

General Mission Procedures - Mobile Communications Unit (MCU)

MISSION PREPARATION

Individual mission preparation starts before you receive the page-out, phone call or radio alert. It should include preparation of your deployment kit containing necessary personal medications and necessary clothing for the prevailing weather conditions. A sample list of items for your 8-hr or 24-hr kit can be found in the RACES member manual. Although we try to keep the MCU stocked with bottled water and a few Army Surplus "Meals-Ready-To-Eat" (MRE), "Heater Meals", or Mountain House dehydrated meals, it doesn't hurt to have some water and snacks to cover the first 6-8 hours of a deployment. Replacement MRE's may be purchased at the military surplus store on E. Fry Blvd. in Sierra Vista. Replacement Heater-Meals may be purchased on line at www.heatermeals.com. Search and Rescue (SAR) team members are instructed to be self sufficient for 24 hours. RACES members should meet that same standard. Extended missions will usually provide for some basic meals and water but sometimes it takes some time to get everything up and running. If you do not have anything handy when called out, pick up a couple bottles of water and/or snacks at the first convenience store or gas station on the way out of town. A sleeping bag or blanket is also a nice thing to have handy on a mission. I have been able to use one many times, even if it was only for a short power-nap. We generally will try to schedule shift relief after 4-6 hours into a mission, but that is not always possible.

MCU Pre-Deployment Checks

Before you jump in and start down the road, there are a number of things that should be checked. Vehicle fluid levels (engine & generator) should be verified while you are still



on relatively level ground at the vehicle storage point. If you wait to check the generator until you are on the scene, it may be too late to fill or you may not be able to check the fluids while the vehicle is level. There is a checklist velcroed to the bottom and middle of the dash. Plug in the APRS and



Garmin GPS before heading down the road. Note the beginning mileage on one of the Mission Logs in the folder in the cab. You will need this when you refuel during post mission activities.

INCIDENT COMMAND SYSTEM

Most missions will be performed under the Incident Command System (ICS) for operational control. We will generally be co-located with the command post of the mission and perform communications functions for the Incident Commander (IC). Upon arrival to the mission location, your first task is to determine who the IC is and where

he/she wants us to set up and receive a mission briefing. Your second task is to park the MCU where designated and get it operational. Your third task is to be sure all of our team members understand the mission support requirements as well.

PERSONNEL ACCOUNTABILITY

It is critical that all personnel sign in upon arrival at the mission location. It is just as important that everyone sign out upon departure. This will help us ensure that everyone is accounted for when the mission is complete and that no one is left behind. This sign-in sheet also ensures that you are covered for AZ Workmen's Compensation insurance if you become sick or injured anytime during the mission.

LOCATION

The IC will usually designate the location where the MCU will be parked. It will usually be co-located with the Command Post and physically separated from the staging area. If the MCU driver is aware of specific communications problems associated with the chosen location, such as no radio path to known repeater sites, please bring this problem to the attention of the IC and make a recommendation for a better location. **For example, the MCU should not be parked with the nose pointed North. This will cause a problem when the mast is erected and the satellite antenna deployed.** The satellite antenna will orient itself pointed south and the mast would then be between the satellite and the antenna meaning we will not be able to access the Internet using the satellite system. The IC may or may not be able to accommodate the recommendation. Remember, ultimately the IC is responsible for the mission and it is our responsibility to aid him or her as best we can. Do not put yourself in a position that we appear to be argumentative or less than totally cooperative. The IC has a lot on his/her mind getting the mission underway and doesn't have time for prolonged discussion. Make the recommendation politely, and then accept the IC's direction. I recommend logging any mission directions/instructions in the Unit Log for use later in the After Action Report.

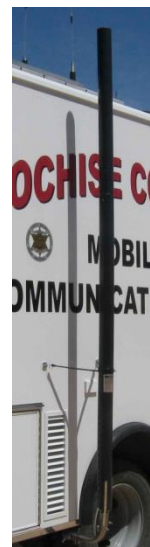
POWER

POWER DISTRIBUTION

There are three modes of operating: Battery power, Generator Power (GEN), and Shore (EXT) Power. Most often we will be on Generator.

