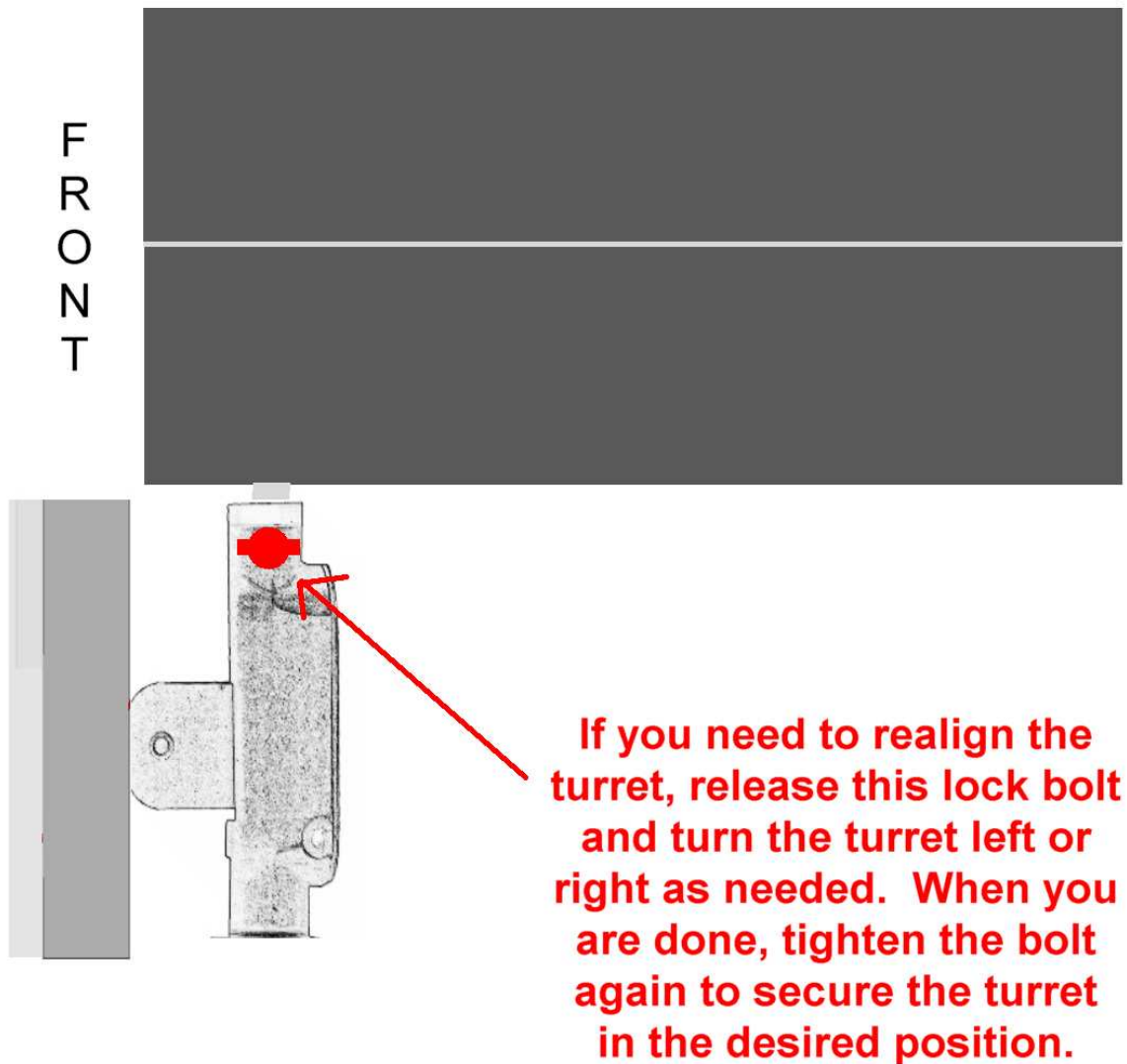


DO NOT MANUALLY TURN THE TURRET!

When the GORT unit is packed for shipment the turret is turned to face the side. **It will automatically realign and center itself when it is powered up for the first time.**



