



County of Orange RACES NET CONTROL



November 2000

Newsletter of the County of Orange Radio Amateur Civil Emergency Service

October Activations

by: Lt. Mike Krueger N6MIK
OCRACES Training Officer

At 12:37AM on September 27th, OCSD Search and Rescue requested OCRACES to provide communications and command post staffing during a search for two missing hikers. Lt. Mike Krueger and Sgt. David Boehm responded and established the incident command post at Fire Station 18, on Live Oak Canyon Road, near the entrance to Holy Jim Canyon.

Soon after, the Search and Rescue Command Vehicle arrived, and a more extensive

command post was established, including paper and digital mapping workstations and a multiple channel communications plan was put into action.

Lt. Joe Selikov and Harvey Packard arrived at 0600 to cover the second shift, which turned out to be a short one as the search ended happily around 0700, when the lost hikers were located.

15 deputies and 4 OCRACES members responded. OCSD Reserve Deputy and OCRACES member Steve Sobodos (KN6UX) was assigned to one of the search teams that hiked up the Holy Jim Trail to Santiago Peak, where his team was joined by another search team in a 4WD Suzuki SUV. A total of 60 miles of trails were searched in the pre-dawn hours as temperatures dipped into the 50's.

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November Meeting

The November 6th OCRACES meeting will feature a presentation by OCRACES member Delia Kraft, KF6UYW, who will speak about the Operations Support Division of the Sheriff's Department. This division comprises three operations located at Loma Ridge, including the Emergency Communications Bureau, Control One, and the Emergency Operations Center. Delia will touch briefly on the Emergency Management function, but will focus most of the presentation on responsibilities of the Sheriff 9-1-1 dispatch operations, Control One/OCC, and how they all work together.

This is an open meeting and will start at 1930 hours at the usual meeting location, 840 N. Eckhoff Street, Orange.

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Upcoming Events

November 6	OCRACES General Meeting, 1930 hours, Eckhoff
November 7	Elections -OCRACES Activation
November 9	Statewide EMS Disaster Exercise
November 11	Veteran's Day Parade OCRACES Activation, 0700-1500 hours
December 4	OCRACES General Meeting, 1930 hours, Eckhoff
January 8	OCRACES General Meeting, 1930 hours, Eckhoff

Captain's Corner

by: Ray Grimes, W6RYS
Chief Radio Officer, OCRACES

Another amazing month for OCRACES! There was the Anaheim Mass Casualty Drill, the OCRACES City/County Voice Communications and ATV Exercise, the OCFA ATV/SSTV presentation, another OCSD Search and Rescue missing persons callout, Jamboree on the Air (JOTA), and a great general meeting technical presentation (thanks Verizon SERT). November should also be busy, but hopefully not as busy as the past October.

Our own Delia Kraft, KF6UYW will be our November meeting guest speaker, talking about what she knows best, that is, public safety communications. As always, OCRACES will support the November general election by providing communications between the Vote Tally Center (VTC) and the vote collection sites. Walt Wilson will coordinate this significant vote tracking and communication program.

I am always amazed at the energy and commitment of our OCRACES people. With the small numbers of people we have in our group, we almost always manage to respond to requests for services. By the way, congratulations and welcome to our newest members Martin LaRocque, N6NTH and Nona Thomas, K7NJT. Imagine what we could accomplish with a few more new OCRACES members?

OCRACES is widely recognized for its technical and operational knowledge. We have been requested by Palm Springs RACES to make a presentation on SSTV and PSK-31 similar to what was delivered at the CPRA meeting. The date is Saturday, November 18. Jim Carter, Ralph Sbragia and Ray Grimes will make the journey in support of our neighbors to the east.

It's that time again to start thinking about a holiday dinner party. We need to secure arrangements with a restaurant soon. We will discuss the dinner party further at our November meeting. We can also use a volunteer coordinator. This is your opportunity to persuade the group to dine at your favorite restaurant (the one's without drive-up windows please).

To complete a summary of the month for OCRACES, I have saved the best for last. Congratulations to Lt. Jim Carter for being selected as a County of Orange Volunteer of the Month. Jim, you deserve the recognition for all you do. Thanks.

