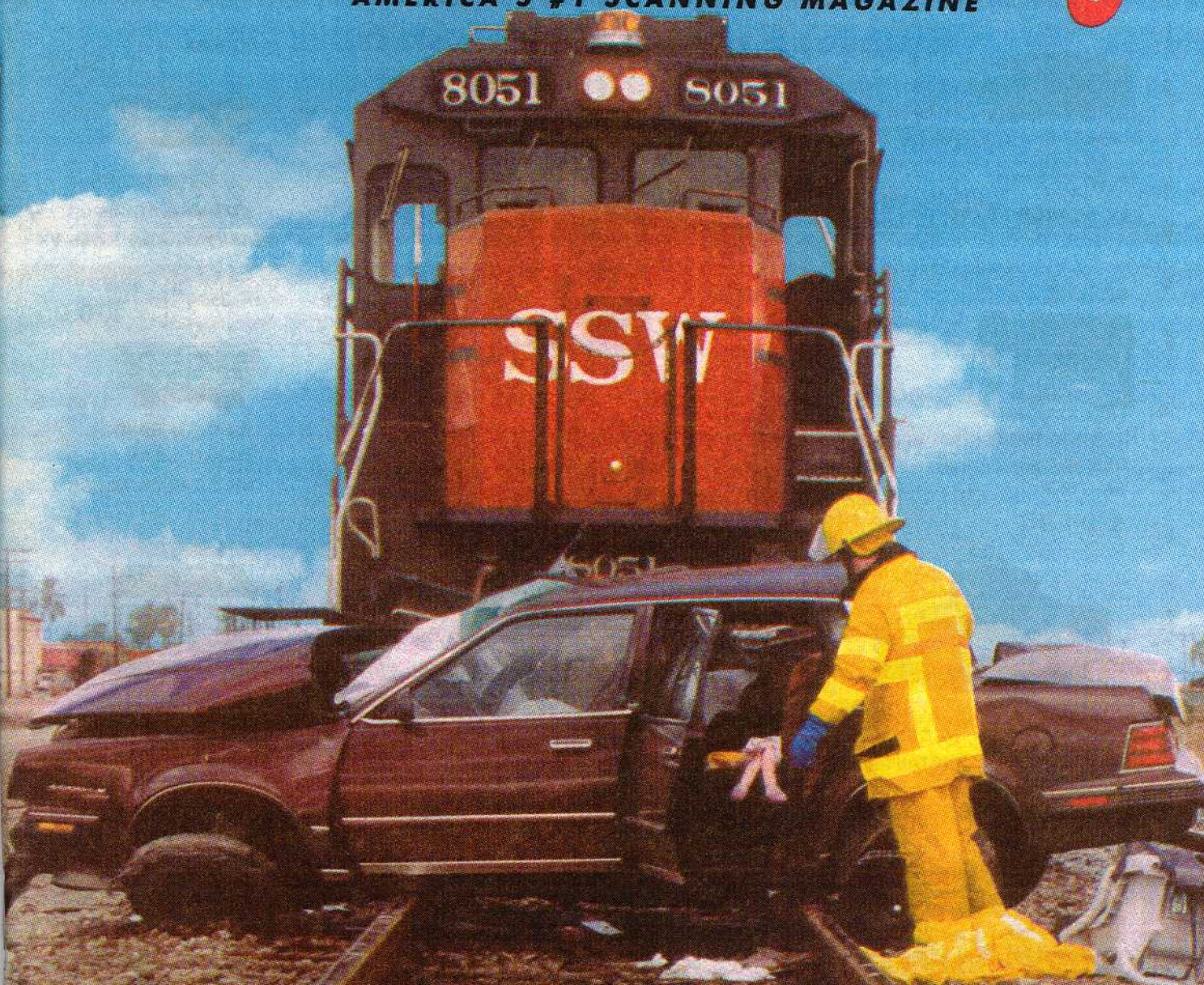
May/June 1995 • Volume 6, Number 3

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National Scanning

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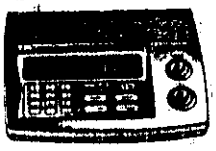


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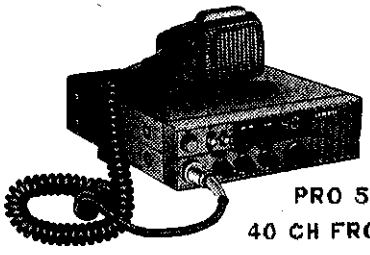


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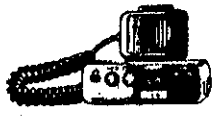
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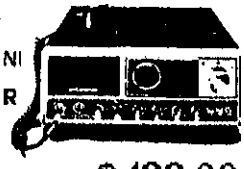
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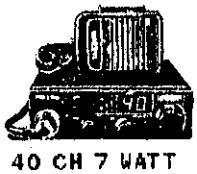
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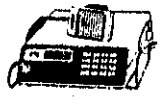
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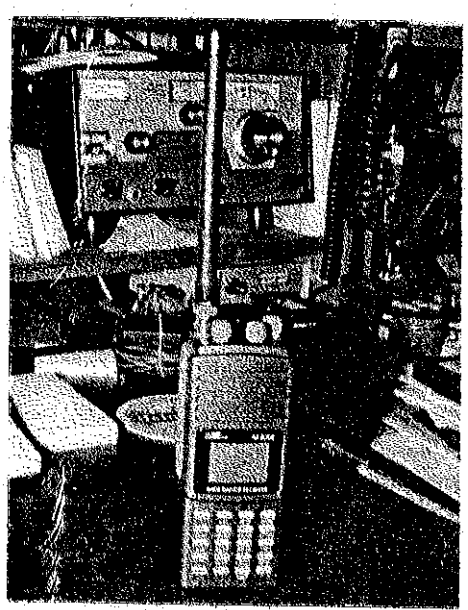
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National Scanning

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Our cover: Riverside County, Calif., firefighter inspects the wreckage after a collision of a car and freight train claimed the life of the woman driver and her teenage son.

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National Scanning
Box 360, Wagontown, PA 19376

National Scanning
is the official publication of the
Bearcat Radio Club.
Subscription & Membership,
Box 291918, Kettering, OH 45429

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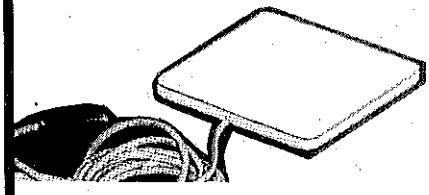
Who Uses the New Audio Breakthrough MicroEar?

Among others • Farmers checking for infestation in grain bins
Entomologists studying insect movement in soil or wood • Plumbers detecting water leaks
The hearing impaired • Law enforcement "bugging" a vehicle or room
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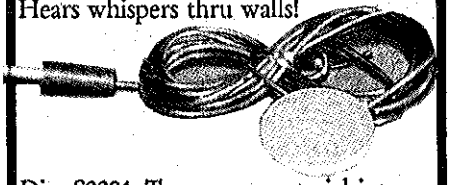
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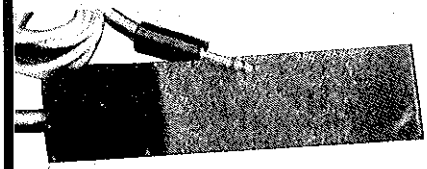
Some of the Sensors ...



Giant Ear S-2203C--Only 2½ x 2½ inches in size. Magnetically attaches to doors, buidings, cabints, desks, vehicles. 10 ft. of cable. Just $49.00. Hears whispers thru walls!



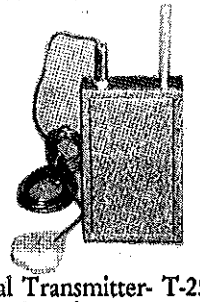
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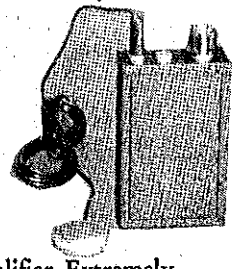
See-through Sensor ST-2201--Attaches to glass, wood, anything with tape. 1 x 4 inches wide. Only $49.00. Hears through glass.

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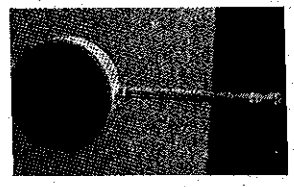
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We're Making Convention Plans

I think it was last year at the NorthEast Scanning News Summer picnic. Les Mattson had arranged for the local SkyCare helicopter to land at the convention site. Excitement mounted as the event approached. Scanners were programmed with the helicopter's frequency and eager eyes searched the clear, blue summer sky for signs of the incoming chopper. Last minute preparations were completed and officials scurried about, attempting to secure the landing site from curious onlookers.

After what seemed like an eternity, dozens of scanners crackeled to life simultaneously. It was the helicopter and it was on its way! People began smiling and patting each other on the back before looking up again to catch the first sight of the big bird. People didn't have to wait long.

Soon, just over the horizon, a black speck appeared. A cheer went up. Sodas and sandwiches were left behind as everyone began to gather at the landing spot. The helicopter was getting larger and larger and by now was clearly visible as a helicopter. It would only be moments now. Some of the crowd began counting down .... 50, 49, 48...

Just then a scanner broke through the excitement. "Skycare helicopter, this is Memorial Hospital. Please divert to 2nd and Main Streets for an auto accident. Repeat..." No one left their scanners on long enough to hear the message again. For a moment, though, everyone continued to look at the sky as the bird swung into full view, turned and headed out. There was silence as the bird became smaller and smaller until it finally disappeared into the sky.

These things happen.

So when we started setting up this summer's convention, we tried to get two, even three helicopters! The Brandywine Hospital Life FlightCare helicopter has confirmed, along with their rescue squad. Another hospital chopper is on standby and the Pennsylvania State Police have said that they are considering an appearance as well. We'll know about that as time goes on. At least we got the helos covered!

Yes, the first annual National Scanning Convention is really starting to look good. Not a day goes by, it seems, that we aren't adding a new speaker, demonstration, or event. Right now we've got 15 different seminars on schedule, ranging from finding frequencies, modifications and various types of monitoring, to building your own super antenna and much more.

You'll probably recognize most of the exhibitors who are planning to attend. There's Uniden and Radio Shack, plus Startek International, Inc. (frequency counters), Electronic Distributors Co. (professional-quality monitoring gear), Official Scanner Guides (Aeronautical and Maritime Frequency Directories as well as those great New England books), Mr. Scanner (Uniden Scanners), 911 Graphics (great looking T-shirts, hats and accessories) and Starlon Electronics (Lou "Sammy Scanner" Campagna). Cellular Security Group is coming and they'll offer their famous 800 MHz "Mods-On-The-Spot" deal. Bring your scanner and they'll unlock the cellular on any Realistic scanner made before March '94 (date code 2A4 and previous) and any Bearcat made before January '94 (date code 0AID and previous). There is an extra fee for this paid directly to Cellular Security Group. There's even an up-and-coming new police action TV show coming -- Code Red -- and its star, Wayne Melton.

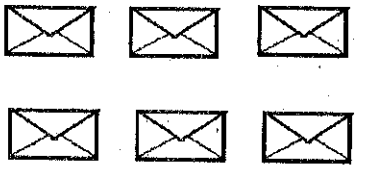
We have some great door prizes, too. Uniden's hot, new BC-9000XLT Scanner is up for grabs, as is a Startek Frequency Counter, a commercial-grade wideband discone antenna from DX Radio Supply, even Radio Shack is tossing in a prize, a top-of-the-line PRO-2035! And EDCO is contributing an AR2700!

Saturday evening closes with a delicious banquet. Gene Hughes, the dean of the scanning hobby and publisher of *Police Call*, will preside over the festivities and talk about his 30+ years of scanning, 2-way radio and publishing.

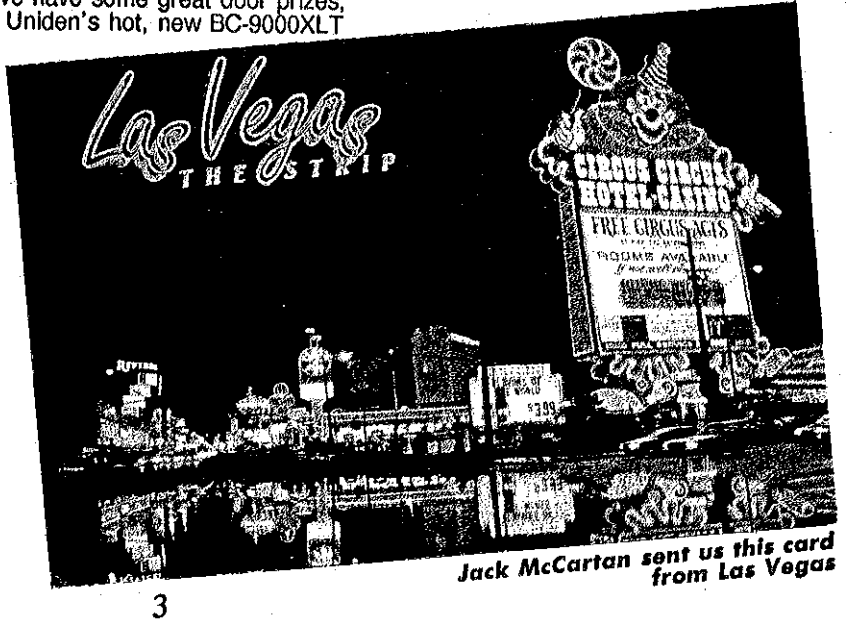
The evening concludes with a transmitter hunt and plenty of great times with fellow scanner listeners from all over the country. It's going to be great.

We're really hoping that everyone can come out. We've set the convention up as a not-for-profit venture meaning that we are only charging what the hotel charges us. So, mark off July 14, 15 anf 16 and head for Lancaster, Pennsylvania. See you there!

LETTERS



With Larry Miller



Jack McCartan sent us this card from Las Vegas



We got a postcard from Delaware columnist Jack McCartan the other day. "Having a blast in Las Vegas! Lots of scanning action," Jack wrote on the back of the card -- which included not a single word about the fact that Jack got, oh, by the way, *married*, during the trip! Now that's a dedicated scannist! Congratulations to Jack, his scanner and the new Mrs. McCartan from everyone at National Scanning! Jack will be at the convention. And Mrs. McCartScan??

Paul Smith, CT 1 AJA, of Manchester, Connecticut, passes along a clipping from the Journal Enquirer newspaper. Titled, "Suspect nabbed within 2 hours of robbery," the article details who police were able to arrest a suspect in the armed robbery of a bakery. Paul, who is a police dispatcher in nearby Vernon, points out a paragraph near the middle of the story. "Lt. Brian Smith said police investigators were aided by numerous phone tips received from residents who had apparently learned of the robbery from listening to police scanners." Says Paul, "I do know from personal experience that this particular area does have a lot of residents with scanners, who, in most cases, do assist us in doing our job." Paul closes his letter by saying that he looks forward to each and every new issue of NatScan and that he hopes to see everyone at the Conference in July.

Most of the time, what makes the news about scanning is the dirtbag who is busted for drugs and who is found with a scanner going in his home. That picture is as unfair as pointing out that the druggie made his deliveries in an automobile and then trying to get cars banned.

Interestingly enough, as I talked to a lot of law enforcement officers, not only do I find that many of them do appreciate the help that scanner listeners offer, but many law enforcement personnel are scanner hobbyists themselves. Plus, as one state patrolman told me, "Everybody else complains about the police. Scanner listeners know how hard we work."

A couple of issues ago, reader Richard Rispole wrote and asked where he could get an IC for an old Fox BMP10/60 scanner. I think that we told him that, basically, because Fox was out of business, he was out of luck. Mod House columnist Steve Donnell reminded us of our old friend, Gerry Oliver of G&G Electronics. Gerry has lots of parts for the old BMP10s and many older Bearcats, too. Try him at 716-768-8151.

Apologies to Alan Bosch of Arlington, Virginia. It seems that whenever I get a really good letter from a reader, I set it aside in a special place so that I won't forget it and gradually, it works its way to the back of the desk where eventually it falls down between the wall and the desk. I got Alan's letter back in -- no, I can't say. It's too embarassing. In any case, Alan commented on Wayne Heinen's article on Morse Code.

Alan got his new no-code ham license and like many new hams, is thinking of upgrading his license. To do that, you need to know Morse Code -- something akin to having skin removed with rusty pliers. Morse Code is also helpful in identifying public safety channels who identify at the top of the hour in Morse Code.

Alan Bosch said that the chart Wayne ran with his article "set off bells. I was about to cut it out when it hit me that many letters are images of one another -- like A (.-) and N (-.).

So Alan made up a chart of letters based on that idea. Here it is...

MORSE CODE LETTERS

E	.	T	-
I	. .	M	- -
A	. -	N	- .
R	. - .	K	- . -
L	. - . .	Y	- . - -
		C	- . - .
W	. - -	G	- - .
P	. - - .	X	- . . -
J	. - - -		
U	. . -	D	- . .
F	. . - .	Q	- - . -
		Z	- - . .
S	. . .	O	- - -
V	. . . -	B	- . . .
H	. . . .		