Installation Manual Supplement

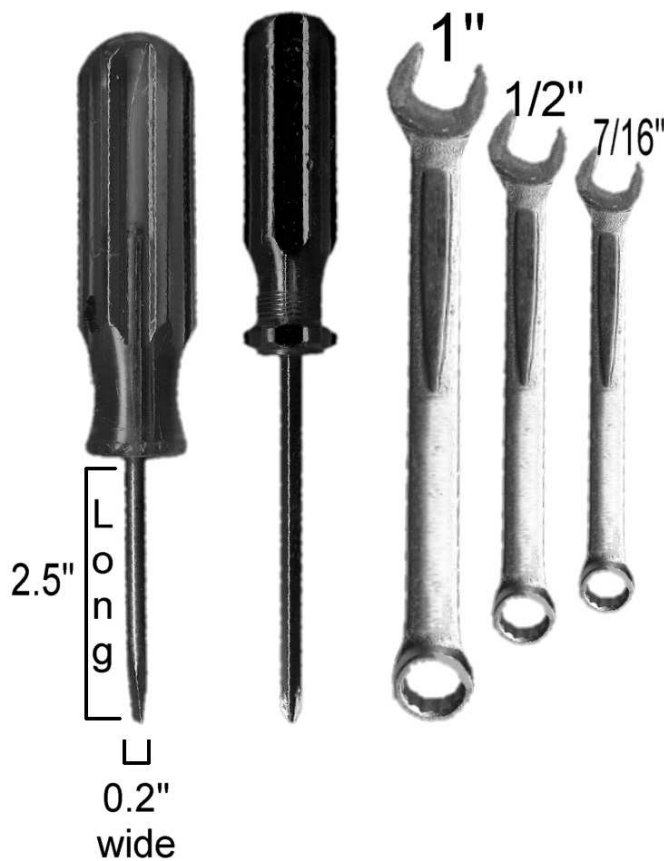
GETTING STARTED

Protected Under US Patent Laws
US Patent Number 7327253

Cross Point – Ground Observing Reconnaissance Transmitter (GORT)
Installation Manual Supplement Rev. 9.5
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Tools Needed To Install The GORT E5JR Ground Observing Reconnaissance Transmitter

Some basic hand tools will be required to install the GORT unit. While an adjustable crescent wrench will generally suffice for the three different sized crescent wrenches shown below, using the fixed size wrenches is always preferable.



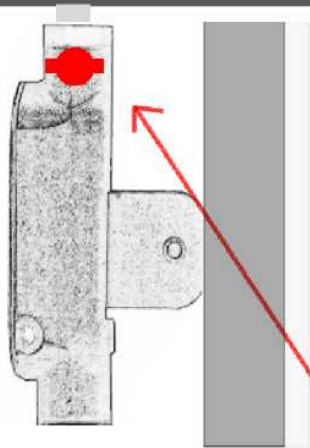
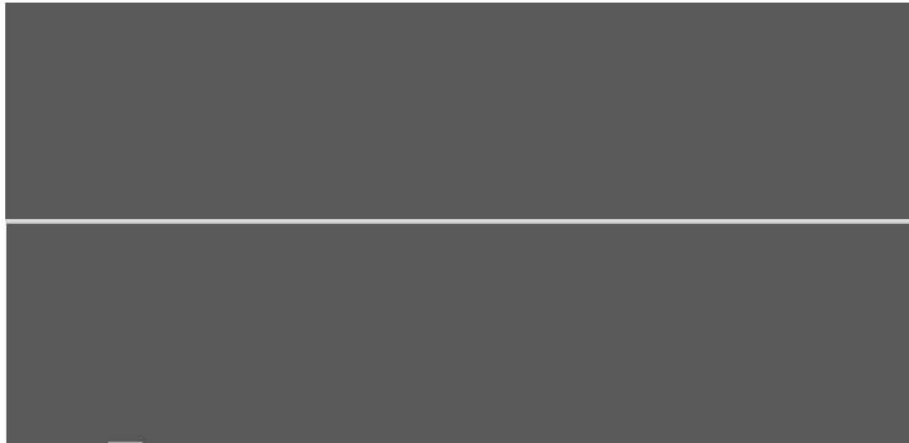
The FLATHEAD screwdriver will be needed to remove and reinstall the six (6) machine screws that secure the cover to the housing. The screwdriver blade will have to be at least 2.5" long and no wider than .2" (2/10"). The flathead screws are used to increase the available torque that you can apply to those screws if necessary. Generally you should not over-tighten the screws; but if they should become over-tightened the flathead screw will allow you to release the screw.

The 1" & the 1/2" crescent wrenches will both be used to attach and adjust the CCTV camera mount. The 7/16" crescent wrench will be used to secure the GORT to its mounting bracket and to adjust the LED array angle if needed.

Unpacking & Setup

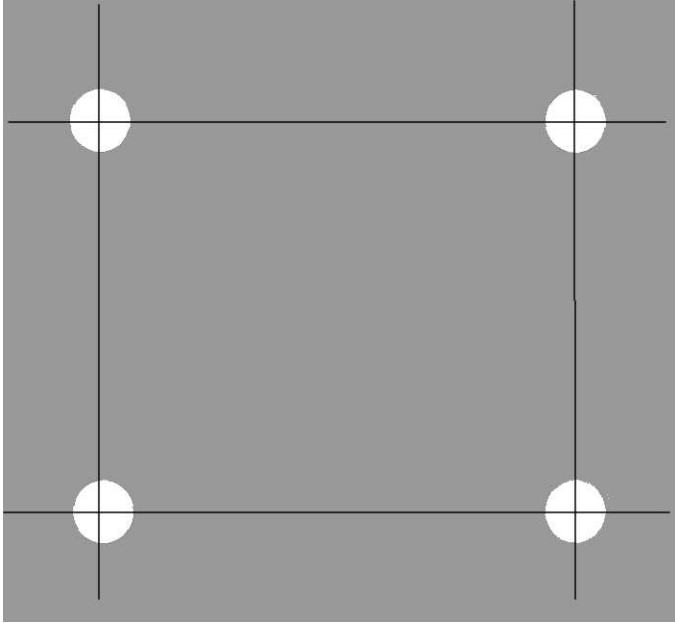
When the GORT unit is packed for shipment the turret is turned to face the side. **It will automatically realign and center itself when it is powered up for the first time.** The turret may need to be realigned again when you complete the installation. To do this, simply unscrew the locking bolt a little and rotate to the desired position. Once you are satisfied with the angle of the turret, secure the turret in place by once again tightening the locking bolt.

