of internet service.

TOP VIEW OF UNIT

Ethernet Port
Plug an Ethernet cable from your Internet Router to provide dual path communication.
(Optional for no additional charge)

BOTTOM VIEW OF UNIT

Terminal Strip For Auxiliary Outputs
For Alarm Dealer Program Only
The green Terminal Strip Included in the box is to provide an Auxiliary output for use in special circumstances through the dealer program only.

POINT OF TELEPHONE SERVICE PASS-THROUGH
For Alarm Dealer Program Only
This port can be connected to the exiting alarm Telco connection if you wanted regular P.O.T.S. connection in addition to the Cellular and Ethernet connections. This Port will dial the existing monitoring stations phone number that is already programmed in the alarm panel. (For Triple-Path Communication / Requires Panel Reprogramming)

UNDERSIDE VIEW OF UNIT

SIM Card
The unit contains a factory installed sim-card. Please note that the unit is locked to the SIM's Card provided with the unit and The SIM Card Number is indicated on the sticker on the front of the unit.

ON / OFF SWITCH
The unit is switched on
From the factory
This can be used to reset the unit if necessary.

PROGRAMMING RESET BUTTON
Do not press the rest button unless Alarmroute informs you to through the troubleshooting guide or by email.

LED Indicators:

Cellular GSM Signal:
- Mainly ON indicates Strong connection.
- Faster flashing indicates no connection. Or unit has not been activated.

Battery:
- Steady LED indicates that the on-board battery is fully charged.
- Flashing LED is an indication that the battery is charging.
- **NO LED is an indication that the AR-535 modem is currently operating on battery power**. Either: the unit is not plugged in; the power outlet is not working; or there is power outage. Power should be supplied as soon as possible so that the unit does not run out of battery power. Once the battery is depleted the unit will no longer be able to communicate until power is restored. The battery can typically last 18 hours or more.

GPRS Data:
- This LED will flash as the router is transmitting packets of Data as received from the control panel and being sent to the central monitoring station. This indicates communication and will only illuminate when the alarm panel is trying to communicate.

Ethernet Data:
- This LED will flash as the router is transmitting packets of Data ONLY if the Alarmroute AR-535 is using the Ethernet connection, and has been connected to an Internet enabled router. This is used when the customer wishes to have two communication paths to the central monitoring station.
NOTE: When the Ethernet is connected, it becomes the primary communication path. Upon its failure or disconnection, the Cellular 3G/4G/LTE on board modem will be the backup communication to the central monitoring station and will automatically be used by the *AR-535-Cellular-Router.*

AUX Output 1 & 2:
- These terminals are for auxiliary relay outputs and are for qualified installers only.

Mini USB Connector: is used for factory set up and re-programming. There are no additional features provided by this connection point, and therefore should not be used.

Legal Terms and Conditions

Please verify our website for the most up-to date terms and conditions as these may change over time. Clients will be notified of changes via email.

The Client may cancel service at any time for the next billing period. Previously paid service for the current month or year will not be refunded. Defective units will be refunded within the first 90 days for a full refund of the hardware cost including shipping costs (via our carrier).

Monitoring service will not be refunded but the hardware will be replaced.
After the first 90 day period, defective units may be replaced at our discretion.

The client is responsible for providing accurate location address information upon registration, and providing all necessary information necessary for the emergency first responders.

The client is responsible for maintaining an accurate and up-to-date contact list for the central monitoring station to use. Changes to the emergency contact list can be made from our website.

The client is responsible for maintaining valid credit card information to ensure monthly payments are processed and service is continual.

Failure to provide payment before the service period starts will automatically suspend the clients account and service will not be rendered. Payment for the next billing cycle will be charged 1 week before the next billing cycle. If payment is not received 1 week before the billing cycle service cannot be guaranteed.

Service is only available where reliable cell tower reception is available. Please check the area with a cellular telephone operating on the 3G 4G or LTE bands before ordering the hardware for use in that location.

Data use is limited to an average of 12 transmissions per day, whether the transmission is a: test transmission; trouble transmission; or alarm transmission. The average alarm panel only sends a test signal 1 time per week. Clients will NOT BE CHARGED for data overage; however service can be suspended by Alarmroute if the maximum data threshold of 1MB per month is reached. As a courtesy we will attempt to contact the client before the data threshold is met so they can take action and purchase more data. It is highly unlikely data usage will ever be an issue for the average client.

The client must own their own equipment; if equipment is leased or does not belong to the client Alarmroute is not responsible for any potential recourse by the owner of alarm equipment.

Alarmroute is not responsible for the cost of dispatching emergency services including police, fire or ambulatory emergency services due to false alarms or improperly installed alarm equipment. The owner of the property shall remain liable for all these costs.

The Alarmroute cellular router modem's electrical transformer is UL and C-UL certified as a low-voltage electrical device. The Alarmroute cellular router modem is not UL certified for use as burglary or fire alarm communicator and therefore shall not be used for these functions if required by law (for commercial or other applications where UL Certification may be required by law).

Alarmroute is not responsible for network interruptions caused by the local cellular network. Alarmroute is not responsible for malfunctions with the clients existing alarm equipment. Alarmroute is not responsible for equipment damage caused by electrical storms or any force majeure.

Alarmroute will receive automatic communication test signals from the system and if there is an error the client will be notified, but this is not a substitute for periodic alarm testing, whereby the client calls Alarmroute central to put the system in test, and then proceeds to cause an alarm and then verify that the central received the proper alarm signals per the tested areas/ zones.

Regular testing and service for all alarm equipment is highly recommended and should be conducted 3 to 4 times per year to ensure proper functioning of all systems.

Alarmroute is not responsible for property damage or personal damage that may be due to the use of our hardware or service or failures thereof.

Alarmroute is not responsible for any installation costs, or any repair costs regardless of the reason, nor is Alarmroute responsible for any damages caused by installation. The installer must use their own discretion to ensure a proper installation that does not damage any existing equipment or architectural finishes etc.

Alarmroute is not responsible for any medical conditions that could be the result of the cellular radiation caused by the communication of the device (similar to the radiation caused by any cellular telephones being used in proximity to humans).

Alarmroute is not responsible for any injuries or death caused during the installation of the product or by the use of our products or services.