

Uniden's Trunk Tracker

In the past few years, hundreds of communities in the United States have moved their public safety communications from their traditional VHF (150-170 MHz) or UHF (450-470 MHz) channels to 850 MHz "trunking" systems. Most agencies did this to expand the number of channels available to their operations, while others have made the switch as part of large, multi-agency upgrades.

Previously, most agencies were unable to communicate with one another via radio when a major incident required a multi-agency response. By switching to multi-channel trunking systems, agencies have the ability to operate on each other's frequencies, as may be required, in a major disaster situation.

Scanning enthusiasts, who enjoy monitoring local police and fire communications (which is legal in the U.S. and often encouraged by many public agencies to improve their public relations), plus volunteer firefighters, off-duty police officers, American Red Cross and search and rescue volunteers all found they were no longer able to monitor much radio traffic. To address the demand from scanner enthusiasts, Uniden apparently reverse engineered the trunking systems to develop a scanner capable of following trunking conversations that hop from channel to channel.

In a conventional radio network, mobiles and portable radios operate on one or a few selected channels. Everyone stays on the channel to which they have been assigned. However, an assigned channel may go unused for long periods when there is little activity. Meanwhile, another nearby agency may have an event underway and their radio channel is operating at maximum capacity. Some channels have unused capacity while others have inadequate capacity.

If you view the radio channels in groups, say of 5 or 10, you can combine the channels into a trunking system that enables more traffic to get

through on those fixed channels. For example, for the sake of calculation, let's assume there are five conventional FM repeaters in operation. Let's further assume that each repeater is considered 80% "full" – that leaves 20% unused. But 20% is hardly enough to add another agency onto the same repeater. But consider that when five repeaters each has 20% unused capacity, that adds up to the equivalent of full channel (5 times 20% is 100%). A trunking system enables the system operator to put that underused capacity to use and get the capacity of six channels from just 5 repeater channels.

Trunking systems work by grouping a block of channels together. In our local system, channel groups range in size from about 5 up to 30. At least one of the channels is assigned as a data control channel. When a radio user hits the push-to-talk button, the radio interrogates the data control channel to request an unused channel from the system. All radios that this user may wish to talk to are simultaneously and transparently switched to the available channel. Hops may occur at every key up.

Let's consider 3 agencies using a 5 channel system. We will call these agencies POLICE, FIRE and GOVERNMENT. Each radio used by the POLICE system is assigned to a virtual POLICE "talk group". Each radio used by the fire department is assigned to the FIRE "talk group". When a police officer keys the mic of his or her radio, all users of the POLICE "talk group" have their radios switched to an available channel in this 5 channel system. Similarly, when a firefighter keys the mic, all FIRE talk group radios are switched to an assigned channel.

The Uniden TrunkTracker is able to monitor the trunk system's data channel, looking for the talk group identifications. In this way, when the POLICE talk group moves to a new

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Feedline

Feedline is a member-supported publication of the Cary Amateur Radio Club and is published monthly. Deadline for submissions is the second Thursday of the month.

Editor: Tom Klimala, KM4LB
1545 Seabrook Avenue
Cary, North Carolina 27511

Cary Amateur Radio Club

The Cary Amateur Radio Club meets on the fourth Thursday of the month, **7:30 p.m.** in the lower level of the Christian Life Center of White Plains United Methodist Church. The June, November, and December meetings are held off-site. Call for location of those meetings.

Next Meeting: April 23

1997 Officers

KE4ZEQ	Frank Lynch	217-1999
	President	
KE4CDI	Charles Nichols	639-1049
	Vice-president	
K4IWW	Will Harper	467-0224
	Treasurer	
W3HL	Herb Lacey	467-9608
	Secretary	

HerbLacey - W3HL

Club Notes

The February meeting was called to order at 7:32 p.m., by Pres., Frank, KE4ZEQ. All present introduced themselves. Meeting time to be shortened to allow more time for the AUC-TION!!