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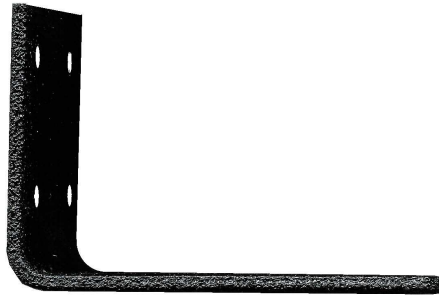


If you need to realign the turret, release this lock bolt and turn the turret left or right as needed. When you are done, tighten the bolt again to secure the turret in the desired position.

**GORT UNIT
MOUNTING BRACKET
INSTALLATION TEMPLATE**



Attaching the Mounting Bracket



Mounting Bracket can be attached facing either up or down as dictated by the situation or environment



After attaching the mounting bracket mount the main housing to the bracket by slipping the bolts through slots on the bracket



Secure the bolts to the bracket with the included 7/16" hex nuts

Assembling the CCTV mount and running the Video Cables

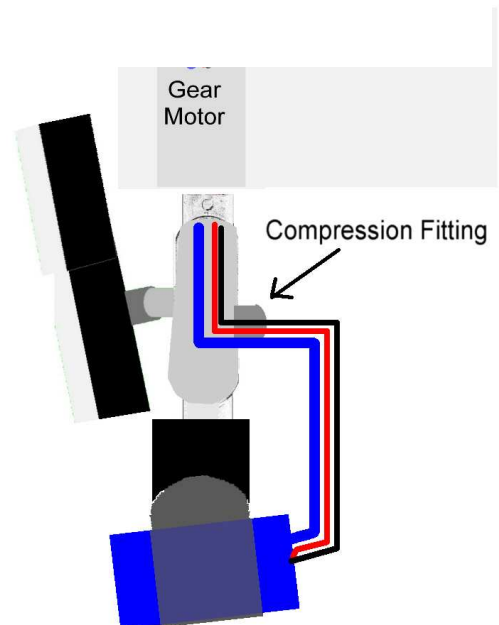
The actual CCTV camera mount comes in two pieces; which are preassembled before being shipped. However the mount is not attached to the turret when it is shipped.

The CCTV camera mount is attached to the turret via a single bolt that comes with a locking nut to secure it firmly in place.

It is generally better to attach the camera mount to the turret before mounting GORT unit. However this can be assembled after the GORT has already been mounted if that is preferable to the installer.

To install the CCTV camera, attach the camera to the lower mount and feed the video cables into the turret through the compression fitting located on the rear of the turret. Then feed the wires up through the rotating conduit inside the gearmotor assembly. It is recommended that you add some silicone to the compression fitting where the wires enter to better seal water out.

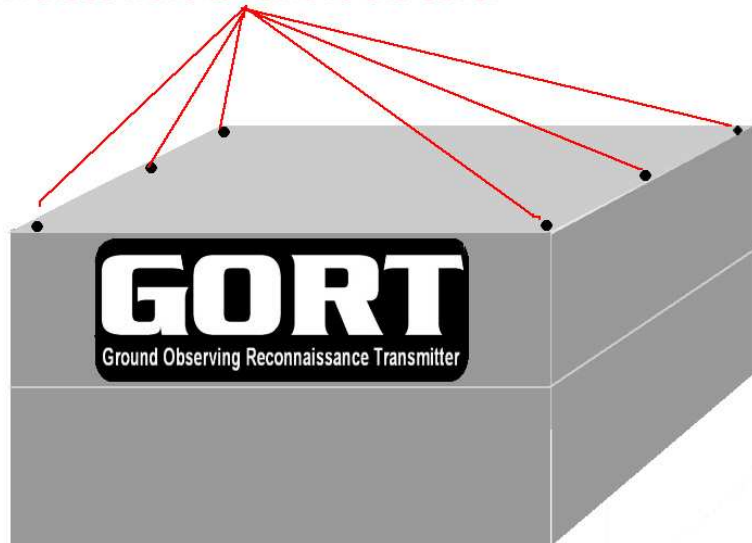
The CCTV Camera mount attaches to the Turret by inserting it into the threaded hole at the base of the Turret and tightening it until it is secured in place



