

Public Safety Communications Vehicle Operations Manual

Cupertino 469
Cupertino Office of Emergency Service

15 February 2018



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Notes

1 Contact Information

Fire, Ambulance, other Emergency (9-1-1 alternate)	408-299-3233
Cupertino Service Center	
Main Office	408-777-3170
After hours, non-emergency	408-299-2311
After hours, Emergency	408-299-2507
Cupertino City Office	408-777-3200
Citizens Corp Coordinator	408-215-8459
CARES Emergency Coordinator	408-839-8798
CARES AEC, Training	408-533-2517
CARES AEC, Membership	408-813-4168
CARES AEC, PSC Vehicle Manager.....	408-761-3647
Santa Clara County Radio Room	408-808-7887

2 Operating Frequencies

CARES Frequencies

CH 1, TAC 1 (Resource Net)	147.570	Simplex, PL=151.4 , TX
CH 2, TAC 2 (Message Net)	146.460	Simplex, PL=151.4 , TX
CH 3, TAC 3 (Command)	440.150 +	PL=100.0 W6TDM
CH 4, Assignment Pending	441.000	Simplex, CT/TSQ
CH 5, TAC 5 (Tactical)	147.585	Simplex, PL=151.4, T
CH 6, TAC 1 (Resource Net)	147.570	Simplex, PL=151.4, CT
CH 7, TAC 2 (Message Net)	146.460	Simplex, PL=151.4, CT
CH 8, TAC 3 (Command)	440.150	Simplex PL=100.0
CH 9, Assignment Pending	TBD	
CH 10, TAC 5 (Tactical)	147.585	Simplex, PL=151.4, CT

County Frequencies

CH 21, SCC Message Net	147.360 +	PL=110.9 W6TI
CH 22, SCC Message Alt 1	145.450 -	PL=100.0 K6FB
CH 23, SCC Command	442.500 +	PL=100.0 WB6ZVW
CH 24, SCC Command Alt	443.275 +	PL=107.2 K6SNY
CH 25, SCC Resource Net	146.115 +	PL=100.0 AA6BT
CH 26, SCC Resource North	145.270 -	PL=100.0 W6ASH
CH 27, SCC Resource South	444.625 +	PL=110.9 N6NAC
CH 28, SCC Hospital Net	145.230 -	PL=100.0 N6NFI
CH 29, NTS Net	146.640 -	PL=162.2 WR6ABD

Packet Frequencies

SCC Office Bldg (San Jose)	145.750	223.620	W1XSC-1 (CUP Pri)
Crystal Peak (South County)	145.730	223.560	W2XSC-1
Mountain View	144.310	223.540	W3XSC-1
Frazier Peal (Above Milpitas)	145.690	223.600	W4XSC-1 (CUP Sec)
Extra (Training, Backup)			W5XSC-1

Emergency Alert System, stations of interest

KCBS	740 KHz	LP1, National Primary EAS Station
KFBK	1530 KHz	CA State Primary EAS Station
KLIV	1590 KHz	Public AM Station, a CNN affiliate
WQGH344	1670 KHz	Cupertino Community Radio

3 Vehicle Supervisor Responsibilities

The following are the general responsibilities for an individual that assumes the Vehicle Supervisor position.

1. If you are holding the vehicle keys, you are responsible for the Vehicle.
2. Vehicle Operations safety is the responsibility of the assigned Vehicle Supervisor.
3. The Vehicle Supervisor must ensure that all vehicle systems are used in an authorized and prescribed manner.
4. The Vehicle Supervisor must be present at all times that the vehicle is open.
5. Never leave the vehicle unlocked and unattended.
6. If operations are in progress and you must step away from the vehicle for any reason, transfer Vehicle Supervision to another qualified person.
7. If operations are secured and you must step away from the Vehicle, you must **Secure** and **Lock** the vehicle.
8. Vehicle monitoring is required for the following areas:
 - Ensure all external cabling does not create a safety hazard.
 - Monitor fuel levels. Notify the shift supervisor when fuel levels drop below one-half.
 - Ensure the internal and external operating space is free of clutter.
9. Ensure generator or engine fumes do not hinder operations.
10. If any unsafe condition arises, stop the associated operations until the situation is resolved.
11. Use your judgment.

4 Vehicle Operations Safety Briefing

The City requires that you pay attention to all safety briefings, and maintain a safe operating environment at all times. If at any time you see an unsafe behavior or a safety hazard to any staff or participant, you must stay away from the hazard and report it at once to an event official.

Please read, and observe the safety issues addressed below. The Shift Supervisor should review this information with all Operators at the beginning of each Operational Period.