Says Alan, "I thought that you and/or Wayne might be interested because I think this will make code easier to learn. I'll let you know if it works."

"To paraphrase General Douglas MacArthur, 'Old radio myths never die, they just keep getting re-transmitted." So says our own Gene Hughes. "I refer to page 3 of the March/April issue in which Arthur Herbig repeats a tale of why AM, rather than FM, is used for aviation radio. I've been trying to put this tale away for years, but it keeps popping up. The real reason isn't very technical.

"VHF radio for aviation came into use during World War II. It was AM, because FM was very new, cost a lot more, was less relaible and bulkier. When the war ended, there were thousands of surplus VHF radios, which were snapped up by the airlines, governments, and private aviation. They were all AM, so AM continued to be used. After that, trying to switch world-wide aviaiton to FM would be absolutely prohibitive. Beides, watt for watt, AM has greater range than FM."

The Herbig version almost destroys itself if one applies simple logic to the statement, 'Thus, it is likely that a sudden emergency might still be heard on AM even when a second aircraft is communicating.' In an emergency, a pilot would not try to communicate on a normal communications channel and risk not being heard, but would switch to 121.5 MHz, which is monitored everywhere in the world. Contrary to the last paragraph, all aviation communications in the band 108-137 MHz are AM worldwide. There is no need for FM receive capability in that band.

"Would you be so kind as to throw another shovelful of dirt on an old corpse?"

Bennett Kobb, the editor of the excellent *Spectrum Guide* book, probably knows the radio spectrum better than any other human being on the planet. If you've gotten a copy of *Spectrum*, you know why we've been so excited about the book. In any case, Ben points out an interesting "catch" for scanner listeners who want to add a little adventure to their scanning. Says Ben, "In December, the Russians launched another amateur [radio] satellite: RS-15. It is quite easy to hear... on 29.350, sending telemetry -- in Morse Code -- along with the ID RS-15." Just about anyone should be able to hear this although an outside antenna helps. In any case, set your scanner for 29.350 MHz, turn up the volume, and wait. As the satellite begins to pass overhead, you'll start to hear the beeping "dits" and "dahs" that makde up Morse code. And right then and there you've logged your first satellite on the scanner! Thanks to Ben for that great tip. Try it!

That's it for this issue. I hope that we'll have the chance to see you at the National Scanning Convention in July.

Readers Report Readers Report Readers Report

KCMO Police to Scramble Communications

They may be the first, but they're probably not the last. The Kansas City, Missouri Police Department announced that they will completely encrypt their radio communications, allowing only police, fire, and city employees access. Police officials said that non-public safety groups such as certain private security, towing companies and media would be able to monitor dispatched police calls via computer monitor. No audio will be available.

Many departments encrypt tactical and intelligence channels, but have found that total encryption for dispatch channels is too expensive. Kansas City's system encryption was approved by voters in 1988 as part of an $18 million radio system. What were they thinking?

Gotcha!

Halifax, Canada, Police surrounded a Price Club store early one Sunday morning after getting a tip from a scanner listener. The listener overheard a cellular conversation during which plans for breaking into the store were discussed. The listener called police, who discovered three men attempting a rooftop entry into the store. The three were taken into custody. "Technology does not always work on the side of the criminal," said Halifax Police Constable Gary Martin.

More Cordless Channels

Not content with ten channels, the FCC has more than doubled the amount of airwaves available for cordless telephones. According to the Commission, the extra space means less interference and improved privacy. You'll have to buy a new phone to take advantage of the new channels, which will be able to operate on all 25 allocated frequencies. FCC Engineer Anthony Serafini said that "the additional channels being made available for cordless phones are less congested" than the current ten. The new frequencies should be active within the next couple of months. Because it is a violation of federal law, not to mention some state and local laws, we urge you to block the following new cordless phone base frequencies from your scanner; 43.72, 43.74, 43.82, 43.84, 43.92, 43.96, 44.12, 44.16, 44.18, 44.29, 44.32, 44.36, 44.40, 44.46 and 44.48 MHz.



Be a NatScan Reporter.

Scan your local newspaper for stories about radio in action. Then send the clippings to NatScan, Box 360, Wagontown, PA 19376

Getting the Air Force's Goat

Last August, ground radio traffic at Hill Air Force Base, Utah began experiencing static interference. The problem became so bad that Technical Sergeant Jeff Ingraham and several other base workers use radio tracking equipment to find the area where the interference was emanating from. Taking to their vehicles, the trackers headed out into the mountains between Odgen and Brigham City. Using binoculars they found the offender, a goat nicknamed Phyllis who was sporting the latest in fashionable radio collars. Wildlife biologist Randy Wood said that the state will change the radio collar, but isn't convinced that will solve the problem. "We're wondering if the static might be caused by an antelope on Antelope Island. Those animals have been there longer."

Antenna Tragedy

Ernie Rutledge was the epitome of the amateur radio operator. He went out of his way to help friends involved in the hobby. Unfortunately for the good-hearted Rutledge and his friend Steve Hunter, the 42-foot ham radio tower they were erecting hit a 7200 volt power line. Rutledge died from his injuries, while Hunter was critically injured. Investigators said that the high voltage were dangerous to anyone standing near the antenna. Hurst Fire Captain Jasper Walker said that "If there is a lesson to be learned here, it's that you don't have to be touching power for it to get you. Never raise anything near a power line."

Scanner Listeners Get Their Man

Police in Vernon, Connecticut arrested 16-year-old Steven Royster for armed robbery of a Rockville bakery. Royster used a handgun to steal an unknown amount of cash, after which he fled on foot. Working from witness descriptions, police searched the area for two hours, but the crucial break came after tips from numerous residents who heard the call on their scanners. The residents reported that the suspect was parked nearby in a white Monte Carlo. Royster will be charged with robbery involving a firearm and larceny.

Readers Report Readers Report Readers Report

Above and Beyond the Call

Not content to just listen to the action, a group of Corinth, New York scanner listeners decided to set up a roadblock to help police stop a fleeing van. Corinth Police Officer Mike Shipman recognized and began to pursue a dark brown Astro van that had been spotted in the vicinity of several recent tailgate thefts. The pursuit reached speeds of 80 miles per hour, recklessly running stop signs and running other vehicles off the road. The van passed through the roadblock set up by citizens, but was eventually stopped by police and county sheriff's deputies. The suspects, Marty Lambert and Tessa Key, believed to be the "tailgate bandits" who have been systematically stealing pickup truck tailgates in the city, were arrested.

Que Pasa?

Los Angeles County firefighters are being plagued by radio interference from Mexico. It seems that a Tijuana, Mexico transportation company is licensed to use some of the same frequencies as LACoFD. Radio interference is believed to be the cause of the death of two firefighters when fire overran the crew in the August 1993 Glen Allen wildfire. The Tijuana company is attempting to cooperate with the FCC to alleviate the potentially dangerous problem.

Look Who's Talking

A South Carolina man was convicted of illegally bugging the bedroom of his 14-year-old girlfriend to insure that she didn't talk about their sexual relationship. Dennis Roy Layton, 25, faces several charges, among them: violating the federal wiretapping law and having sex with a minor. Layton used a microphone hidden in a clock radio that he had given the girl as a gift to listen in. He claimed that he was psychic and that his powers were given him by God. When the girl and her parents became suspicious of his knowledge of her conversations, they dismantled the radio and found the bug. FBI Special Agent Brett Harrison said that the microphone transmitted on a frequency that could be monitored with a radio receiver.

School Police Without Radios

Half of public school police officers in Boston, Massachusetts do not have two-way radios because of a recent FCC ruling that took away the School Department's temporary license. Should an emergency occur or assistance be needed by any of the 30 officers who oversee Hyde Park, Dorchester and West Roxbury High Schools, as well as elementary and middle schools in those areas, they will be forced to use a telephone. "There is not always a telephone around," said Boston School Police Patrolman Union president John Coleman. "This is their only quick link to the outside world." Apparently, a failure of school officials to renew their radio frequency license with the FCC caused the problem. A temporary permit was issued, but the frequency was reassigned to an auto body shop, leaving half of the department's radios without a frequency to use. School Police Chief John Sisco will hand out cellular phones to the radioless officers until the problem is ironed out.

Laws, Laws, Laws

Law enforcement officer from New Hampshire lent their support to a bill before the House Corrections and Criminal Justice Committee. HB 171 will criminalize the possession of a scanner used to intercept police radio messages while committing a crime. If a criminal committed a felony while in possession of a scanner, they would be guilty of an added Class B felony. If they committed a misdemeanor while possessing a scanner, they would be charged with a second misdemeanor count. "Perhaps criminals would have second thoughts about uisng these scanners and certainly criminals would be on notice that they will be punished if they use these electronic devices," said ManchesterPolice Lt. Philip Doherty. "The legal use of scanners poses no problem. A lot of people have them in their homes. And this law wouldn't change that."

The 104th Congress is considering the Telecommunications Drug Enforcement Act, which would amend the Communications Act of 1934 "to establish procedures for the discontinuance of mobile radio services to persons engaged in drug trafficking, and for other purposes."

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MONITORING 4TH OF JULY HOLIDAY CELEBRATIONS

By Louis G. Shirley

The 4th of July is just around the corner and so are the fireworks and the picnics. If you want to get behind the scenes and find out just how things are planned, join a committee. If you want to *hear* what goes on behind the scenes then grab your scanner and tag along as we go behind the scenes.

The preparations that go into holiday activity are quite diversified. I've attended many fireworks displays and never once thought about how they coordinated parking or how the fire department was cued to prepare for the launching of the fireworks.

Do they use two-way communications to find the lost child? How about the band that always plays too loud, do you know their wireless microphone frequency?

To help prepare you for a day of scanning this 4th, I'll try to guide you with my own preparations for the events. Hopefully you will be able to use some of the suggestions and have an interesting day with your scanner.

Your starting point

Those of us who live near Perth Amboy get to see a super fireworks display over the Raritan Bay on the 4th. I'll use Perth Amboy as an example to help you with your favorite town.

Your first concern will be the police freq's in the town you'll be in. Traffic will be heavy and the traffic safety detail can provide you with information on where the best parking may be. As the lots fill up, you'll know to avoid them. If there's an accident, you'll know about it before others who get stuck in the resulting traffic.

To find the frequencies in use, just look in your copy of *Police Call*, both under your town and county. Make a list of these freq's and sort them out by user.

For example, in Perth Amboy we find the following, 33.820, 33.860, 33.880, 453.650, 458.6375 listed for the fire department.

The police use 453.300, 453.425 and 453.750. The road department uses 45.800 and 453.600. There are also listings for the First Aid Squad and the Raritan Bay Medical Center on 155.205, 155.220, 155.340 and 155.400.

You now have your starting point. Now program the various users into different banks. The police would be bank 1, EMS into bank 2, etc...your scanner is starting to shape up.

Now for the county frequencies. Again, look in *Police Call* under your County. Try to sort them just as we did before with the town.

Your town can use frequencies listed under the county license. They may not use any of them but having them written down or programmed into your scanner will result in less guess work later.

Something worth mentioning here is the time you spend monitoring *before* the 4th. Knowing who uses which channel will make your life a lot easier later. Waiting till the last minute to figure who is who will only make for much more work when you could be enjoying the holiday celebrations instead.

Standard frequencies first

Generally speaking, the New Jersey State Police Emergency Network frequencies known as SPEN channels, will have county activity on them when the county is responsible for parades, fairs, fireworks or during emergencies. The NJ SPEN channels are:

#1 - 154.680	#2 - 155.475
#3 - 154.725	#4 - 153.785

While SPEN 1 is the State's primary emergency channel, the most active channel would be SPEN 4. It is the State's Interagency frequency. Every County, town, PD, fire department, Rescue Squad, HazMat and OEM in the State use this frequency.

It is used with low power, don't expect to hear it more than 5 miles from the user. Your fire department and Rescue Squad will use this one for casual conversation. Sometimes it is called GEMS 4 by the last two users mentioned. Even if your town uses UHF radios like mine does, they still need and use SPEN frequencies. (All PD HQ's have SPEN radios, some mobiles also do)

Fire departments may be on standby at these events. They may even set up a command post (CP) at larger events. This may involve several companies with different frequencies. One frequency they all have in common will generally be used by the CP.

Police departments may switch to a simplex channel so as to not tie up the main channel. This could simply be a matter of bypassing the input to their repeater and using only the output channel.

In East Brunswick, if the fire department uses 453.375 as their output, then 458.375 is the input to the repeater. (UHF freq's in the 450 through 465 band have inputs 5 MHz higher than the outputs)

MONITORING 4TH OF JULY HOLIDAY CELEBRATIONS

To go "simplex" would mean talking on 453.375 alone. This will be low power and short range.

Don't expect a lot of radio activity all day-long. Traffic control can be an exception but once the lot is full, communication will decrease. Walking security patrols also need two-way communications!

Finding new frequencies

Here's an interesting but virtually unknown way to find out just what frequencies they are using at your police HQ.

During the course of the day the dispatcher will conduct a test of the "breath-a-li-zer" equipment. This consists of keying all their radios up one at a time and observing that they do not affect the device used to measure the blood alcohol of someone who is brought into police HQ.

This is to make sure that evidence obtained from the breathalizer can't be thrown out of court on a technicality, your PD will test it daily to make sure the radio transmissions do not affect the electronics.

By positioning yourself near their HQ (antenna) and using a frequency counter, you can find all the freq's in their base unit.

South River PD tests their radios around 12 noon. This may vary from day-to-day but if you have a frequency counter that works with a computer or if you can afford the OPTO Scout, you will be able to leave it in a parked vehicle near to HQ and it will automatically record the frequency of ANY two way radio transmission that occur, including pagers, taxis, cell phones, business radios, EMS, you get the idea.

Radios for public use

At many holiday events, especially if they are run by public committees, radios for public use are used. Sometimes your town may have licenses for GMRS (General Mobile Radio service) freq's. But even you and I can obtain a license for business radio frequencies. Here is a listing of the 8-GMRS frequencies.

462.550 462.575 462.600 462.625
462.650 462.675 462.700 462.725

462.675 is the Nationwide Travelers Assistance frequency. There are more GMRS low power freq's in between the 462.550 and 462.725 band. These are called "splinter frequencies".

462.5625 462.5875 462.6375
462.6625 462.6875 462.7125

These are only 5 watts or less power, are readily available at places like Radio Shack and are starting to become popular with drug dealers who are using two-way radios to try and outmaneuver the police.

You may want to try searching the other popular "splinter" band for activity.

467.5625 467.5875 467.6375
467.6625 467.6875 467.7125

Business frequencies

There are also some very popular VHF frequencies that you should search for activity: 151.625, 154.540, 154.570, 154.600. These will serve most users nationwide. At the traffic construction detour you're passing, the men with the two-way radios directing traffic most likely have one of the above freq's.

I'm starting to find more and more businesses like grocery stores and warehouses using the four freq's I just mentioned. Many of the fast food chains will employ one of the above as part of their duplex communication system at the drive in window.

There is another "group" of frequencies in use and they are assigned "color" dots, usually found on the bottom of the radio, to quickly ID them. They are referred to as "Itinerant frequencies." Here is the list:

151.6250	Business use	- RED DOT
151.9550	Business use	- PURPLE DOT
154.5700	Business use	- BLUE DOT
154.6000	Business use	- GREEN DOT
462.5750	GMRS use	- WHITE DOT
462.6250	GMRS use	- BLACK DOT
462.6750	GMRS use	- ORANGE DOT
464.5000	Special Industry	- BROWN DOT
464.5500	Special Industry	- YELLOW DOT
467.8500	Business use	- SILVER STAR
467.8750	Business use	- GOLD STAR
467.9000	Business use	- RED STAR
467.9250	Business use	- BLUE STAR

These can be used by construction crews as they travel. I've also heard numerous restaurants and hot air balloons using these frequencies.

I've noted the use of radios at concession stands. They may need to make a change order or deposit the money they have already taken in. I'm amazed at what they will tell you over the air. Generally, the business and GMRS freq's I've mentioned are used.

Wireless microphones

Sometimes the bands that play at these holiday events use wireless micro-

MONITORING 4TH OF JULY HOLIDAY CELEBRATIONS

phones. Here are the most popular freq's:

169.445	170.245	A-169.505
171.105	171.845	B-170.305
171.905		C-171.045

There are plenty more in the 175 to 215 band if your scanner can access this frequency range.

(A, B, C are the Radio Shack 170MHz wireless microphone frequencies)

A birds-eye view

If your 4th involves an air show or you're at the beach, then you can monitor the planes. Whether it's skydiving or sky writing planes, you can be sure they are using radios. There are some standby freq's in use but searching the air band may yield a lot more info.

The unofficial chit chat channel they use is 123.450 but these others are worth monitoring too: 122.750, 122.775, 123.025, 122.250, 122.925, 123.050, 123.075.