GENERATOR OPERATION

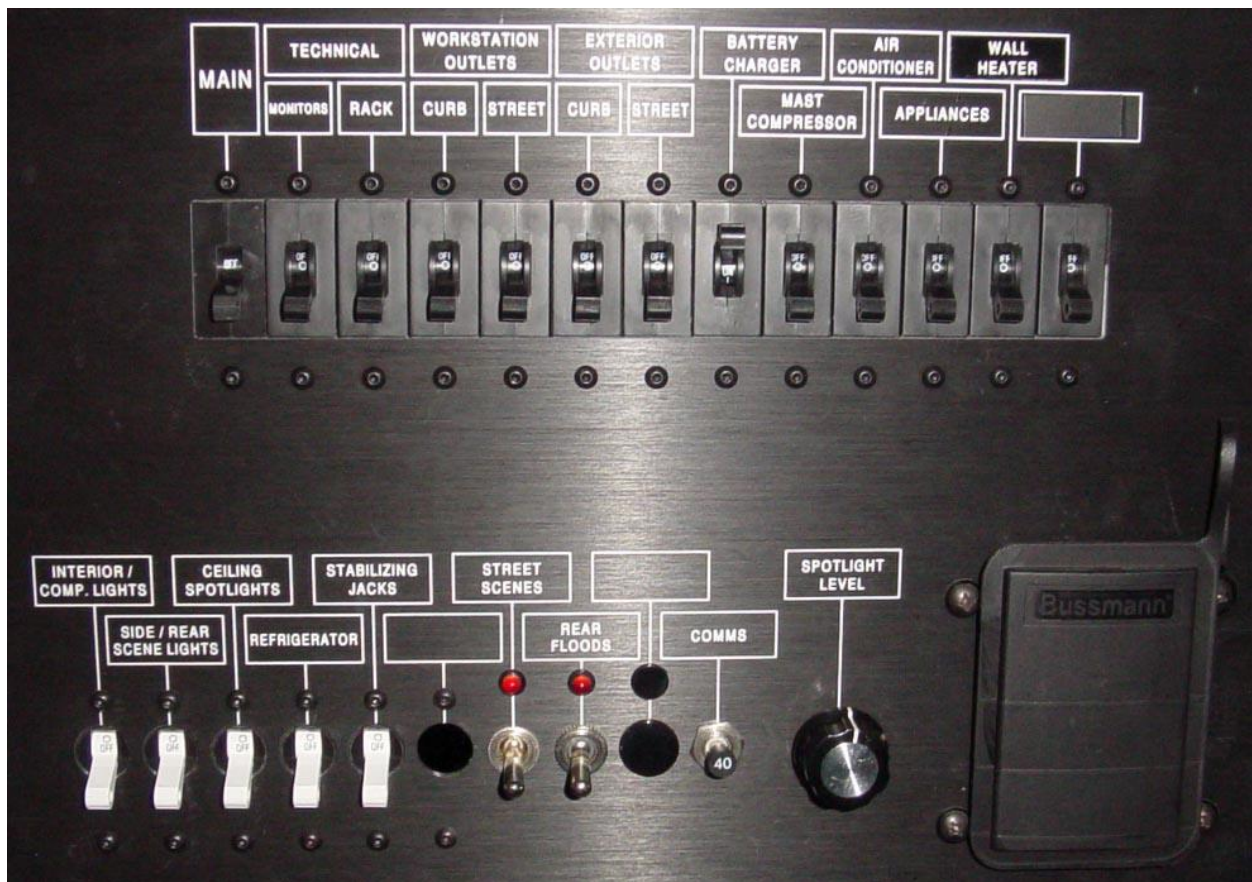
There is one 7.5 KW Onan diesel generator located on the driver's side of the van body. The MCU should be relatively level before starting the generator. You can't put down the stabilizing jacks until the generator is running. Be sure all the switches on the large power distribution panel (located on the curb side in the shelter) are turned off before starting the generator. Also before turning it on, check wind direction to ensure that exhaust fumes



will not blow back into the van. Install the GenTuri exhaust extension on the diesel exhaust pipe (photo on right). This device performs two functions. First, it routes exhaust above the vehicle and secondly mixes fresh air into the exhaust stream by pulling fresh air in at the bottom. We do have a Carbon Monoxide warning device in to the van to assist in protecting staff. If you did not check the generator oil and coolant levels before leaving Green Acres, check it now. Press the Red "START" rocker switch until the generator turns over. The Preheat light may flash initially for a few seconds, especially during cold weather, but the generator should start almost immediately. Allow the generator to run approximately 3-5 minutes to stabilize at 60 Hz. During very cold weather, it may take a little longer to stabilize. If, for any reason the generator starting batteries are too weak to start the generator, you may temporarily press and hold the "BATTERY PARALLEL" button long enough to parallel with the main vehicle battery to start the generator.