Compliance with all Applicable Laws

Vehicle operators are expected to comply with all applicable laws during the course of an event. This includes wearing seatbelts and following all traffic laws, observing speed limits, full stops at stop signs, etc.

Driving Safety

1. If you cannot see the wheels of the vehicle in front of you, you are too close.
2. The mast is the tallest portion of the vehicle. Pay close attention to your vertical clearance while driving.
3. This is a heavy vehicle -- give yourself plenty of room to slow down.
4. We will never be in a rush to get anywhere. Give yourself enough room ahead of you to anticipate changes in road conditions and other driver behaviors.

Vehicle Safety

5. Always put on a Safety Vest before performing work outside the vehicle.
6. NO SMOKING: There are gasoline engines and a fuel tank on this vehicle, both in close proximity to our working area. There is NO SMOKING when inside or outside the vehicle.
7. All gasoline-powered engines emit noxious fumes. The generator will be running to supply us power. Stay clear of the exhaust areas at all times. If you feel faint, notify the Shift Supervisor.
8. Make sure that the vehicle brakes are set and the levelers are deployed before starting operations.
9. The telescoping mast is considered heavy equipment. If used improperly, it could cause injury or damage. Never touch the up/down controls or the manual retract feature unless so approved by the Shift Supervisor.
10. Even though all radios work on the 12VDC distribution, there are also 120VAC utility outlets. Respect the 120VAC lines.
11. Call to the Shift Supervisor's attention any safety concerns that you have.
12. Should an emergency or injury occur during this event, call 911 or 408-299-3233.

5 Vehicle Access Checklist

This checklist is performed every time you approach the vehicle when it is in a locked state.

Vehicle Access

- _____ 1. Retrieve the Vehicle Keys.
- _____ 2. Disarm the Alarm
- _____ 3. Unlock the cab and operating compartment doors.
- _____ 4. Deploy side and rear steps as necessary.

6 Vehicle Pre-Departure Checklist

This checklist is performed every time the vehicle is going to be driven.

Vehicle Interior Inspection

NOTE: If the mast is up, perform Step 10 while performing the Interior Inspection tasks.

- _____ 1. Put on safety vest before operating outside the vehicle.
- _____ 2. Verify CB A2 (overhead lights) is on.
- _____ 3. Operating position chairs are stowed and secured.
- _____ 4. All radio operating gear is stowed.
- _____ 5. Operating positions are clear of loose objects.
- _____ 6. All interior cabinet doors and drawers are CLOSED.
- _____ 7. Turn off the vent fan; close the roof vent.
- _____ 8. Turn off the rack DC breaker.

Vehicle Exterior Inspection

- _____ 9. Vehicle-EOC Network antenna is removed and secured.
- _____ 10. Mast is lowered (see *Section 10*)
- _____ 11. Mast antennas are removed and stowed (as needed).
- STOP!** Do not proceed unless the Mast is completely lowered.
- _____ 12. Vehicle leveling system is retracted (see *Section 9*)
- _____ 13. Turn off all DC breakers.
- _____ 14. Turn off all AC breakers except A2.
- _____ 15. Turn off the internal overhead lights using the light switch by the door.
- _____ 16. Shore power cable is disconnected and stowed.
- _____ 17. Turn off the generator if running.
- _____ 18. Wheel chocks and traffic cones are stowed.
- _____ 19. All exterior cabinets are secured and locked.
- _____ 20. Rear door is closed and locked. Door retractable steps are secured.
- _____ 21. Side door is closed and locked. Door retractable steps are secured. Swing Arm handrail is stowed.

- _____ 22. Walk around, walk away, and look up.
- _____ 23. Check behind you for obstacles.

Vehicle Start

- _____ 24. Reread the Operations Safety Briefing.
- _____ 25. Cab radio is connected and powered ON.
- _____ 26. Ignition ON.
- _____ 27. Turn on headlights; check turn signals.
- _____ 28. Parking Break RELEASED.
- _____ 29. Check fuel levels. Refuel if necessary.
- _____ 30. Let the engine idle for one minute before driving.
- _____ 31. Engage **Tow Haul** mode by pressing the button on the end of the gear selector.

NOTE: **Tow Haul** should only be used under 40 mph.

CAUTION: Never change **Tow Haul** settings if traveling over **25 mph**.

7 Vehicle Deployment / Operations Checklist

This checklist is performed every time the vehicle arrives at a deployment site. Whenever deployed, do not leave the vehicle unattended.

On Arrival

- _____ 1. Choose a location that is clear of overhead obstructions, well lighted, with little traffic, and as flat as possible.
- _____ 2. Ignition OFF, transmission to Park, apply parking break.
- _____ 3. Turn on traffic warning system if appropriate.
- _____ 4. Make Vehicle Operations Log entries. Log is in the cab.
- _____ 5. Put on a Safety Vest before working in the street.
- _____ 6. Deploy wheel chocks and traffic cones as required.
- _____ 7. Deploy side and rear steps (**NOTE:** press the end of the pin to release the rear steps).
- _____ 8. Unlock the rear and side doors.