Treasurer's Report - Will, K4IWW, reported: Savings, \$1,189.85; Checking, \$1,493.73; Total, \$2,683.58. !!!! March meeting is the start of our Membership Year. Dues = \$9.

Field Day - Discusses miscellaneous details. FD this year is: June 27-28. PLEASE mark those dates on your calendar. The more participation by CARC members and friends makes FD more enjoyable for all. More later.

Program: The patented, exciting, surprising, rewarding, challenging, stimulating, time-suspending, closet-cleaning, closet-stuffing CARC Auction. If you missed it, words cannot convey the thrill of this event.

Herb, W3HL

WIA'sQNEWS

Australia to US 28mHz Contact

What is believed to be the first sunspot cycle 23 pedestrian mobile contacts between Australia and the US took place on ten metres on Saturday 28 March. Two contacts were made by VK1PK Peter Parker, around midday, to KZ5MM and NE6GN. The contacts followed a successful pedestrian mobile QSO with ZL2RR earlier that morning. This is believed the first time that the Pacific was spanned from the pedestrian mobile station. The pedestrian station used consists of a Johnson Viking converted CB and a 1.8m mobile whip. About 2.5 m of wire forms the ground radial. The power source is a 12v 6AH battery - enough for 2 hours of solid operating. Output power of the station is approximately 12w PEP.

NewsLine

DTV interference

Better late than never, the government warned hospitals and nursing homes that the imminent arrival of digital TV could disrupt important medical monitoring equipment. The warning, which the Food and Drug Administration is mailing to health care facilities comes after a Dallas TV station's digital broadcasting test stopped dozens of wireless heart monitors at two large hospitals late last month.

According to government officials, this is actually the second warning for hospitals. The Federal Communications Commission issued an alert last year that the debut of digital broadcasting could cause interference with wireless cardiac, respiratory and other monitors.

As previously reported on Newslines, the problem occurs because hospitals run those devices on TV broadcast channels that until now have been unused. The FCC classifies hospitals as "secondary users" of the frequencies meaning that once broadcasters move in, the hospitals have to find alternative airwaves.

The program for CARC's April meeting will be a presentation on Yagi antennas by Frank, KE4ZEQ. Bring a friend. Bring a question. Bring a sample of your yagi project!

WiredMagazine

Radio-Free Astronomy

Radio astronomers will have eight hours of uninterrupted signals thanks to a pact signed Thursday between the National Astronomy and Ionosphere Center and communications satellite maker Motorola.

The agreement gives astronomers using Puerto Rico's Arecibo Radio Telescope, operated by the NAIC, daily right-of-way privileges to part of the Ka-band radio spectrum at 1612 MHz between 10 p.m. and 6 a.m. EDT. During these hours, Motorola won't transmit signals from its Iridium system that interfere in this part of the spectrum.

In addition, radio astronomers are given right of way in cases where special scientific opportunities arise. The pact marks a truce in the ongoing battle between radio astronomers and communications satellite makers. Radio astronomers assert that the growing number of communications satellite systems are clogging up the airwaves and muddying their observations. Radio telescopes trace the faint signals emitted in space by interstellar molecules. Noise generated by these molecules gives radio astronomers clues to locating asteroids, stars, and solar systems, helping them piece together the history of how galaxies such as our own have evolved.

Several Big Low-Earth Orbit (LEO) satellite systems, including Motorola's Iridium network, use or are slotted to use the Ka-band. Iridium, which will have 66 satellites, is scheduled to begin operation this fall.

VHFReflector DF9CY

DL Cancels Six Meters

Don't look to hear German stations on 6 meters for the foreseeable future. According to DF9CY, the special permits issued to 1000 German hams for 50 MHz operation expired at the end of 1997 and so far the government has not seen fit to renew them.

As a result, German hams are not allowed to work on 50 MHz at this time. The embargo will last until a new set of rules permitting 6 meter operation is enacted by the German telecommunications regulatory agency.

