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COVER STORY

Hello? Is anyone out there?

By Norm Schrein, KA8PGJ



Let me give a reader's warning at the very beginning of this story. If you believe the bible literally from Genesis, then this article may not be for you. However, if you believe that the description on the creation of the heavens and the earth may be more of a poetic description of how we all got here, then this article may be for you. It does, after all cover a radio subject. The King James version of The Bible takes about one and one half pages to describe how we all got here, whereas Charles Darwin took over 500 pages in his book "On the Origin of Species". If you find it hard to believe that Adam and Eve just popped up in some ancient garden or that we all crawled out of the sea, there is perhaps one other explanation. Is it possible that we are the descendants of some ancient alien civilization? Has the earth been visited by extra terrestrials in the far distant past? Are we the result of that visit?

Charles Darwin said in his book "On the Origin of Species", "Until recently the great majority of naturalists believed that species were immutable productions, and had been separately created.....Some few naturalists, on the other hand, have believed that species undergo modification, and that the existing forms of life are the descendants by true generation of preexisting forms." Is it possible that we and our planet came about after millions of years of change and mutation? Was this change and mutation caused by some external factor? Is there life out in the galaxies? Is there intelligent life that we are yet to contact, or have they already contacted us?

SETI, the Search for Extraterrestrial Intelligence, is an exploratory science that seeks evidence of life in the universe by looking for some signature of its technology. The current understanding of life's origin on Earth suggests that given a suitable environment and sufficient time, life will develop on other planets. Whether evolution will give rise to intelligent, technological civilizations is open to speculation. However, such a civilization could be detected across interstellar distances, and may actually offer our best opportunity for discovering extraterrestrial life in the near future.

Finding evidence of other technological civilizations however, requires significant effort. Currently the Center for SEIT Research develops signal-processing technology and uses it to search for signals from advanced technological civilizations in our galaxy.

From 1994 – 2004, the Center for SETI Research at the SETI Institute was funded entirely by donations from individuals and grants from private foundations. In 2005, a NASA grant was awarded for work on signal detection for the Allen Telescope Array. Donations and non-governmental grants still comprise the vast majority of funding for the Center.

The mission of the SETI Institute is to explore, understand and explain the origin, nature and prevalence of life in the universe. The SETI Institute is conducting the most profound search in human history -- to know our beginnings and our place among the stars.

While interest in the question of extraterrestrial life is at least as old as



historical civilizations, the modern SETI era can be defined as beginning in 1959. In that year, Cornell physicists Giuseppi Cocconi and Philip Morrison published an article in Nature in which they pointed out the potential for using microwave radio to communicate between the stars.

A young radio astronomer, Frank Drake, had independently reached the same conclusion, and in the spring of 1960 conducted the first microwave radio search for signals from other solar systems. For two months Drake aimed an 85-foot West Virginia antenna in the direction of two nearby Sun-like stars. His single-channel receiver was tuned to the "magic" frequency of 21 cm (1,420 MHz) line of neutral hydrogen, a spot on the radio dial also favored by Cocconi and Morrison because of its astronomical significance. While he didn't detect any signal of extraterrestrial origin, Drake's Project Ozma spurred the interest of others in the astronomical community, most immediately the Russians.

In the 1960's , the Soviet Union dominated SETI, and it frequently adopted bold strategies. Rather than searching the vicinities of nearby stars, the Soviets used nearly-omnidirectional antennas to observe large chunks of sky, counting on the existence of at least a few very advanced civilizations capable of radiating enormous amounts of transmitter power.

At the beginning of the 1970's NASA's Ames Research Center in Mountain View, California began to consider the technology required for an effective search. A team of experts produced a comprehensive study for NASA known as Project Cyclops. The Cyclops report provided an analysis of SETI science and technology issues that is the foundation upon which much subsequent work is based.

As the perception grew that SETI had a reasonable prospect for success, the Americans once again began to observe. During the 1970's, many radio astronomers conducted searches, using existing antennas and receivers. Some of the efforts, employing improved technology, have continued to the present time.

By the late-1970s, SETI programs had been established at NASA's Ames Research center and at the Jet Propulsion Laboratory (JPL) in Pasadena, California. These groups arrived at a dual-mode strategy for a large-scale SETI project. Ames would examine 1,000 Sun-like stars in a targeted search, capable of detecting weak or sporadic signals. JPL would systematically sweep all directions in a Sky Survey. In 1988, after a decade of study and preliminary design, NASA Headquarters formally adopted this stragegy, and funded the program. Four years later, the observations began. Within a year, Congress terminated funding.

With NASA no longer involved, both researchers and interested members of the public saw a diminished chance to answer, within their lifetimes, the profound question addressed by SETI. Consequently the SETI Institute is endeavoring to continue this large-scale program with private funding.

Project Phoenix concentrated efforts on that component of the NASA SEIT project known as the Targeted Search. Its strategy was to carefully examine the regions around 1,000 nearby Sun-like stars. The world's largest antennas were used, committing observing time for SETI.

Project Phoenix was orders of magnitude more comprehensive than any experiment yet performed.

Continued on page 6

COVER STORY

Hello? Is anyone out there?



Other long-term SETI projects are underway. Among these is Project SERENDIP operated by the University of California, Berkeley at the Arecibo telescope. A second major part is conducted in Australia by an independent group, the SETI Australia Centre at the University of Western Sydney.

In the meantime the SETI Institute has been focusing on the future. In a joint project with UC Berkeley it is building a SETI-dedicated array of telescopes that will equal a 100-meter radio telescope, the Allen Telescope Array. It is the forerunner of other larger radio astronomy arrays planned for later in the decade. It is possible that as telescope and SETI technology advance it may be possible to detect intelligence not by directed message but by the same kind of "noise" we accidentally broadcast to the cosmos via radio, television and radar signals.

How would you like to use your home PC to help in the SETI Project? You may recently have heard about a project, called SETI@home, to use thousands of Internet-connected PCs to help search for extraterrestrial intelligence. This is not part of the research program of the SETI Institute, but uses data collected with the Arecibo Radio Telescope, in Puerto Rico, as part of Project SERENDIP. The SETI Institute is a major supporter of the SRENDIP search.

The idea behind SETI@home is to take advantage of the unused processing cycles of personal computers. The way this works is as follows: an interested computer owner will download free software from SETI@home. Then, when their computer is idle (for example, when you leave your home office to go out for a burger), this software will download a 300 kilobyte chunk of SERENDIP data for analysis. The results of this analysis are ultimately sent back to the SERENDIP team, combined with the crunched data from the many thousands of other SETI@home participants, and used to help in the search for extraterrestrial signals. The limitations of this system are that only a 2.5 MHz piece of the observed spectrum will be analyzed by SETI@home, and of course the data processing does not occur in "real time" so that interesting signals must be followed up at a later date. The tremendous advantage of this scheme is that it permits looking for a variety of signal types that the current SERENDIP processing cannot yet uncover, and many thousands of interested folks will become active participants in SETI. The software also allows users to view the downloaded data on their screens.

If you have a question about TeamSETI membership, you can contact the SETI Institute by email at membership@seti.org or call 650-961-6633. SETI@home software is available. You can download the screen saver program from the official homepage of SETI@home. Check them out at http://setiathome.ssl.berkeley.edu/. ●

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The **Icom R1500** is similar to the above, but also includes a controller head for additional operation independent of a PC. *#1500* **$579.95**

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PCR2500
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The **Icom PCR2500** wideband computer receiver uses a similar form-factor to the PCR1500, but has several enhancements, including two powerful features: ***dual watch*** (the radio can receive two signals simultaneously) and ***diversity reception*** (two antennas can be connected at the same time and employed to provide stable reception). The optional UT-118 Digital Unit provides D-STAR® digital voice reception and the optional UT-121 supports APCO25 digital voice decoding. The R2500 is shown above. *#2501* **$709.95**

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PRODUCT REVIEW

A Neat Little Gadget

By Tom Swisher, WA8PYR



Radio Shack has weighed in again with another new scanner, and this one is a unique little device that could fill a niche as a relatively powerful, yet no-frills receiver.

Manufactured by GRE for Radio Shack, the Pro-107 "iScan" is a multi-trunking scanner which can track Motorola, LTR and EDACS trunking systems. Using a variation of the object-oriented programming found in other recent GRE products, the scanner comes preloaded with the contents of the online database found at Radioreference.com, and stores it's programming and configuration on a 2gb Secure Digital memory card.

The iScan comes complete with an antenna, the USB Cable, a 2GB Secure Digital memory card (already installed), a User's Guide and a CD-ROM containing documentation files and the included iScan programming software. Other available accessories (not included with the radio) include the Radio Shack 800MHz handheld antenna; USB power adaptors for both home or car; and a converter unit for the Secure Digital memory card.

With the object oriented programming method, the number of channels, systems and talkgroups you can scan is only limited by the memory of the radio. The triple-conversion receiver also features the Signal Stalker frequency capture feature, and covers all of the common scanner frequency bands.

One of the first things you'll notice about the iScan is the lack of a numeric keypad, and a series of buttons arranged in concentric circles. There's no need for a normal numeric keypad, as you can access all of the radio features through the media-player style buttons on the front of the radio. You'll use these buttons to navigate through the menus to set up your scan lists, adjust the volume, start and pause scanning, and access the Skywarn scanlist with the single-touch Skywarn button. In addition to menu information, the display can show most system information during scan, or can be set up in simple mode to only display playlist and channel alias name.

The scanner has a 16-character alphanumeric display which allows naming of channels and talkgroups, which includes a very good backlight. The keypad is also nicely backlit. Other features include audible alarms which can be assigned to various objects as the user desires; CTCSS/DCS capability; 6 preset search ranges and 1 user-definable search range; weather monitor with SAME alert; and multiple priority channel capability.

To start using the radio, you have to begin by importing information from the pre-loaded library. First, you press the MENU key, and select Browse Library. This will allow you to select the state you wish to scan; once you have selected the state, you'll scroll down to select Agencies, Counties or Systems to import. Another press of the Menu key and the radio asks you to Import Selected, then select the playlists you wish that system, agency or county to be imported to. Press MENU once more, and select Import Now. The scanner will now gather the needed information from the

internal database and import it to the scanlists you specified. You can also specify only specific sites of a multi-site system, as well as select specific talkgroups only from a system. Once you have your scanlists set up, all you need to do is select the scan lists you wish to monitor and hit the Play button.

The keypad programming is fairly easy, but even easier is to use the included iScan software. Once you have loaded this Windows-based software on your computer, it allows you to create your own custom scanning configuration using the built-in database. While similar in the basic process to the keypad method, it's much easier as more information is available to you on the computer screen. Even so, you simply select the Agencies, Counties and/or Systems you wish to hear, import the data, set up scan lists, and so on. This is much easier with the software but is still pretty easy but more time-consuming with the keypad.

The iScan comes complete with a USB cable and has Uniden style connector for the PC/IF port. This card allows you to read the internal database and power the scanner, but does not allow access to the Secure Digital card.

The iScan has many neat features; first and foremost is that it's quite small and easy to slip into a pocket. Once programmed with your favorite local scanning targets, you can use this radio as a "grab-and'go" radio for those times when you just want to stay in touch but don't need a scanner with all the bells and whistles. It's also got very good audio quality and power, as well as good sensitivity and quite decent selectivity. It uses only two AA alkaline or NiCd/NiMh batteries, which makes it easy to grab a couple of replacements at the corner carryout when your batteries die while you're out and about.