Operations Set up

- _____ 1. Plug in the shore power cable or start generator (see *Section 11 Power Distribution Reference*).
- _____ 2. Turn on interior lights.
- _____ 3. Turn on all AC breakers.
- _____ 4. Turn on DC breakers D1, and D5 thru D11.
- _____ 5. Deploy leveling jacks (see *Section 9 Leveling System Operations*)

- _____ 6. On the equipment rack, verify the (i) Battery Charger, (ii) Control Panel, and (iii) DC Main Breakers are on (ON is when the switch in vertical position).
- _____ 7. On the equipment rack, turn on the Rack DC breaker (located on equipment rack facing Position #3).
- _____ 8. For night operations turn on DC breakers D2 (curb side exterior lights), D3 (street side exterior lights), and D4 as appropriate.
- _____ 9. Deploy the Antenna Mast (*see Section 10 Mast Operations*).
- _____ 10. Open roof vents, turn on fans when running the generator.
- _____ 11. Confirm all radios are powered up and operational.
- _____ 12. Set up each Operating Position based on the requirements for the event (*see Section 15 Radio Operations*).
- _____ 13. Start ICS 214 Unit Log. Make deployment entries.
- _____ 14. Start ICS 211B Check-In list. Log in Vehicle Operations staff.

8 Vehicle Parking / Shutdown Checklist

This checklist is performed every time the vehicle is parked after a deployment.

- _____ 1. Check Fuel levels. Refuel if necessary.
- _____ 2. Ignition OFF, transmission to Park, apply parking break.
- _____ 3. Turn off all vehicle lights.
- _____ 4. Deploy wheel chocks.
- _____ 5. Connect the shore power cable to the local outlet.
- _____ 6. Make final Vehicle Operations Log entry – mileage, gasoline used, etc.
- _____ 7. Return the Safety Vest.
- _____ 8. Open roof vent turn on fan to OUT (HOT weather only).
- _____ 9. Turn off rack main breaker
- _____ 10. Turn off all control panel DC breakers.
- _____ 11. Turn off all control panel AC breakers except A2 and A5
- _____ 12. All vehicle doors, and outside cabinets are LOCKED.
- _____ 13. Alarm is set.
- _____ 14. Log and report any mechanical problems to the Service Center.

9 Leveling System Operations

WARNING! Do not press the button marked **Manual**. You risk changing the Leveler control programming.

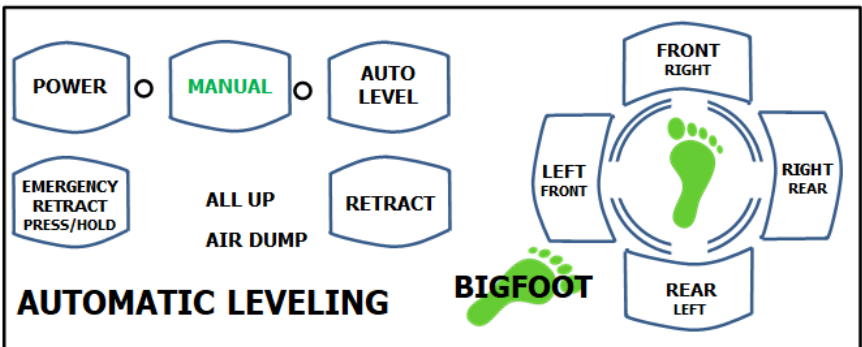
Deploying the Levelers

- _____ 1. Verify breaker D9 is on.
- _____ 2. Verify that no one is in the cab or operating compartment of the vehicle.
- _____ 3. Unlock and open the leveling control cabinet door (curb side, behind the passenger door).
- _____ 4. Turn on the Leveler Controller by pressing the power switch. Verify the power light is on.
- _____ 5. Press the AUTO LEVEL switch. Verify the light comes on. Leveling will take a few seconds as the system determines how best to level the vehicle.
- _____ 6. Wait until the green foot is on, without blinking.
NOTE: a blinking green foot means that the vehicle could not be leveled. Consider moving the vehicle to a location with less slope, or use the leveler pads.
- _____ 7. Close and the cabinet door.