Hams run off pirates

Hams drive taxi's off 10 meters in NYC

New York City radio amateurs are claiming an early victory in their war to run non-ham taxi dispatch communications from the 10 meter ham band. As previously reported on Newsline, hundreds of Big Apple taxi drivers had installed illegally modified citizens band radios in their cabs. The radios were being used to run dispatch and other voice communications in the CW portion of 10 meters.

According to the latest reports, the taxis are now leaving 10 meters faster than they came onto the band. This, as more and more hams are coming into the spectrum between 28.0 and 28.2 MHz running high power Morse code practice transmissions.

Also helping matters is a recent edict from the New York City Taxi and Limousine Commission. That agency warned all 14,000 of the city's taxi drivers of the severe consequences if they were found to have non-approved radio equipment in their cabs.

The FCC also gotten into the act. Under New York City taxi regulations each cab is obligated to go through an overall vehicle safety inspection four times per year. Once a week, the FCC is visiting an inspection site in Queens, New York with frequency measuring equipment. Taxis with two-way radios are diverted to a special holding area where an inspector can evaluate the radio.

So far, 98% of the radios inspected have been found to be illegal for taxi dispatch use. The FCC is warning the drivers in person about the possible penalties. Drivers of cabs equipped with illegal radios are also receiving a follow-up letter that says any recurrence will result in the issuance of a "Notice of Apparent Liability" and a possible fine of up to \$5,000 for each violation.

Needless to say the drivers are not all that happy about the effort to make them vacate the band, but they are moving away.

Leaders of the campaign to run the taxi's off 10 meters are saying that there are additional actions being planned.

A Radio Pioneer's Legacy

Rockwell donates Art Collins papers to Iowa library

The papers of the late Arthur A. Collins, W9CXX, the founder and president of Collins Radio Company, have been deposited at the University of Iowa Libraries.

Art Collins who later became W0CXX died in 1987. He was a pioneer in the development of highly reliable two way radio equipment for the amateur, military and commercial radio markets. To this day, hams consider it to be the Roles Royce in gear.

Arts' company, Collins Radio, was headquartered in Cedar Rapids, Iowa and it began producing amateur radio equipment in 1933. One of the early highlights of Art Collins career came when Admiral Richard E. Byrd was planning his first trip to Antarctica. Byrd asked Art Collins to design and build transmitters for the expedition that would enable him to make live broadcasts to the United States from the South Pole. Later, during World War II, Collins Radio supplied electronic equipment for airplanes and ships. These stories and much more are reportedly included in the papers now in the schools possession.

Currently the material is being cataloged and it is not on display. There is no scheduled date when the University will making it available for public view.

Art Collins papers fill thirty three large boxes with documents covering the years 1932 through the late 1970's. Materials in the collection include correspondence, subject files, photographs, notebooks, corporate annual reports, product literature, product drawings and other working papers.

ArrLLetter

Major changes for Field Day

Some new rules go into effect this year for Field Day. The popular summertime operating event takes place each year on the fourth full weekend in June. This year, it will be June 27-28.

A major change this year is the elimination of bonus-point credit for packet and VHF/UHF contacts. Field Day stations no longer will be allowed to count contacts via digipeaters, packet nodes, or similar arrangements. Class

2A and higher Field Day stations still may operate a "free" transmitter exclusively for

VHF or UHF operation (ie, above 50 MHz) without changing their basic entry classification, but not for bonus points. "It's better than bonus points, and groups are likely to spend more time on VHF and UHF because of that," predicted ARRL Membership Services Manager Chuck Hutchinson, K8CH. As in the past, crossband and repeater contacts other than via satellite do not count for Field Day credit.