Also of great importance, deserving recognition for his accomplishment is Ed Herbold who will be honored by the Long Beach Scottish Rite to the position of Coroneted Inspector General Honorary 33rd Degree. These honors will take place this month in Charleston, South Carolina. Congratulations Ed!

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The SRRU Incident Commander, Reserve Lt. Steve Riches had this to say in a letter to ECC Robert Stoffel:

"All of the RACES personnel who supported the effort were very professional, and represented your organization very well. Their help was invaluable. They played an important role during the search; not only did they efficiently manage all radio traffic and maintain CP logs, they also allowed me to deploy additional SRRU members to field assignments who would have had to perform their duties at the CP."

Participating OCRACES members (and their "glow in the dark" OCRACES shirts!) were included in several shots of the command post activities shown on local TV stations. In addition, OCSD spokesman Jim Amormino offered several positive "sound bites" to the media specifically about OCRACES and how we factored into this successful search. Check www.ocraces.org for a link to the KCBS-2 news story about this search.

Again, on October 10th, OCRACES assisted with the search for an elderly female with a medical condition that had walked away from her care facility in San Juan Capistrano. Lt. Joe Selikov and Sgt. David Boehm responded and established an incident command post and assumed incident communications. Another happy ending was realized within 3 hours when the missing female was found in Laguna Beach.

Meetings:

General: First Monday of Month
(open to public) @ 1930 hr

Meeting Location:

OCSD/Communications
840 N. Eckhoff St. Suite 104
Orange, CA 92868-1021

County RACES Frequencies:

6 m: 52.62 MHz output, 52.12
MHz input, 103.5 Hz PL

2 m: 146.895 MHz output,
146.295 MHz input, 136.5 PL;
(primary net Mondays, 1900 hrs)

2 m: Packet: 145.07 MHz
(1830 - 1900 hours)

1.25 m: 223.76 MHz output,
222.16 MHz input, 110.9 Hz PL

70 cm: 449.180 MHz output,
444.180 MHz input, 107.2 Hz
PL (private)

OCRACES Web Page:

<http://www.ocraces.org>

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Did You Know?

Death of a Pushbutton Phone?

By: Ray Grimes, W6RYS
Chief Radio Officer, OCRACES

It's been about 35 years since the introduction of the telephone keypad. Prior to that time, people in most developed countries used rotary dial telephones (DC loop, make-and-break pulse dialing). While the rotary dial telephone isn't quite dead, it is rarely seen anymore. Most domestic telephone circuits will no longer support DC loop dial telephone systems without help from a dial pulse to tone translator device. Most of us have grown up with the 12 button pushbutton dual tone multi-function (DTMF) keypad on our telephones and on many of our ham radios. That worked pretty well, so why change anything? The digital world has greatly enhanced our ability to access distant computers and electronic systems with amazing speed, offering more functions than a DTMF circuit could ever provide.

Simple analog tone and voice circuits are a thing of the past. The future is digital, affording greatly improved agility, noise immunity and error correction, and traffic density. The familiar keypad on your celfone is really a digital circuit, converting digital code representing keypad numbers into a digital radio transmission, then converted at the Mobile Switching Office to either a digital or analog representation of the desired pushbutton number. Companies such as Motorola and AT&T are banking on such technologies as voice recognition and digital telephone directories to become standard equipment in both wireline and wireless applications. You may still have electronics devices which have a recognizable keypad, but that's where the similarity ends. It's all one's and zero's after that!

Thanks to the San Jose Mercury News at: <http://www.mercurycenter.com>

Visual Communications

Coordinator: Jim Carter WB6HAG

Web Page: <http://www.qsl.net/wb6hag/>

SSTV NET - We are trying to increase SSTV participation in our second Monday night Net. Presently, we are seeing a decrease in attendance. In order to improve participation, we are thinking about changing the Net starting time from 1920 hours to either 1930 or 2000 hours. Please email me your suggestions at jecarter@ix.netcom.com.

ATV/SSTV SET Exercise - See separate report in this newsletter

Anaheim Drill - See report in this newsletter.

Palm Springs - The City of Palm Springs requested an SSTV presentation in their city. This is scheduled for November 18th.

JOTA - Jack Barth (AB6VC) and Jim Carter (WB6HAG) demonstrated ATV and SSTV to Boy Scouts and others during the Garden Grove Jamboree on the Air event. This was an all day affair. Representative from various State and local agencies provided demonstrations for attendees. This was good exposure for OCRACES.