Retracting the Levelers

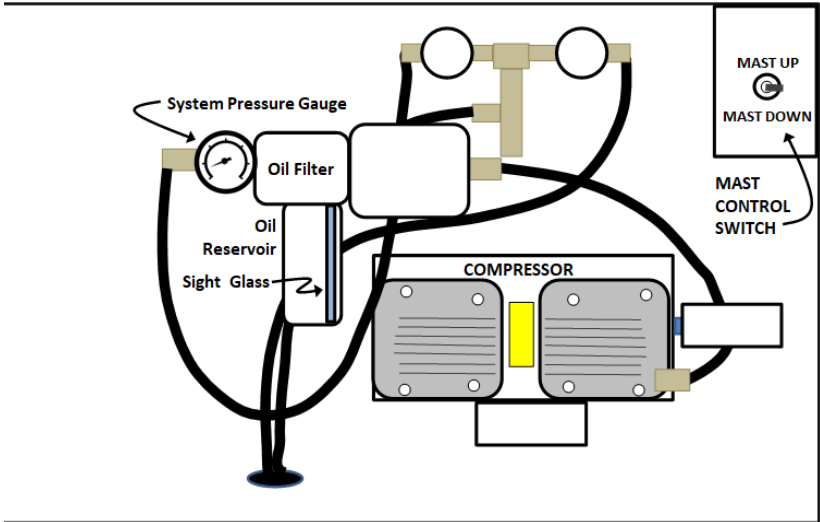
STOP! Do not proceed unless the Mast is completely lowered.

- _____ 8. Verify breaker D9 is on.
- _____ 9. If the power light on the leveler controller is not on, press the power button.
- _____ 10. Press retract button.
- _____ 11. Verify all levelers have retracted.
- _____ 12. Turn off the Leveler Controller; Verify the power light is off.
- _____ 13. Close and lock the cabinet door.



10 Mast Operations

Read this entire procedure before proceeding.



Raising the mast

STOP! Do not proceed unless the Levelers are correctly deployed.

- _____ 1. Verify the Vehicle location is clear from overhead obstructions.
- _____ 2. Verify breakers A6, D10 and D11 are on.
- _____ 3. Unlock and open the Mast Control Cabinet (street side, rear cabinet).
- _____ 4. Check mast oil reservoir level at the sight glass; the oil color is Light Blue. If less than 50%, notify the PSCV Manager.
- _____ 5. If it is dark outside, use the hand spotlight for observing the overhead as the mast is raised.
- _____ 6. Raise the mast by holding **Mast Control Switch** in the **MAST UP** position. Continue holding the switch up until the compressor starts to stutter (different noise) or stops. The pressure gauge should read about 32 psi. The time to raise the mast is about 7 to 10 minutes.
- _____ 7. Close and lock the Mast Control Cabinet.
- _____ 8. If desired, press the **Mast Light Defeat** button on the forward side of the Power Distribution panel to turn off the roof mast light.
- _____ 9. Notify the Shift Supervisor of the mast deployment.

Lowering the mast

- _____ 10. Unlock and open the Mast Control Cabinet (street side, rear cabinet).
- _____ 11. Set the **Mast Control Switch** to the **MAST DOWN** position. It will take about 5 minutes to lower the mast.
- _____ 12. When done, leave the **Mast Control Switch** in the **Neutral** (middle) position. The pressure gauge may continue to read pressure, and will bleed off over time.
- _____ 13. Close and lock the Mast Control Cabinet.
- _____ 14. Remove any antennas that need to be stowed as necessary; replace the antenna caps.

11 Power Distribution Reference

Generator Control

The generator is controlled by a rocker switch on the Power control panel.

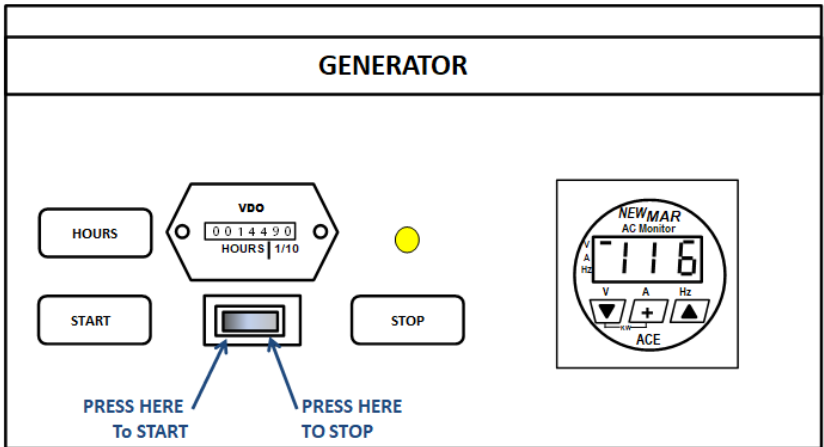
Starting the Generator

1. Press and hold the left side of the rocker switch to start the generator.
2. After the generator starts, use the **V A Hz** keys on the AC monitor meter to select AC Volts, Amps, or Frequency, and verify:
 - proper voltage (114 to 124 VAC)
 - frequency (58 to 62 Hz)

Stopping the Generator

1. Press and hold the right side of the rocker switch to stop the generator.

Switching power from the generator to shore power is automatic. Power defaults to shore power.