At many of the air shows and hot-air balloon festivals I've attended, most of the business freq's I previously mentioned were used. This is especially true for the hot-air balloons involved in races since they are usually sponsored by businesses, keep it in mind.

Perth Amboy's fireworks

Two years ago I attended the Perth Amboy fireworks display at the waterfront. Here is what I found by just casually scanning the freq's I had already programmed into my scanner.

The PD set up traffic control using 453.300 while HQ used 453.425 for routine patrols. While the Mayor used the 453.425 but in simplex mode.

EMS was on standby and used 155.220 on a call. A command post (CP) was set up for all fire and rescue personnel on 153.785.

The Raritan Bay Yacht Club was ferrying people to their boats (so they could "park" in the bay and watch the display). They use 156.450 on the boat they taxi people out on. (156.575 was used by the boat the Mayor of Perth Amboy was on)

There was quite a bit of activity on the Coast Guard band as boaters talk to each other about the days events. The most active freq's used were 156.425 and 156.625.

The Coast Guard kept boaters informed about the fireworks on 157.100 and 157.075. And earlier in the evening, a boat taking on water used 156.800, the distress frequency, to call the Coast Guard.

The rescue effort found NYPD #16, a helicopter, using 123.100 as it assisted in the rescue effort.

Speaking of NYPD. They have several fireboats that participate in events like the 4th of July fireworks. I've monitored the John P. Devaney on 156.650 as it talked to other boats in the bay during the Perth Amboy celebration.

You may also hear a Coast Guard Cutter like the Sturgeon Bay on 157.150 or the USCG Cutter Dallas, on 165.2625 as it helped assist a craft taking on water. I also heard a USCG helicopter on 164.300 as it did an air surveillance on the boaters below!

(For more information on the Marine band, see Everett L. Slosman's "Scanning the inland waterways" article in the March/April '95 NatScan)

A band playing at the park earlier in the afternoon used 169.455 as their wireless microphone frequency. Later that night I heard a restaurant by the bay using 464.500 as ch1 and possibly 464.550 as ch2 as the staff was preparing customers orders.

Behind the scenes

The fireworks were launched from a barge positioned in the bay so both Staten Island and Perth Amboy onlookers would get a good view. A tug called the Rachel Marie positioned the barge and both of them used 156.725, 156.650 and 156.425 to communicate with each other.

As they prepared for the spectacular fireworks display they put on, I heard the ID "Perth Base" used by the barge carrying the fireworks. The communications were carried out in a "duplex" mode.

This consists of two radio users using two different frequencies and two sets of radios to communicate with each other. This allows you to talk on one radio while listening for an answer on the other radio.

The people launching the fireworks used 154.600, "RB#1" and the "Perth Base" used 154.570, ch#2". This was to help them "sync" the display to music from NY radio station WPLJ.

I did hear the 151.625 freq used by Perth Base too but there was too much interference from local businesses on it to use it. Even the duplex pair used had to

be abandoned for just one channel because of interference from other users in Perth Amboy.

In all, I believe they launched over 200 fireworks from the barge! Some display. And that was a small one compared to previous displays!!!

Thank you and goodnight!

During the fireworks display, you should be able to hear some activity on the business frequencies. Various parties will keep tabs on such things as timing the display and comments about the crowd.

The comments can get interesting especially if too much beer was consumed during the course of the day. You may want to keep the volume down on your scanner if young ears can hear.

As the fireworks start and as long as they run, the key freq's are the ones used by the fire department at the show and the people launching the fireworks. Any fires that may result will be quickly addressed by the fire department.

You will need those police freq's when it's time to leave. Traffic has a tendency to exit all at once clogging the roadways. I've managed many a detour around bumper to bumper traffic because I knew which roads to take. Having a detailed street map and knowing the streets around you never hurt either.

If you can hang around like we do at the Perth Amboy fireworks, you'll hear plenty of conversations on the marine band as boaters head home. Businesses like towing and taxis will certainly be busy. And don't forget the fast food joints, everyone will be hungry, now's the time to search for their freq's.

Some frequency info on Perth Amboy would include Chevron using 152.300/158.325. Taco Bell (good food) uses 33.400 and 154.540 while KFC is on 34.040. McDonalds should be on 35.020 and 154.600

I won't even go into all the taxis, refinery, and other businesses that use two-way radios. That's your job. I can highly recommend *Police Call* if you need a good frequency allocation chart. This will help you find the bands the various users in your town may be on.

And don't forget the new *Beyond Police Call* directory. It will help you find some of the businesses. It too has a good allocation listing in the back of the book. Hope you enjoy the holiday celebration, drive safe, don't drink!



Mr. Scanner explains the BC220XLT scanner to members of the White House Press Corps.

Bearcat Radio Club's
1995 Show Schedule

May 20-21 -- Rochester Hamfest, Rochester, NY (The Dome)
June 2-4 -- SeaPac Hamfest, Seaside, OR (Seaside Convention Center)
June 9-10 -- Arlington Hamfest, Arlington, TX (Arlington Convention Center)
June 16-17 -- Albany Hamfest, Albany, GA (Albany Convention Center)
July 8-9 -- Indianapolis Hamfest, Indpls, IN (Marion County Fairgrounds)
July 14-16 -- NatScan/NESN Scanner Show, Lancaster, PA (Lancaster Host)
July 14-15 -- Atlanta Hamfest, Atlanta, GA (The Galleria)
July 29-30 -- ARRL New England, Manchester, NH (Center of NH Holiday)
Aug 5-6 -- Jacksonville Hamfest, Jacksonville, FL (Prime Osborn Center)
Aug 19-20 -- Huntsville Hamfest, Huntsville, AL (Von Braun Civic Center)
Sep 1-3 -- Southwest Div. Convention, Long Beach, CA (Queen Mary Hotel)
Sep 15-17 -- Peoria Hamfest, Peoria IL (Peoria Fairgrounds)
Sept 23-24 -- Virginia Beach Hamfest, Virgina Beach, VA (The Pavillion)
Sept/Oct -- Louisville Hamfest, Louisville, KY (Louisville Convention Center)
Oct 13-16 -- MT Convention, Atlanta, GA (Atlanta Airport Hilton)
Nov 4-5 -- Odessa Hamfest Convention, Odessa, TX (Holiday Inn Center)
Nov 18-19 -- Fort Wayne Hamfest, Fort Wayne, IN (Allen County Center)
Nov 18-19 -- Florida Gulf Coast Radio Show, Tampa FL (Florida Expo Park)

Take your scanner to these radio shows ans scan this frequency: 145.380 MHz. The Bearcat Radio Club will have a two meter amateur repeater for hams to use. The repeaters will be located at the show site and should be heard for miles around!

Give Me a Ballpark Frequency

By Norm Schrein

The Texas Rangers have not only changed the color of their uniforms from blue to red, but they also have a brand-spanking new ballpark. "The Ballpark at Arlington" is the newest park in the major leagues. Built to resemble an oldtime stadium this natural turf park can hold in excess of 40,000 fans.

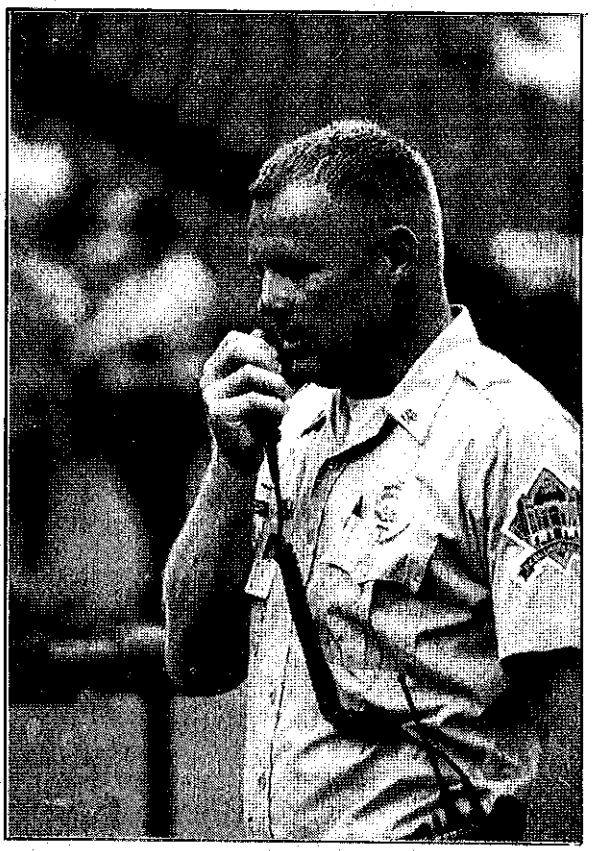
Just like ballparks everywhere there is a lot of things one can "scan" at this new stadium. On a recent visit there we found the old Arlington Stadium frequency of 464.875 was very busy, but those transmissions seem to have been coming from the Arlington Convention Center next to the old ballpark. There are many other frequencies listed that involve the Texas Rangers specifically: 154.515, 154.540, 154.570, 154.600, 463.7125, 464.5375, and 464.5625. Active frequencies found there were 154.515, 154.570, 463.7125, and 464.6375 (which serves as a communications link between inside vendors and their warehouse).

In addition to the "Ballpark" there are other interesting things to listen to near the stadium including Wet 'N Wild and Six Flags Over Texas. Some of their frequencies include:

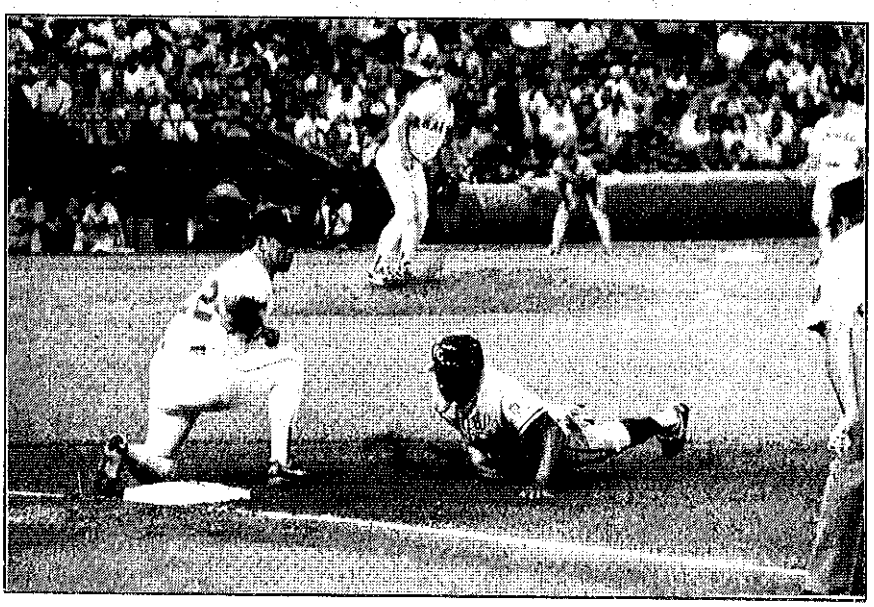
Six Flags -- 463.3125, 462.1125, 462.9125, 463.8125, 464.2125, 464.3875, 464.425, 464.7375, 466.6625 and 468.5125. Active Six Flags frequencies included: 464.425, 464.7375 and 464.3875.

Wet 'N Wild -- 154.600, 461.0875, 461.2125. Active frequencies included 461.2125, 461.0875 (which was a park security frequency).

As always, we recommend that you take a scanner with you whenever you visit a ballpark or amusement park. You will get a different view of the facility from the offical view presented by the agency.



Security guard using radio system at The Ballpark at Arlington.



Rangers firstbaseman Will Clark tries for a play at first base.

A Quick and Dirty Guide to Tracking Federal Agencies

Federal Monitoring

By Laura Quarantiello

— How can I hear federal agencies like the FBI, DEA, and ATF?" This common question is asked repeatedly in scanner circles. It seems that G-men are a popular target, but many listeners give up quickly when they don't hear any activity after a few minutes of searching. What's the secret? In order to track federal agencies you've got to pull on your fedora, grab a mug of coffee and exercise your patience.

This isn't the local McDonald's drive-thru; you're not going to hear non-stop communications when you hunt the federal bands. Instead, you're going to hear oceans of silence. When you do hear something, it's likely to be DVP/DES encrypted communications. Don't get discouraged, however; there is plenty to hear out there "in the clear" but you must have patience. Here are some tips to make your tracking easier.

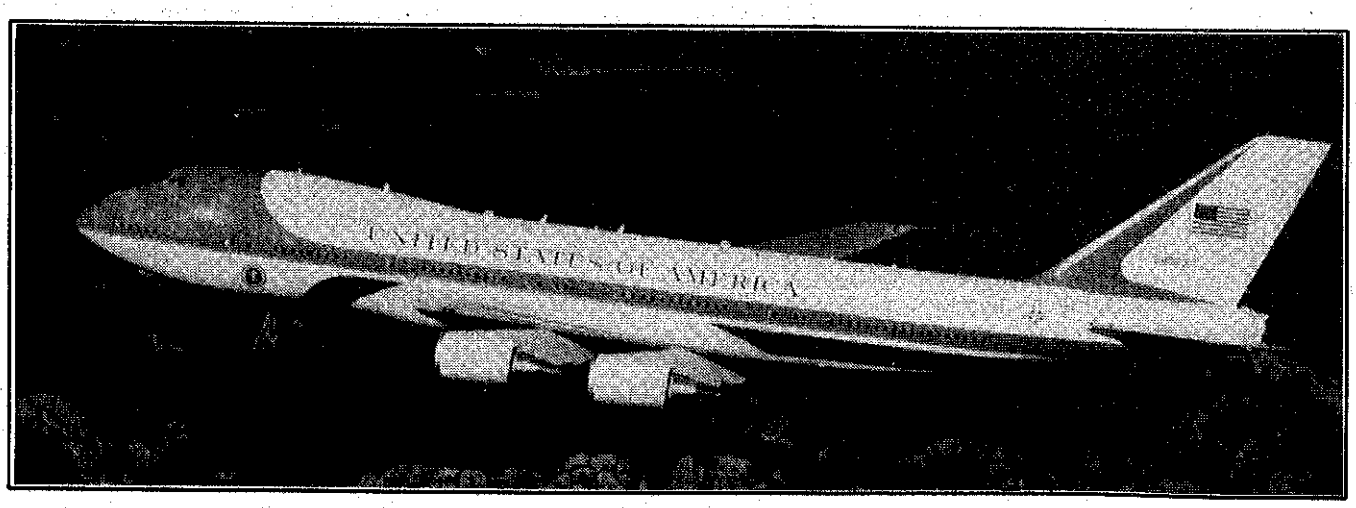
First, choose small blocks of the established federal bands to search. Currently, "hot" blocks are 163-164, 165-166, 167-168 MHz and 418-419 MHz. Search these repeatedly for at least two weeks and something is sure to turn up.

Secondly, find a federal frequency listed as a "common" or "nationwide." Place it in one of your scan banks and keep an ear on it. When it becomes active, search around it for other freqs. When you find other active frequencies, plug them in. For instance, I keep 418.625 in all my scanners. It's the local base freq for the DEA. When it goes active, whether with voice or DVP, I search the 418-419 MHz band. Nine times out of ten, I come across in the clear communications, usually surveillance.

Don't be put off by encryption. Many times conversations start out encrypted and then go in the clear due to equipment problems or incomplete transmissions. Never give up on a frequency just because of scrambling.

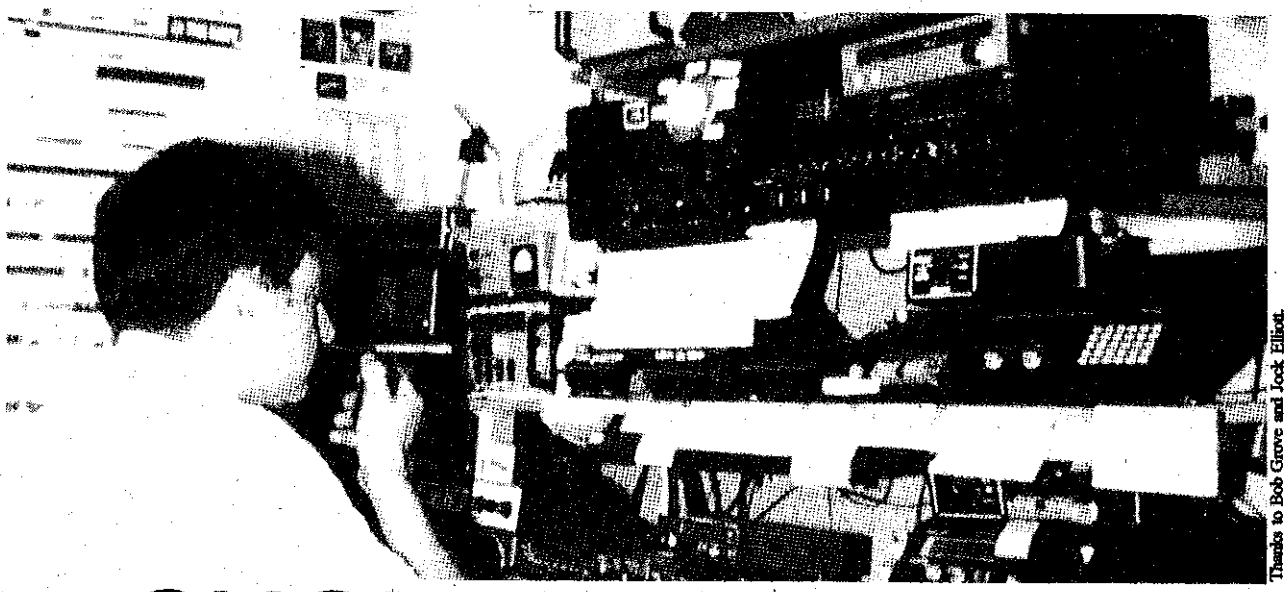
SECRET SERVICE

As our President continues to travel around the country, the question continually arises as to what frequencies to monitor for Secret Service activity. The USSS communications are, for the most part, encrypted. Some clear voice may be used, especially prior to the arrival of the president, but don't count on it. Try your local police tacticals for the best info on presidential activities. Punch these numbers in (see table) and give them a try anyway. Pay special attention to the Orderwire wideband FM freqs for Air Force 1 and 2 communications.