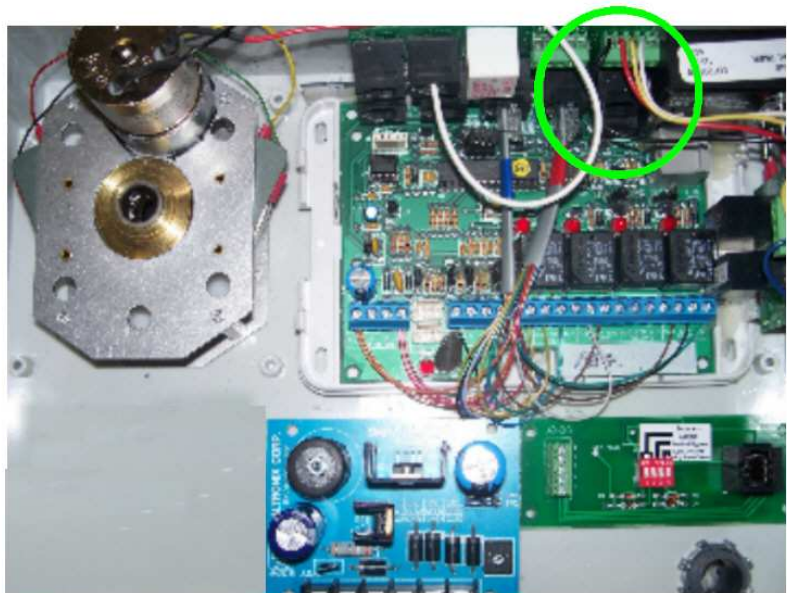
Run the video signal and camera power wires into the turret through the cable compression fitting on the rear of the turret cover plate as shown above. It is suggested that you add some silicone sealant to the opening of the compression fitting when you have completed the camera installation. This will better seal the turret from water.

Removing the Housing Cover

Remove the 6 flathead machine screws
in these wells to remove the cover

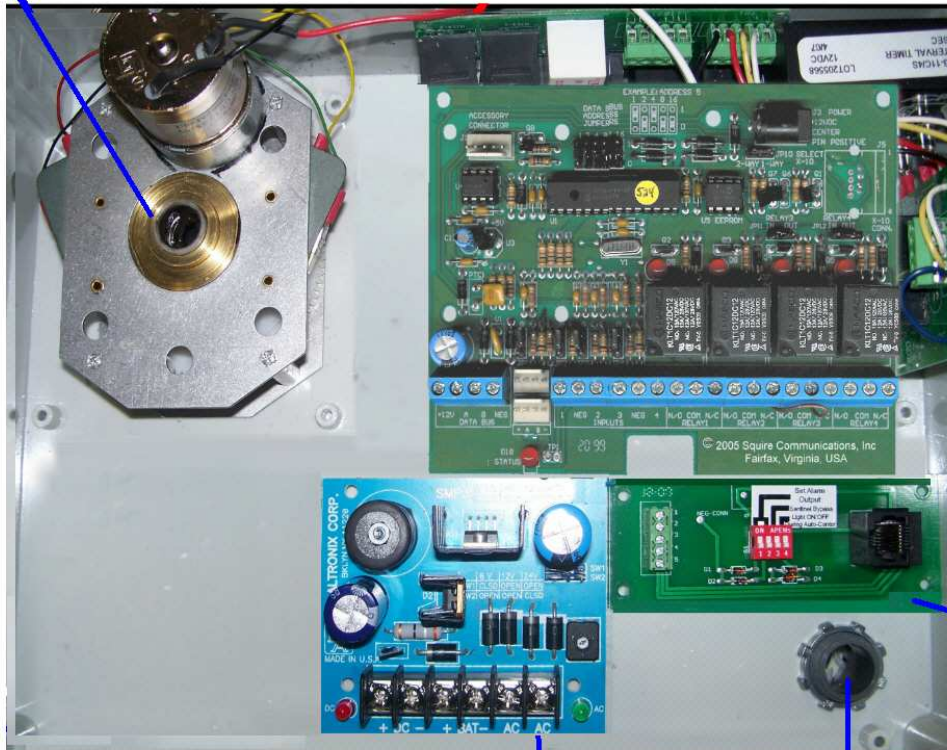


Once the cover has been separated, you can completely remove it from the unit by unplugging the RJ45 cable that connects the receiver to the interface card. This will be the first RJ45 jack to the right (back of the unit) and is shown here inside the green circle. Be sure to reconnect the receiver to the interface when you have completed your wire & cable hookup



Major Features Inside the Component Housing

Rotating Center Conduit
for Coaxial & Power Cables
to the Camera Turret



Compression Fitting
for power, coaxial
and aux cables

Power Supply
24vac Input
12vdc Output

Function Options Dipswitches

Programming the Sensors

When you open up the cover to the component housing you will find the RF receiver for the PIR sensor transmitters attached to the inside roof of the cover. On the front of the receiver you will see a unit serial number. This number addresses several pertinent bits of information.

The first four digits are the model number of the unit. This will usually be either BDCL or E5JR. The two models are essentially the same with the E5JR having an upgraded and heavier duty drivetrain. The next three digits refer to the unit's serial number. These first seven digits should always be referenced when corresponding with the manufacturer regarding any tech support.

The next six numbers refer to the sensor programming code. They will be either 1 or 0 (one or zero) and reference the position of the dipswitches in the sensor. A 1 (one) means the switch is ON and a 0 (zero) means the switch is OFF.

If you look inside the sensor you will see a total of eight dipswitches. The six numbers in the unit serial number refer to the last six dipswitches inside the sensor (dipswitches 3-8). The first two dipswitches always identify the zone while the last six dipswitches refer to the GORT unit to which the sensor is assigned.

FOR EXAMPLE ...