Field Day stations now can earn point

credit for digital (ie, non-CW) contacts on each band. The phone, CW, and non-CW digital segments are considered separate "bands" in the Field Day rules. This means, for example, that you now may work the same station for point credit on 40 meters three times: once on SSB, once on CW, and once on RTTY, packet, or one of the TOR modes. SSB contacts count one point, and CW and non-CW digital contacts count 2 points apiece, so adding non-CW digital capability presents a real opportunity to rack up substantial additional points! "We're expecting an interesting year because of the digital modes," Hutchinson said.

The complete, official Field Day rules will appear in the May edition of QST. The new rules undoubtedly will generate a flurry of computerized contest logging program revisions as developers scramble to incorporate the changes into their software.

(Continued from page 1)

channel, the TrunkTracker is able to grab the new channel assignment, and move the scanner to that assigned channel. If the Mayor needs to talk to the Fire Chief during a major emergency, the two can each set their radios to the GOVERNMENT talk group. The Fire Chief has the benefit of a "virtual second" radio that can communicate on other channels.

To put the TrunkTracker to work, you must first program in each of the radio frequencies used in the Trunk-Tracking system. This information is available from a number of sources, including a booklet of frequencies provided with the TrunkTracker, as assigned by the FCC. In my area, a scanning hobbyist has created a web site with lots of information about the local public safety trunking system.

When the TrunkTracker is put into the trunking mode, it scans the bank of radio frequencies that you've programmed to locate the data control channel. Then, it begins listening. Each time a radio channel is used, as determined by a burst of data on the control channel, the TrunkTracker displays the talk group identification (ID) in its LCD panel. The ID is a number ranging from probably 0 up to about 65,000. Our local County Sheriff, for example, has an ID number of 22316. Our Fire dispatch center uses an ID of 22224. By monitoring the system, you can quickly identify most of the agencies and their ID codes.

Next step is to program the ID codes that you wish to monitor. For example, if I program in the two codes just given, I can have the TrunkTracker monitor only traffic assigned to these ID codes and ignore all others.

The TrunkTracker provides 10 banks of 30 memory channels for a total of 300 channels. You need to program all the channels of a single system into one of the memory banks. You can program frequencies of systems into as many banks as you wish. Next, you can store up to 10 "search IDs" into an additional set of memories as well. On mine, I program all the local Fire channels in bank 1 of the search IDs, the County Sheriff into bank 2, and local city police in bank 3 (more banks are available). When

I leave the scanner on in trunking mode, I can choose to scan just the fire IDs, or just the Sheriff, or just the police, or any combination of these.

If you have never used a scanner, you'll probably find the TrunkTracker difficult to use. That's not so much the fault of the TrunkTracker as it is a side effect of how trunking systems are more complex than fixed channel FM repeaters. If you are familiar with conventional scanners, you should be able to configure the TrunkTracker for your area.

You can also use the TrunkTracker as a traditional scanner. Just program in the desired frequencies and use the radio in "scan" mode instead of "trunked" mode. You can not, however, scan conventional frequencies and trunked frequencies simultaneously. This can be a limitation, especially for ham radio operators who may use their scanner to simultaneously monitor local ham radio repeaters while listening to police or fire calls. In my case, the TrunkTracker is as an upgrade to a much older scanner – so I just let'em both run at the same time, with the old one on conventional radio channels and the TrunkTracker on the trunking systems.

The TrunkTracker is shipped with both an external AC adapter/battery charger, as well as a spare battery and spare charging cradle. The spare charging cradle is connected inline to the external AC adapter so that you can charge both the radio and a spare battery at the same time. I was impressed that Uniden had included both the second battery and the charging cradle for charging two batteries at once.

The only problem I had with my TrunkTracker was that the supplied antenna's middle pin of the BNC connector broke within about five days of use. Undoubtedly, I should have requested a replacement – however, as a ham, I had numerous extra antennas around and scrounged up something else to use instead.

There are different kinds of trunking systems and the TrunkTracker cannot intercept all of them. It does cover what are probably the most popular trunking technologies. I'm very pleased with the Uniden Trunk-Tracker

and highly recommend it for others who have a desire or a need to monitor trunking radio systems.