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Thanks to Bob Grove and Jock Elliott.

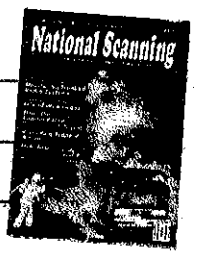
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Some federal frequencies to try

166.5125	Alpha - Escort and Security
165.7875	Baker - Nationwide Field Offices/Surveillance
165.3750	Charlie - Nationwide Field Offices primary
169.9250	Delta - White House Communications Agency
166.4000	Golf - Nationwide Field Offices repeater
166.2125	Hotel - White House Uniformed Detail
167.8250	Kilo - White House Communications Agency
168.7875	Lima - White House Communications Agency
165.2125	Mike - Former President and Dignitary Protection
167.0250	November - White House Communications Agency
164.8875	Oscar - Presidential Protection Detail primary
164.4000	Papa - White House Perimeter Patrols
166.7000	Quebec - White House Communications Agency
164.6500	Tango - Presidential Protection
165.0875	Uniform
164.1000	Victor - US Secret Service
166.4625	X-ray - Treasury Common
166.2000	Washington Field Office
407.9250	India - Presidential Protection
415.6750	Black - Executive Protection Division
414.6750	Yellow/Four - Uniformed Division/PPD 2
414.9500	Orange - Executive Protection Division
414.9750	Four - Presidential Protection Detail PPD 4
415.6500	Brown - Foreign Mission Division
414.8500	Brown - Uniformed Division PPD 3
414.8500	Tan - Foreign Mission Division
414.9500	One - Presidential Protection Detail PPD 1
415.9750	Red - Uniformed Division/Foreign Mission
415.6500	Silver - Uniformed Division/Foreign Mission Div.
418.3500	Gray - Uniformed Division
418.7750	Orange - Uniformed Division
407.8500	Echo - Air Force 1/2 Phone Patch uplink
415.7000	Foxtrot - Air Force 1/2 Phone Patch downlink
162.6875	Yankee - Air Force 1/2 Phone Patch uplink
171.2875	Zulu - Air Force 1/2 Phone Patch downlink
170.0000	Juliet - Camp David pager
172.3600	White House PBX
172.3950	White House PBX
172.4250	White House PBX
46.7500	Nighthawk Helicopter Operations Primary
46.7000	Nighthawk Helicopter Operations Secondary
46.8000	Nighthawk Helicopter Operations Alternate
419.7250	Green - Tecnical Security Division
414.6750	Yellow - Technical Security Divison
415.8750	Violet - Training Division
414.8000	Blue - Protective Support Division
415.8000	Gray - Protective Support Division
406.2625	Wireless body mikes
407.8250	Wireless body mikes
407.8750	Wireless body mikes
407.9750	Wireless body mikes
408.0000	RF Alarm F-1, Technical Security Division
411.0000	RF Alarm F-2, Technical Security Division
408.5000	Tracker F-1, F-3 Technical Security Division
408.9750	Tracker F-2, F-4 Technical Security Division
382.3500	Orderwire UHF uplink
326.0000	Orderwire UHF downlink
305.5500	Orderwire UHF uplink
246.9500	Orderwire UHF downlink
336.8000	Orderwire UHF uplink
344.0000	Orderwire UHF downlink
322.7500	Orderwire UHF uplink
366.0000	Orderwire UHF downlink
397.0500	Orderwire UHF uplink
390.0000	Orderwire UHF downlink

MOTION DETECTOR

Law enforcement officers have a new tool that gives them the ability to detect motion through non-metallic walls, floors and ceilings. Created and developed by Hughes, the MDR is a Doppler radar hybrid that operates on a rechargable battery. The radar uses an FM radio frequency to transmit a beep signal up to 200 feet to a receiver. A low beep indicates no motion, a high pitched beep indicates movement. Look for the feds to be using this technology and keep your ears open for possible frequencies in use. We want to hear about them!

PUBLIC HEALTH SERVICE

Did you know that the US Public Health Service - Health Services Administration has an earthquake emergency net? Well, now you do and it's on 164.300. This is reported as a simplex frequency. Other health service frequencies you should know about are 41.470 and 413.425, both of which are nationwide assignments.

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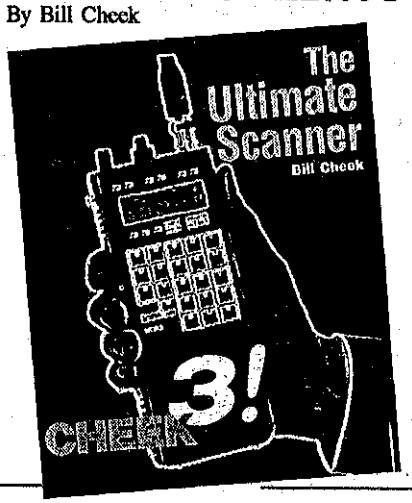
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The Ultimate Scanner

By Bill Cheek



The Ultimate Scanner begins where Scanner Modification Handbook Volume 1 and 2 left off! Information on adding channels, extending frequency bands, enhancing sensitivity, improving control, optimizing everything -- made easy with a wealth of step-by-step instructions and specially-prepared photos, charts, diagrams, and schematics.

The Ultimate Scanner also provides generic information for modifying any scanner buy deals extensively with the popular Radio Shack PRO-2004, 2005 and 2006. Other scanners include the new PRO-2035, the PRO-43, 34, 37 and 39 handhelds and the AR-1000XC.

Order The Ultimate Scanner (regularly $29.95) before June 30 and save $5.00! Order The Ultimate Scanner plus Scanner Modification Handbook 1 & 2 and get free shipping -- a $6.50 value -- total savings $11.00!

Ultimate Scanner (Ordered before June 30) $24.95
Utlimate Scanner plus Scanner Mod Handbooks 1 & 2 (before 6-30) $62.85

Air-Scan

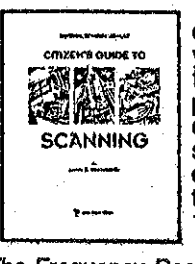
By Tom Kneitel



Air-Scan is your brand new, hot-off the presses passport to aeronautical frequencies for the United States. Look up frequencies by state and town for more than 6,000 landing areas including military and civilian airports, seaplane bases, and private landing strips and helo ports plus FAA Air Route Traffic Control Centers. A must for every air scan fan! 143 pages. $18.95

Citizens Guide to Scanning

By Laura Quarantiello



Your scanner's owner's manual only tells you half the story of what your radio can do! Hear more police, fire and ambulance communications plus your next-door neighbor's cordless phone, undercover narcotics stings, local businesses, even a satellite as it circles 3,000 feet above the earth. Includes frequency ranges. 140 pages. $19.95

Tune in On Telephone Calls

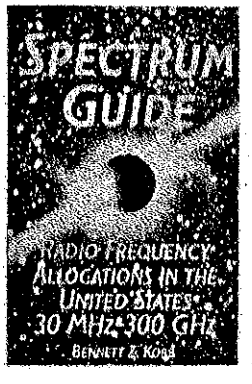


People will talk about almost anything on the phone. They don't seem to know -- or care -- that anyone with a scanner can listen in. You, too, can tune in telephone calls. You don't need any fancy equipment -- just this book and your scanner. Hear calls from homes, cars, businesses, ships, aircraft, even trains. Gives you the frequencies and tells you how. An incredible 160 pages. $14.95

The Frequency Roadmap for Scanning!

Spectrum Guide

By Benn Kobb



Spectrum Guide is a roadmap to the entire 30 MHz to 300 GHz radio spectrum. The book is arranged by frequency so you can look up any frequency range and find out immediately who is authorized to be there. For example, did you know that if you hear something between 30 and 30.5 MHz it's likely to be the U.S. Army? And that you'll never hear anything between 608 and 614 MHz because it's a receive-only band for astronomers? $34.95

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Cop Talk By Laura Quarantiello

Techniques for monitoring: setting up scanner banks, 800 MHz trunked monitoring, two scanner monitoring, emergency situations; Police Communications: dispatch, tactical, car-to-car, repeaters, undercover operations; Understanding Police Radio Jargon: phonetic alphabet, Sample Incident and disposition codes, unit numbers; much more. $17.95



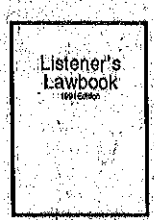
Fire Call By Tom Swisher

Chapter 1 - Radio Systems; Chapter 2 - Fire Department Organization; 3 - Basic Fire Communications; 4 - Where are these Frequencies; 5 - Fire Department Operations; 6 - What's Next; 7 - Fire Apparatus; 8 - EMS Definitions; 9 - Your Responsibility as a Fire Monitor. By firefighter and NatScan writer Tom Swisher. $17.95.



Crisis Communications By Mark W. Johnson

Hurricanes - tornadoes - floods – forest fires - riots - chemical spills - gas leaks - Be radio-ready for the worst. Monitoring a crisis situation on your scanner or shortwave could save your life. The handbook for emergency and survival radio monitoring. 82 staple-bound 8.5" x 11 inch pages full of useful information. $10.95



Listener's Lawbook By Frank Terranella, Esq.

Did you know that it's illegal to use a scanner in your car in some states? Listener's Lawbook is a state-by-state listing (where available) of legislation pertaining to radio monitoring. Not a great book. Published in 1991 with addendum. 48 pages. $9.95.



Airwaves By Laura Quarantiello

The perfect take-off to touch-down guide to aeronautical communications. Author Laura Quarantiello, herself a licensed pilot and scanner listener, helps you to understand what you're hearing. It's everything you'll need to know to become an experience aeronautical monitor. Includes a Q&A section, complete glossary and basic frequency guide. $17.95



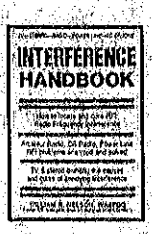
Aeronautical Frequency Directory by Robert Coburn

A comprehensive frequency guide for virtually every airport and aero-related operation in America. Also includes statewide and national systems information, community frequency allocation charts, air-carrier designators, and explanatory notes. 398 information- packed pages. $24.95



The Outer Space Frequency Directory By Anthony Curtis

Over 2,200 space and space-related frequencies from 1.8 MHz to 2,840 MHz! Communications, navigation, natural radio transissions, NASA and an index to find frequencies fast. 60 pages full of frequencies. 17.95



Interference Handbook By William Nelson

Locate and cure RFI - Radio Frequency Interference. Scanning, amateur radio, CB radio, power line problems analyzed and solved. TV and stereo owners -- the causes and cures of annoying interference. Hundreds of home and business interference problems and their sources exposed! 250 pages. $11.95.



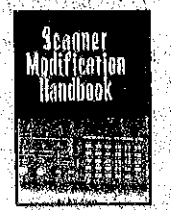
Weather Radio By Anthony Curtis

Your scanner can be a life-saving (or just plain everyday helpful) source of in-depth, up-to-the-minute weather information. Track weather and storms by radio like the pros. Includes frequencies and full explanation of what you can hear and how to hear it. Even pick up satellite weather photos like the ones on TV using your scanner! $14.95



Compendium of American Railroad Radio Frequencies By Gary Sturm and Mark Landgraf

The "bible" of rail scanning! Nationwide rail frequency directory. Lists are alphabetically, by frequency and by railroad name (with system-wide, individual city and yard frequencies). $16.95



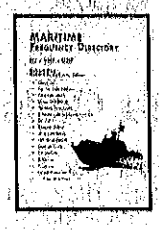
Scanner Mod Handbook Vol. 1

Listen to car phones. Speed up your scanner's search function. Add extra channels. These and more modifications for the Radio Shack PRO-2004 and '2005 (many adaptable to the '2006). Also PRO-34, BC-950-XLT, BC200/ 205XLT, BC760XLT. Many adaptable to other scanners. Sends a self-addressed, stamped envelope for a list of mods covered in this edition. $18.95



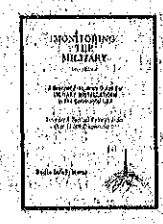
Scanner Mod Handbook Vol. 2

More do-it-yourself scanner modifications for the PRO-2004, '2005 and '2006 plus PRO-2022, PRO-34, BC-200XLT/205XLT, BC760/950XLT, more. Add an event counter, CTCSS decoders, auto tape switch, restoring cellular. For complete list of modifications, call or write. $18.95



Maritime Frequency Directory By Robert Gad and Robert Coburn

A 400-page frequency book covering the entire range of frequencies used in the maritime service. From high-class cruise liners to the barges working the lakes and rivers of the nation, marinas and more, there's plenty to hear. Over 27,500 listings! Great scanning in an often overlooked area of monitoring. $24.95



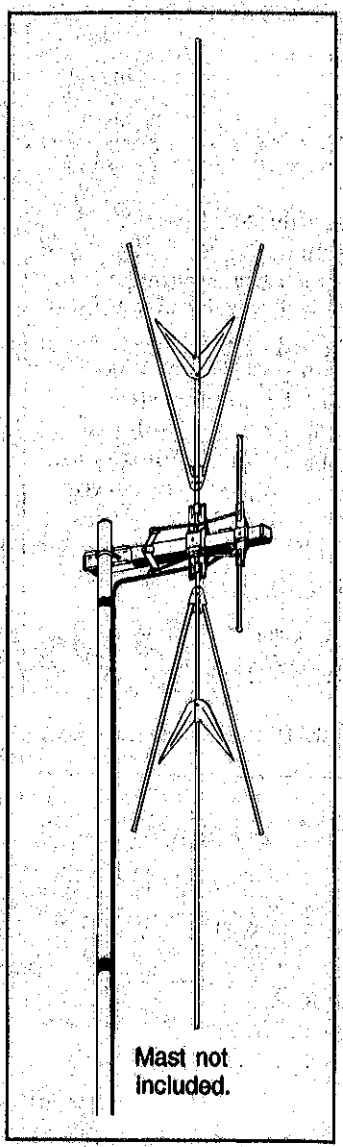
Monitoring the Military By Daryll Symington

Astounding collection of frequencies for military installations in the continental U.S.. Arranged by facility with mini base frequency profile including information on idividual frequency useage. A hot book with some 13,000 frequencies and a tactical callsign index. $16.95

The Reviews Are In!

"The Scantenna -- Five Stars"

★★★★★



"I'M FOUR COUNTIES AWAY AND NOW I CAN HEAR MILWAUKEE!"
--Pete Edwards, Lake Geneva, Wisconsin

"I CAN HEAR THINGS WITH MY SCANTENNA THAT I NEVER KNEW EXISTED BEFORE!"
--Ken Peters, Los Angeles, California

"I'VE THROWN AWAY THAT LITTLE WHIP ANTENNA THAT CAME WITH MY SCANNER."
--Carroll Ethridge, Berkey City, Tennessee

"WOW! WHAT A DIFFERENCE! THE SCANTENNA IS THE BEST!"
--Travis Lantz, Iowa City, Iowa

There's an old saying among communications specialists: your scanner is only as good as your antenna.

Get the most out of your scanner with the famous Scantenna. Designed for use with both handheld and base scanners, it dramatically increases the range of your radio by miles. Actual distance depends on local terrain and height at which you mount the antenna. The Scantenna provides continuous frequency coverage from 25--1300 MHZ providing superb reception of communications of all types. And it comes with a mounting kit and 50' of RG-59/U cable.

The Scantenna is available from DX Radio Supply for $39.95 plus $7.00 UPS. Optional Motorola to BNC connector $3.95. Send check or money order to P.O. Box 360, Wagontown, PA 19376. Or use your Mastercard or Visa and call our 24-hour order line. **1-800-753-2060**

The Scantenna is a quality antenna manufactured in the U.S. by AntennaCrafters, a firm well-known for its TV and FM antennas.