The radio has only a few minor drawbacks; first among these is, as noted earlier, the need to remove the Secure Digital memory card from the radio so you can load your custom configuration onto the card after setting it up with the software. I found this to be rather odd, since nearly every USB device out there, be it a camera or a media player, allows reading and writing files to the device through the USB cable connection. The need to remove the SD card from it's place behind the batteries is an inconvenience, and to add to the problem, many people do not have an SD card reader; after all, they can just hook the USB cable up to their camera or media player directly and transfer files, so why invest in a card reader? Another minor drawback is that performance with the included antenna is only fair; I found performance much improved with a different antenna. Finally, the knob on top of the radio is used to set the squelch rather than the volume; often when carrying a radio in my pocket or belt, I need to change the volume setting without taking it off my belt. A top-mounted knob control makes this quite easy, but the iScan uses this control as a Squelch knob, which once it's set rarely needs to be changed.

All in all, the Pro-107 iScan is a very neat little radio, and a very ingenious idea for those folks who aren't die-hard scannists and simply want to keep an ear on happenings in their local area. If I didn't already have too many scanners, and if this device included Project 25 digital capability, I might be tempted to get one myself for simple get up and go use. The radio retails for $229.99.

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The 23RD Winter SWL Festival – *What is it?*

By Ed Muro, K2EPM



On the weekend of March 5th & 6th, 2010 (Friday & Saturday) several hundred Short Wave Radio listeners will descend upon the hamlet of Kulpsville, Pennsylvania which is located in Towamencin Township within Montgomery County as the Best Western on Sumneytown Pike once again hosts this annual event. Much like going to Dayton is an annual haj for hams, Kulpsville is the Mecca for the SWL world.

Why should you attend? Well, everyone has their own reasons. This annual convention is the largest gathering of listeners to the radio spectrum ó longwave, mediumwave, shortwave (broadcast, utilities, pirates), VHF/UHF, FM, scanners, television and satellites ó in the United States, perhaps the world. About 200 persons from around the world attend each year. It is a nice way to break out of the doldrums of the northern hemisphere winter. Broadcaster representatives, clubs, and a limited number of vendors attend. In fact, for a number of years National Communications has had a presence at the fest. The gathering is sponsored by NASWA (North American Shortwave Association) Quite frankly, while there is a scanner forum every year and I would hope scannists and other radio hobbyists not only enjoy the forum but learn something from it, if you are going there in hopes of seeing the latest and the greatest in scanning gear... you might be disappointed. For me, the Fest is not only a place to learn about what's going on in the hobby but it's a place to kick back and relax for a couple of days with people who share some common interests.

As a youngster, I inherited a couple of old tube Short Wave Radios from my grandfather but as the CB craze took hold my father gave those radios away. I survived the early 70's as a CBer and then in the mid-70's I became a die hard scannist. When I attended my first SWL Fest in 1996, I attended with only a mild interest in the short wave hobby; in fact the only short wave radio that I had at the time was a Radio Shack DX-380 which didn't even have SSB. I went to that fest, just to get away for the weekend armed with not a short wave radio but my Radio Shack Pro-43 and a few dozen local Montgomery County law enforcement frequencies (which were conventional at the time.)

Over the years my interest in various aspects of the radio hobby have ebbed and flowed, for a while I might be in to AM or Medium Wave DXing, some times I get interested in UTEs and other times listening to news radio from around the globe on shortwave tickles my fancy. But, just as I was in the late 70's I have always been and still am a die hard scannist, so...the remainder of this article will focus on the scanning aspect. However, if you do have an interest in attending the SWL Fest more info can be found at: www.swlfest.com or postal mail can be addressed to:

Winter SWL Festival, PO Box 4153, Clifton Park, NY 12065-4153

Over the years the shortwave hobby has evolved and honestly has shrunk as many broadcasters around the world have found other mediums to spread their message, be it via satellites or Internet streaming. Just as hams have had to embrace new technologies such as D-star, IRLP, and Echolink, SWLers will have to embrace new avenues to enjoy what they do. What I am trying to convey to you is that if you are a die-hard SWLer...that's fine

Continued on page 12

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25.0000-512.0000 MHz., 764.0000-775.9875 MHz., 794.0000-823.9875 MHz., 849.0125-868.8765 MHz., 894.0125-956.000 MHz., 1240.0000 MHz.-1300.0000 MHz.

The handheld BCD396T scanner was designed for National Security/Emergency Preparedness (NS/EP) and homeland security use with new features such as **Fire Tone Out Decoder**. This feature lets you set the BCD396T to alert if your selected two-tone sequential paging tones are received. Ideal for on-call firefighters, emergency response staff and for activating individual scanners used for incident management and population attack warning.



Close Call Radio Frequency Capture – Bearcat exclusive technology locks onto nearby radio transmissions, even if you haven't programmed anything into your scanner. Useful for intelligence agencies for use at events where you don't have advance notice or knowledge of the radio communications systems and assets you need to intercept. The BCD396T scanner is designed to track Motorola Type I, Type II, Hybrid, SMARTNET, PRIVACY PLUS, LTR and EDACS® analog trunking systems on any band. Now, follow UHF High Band, UHF 800/900 MHz trunked public safety and public service systems just as if conventional two-way communications were used. **Dynamically Allocated Channel Memory** - The BCD396T scanner's memory is organized so that it more closely matches how radio systems actually work. Organize channels any way you want, using Uniden's exclusive dynamic memory management system. 3,000 channels are typical but **over 6,000 channels are possible** depending on the scanner features used. You can also easily determine how much memory you have used and how much memory you have left. **Preprogrammed Systems** - The BCD396T is preprogrammed with over 400 channels covering police, fire and ambulance operations in the 25 most populated counties in the United States, plus the most popular digital systems. **3 AA NiMH or Alkaline battery operation and Charger** – 3 AA battery operation - The BCD396T includes 3 premium 2,300 mAH Nickel Metal Hydride AA batteries to give you the most economical power option available. You may also operate the BCD396D using 3 AA alkaline batteries. Unique Data Skip - Allows your scanner to skip unwanted data transmissions and reduces unwanted birdies. Memory Backup - If the battery completely discharges or if power is disconnected, the frequencies programmed in the BCD396T scanner are retained in memory. Manual Channel Access - Go directly to any channel. LCD Back Light - A blue LCD light remains on when the back light key is pressed. Autolight - Automatically turns the blue LCD backlight on when your scanner stops on a transmission. Battery Save - In manual mode, the BCD396T automatically reduces its power requirements to extend the battery's charge. Attenuator - Reduces the signal strength to help prevent signal overload. The BCD396T also works as a conventional scanner to continuously monitor many radio conversations even though the message is switching frequencies. The BCD396T comes with AC adapter, 3 AA nickel metal hydride batteries, belt clip, flexible rubber antenna, wrist strap, SMA/BNC adapter, RS232C cable, Trunk Tracker frequency guide, owner's manual and one year limited Uniden warranty. Not compatible with AGEIS, ASTRO or ESAS systems. Order on-line at www.usascan.com or call 1-800-USA-SCAN.

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Bearcat Sportcat 230 alpha display handheld sports scanner	$184.95
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Bearcat BCT8 250 channel information mobile scanner	$169.95
Bearcat 350C 50 channel desktop/mobile scanner	$104.95
AOR AR16BQ Wide Band scanner with quick charger	$199.95
AOR AR3000AB Wide Band base/mobile receiver	$1,079.95
AOR AR5000A+3B Wide Band 10 KHz to 3 GHz receiver	$2,599.95
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AOR AR8600 Mark II Wide Band receiver	$899.95
AOR AR-ONE Goverment/Export sales only 10 KHz-3 GHz.	$4,489.95
Scancat Gold For Windows Software	$99.95
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Frequency Coverage:

25.0000-54.0000 MHz., 108.0000-174.0000 MHz., 216.0000-224.9800 MHz., 400.0000-512.0000 MHz., 806.0000-823.9875 MHz., 849.0125-868.9875 MHz., 894.0125-956.000 MHz., 1240.0000 MHz.-1300.0000 MHz.



The handheld BC246T TrunkTracker scanner has so many features, we recommend you visit our web site at www.usascan.com and download the free owner's manual. Popular features include **Close Call Radio Frequency Capture** – Bearcat exclusive technology locks onto nearby radio transmissions, even if you haven't programmed anything into your scanner. **Dynamically Allocated Channel Memory** - Organize channels any way you want, using Uniden's exclusive dynamic memory management system. 1,600 channels are typical but **over 2,500 channels are possible** depending on the scanner features used. You can also easily determine how much memory is used. **Preprogrammed Service Search (10)** - Makes it easy to find interesting frequencies used by public safety, news media TV broadcast audio, Amateur (ham) radio, CB radio, Family Radio Service, special low power, railroad, aircraft, marine, racing and weather frequencies. **Quick Keys** - allow you to select systems and groups by pressing a single key. **Text Tagging** - Name each system, group, channel, talk group ID, custom search range, and S.A.M.E. group using 16 characters per name. **Memory Backup** - When power is lost or disconnected, your BC246T retains the frequencies that were programmed in memory. **Unique Data Skip** - Allows the BC246T to skip over unwanted data transmissions and birdies. **Attenuator** - You can set the BC246T attenuator to reduce the input strength of strong signals by about 18 dB. **Duplicate Frequency Alert** - Alerts you if you try to enter a duplicate name or frequency already stored in the scanner. **22 Bands** - with aircraft and 800 MHz. The BC246T comes with AC adapter, 2 AA 1,800 mAH nickel metal hydride batteries, belt clip, flexible rubber antenna, wrist strap, RS232C cable, Trunk Tracker frequency guide, owner's manual and one year limited Uniden warranty. For more fun, order our optional deluxe racing headset part **#HF24RS** for $29.95. Order now at www.usascan.com or call 1-800-USA-SCAN.

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The 23RD Winter SWL Festival – *What is it?* cont.

and if you just have a mild interest... that's fine too.... in Kulpsville there is something for everyone.

Montgomery County, PA is located southwest of Trenton, NJ and northwest of Philadelphia. The area is a diversified suburban area with just under 800,000 inhabitants there is a fair amount of scanning action. Over the years the local public safety agencies have migrated over to a trunked system and as I said offers a lot to listen to. It is the 20th wealthiest county in the country (measured by personal per-capita income) and was named the 9th Best Place to Raise a Family by Forbes.

The adjacent counties also offer a lot to listen to on the scanner.

- Lehigh County (north)
- Bucks County (northeast)
- Philadelphia County (southeast)
- Delaware County (southwest)
- Chester County (west)
- Berks County (northwest)

Towamencin Township is a township in Montgomery County. The population was 17,597 at the 2000 census. It is part of the North Penn School District. Towamencin boasts beautiful residential neighborhoods, historic farmhouses, first-class recreational facilities, and wide-open spaces. The community is a successful mix of residential, commercial and rural development and is home to many fine elementary and secondary educational institutions. The Township is centrally located in the middle of Montgomery County with easy access to the Pennsylvania Turnpike's Northeast Extension.

Montgomery County Trunked Radio System Motorola (APCO-25 Digital)

East Zone Frequencies:
867.2625 866.8875 868.7625
867.3750 866.6375 866.2625
856.7375 855.9375 855.2375
854.9625

West Zone Frequencies:
868.4500 867.6500 867.1375
866.7750 866.5500 866.3250
866.0375 851.3625

Selected Talk Groups:
Fire/EMS
Fire Dispatch 22416
Fireground 1 22512
Fireground 2 22544
Fireground 3 22576
Fireground 4 22608
Fireground 5 22640
Fireground 6 22672

Fire Police East 22704
Fire Police West 22736

EMS Dispatch 03280
EMS Hailing 03312
EMS to ER 01 03344
EMS to ER 02 03376
EMS TAC-1 03440
EMS TAC-2 03472
EMS TAC-3 03504
EMS OPS 03536
EMS Emergency 04048



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Law Enforcement
North Central Dispatch 01616
SE Dispatch 01648
SW Dispatch 01680
NW Dispatch 01712
NE Dispatch 04016
Information 01744
NW Coordination 01808
SW Coordination 01840
N Central Coordination 01872
SE Coordination 01904
NE Coordination 01936
TAC-1 01968
TAC-2 02000
TAC-3 02032
TAC-4 02064
TAC-5 02096
Car to Car 02128
County Sheriff 02224
Other/Local Government
Public Safety 03600
EMA Coordination E 02384
EMA Coordination W 03664
EMA Countywide 25648
Flash Info Broadcasts 03824
Public Safety Common 03568

Montgomery County Fire West Zone
F1 Dispatch 33.70 PL136.5
F2 Fireground 33.66 PL136.5
F3 Fire Police 33.60 PL136.5
F4 Fire Tac 33.76 PL136.5
F5 Fire Tac 33.58 PL136.5
F6 Fire Tac 33.54 PL136.5
F7 Fire Tac 33.46 PL136.5
F8 Fire Tac 33.56 PL136.5
Pottstown FD 33.44 PL136.5
Lower Merion FD 33.84 PL136.5

The 23RD Winter SWL Festival – *What is it?* cont.