POWER PANEL

At this point you can now switch the "Power Select" switch to generator and turn on the Main AC Breaker and others as needed for operation. Once the generator is up and stabilized (60 Hz), you can switch on the various breakers for operation.



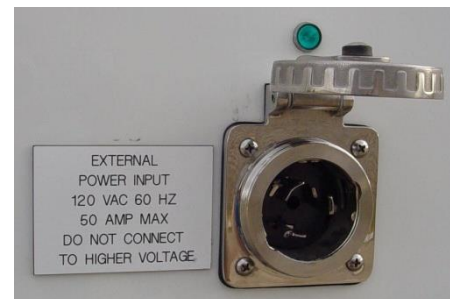
The top row switches are breakers for AC power and the bottom row are all DC power. Typically, all the AC power switches are turned on except the wall heater. The wall heater and Air Conditioner should never be used at the same time. The bottom row has switches for the various identified lights or systems. The REFRIGERATOR switch should not normally be turned on at the same time the APPLIANCE switch is on. The APPLIANCE breaker also provides power to the coffee maker. The item marked COMMS, is a push/pull switch. The "IN" position is on and "OUT" position is off. It provides power to all the radios not in the ACU stack.

SHUT DOWN

To shut down, reverse the procedure. Turn off all radios, turn off all the AC breakers and DC switches, Main Breaker, and then the Power Select switch to the Off position. Then turn off generator by pressing the red rocker switch down until the generator stops.

SHORE POWER

Conditions permitting, the van has an external power cord that allows it to be plugged into AC commercial power. On the Main Power Control panel, you must select the Shore Power (EXT) position vice the generator position. When connecting the Shore Power cable to the van, always connect the van side of the cable first, then to the shore power source. Disconnect in the reverse order, Shore Power source first, then the van. The power cable is stored in the bottom of the Antenna Storage Locker, accessible from outside the van. It has a 30 amp RV style plug with a 20 amp adapter if necessary to plug into a standard plug. Just be aware that using lower than 30 amps restricts the ability to use things like the coffee pot, wall heater, microwave, or air conditioner, etc. at the same time.



BATTERY POWER

There are two deep cycle RV type operations battery that may be used for very short missions. If they are fully charged, they will generally support 2-3 hours of operations. Unfortunately, lights have been left on in the past and drained down the operations battery and it only had enough charge from the drive out to last for an hour or so. This battery can be charged while driving or from the generator. The charger switch on the Main Power Distribution Panel (Top row of breakers) should be on whenever operating off the generator. All the mission radios except the ACU stack run off the van batteries. This is main reason the charger should always be turned on when the generator is on or shore power is plugged in. The ACU radios are provided DC by the 50 amp Astron power supply at the bottom of the ACU stack. This should only be turned on after the generator is up and running and power stabilized. It should also be turned off as part of the shut down procedure.

RADIO PROCEDURES

TACTICAL (Public Service) COMMUNICATIONS

Amateur operators or SAR team members are authorized to use the Sheriff Department Public Service Band frequencies/radios under the county's FCC radio license. While enroute to the mission the MCU call sign is "**COCHISE 78**". If dispatch wants to know who is driving, give the dispatch your RACES Card number, for example, "**RACES Operator 123**". Once in place at the mission site, the van is usually designated as "**Command**". People or teams may also call in to the "**Command Post**", "**Search Command**", or "**CP**". Be prepared to respond to any of these call signs. If the Incident or Search Commander (IC) wants to designate the MCU another call sign during operations, use whatever call sign he/she designates. Search teams will usually be designated as "**Rescue One**", "**Ground Team One**", "**Horse Team One**", etc. It is a good idea to write the team designators down on one of the white boards. It is also important to capture the names or Rescue numbers of the individuals making up each team, and the last time you had contact and/or attempted contact with them. If it is necessary to operate on the Arizona Department of Emergency Management (ADEM) Channel, our ADEM assigned call sign for the MCU is "**HORNED TOAD**". The county EOC callsign is "**FIVE ONE CHARLIE HOTEL**". ADEM will usually call themselves "**51A**". See the ADEM Manual for additional information.

AMATEUR COMMUNICATIONS

Only licensed amateur radio operators are authorized to use the amateur radio equipment in the van. The privileges used on the amateur bands are consistent with the privileges of the highest license class person present as a control operator. This is particularly important on the HF band. We are also encouraged to use tactical call signs named according to your assignment, but please remember to still use your amateur call on amateur bands in accordance with standard FCC regulations (after a completed call or every ten minutes, whichever period is shorter). Of course non hams can talk on the amateur radio as long as a licensed ham operator is present as the "control" operator.