Please send me the Scantenna. Here's my check or money order for $39.95 plus $7.00 UPS shipping. DX Radio Supply, Box 360, Wagontown, PA 19376

Name ----------

Street Address ----------

City ---------- **State** ---------- **Zip** ----------

Please bill my bank card. My MC or VISA number is:

---------- **Expiry Date** ----------

Signature ----------

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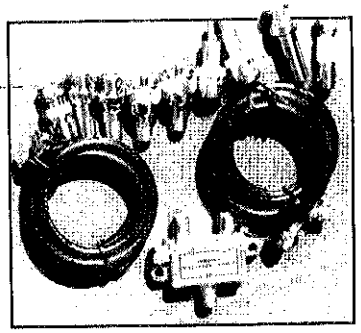
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Questions and Comments 610-273-7823

Order Line 1-800-753-2060 DX Radio Supply 1-800-753-2060 Order Line 1-800-753-2060 DX Radio Supply

Antenna Multiplier

HOOK TWO SCANNERS TO THE SAME ANTENNA!



Now you can hook two scanners up to the same antenna with DX Radio Supply's Antenna Multiplier.

All you do is plug your antenna into one end of the Antenna Multiplier. On the other end, plug in your two favorite scanners. It's that simple. The Antenna Multiplier is like getting a second scanner antenna for free. Best of all, the Antenna Multiplier requires no complicated hook up; no batteries or outside power.

Now your scanner antenna can be made to work double-time. The Scanner Multiplier comes complete with everything you need. Scan smart! Put a DX Radio Supply Scanner Multiplier to work for you.

Technical information: Insertion loss only 3 dB maximum. Frequency Coverage from 25 to 1300 MHz or more. Comes with two 3 foot output cables and adaptors.

Antenna Multiplier $24.95

LIGHTNING/ EMP PROTECTOR



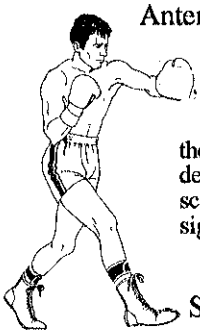
Today's highly sensitive, high-tech scanners are easily damaged by nearby lightning strikes, high-powered transmitters and other energy surges.

Nothing can protect a scanner against a direct lightning strike but The Surgender will take a hit of 250,000 volts at 5,000 amps -- all while allowing normal signal voltages to pass undisturbed! Comes equipped with standard F connectors. Optional BNC adapter 5.00.

Technical information: Measures 3/4" D x 1 1/2" long. Extremely low loss -- .2 dB at 1500 MHz.

Lightning/EMP Protector.... 19.95

Appearance may vary



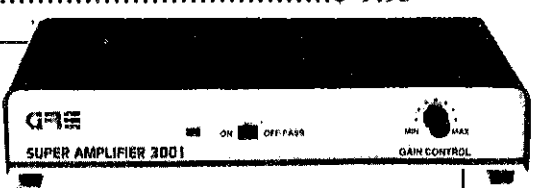
KNOCK OUT STRONG SIGNAL OVERLOAD!

Depending on where you live, nearby strong signals can make scanner listening a nightmare, mixing in with the things you really want to hear! DX Radio Supply now offers small 1 1/4" inserts designed to actually decrease signal strenth. Technically called "attenuator pads," you simply plug them in between your antenna and scanner. These are not selective -- they decrease all incoming signals but in doing so, can bring the offending signal down enough to eliminate it from the scanner.

DX Radio Supply's attenuator pads are rated at -10 dB and come with both F and BNC connectors.

Signal Masher .....$ 9.95

GIVE YOUR SCANNER SOME EXTRA MUSCLE!



Increase the range of your base or stationary handheld scanner with the GRE Super Amplifier 3001. The '3001 adds an extra 20 db of signal-pumping gain (adjustable) so that you'll hear more -- and hear it more clearly. Use it with your scanner's existing whip or rubber duck antenna antenna or hook it into one of our outside antennas and you'll have a professional-quality monitoring station.

The GRE Super Amplifier 3001 hooks up easily. Just take the antenna off your scanner and plug it into the back of the '3001. Then plug your scanner into the '3001. Turn it on. It's that simple. The GRE Super Amplifier '3001 measures a compact 1 1/8" H x 5 3/4" L x 3 1/2" D and operates using a 9 volt battery or an optional AC adapter ($9.95).

GRE Super Amplifier 3001 ..... $69.95 ($5.50 UPS) **Handheld Model Now in Stock $59.95**

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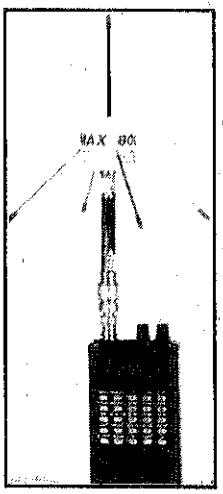
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Cellular and Cordless Phone Antennas

Hear More Car Phones!

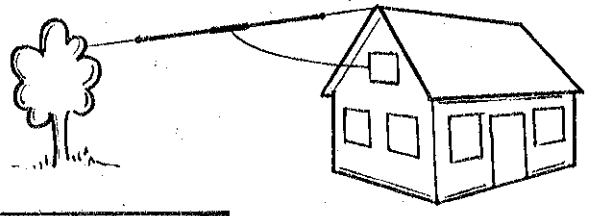
MAX 800 Ground Plane

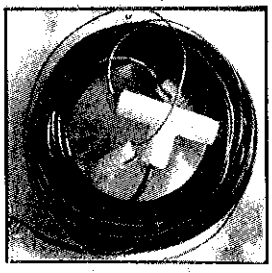


The MAX 800 is one hot performer! Designed specifically for reception of cellular car phones – as well as public safety channels on 800 MHz – you'll hear more of what you want to hear. Can be mounted directly on your handheld or base scanner or on the roof for even better reception. (Roof mount requires cable, not included. For roof mount, order handheld model.)

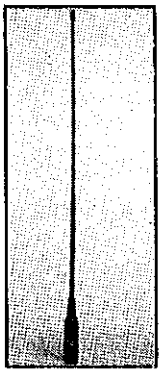
Handheld Model $31.95 plus 4.00
Base Model $35.95 plus 4.00 UPS

MAX 46-49 MHZ Dipole
The Ultimate Cordless Phone Antenna





If you really want to pull in cordless phone calls from all over, this is the antenna. Antenna is 10 ft. long and comes with 50 feet of coax -- all you do is hang it up and plug it in. Works inside or out. Built like a brick dog house. $49.95 plus 5.50.



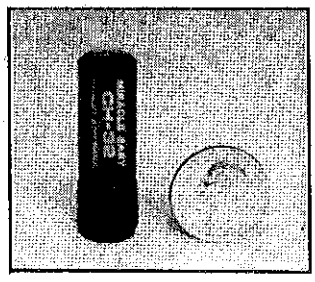
Finally! A Replacement Rubber Duck

A replacement rubber duck for your handheld that really works! It's the RH77 – a 15" inch antenna that's got excellent gain all the way through 950 MHz. This is Diamond's rugged, commercial-grade VHF/UHF-receive antenna. It's fitted with a BNC connector so it plugs right into most every handheld scanner on the market today. Can also be purchased with the optional right-angle BNC adapter and used with base-style scanners.

We had an independent lab run a test on these ducks and found that they did, in fact, exhibit excellent gain through 950 MHz. More important, was our practical test -- and you can try this, too. Program your scanner with one of the NOAA weather channels and listen using the rubber duck that came with your scanner. Then pull of that duck and replace it with the RH77. We found an increase in signal strength. Results, of course, will vary according to terrain and so forth but we think that this is the replacement duck that we've been looking for. The fact that it's made by Diamond is, in itself, proof of quality.

The Diamond RH77 Replacement Rubber Duck is just $34.95 plus 5.00 UPS. Optional right angle BNC Adaptor for base scanner use is $5.00

Miracle Baby Micro Duck



This hot little rubber duck is specially made for low-profile scanning. The antenna itself is only one inch tall! Yet packed into that one inch is a high-tech signal grabber that let's you use your scanner in places where it otherwise would really stand out because of a big, standard, rubber duck.

To use that Miracle Baby Micro Duck, you MUST use a sensitive scanner and be in close signal proximity. But the beenfit is that you can slip your scanner, unnoticed, into a jacket pocket and listen with an earphone and no one will know what you're doing. Receives 10 bands, transmits on three.

This one was suggested by NatScan's Steve Donnell. Miracle Baby Micro Duck is $33.95 plus $5.00 UPS.

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Scanner Accessory Kits

Order Line 1-800-753-2060 DX Radio Supply 1-800-753-2060 Order Line 1-800-753-2060 DX Radio Supply

800 MHz Scanner Converter Kit



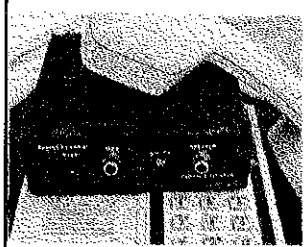
If you've always wanted to pick up 800 MHz frequencies -- including cellular phones -- on your scanner but your radio didn't get 800 Mhz or the cell phone frequencies were blocked out by the government, we have the answer. It's the 800-950 MHz Scanner Converter Kit.

The SCN-1 800 MHz Converter Kit can be used on any scanner that receives 400 to 550 MHz and it assembles in about an hour using simple, easy-to-follow directions. Once completed, hook-up is easy. A handsome matching case set is available for a good looking finished product.

Please remember that while it is not illegal to own either the kit or the the unit that you've assembled, it is illegal to listen, in the privacy of your own home, to other people discussing juicy details of their personal lives over the public airwaves on a cellular telephone.

SCN-1 Scanner Converter Kit $49.95
CSCN Matching Case Set $14.95

Speech Descrambler

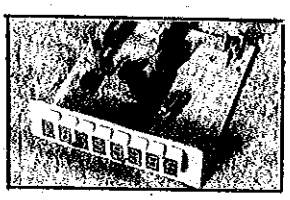


Descramble those garbled "Donald Duck" sounds that you hear on your scanner. The SS-70 will decode simple speech inversion scrambling which is the most commonly used scrambling systems on police, security, fire, cordless phones and business radio. The built-in 2-watt speaker amplifier makes scanner hook-up a snap. Can also be used to set up your own scramble/descramble system. The matching case finishes the job with a real pro look.

SS-70 Speech Descrambler Kit $39.95
CSSD Matching Case Set $14.95

Grab Telephone Numbers from your Scanner!

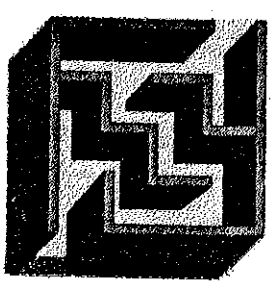
TG-1 Tone Grabber Kit



Use the TG-1 Tone Grabber to decode the touch-tone sounds you hear on your scanner when someone dials a phone. The number that was dialed is displayed on an easy-to-read 8-digit LED display. You'll know exactly what number they're calling!

A simple hook up to your scanner through an earphone or external speaker jack is all that's required. Operates off a standard 9 volt battery.

TG-1 Tone Grabber Kit $99.95
CTG Matching Case $14.95



Quick Tone CTCSS Sub-audible Tone Encoder/Decoder

CTCSS encoders and decoders have been off lmits for hobbyists for some time. A few scanners have optional tone boards, but not many. Now, the new Quick Tone Tone Encoder/Decoder (QT-1) kit decodes any of the 39 Motorola PL sub-audible tones with crystal quartz accuracy. Jumpers allow easy frequency programming, and built-in audio filtering eliminates falsing and interference from normal speech. The QT-1 uses CMOS single chip technology and runs on a low 5-15 volts. Fits 2"x1"x½. Easily bypassed for no-tone operation.

Just $39.95

Questions? Comments? 610-273-7823 Questions? Comments? 610-273-7823.

DX RADIO SUPPLY, BOX 360, WAGONTOWN, PA 19376



DX Radio Supply

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Serving Hobbyists and Professionals Since 1982



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FOLLOWING THESE SIMPLE STEPS WILL SPEED YOUR ORDER

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1. Fill out the order blank and send a check, bank or postal money order, or your complete credit card information (see #3, below) to DX Radio Supply, P.O. Box 360, Wagontown, PA 19376.

PHONE ORDERS
1. Order toll-free. Call 800-753-2060. This number will connect you to our order operators. If you have questions about a product or require other assistance, please call 610-273-7823. Our order operators, although wonderfull people otherwise, are not scanner listeners.
2. To speed your order, fill out the form before you call. Have your charge card in front of you. Call 1-800-753-2060.
3. When using a bank card, merchandise must ship to the address to which the card is billed. If you are unable to provide this information, please use a postal money order or certified check.
All credit cards are verified.

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3. Sorry, no CODs.
4. Items that arrive damaged in shipping should be reported immediately to UPS/USPS and then to us. A damage determination is made by UPS and their decision is considered final.
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CITY: _____ STATE: _____ ZIP: _____

DAYTIME PHONE NUMBER: (Area Code) _____

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Card Number: _____

Issuing Bank: _____

Signature: _____

Total $ _____

Shipping $ _____

PA Residents (only) 6% Sales Tax $ _____

TOTAL ENCLOSED $ _____

Things That Work

The AR-8000 ... A Scanning Demon!

Well, AOR has really come through with a Big Gun this time. If you are looking for every bell and whistle imaginable in a handheld scanner, "The New Concept" AR-8000 is the handheld scanner that beats them all. With frequency coverage almost literally DC to Daylight, the AR-8000 is a scanning demon!

The AR-8000 covers the following frequency ranges:

500 KHz – 1900 MHz continuous (minus cellular).

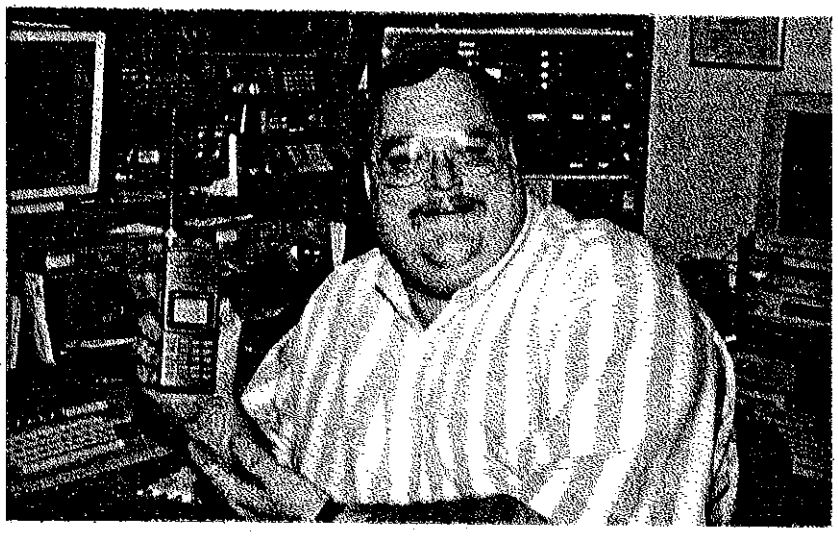
How's that for a show-stopper, eh? A handheld scanner with a coverage span of 1800.5 MHz! And NFM, WFM, AM, USB and LSB reception modes! The AR-8000 is a great performer, too, with features that rival the best desktop scanners.

The first step was installing and charging the included AA NiCad batteries. Upon opening the box I found a medium-sized scanner that fit quite nicely into my hand, and was not too heavy. Also included in the package is a wall-cube charger, a mobile charger (for use with a lighter plug, oops, I mean an accessory power point), a wrist strap and a belt clip (a metal one, no less!), and a 115-page manual. The scanner uses 4 AA-size batteries, which are readily available anywhere. This means you can carry spares around with you in case the NiCads run down after a long day of scanning, or even buy them in a convenience store if you were crazy enough to forget your own.

After the unit was charged up I needed to familiarize myself with the front panel and display. Upon power-up, the alpha-numeric display prints out the cheerful greeting "Welcome To The World Of AR-8000 Receiver". It then waits a second (checking itself out) and beeps to let you know that it is active. Upon initial power-up, the AR-8000 goes to the VFO mode, so I started there to check sensitivity with a few popular local frequencies. I quickly read through the "Entering a Frequency" portion of the manual and programed a local fire frequency. Well, good audio, and the sensitivity seems to be OK.

Now, on to programming. Once I read through the high points of the manual, I was ready and started programming things in. I very rapidly discovered that the AR-8000 is dramatically different in the way it's keyboard functions. There are many keystrokes involved in simply programming a frequency into one of the 1000 memory channels, and even more if one wishes to assign an alpha-numeric label to a specific channel. Once I got started, it took me about half an hour to program 20 or 30 frequencies into the first memory bank. Since I was not used to the scanner, it took awhile, as the AR-8000 is quite different and because I was putting alpha-numeric labels on each channel. Between entering local stuff and leaving some factory-entered stuff in place, I finally got the first bank just about filled up and started scanning.