Montgomery County Fire (cont.)
East Zone
F1 Dispatch 154.130 PL136.5
F2 Response 154.280 PL136.5
F3 Fireground 153.830 PL136.5
Cheltenham FD 154.445 PL136.5
Norristown FD 154.370 PL136.5

Emergency Medical Services
Dispatch 46.04000
Response 45.92000
Notification 45.96000
EMS > Hospital 463.0500
Air-med 1 460.31250
Air-med 2 465.31250

Willow Grove Naval Air Station
(All frequencies use AM unless otherwise noted)
Tower 119.6, 340.2
Ground 118.45, 380.8
ATIS 275.6
Appr./Dep. 123.8
AFRC 351.75
Air Nat'l Guard 343.0, 46.85 (FM)
Army Reserve 143.02, 226.5, 34.55 (FM)
Base Ops 306.8
Pilot to Metro 344.6
Radar 119.6

Ham Radio Repeaters
(All use standard + or - TX offset)
Abington 147.27+ CSQ
Blue Bell 447.025- 131.8
Bryn Mawr 224.420 CSQ
Eagleville 146.835 88.5
Eagleville 224.680 156.7
Eagleville 53.110- CSQ
Green Lane 449.125- 88.5
Hatfield 147.330+ CSQ
Horsham 147.165+ 162.2
Horsham 444.550+ CSQ
Meadowbrook 146.715- 131.8
Norristown 223.860- CSQ
Norristown 448.675- 131.8
Plymouth Twp 224.760- CSQ
Schwenksville 51.940- 88.5
Souderton 145.190- 131.8
UpperPotsgrove 445.825 156.7
Willow Grove 443.250+ 131.8
Wyndmoor 449.325- 103.5

Arbitrarily Selected Frequencies
(We're not sure why, but somebody might actually want to listen to this stuff...)
King of Prussia Mall
464.575, 461.0375, 464.300, 461.8875, 464.000
Montgomery Mall
154.540
Plymouth Meeting Mall
461.7375, 461.7875, 463.2375
Willow Grove Mall
464.775, 464.550

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LOOKING FOR EXCITEMENT ON THE AIRWAVES?

Try montoring events with all the two-way radios in use.

By Chuck Gysi, N2DUP

One of the things I like to do with my scanner is to monitor events. I call it simply "event monitoring." All it involves is monitoring a specific event. Usually the venue dictates what you monitor, but it's really a lot of fun. Let me tell you more.

Event monitoring involves all types of activities. You can monitor sporting events, large-scale political events, performances, fairs, parades, concerts and more. If an event attracts people, my rule is that two-way radios are in use to support the event. I love listening to events and finding frequencies in use at the events.

There are different types of radio users at events. There are permanent radio users at events, itinerant users and unlicensed users. Let's look at the different types.

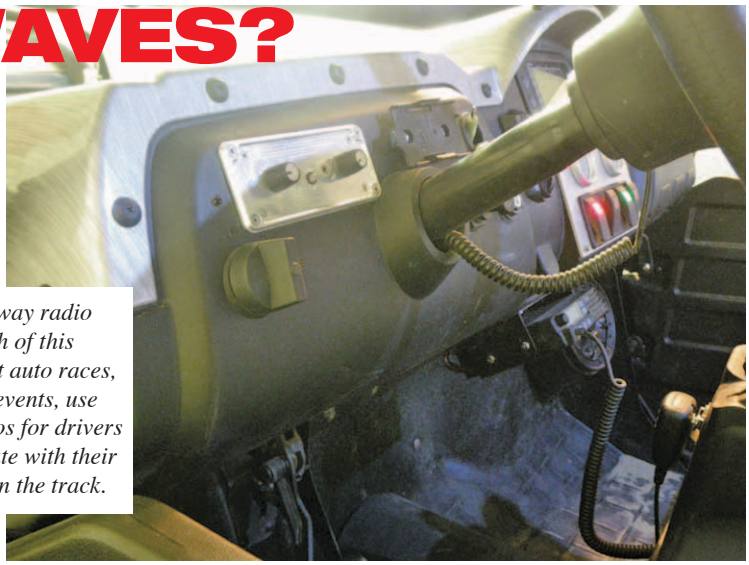
Permanent users are those radio systems that are installed in support of an event, typically those that occur over and over at the same venue. Examples include repeaters and handheld radio systems in use at stadiums, arenas and elsewhere. These radio systems are used on a routine basis and typically are licensed for the facility. You may find repeaters, trunked systems or just multiple-channel handheld radios.

Permanent radio systems are used day in and day out and the frequencies don't change. Once you discover them, you will find them in use all the time. You usually can find them listed in online frequency guides or in the FCC's databases online. There are some important distinctions in types of permanent frequencies you will find in use, though. If the facility where the systems are in use is owned by a city, county or state, you may find public safety frequencies in use for operations, security and maintenance. These typically can be found in the 450- and 460-MHz ranges, but also could show up in



The Green Bay Packers call Lambeau Field in Wisconsin their home, but they also operate a 900-MHz trunked radio system for all stadium and team operations. If you go to see the Pack, you can tune in and hear all the game day activity with an analog trunking scanner.

LOOKING FOR EXCITEMENT ON THE AIRWAVES?



Note the two-way radio under the dash of this race car. Most auto races, even smaller events, use two-way radios for drivers to communicate with their teams while on the track.

the VHF ranges of 151-, 154-156 and 158-159 MHz ranges. Sometimes you may find these systems for government use at facilities in the 800-MHz band, too.

Those who perform contracted services at arenas, stadiums and other event venues typically have their own radio systems. Larger facilities usually involve the use of repeaters or trunked systems, however, you may just encounter handheld radios without the use of repeaters. A good UHF handheld radio can reach the canyons of an event facility pretty good.

Contracted services, team operations, security, parking operations, administration and others often use business frequencies. The most popular place to search is the 451-453 and 461-465 MHz ranges. You also might want to check the 456-458 and 466-470 MHz ranges for possible handheld radios operating in that band. More than often, you will find most event operations in these segments. There still are older VHF handheld radio systems that are still in use on the VHF business frequencies such as 151- and 154-MHz bands.

One unique venue is Lambeau Field in Green Bay, Wis., home of the Packers NFL franchise. The stadium there uses a 10-channel 900-MHz trunked system for team and stadium operations. There's plenty of activity there on game day to keep you tuned in to Lambeau and its immediate environs.

An additional set of frequencies you need to look at when monitoring events are itinerant frequencies. These are frequencies and sets of frequencies set aside by the Federal Communications for localized communications on an itinerant basis, or those who move from one location to another and don't remain in that location for more than a year. Businesses may license the use of itinerant frequencies and using these channels ensures they don't come into a town and start messing up someone else's radio system on the same channel. Those who use itinerant channels accept that they may receive interference to their radios when using these channels.

Where should you look for itinerant operations? On VHF, try 151.505, 151.625 and 158.400 MHz. On UHF, try 451.800, 464.500 and 464.550 MHz. Sometimes repeaters are operated on those three UHF channel pairs. You also sometimes can find mobile-only operations on the channels normally associated with repeater inputs on these frequencies: 456.800, 469.500 and 469.550.

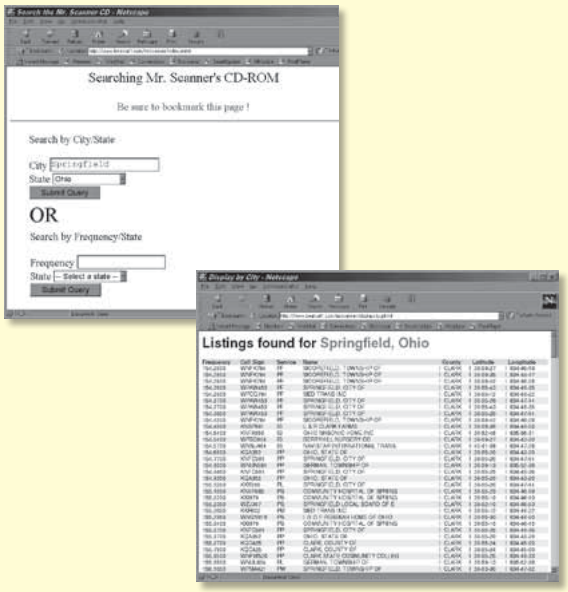
With the narrowbanding of frequencies occurring and the channel width of frequencies becoming narrower, some additional itinerant channels have come into use, but very few are using these channels. They all fall around the current channels and you are likely to hear them if the start using them while monitoring the regular channels. I have heard one of these new channels in use only once so far. Also, there are unofficial itinerant channels in the 800-MHz band (one pair) and the 900-MHz band (two pairs), but these rarely are used. In fact, the 800 MHz channel falls on what now are public safety channels because of the Nextel rebanding program and you'll go nuts monitoring it if it's used by a trunked public safety system in your area (spoken from experience!).

Lastly, there are unlicensed frequencies that often show up in use at large-scale events. These are FRS and MURS channels typically. Because a license isn't necessary for their use, these low-power channels often prove popular. For MURS, check 151.820, 151.880, 151.940, 154.570 and 154.600 MHz. For FRS, check 462.5625-462.7125 and 467.5625-467.7125. While only individuals may license to use GMRS channels on 462.550-462.725 MHz, don't be surprised to find these channels in use by those using combo FRS/GMRS handhelds who don't know the rules.

While you are monitoring events, don't forget to also tune in nearby operations that may be fun to listen to, too. For instance, nearby hotels may be using radios for security, maintenance and housekeeping teams. Local public safety may be in the area to control crowds, so you will want to monitor their frequencies or talkgroups on a trunked sys-

Continued on page 16

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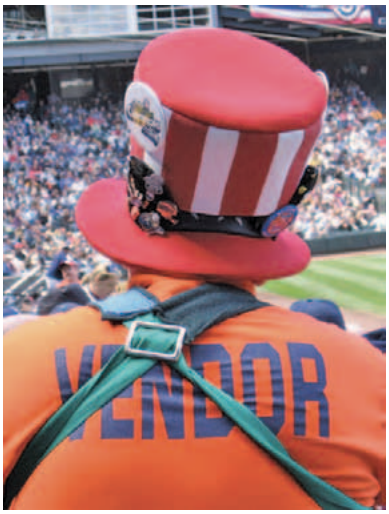


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- When the form comes up fill it out with the exception of the credit card information. Be sure to include an e-mail address so we can send your user name and password back to you
- Pick Option #4 and insert your member number (which can be found on your mailing label) e.g. OH 8 AAA

Generally within the next 24 hours your user name and password will be e-mailed back to you and you will be ready to search for frequencies.

LOOKING FOR EXCITEMENT ON THE AIRWAVES?



While the actual food vendors at a stadium don't typically use two-way radios, their supervisors and the behind-the-scenes operation are using two-way radios to keep stadium-goers content with food and beverages.

tem. They may have dedicated channels just for events, especially a specific venue.