MARS OPERATIONS

Operations on MARS frequencies are governed by Department of Defense regulations. You must be a licensed MARS operator to operate on the MARS frequencies or have a MARS control operator present. The MARS callsign used is "**AAT9CAI**" and is issued to the Cochise Amateur Radio Association as a club callsign. Manuals for MARS operations are also available in the MCU.

LEVELING JACK SYSTEM

The HWH Hydraulic Leveling system is designed to stabilize the vehicle before raising the pneumatic mast or the satellite dish. The controls are located in the same compartment as the I/O Panel on the street side of the shelter. First, try to get the vehicle as level as



possible before you lower the jacks. There are wood blocks in the Antenna Side Compartment to put under the tires to aid in this process. Be sure the “parking brake” is applied. Then activate the jacks to the “down” position to stabilize the van attempt to make it nearly level. There are leveling bubbles on the “I/O – Jack panel” to aid you in this procedure. The jacks will stabilize the vehicle from moving and provide a stable platform. Just remember, the direction of the arrows indicates the direction the truck moves when you press the buttons. For example, pressing the Up Arrows means the truck will move in the directions of the arrow, pressing the Down arrows means the truck is moving down.

PNEUMATIC ANTENNA MAST

The 42’ Will-Burt pneumatic mast is load rated by the amount of square foot area of the antenna(s) attached to the mast. With nothing mounted the mast is rated to 150 mph wind load. With the maximum square foot area of 10 sq ft the rating is reduced to 70 mph. There are a variety of configurations that can be mounted. The most common is the so called "Big Stick" 106 inch tall antenna used for public service band operations.



However, the Hamstick dipole adapter can also be easily used for HF operations. At night or under adverse weather conditions, you should also activate the Amber Strobe on top of the mast. It is also a good idea when there are helicopters working in and around your area during daylight operations. There is no flood light installed.

IP ACCESS INTERNATIONAL SATELLITE DISH

The **IP Access** dish antenna is rated at 125 mph in the stowed position and 60 mph winds in the up position. The purpose of the sat-comm system is to provide Internet connectivity via satellite. Our current annual contracted service is for 10 calendar days per month (3 Mbps downlink x 1 Mbps uplink). There is no rollover of time. Any time we go beyond that, there is a \$60 per day surcharge. At incident scenes, you can access current weather data, Google Earth Satellite imagery, send and receive email with attachments such as photos of the scene. There are a number of applications for this service. Both the computer laptop used for the ACU control software and the Mapping and Digital Support Computer can be connected to the satcomm unit via the local area network. Other computer stations can connect via the WiFi network or the wired Local Area Network through the external I/O port on the driver's side of the van.

Operation of the satcomm is quite simple. Apply power to the satcomm system, press the "RUN" button and the dish will self deploy, search for the satellite, and maximize the signal automatically. This may take up to 4-5 minutes. Watch for "RX/TX" green lights above the Dish symbol on the panel to tell if you are locked on or not. When all five lights on the router are green, you are ready to log on to the Internet. If this appears to be taking an excessive period of time, step outside and confirm the dish is up and the receiver arm has dropped down. Occasionally, it will stick to the dish and needs some

assistance breaking loose. The MCU has a web-mail account at Gmail. It is: "**cochise.mcu@gmail.com**". The password to access the account is posted above the keyboard on the laptop computer in the MCU and may change as needed.



To shut down the satcomm, press the **“RUN”** button until the **“STOP”** LED is on. Then press and the **“-“** key on the right side of the panel for 2 seconds. The display should now indicate that the antenna is "Stowing". When the Antenna warning lights stop flashing on the main control panel and the vehicle dash board, you will know that the antenna is in the “stowed” position.

RADIOS/ANTENNAS

SELECTION OF ANTENNAS

There is an antenna patch panel located above the ACU-1000 stack. For most operations there will be no need to change the default patching configuration. However, to use antennas mounted on the pneumatic mast such as the 106" fiberglass **“Big Stick”** on the Public Service Band Radios or a Hamstick dipole for HF, you may need to change one of the patches. They are clearly labeled. Be careful when pulling on the radio cables and to allow sufficient loop for the RF cable to bend gently. If you do choose one of the antennas mounted to the top of the mast, ensure you match the radio to the proper Mast position at the top of the mast and as well as the proper patch position on the panel. There are three RF cables labeled **“Mast-1, -2 & -3”** running between the top of the mast and the Antenna Patch Panel.