The first thing I noticed was that the sensitivity of the AR-8000 was rather poor compared to the Radio Shack PRO-39 sitting next to it. Hoping that the problem was not in the scanner, I took the obvious step of trying the AR-8000 antenna on the PRO-39. Deaf as a post. I then tried the PRO-39 antenna on the AR-8000 just to see if the scanner might have a problem. Glory be! With the PRO-39 antenna, the AR-8000 lit up with all kinds of stuff that the PRO-39 hadn't even been hearing. Sitting in my kitchen, the AR-8000 was picking up 25-watt



The author and his demon

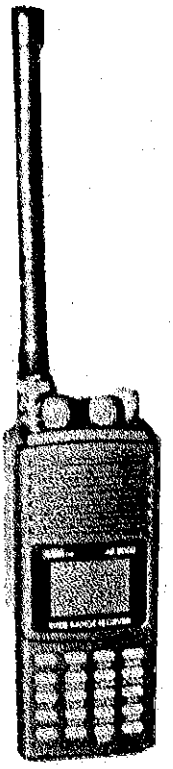
By Tom Swisher

Things That Work

mobile radios in the crew buses at the Conrail yard 6 miles away; the PRO-39 generally does not hear those from the kitchen. I tried various other frequencies throughout the coverage range of the AR-8000, and was very impressed with its sensitivity. Selectivity and image rejection were also good, with less trouble noted than on lesser scanners. I assume that the antenna enclosed with my particular review unit had a problem, as I have since spoken to others who indicated that they had no trouble with their antennas.

Shortwave coverage on a handheld unit is something I have not been too impressed with since I tried out an ICOM R-1 and a Trident owned by friends of mine. Their units suffered from intermod, poor selectivity and sensitivity, and image problems below 25 MHz. The AR-8000 is a different story, however. I am very impressed with the selectivity and sensitivity of the unit below 25 MHz. At work, the sight of eyeballs popping out when I tuned in the BBC on 5975 was priceless. I was pretty impressed myself, since my office is a classic RF Vacuum that sucks up the slightest radio signal. I could even pick up some US Air Force traffic on the 11175 GHFS frequency!

The AR-8000 is loaded with all sorts of features that other handheld scanners, and even some top-of-the-line desktop scanners and shortwave receivers do not have. One of the most interesting (and unusual) is password protection. The password protection feature of the AR-8000 allows you to prevent "prying eyes" from checking out what you have programmed in the scan and search banks of the scanner. You can program any 4-digit password code, but don't forget it! If you do, the only way to get around it is to reset the microprocessor. The manual claims that this will not cause loss of data in the individual memory channels, only bank links (more on this later) and lockout information. I did not try it though, as having to



reprogram a few hundred memory channels was not a risk I really wanted to take.

The 1000 memory channels of the AR-8000 are set up in 20 banks of 50 channels each, which can be scanned separately or in various combinations, just like the Radio Shack and Bearcat products. However, when you want to scan more than one bank at a time the AR-8000 is totally unlike Radio Shack and Bearcat products. The AR-8000 uses a feature called memory bank linking to scan several banks. To set the banks you wish to scan, you must press the Function key and then the Scan key. The AR-8000 enters the Memory Link Menu; using this menu, you press the keys corresponding to the banks you wish to scan, then press Enter. The procedure is basically the same for the individual Search Banks, which can be linked using the search bank linking menu.

The backlight of the AR-8000 is really great! I know, a display backlight is nothing to get excited about; but in this case it is. When the Lamp button on the side of the AR-8000 is pressed, the display and THE ENTIRE KEYPAD (including the buttons on the side) lights up! The lamp stays on as long as buttons are being pressed, and then shuts off after 5 seconds. You can even lock the lamp on if necessary for mobile or home operation; this is not recommended unless using an external power source.

Other great features include bank erase, the ability to edit, copy or move memory entries, and auto search and store; these features are also available on top-of-the-line Radio Shack and Bearcat products.

Other really nifty new features include the Band Scope, Select Scan, Cloning, and Computer Interface. The Band Scope is basically a simple bar-graph spectrum display that displays the active frequency in the center, and five frequencies above and below the center frequency. Channel spacing depends upon the mode, 3kHz on sideband and CW, and 10 kHz on AM and NFM. Select scan allows one to "tag" up to 100 individual channels to be scanned as a separate group (at a special event, for example), without changing bank linking or locking out channels. Cloning is a feature that allows one to copy parts or all of the programming of one AR-8000 to another, and Computer Interface allows one to connect an AR-8000 to a computer for computer-controlled programming, searching and scanning. The Cloning cable and Computer Interface device are optional accessories.

The AR-8000 was a bit difficult to use at first due to the complexity of the various features and all the necessary keystrokes. Also, the bank linking function is awfully complex, and does not lend itself to at-a-glance checking of which banks are active during scanning or searching. Once I got used to it, though, I found the AR-8000 to be really nice and fun to use. I especially liked all the nifty features, which open up all kinds of scanning possibilities.

The AR-8000 is an excellent addition to the Land of Handheld Scanners. If you want a handheld scanner that has excellent sensitivity and features that include everything shy of the kitchen sink, the AR-8000 is the one for you! I'd really like to get one myself. The AR-8000 retails for about $799.95.

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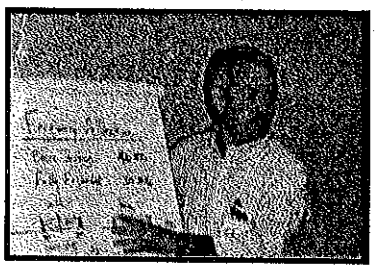


Gene Hughes, Publisher Police Call

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THE NESN EDITOR'S DESK

Les Mattson, NESN Editor
Post Office Box 62-N, Gibbstown, NJ 08027
"NEWS YOU CAN USE"



Welcome to the spring issue of NESN. There's so much to tell you that I want to get right to it.

NEW SCANNER DEPARTMENT

I recently took delivery of the new Bearcat model BC-9000XLT base scanner. What a great Information Radio, with 500 channels divided into 20 banks of 25 channels, the way things should be. I've been re-arranging and updating the programming of my entire four-scanner base setup. (What a job, programming 1700 channels!) Sometimes it is more advantageous to use the forty-channel banks of my PRO-2004/6 and other times, the 25 channels per bank of the BC-9000XLT works out much better and even using two of the 25 channel banks is sometimes better than just using one bank of 40 channels. The flexibility when using these combinations of channels per bank is challenging but worthwhile. Any of you interested in buying a new base scanner, check into this one!

ANNUAL NESN SPRING MEETING

Joe Nooney and Dan Fitzgerald reported a very successful Spring Meeting sponsored by NatScan and NESN. The meeting was held at the Blooming Grove Fire Company in Blooming Grove, New York on April 8th with 30 die-hard scanners braving the snowstorm.

1995 SUMMER CONVENTION

The National Scanning/NESN First Annual Summer Picnic will be held Friday, July 14 through Sunday, July 16 in Lancaster, PA.. Scanner Heaven! Get to meet many of the NESN Regional Column Editors, listen to Gene Hughes and his presentation and share scanner experiences with Norm Schrein, Steve M. Donnell (The "M" stands for MODS!) and greet the charming DX Radio Supply staff. Look through this issue for more details.

NEW EDITORS AND OLD EDITORS....

Sorry to have to report the loss of Doug Rodgers as our great North Jersey column editor. Doug simply doesn't have the time to continue. Any of you wanting to try your hand at editing this column, please send me a sample copy and a cover letter telling me a little about yourself. Let's welcome the following NEW NESN Regional Column Editors: **Brendan Quigley** now editing a new, New York City column. **Van Reynolds** our new Virginia editor and **Richard J. Wells** handling the North Carolina column. Special thanks to General Editor and Publisher, Larry Miller, for allocating an extra two pages per issue for the NESN section so we could make these improvements. We're still looking for a volunteer to edit the Florida column. ***NESN = NEWS YOU CAN USE!***

NESN EDITORS NOTE SPECIAL JULY/AUGUST NESN DEADLINE

Special advance deadline for the July/August issue is to have all NESN column material in the NESN HQ by May 15th! This is so we can get last minute convention information out in advance of the July 14, 15, 16, 1995 Scanner Convention. Why not try to be extra early to be sure your column will be included? See you all July 15th! L.M.

NEW ENGLAND

This column will cover the States of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont

CONNECTICUT - By Keith Victor, 44 Suffolk Dr., East Hartford, CT 06118

Welcome to the Connecticut column. Thanks to Bob Fusaris for this letter. Just reading the Jan./Feb. 1995 issue and figured I'd help out Steven J. Shane with his request for FAA frequencies.



FEDERAL AVIATION AGENCY FREQUENCIES:

Ch. #1 = 172.9250 = Main Repeater, phone patches heard here also.

Ch. #2 = 172.9500	Ch. #5 = 172.8750	Ch. #8 = 172.1250
Ch. #3 = 172.9750	Ch. #6 = 172.9000	Ch. #9 = 172.1500
Ch. #4 = 172.8500	Ch. #7 = 172.8250	Ch. #10 = 172.1750

MAINE - By Brian Snow, 35 Clover Lane, Auburn, ME 04210

Hello once again. Spring has finally begun to reveal itself here in Maine. With the first of April, our open water fishing season began so you are likely to hear increased activity on the frequencies used by the game wardens.

U. S. COAST GUARD AND THE MAINE MARINE PATROL

The Coast Guard's calling frequency of 156.800, the Maine Marine Patrol on 159.595 and occasionally the national fisheries frequency of 163.225 can all make for good listening as spring rolls into summer. As with the game wardens, the Marine Patrol is dispatched on the regular State Police/Public Safety dispatch frequencies of 154.650, 154.665 and 154.905 as units 1800-1899. They use 159.330 statewide as well as a veriest of new and old frequencies in the 159 MHz range.

With the opening of the state parks and recreational areas, the Conservation and Forestry Service frequencies show an increase in activity also. In other areas, Central Maine Power, the electrical utility for most of southern Maine, has increased the use of its new 800 MHz trunked system. They can be heard on 856/857/858/859/860.3375. It appears additional channels are also being added or activated.

I recently acquired a used Uniden BC-2500 portable. While this is quite a step up from my old BC-100 portable, it did provide one interesting "feature". On the BC-2500, images of cellular phone transmissions appear between 1269.0075 and 1281.4725. Just a point of interest.....

Should any of our readers be journeying to Maine this summer, I'd be happy to share what frequency information I have on file. Enjoy your listening.

NESN BACK ISSUES

Back issues of NORTHEAST SCANNING NEWS are still available. Send a SASE to NESN, P. O. Box 62 for a listing of the available back issues. We had monthly "Themes" that many of you would be interested in reading. Most of the editors wrote about the Themes in the various theme-issues.

NEW ENGLAND

Continued from previous page

MASSACHUSETTS - By Mariner S. Ayer, 299 Thompson St., Middleboro, MA 02346

Howdy, NESN fans! Isn't this great weather?? Makes you want to get outside and plant some flowers, spread some grass seed, wash the windows, clean-up and fix up around the house. I received this nice list of favorite frequencies by Bob Jarrett:

460.1000 = Springfield Police (Ch. #1 - Dispatch -Local Ops)
460.4500 = Springfield Police (Ch. #2 - Records & Traffic)
460.5000 = Springfield Police (Ch. #3 - Detectives)
460.3875 = Springfield Police (Ch. #4 - Car to Car)
460.1625 = Springfield Police (Channel #6 - Vice Squad)
154.4000 = Springfield Fire (Channel #1 = Local Ops.)
154.1750 = Springfield Fire (Channel #2 = Local Ops. Rept)
155.6250 = Springfield Meter Maids & Special Operations
453.8750 = Springfield Forest Park Rangers

154.2350 = Agawam Fire
154.1600 = Chicopee Fire
154.3250 = Longmeadow Fire
450.4375 = TV Channel 40 News
163.2000 = U. S. Marshalls
165.2850 = A. T. F.
418.9000 = D. E. A.
165.9500 = I. R. S.
167.2600 = F. B. I.



VERMONT - By Jim Lawrence, Post Office Box 167, Websterville, VT 05678

I. R. S. CRIMINAL INVESTIGATORS

One of the major frustrations during my scanning of Vermont has been the Internal Revenue Service's (IRS) criminal investigators. The reason I have had so much trouble came out recently in an article in "The Burlington Free Press" newspaper dated Feb. 2, 1995. The article, featured in the "Vermont" section stated: "The Internal Revenue Service has restored a second criminal investigator to Vermont, temporarily, to step up its fight against tax fraud....Currently, there is one agent permanently assigned to Vermont...."

No wonder I haven't heard much! The article went on to say, "By comparison, New Hampshire has five agents and a manager, said Frederick Aufiero, chief of the IRS criminal division for the Northern New England States.

A companion article, curiously buried on page 4 of the same section offered related by unsettling news. Titled, "Mysterious agent roams southern Vermont, Mike Donahue wrote: "IRS officials say a criminal investigator has been assigned to southern Vermont for six months, but his name and whereabouts remain a mystery even to police." The IRS does not want the public to know the identity of the agent, who arrived in January, or his office location in Vermont, for investigative reasons, said Frederick Aufiero, chief of the criminal investigation division in Boston.

So, if you are hunting for the IRS, you may be smart to try listening for signals from New Hampshire or Springfield, MA. Check the newspaper archives at your local library if you'd like to read the articles in their entirety. Here are some frequencies you can try in order to monitor the IRS investigators:

INTERNAL REVENUE SERVICE FREQUENCIES:

165.950	166.000	167.000	414.700	415.000	415.100	415.725
415.800	418.175	418.200	418.225			

NEW JERSEY

This column will cover the State of New Jersey



CENTRAL - By Louis G. Shirley, 220 Route #18, East Brunswick, NJ 08816

Hello and welcome to the CJ column. Summer is coming up and hopefully, you'll get to enjoy some nice weather and a well-deserved vacation.

During the past year, I've informed NESN readers about drug dealers using two-way radios to outwit the police. Some get caught, but I'm sure some are getting away with this new ploy. In the county I live in, we've had such activity in New Brunswick and Perth Amboy.

I did some research on this and have something to offer. But first. Never, ever go near the crime scene, they use real guns and play for keeps. If you are sitting at your monitoring post and want to listen, I have some ideas to offer, if you have any, please write to me and I'll include them in my column.

The most readily available two-way radios anyone can obtain are Radio Shack models. The frequencies in use are 154.6000, 482.6375 and 462.7125, low-power frequencies. 5 watts at best. In East Brunswick, ShopRite uses 154.600 while PathMark and The Wiz use 154.570 in-store. These are also readily available frequencies anyone can use. One last listing is 151.625, this is called an itinerant frequency, it's readily available and is used at construction sites, grocery stores, malls and for-hire security personnel.

These are the most common and most likely frequencies that even drug dealers would have access to. A newspaper article mentioned that the police were aware of the radios and were monitoring them with scanners (maybe the police should join NESN!)

It's possible that stolen radios or even GMRS radios are in use. The GMRS would be overheard by legitimate users on this band. Stolen equipment will be harder to find, but certain rules would apply, the radios would still be in the business band. Knowing the bands is one way to find the "elusive" user you are seeking. Perhaps in a future issue of NatScan, I'll go into more detail.

For much more details right now, see *Police Call* or *Beyond Police Call*, both have greatly detailed and very informative information on two-way radios and which frequencies are in use. If you want even more detail to create your own files, like I do, then visit your library and in the Law section, look for the *Code of Federal Regulations (CFR 47) Book* on Telecommunications, part 80 to end. This is the FCC breakdown of the radio spectrum. Very detailed, very useful.

The DEA and friends use a rest stop on the Garden State Parkway for drug deals. It's south of the Raritan tolls (hint, hint). Expect air surveillance and body mics along with various other agencies to appear. There has been a lot of Federal activity on the highways of late. When the FBI follows tractor-trailers on the Turnpike, you may hear the helicopters tagging along giving travel directions. When those Federal aircraft converse with the Air Traffic Controllers (ATC), they use special ID's that give away their identity. If you know about this (or if you're an ATC) and you have some info to share, then write me.

And, finally, Milltown, NJ will start using their video cameras in their patrol cars to film stops like DWI. Evidence like a video tape is very effective in court. But, they will also have wireless microphones to go with those cameras. They plan on using them to communicate with other mobile units in the immediate area. The frequencies of the mics should be in the VHF band of 169-445-215 MHz, but they could appear in the 902-929 MHz band too. I'll keep you informed once I find them. Bye, bye, Scanneroos.

NEW JERSEY

This column will cover the State of New Jersey

NORTH JERSEY - By Doug Rodgers, 88 Clove Road, Wantage, NJ 07461

Hello again from North Jersey. Things have been a little slow up this way, let's see what we can put together, column-wise.

Steve Harrsh, Sr. informed us that Jefferson Township has recently installed a repeater for the Fire Department on a tower located off Weldon Pond, near Sparta. The frequency is 46.420 with a PL tone of 71.9 Hz. The frequency 45.260 is also working off this tower. (I believe 45.260 is the Police Department input to the repeater with an output of 45.800 DougR.)