Also check for media channels while you are on-site monitoring an event. The media uses a host of frequencies, whether you are attending a high school football game or the Indianapolis 500. Check remote broadcasts on 161.640-161.760, as well as 450-451 and 455-456 MHz. Routine dispatch operations may occur on the UHF channels, or local on-site coordination, such as cuing of cameras. You may also luck out and stumble across wireless microphones used by entertainers, media personalities and on-field announcers. These wireless mics can show up in so many places, so if you find them, make a note!

Lastly, take note that if you are attending a large sanctioned auto race, such as a NASCAR event, there are MANY frequencies that you will find in use. Each racing team typically has sets of channels that they either routinely use, or rotate usage and decide the exact channels on race day. Race team communications literally can show up anywhere in the 450-470 MHz band, so search and you will find.

Enjoy event monitoring. Let us know when you find some unusual frequencies for an event so we can share them with others who read Nat-Com.

Write in

Do you have questions about scanning or scanners? You can write to me at nat-com@scanning1.com (be sure to put "Nat-Com" in the subject line or your e-mail may wind up in my spam bin). This e-mail address is only for the author of this column.

Hobby Radio Stop

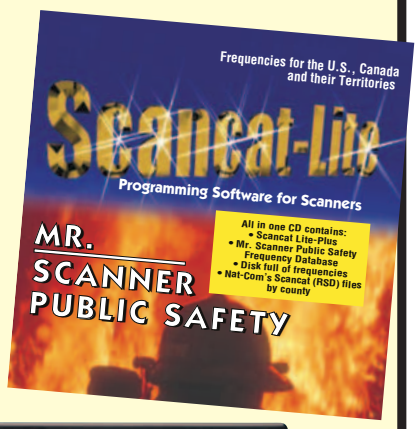


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"Regulatory Roundup"

Amateur Radio & Paid Emergency Personnel: Compatriots or Contention?

By Alan Dixon, N3HOE / WPUC72Ø / KST8678

Wow! Could it get any wilder? —Or more bizarre?? About every half-dozen years or so, this very "issue" blows up. And once in a great while the Federal Communications Commission moves on the matter, either in the form of issuing some sort of ruling, or in instituting a rules change, or in a combination of actions. So, just what is the matter? Well, it's not all that simple to even define. But we'll try. First though, a little background information is in order here:

The Amateur Radio Service and its dedicated "ham" operators have always figured prominently in disaster mitigation efforts as well as in smaller, more localized, everyday emergency assistance. Consequently, there are any number of ham radio clubs and organizations devoted specifically to emergency readiness and response. Many of these groups are stand-alone entities, while others may be affiliated with a school, church, commercial business, government agency, or even a disaster relief organization.

Amateur Radio is by definition an avocation, we can surmise therefore that the hams involved come from many different professions and career paths. Regardless, why shouldn't all licensed Amateur Radio operators be able to actively participate in emergencies and in on-air emergency preparedness drills? Can't they? Actually, the problem lies with that pesky – or perhaps not so pesky – FCC rule prohibiting ham communications on behalf of a licensee's employer. That's the same rule that forbids most amateur comm's where money is involved, as well. This poses a few important questions for licensed hams who want or need to operate while at their workplaces or while on-duty. But then, we are talking about emergency operations, aren't we?

Well, yes and no. When an emergency is occurring, there's actually not too much of a problem with this, at all (more on this, later). However, it is on-air drills and preparation for emergencies that call this rule into question. Hams are by far a law-abiding group when it comes to following the FCC regulations, and many will drop the microphone in an instant rather than risk operating in any manner that might have the slightest chance of possibly being in violation of either the spirit or the letter of the law.

Fear in any setting can be paralyzing. And given that in recent months there has been much concern in the Amateur Radio community regarding this particular point, the effect may turn out to be seriously crippling. Regardless, the first step in resolving the situation is to step back and carefully analyze the matter, separating fact from opinion, from idle rumor.

First, let's review the specific rule in question. FCC Part 97, Section 97.113 states, in relevant part:

Prohibited transmissions.

(a) No amateur station shall transmit:…

(2) Communications for hire or for material compensation, direct or indirect, paid or promised, except as otherwise provided in these rules;

(3) Communications in which the station licensee or control operator has a pecuniary interest, including communications on behalf of an employer…

"Regulatory Roundup"

(5) Communications, on a regular basis, which could reasonably be furnished alternatively through other radio services…

There is a bit more to this particular rule section, such as prohibitions on transmitting audible music and obscene or indecent language, etcetera. The rule goes on to specifically permit swap-shop style amateur radio equipment sales nets on the air, subject to certain conditions, and permits on-the-clock paid schoolteachers to use on-air ham radio activities as part of classroom instruction. It goes on to allow for full-time paid station operators at a club radio stations engaged in broadcasting bulletins and telegraphy practice (again, subject to certain highly limited conditions). But for our purposes here, this is quite the gist of it.

Legally, the problem essentially boils down to whether paid employees of any corporation, agency, or organization, who are licensed Amateur Radio operators, may operate Amateur Radio equipment on any of the Amateur Service bands, while on duty or at the job site.

There are many in the ham community who are convinced that any Amateur Radio communications from a ham working at a paid job, whether on duty or off, or while taking a break, are unlawful. Such a blanket statement is simply untrue, however.

Some of the confusion can be traced back to a well-remembered older version of Rule §97.113 which flatly prohibited "any communication…to facilitate the business or commercial affairs of any party" (still, with certain very limited exceptions). This virtually inviolate no-business rule was thoroughly ingrained upon all hams of the era. But in 1993, in PR Docket 92-136, the FCC had gone ahead and changed this overly oppressive rule to today's language shown above.

Thus, the rule we have today makes no reference to "business". It does still prohibit comm's activity in which the licensee may have a pecuniary (financial) interest, and it does not allow communications "on behalf of" the operator's employer. Yet, this somewhat subtle distinction marks a sea change regarding what types of business-related communications may be transmitted by means of Amateur radio.

Frankly though, a number of employment-connected ham radio activities that might seem questionable, have always been permissible. Many larger corporations—particularly those in the high-tech industries—have company amateur radio stations as recreational facilities, available to their employees. Workers using such stations may happen to be on-the-clock, at work in paid status, or on their break periods. Regardless, nothing in this rule forbids such recreational activity, as long as these employees are not communicating "on behalf of" their employer.

Still, this entire situation has remained confusing in the minds of more than a few ham operators. The purported confusion subsequently led at least one ham, circa 1999, to petition the FCC for a rule change to provide a bit of relief from §97.113 for one particular, specified circumstance. In Docket RM-9114 this petitioner sought a rule change to allow Amateur Radio operators who are "emergency personnel engaged in disaster relief" to use the amateur service bands while on "paid duty status".

But, the FCC's Wireless Telecommunications Bureau, in its response, declined to make such a rule amendment. Why? The Bureau's November 1999 "Order"—DA Docket 99-2654—declared that such a change "…is not necessary because these two-way communications are permitted within the existing rules." That's right. No rule change was necessary since such comm's were already perfectly legal! The Order went on to note that "…amateur radio operators who also are emergency personnel engaged in disaster relief do not appear to be receiving compensation for transmitting communications. Rather, we believe that these individuals are receiving compensation for services related to their disaster relief duties and in their capacities as emergency personnel, and the fact they also are amateur radio operators is incidental to these functions."

Licensed Radio Amateurs should note the landmark language used in this Order which outlines just what Amateur communications may or may not be permissible in any and all circumstances. DA 99-2654, footnote 29 at ¶1.8, specifically reiterates what Section 97.113 warrants; The "Five General Standards" that Amateur Radio station control operators

Continued on page 20

"Regulatory Roundup"



should apply to decide whether their stations should transmit any particular message:

"This rule allows amateur radio stations to transmit any amateur-station-to-amateur-station communication unless it is specifically prohibited; transmitted for compensation; done for the pecuniary benefit of the station control operator; done for the pecuniary benefit of the station control operator's employer; or communications, on a regular basis, which could reasonably be furnished through other radio services."

The Bureau further clarified: "We also note that the prohibition against transmitting communications, on a regular basis, which could reasonably be furnished through other radio services, does not appear applicable to disaster relief-related communication because disasters, by definition, are atypical (unusual) occurrences." (Parenthetical notation added.)

By this point, you would think that these concerns would have been resolved. Yet again, as recently as circa 2004-2006, the question resurfaced. America and its Amateur Radio emergency response community had been essentially regrouping during a string of mostly major natural disasters in which there had been unprecedented interoperation between ham EmComm operators and public safety agencies (police, fire, EMS, etc.) around the country. Since that time, we have seen a particular push to get as many public safety and medical personnel as possible licensed as Amateur Radio operators. The idea has been simply to further facilitate such interoperability by having numbers of "embedded" ham operators within police and fire departments, rescue squads, and hospitals, as well as in disaster relief agencies (Red Cross, Salvation Army, etc.).

Disaster administrators, agency heads, and hams new and experienced began to ponder the legality of so many paid on-staff ham operators. Again, the FCC was formally queried in a rulemaking petition. In its October, 2006 "Report and Order" FCC Docket 06-149, ¶52, the Commission responded by reiterating that nothing in Rule §97.113 prevents licensed Radio Amateurs "…who are emergency personnel engaged in disaster relief from using the amateur service bands while in a paid duty status". Again, the FCC further clarified that:

"These individuals are not receiving compensation for transmitting amateur service communications; rather, they are receiving compensation for services related to their disaster relief duties and in their capacities as emergency personnel."

Here again, would you now think that these concerns have been resolved? Oh no. It wasn't to be that simple. There is a "gray" area that remains in question: the matter of on-air drills and exercises by on-duty paid emergency personnel. The FCC rulings cited above apply only to emergency personnel while actually "engaged in" disaster relief efforts. This stipulation is largely attributable to a provision in Part 97 Rules, §97.111(a)(2) which states that Amateur stations may make two-way communications including "Transmissions necessary to meet essential communication needs and to facilitate relief actions." Additionally §97.401—arguably the most powerful tool in the Amateur Radio operator's "commo arsenal"—emphatically exhorts:

"No provision of these rules prevents the use by an amateur station of any means of radiocommunication at its disposal to provide essential communication needs in connection with the immediate safety of human life and immediate protection of property when normal communication systems are not available."

All of this is fine for actual emergency and disaster operations, naturally. Still, it leaves no room for training and practice activity on-air.

Now, this is the point at which I had been preparing to come to an interim conclusion to this discussion, and bring this story to an end for this issue of Nat-Com. I say "interim" since it was already clear that this situation was, in spite of two FCC rulings, not at all wrapped up. But, mere days before deadline, two new actions occurred in rapid-fire succession. This turn of events serves to show just how hot this issue is, and proves that it is still very much in an evolutionary stage.

First, in late October the FCC suddenly issued a "Public Notice" titled, "Amateur Service Communications During Government Disaster Drills" DA Docket 09-2259, in order to address the growing concerns about

this need for on-air drills by paid-duty status ham emergency personnel. The Commission now announces that the Wireless Telecommunications Bureau will issue rule waivers specifically for the purpose of facilitating such licensed Radio Amateurs participating in disaster drills conducted by government agencies, particularly state and local governments agencies. Waiver requests need to come from the agency concerned and not from any individual Amateur licensee. Here again, the Public Notice restates the fact that no such waiver is needed in an "actual emergency".

Yet still, there remains a bit of that gray area regarding the Rules and on-air drills by paid-duty status ham operators. Notice carefully that this newly announced rule waiver process applies only to government agencies and not to ham emergency workers in the private sector. This "gap" leaves hams in private hospital radio emergency teams and hams who are paid employees of independent relief agencies stuck right in it. (Incidentally, the Amateur Service Rules make no distinction between for-profit and not-for-profit/non-profit entities with regard to communication on behalf of an employer. Nor do the Rules make any differentiation as to whether an employee is on-duty or off-the-clock.)