PUBLIC SERVICE BAND RADIOS

There are two VHF, one UHF and one Dual Band (VHF/700 Trunk) public service band radios mounted in the MCU. Two radios are in the cab and is used primarily enroute or returning from a mission to maintain contact with CCSO Dispatch. Use the callsign “**COCHISE 78**” when checking in with dispatch. Using the Motorola APX radio on the console between driver and passenger seat “CCSO LAW 1” (Sheriff’s Office Channel 1) on the trunked system is normally used as the primary channel to and from a mission. The Kenwood radio mounted near the center and just below the ceiling of the cab will normally be used to contact the SAR CP on the **CC SAR** channel.

The Tait TM 9155 radio mounted on the counter top on the street side in the van is the main mission radio and includes the new narrow band channels used by the county and is P25 (digital) compliant. The power-on/off is a push button near the upper left corner. and is used with the Big Stick during SAR operations to maintain contact with the deployed teams. For simplex operations in the mountains, it may provide you a better option for reaching search teams.



A Motorola APX 7000 dual band radio is mounted on the wall. This is a single radio with two control heads, the second control head is in the cab on the console. Please note in the photo below the “shortcut” keys identified as MS1, MS2, and MS3. Pressing MS1 will take you to SO1, MS2 goes to CCSO SAR, and MS3 to LAW1. DO NOT PRESS THE ORANGE BUTTON. It is ONLY to be pressed when you need to notify Dispatch of an emergency. If it is ever pressed accidentally, notify dispatch as soon as possible to avoid emergency officers showing up on your door step.



Connecting it to the "Big Stick" and pushing up the pneumatic mast may give you your best combination for search operations. The antenna mast adapter to mount this antenna is found in the tall storage compartment next to the side entrance door. This antenna is normally stowed in a big black plastic pipe stowed on the floor while traveling.



ACU 1000 OPERATIONS

The Audio Control Unit (ACU) 1000 is a computer controlled device used to interconnect agencies or units that do not have compatible radios. It allows the control operator to program radios in the ACU Stack to match radio frequencies from other participating agencies who may not have compatible frequencies with other responders. The ACU stack has eight radios currently configured (5 ea VHF, 2 ea UHF, 1 ea 800 MHz). The Astron Power Supply at the bottom of the rack provides DC power during operations and should be shut down after operations are complete. The control operator can match up audio channels between radios to allow visiting agencies to work together using a channel already programmed in their organic radios. Many of the channels may already be programmed into one of our Kenwood's and will only need to be selected on one radio and then matched up with one of the other radios in the stack. Once a pair of radios has the proper channel or frequency selected the Control Operator simply does a couple mouse clicks in the ACU software to match the two audio channels for the two agencies to work together. Actually up to four different links can be made with the software. Use of the ACU 1000 or the Kenwood programming software is taught in a separate hands-on class.



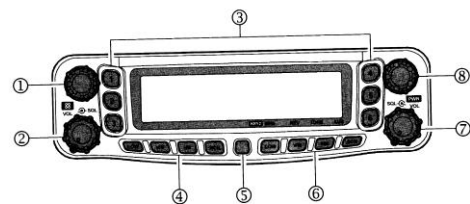
Be prepared to use whatever channel or combination the IC wants or needs us to communicate on.

AMATEUR RADIOS

There is one mobile (FT8800 Dual Band) located in the cab for use to and from a mission. It is switched through the vehicle ignition and uses an antenna mounted on the top of the cab. It is still a good idea to turn it on and off using the radio switch. This ensures the memory channels will come up as the default when the system is turned back on. A

frequent operator error is accidentally turning on the “WIRES” function (Wide-coverage Internet Repeater Enhancement System). When turned on, it will send a short digital burst when you key the microphone. There are no WIRES repeaters in our service area so we do not use that function. There will be a small “int” symbol near the top of the screen when it is activated. If it is on, press the left volume bottom briefly and it will be turned off. You will see the screen flash for a couple seconds “INTOFF” when you change status. We will normally use the left VFO tuned to “RACES 02” and the right VFO set to “SX 56” while enroute to missions. The right VFO is activated by briefly

FRONT PANEL CONTROLS & SWITCHES



pressing the top right channel selector and used while keeping touch with the chase vehicle. To select the left VFO, briefly press the top left channel selector. We use **RACES 02** when keeping in touch with the “Home Unit”.