120VAC Distribution

All AC distribution is contained on the control panel.

CB	Amps	Load
A1	20	Equipment Rack
A2	15	Interior Lights
A3	20	Air Conditioner
A4	15	Wall Heater
A5	30	Battery Charger
A6	15	Mast Air System
A7	15	Interior Curbside Outlets
A8	15	Interior Street Side Outlets
A9	20	Exterior Curbside Outlets (BSP)
A10	20	Exterior street side Outlets
A11	15	Spare
A12	15	Spare

12VDC Distribution

Most of the DC distribution is controlled from the control panel.

CB	Amps	Load
D1	15	Interior Lights
D2	15	Exterior Lights Curb Side
D3	15	Exterior Lights Street Side
D4	10	External Light Rear
D5	30	Internal DC Power Curb Side
D6	30	Internal DC Power Street Side
D7	15	External DC Power Curb Side (BSP)
D8	10	Vent Fan
D9	15	Leveling Jacks
D10	5	Handheld Spotlight (in mast control cabinet)
D11	10	Mast control system
D12	10	Compartment Lights
D13	1	CO Detector
D14	10	Mast Flood Light

In addition, there are four large DC breakers mounted in the rack.

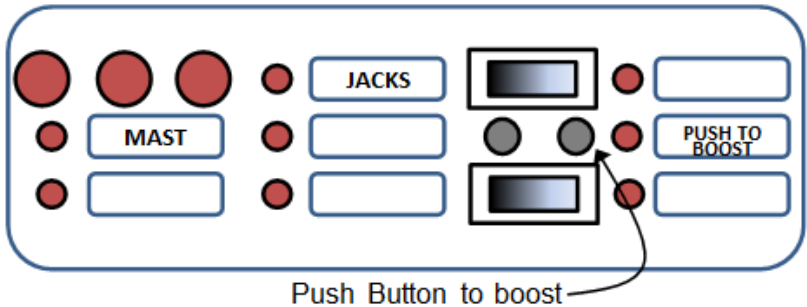
12 Dash Warning Panel

The Dash Warning/Control Panel is located left of center in the Cab.

Warning Indications

The main function of this panel is to alert the operator if either the Pneumatic Mast or Lever Jacks are deployed when attempting to operate the vehicle. Alarm conditions are as follows:

- **Alarm LEDs.** If the Mast and/or Leveler systems are deployed and the vehicle engine is started, the 3 larger upper-left LEDs will illuminate.
- **Alarm LEDs and Siren.** Same as above; additionally, the gear shifter is placed in any gear position other than Park.



WARNING: Attempting to move the vehicle with either of the Pneumatic Mast and Lever Jacks deployed will critically compromise the integrity of the Vehicle.

NEVER MOVE THE TRUCK WITH EITHER SYSTEM DEPLOYED.

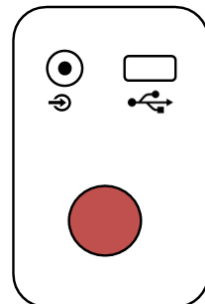
Battery Boost

In the event the vehicle battery isn't sufficient to start the engine, press the **Boost Button** to tie in the compartment battery system with the vehicle battery system.

Door Open Warning

The Door Open indicator is located on the lower right side of cab console, to the right of the backup camera monitor.

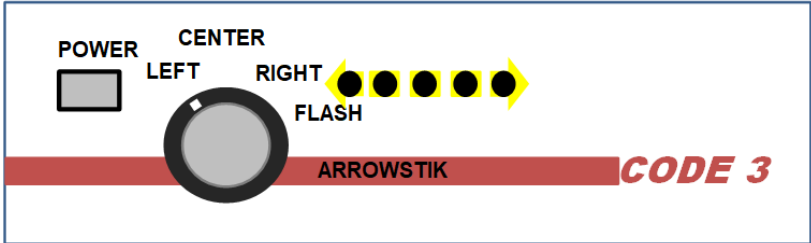
If the Ignition key is in the On position and either the rear or side compartment door is open, then the Red Door alarm indicator will be illuminated.



13 Traffic Advisor

This is the front- and rear-facing signaling device that alerts on-coming traffic with a visual warning and a correct direction for oncoming traffic.

CAUTION: This system is powered off the vehicle battery and is available for use regardless of the state of Cab key position. Care should be taken not to drain the vehicle battery. See **Section 12 Dash Warning Panel, Battery Boost** for information on how to address this.