In a side note from Steve, he wonders that with today's communication technology advancing as rapidly as it is, is our hobby not slowly "dying" a slow death? He would like to see the radio manufacturers "get on the stick" and trade in their" tired old technologies" and keep up with the new.

BEARCAT MODEL BC-350A REVIEWED

Mark McKeon sent in his review of the BearCat BC-350A. Mark says it is a good, relatively inexpensive mobile scanner. It receives very well for a mobile, and with little interference from various sources that seem to plagues mobiles. If you need an inexpensive mobile, Mark recommends it. The only thing he dislikes about the radio is the way it has to be programmed. With no number keys, the process is quite tedious.

NEW JERSEY STATE POLICE TRUNKED SYSTEM

Does anyone know the system ID codes/sub fleet codes of the N. J. State Police trunked system?? Please.....I realize this may be controversial, but I have seen "buffs" with Motorola and the G. E. 800 MHz trunked radios of their own on various public safety trunked systems.

While in California and Florida last year, I personally observed "Fire Buffs" with same. So, does anyone like to share codes, system fleet sizes, etc.? Is this the next phase of our hobby? Comments, codes, etc. are welcome.

CLOSING REMARKS

It is with much regret that I have decided to give up the position of North Jersey column editor of Northeast Scanning News. Between work, family and other interests there just isn't enough time to do all the things I like to do, so, something had to go.

Thanks to all who have sent their information and support to me over the past 2 years and please support my successor as it can be difficult at times to put out a column without any input from you, the people it's done for. Last, but not least, I would like to thank Les Mattson from whom I have learned many things about the scanner hobby. And, thanks Les, for your dedication to the hobby through good times and not so good times. Who knows, without people like you, we might all be looking for crystals to plug into our radios instead of having the sophisticated equipment we have available today? It's been a pleasure working with you. Thanks again to all, Doug

NEW JERSEY
Continued from previous page

SOUTH JERSEY - By Les Mattson, Post Office Box 62, Gibbstown, NJ 08027

Welcome to this issue of South Jersey. We have some mail, so let's get to it. James Caristo from Sicklerville wrote to say, "I am very please about your key frequencies. I programmed all of the frequencies into my scanner and they came in nice and clear." James also sent these Camden County frequencies for us to use:

154.430 = Camden County Fire & Ambulance Dispatch
155.235 = Camden County Ambulance Response F-2
154.3850 = Camden Co. Fire Response F-2
506.9375 = Gloucester Township Police.

Thanks, James, I hope you'll keep us updated with your frequencies.

NEW FREQUENCIES

151.625 = Bridgeport Speedway in Logan Township, Gloucester County, NJ. Listen in on Saturday nights from now until the fall.

Thanks to Albert Chailows, Jr, from Millville, NJ, who sent in a ton of Cumberland County information to share with us:

856.4625, 857.4625, 858.4625, 859.4625, 860.4625 = Vineland Police Citywide

155.580 = Millville Police (Primary) F-1
156.210 = Vineland Police (Intersystem) F-2
33.740 = Vineland Fire Department
154.430 = Millville Fire Dept. (Countywide) F-1
155.340 = Hospital Band F-3
154.085 = Cumberland Co. Office of Emerg. Mgmt.
154.265 = South Jersey Fire Mutual Aid F-3
155.865 = Sheriff's Patrol (Primary) F-1
155.730 = Vineland Police (Information) F-4
155.385 = Penn Star MedEvac Helicopter
155.220 = Cumberland Co. Rescue F-2
159.375 = N. J. Forest Fire
151.265 = N. J. Forest Fire
155.220 = Cumberland Co. EMS Dispatch

NEW JERSEY STATE POLICE TROOP "A" - South

856.4375, 857.4375, 858.4375, 859.4375, 860.4375
856.9375, 857.9375, 858.9375, 859.9375, 860.9375



SALEM COUNTY "SWAT TEAM" DISBANDED

The Salem County Board of Freeholders decided to dissolve the Salem County Swat Team. The high cost of insurance on the group was cited as the reason for terminating it. The SWAT Team was set up primarily to assist the Salem County Nuclear Plant Security forces in any cases of terrorism at the facility.

GLOUCESTER COUNTY CENTRAL POLICE DISPATCH

A recent poll of Gloucester County Mayors indicates that the majority are in favor of a county-wide dispatching of police. Eleven of the 18 mayors who responded were "definitely interested" and five said they were interested but wanted more information. Only two, Paulsboro and Greenwich (Gibbstown) had no interest in central police dispatching.

NEW YORK STATE

This column will cover the State of New York

EASTERN NEW YORK- By Joe Nooney, Post Office Box 30, Valatie, NY 12184

Hello again and welcome to the May/June edition of Eastern New York.

Columbia County's E911 system will be on-line by the time you read this. As of 3/31/95, over 90% of the county's residents have received their new addresses and the dispatchers and radio equipment are in place. Only a few bugs remain to be worked out.

A couple of changes have taken place due to the system's start-up. First, Columbia County Fire Control is no longer called Columbia County Fire Control. It is simply Columbia County Control, as all dispatching (police, fire, EMS) will now take place from there. Second, all ambulance calls are now classified as Priority 1 or Priority 2, with Priority 1 being the most serious and 2 being calls like routine transports and fire calls.

Ulster County 911 is reportedly using 155.025 for their dispatch. I have been unable to confirm this and will check with an Ulster County member and get back to you.

Poetic Justice? - A few months ago, the Albany Fire Department was called to put out a fully involved car fire near a fire station that had been closed several years ago, by then Mayor Tom Whelan. Upon arriving at the scene, a mile away from the nearest station, firefighters found that the ruined 1993 Oldsmobile belonged to none other than Tom Whalen! One fire-fighter, unable to resist the obvious, told the ex-mayor that if he had left the station open, he would have been able to drive his car home.



NESN SPRING MEETING

April Fool

To the 30 or so people who attended the Spring Meeting, despite the snow (yes I said SNOW), the companies and individuals who donated over 100 raffle prizes and our esteemed guest speakers, I thank you for making the event such a success. Last year we had a driving rain storm, this year it was snow, next year we promise tornados.

WE HAVE MAIL

Thanks to Kevin Taaffe of Kingston, NY for sending in the following frequencies:

Ulster Police Department = 154.8100
NY State Police = Ulster = 155.5000
Ulster Cable Co. = 464.1750
NY State Police = Ulster = 155.5400
Ulster Auto = 464.7000

That's all for now, until next time, we're Signal 140.

NEW YORK STATE
Continued from previous page



NEW YORK CITY - By Brendan Quigley, 67 Argyle Pl., Rockville Center, NY 11570

NYPD BLUE: PART 1 - THE NYPD's HOTTEST FREQUENCY

Many people have watched the ABC program, NYPD BLUE and have seen the TV version of the New York City Police Department. What are these special men and women really like, they may ask themselves? Well, one of the easiest ways to find out is to plug some frequencies in the old scanner.

Probably the most interesting frequency of the NYPD is 470.8375. This is where you will hear the Special Operations Division (SOD) of the NYPD. This is actually a variety of units including Emergency Services, Aviation, Canine (dogs), Street Crime and several others.

The Emergency Services Unit (ESU) is headquartered in Flushing, Queens near Shea Stadium. There are ten Emergency Services Districts around the city: two in Manhattan, two in the Bronx, one in Staten Island, three in Brooklyn and two in Queens. ESU's mission can be described in the following phrase: When people need help, they call the police. When the police need help, they call ESU.

The unit doubles as a SWAT-type team and a rescue squad. ESU has operated at many of the city's major emergencies including bridge jumpers, serious auto accidents, hostage situations, several plane crashes, the World Trade Center explosion and multiple building collapses. Each ESU district is based out of a precinct. There are two to three smaller rescue units at each district.

The best way to describe these trucks is that they look something like those mobile food trucks (lunch wagons) one often sees at industrial work sites. Manned by two members of the ESU, these trucks, known as REP's (Radio Emergency Patrols) contain specialized equipment such as ropes, shotgun, various types of helmets, Kevlar, riot gear and a Hurst Tool, commonly known as the "Jaws of Life." The units can be identified by their radio call sign of Adam, Boy or Charlie. For example, an REP from ESU-1 would be known as One-Adam, One-Boy or One-Charlie. Each district also has one large heavy rescue truck known simply over the air as "Truck ___."

All candidates for the unit must be experienced police officers and volunteer for ESU. In addition to a rigorous training and selection course, all ESU members are Emergency Medical Technicians (EMT) as certified by the State of New York.

The Aviation Unit is based out of Floyd Bennett Field in extremely eastern Brooklyn. Because of its remote location, the field is also a training center for ESU and other special units such as the Hostage Negotiation Team. The unit flies several types of helicopters include Bell 206B Jet Rangers, Bolkows 105 and Bell 412SPs. They can be heard on 470.8375 as well as many of the frequencies in the VHF aircraft band as they fly around the New York City area. All members of the Aviation Unit must serve as regular patrolman before they can enter the unit. All pilots possess a commercial license.

The Street Crime Unit operates in various precincts around the city in unmarked units. As with all the units in SOD, Street Crime can also be heard on a multitude of division and precinct frequencies. There is not enough space to list them in this article, but if you want to search, do so between 476.000 MHz and 478.000 MHz. The frequency 470.8375 can be your window to the major events of New York City.

NEW YORK STATE

Continued from previous page



WESTERN - By Jim Sutton, Post Office Box 115, Mt. Morris, NY 14510

Welcome to the May/June column. This month I'd like to take a look at E skip. This should be beginning right now. E skip brings in low band signals from about 700-1400 miles away. The best times of day are from 10 AM till 10 PM. There is often a lull during the afternoon. Although E skip can come in any time of year, it will be at it's best from early May until the first part of August.

To really do a good job of logging E skip, you must have a good outside antenna. The Channel Master Monitenna does a good job on both skip and on local reception. A scanner with just the inside antenna is like a Cadillac with standard shift or a prime rib on a paper plate. Next, get a copy of Monitor America. Take a map of the United States and spin a compass to indicate where you can receive E skip using the 700-1400 mile range. Then, take some time and fill in the main frequencies for the various states. Place some "early warning" frequencies into your scanner. Some that I use are:

42.12 42.50 42.06 45.10 39.58 39.50 42.46

If your scanner is one that holds hundreds of frequencies, then take your map and fill up your scanner. In one summer with some time and patience, you can log at least a couple of dozen states. In Western New York, nearly all of the fire frequencies are low band. Many test their pager and siren tones at 12:00 noon on Saturdays. Others test at various times on weekday evenings. From west to east, here are some low band fire frequencies:

Chatauqua Co.	46.14	Cattaraugus Co.	33.70	Niagara Co.	46.06
Orleans Co.	46.08	Genesee Co.	46.12	Wyoming Co.	46.18
Erie Co.	46.20 46.46 46.24 46.26	46.28 46.38	46.42 46.46 46.50		
Allegany Co.	46.36	Livingston Co.	46.16	Steuben Co.	46.40
Ontario Co.	46.42	Yates Co.	46.50	Wayne Co.	46.44
Seneca Co.	46.10	CayugaCo.	46.10	Schuyler Co.	46.06
Tomkins Co.	46.12	Chemung Co.	46.18	Tioga Co.	46.20
Broome Co.	33.92	Chenango Co.	46.38	Cortland Co.	46.08
Onondaga Co.	46.14	Madison Co.	46.16	Oswego Co.	46.10
Lewis Co.	46.18				

There are very few law enforcement agencies on low band in Western New York. Two state park regions are still on low band. Genessee Region from Letchworth has police on Ch. 1 = 45.10 and maintenance on Ch. 2 = 44.92. Finger Lakes State Parks are on 44.62 for police and 44.72 for maintenance. The contract ambulance for the City of Rochester, National Ambulance, has Ch 1 = 47.58 and Ch. 2 = 47.62.

My sources claim that Livingston EMS is getting a new frequency of 158.775.

July 14-15-16 should be marked on your calendar. This is the date of the 1995 Scanner Convention sponsored by National Scanning and Northeast Scanning News. It promises to be a top notch event and a must for the serious scanner hobbyist. My family will be staying in Lancaster County that entire week. This area is brimming with attractions for the entire family. Even those with no scanner interest will be delighted with all that Lancaster County has to offer.

I welcome your telephone callsfrom about 9:30 PM-11:30 PM at (716) 658-4836.

PENNSYLVANIA

This column will cover the State of Pennsylvania

EASTERN - By Josh Heller, 855 N. Park Rd., Apt. AA304, Wyomissing, PA 19610

Welcome to another edition of the Eastern PA column. First, we have some great input from **Gil Chesney.**

154.1900 - Wilkes-Barre Township Fire/EMS
154.8000 = Wilkes-Barre Police Ch. 2
155.9400 = Wilkes-Barre Fire
154.9650 = Nanticoke Police Department
155.8950 = Mt. Top Police Department
33.8600 = West Side Mutual Aid
155.2500 = Larksville, Edwardsville, Courtdale Police Dept.
154.9950 = Kingston & Forty Fort Police Department
155.0100 = Hanover Twsp. Police Department
154.3100 = Lackawana Co. Fire Dispatch
463.1000 = Lackawana Co. Med-2
155.7000 = Luzerne County Alert
155.1600 = Luzerne Co. Primary to Hospital
156.0150 = Columbia Co. Fire/EMS Dispatch
453.7000 = Scranton City Police Dept. Ch. #2
453.5000 = Scranton Communications Center
120.1000 = Wilkes-Barre/Scranton Airport Tower
124.5000 = Wilkes-Barre/Scranton Airport Approach/Departure
154.8450 = Wilkes-Barre Police Dept.
158.7600 = Wilkes-Barre Fire/EMS
155.1300 = Pittston City Police Dept.
158.9400 = Naticoke Fire/EMS
154.4150 = Mt. Top Fire/EMS
154.3550 = Black Mountain Fire
155.7750 = Hanover Twsp. Fire/EMS
155.2950 = Lackawana Co. EMS Dispatch
463.0000 = Lackawana Co. Med-1
154.9800 = Larksville Fire/Ambulance
155.0250 = Luzerne Co. EMS
155.2200 = Luzerne Co. Secondary to Hosp.
453.3750 = Scranton City Police Ch. #1
453.8500 = Scranton City Police Portables
474.9000 = Scranton Fire



From reader **Steve Bower, Jr.**, we have this information to share:

154.1750 = Lehigh County Fire
33.7450 = Lehigh County Fire Police
158.7750 = Lehigh County Police Information
453.5750 = Lehigh County Prison
154.3400 = Northampton County Fire Dispatch
154.8600 = Blue Mtn. Control (Wind Gap) Police F-1
154.0250 = B. M. C. Public Works F-3
159.0900 = Allentown Police Dept. F-2
155.0400 = Allentown Ambulance
453.4750 = Allentown Fire F-1
33.5200 = Lehigh County Fireground F-2
158.8500 = Lehigh Co. Police Dispatch
155.8050 = Lehigh County Sheriff
453.9750 = Lehigh County Prison Annex
154.3850 = Northampton Co. Fire F-2
154.0550 = B. M. C. Fire & EMS F-2
158.7900 = Allentown Police Dept. F-1
155.0400 = Allentown Ambulance
154.7250 = Allentown P. D. Detectives
453.8250 = Allentown Fire F-2

City of Bethlehem, PA Trunked System:

Mother's Day

866.0125 866.1875 866.5125 866.8750 867.0125 867.4375 867.5125 867.9000
868.0125 868.4250 868.9125

Thanks for everyone for writing with information. If YOU live in Eastern Pennsylvania, please send me your favorite frequencies and I'll publish them! Let me know if you wish to remain anonymous. See you next issue. Happy Scanning!!

PENNSYLVANIA

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PHILADELPHIA - Louis Campagna, Post Office Box 52434, Philadelphia, PA 19115

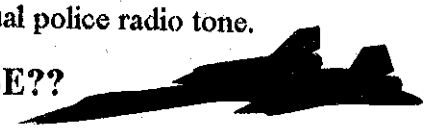
I've had some read good response from NatScan/NESN readers lately. Please feel free to send me your comments regarding this column. We still have a handful of color maps depicting the center-city area of Philadelphia, These are the same maps handed out by the Pennsylvania and Philadelphia Convention Center and Visitors Bureau. They're FREE!! Just be sure to send a .32 stamp to the address listed above.

PHILADELPHIA POLICE PLAN TO SPLIT NORTHEAST DIVISION

Rumors have been flying around the area that the Philadelphia Police Department will split the already overburdened North East division operating on 453.950. This division encompasses four districts which include the 2nd, 7th, 8th and 15th. The police are responsible for patrolling the area populated with over 200,000 people Based on the recent police activity within the division, it is understandable that the radio frequency can become quite congested. Not only was it an embarassment, but the recent 9-1-1 collapse has also indicated a genuine need for an additional dispatch frequency.