In the second new action, a small group of hams—including NatCom's own Gordon West, WB6NOA—has filed a Petition for Rulemaking with the FCC to address this entire gray area with one rather simple rule change. The as-yet-undocketed Petition asks the Commission to insert new language into the Amateur Service Rules under §97.111 "Authorized transmissions". The group proposes to add a new clause to Subsection (a), which authorizes certain types of two-way communications transmissions. It would read:

"(6) Transmissions necessary for disaster relief or emergency response, including training exercises, planning, drills or tests, without regard to whether the amateur operator has related employment, where the transmissions are for the exclusive use of amateur radio operators for noncommercial purposes."

Not only would such a rule change entirely resolve the issues raised in the matter at hand. Notice how the specific wording is also careful to preserve the voluntary, non-pecuniary nature of any such Amateur Radio Service operations. The FCC rulemaking process is long and often arduous, however. A year or more may easily pass before this Petition is addressed and disposed of, one way or the other.

Politically, on the other hand, the problem takes on a different mantle. Some in the ham radio community, including a number found in leadership positions, eschew anything that may appear to constitute "outside" interests encroaching on Amateur Radio frequencies. Nobody wants to see the ham bands become commercialized. That would be against both the longstanding spirit and the letter of the FCC Regulations (47 CFR §97.1(a), et al.) as well as the international Radio Regulations (RR Article 25.2 §2 ¶1; RR §1.56; ITU, Geneva). Of course, nothing about facilitating government emergency comm's can be construed as being commercial in nature. Nothing, that is, but the possible exception of any pecuniary interest that paid government employee-ham operators may potentially have in securing their regular paychecks. Still, that alone would be cause for concern among some.

Still, for ham op's who are employees of businesses and private organizations, communications on Amateur Radio frequencies that might—directly or indirectly—account for any portion of their employers revenue stream, "commercialization" is a real, valid concern. A given business—whether commercial or non-profit—might well conclude that any disaster that disrupts comm's for their core operations to be an emergency for which their own employed Amateur Service operators could provide relief. And that scenario is a possibility whose legal ramifications seriously concern many, many hams.

This matter is far from over. But it will be resolved. And it will be resolved adequately and fairly, before too many months or years go by. And the Amateur Radio Service will emerge stronger and more popular, I have no doubt. We'll keep an eye on future developments regarding the whole matter, right here in the pages of Nat-Com magazine.

Happy New Year!

(The observations and opinions in this article are intended for general awareness and are not to be construed as legal advice. Be sure to seek competent legal counsel only from an appropriately licensed and certified attorney.)

Changes to Navy Bases along the California Coast

By Mark Meece

One of the most scenic highways in the continental United States is California's State Route 1, parts of which are better known as the Pacific Coast Highway. If we start at the western terminus of Interstate 10 we find that SR 1 weaves along the beautiful coastline towns of Santa Monica, Malibu, and Santa Barbara. Point Mugu State Park borders SR 1 in Ventura County. It is in this area we find the interest of this issue column, Naval Air Weapons Station Point Mugu and Naval Construction Battalion Center (CBC) Port Hueneme.

In 2000 the United States Navy realigned NAWS Point Mugu and CBC Port Hueneme with Naval Outlying Field (OLF) San Nicholas Island and consolidated them into Naval Base Ventura County (NBVC).

Point Mugu has been an integral facility within the United States Navy since the late 1940s when land adjacent to Point Mugu was constructed as a major missile development and test facility. Throughout the 1950s and 60s it was at this site that many of the Navy's missile systems were developed and tested. Missiles such as the AIM-7 Sparrow, AIM-54 Phoenix air to air, and Regulus surface to air systems were tested and refined in the area of Point Mugu. The test range itself stretches well off shore out to Navy owned Saint Nicolas Island, the furthest point of land in the Channel Islands chain.

As a naval facility Point Mugu has changed designation many times over the preceding years. Today Point Mugu is a part of the



Naval Air Warfare Center Weapons Division (NAWCWPNS). This is the Navy's complete research, development, test evaluation, and in-service engineering center for weapons systems associated with air warfare with the exception of anti-submarine warfare systems. This includes missiles and missile subsystems, aircraft weapons integration and assigned airborne electronic warfare systems. NAWCWPNS also maintains and operates the air, land, and sea Naval Western Test Range Complex (NWTRC).

The Navy's Weapons Division also includes China Lake, California, and the Ordnance Missile Test Station (NOMTS), White Sands, New Mexico. The Navy's E-2 wing was moved from NAS Miramar to NVBC precipitating the change in chain of command for the installation. Under the CINC Pacific Fleet/ COMNAVAIRPAC organization all installations are now under regional commanders who report to the CINC.

The main base is located on 4,500 acres at Point Mugu. The main base complex includes NAWS Point Mugu and Laguna Peak. NAWS Point Mugu at NBVC Ventura County (KNTD) operates three runways; 3/21 which is 11,102x200 feet, 9/27 is 5500x200 and OLF Saint Nicolas Island (KNSI) which hosts runway 12/30 and is 10002x194 feet.

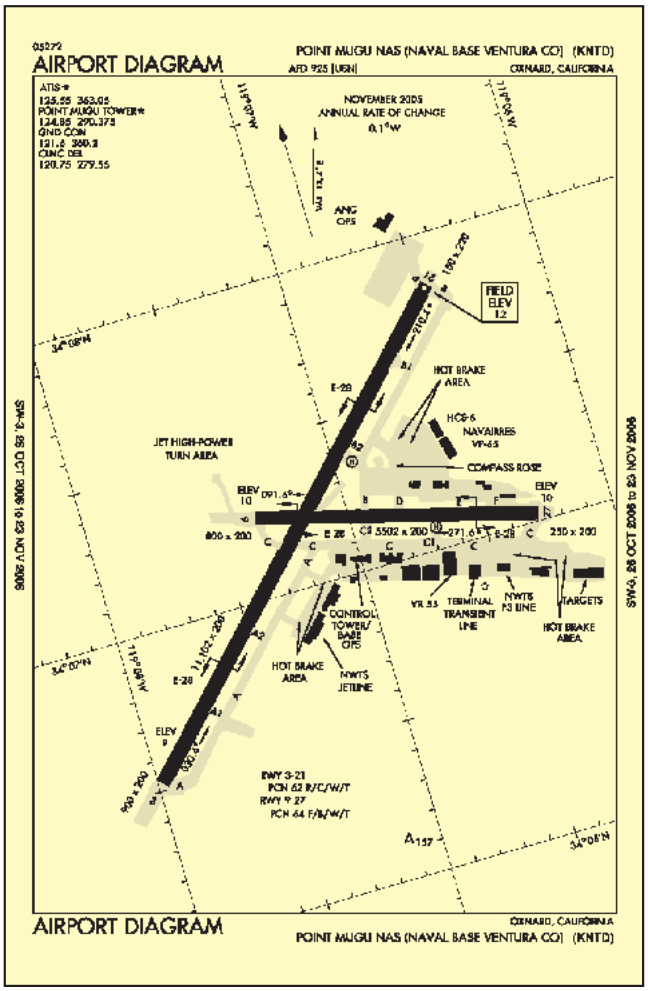
Point Mugu is located near the city of Oxnard, about 50 miles northwest of Los Angeles. The name is believed to be derived from the Chumash Indian word "Muwu" meaning "beach" as taken from the journals of pacific explorer Juan Rodriguez Cabrillo in 1542.

Former President Ronald Reagan made use of the airfield at Point

Changes to Navy Bases along the California Coast cont.

Mugu during his presidency on visits to his Santa Barbara ranch. This was also the airfield that was used to honor him during his state funeral in 2004. His body was flown from NAWS Point Mugu to Washington D.C. where he was to lie in state in the Capitol Rotunda. Two days later his body was flown in presidential aircraft SAM 28000 back to NAWS Point Mugu.

Channel Islands Air National Guard Station operates on 206 acres on fee based land adjacent to Point Mugu. The 146th Airlift Wing and its subordinate unit the 115th Airlift Squadron moved from Van Nuys Air National Guard Base to Channel Islands ANGS in 1990.



Continued on page 24

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Changes to Navy Bases along the California Coast continued

They use the runways NAWS Point Mugu to provide global airlift missions flying the C-130J.

The Naval Carrier Airborne Early Warning (VAW) units fly the E-2C "Hawkeye". Made by Grumman these are twin turboprop all weather carrier-based tactical Airborne Early Warning aircraft. These aircraft have been in service since the 1960s providing all-weather airborne early warning and command and control functions for the carrier battle group. Other mission types include surface surveillance coordination, strike and interceptor control, search and rescue guidance and communications relay.

In TABLE 1 we list the active naval flying units stationed at NAWS Point Mugu. In TABLE 2 we list the known frequencies used at the Naval Base Ventura County complex.





TABLE 1

UNIT	AIRCRAFT	NAME
VX-30	NP-3D UC-12B DC-130A SA227	Bloodhounds
VAW-112	E-2C 2000NP	Golden Hawks
VAW-113	E-2C 2000	Black Eagles
VAW-116	E-2C 2000	Sun Kings
VAW-117	E-2C 2000NP	Wallbangers
VR-55	C-130T	Bicentennial Minutemen

TABLE 2

NAVAL BASE VENTURA COUNTY (KNTD)
NAWS POINT MUGU
CBC PORT HUENEME
CHANNEL ISLANDS ANGS

AERONAUTICAL OPERATIONS

120.750	Clearance Delivery
121.600	Point Mugu Ground
124.850	Point Mugu Tower
125.550	ATIS
126.850	Navy Nicolas Tower
128.650	Point Mugu Approach/Departure
126.200	Point Mugu Tower
126.850	Radar
127.550	PLEAD Range Control
134.100	Radar
135.175	Point Mugu Tower
250.300	VAW-116 Operations
267.500	Base Operations
279.550	Clearance Delivery
290.375	Point Mugu Tower
293.900	VAW-116 Tactical
304.250	VX-30 Operations
305.600	146th AW Operations
306.600	PLEAD Range Control
307.275	Point Mugu Approach/Departure
308.400	Radar
319.300	146th FW Operations
335.500	Point Mugu Approach/Departure
340.200	Point Mugu Tower
344.500	VR-55 Operations
345.200	Radar
346.100	VAW-112 Operations
360.200	Point Mugu Ground
363.050	ATIS
379.300	Navy Nicolas Tower
386.350	Metro

SUPPORT OPERATIONS

140.025/149.075	Point Mugu Police Dispatch
140.250/148.975	Point Mugu Fire Dispatch
148.500	Channel Islands ANGS Disaster Net
149.225	Channel Islands ANGS Ramp Ops
150.525	Point Mugu Police Tactical

** PLEAD stands for Pacific Launch Evaluation And Development*

Changes to Navy Bases along the California Coast continued

As we mentioned earlier in the column, nearby is Point Mugu State Park which is a popular recreational destination and its 15,000 acres offers a great opportunity for viewing a wonderful variety of birds, marine mammals, and wildflowers. Mugu Lagoon provides one of the largest under-developed coastal wetlands in Southern California. Other nearby points of interest include Santa Monica Mountains National Recreation Area, Channel Island National Park and further into the interior of Ventura County is the Los Padres National Forest. As you can see this area offers lots to do and listen into. So load your scanner and enjoy the scenery. ●

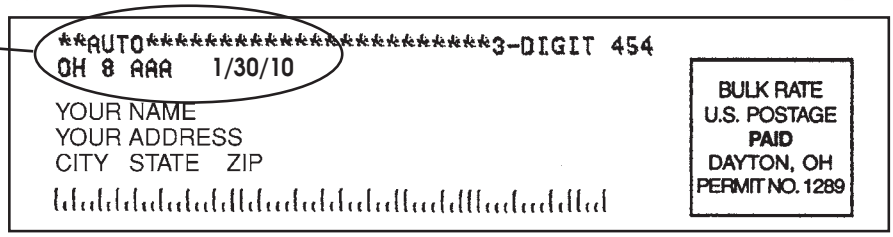


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PLAYING RADIO

By Gordon West, WB6NOA

Every January, well over a thousand radio operators jump into RVs, campervans, and cars with tents, and head for Quartzsite, Arizona. It is an annual pilgrimage for the week-long RV Sports and Vacation Show, along with the Gem and Mineral Show, and a week's gathering for fun and camaraderie. GPS coordinates: 33°35.12 N and 114°13.32 W

"The RV show alone draws thousands of visitors each year, with thousands of rigs of all kinds spread out all over the desert floor, including the radio RVers (about a thousand of them) generally found just south of town," comments Quartzsite mayor, Verlyn Michael, known as "Mayor Mike", W7BUE.