The other amateur radios are located inside the Van for communicating on amateur bands. There is one High Frequency (Icom IC 706 - HF .5-30 MHz), two (Yaesu FT2800 and FT-2600) Very High Frequency (VHF 144-148 MHz) radios, and one (Icom F620) Ultra High Frequency (UHF 440 - 450 MHz). These radios can be used to maintain contact with other amateurs acting as relays to other agencies who may not have direct communications to the van on our channels. We may use amateur repeaters or simplex communications as appropriate. Operating Manuals for these radios are located in the supply cabinet (Top right on curb-side). One of the VHF radios may also be used to contact the AZ Department of Emergency Management via the ADEM radio network. The frequency is identified as DRN-Mule. Offsets and PL are preset. Our callsign on that channel is “Horned Toad”.



The second VHF radio (FT2600M) is located in the digital workstation area on the curb side of the vehicle and is used primarily for packet or APRS operations. If not required for packet or APRS, it may also be used to support voice operations. The antenna for this radio is mounted near the telescoping mast at the back of the van. The KAM Terminal Node Controller (TNC) is above the radio and below the upper storage cabinets. The computer is located on the operations bench on the left. We use the PACTERM software package for packet operations, Airmail 2000 for HF PACTOR operations, and UI-View for APRS. We recently added RMS Express to support Winmor operations. It is also compliant with the Winlink 2000 system. A separate guide has been prepared to assist computer operations. In the photo below, it is on top of the Icom 706.



The HF rig is an ICOM IC-706 IIG (under the FT 2600). A remote antenna tuner is mounted in the storage cabinet and controlled from the front of the IC-706. This



set can be used for HF Amateur or MARS operations. A set of Hamstick HF antennas are stored in the Antenna Cabinet to the right of the main van entrance and accessible only from outside the truck. Select the one you need for the band you wish to operate on, attach to the "Quick Disconnect" mount on the roof of the shelter (shown to the right), and press the "TUNER/CALL" button to match the transceiver to the antenna and you are ready to operate. The mounting stub is on the street side roof of the van at the rear of the antenna "Z-Rail". Push down and twist to lock in place. Be sure it is removed before moving the truck. Please note that the antenna stinger is color coded to match the black coil bottom. If you mismatch the coil with the stinger, the standing wave ratio (SWR) will not be optimal. **It is also important to put the hamsticks up after the satellite dish is activated and before it is deactivated. Otherwise the dish will catch on the Hamstick and possibly break the Hamstick while the dish is rotating.**

Additionally, there is a "Long Wire" antenna that can also be used connecting to the same "Quick Disconnect" mount. It is a 66' long wire kept in a plastic case in the same cabinet as the handheld radios. In the case you will find a "Quick Disconnect" mount attached to a spring, at the top end of the spring the long wire is attached using a bolt and a ring connector. After you unwind the wire you may attach it to a tree, bush, a mast section away from the vehicle. We carry three 5' white mast sections in the antenna cabinet, to the right of the primary MCU Entrance door that can be supported away from the vehicle for you to use. You may have to be innovative to find the best solution.



AIRCRAFT RADIO

There is also an Icom aircraft band radio located above the ACU-1000 stack. This radio is licensed by the FCC to the County Sheriff's Office for use on the nationwide SAR channel (123.10 MHz, AM). The FCC registered call sign assigned to the Sheriff's Department for the unit is: **KE 5202**. This radio may be used to contact aircraft responding to out SAR mission as required. In the past it has been used to work with military aircraft or Civil Air Patrol (CAP) search aircraft. Many of the medical response or AZ DPS aircraft are authorized and equipped to operate on the sheriff's tactical channels, but some are not. The military response helicopters or CAP aircraft will usually not have access to our public service channels and will rely on this radio for contact.

TACTICAL HANDHELDS

We also have ten Icom (IC-F11) VHF hand-helds and two Motorola APX 7000 dual band radios in a tray in the storage cabinet located below the counter on the street side of the van. The Icom radios have sixteen Sheriff and other public service frequencies programmed into them. The Motorola APX radios have a couple hundred channels including the new county trunked system channels. One of the MCU operator responsibilities is to sign out these out as required or requested by the mission IC. Each individual radio will be signed out on the radio log identifying radio # (a white # on top front of radio), name, phone number and agency. Channel assignments are attached to the front of the battery case. They are usually used on the CCSO SAR channel. A charger for these radios (BC-121N) is located on the street side below the counter top and between the two operator positions. The charger is a fast charger and can recharge the radios quite quickly. The LED lights on the charger go from Orange to Green when the radio is fully charged. Be sure that the radios are recharged after each mission. If you do not have time to recharge at the end of the mission, be sure the RACES Officer is aware of that issue so that they can be recharged as soon as possible (usually the following Saturday morning). An operations manual for these radios is maintained in the supply cabinet and in the MCU Manual. The RACES Officer usually fully discharges and recharges these radios on a quarterly basis.