Don't Play It Again Sam!

by: Ray Grimes, W6RYS
Chief Radio Officer, OCRACES

If electronics isn't complicated enough, there is a new battle brewing about those ring tones on your cellular phone. You know, the one's you probably haven't thought too much about (until now)? Beep-beep used to be acceptable, as was ring-ring, but we can't stand in the way of progress.

A Santa Monica based music company has been sued in a federal court regarding their providing as a free Internet download, what is alleged to be copyrighted music snippets of popular songs. These downloads are intended to be used as celfone alternative ringer sounds for some Nokia, Ericsson, and Siemens handsets. This web site logs an astonishing 330,000 visitors a day, and 90 million page impressions a month. It has already sent out 14 million free musical ring tones to 3 million celfones. The lawsuit has only increased attention to this website. It now gives out a quarter million musical ring tones a day. The New York music publisher which brought the lawsuit claims that 300 of these songs violate copyrights of immensely popular musical compositions. The firm is seeking \$45 million in damages and a court injunction against further distribution of copyrighted music. A recommendation by legal counsel was that this Santa Monica based company stick to music published prior to 1900 (probably not real popular). Maybe they just need a microphone input to these celfones for programming ring tones, and the consumer could record himself whistling or singing, eliminating third party liability? Maybe not.

Thanks to Wireless Magazine, September 04, 2000, P. 10, Albright, Peggy. at www.wireless.com

October Drills

by: Lt. Mike Krueger N6MIK
OCRACES Training Officer

The last few months have been packed with training sessions and drills. In addition to the "classroom"-style presentations at the August and September OCRACES meetings, there have been two large-scale training exercises that challenged even the most seasoned RACES members to learn new skills and put them into action.

"Operation Boysenberry"

The annual field exercise, dubbed "Operation Boysenberry" was held September 18th, at Knott's Berry Farm. The OCSD Search and Rescue Reserve Unit (SRRU) joined OCRACES for a night of realistic training scenarios set up around the amusement park after it had closed for the day.

Each of the 5 scenarios was carefully chosen to provide a challenge to members of both groups. The scenarios included a missing persons search, evidence search, search for a felony subject (complete with bloodhounds!), a complex Land Navigation course, and a Field Command Post.

OCRACES nicely complemented SRRU's law enforcement talents by bringing in our communications know-how and operating skills with the new 800MHz portable radios, and working in concert with SRRU deputies to complete each of the scenarios. OCRACES members took the lead role in training SRRU deputies in the Field Command Post scenario, exposing many of them to a working "CP" for the first time.

This exercise allowed OCRACES to show off our strong points and identify areas that may benefit from additional training while becoming familiar with the operations of another unit of the Sheriffs Department.

Countywide RACES Drill

On October 7th, OCRACES hosted the annual Countywide RACES drill to promote communications between city and county RACES groups and affiliated agencies. 22 RACES groups activated from as far away as Reno, Nevada and exchanged voice messages and SSTV/ATV feeds.

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Anaheim Mass Causality Exercise

By: Jim Carter, WB6HAG

Visual Communication operators Delia Kraft (KF6UYW), Joe Selikov (KB6EID), Jack Barth (AB6VC), Jim Carter (WB6HAG) and Ken Mirabella (KM6YH) supported the Anaheim September 28th Mass Casualty Exercise. Both ATV and SSTV communications were used concurrently during the event to support Anaheim fire and their EOC. This event provided a means to test our ATV and SSTV capabilities and to identify which visual communication mode is better accepted by our customer.

Delia acted as the IC operator for SSTV and Jim performed the ATV IC operator duties. Jack provided both ATV and SSTV field pictures to the Edison Field IC and ATV pictures to the Anaheim EOC located approximately two miles away. Anaheim EOC reported picture quality of P4 to P5 which is very good. This accomplishment was attributed to Jack's new 20 watt backpack transmitter. Joe and Ken provided great SSTV pictures to the Edison Field IC. It was interesting to note that our customers were more interested in live ATV video than still SSTV pictures. To our surprise, SSTV was not as well accepted based upon our observation under a controlled evaluation.

We experienced a new ATV tool, as an ATV transmitter was installed in the Anaheim PD helicopter (Angel). This was our first exposure to near field ATV pictures from above.