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TomDoligalski N9CGD

Ham Radio Internet

This month's column is full of odds and ends that have accumulated over the last few months. First, you might recall that last month I wrote about using the internet to obtain a vanity call-sign. After the article was published I discovered a neat website maintained by the FCC that actually lets you interrogate the FCC database directly: check it out at http://gulfoss.fcc.gov:8080/cgi-bin/ws.exe/prod/efpa/forms/610/610_License_Search2.hts (wow, that's a long one!).

After you've got your ticket, I'm sure you will want to upgrade. I've written before about AA9PW's web page that lets you take amateur practice exams: this page will randomly generate the exam, and then even grade it for you! Well, never one to rest on his laurels, AA9PW has developed a Java version of the page at

<http://www.biochem.mcw.edu/Postdocs/Simon/radio/java/index.html>

where you can do the same thing: even better, now you can download the java code and run the thing off-line on your pc (provided the browser you are using supports java). Check it out!

Finally, a recent recommendation turned up a really cool web site at

<http://fohnix.metronet.com/~nmcewen/ref.html>

which is "The Telegraph Office", a web site devoted to the collection of Morse code keys and the use of CW generally. Pretty neat: check it out! This site also features dozens of links on this subject...

73, Tom

PressRelease via NewsLine

The \$600 HF Radio

In ham radio industry news, SGC Corporation has announced that it will bring out an under \$600 high frequency transceiver. The Bellevue, Washington based company says that it has developed a new twenty watt high frequency transceiver that carries a manufacturers suggested retail price of only \$595.

Based on a popular Index Labs design and dubbed the SGC-2020, the radio has tunable coverage 1.8 to 29.7 MHZ, has 40 memory channels, a microprocessor controlled iambic A mode keyer, digital frequency readout, front panel microphone jack and much more.

No reaction yet from the big-four manufacturers to SGC's low priced challenge to a traditionally high ticket item.

PressRelease via NewsLine

The \$500 HF Radio

Last week we told you about the under \$600 high frequency transceiver. Now comes word that another company may soon offer an under \$500 radio available to the ham radio community. That company is ADI Premiere.

Take a look at amateur radio HF rigs today and you'll see mostly high-end contest models. Prices in the thousands with dozens of features and front panels full of knobs and switches. Premier Communications, maker of ADI radios, believes that's enough to keep some hams off the low bands. So, Premier is thinking about going simple by offering an easy-to-use HF rig at or below \$500.

"We're basically targeting it toward the codeless licensees that have come in during the last decade. We are approaching 10 years now of the code-less license. Of course the number of upgrades are very low, so we are targeting those guys. Trying to give those guys a real obtainable thing from them to go after that upgrade."

Ken Collier, KO6UX, is Premier's assistant sales manager says the company is getting a lot of response from its request for comments from hams about what features they want in a low cost HF rig.

"Basically what we're looking for is what we can cut out of a radio without severely impacting those, the sales of the

radio." Collier

Of course, low cost means the radio would lack certain features like advanced signal processing. But Collier says the new model would include general coverage receive capability. The company knows the price would have to be right.

"We'd like to keep the cost under \$500 retail. And that is actual selling price. That's not the suggested retail price. Suggested retail is going to be somewhat higher than that. Whether or not we can actually do that remains to be seen, but the engineering staff would be pretty optimistic."

Collier says Premier may decide later this year on whether to bring the cost and complexity of HF communications down to perhaps the lowest ever.

While ADI may wind up being the first to break the \$500 barrier, another company has already come close. As reported last week, the Bellevue, Washington based SGC Corporation has announced that it has developed a new twenty watt out high frequency transceiver that carries a manufacturers suggested retail price of only \$595.