"I enjoy the ham radio encampment, on Bureau of Land Management property, a few miles south of town – you will see more strange-looking RV ham antennas there than anywhere else in the world," quips Mayor Mike.

The Quartzsite, Arizona RV Sports and Vacation show has been around for many decades, but it wasn't until 12 years ago that ham radio operators came together and organized their own ham radio RV party nicknamed Quartzfest™ by Harvey and Margie, K5LJM (SK) and AB5ZX.

The RV radio gang forms up at mile marker 99 on US Highway 95, which is about 5 miles south of I-10. This year, the dates of the ham radio activities are January 17 through January 23, 2010. Some hams get there early and others stay longer, up to the allowed free camping for 14 days on BLM public land.

The desert floor, at mile marker 99, is hard packed sand, so any RV rig can easily maneuver around for plenty of elbow room at a parking location of their choice. You would have to work hard to bog down in any sand trap. The desert floor is as hard as rock!

The talk-in frequency is 146.550 MHz, and you will first be directed to check in with Quartzsite organizer hosts Cliff and Virginia Haycock, KD4ZBP. Their welcoming committee will give everyone a warm greeting, show where the main campfire and seminar spots are located, and then send you out to select your favorite parking spot. There is plenty of room, so it's not like parking at an RV rally. Many folks drive in, and simply pitch a tent.



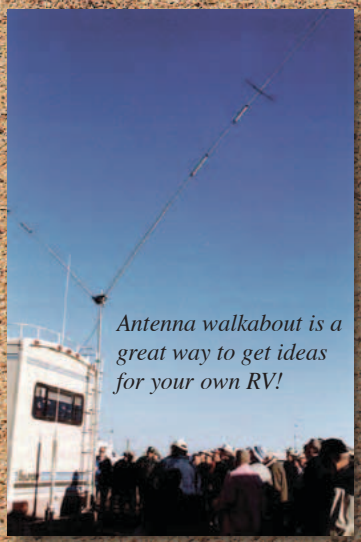
Antenna wire launcher demos.



Quartzfest Organizers Virginia and Cliff with Gordo and Suzy West.



160 Meter Mobile!

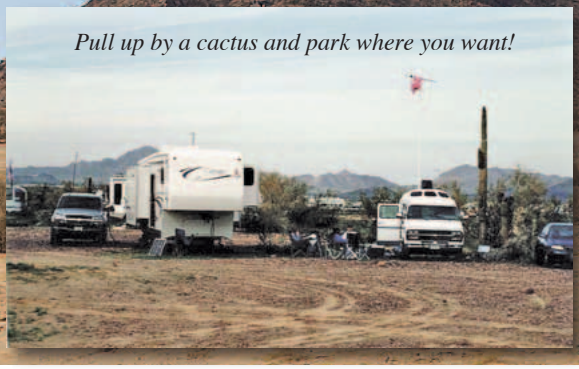


Antenna walkabout is a great way to get ideas for your own RV!



Lots of fun and games at Quartzfest.

On The Desert Floor



Pull up by a cactus and park where you want!

At the radio Quartzfest™, it is a "boondock" affair – no external water, no trash pickup, no sewer lines, no cable TV – no nothin'! However, there are usually plenty of WIFI operators who welcome you to share their systems, and for those of you who have broadband, there is good cellular coverage.

Formal activities for radio enthusiasts run Monday through Saturday. If you have a keen interest in learning more about radio, daytime seminars go nonstop:

- **ARDF-ing**
- **LED demos**
- **Airmail Winlink**
- **Bicycle HF Mobile + Manpack HF**
- **APRS and AVMAP and TINY TRAK**
- **Solar panel demo**
- **Geochaching, Al Oxton**
- **Chili/Soup Special**
- **WiFi Shootout**
- **DSP demos**
- **AMSAT talks**
- **WB6ZQZ Balun demo**
- **HF Antenna tuner demo**
- **Nighttime shortwave listening on the beacon band**
- **Laser communications**
- **R/C models**
- **The antenna Walkabout**
- **VE testing**
- **Coach tours of mobile radio rooms**
- **Telescoping masts discussions**
- **ATV and SSTV**
- **Saturday AM yard sale**
- **Gathering of radio clubs**

If you are an expert in a specific radio topic, like scanners or shortwave listening, volunteer to present a one hour talk.

There are daily ladies' programs, daily caravans into town for the RV tent gala, daily walking tours of the landscape (watch for the snakes), or daily do absolutely nothing!

"I have enjoyed presenting high frequency antenna systems, along with a show-and-tell of automatic antenna tuners," comments Don Wilson, N9ZGE, who drives almost a day from the far end of Arizona to get to Quartzsite.

"We set up a portable IRLP WIN system repeater where everyone is invited to join in," comments Shorty Stouffer, K6JSI.

If you are a night owl, tune in below 500 kHz, to hear rare dx stations, thanks to the nearly zero noise level on the desert. Or maybe bring your popcorn and take in some radio related movies (or others) presented on the side of a giant RV.

Or maybe join up with stargazers to see some heavenly bodies hidden elsewhere by too bright city lights.

"We will have plenty of digital equipment for show and tell and demos," comments Bill Pratts, K6ACJ.

"And you don't have to be a ham radio operator to join in on all the radio activities," comments Cliff Haycock, the event organizer for the last few years.

"Contact me ahead of time, and we'll get you tuned into all the excitement," adds Haycock, at organizer@quartzfest.org

To see some of the many activities for 2010, go to:

www.quartzfest.org/php/main.php?home

No matter what your interest in wireless, it will be happening at Quartzfest™, and you do NOT need to be a licensed ham to attend and/or take part in all the activities. In fact, many of the technical seminars are presented by experts who say they will soon study up and take the test for the ham license.

Join us at Quartzfest™ 2010!

Aircraft Scanning Made Easy!

By Jon Van Allen, KF7YN

After a long day there are few activities more satisfying than pulling up a scanner and find out what is going on around the 'hood. Even after 35+ years of enjoying my radio hobbies, sitting down with a scanner is still my "happy place" where the rest of the world is put on hold.

One of my favorite scanning targets is the VHF aircraft band, 118 to 138 MHz, AM mode. You can hear all sorts of aircraft from small private planes, gilders, balloons, commercial airliners, corporate jets, fire fighting aircraft, helicopters of all sorts; medical Life Flight, police, business, government, the list goes on and on. Some of the most exciting and interesting monitoring you can ever hear is in the VHF Airband.



You will hear everything from routine to emergency, mundane to bizarre, but like most other communication, airband has it's own terms, lingo and abbreviations. We will sort through them so that you will become familiar and add to the enjoyment of aircraft scanning. You will quickly realize "pilot speak" is unique, they learn to speak in terms that are concise and to the point.

It is not necessary to live close to a major airport to hear plenty of air traffic. Because of the altitude aircraft operate at, you can hear for many miles, 100 miles or more is possible. You may recall from my article on listening to aircraft worldwide, there is a simple formula for finding out how far a VHF signal will travel. To find the line of sight distance for an airliner at 36,000 feet, the formula is the square root of altitude (in feet) times 1.25. The square root of 36,000 = 190 x 1.25 = 237 miles. Of course that is optimum and does not factor in signal loss from terrain, trees, buildings, etc. I have routinely heard aircraft up to 150 miles away using my trusty Scantenna which is mounted on my roof.

There are some terms you will notice right away that may not make sense at first, such as which runway is in use. Runways can be used in either direction depending on the direction of prevailing winds. Runways are listed with the first two digits of their heading on a 360 degree compass. Runway 34 is situated nearly (but not quite) north and south. If you are landing towards the north you would land on runway 34 which is an abbreviation for 340 degrees. If you were landing towards the south, you would be landing on runway 16 which is 160 degrees. Simple but elegant! There are many other such abbreviations used by towers and pilots.

Another abbreviation is altitude. 36000 feet is simply flight level 360, the last two zeroes are dropped for brevity.

More abbreviations, terms and operational procedures: Squawk - is a method for ATC to interrogate and identify general aviation aircraft using a code transmitted from the aircraft's transponder. Depending on the type of interrogation, the transponder sends back a transponder code (or "squawk code") (Mode A) or altitude information (Mode C) to help air traffic controllers to identify the aircraft and to maintain separation. Squawk enables the controller to visually identify the aircraft on their radar screen.

You can see in one of the photos the Cessna 182's Nav radio is showing code 1200, a common code. A typical

Aircraft Scanning Made Easy! continued

ATC conversation would be something like "Skylane 34 maintain your heading and squawk 2150". (Skylane is a Cessna 182) When the pilot dials in 2150 on his NAV radio and transmits the signal, 2150 shows up as a distinct target on ATC controllers screen. Now ATC knows the exact position and altitude of that aircraft in relationship to other aircraft. Mode C transponders are also known as altimeter-encoding transponders because altitude is also transmitted. Mode C is required within the controlled airspace of busy airports. General aviation aircraft do not need Mode C in uncontrolled airspace or airports, but it is required to fly into any controlled airspace for obvious reasons.

You can also see in the same photo the Cessna's Comm radio is showing two frequencies, 122.80 and 121.50. The first, 122.80 MHz is a common Unicom frequency. 121.50 MHz is the emergency frequency which is monitored by nearly all aircraft. This is where you will hear Emergency Location Transponder (ELT, also called "black box") EPIRBs and distress calls. Orbiting satellites, other pilots and scanner enthusiasts monitor this frequency round the clock. Be sure to program 121.50 into your scanner.

VOR (also called VHF Omni) - VOR is an abbreviation for VHF Omni Range. VHF omni-directional beacons transmitting between 108.0 to 118.0 MHz used primarily for direction finding. The VOR periodically identifies itself by Morse Code and may also have voice identification. Voice features may be used by ATC or FSS for transmitting instructions or information to pilots.

At most small airports that don't have a control tower, the majority of comms will be on the UNICOM frequency, typically 122.80, 122.90



or 122.95. Other less common UNICOM frequencies are 122.70, 122.725, 122.975, 123.0, 123.050, or 123.075 MHz.

A discussion about Unicom and Multicom. UNICOM is usually used by small civilian aircraft, typically around uncontrolled (no tower) airports. Almost all airports have Unicom. On the ground is a base operator who listens to the Unicom frequency assigned to that airport. He listens to pilots conversations and answers if they have questions. In a way, it is like an air traffic controller, except the base operator does not choose how the aircraft lands.

When a pilot is approaching the airport and wants to land, he uses this Unicom frequency to alert the base operator and other aircraft in the area his position intentions. Then, the pilot, not the base operator, sets himself up for a landing. The most common Unicom frequency at a large airport is 122.95.

MULTICOM is different from Unicom. When Multicom is used around airports, the airport usually does not have a fixed base operator. Like Unicom, pilots broadcast their position and intentions on a Multicom frequency. However, responses from other airplanes may not always be expected, and no responses will return from the ground.