Power: Push button; On / Off

Function

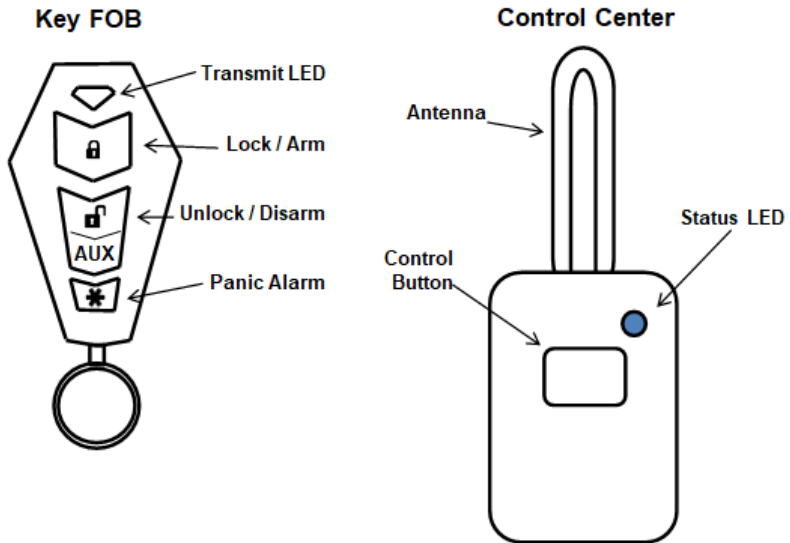
Left: Lights flash in the Left Direction pattern.
Right: Lights flash in the Right Direction pattern.
Center: Lights flash from in to outside in a split pattern
Flash: Flashing Light pattern

14 Vehicle Security System

The Vehicle is equipped with a protective alarm system with door sensors on the six (6) openings:

1. Cab doors, drivers and passenger side
2. Operations Area doors, rear and side doors
3. Generator compartment
4. Mast control cabinet

The following two items make up the Security Alarm System:



Key FOB

The Alarm system has been integrated with all Cab door locking controls into one system. The original Truck Key FOB still works to open the door, but will not disarm the security system. The Key FOB does the following:

1. Transmit LED – Blue LED, illuminates whenever a FOB control is pressed.
2. Lock / Arm – Arms the alarm system. Locks the 2 Cab doors. Single chirp when the alarm is set.
3. Unlock / Disarm – Disarms the alarm system. Unlocks the 2 Cab doors. Two (2) chirps when the alarm is disarmed.
4. AUX – Press for 2 seconds, then the Lock/ARM or Unlock/DISARM for silent execution of these two controls.
5. * - Causes the alarm to sound.

Control Center

The Alarm Control Center is mounted on the upper section of the windshield and consists of the following:

1. In-vehicle antenna
2. Blue Status LED: indicates the alarm status. The light will be on when the alarm is set.
3. Control Button: places the system in **Emergency Override Mode**.

Emergency Disarming of the Alarm

The Key FOB battery should last about 2 years. In the event of a battery failure, do the following.

1. Ensure you have the Key FOB with you.
2. Gain access to the Cab using the vehicle key. The Alarm will sound if previously activated.
3. On the Control Center, press the Control Button. The system should disarm.
NOTE: This step requires the Key FOB to be in close proximity for this procedure to work.

Alarm Chirp Codes

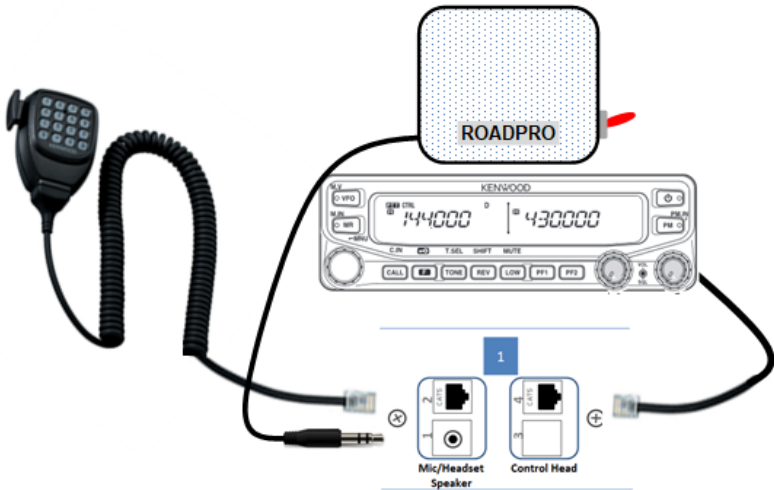
No of Chirps	Meaning
1	System is Armed
2	System is Armed, but a door is not closed
2	System is disarmed, no violations occurred
3	System is disarmed, _____ was previously opened
4	System is disarmed, _____ was previously opened
5	System is disarmed, _____ was previously opened
6	System is disarmed, _____ was previously opened

NOTE: Setting the engine Key to ACCY will clear the alarm history.