If the six numbers are 001011 (shown below as 001011) this means that the last six dipswitches in the sensor should set as follows:

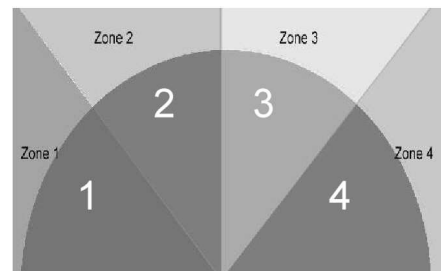
- Switch 1 Refers to the zone as described below
- Switch 2 Refers to the zone as described below
- Switch 3 **OFF**
- Switch 4 **OFF**
- Switch 5 **ON**
- Switch 6 **OFF**
- Switch 7 **ON**
- Switch 8 **ON**

All of the sensors reporting to a single GORT unit should ALL have the last six dipswitches programmed alike.

Zone Programming

Dipswitches 1 & 2 will determine the zone to which it will prompt the GORT to respond.

Switch 1	Switch 2	Sensor is Assigned to
ON	OFF	Zone 1
ON	ON	Zone 2
OFF	ON	Zone 3
OFF	OFF	Zone 4



Technical Support:

The Ground Observing Reconnaissance Transmitter (GORT) and its corresponding peripheral devices have been designed to provide a long, trouble free life of service. However, if in the unlikely event you do experience some kind of technical problem, please call the technical support center number.

Technical Support Center: 1-540-434-4085.

The Tech Support Center is open between 9AM and 5PM (Eastern Time) Monday through Friday except Holidays. If you require tech support at other times (such as during a scheduled installation) you can call the tech support center in advance to make an appointment. Every effort will be made to accommodate special needs.

Should you ever require tech support, please have the serial number of the unit available.

Warranty:

Cross Point Industries, Inc. warrants to the purchaser that this product shall be free from defects in materials or workmanship for a period of one year from original purchase date. Proof of purchase is required. Please retain your receipt.

During the warranty period, if this product is found to be defective under normal use and service, Cross Point Industries, Inc. shall, at its option repair or replace it with a new or reconditioned product.

This warranty does not cover defects resulting from accidents, abuse, misuse or unauthorized service. This warranty gives you specific rights. You may have other legal rights which vary from state to state.

To obtain warranty service return the product, along with the original receipt, in the original packaging with shipping prepaid to: Cross Point Industries Inc. Cross Point Industries reserves the right to replace any discontinued product with one of equal value.

Installation & Setup Manual

Cross Point

I N D U S T R I E S

Ground Observing
Reconnaissance Transmitter

Protected Under US Patent Laws
US Patent Number 7327253

Overview of the Ground Observing Reconnaissance Transmitter (GORT)

GORT is designed to stop criminal or otherwise undesirable activity with capability to watch and record it.

GORT's robotic response will react immediately to movement in a secured zone to deter intruders. GORT's high intensity light and action pattern will cause an intruder's hasty retreat from the protected area. Because of this, in most cases, no further action by local or off-site monitoring personnel is required.

GORT systems are easy to install and are designed primarily for exterior environments. **Please read this entire installation manual completely before you commence the installation**



Field Installation of the Ground Observing Reconnaissance Transmitter (GORT)

Mounting the Unit:

The Ground Observing Reconnaissance Transmitter (GORT) is designed to be mounted **ONLY** with the turret, camera and LED array light beneath the unit and the control components on top. Mounting the unit with the turret on top will allow water to enter through drainage holes in the housing. In addition, inverted mounting system will increase the possibility that ice buildup could encumber the normal action of the turret.

The GORT unit is equipped with a universal mount that will allow the installer to use either bolts or band clamps to secure it to a pole or building. If you are using band clamps, make sure to use stainless steel "T-Bolt" clamps and not worm-gear bands commonly known as hose clamps. A picture of a proper stainless steel band clamp is shown on the right. Use at least two (2) band clamps. Attach one clamp high on the mounting bracket and attach the other clamp low for maximum stability. Please read the attached Installation Supplement Manual for additional details regarding the setting-up the GORT unit



Power Hookup:

The Ground Observing Reconnaissance Transmitter (GORT) is designed to operate off an input of **24vac or 12vdc**. Without the additional load of any CCTV cameras or other peripherals, the GORT unit draws a maximum of **1.5 Amps of 12vdc** power. Power leads are located inside the power hookup box. You will see that there is a compression fitting located on the underside of the main housing. This is for power, video and any auxiliary cables. **If you are using a standard, 24vac, 40VA (40 watt) transformer as your 24vac power input, the maximum available auxiliary 12vdc power for CCTV cameras or other devices is 1 amp. Do not exceed this amperage draw or the unit and the CCTV camera may be damaged. If your AC power input is less than 40VA, the available auxiliary power will be reduced.**

All hookup connections are located inside the main housing. When you open the housing you will see the power supply (as pictured here on the right).

Connect your 24vac power input to the terminal positions labeled "**AC**".



If you are powering the GORT unit with DC power, connect your 12vdc input to the terminal positions labeled "**+ DC -**". If you are using 12vdc to power your GORT unit, do not forget to allow for any excess DC voltage draw that might be needed for CCTV cameras or other devices.