Multicom's main purpose is to alert other aircraft of the pilot's intentions. Usually small planes use Multicom. The most common Multicom frequency is 122.90.

Uncontrolled Airports are the most abundant type of civilian airport in the United States. When an airport is defined as "uncontrolled," it means that there is no control tower to direct air traffic. The landings and takeoffs are entirely the pilot's responsibility.

Most uncontrolled airports are not entirely empty. Most of them contain Unicom. If you live near a small airport that receives a medium amount of air traffic, you will hear planes use the frequency often. If an uncontrolled airport does not use Unicom, it most likely uses Multicom.

Continued on page 30



Aircraft Scanning Made Easy! continued

Controlled Airports are airports that contain a control tower. Most busy airports with crowded airspace are controlled airports. Controlled Airports have many frequencies. Depending on the size of the airport, airspace, and tower, the tower frequencies alone can be numerous. Most incoming traffic will identify the tower over the tower's frequencies.

Controlled airports also communicate on "approach" frequencies. These frequencies can be used hundreds of miles from the tower in other airport's airspace. This helps line up the incoming aircraft for landings before they reach congested airspace. Controlled Airports also use the Unicom frequency 122.950.

ATIS (Automatic Terminal Information Service)- This frequency has a recorded message that plays continuously, giving pilots necessary flight information. Depending on the size of the airport, many have automated voice recordings that are updated periodically to give local conditions, obstruction warnings, runway info, etc. If you search the airband you are likely to hear these recorded messages. Each update has a unique identifier, A thru Z, spoken phonetically. ATIS messages often contain a message to general aviation such as "inform the tower you have Romeo" which is the current update R. The next day will be Sierra (S), for example.

Clearance Delivery - The pilot uses this frequency to notify a controller of his flight intentions and to receive flight instructions and clearance for take-off.

Ground Control - The ground controller tells the pilot which taxiways to use to arrive at the correct runway.

Tower - When the aircraft is at the correct runway and is prepared for takeoff, the pilot will contact the Tower Controller and seek permission to enter the runway. Eventually the Tower Controller will give him clearance and departure instructions. Once the aircraft leaves the airspace of the airport, the pilot will be handed off to a controller at a TRACON (Terminal Radar Approach Control) or an ARTCC (Air Route Traffic Control Center, commonly called Air Traffic Control).

TRACON (Terminal Radar Approach Control) Congested airspace around busy airports, typically those serving major cities, is controlled by a TRACON facility. These facilities control aircraft arriving, departing, or crossing their airspace. A TRACON facility's airspace is normally much larger than an individual Tower's airspace and may cover several airports. A TRACON will typically have several frequencies for approach and departure. Often different frequencies are used for different directions. After an airplane leaves a TRACON facility's airspace, it is handed off to an ARTCC.

ARTCC (Air Route Traffic Control Center) When outside the airspace of an airport or TRACON, an airplane is under the control of an ARTCC. All airspace in the United States is under the control of one of 21 Centers. An airplane will often be handed off from one ARTCC to another as it proceeds through its flight. When an airplane approaches its destination, it will contact the TRACON, if entering congested airspace. Eventually the pilot will contact the Tower Controller and begin landing. Note that if the aircraft is not departing or landing at a busy airport, it will not be under the control of a TRACON and instead will be handed off directly between the airport's Control Tower and the ARTCC.

ARTCCs also provide RCO (Remote Control Operations) in outlying areas within their area of responsibility. For example, the Sawtelle Peak RCI near West Yellowstone, MT is controlled by Salt Lake ARTCC 250 miles away. SL Center communicates with and provides radar service for arriving and departing aircraft at the W Yellowstone airport. There are many other RCOs across the country.

It is helpful to know how the VHF airband is configured so you will know how to search and scan for the comms that most interest you. The sub-bands are:

Air Traffic Control: 118.0-122.0, 123.60-128.80, 132.0-135.975 MHz - These radio sub-bands contain most Control Tower, ATIS, ground control, Clearance Delivery, Approach Control, Departure Control, and ARTCC frequencies. Search these frequencies in your area.

Special Use: 122.0-123.575 MHz This radio sub-band contains Unicom, Multicom, Flight Service Stations, balloons, gliders, airshow communications, and other miscellaneous communications. Search this sub-band first at an uncontrolled airport.

Airline Operational Communications: 128.80-132.0 MHz - This sub-band contains internal company

Aircraft Scanning Made Easy! continued

traffic, much of which can range from boring to routine to very interesting.

Navigational Aids: 108.0-118.0 MHz - Non-voice communications.

You may hear the Tower, AWOS or ATIS say "altimeter 29.97" (for example). That is the current barometric pressure for that particular airport's runway. This is how general aviation pilots calibrate their altimeters. Short and to the point, no other info is required but this info is vital for accurate altimeter readings. Of course GPS can also give even more accurate altitude but pilots rightly do not put all their eggs in one basket. I'd rather trust a mechanical altimeter!

To find specific frequencies for your area, do an online search first. Also check radioreference.com which has all kinds of scanner frequency information for all states. You can also get info right here at National Communications online under member services. I suggest you gather info yourself by using the search feature on your scanner. More than likely it will have Air search already pre-programmed. If not, search between 118.0 and 137.0 MHz (AM mode). The navigation sub-band from 108.0 to 118.0 MHz contains navigation aids but no voice so there is no need to search those frequencies.

Antennas for airband: For scanning at home, some people prefer the discone which is a very broadband antenna that provides good performance above 100 MHz. Personally, I like the AntennaCraft Scantenna, probably my all time favorite base station antenna. There are other antennas better suited for a particular band, single band antennas, but for all-around scanning, I like the Scantenna. For handhelds, I prefer the good old fashioned telescoping whip antenna, it works very well for VHF Airband with all sections extended. For mobile use, I have two favorites, the Radio Shack 20-032 mobile scanner antenna and the strange looking Nil-Jon antenna.

I highly recommend a printed resource from the FAA called Airport Facility Directory (AFD) which is updated several times a year and is available at any pilot shop. A good place to find a pilot shop is in the General Aviation area of your local airport. You will find frequencies and other up-to-date information pertaining to your area such as restricted airspace, common routes, etc. AFD is a must-have for any pilot or serious VHF Airband enthusiast.

21 ARTCC centers in the US :
Albuquerque
Chicago
Boston
Washington DC
Dallas-Fort Worth
Houston
Indianapolis
Jacksonville
Kansas City
Los Angeles
Salt Lake City
Miami
Memphis
Minneapolis
New York
Oakland
Cleveland
Seattle
Atlanta
Honolulu
Anchorage

There are other frequencies aircraft use such as the Military Air Band 225.0-380.0 MHz, but since we are talking about civilian aircraft, it



is beyond the scope of this article. We will discuss the UHF Mil-Air Band in a future article.

Abbreviations:
ARINC - Aeronautical Radio, Inc.
ARTCC - Air Route Traffic Control Center
ATIS (Automatic Terminal Information Service)
ATC - Air Traffic Control
AWOS - Automated Weather Observation Service.
CTAF - Common Traffic Advisory Frequency
ELT (Emergency Locator Transponder)
EPIRB (Emergency Position Indicating Radio Beacon)
IFR - Instrument Flight Rules
ILS - Instrument Landing Service.
TRACON Terminal Radar Approach Control.
VFR - Visual Flight Rules
VOR - VHF Omni Range

I hope this article helps you better understand civilian aircraft monitoring. Your questions and comments are always welcome. Please email me jonvanallen@msn.com and please allow 2-3 weeks for a reply as I may be working at sea without email access.

Until next time, Happy Scanning!

EMCOMM EAST
Emergency Communications Conference

By Jim Sutton, N2OPS



EmComm East is an ARRL-sanctioned amateur radio emergency communications conference, where amateur radio operators involved in EmComm can attend training sessions on technical topics, learn from served agencies, obtain VE testing for license upgrades, and interact with other EmComm operators from all over the area.

As I met the ham radio operators around the breakfast table I quickly realized I was in the midst of amateur radio operators who were anything but amateur. From their various professional roles in emergency communications hams from across Canada and the eastern US had gathered to sharpen their skills.

Held at St John Fisher College in Rochester, New York on October 3, 2009, EmComm East participants learned from major players in emergency communications.



FEATURED SPEAKER

The first speaker of the day was ARRL Chief Operating Officer Harold Kramer, WJ1B. Harold shared about the work of the ARRL, American Radio Relay League, and their work in promoting amateur radio.

Harold shared about the five pillars of amateur radio:

1. Public Service
2. Advocacy
3. Education
4. Technology
5. Membership

There was no doubt after hearing Harold that my membership in the ARRL is money very well spent.

WORKSHOPS

During each of the four hours participants could choose from three different workshops.

The first seminar I attended was by Tony Pazzola, W2BEJ from the New York State Office of Fire Prevention & Control. Tony spoke about urban search and rescue.

The next workshop was on emergency operations in the Washington DC area by Tom Abernethy, W3TOM. As with all of the speakers Tom had an impressive list of credentials and experience.

Tom spoke about the "Sunday from Hell" when a series of challenging severe storms went through the Washington area. He emphasized the importance of assessing the response to each and every emergency situation.

The next workshop was an often overlooked area of emergency communications. Chuck Blocher KC2IQV looked at the necessity of good emotional and mental preparation and response. The workshop began with a look at an Emotional Go Kit. Then Chuck looked at ways to relieve the stress that comes with the various scenarios that the ham will face in emergency situations.

My favorite workshop was on Remote HF Operations by Jim Stefano, W2COP. He told of free software that allows hams to remotely operate their rigs. This is a solution for apartment dwellers like me to operate from a location where outside antennas are not allowed.

The options for emergency communications operators are unlimited. Most 911 systems already used remote systems for their daily communications.



EMCOMM EAST continued

MOBILE COMMAND VEHICLES

During the lunch hour we made our way to the parking lot to view five state of the art mobile command vehicles. They ranged from trailers to fully equipped motor vehicles.

The following command posts were on display at EmComm East:

Monroe County ARES – Amateur Radio Emergency Service

Monroe County Emergency Communications Department

NEMSAR - North East Mobile Search and Rescue

New York State Fire - NY-TF2

TASIS Comm Group Tactical and Strategic Intercommunication Systems KC2NYS

With emergency power, programmable radios, computers and all the basics needed for command personnel the mobile units were quite impressive.

From the website of TSIS is an overview of what is involved in their mobile command post:

This unit is the core trailer for single and multi-site incidents. It is equipped with a planning area for the Incident Commander and staff. It also provides communications

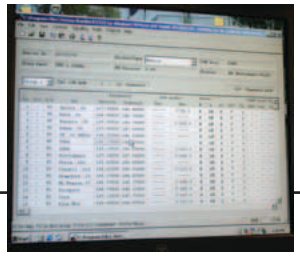
Continued on page 34











EMCOMM EAST continued

with two communications positions with the appropriate radio and computer gear for the incident or event. It is meant to serve three or four planners and two communicators. This trailer also has the tools and equipment necessary to repair or construct antennas, cables, connectors, and other field resources to support communications. An extensive inventory of first aid supplies is also maintained. The COMMAND TRAILER can run under the 800 amp-hour 12vdc battery system, the 110 volt 2500 watt generator, or any 20 amp 110 volt ac connection. The trailer batteries are charged using any 110 vac source or through the trailer connection to the towing vehicle. The unit has heaters and fans for environmental conditioning. This trailer also serves as the storage and transport trailer for our individually deployable equipment.

The Monroe County Communications Vehicle from Rochester, New York was by far the most deluxe vehicle. From multiple radios to telescoping base antennas they are capable of virtually any mode of communications in the area. Handheld units are in the chargers ready to go.

Basic frequencies in the Monroe County command post include EMS 155.175, marine channel 23A 157.150, state fire. state point to point, and V-call.