CGCCCommunicator

Air Freq Pirate Shutdown

The FCC has closed down another unlicensed radio station. This, after the agency received complaints that its signal was interfering with commercial aviation communications at a Sacramento Executive Airport in Northern California.

The Commission said its investigation of complaints from the Federal Aviation Administration about interference at the airport led it to an unlicensed station operating on 107.2 MHz. Its location was the office of Dollar and Sense Productions in a south Sacramento office.

Airport officials had complained to the FAA that several communications channels were receiving interference from a radio station that appeared to be drifting or changing frequency. Pilots flying over the area had also reported hearing a radio station over the air traffic control radio channel.

This is the fourth time in the last five months that the FCC had to locate and remove illegal radio stations from the airwaves for interfering with air traffic control communications.

NewsLine

Ham Radio Open Town Meeting

Newsline will host the 2nd annual "Ham Radio Open Town Meeting" -- live to the Internet -- on Sunday, May 17th. This netcast will air from 10 AM to Noon Eastern as a special two hour interactive forum originating from the 1998 Dayton Hamvention.

Currently there are five topics under consideration for debate. These include -- in no particular order --- "Restructuring Amateur Radio For The Next Century," "Should Voluntary Bandplans Be Made Mandatory," "Are Insurance Company Regulations Taking The Fun Out of Ham Radio," "The Problem of Ham vs. Ham Law Suits" and "Dealing With Hate Groups and Hate Nets That Have Invaded Amateur Radio."

We are looking for one speaker who is pro and one speaker who is against for each topic. Once we hear from you we will decide which topics will be included at the forum.

If you are an articulate debater who is planning to attend Hamvention '98 and want to be a part of any of these discussions, please send us a brief biography & indicate which topic on which you want to speak. Send the information to us by e-mail to: newsline@ix.netcom.com

Or, you can write us at:

Newsline
28197 Robin Avenue
Santa Clarita, California
91350

Either way, be certain to include telephone numbers were you can be reached both daytime and evenings.

ViaRGSB

UK Government

And from the strange but true department, it appears that the GB2RS News Broadcast of the Radio Society of Great Britain was inadvertently jammed by the British government. It happened back on Sunday, January 25th when the frequency of 3.640 MHZ experienced massive interference all across that nation.

The source of the disturbance turned out to be a government controlled wide band data transmitter running several kilowatts of power. According to the RSGB, the transmitter showed up on 3.640 MHZ on Friday January 23rd. Fortunately, it got shifted to a non ham radio frequency of 3.369 MHZ late on Monday, January 26th.

Vanity call cost reduced

The cost of getting a vanity callsign may be going down. The FCC is considering lowering the annual fee as a part of its 1998 fiscal year budget proposal.

"In a stunning reversal of previous policy, the FCC is now in the process of reducing the regulatory fee associated with the issuance of a vanity amateur station callsign.

At present, requests for a specific vanity callsign requires a payment of \$50 to the FCC (for a ten year license term). In MD Docket 98-36 released last week, the FCC's Office of Managing Director said that it would be reducing the cost of an amateur vanity callsign from an annual charge of \$5.00 to an annual charge of \$1.29.

The cost of a ten year vanity callsign was raised top \$50 only last year. The Notice of Proposed Rule Making in MD Docket 98-36 was released on March 25th. Basically it says that you will have to continue to pay \$50 until the new fiscal year user fees go into place. Last year the new fees went into effect on September 15th and it is expected that the Fiscal Year 1998 fees will go into effect about the same date later in 1998."

Fred says that he will have the full details on the proposed lowering of the cost of ham radio vanity calls. Fred says to look for it in the April 15th edition of his W5YI Report.

NewsLine

Submarines to take to AIR Waves

Several submarines and other Naval vessels will take to the air the weekend of April 25 and 26 for Submarine Memorial Radio Reactivation Day, sponsored by the Submarine Veterans Amateur Radio Association. In the wake of a successful event last spring, the shipboard ham radio activity has become an annual event on the last weekend of April. The association hopes to reactivate the radio rooms of as many of the 23 memorial submarines as possible. This year's event has taken on an international scope with the participation of several Italian submarines plus the possi-

ble participation of hams from a memorial submarine in Vladivostok, Russia (possibly using RS56M).