PHONES

Cell Phone

A Verizon cell phone (520-678-5456) is kept in the van in the compartment above the printer and billed to the Sheriff's department. Another of the MCU operator's responsibilities is to ensure that outgoing calls are logged to phone number, person calling, and agency of person using the phone. A clipboard with a cellular log should be maintained near the phone for this purpose. All documented official calls on valid missions can be reimbursed by the state. Logs should be turned into the mission commander after the mission is over or to the RACES Officer. Remember to recharge the cell phone during any missions. It is normally turned off between missions.

Red Phone

The red phone in the far back corner is connected via the Satcom and can be used to contact other emergency vehicles that are also equipped such as the state "BULLFROG".

VOIP Phones

When we are connected to the satellite internet, we also have voice-over-Internet-Protocol or VOIP. We basically piggy back on to the satellite network and have connectivity to the county telephone network. There are four instruments in the cabinet. We have the traditional phone instrument and three 5.6 GHz phones that can be plugged into the one of the four telephone jacks in the MCU. The 5.6 GHz phones can also be used as wireless intercoms for up to 100' from the MCU. Plug the base units into wall jacks and electric power. Be sure the batteries are connected inside. We unplug the batteries in between missions to keep them from running down. To use a phone, press the send button, wait for the dial tone. If you are dialing within the county network, you need to only dial the last 4 digits of the county number. For an outside line, press “6” and again for the dial tone. You may now dial any local number that is normally considered a local number from Bisbee. There is a slight, satellite induced, delay when talking to folks on this circuit that may take some getting used to.

COMPUTERS

There are three computers in the MCU. Each has a primary purpose and they will be discussed separately. The laptop(s) are stored in the upper cabinets. Specific software information is can be found in Appendix 12 of the RACES Manual

ACU 1000 / MISSION SUPPORT LAPTOP

As the title suggests, the laptop is primarily used to control the ACU 1000 switching unit. Using the ACU software, it is used to connect radio channels from different agencies to each other. The software to reprogram the Kenwood radios in the ACU stack, the Icom handheld radios, and Tait radio is also installed on this computer should it become necessary. We currently do not have the capability program the new Motorola APX radios in the MCU. When the satcomm is activated, it may used for Internet access and to send and receive emails through the MCU Gmail Account. This was discussed earlier. Plug in the network (Cat 5) cable, the mouse, and power connector before turning on. This computer should be turned on before the Mapping and Digital Support Computer when setting up to properly allow the network to be established. The large computer screen shown to the right is located above the pass-thru opening to the cab and can also be connected to this computer by connecting the VGA cable to the back.



MAPPING AND DIGITAL SUPPORT COMPUTER

The mapping and digital support laptop will be used to primarily to provide digital communications support when needed. Topographic and street maps are also loaded

on this computer We are transitioning to the SARTOPO mapping software for mapping support.. It will be discussed in more detail in Appendix 12. Copies of the various ICS forms such as the ICS 214 (Unit Log) and ICS 309 (Comm Log) are also stored on this computer. Specific instructions on using this computer and the various software packages are documented separately.

MCU PRINTER and SCANNER

There is a laser printer located on the desktop near the ACU rack. It can be used to print out forms, maps and, of course, mission logs at the end of a mission. Spare print cartridges and paper are stored in the compartments directly overhead. It is connected to the local area network and normally requires little maintenance. You will have to load paper into the drop-down compartment on the front of the printer and check for alignment. You cannot leave paper in the printer while in motion. Clear the paper, put the excess in the folder located behind the printer. There should be a replacement toner cartridge in the storage compartment above the printer. If not, please report that in your After Action Report (AAR) so that a replacement can be purchased. If you need to scan and print a document, a separate document scanner is located in the compartment above the printer and attached to one of the Dell Laptops. More on the scanner operation is found in Appendix 12.