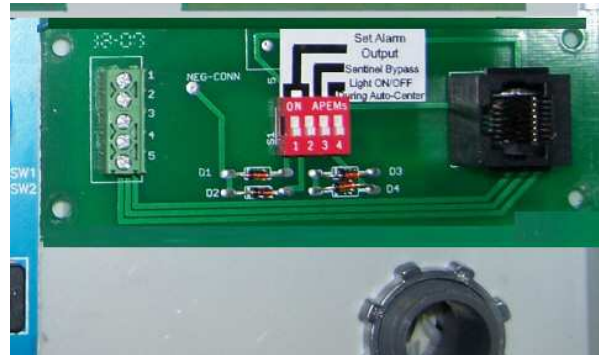
The Ground Observing Reconnaissance Transmitter (GORT) can function completely when operating off of backup battery power; if the use of a battery backup is desirable. Attach your battery to the terminals labeled "**+ BAT -**". Remember, the GORT operates off of a maximum of 1.5 amps of 12vdc power. Use this number when selecting the size of the battery to be installed.

Auxiliary Connections

Inside the component housing you will also find the hookup points for CCTV power, alarm outputs and auxiliary inputs.

Setting Up the Function Options:

There are four dipswitches on an auxiliary card inside the main housing near the cable compression fitting. These control three functions.



- **Switches 1 & 2 - Alarm Output;** Using switches 1 & 2 you can set the criteria for how much activity is required before an alarm output is triggered. The number of “hits” in a set time frame will determine when the alarm output is triggered.
- **Switch 3 - Sentinel Moves While Inactive;** During periods of inactivity, the GORT Model E5JR can be set to make a series of small “Sentinel Moves” that cause the unit to slowly rotate from far left to far right as if it were scanning for activity. If switch 3 is ON, these Sentinel Moves will take place. If switch 3 is OFF, the Sentinel function will be disabled.
- **Switch 4 – LED Array Light ON or OFF during Auto-center & Strobe;** Every 30 minutes (except during times of activity) the Model E5JR will automatically make a series of moves to the right and to the left; and ultimately to center right. These moves are designed to give the impression that a guard has manually made a search of the area. If switch 4 is turned ON, the light will turn ON during the auto-center exercises. If switch 4 is turned OFF, the light will remain OFF during auto-center. In addition, the LED array is designed to provide a brief “strobe” effect when a target has been identified. If Switch #4 is OFF, this strobe effect will not take place.

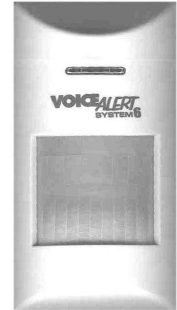
SW1	SW2	SW3	SW4	Result
OFF	OFF			Alarm Output every: 5, 10, 15, 20 and 25 hits (max of 5 calls made during an event at this time)
ON	OFF			Alarm Output every: 10, 20, 30, 40 and 50 hits (max of 5 calls made during an event at this time)
OFF	ON			Alarm Output every: 20, 40, 60, 80 and 100 hits (max of 5 calls made during an event at this time)
ON	ON			Alarm Output every: 30, 60, 90, 120 and 150 hits (max of 5 calls made during an event at this time)
		OFF		No Sentinel Moves when GORT is inactive
		ON		Sentinel Moves when GORT is inactive are engaged
			OFF	Spotlight <u>IS NOT</u> TURNED ON during periodic auto-center moves & Strobe is OFF
			ON	Spotlight <u>IS</u> TURNED ON during periodic auto-center moves & strobe is ON

Installation of Remote Sensor/Transmitters

The VA6000T is a (PIR) Passive Infra-Red personnel sensor with a built in wireless radio transmitter designed for outdoor or indoor use.

Physical Mounting of the Sensors:

If a sensor/transmitter sends an input it is only because something moved. **However**, these are Passive Infrared sensors that react and respond to moving heat. This means that they will also react and respond to neutral objects that move in front of a heated background; such as tree branches moving in front of most any background. In addition, vehicles frequently contain a much greater heat signature than people and as such they can often be detected at ranges far beyond the normal “read range” of the sensor. Be aware of neighboring roads and driveways when mounting and aligning sensors. Do not mount a sensor to any surface that can move or that will be interfered with by surrounding shrubbery.



At nighttime, the ambient heat absorbed into the ground and in any buildings or objects will quickly dissipate and no longer represent any source of non-animal activity inputs. At nighttime, if a sensor goes “hot” it will absolutely be either be a person, large animal or vehicle.

The sensor/transmitters can be attached to or mounted on any solid stationary object. The most common mounting surfaces are buildings and light or utility poles. Do not forget this; do not mount a sensor to any surface that can move or that will be interfered with by surrounding shrubbery.

There is a **moisture drainage hole** in the bottom of the sensor housing that will allow any moisture to drain out. **If** you mount a sensor in an area frequented by insects, it is recommended that you fill that drain hole with silicone or other similar compound. While moisture buildup is very unlikely, insects will absolutely move in and set-up housekeeping and will pose a greater threat than the potential moisture issue. This will result in false alarm inputs as the insects move about inside the sensor.

Targeting Vehicles

If you want to specifically target vehicles you must remember that they too absorb ambient heat and cold and will often be at or near the same temperature as the background. The best way to be sure to detect a vehicle is to aim the sensor so that it will target either the vehicle’s exhaust (best way) or its radiator. The radiator will be detected equally well as the exhaust, but only after the vehicle has had the chance to warm up.

Mounting Heights:

Sensor/Transmitters should be mounted at a height of between 7½ feet and 8½ feet above the target zone.