15 Radio Operations

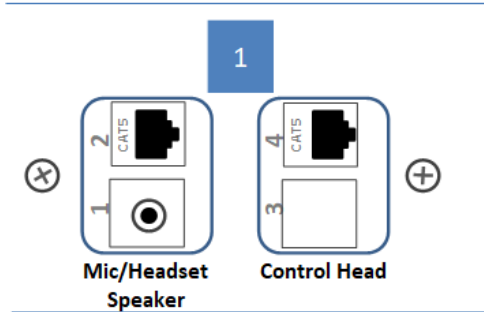
The three main radio operating positions are outfitted with a Kenwood TM-V71 radios and a kit with the necessary operating accessories.

1. The radio bodies are located in the equipment rack.
2. The radio “control heads” are situated in front of each operating position.
3. Three cables connect each radio to the operating positions:
 1. Head Extender cable
 2. Push to Talk cable
 3. Two channel audio cable
4. These cables terminate at the Radio Interface. See the following section for details.
5. A remote single channel speaker is located at each position; it can be switched to listen to either the left or right side of the radio.
6. Either a (i) hand Mic and speaker or (ii) headset with PTT foot peddle can be used. See the following sections for details.



Radio Interface

The Radio Interface links all operator controls with the radio body. Each Interface has houses three connectors that are specific to the radio; they cannot be used as a VANnet network connection. These connectors are:

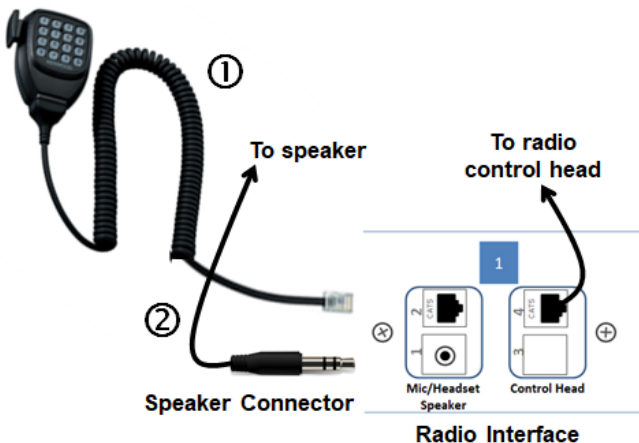


1. **Mic/Headset, Top Left;** connects either a hand Mic or the headset adaptor.
2. **Radio Speaker, Bottom Left;** connects either the local speaker or the headphone cable. These connectors can be identified by the **double black rings** on the connector barrel (see picture below).
3. **Radio Control Head, Top Right;** connects the radio head. DO NOT insert any other network device into this connector. This cable should always be connected. DO NOT REMOVE.

Operating with a Microphone

To operate with a microphone, do the following:

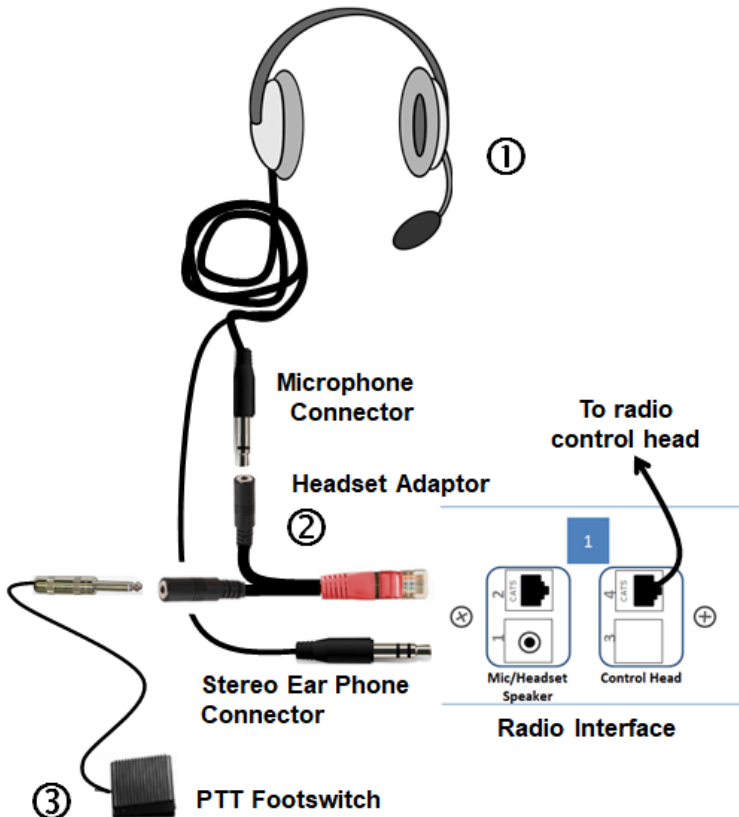
- _____ 1. Retrieve the microphone for this operating position.
- _____ 2. Plug the microphone into the Radio Interface, **top left**.
- _____ 3. Plug the radio speaker into the Radio Interface, **lower left**.
- _____ 4. Speaker operations are either Left or Right Channel at a time. Use the speaker switch to select either channel.
- _____ 5. Verify normal radio operations.