Jim Flanders, W00OG, in Plano, Texas, reports the USS Torsk in Baltimore and the USS Growler in New York City will join this year's roster. Flanders says other "definites" for the event are the USS Requin in Pittsburgh, the USS Drum in Mobile, Alabama, the USS Batfish in Muskogee, Oklahoma, the USS Pompanito in San Francisco, the USS Bluegill in Washington, the USS Croaker in Buffalo, New York, the USS Aluminant in Norfolk, Virginia, and the USS Grayling memorial in Denver. He's hoping for confirmation from others.

"Last year was the first year we did this, and I manned the Batfish in Muskogee, Oklahoma, and my dad, K4RQQ (SK), manned the Drum in Mobile Bay," Flanders reports. (A memorial service for Murray Flanders, K4RQQ, was held aboard the vessel last November.) Other ships active last year included the USS Pompanito in San Francisco and the USS Requin in Pittsburgh. Norm Drechsel, WA3KEY--who plans to operate from aboard the USS Growler, is helping to coordinate the event. Last year, just four ships were active, but Flanders is hoping to get up to 20 on the air this year. A certificate is available. Flanders says hams can participate in two ways: Work as many of the subs as possible or help to operate from one of the memorial ships.

Operations will run from 1500 to 2200 UTC each day. Anticipated operating frequencies will be 3.943, 7.243, 14.243, 21.343, and 28.343 MHz, plus or minus 10 kHz. Flanders says some ships will not be on the air Sunday for a lack of operators. Also, he reports, some old timers "can't last two full days on a cold boat." For more information, contact Jim Flanders, W00OG, tel 972-517-8481; e-mail jaf@sprintmail.com;

<http://www.flash.net/~jflanders>.

KWIZ

1. Yes 2. One 3. All of them (12)
4. The beggar is her sister.
5. He can't be buried if he isn't dead.
6. 6 7. No - because he is dead.
8. They aren't playing each other.
9. 70 10. White. The house is at the North Pole so it is a polar bear.

Missing Owl Hunt

And finally, what do Burrowing Owls have to do with ham radio hidden transmitter hunting? Quite a bit when the owls are lost and there is nobody else really out there to find them. Confused? We asked Joe Moell, K0OV to straighten it all out:

"You've seen the TV nature shows where critters of all kinds are tagged with little transmitters and tracked by radio direction finding. But have you ever listened for these signals yourself? Here's your chance to help researchers from Saskatchewan who are trying to find a dozen endangered Burrowing Owls that migrated south from Canada last fall.

Weather was so bad that aircraft lost the radio collar signals in North Dakota. The owls are thought to have wintered in southern Texas or nearby in Mexico, and they're expected to head north again very soon, if they haven't been bagged by hawks or other predators.

If you live in central states from Texas to North Dakota, you can help the biologists by listening for these owls. They hide in burrows during the day, so you're most likely to copy the short pulsed signals during hours of darkness. Frequencies are near 170 MHz. Your scanner or extended-range hand-held may be all you need, but if you have direction finding gear, so much the better.

For all the details including exact frequencies and technical tips, see the Homing In Radio Direction Finding Web site. There's a link on the Amateur Radio Newsline site to get you there. If you're not on the Web, send me an e-mail. The address is homingin -- one word-- homingin@aol.com. Or you can send a stamped self-addressed envelope to my callbook address for a hard copy."

Answers to last month's IQ test.

11. 2 12. 50 cent piece and a nickel. (The other one is a nickel)
13. The match. 14. Half way. Then he is running out of the woods.
15. 1 Hour 16. 9 17. None - Noah took them on the ark. 18. Meat
19. 12 20. Same as it is now.