The exercise didn't go without its share of problems. These issues identified opportunities for improvement.

Our ATV operations identified the following issues:

1. Glass mount antennas normally work very well. The glass mount antenna mounted on our ATV IC vehicle experienced a problem as it was found separating from the glass. There are hundreds of thousands of glass mount antennas in use without problems. A glass mount antenna improperly placed on a vehicle (tinted windows, excessive glass capacitance etc.) will degrade the antenna performance, but this doesn't necessarily mean that all or most of these antennas are poor. We find that magnetic mounts work better.
2. The ATV IC could not receive Angel's video while it circled the Edison field. We were in a "cone of silence" as Anaheim EOC was receiving good video. We can resolve this by using a different ATV antenna such as a discone.
3. Larger TV monitors are required for field use. Five and twelve inch monitors are too small. A nineteen inch monitor is planned for our next exercise.
4. Jack's 20 watt ATV portable transmitter was found desensitizing near field UHF public safety radios. It was interesting to note, when a Public Safety radio operator was stationed near Jack, they could not receive their dispatcher.
5. Amateur Radios installed in helicopters can work well if a headset is used. However, we found that the 800 MHz portables worked better when communicating with Angel to coordinate ATV pictures. This process removed the pilot's burden of handling extra microphones.

SSTV operations identified some interesting challenges too. These were:

1. The Kenwood VC-H1 Visual Communicator battery life is too short when using the self contained batteries (50 min. or less).
2. Field operators who place their transceivers into their back pocket don't radiate well. This caused noise in received pictures. Maybe we need antenna's mounted on a hard hat (Ken's (KM6YH) suggestion) or carry a six foot fiberglass or PVC pole with an antenna mounted atop it.
3. The ATV IC's, 144 MHz Comm channel caused interference to the SSTV IC computer used to receive SSTV signals. However, pictures received on the Kenwood VC-H1 were fine.
4. It was recommended by our SSTV IC operator that SSTV field operators need to work and think as photographer's and not as communicators. Field operators should send a constant flow of pictures.
5. SSTV operations would work better on a simplex frequency when near IC operations rather than using a repeater. This would also improve picture quality.

Some of our members were fielding questions during the exercise on how the Kenwood VC-H1 worked. Everyone who participated said they had fun and some stated they learned a new communication medium. It looks like we need more VC-H1's for future events!

This was an interesting exercise and I thank all of you who participated for making this a success.

Operation Boysenberry III

By: Ray Grimes, W6RYS
Chief Radio Officer, OCRACES

OCRACES first enacted Operation Boysenberry three years ago, with a planned disaster communications exercise staged within the make-believe city of Knott's Berry Farm. This training exercise was so successful that we have now completed three of these unique annual nighttime field events. Of course, none of this would have happened if it weren't for the generosity and full cooperation of the good folks at Knott's Berry Farm. This year the OCRACES exercise was extended to include the OCSD Search and Rescue Reserve Unit, to participate in a set of realistic scenarios such as Lost and Missing Persons, Evidence Search, Felony Stops, and K-9 deployment. Some of the most important elements of this exercise were the opportunities for Reserve Deputies to operate the new 800 MHz packset radios, and to operate a command post, complete with all of the necessary report forms and paperwork. OCRACES Lt. Mike Krueger, Training Officer, and SRRU Lt. Steve Riches spent months planning and coordinating this major training exercise.

Approximately 23 OCRACES members and 35 SRRU members participated in this sizeable event. KBF (Knott's Berry Farm) staff and security personnel played an important role in exercise coordination and support. A special thanks to Robert Stoffel, OCSD Emergency Communications Coordinator, for his significant effort in arranging with KBF to allow these training events to occur on 'the Farm' after the paying customers had left for the day. We also want to recognize Sgt. Moreno, for his response to the park with the eats and drinks. Thanks also go to the Evaluators and the Play Actors (390, 415, 925, 5150, etc.).