Run some tests before you install:

It is recommended to setup a test layout before you actually install any equipment. Using any available pole or a tripod you can set GORT in the desired area and

temporarily connect it to any available 24vac power source. For purposes of your testing, temporarily mount sensors using conventional tie-wraps or screws. Connect a CCTV monitor to the video output and walk the zone to determine how many and where sensors should be installed.

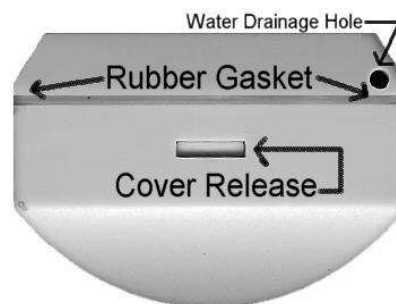
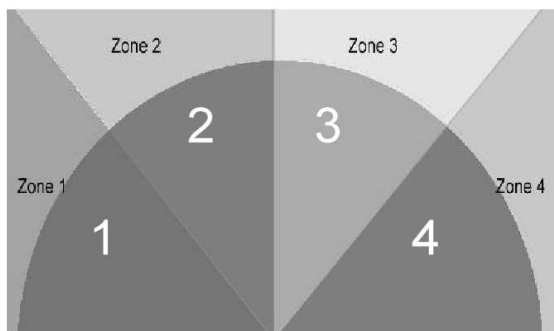
Adding Sensors to the Protection Zone

The Ground Observing Reconnaissance Transmitter (GORT) is designed to protect an area that covers a 180 degree field of view. This diagram shows an overview of how the four different zones are laid out. Sensors are rated to transmit as far as 1,000 unobstructed feet and GORT can be effective at that range. The more background noise and lights and activity that are resident to an area, the smaller the zones will have to be in order to achieve the desired deterrent objective. The goal is to cause an intruder to know that GORT has detected them.

The dipswitch settings for the various sensor zones have been preprogrammed into the RF receiver at the factory. **These settings will be identified in the attached Sensor Dipswitch Settings Chart** as well as being included in the serial number of each individual unit. (See page 10 of this manual) Sensors can be added to any zone by matching the dipswitches settings assigned to that zone. No additional programming of the receiver should be required. (See page 9 for additional information regarding sensor programming).

Dipswitches 1 & 2 will determine the zone to which it will prompt the GORT to respond.

Switch 1	Switch 2	Sensor is Assigned to
ON	OFF	Zone 1
ON	ON	Zone 2
OFF	ON	Zone 3
OFF	OFF	Zone 4



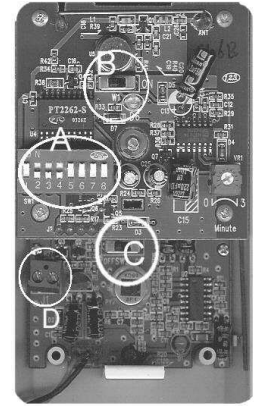
To open the sensor

The sensor cover is easily removed by inserting a small tool into the cover release. The rubber gasket is important to keep moisture out of the sensor. Make sure that this gasket remains in position when the cover is replaced.

Inside each sensor transmitter there are eight (8) dipswitches. (See area "A" in the following picture). There is a Sensor Dipswitch Setting Chart contained inside the same envelope as this manual. This chart will show you how the dipswitches for each sensor and for each zone are set. All sensors assigned to the same GORT unit will all have the last six digits set the same. The first two dipswitches control the zone to which each sensor is assigned. **All sensors assigned to the same zone and same GORT must all have their dipswitches set the same.**

Sensor Features

- A. **Programming Dipswitches**. All sensors within a single zone need to be set to the same dipswitch settings.
- B. **Sensor LED Switch**. This switch turns the sensor LED ON for testing and OFF for operation. It is important to turn this LED switch OFF for normal operation as this will conserve battery life and not draw attention to the location of sensors
- C. **IR Sensor Cut-Off Switch**. With this switch turned OFF, the PIR sensor will not function but the radio transmitter will remain available for use with external triggering equipment if desired. This switch should be in the ON position for the PIR to function.
- D. **RF Transmitter – External Trigger Terminals**



Using Sensors as Wireless Transmitters. To use the sensor as a wireless transmitter, connect any N/O alarm output or switch to these two terminals (**D**). This can be used with any common detection device such as a contact switch, push button or even an alternative form of personnel sensor.

Tech Tips:

- **Use the Sensor Chart**: When programming the sensors to a receiver, keep a chart of field sensor dipswitch settings for future reference. A sample chart is included in this manual. This will simplify any future programming that may someday be required.
- **Keep Detailed Information About Sensor Locations**: On the Sensor Chart there is a place to record information about the location of each sensor. Installing sensors in an exterior environment has certain unique aspects. Sensors mounted today may become blocked or interfered with by future growth of trees or bushes or even damaged by the discharge from power mowers. **The information that you record and save about the installation may prove invaluable in the future; so provide yourself as much detail as possible.** You will be doing yourself and your clients a favor if you can easily identify and locate sensor locations.
- **Seal Cable Compression Fittings With Silicone**: The compression fittings are large enough to allow terminated video cables to pass through them. Tighten the fitting completely. However to ensure a watertight fit, seal the opening with a silicone sealant after you have run video, power and any other cables into the housing through a compression fitting.