MONROE COUNTY ARES

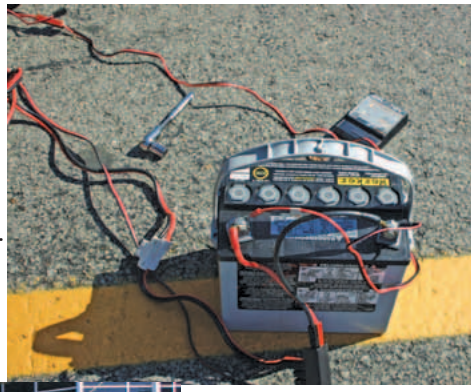
Special thanks to Monroe County ARES for sponsoring EmComm East.

LOOKING AHEAD TO 2010

Sign up now to receive email updates on the 2010 EmComm East on the EmComm East website.

Until next time, may your signals be strong, your static be few.

EmComm East
http://www.emcommeast.org/
Ham Radio Deluxe Remote Software
http://www.ham-radio-deluxe.com/
Monroe County ARES
http://www.monroecountyemcomm.org/
Monroe County Public Safety Mobile Communications Unit
http://www.monroecounty.gov/?q=node/4853///communications
NBEMS - Narrow Band Emergency Messaging System
http://www.wpaares.org/ecom.html
NY-TF2 – New York Task Force
http://www.cdutsara.org/
North East Search and Rescue
http://nemsar.org/
PC-ALE Software ALE Controller for PC Systems
http://hflink.com/beta/
Remote Operation Presentation
http://emcommeast2009.s3.amazonaws.com/Remote_Ops_Presentation.pdf
TASIS – Tactical and Strategic Intercommunications Systems
http://www.tasis.org/2.html
Winlink 2000 Radio Email System http://www.winlink.org/





Be sure to check for the latest frequencies on the Nat-Com web page www.nat-com.org

WHO'S USING CB TODAY?

You'd be surprised who is on CB channels – give a listen...

By Chuck Gysi, N2DUP



Once upon a time, nearly everyone had a CB radio in their car or truck – and probably their home, too. Some may even have carried handheld CB radios just to keep in constant contact.

Those days are gone. CB channels typically are noisy because they are AM and subject to interference from a variety of sources, plus long-distance "skip" signals that can easily wipe our more local communications.

However, there still are plenty of uses for CB radio, even in this day and age of disposable FRS radios. While FRS radios offer low-power clear communications, they are only good for short range. For longer range, CB does offer an advantage.

Recently I was driving along and came upon highway work. Usually, I hear flaggers talk to each other on FRS radios as they direct motorists through the work zone from one side of the highway to the other. This time I wasn't hearing the flaggers and also noticed that the traffic was building up in a long line, even though this was out in the country.

As I came up on the flaggers, I saw something I hadn't seen before. They were using CB radios for communicating from one end of the construction zone to the other because it was about more than a mile long, perhaps too far for FRS radios to reach effectively. The mobile CB radios were mounted in a box with a battery and a mobile CB antenna was mounted to the pole that the radio box was mounted on. I quickly scanned the CB channels and found them using CB Channel 17 for talking back and forth. CB offered the flaggers the additional range they needed to reach from one end of the construction zone to the other.

I live in the Midwest and new wind farms are going up all the time. These wind farms are long linear tracts of land with wind towers erected that literally are huge and can be seen for miles around. The "windmills" turn all day long and generate power for many electric users. It's not unusual to see dozens upon dozens of these windmills in any one location churning out power as you drive along highways in the Midwest.

As these wind turbines are constantly being erected, the pieces that are needed to put these plants into operation travel by trucks. Just a single propeller or tower section takes an entire crew to navigate it along the highway. The truck's rear section actually might consist of a trailer for the front part of the tower section or propeller and then an additional section that moves the rear part of the metal section – without either section connected except for the cargo they are moving.

Typically when you see these pieces moving along the highway, especially through small towns and rural highways as they make their way to the fields were they will be constructed, you will see one or two escort vehicles at the front of the operation, ensuring that intersections are cleared for the wide loads to proceed through and that overhead obstructions won't cause problems. The rear typically is brought up by yet another escort driver, who warns motorists of the long or wide load ahead.

I have noticed that most of these convoys use CB to communicate as they navigate highways and towns. You'll hear them typically on CB Channel 19, or perhaps another channel, and you will hear them talk to each other as they move the big pieces along. It's interesting to hear

Continued on page 36

WHO'S USING CB TODAY? continued

You'd be surprised who is on CB channels – give a listen...

them come through town where I live and you know for sure what it is just by the chatter among the crew.

Farmers also use CB, especially at harvest. While many farmers have migrated to professional two-way radio systems on VHF and UHF business frequencies, some still use CB for communicating between combines and grain trucks. You also hear farmers using CB in the grain trucks as they head for the grain elevators. In fact, you might hear them chatting on CB channels as they line up and wait to unload at the elevators, especially during the height of the harvest season.

In some areas of the country, you might hear loggers using CB radios on the back mountainous roads as they haul lumber out of the forest. I have heard this often in New England as the large loads of lumber come down from the hills. The loggers need to be aware of road problems because of the heavy loads they are carrying.

Of course, truckers still use CB radio, as do motorists who do a lot of driving on the interstate highways. While highway travelers generally use CB Channel 19, don't be surprised to hear truckers or others switch off Channel 19 for a conversation if they are chatting for a long time as they make their way down the highway.

Definitely give a listen on the CB channels to see who you might hear. While I live in a small town, I still monitor CB Channels 9 and 19 on an everyday basis. I'm always amazed at how many still use CB, whether for recreational or work-related purposes.



You see these new wind farms springing up in many areas of the nation and all the hardware that becomes these wind turbines arrives on trucks. Truck convoys with escort teams use CB radio to get them safety across highways and through towns to the wind farm locations.



This is an example of the wind turbine parts that you may see moving across highways or through towns as crews move the hardware to wind farms. CB radio keeps the escort teams in constant contact with the trucker.

Write in

What are you hearing on the CB channels? Do you ever talk to those you hear? Feel free to drop me a line via e-mail to this address: cb-natcom@scanning1.com. Make sure you put Nat-Com in the subject line so if your message gets spiked to my spam bucket, I can easily spot the "Nat-Com" in the subject line and move your message right to the "in" basket. Tell me your handle, too. The e-mail address is used to reach the author of this column only.

In the meantime, keep the sunny side up and the dirty side down.

CLOSING COMMENTS



By: Norm Schrein, KA8PGJ

What has happened to the owner's manuals? In some of the recent releases from our scanner manufacturers it appears that they have decided that everyone has a computer and have placed their owner's manual on a CD. However, there is one major shortcoming to this method of thinking; not everyone has a computer. Even an electric toothbrush has a printed owner's manual. Can you imagine getting a toothbrush and a CD?

I talk to people every day who have scanners and many of them do not own a computer or know how to operate one. Even those who have a computer do not want to go through the owner's manual on their laptop. They have just purchased a scanner that has no hard copy manual, but simply a CD. The other thing is that the scanners which lack a printed manual also are among the most complicated to program by hand.

On the plus side, RadioShack has taken the positive approach of including a printed owner's manual in their digital scanners. However, you can find the same models made by GRE which only have a CD for a manual. GRE is not alone. You will not find a printed manual in the digital Bearcat scanners either.

As far as I know, all scanners can be programmed by hand. However, if the scanner ends up in the hands of someone who does not have a computer, he will not be able to program the radio. It will become a return to the retailer and eventually a return to the manufacturer.

So, from my point of view there are two issues. One is that the scanners are becoming unnecessarily more difficult to program and the manufacturers are making the incorrect assumption that everyone who buys one of these radios has a computer.

In order to keep a scanner sold, then the manufacturers should be looking towards simplicity. Not everyone is a scanner hobbyist. In fact the majority of people who purchase scanners have no interest in having the radio as a hobby item, but simply to be able to listen to their local police and fire calls. If their area has gone to digital trunking, they must get a digital scanner, which is difficult to program by hand and has no hard copy owner's manual.

Manufacturers need to concentrate some of the efforts they have put into complicated scanners into making one that can be programmed simply, by hand, cover digital systems and come with a printed owner's manual. If the ultimate goal is to sell as many scanners as possible, they will find that simple will win out over complicated every time.

Both Uniden and GRE had digital scanners that were fairly simple to program by hand, but have, in their recent models upped the complicatedness of programming the radios with no real need to do so. Uniden could have taken the features they had in their BC296D or BC796D and upgraded the radio to cover 700 MHz and P-25 while keeping the radio simple. GRE could have done the same thing with the models they made for RadioShack by keeping the simplicity of the PRO96 or PRO2096 in their newer models.

But, alas, that did not happen. Manufacturers have been led down the path by hobbyists to include everything possible into their digital scanners. It is the classic case of the tail wagging the dog. Of course that is a great idea for the hobbyists, but manufacturers should remember that they will never be able to make a scanner that has all the features that a hobbyist wants. What about the average Joe that wants to simply listen to the public safety communications in his or her area?

So, my encouragement to the manufacturers for this coming year is to paraphrase a slogan from the Clinton presidential campaign where they said, "It's the economy, ..." Well, in the case of scanners the slogan should be "It's simplicity, ..." If manufacturers can not make a simple digital trunking scanner and continue to try to put every bell and whistle on the units they make, they will see their scanner sales drop. The sales will drop for three reasons; cost, complexity in programming and no printed owner's manual.

First of all, every bell and whistle makes the retail price of the scanner go up. So they have the option of selling a few radios at a large profit, or by making a simple and less expensive unit, they have the opportunity to sell many more radios at a smaller profit. Yet, that smaller profit per unit will translate to a larger profit overall. That principle is taught in Economics 101.

Manufacturers should listen to the hobbyists, but they must also practice good business sense and know the market. Right now, sales of scanners is dropping. That can be reversed if they stick with simplicity, lower cost and a printed owner's manual.

The big question for me is if anyone involved in the manufacture of scanners is really listening.

LAST PAGE OUT





"oops"

photo by Lyman DeLigouri, Sr.

FULL COVERAGE



SCANNERS

CHOOSE FROM ONE OF UNIDEN'S NEW HANDHELD SCANNERS WITH PREPROGRAMMED NASCAR FREQUENCIES OR TRAVEL WITH AN ADVANCED MOBILE UNIT, BOTH GUARANTEED TO KEEP YOU IN TOUCH WITH ALL THE ACTION. NEW FEATURES, SUCH AS CLOSE CALL™ RF CAPTURE AND UP TO 1000 DYNAMIC CHANNELS, ALONG WITH THE PROVEN BEARCAT PERFORMANCE, HELP MAKE UNIDEN THE INDUSTRY LEADER IN SCANNER TECHNOLOGY.

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The latest in digital scanner technology is as close as your nearby RadioShack store. Let our friendly associates show you all that's available, like these 39,600-object models in your choice of handheld or desktop styles. Each includes Flex-BNC antenna, separate alkaline and rechargeable battery trays, owner's manual, preprogrammed 100-city trunking list and step-by-step instructions to help you access and load your system.

Other features include:

- Exclusive Virtual Scanner technology – capable of storing 39,600 objects including Talk Group IDs
- Intuitive "Object Oriented" User Interface design
- Preprogrammed with 100 of the USA's most popular analog and digital trunked systems
- Automatic CTCSS and DCS decoding
- NOAA Weather Alert with SAME
- Skywarn Storm Spotter functionality
- Computer interface built in; works with 3rd-party scanner programming software and cable
- Both models clone with PRO-96 or with the mobile/desktop version, our PRO-2096
- Extended frequency coverage now tunes new 700MHz digital bands, 25-54MHz, 108-174MHz, 216-512MHz, 764-960MHz (except cellular bands 824-848 and 869-893.9)
- Service search, limit search – program up to 50 undesired signals to skip over during a search
- Long battery life; extremely low power consumption
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