The exercise began with unit briefings and team assignments, followed by issuance of 800 MHz radios. A RACES member was paired with a SRRU Deputy, to act as his or her communicator, leaving the deputies to turn their attention fully to their primary assignments. The 800 MHz radio training was very timely and appropriate, as the completion of the new 800 MHz Countywide Coordinated Communications System is close at hand and these radios will soon become the primary field communications tool for the entire Sheriff's Department and all other county services (Fire, Lifeguard, Local Government, Emergency Management, etc.). The OCRACES and SRRU teams rotated assignments, with field units handling their tasks while communicating with their respective CP's (Command Posts) via radio. At 22:45 hours all units were advised to 10-19 to the CP for a debriefing. The exercise terminated at 23:00 hours. In talking with participants from OCRACES and SRRU, the experience was as a whole, valuable, enlightening, and a little humbling. Several participants were overheard asking about Operation Boysenberry IV for next year. There will again need to be considerable planning and input from all of the participants. For a start, how about Boysenberry pie for dessert?

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The drill plan was designed to be flexible, and did not require any scripted messages or message timing. The format encourages each participating group to create a "local" drill based upon events that may actually impact their city. Mutual aid requests generated at the local level became part of the wide-area drill.

Over 300 voice messages were passed during the 3-hour drill. OCRACES members staffed 5 radio positions at the Orange County Emergency Operations Center (EOC) RACES room and monitored 8 VHF and UHF radio channels as well as HF. The Orange County EOC acted as the hub, or "switchboard", receiving each message and then relaying it to the desired recipient in accordance with the Orange County EOC Mutual Aid procedures.

Simulated drill messages of every type rolled in, from a series of large airplane crashes to terrorist bombings to civil unrest. Fortunately, chances are very slim that we, as a county, would ever be in the path of such widespread destruction. But if we are, we'll be ready!

Simulated Emergency Test (SET) Overview For ATV/SSTV Operations

By: Jim Carter, WB6HAG

OCRACES October 7th exercise, was the first all City and County event that included both ATV and SSTV communication modes. This was an historical event for us, since it allowed us to evaluate how SSTV and ATV can co-exist with multiple active communication frequencies. Overall, this exercise provided some very interesting and useful results to help us improve our operations in the future.

Three stations operated ATV video on 426.25 MHz. Those were Costa Mesa (MESAC), Cypress City (RACES), and Lakewood City Sheriff Office (LADCS). Pictures from Costa Mesa were P4, Cypress was P2, and Lakewood was P1. Although picture quality wasn't the best, we learned some very valuable lessons for improvement. During the exercise, an ATV transmitter was on the wrong operating frequency, coax cables used to feed ATV antennas were RG58, ATV transmitter power was too low, and difficulty in setting up the ATV station were the major issues. To help resolve these in the future, it is recommended that:

1. ATV transmitters should have frequency switches marked with the operating frequency next to it. Don't use something that comes off easily. PC Electronics identifies the frequencies on their transmitters as F1 and F2. You need to know which frequency switch setting is 426.250 and 434.000 MHz. You can't guess in the field, as you might end up on our ATV repeater located on Santiago Peak. The owner of this repeater is an active member of SB RACES and appreciates prior permission before any RACES group uses it during an exercise or an actual event. OCRACES is a member of ATN and we respect their request.
2. Antenna's used for ATV should be broad banded. Don't use a standard voice sub-band antenna. Please check PC Electronics web page for a recommended antenna used for vertical polarization. You can improve your signal by obtaining a beam with more elements. Remember, the larger the beam, the greater the wind load when operating portable. You need to keep the antenna stable during heavy winds in order to prevent video fade and color degradation.
3. The coax is the most important and critical item for good color and signal strength to the receiving station. Try to keep your coax length to 25 to 50 feet and use only 9913 solid or flex type coax. This is a low loss cable that will improve your picture quality.
4. Transmitter power is very important for good ATV picture quality. I have found that Public Safety personnel will accept at the minimum a P4 picture. In order to accomplish this, your transmitter should be capable of emitting 15 or higher watts. Ten watts might work fine for a few miles but anything greater, you need more wattage for that P4 or better picture supplied to distant EOC locations.
5. ATV stations located in an EOC should be established in advance and left assembled after installed. Normally, ATV equipment can take many hours to setup and adjust. Trying to set up an EOC ATV station during an exercise or event is time consuming and frustrating to the installer and those watching. It's much easier to flip a switch on a permanently installed station.