Tips for Sensor Mounting

- Avoid mounting a sensor where it will, at some point in the day, be looking directly into the sun. If possible mount the sensors so that they face either north or south. UV filtering lenses are available and these will help mitigate the impact of direct sunlight
- Avoid aiming at anything that can or does move as a result of wind or other force, for example tree branches, leaves, flags or signs.
- The sensors can only “see” what’s in front of them; hills, dips and other topographical barricades generally require the use of multiple sensors to achieve the desired protection pattern. You can program an unlimited number of sensors to the same zone to achieve a customized protection pattern that exactly fits the area you need to cover.
- Animals tend to follow specific trails or paths on a repeated basis. Look for signs of large animal trails and take whatever measures are available to keep sensors aimed away from these areas.

- Make sure that sensors from neighboring zones do not cross over and interfere with the designed operation of the system. GORT is designed to react to multiple subjects in multiple zones; however if more than one set of sensors in neighboring zones can detect a single individual at the same time it will result in GORT thinking that it is seeing multiple subjects when in fact only one such target subject is present.

Sensor Batteries:

- The sensors have been shipped with temporary batteries only. These can be used for setup and testing but **should not** be retained for field operation. The remote field sensors are designed to use standard 9v batteries. **Long life lithium batteries** will perform best as they will deliver one year of uninterrupted service. It is wise to change all of the batteries in all of the sensors whenever any battery at an installation runs low of power.

The RF Signal Receiver

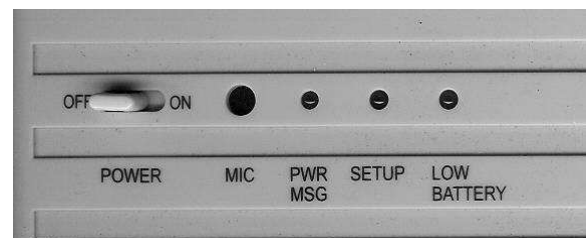
The receivers are sent from the factory with the sensors and all relevant settings preprogrammed. In most cases no additional programming will ever be required in the field. This information is provided to allow the receiver to be re-programmed in the unlikely event this should ever become necessary.

The receiver is located inside the main housing, and mounted to the top of the unit. When you open the main housing you will also be removing the receiver. It is tethered to the controller via an 8 conductor, RJ-45 cable. If you need to ever completely remove the receiver, this can easily be done by unplugging the RJ-45 cable from the controller. However, if you need to use any of the receiver's functions, you will have to keep it plugged in.

It is important to become familiar with the programming features on the receiver.

When in the operational mode, the LED labeled PWR MSG should be blinking.

On the front of the receiver unit you will see a series of controls. In normal operation the slide switch should be in the “**RUN**” position; which is all the way to the right.



Programming the RF Receiver

If it is necessary to reprogram sensors on the system, follow the directions below;

1. MAKE CERTAIN THAT ONLY THE SENSOR YOU ARE PROGRAMMING IS ACTIVATED. COVER ALL OTHER SENSORS WITHIN RANGE TO AVOID PROGRAMMING THE WRONG SENSOR.
2. Slide the switch on the receiver, located in the component housing from “**RUN**” to “**PROGRAM**”.
3. LED 3 (low battery) will change from blinking to solid ON.
4. Activate the sensor you are programming.

5. After you have activated the sensor the LED labeled LED 2 will turn ON and remain ON.
6. Press a zone button (1-4) for the desired zone that you are programming. Zones 5 & 6 are audio announcement zones only and will not prompt any reaction from GORT.
7. After you push the desired zone (1-4) the LED 2 will turn OFF. This will indicate that the programming of the zone is successful.
8. When you are through with these programming steps return the slide switch to the "RUN" position. This will result in LED 1 returning to its blinking, or normal mode.

Re-secure the cover to the component chamber. Tighten all of the screws so that they all maintain approximately the same torque pressure; but take care not over-tighten the machine screws.

GORT Unit Serial Number

It is very important that you write down and save the serial number of each GORT unit. This number is unique to each unit and contains information that will be very handy during setup and any potential future maintenance.

The serial number of each Ground Observing Reconnaissance Transmitter (GORT) is displayed in two places.

- Inside the Main Housing, on the face of the gearmotor frame.
- On the outside of the turret, on the side of the cable conduit. This label can be removed during installation if you prefer.

Every individual component type and software version is recorded by the factory during the manufacturing process and will be recoverable with that serial number.

The serial number reflects four different pieces of information:

1. The first four digits are the model number of the unit. This will usually be either BDCL or E5JR. The two models are essentially the same with the E5JR having an upgraded and heavier duty drivetrain.
2. The next three digits are the hexadecimal serial number of the unit.
3. The remaining six digits are the factory programmed RF receiver settings. They will be a series of ones and zeros. The one (1) represents a closed switch and the zero (0) represents an open switch. These last six digits will tell you how to set the dipswitches for the individual zones to which sensors will be assigned.

Should you ever require tech support, please have the serial number of the unit available.

Technical Support:

The GORT Model BDC and its corresponding peripheral devices have been designed to provide a long, trouble free life of service. However, if in the unlikely event you do experience some kind of technical problem, please call the technical support center number. **Technical Support Center: 1-540-434-4085.**