Operating with a Headset

To operate with a Headset, do the following:

- _____ 1. Retrieve the following components for this operating position.
 - Heil Headset ①
 - Headset adaptor ②
 - PTT Footswitch ③
- _____ 2. Plug the headset microphone jack (**single black ring** on the connector barrel) into the Headset Adaptor.
- _____ 3. Plug the Foot Switch jack (larger ¼" connector) into the Headset Adaptor.
- _____ 4. Plug the Headset Adaptor into the Radio Interface, **top left**.
- _____ 5. Plug the headset earphone jack (double black rings on the connector barrel) into the Radio Interface, **lower left**.
- _____ 6. Set the radio volume and squelch controls for comfortable listening.
- _____ 7. Verify normal radio operations.



16 Miscellaneous Notes

Outside Cabinet Locks

All outside cabinets have locks to ensure the security of their contents. Most of the locks are of the type indicated in the figure below.

There are two keys that handle all cabinet locks. Each lock is color-coded to make identifying the correct key easier.

To unlock a cabinet,

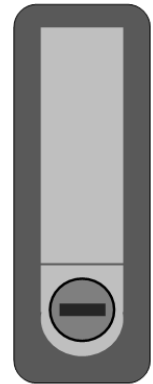
1. Identify the key to use by the color tag by the cabinet lock.
2. Insert the key and turn it counter-clockwise 90 degrees to the horizontal position.
3. Remove the key, and press the keyhole to open the latch.
4. Do not reset the lock if the cabinet door is not closed.

To lock a cabinet,

5. Identify the key to use by the color tag by the cabinet lock.
6. Close the cabinet door.
7. Insert the key in the keyhole.
8. With the other hand, press the area above the keyhole to keep it from unlatching (popping out).
9. Turn the key clockwise 90 degrees to the vertical position.
10. Remove the key.



Keyhole
Locked Position



Keyhole
Unlocked Position

17 Radio / Antenna Connector Reference

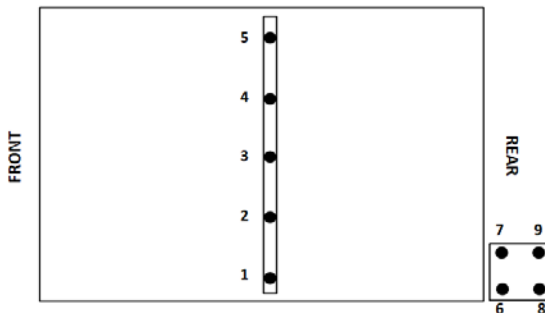
Antenna Numbering

No	Type	Normal Use	Location
A1	2M/440	R2 – County Message Net	Roof
A2	37.00 MHz	R7 - EOC	Roof
A3	Multi-band	R8 - Scanner	Roof
A4	2M/440	Spare	Roof
A5	480 MHz	R6 - City Trunk	Roof
A6	2M/440	R1 – Resource Net	Mast
A7	2M/440	R3 – City Mess Net	Mast
A8	220 MHz	R5 - Packet	Mast
A9	2M/440	R4 – Shift Supervisor	Mast

Radio Numbering

No	Type	Position	Normal Antenna
R1	Kenwood TM-71A	Resource Net	A6
R2	Kenwood TM-71A	County Message Net	A1
R3	Kenwood TM-71A	City Message Net	A7
R4	Kenwood TM-71A	Shift Supervisor	A9
R5	Alinco DR135 - Packet	Shift Supervisor	A8
R6	Kenwood TK8180 – City	Shift Supervisor	A5
R7	CDM1250 – EOC	Shift Supervisor	A2
R8	Scanner	Shift Supervisor	A3
B1	BSP Connector 1		
B2	BSP Connector 2		
C1	Cab Connector 1		A4
C2	Cab Connector 2		

Antenna Numbering, Roof View



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