Four Stations operated SSTV on the 449.180 MHz OCRACES repeater. Those were Costa Mesa City (MESAC), Huntington Beach City (RACES), Placentia City (RACES), and Westminster City (RACES). All the pictures received from the participating station were very impressive. It was noted that some pictures were received with some noise lines. This condition might be from communication operators moving around while they transmitted their picture. Although the picture quality was impressive, I've listed some helpful hints for improvement:

1. SSTV operators need to work and think as photographers. Always thinking what makes an interesting picture that tells a story. Pictures should include people doing things, not just objects such a trash containers or empty parking lots. SSTV operators should send a constant flow of pictures to keep SSTV interesting to the receiving station.
2. The portable transceiver interconnected to the VC-H1 should be positioned so its antenna radiates above the user's body, keeping the antenna vertical. This prevents signal fade into the repeater that can cause a noisy picture. One person recommended a metal hat with an antenna mounted on top. It might look strange, but it works great!

I hope this article has provided you with some insight for improving ATV or SSTV operations. If you have any questions, please e-mail me at jecarter@ix.netcom.com.

2000 ARRL S.W. Division Convention Highlights

by: Roger Thomas KD6DAN

Working with Served Agencies, presented by Ron Reynolds, N7WTF. This seminar focused, not on municipal public safety agencies, but rather on working with non-profit organizations such as the MS 150 bike race and local walk-a-thons. When asked about how they interfaced with public safety representatives during these events, he was a little vague, referring only to a continued "re-building" effort with the local public safety agencies. He did mention that the city planning staff has realized the need for communications. When anyone approaches the City of Phoenix for a permit to hold a walk-a-thon, they are asked if they have made contact with the local ham radio community for communication support. Mr. Reynolds also pointed out that communicators responding to a planned event or an emergency must look professional in order to be taken seriously. Uniforms, which are "uniform in nature for all the members" should be worn.

2001 SW Division Convention in Riverside. Plans are now being drawn up for the next convention and OCRACES participation may be something for us to consider. At the Scottsdale event, any club that wanted to set up a table could have done so at no cost. I did speak with Judy Ann Lowman, W6YBS, who is the convention chairman for the Riverside event. She expressed an interest in having OCRACES participate and/or display our Control 6 vehicle as we did three years ago.

Digital Cellular Telephones

by: Roger Thomas KD6DAN

Prescott AZ. As a postscript to our guest speaker last meeting, Scott Ward of Verizon, I would like to add a personal note about the new cellular phones. Not being a person that likes change, I finally decided to upgrade my wife's 12-year-old three-watt "mobile" analog cell phone to one of the new Qualcomm 860 digital phones. This decision was made as we are up-grading our OCFA fleet of 120 analog phones to the new digital models. Here is what I found:

The new phones are certainly small and "thin" enough to carry in your pocket. The battery lasted at least 24 hours without needing a recharge, including placing several phone calls during this time. The specifications say it will hold a charge for 43 hours. Charging the phone takes no more than 2 hours when it is down to less than a quarter charged. As far as roaming, I forwarded our home "landline" number to the cell phone while here in Arizona. We received several calls directly and two more went into voice mail while the phone was unattended. The visual voice mail indication notified us that there were messages, so we could call back immediately. The caller ID display also works, even with forwarded calls and while we were roaming. Another feature is the Internet messaging. You can go to www.airtouch.net and send a 120-character message to the display on the phone. Again while roaming, the visual message-waiting indicator for e-mail was activated in less than a minute. This will be a handy feature for Nona, as she does not have a pager and there were a few times that I needed to page her.

Verizon no longer has those pesky and expensive roaming charges for digital phones in California, Nevada, Arizona and New Mexico. Verizon also offers 500 mobile to mobile minutes per month with some of their rate plans. OCFA communications has issued a cell phone to each staff member, plus one for our office. When we need to call back to the "base" we use the cell phone located there! These features may be helpful for Baker to Vegas or as a supplemental to our pager call-up tree, if we had some type of cell phone network. Unfortunately, all the cell phones would need to be on the same carrier to achieve the mobile to mobile "free" calls.

While I'm not suggesting we all throw away our HT's and give up all the Amateur Radio Frequencies to the cell phone carriers, I have been impressed with the advancements in cell phone technology. There still are some coverage problems, a few times my phone switched to "analog roam" which means that none of the enhanced services would work, but generally the darn thing does work.