MISSION OPERATIONS

As soon as the MCU is operational (jacks stabilized, antennas in place, radios on, at least one laptop set up with a ICS 309 Comm Log ready for logging) advise the IC. The team leader should establish a **Unit Log** (ICS Form-214) and log the time and mission identifier. At this time a second laptop may be setup to begin tracking teams and posting to one of the mapping programs. If multiple mission radios are active, each assigned operator should keep a log for that position. Record key communications events on the log such as special instructions provided, times and call signs when teams deploy, team welfare checks, when teams return to base, etc. **Key events should be logged whether they are between the MCU and another unit or overheard between other deployed elements.** The IC may already have teams in the field when the MCU is operational. Contact the IC to ascertain their tactical assignments and perform a radio welfare check with them as soon after you are operational as possible. Using the white board above the desk, maintain a status board identifying teams in the field, tactical call signs and status. Status should indicate time of last successful, or unsuccessful, welfare check, and time of return if they have completed assignment. Blank logs are found on a clipboard on the workbench and in the racks above the radios.

During Search Missions, IC will instruct the search teams to do a communications check before the teams depart the base camp area for their field assignment. This will ensure that the teams are on the correct channel and that their radio is working. It is just as important that the teams report in when they return from the field so that we can clear our status board. We do not want to leave any teams or personnel in the field when we pack up and go home.

As the ears for the IC we must be sure to pass along critical mission reports as soon as they come in to the IC or his/her designated representative. This means someone should be on duty in the van and able to monitor the radios at all times. Normally at least two persons, preferably three, are assigned per shift. This allows one operator to depart periodically to deliver messages, run errands, eat, potty breaks, take a nap. etc.

MISSION COMPLETE

AFTER ACTION REPORTS

At the end of each mission, each communications operator involved (deployed or home unit) should turn in to the Communications Team Chief an After Action Report or AAR with a summary of their participation and any lessons learned. Lessons learned may include good things you learned, areas where you need more training, or items that need follow up such as radio, vehicle or equipment problems and potential solutions to the problems found. Any of these items are appropriate. These items will be included as the Team Chief writes his/her summary report to be filed with the County Emergency Service Coordinator. A sample After Action Report can be found in Appendix 19 of this manual. There is also a Maintenance Log mounted to the right of the printer on the wall. Please annotate date, and any issues identified during the mission that may require repair or the attention of the RACES Officer. The RACES Officer/DEC also needs to file a Public Service Report with the ARRL and this is based on the information provided in the logs as well as information provided in your AAR. Look at the FSD Report # 157 to see what is included in the Public Service Report.

REFUEL

Before putting the MCU away after a mission, please refuel. This ensures that the MCU is ready to roll for the next mission. It may be days, hours, or even minutes between missions. The most common after-hours refuel point will be the Sierra Vista City Public Works & Maintenance Yard at 401 N Giulio Cesare Ave between Fry Blvd and Charleston Road in Sierra Vista. Use the city provided access card to get in the gate whenever it is closed. At the diesel pump island there is a central access station. Using the county gas card you will be asked to enter the vehicle mileage off the odometer, and then enter the vehicle or driver ID number and appropriate pump number. The ID number will be "7xxx7" where xxx equals the proper vehicle number. Then proceed to pump the fuel. Please remember to fill out the Vehicle Expense form and attach the fuel receipt to it. Hopefully you remembered to log your beginning mileage before you left Green Acres. The expense forms are normally found on a clip board or in a red plastic folder in the cab. Those completed forms and receipts are turned in to the state for reimbursement. Other refuel locations include the County Fuel Points:

- Benson – Highway Yard, 901 E 4th St
- Bisbee – Highway Yard 1229 Hereford Rd (Near Fleet Maintenance).
- Douglas - Highway Department, 3665 N. Lesley Canyon Rd. (on the east side of road).
- Elfrida - Highway Department, 4019 W Thompson Rd.

- Willcox – Highway Yard, 140 E. Maley St. (State Rte Hwy 186 on the east side),

The same gate combination code works at all locations.

POST MISSION CHECKS

Once the MCU has been returned to the club site, clear with the SO Dispatch so they know you have completed your mission. Reattach the AC power to the MCU. Turn the wall breaker back on and the green LED on the side of the MCU will be lit. Inside the MCU, set the power distribution back to EXT and turn on the MAIN BREAKER. Be sure the BATTERY CHARGER Breaker is also turned on to ensure that unit batteries will continue to be trickle charged while it is parked. There are “Green Dots” on the panel to indicate breakers/switches that need to be left in the “On” position. Red dots indicate items that need to be turned off while parked at Green Acres. If there are any maintenance issues to be looked at, be sure to log them in the Maintenance Log Book posted on the wall to the right of the printer. Be sure all the doors and panel hatches are secure and reset the alarm. The alarm will sound if any of the doors or hatches are not **completely** closed. Close and lock the MCU gate enclosure as well as the Green Acres gate as you leave.