Some reports indicate that the 7th and 8th districts in the far northeast area will break off and conduct communications on 453.400, which is currently used as a city-wide detective frequency. Many monitors have reported that the 453.600 frequency has become active. This was originally listed as "U" band and allocated for use by the mayor, although this frequency was rarely used. It now is active as radio technicians make daily tests over the air. The PL tone is 203.5, the usual police radio tone.

AIR SHOW SLATED, MAYBE??



Residents of the Montgomery-Bucks County area are upset that an annual air show is slated for June 24th and 25th. Area residents are concerned about the safety of a high-performance aircraft ripping through their neighborhoods, not to mention the ever increasing problems associated with parking and traffic. So far, the show in anticipated to be on, but is has been cancelled in the past. Scanner buffs are encouraged to be prepared for an exciting show. The Sounds of Freedom Air Show is scheduled at the Willow Grove Naval Air Station in Horsham, PA. A show scheduled for the Northeast Philadelphia Airport is still in limbo. Both of these shows are planned for June.

BUCKS COUNTY MOBILE COMMAND UNIT

Quick response to a major event is the main purpose for the county's command post, CP222, which is stationed in Bensalem Township. Another unit just placed into service is CP274, stationed in Warminster Township. CP274 is equipped with a 2-meter amateur radio. This unit can be set up fairly quickly as it is equipped with a Computer-Aided Management of Emergency Operations (CAMEO), that aids the emergency team to set evacuation plans and supply them with weather-related information.

Also at the disposal of emergency team members are cellular telephones and 2-way radios to communicate with fire, police and rescue units on the scene. This unit can be dispatched for treacherous ice and snow storms which are responsible for extensive power outages along with Haz-Mat situations that can pose a potentially dangerous situation to many residents. County officials have also discussed the possibility of placing a similar unit in place for law enforcement agencies.

PENNSYLVANIA

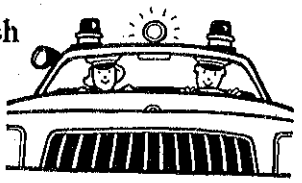
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WESTERN - By Dan Ruhe, 607 Evergreen Street, Johnstown, PA 15904

(This column will cover all counties not covered by the Philadelphia column and the counties covered by the Eastern Pennsylvania column.)

Hello, one and all, welcome to the Western, PA column. Well, first thing, we'll jump into the mailbox. I received a letter from Glenn Smith from Smithfield, PA, Fayette County. Glenn says he is 14 years old and monitors fire communications mostly. He has included his favorite frequencies for the Fayette County area:

33.7000 = Fayette Co. Fire Dispatch
33.5000 = Fayette Operations
155.2950 = Fayette County EMS
155.6700 = PA State Police (Base)



33.9800 = Mon. Valley Operations
33.4400 = Fayette Operations
154.9800 = Fayette Co. Sheriff
155.9100 = PA. State Police (Mobiles)

The following 800 MHz system is not yet in service, Glenn indicates that it will be used by the Fire Departments.

857.4625 859.4625 860.9875 858.2375 860.2375 858.4625 860.4625

Glenn also included a list of county fire and EMS stations. If you would like a copy of this list, please send me a SASE and I'll get a copy out to you. Thanks for your letter and input, Glenn. Let us know when the 800 Mhz system is on the air.

PENNSYLVANIA GAME AND FISH COMMISSION



I also received a list of the Pennsylvania Game and Fish Commission frequencies from an anonymous reader. I have placed the ** to indicate this frequency has been confirmed.

44.6400 = Pennsylvania Game Commission**
44.7000 = Pennsylvania Game Commission
44.8400 = Pennsylvania Game Commission**
44.9200 = Pennsylvania Game Commission**
45.0000 = PA Fish Commission Car/Car**
44.6800 = Pennsylvania Game Commission
44.8000 = Pennsylvania Game Commission
44.8800 = Pa. Game & Fish Commission Car/Car**
44.9600 = Pennsylvania Fish Commission**
44.0400 = Pennsylvania Fish Commission**
45.4400 = PA Fish Commission Car/Car

Frequency usage can vary from District to District. It should also be noted that in recent years both Fish and Game commissions have been working together, therefore you may hear a Deputy from the Fish Commission on the Game Commission radio and vice versa. In many counties, Deputies are included on the local public safety radio network and they can be heard there also.

I have received information from sources working very close to the Blair County 911 project and they tell me that the new towers will be installed this summer and the start up should be around the end of 1995. There will be some frequency changes. County Fire stations will be moved to a 450 MHz system along with Tyrone and Hollidaysburg Boro Police Departments. The frequencies have not yet been assigned, I'll pass them along as soon as I find out.

That's it for this installment, please keep those cards and letters coming, remember Seat Belts Save Lives!

DELMARVA

This column will cover the States of Delaware, Maryland, Virginia, Virginia, West Virginia and the District of Columbia.

DELAWARE - By Jack McCartan, P. O. Box 9453, Newark, DE 19714

Welcome to the Delaware column for May/June. It's hard to believe that another summer is upon us. Summer's many outdoor activities are excellent opportunities for scanner enthusiasts. Once such event is the Tour DuPont bicycle race that rolls into Wilmington each May. The race crews and event staff members use two-way radios to communicate with each other. If you go to the Tour DuPont, try monitoring the following:



TOUR DUPONT BICYCLE RACE

467.750 467.775 467.800 467.825 467.875 467.900 467.925

Also, video crews have been heard on 467.8500. From what I gather, these frequencies have not changed in the past few years. Punch 'em in and let us know what you hear!! Another good idea is to monitor the City of Wilmington Police, on their 800 MHz trunked system:

860.7625 859.7625 858.7625 857.7625 857.2625 856.7625 856.2625

Many of the Tour DuPont's "chase" vehicles are equipped with cellular phones, so don't forget to check out that band, too! I work in the City of Wilmington, so you can bet that I'll have a scanner or two with me the entire week!

BLUE ROCKS BASEBALL

Summertime also brings the return of Blue Rocks baseball, down at Frawley Stadium at South Madison Street. A few years ago, when the Rocks first came to town, their security and parking crew was on 462.8125, but it seems that last summer they changed radios and also their frequencies. I had no luck finding them last summer, but I'll try again this year. If anyone out there can help us please do.

DEWEY BEACH

Are any of you headed down to the beach this summer? Be sure to take your scanner along and report back all the action. Dewey Beach, which resembles a ghost town during the winter, comes to life during the warm summer months, with fights in the local bars, rowdy residences, parking violations, car wrecks, etc. Dewey Beach only has 6 full-time officers during the winter months, but takes on an additional 40 or so seasonal officers during the summer, many of whom go on to graduate from the many state police academies in the surrounding states. The Dewey Beach Police Department uses 155.010.

CITIZEN'S POLICE ACADEMY

A few months back, I graduated from the City of Wilmington's Citizen's Police Academy, the second such class I've taken. It is very similar to the NCCPD's CPA, which I took last year. See the July/August 1994 issue of NatScan for an article on the CPA. That's all for this month, folks, keep on scanning and let us know what you hear!

DELMARVA

Continued from previous page

MARYLAND - By Art Audley, Post Office Box 74, LaPlata, MD 20646

Greetings, and welcome once again to Maryland! Things have been quiet at the NESN/NatScan lately. Let me offer a hearty "Thank You!" and a tip of the ol' Washington Senators cap to reader **Richard Bozovitch**, who sent along a seven paged list of frequencies from his listening post in Lexington Park, St. Mary's County. Here's part of Richard's list:

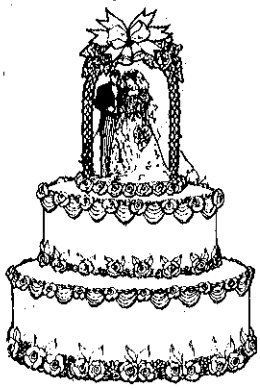
CALVERT COUNTY

151.6850 = Calvert County Nursing Home
151.8050 = Calvert County Nursing Home
155.1600 = Calvert County Public School
462.1000 = Calvert County Memorial Hospital
464.6250 = Calvert County Memorial Hospital

ST. MARY'S COUNTY

151.8050 = St. Mary's Hospital
155.2650 = St. Mary's Hospital
462.9500 = St. Mary's Medical (Base)
462.9750 = St. Mary's Medical (Base)
464.5750 = St. Mary's Hospital
467.9500 = St. Mary's Medical
467.9750 = St. Mary's Medical

MISCELLANEOUS ST. MARY'S/CALVERT COUNTY FREQUENCIES:



35.5200 = Southern Maryland Oil (SMO) — St. Mary's
39.2200 = Point Lookout Marine — Point Lockout, MD
151.6500 = St. Mary's County Government — Lexington Park
151.7150 = Skydiving Center — California, MD
151.7450 = Skydiving Center — California, MD
151.8050 = National Mobile Home Park — Lexington Park
152.3950 = Friendly Cab Dispatch — Lexington Park
153.4400 = Baltimore Gas & Electric (BG&E) — Lusby/Leonardtown
153.5750 = BG&E (data) — Lusby
153.6050 = BG&E — Lusby
153.6650 = BG&E — Lusby
153.6800 = Southern Maryland Electric COoperative (SMECO) — Prince Frederick
154.4900 = Besche Oil — Waldorf
156.1800 = St. Mary's County Engineer — California
159.0750 = St. Mary's County Engineer — California
450.2500 = WMDM Remote Broadcasts — Lexington Park
451.1625 = SMECO — Hughesville
461.3250 = Chesapeake Ranch Estates — Lusby
461.7000 = American Cable Company — Hollywood, MD

Another frequency that has proven elusive for many scanner monitors is the frequency for the St. Charles Mall security force in Waldorf, Maryland. Richard says that he heard security on 935.7250 MHz. Hope this helps some of you who have requested this information. Next month, we'll continue with Richard's list and include local police and security frequencies for the Patuxent River Naval Air Station. Until next time, ...Happy Monitoring!.....

DELMARVA

Continue from previous page

VIRGINIA - By Van Reynolds, 13 Holiday Drive, Hampton, VA 23669

There has been talk of the Newport News Police switching to the 800 MHz trunked system, but to much relief, this has not happened. All city operations with the exception of Police, Fire and Waterworks, are on the trunked system. In talking to some of the Newport News Park Rangers about the trunked system, I found out that they have problems transmitting on their portables in some areas. This could obviously be a problem for Police!

I also learned that Park Rangers are the only units using both the trunked and the conventional Police frequencies, with the trunked being their primary during the day and the Police frequencies at night.

Here are the frequencies for Newport News from the City of Newport News Radio Shop.

POLICE

Sector #1 = 453.6500 = (South)
Sector #2 = 453.6000 = (North)
Sector #3 = 453.5500 = (Talk Around)
Sector #4 = 460.3000 = (Info)
Sector #5 = 453.5500 = (Simplex)
460.0250 = (Surveillance Simplex)

FIRE

F-1 = 154.1300
F-2 = 155.9250
F-3 = 154.2650 (Mutual Aid)
F-4 = 154.2950 (Mutual Aid)
HEAR = 155.40000

WATERWORKS

F-1 = 451.1000 = Main Channel
F-2 = 451.2500 = Operations

WEAR IT PROUDLY
. . . It Shows You CARE!

TRUNKED

860.2625	855.2625
859.2625	854.2625
858.2625	853.2625
857.2625	852.3625
856.2625	851.2625

(*) = Not given out by the radio shop, but verified by monitoring.

Oh, and one other thing. Summer is right around the corner, so while you are sunning on Buckroe Beach in Hampton, tune in to 151.625 (this is the itinerant "red dot" frequency). If the FCC knew what those life guards talked about.....,well, you know what would happen.

That's all for now, but feel free to write if you have any questions or information about the Tidewater area. I also need to hear from those of you in the other parts of the state. If you want to see your input inprint, you have to send it in!

Editor's Note: I would like to thank the other applicants who sent in sample copies. Your sample copies and letters will be kept on file and considered whenever a vacancy occurs. L.M.

CAROLINAS

This column will cover the States of North and South Carolina

By - Richard J. Wells, 105-2B Arbor Way, Cary, North Carolina 27513

As the new CAROLINAS editor, I'd like to introduce myself. I am 29 years old, single and I enjoy scanning, reading, music, jogging, astronomy and aviation. I lived in New York for 23 years, which is where I earned my college degree at RIT. Shortly after graduating from college and moving to the Hudson Valley to work for IBM, I joined the U. S. Air Force auxiliary Civil Air Patrol where I served as a communications officer and spotter for Search and Air Rescue missions.

I moved down to North Carolina a little over two years ago, when I requested a transfer from IBM to work on the PowerPC development here in the Research Triangle Park. I am a computer engineer for IBM.

My "home office" consists of an IBM Valuepoint II, 486-DX2-66 with 8 MB of RAM, SVGA monitor, Windows and DOS. To this system I have installed a SoundBlaster PRO-16 and speakers, CD-ROM, 400 dpi document scanner and an AT&T, 14.4K data/fax modem.

I have also installed OS/2 Warp which I use to "surf the net" with Web Explorer, Gopher, Telnet and FTP. I plan to make some additions to my system which includes another hard drive, 4M of RAM and a laser or ink-jet printer.

My communications equipment consists of an AR8000, MVT-7100, PRO-2006, PRO-43 and IC-R1 (among others.) I also have two discone antennas, some pre-amplifiers and a wide-band magnetic mount antenna for my car.

Our first input comes from an anonymous reader (honest!). These are some frequencies found in eastern North Carolina:

NORTH CAROLINA FOREST SERVICE

31.3400 31.4200 31.4600 31.5400 31.5000 31.3800 31.2600 30.9800 31.2200

All frequencies for the NCFS include bases, portables and look-out towers which are very active during the spring wildfire season.

CRATON NATIONAL FOREST = 168.1250 168.725

CAPE LOOKOUT NATIONAL SEASHORE = 169.6500 169.1500



Thanks to our anonymous reader, for the above frequencies. I'll gladly accept anonymous input or information from a named source. Please feel free to contact me with any input for North or South Carolina. See you next issue.

1995 SUMMER CONVENTION

I hope to see many of you at our 1995 SMMER CONVENTION in Lancaster, PA on July 14-16, 1995. (Yes, there is something missing, "U.") L.M.

GEORGIA

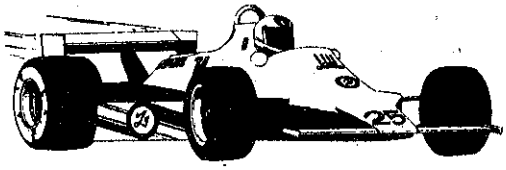
This column will cover the State of Georgia

By Bob Langley, 471 Cottonpatch Road, Lawrenceville, GA 30245-7166

Thanks to Edward Ashley for the following Augusta Regional EMS Codes and Signals:

SIGNALS

01	PLANE CRASH
02	AUTO ACCIDENT/INJURY
03	AUTO/PED ACCIDENT
04	MOTORCYCLE ACCIDENT
05	TRAIN/AUTO ACCIDENT
06	INTOXICATED
07	FIGHT
08	ELECTROCUTION
09	DROWNING
10	SHOOTING
11	CUTTING
12	SUICIDE
13	
14	OVERDOSE
15	POISONING
16	DEMENTIA
17	FIRE/BURN PATIENT
18	BOATING ACCIDENT
19	UNKNOWN PROBLEM
20	UNCONSCIOUS PERSON
21	FAINT
22	DIABETIC PROBLEMS
23	INSULIN SHOCK
24	ANAPHLATIC SHOCK
25	DRUG REACTION
26	HEAT EXHAUSTION
27	
28	HYSTERIA
29	SEIZURE
30	VAGINAL BLEEDING
31	RAPE
32	EMT NEEDS HELP
33	O. B. LABOR
34	O. B. DELIVERED
35	O. B. DISTRESSED
36	O. B. MISCARRIAGE
37	GYN PROBLEM
38	CONSTRUCTION ACCIDENT
39	CHEST PAINS
40.	CORONARY PROBLEM
41	CPR IN PROGRESS
42	CARDIAC ARREST





43	STROKE
44	CANCER PATIENT
45	DEAD ON ARRIVAL (DOA)
45A	CALL CORONER
46	HEAD INJURY
47	PAIN
48	DOG BITE
49	SNAKE BITE
50	FRACTURE
51	DISLOCATION
52	SPRAIN/STRAIN
53	SPINAL INJURY
54	CERVICAL INJURY
55	CHEMICAL INJURY
60	CHOKING VICTIM
61	RESPIRATORY DISTRESS
62	RESPIRATORY ARREST
63	HYPERVENTILATION
64	PULMONARY EDEMA
65	EDEMA
66	EXPLOSION
70	VOMITING
71	G. I. DISTRESS
72	G. I. BLEEDING
73	GENITAL/URINARY
74	DEHYDRATION
75	HEADACHE
76	BLOOD PRESSURE ELEVATED
77	TEMPERATURE ELEVATED
80	HEMORRHAGE
81	SHOCK
82	AMPUTATION
83	LACERATION
84	AVULSION
85	PUNCTURE
86	ABRASION/CONTUSION
90	ROUTINE TRANSFER
91	TRANSPORT FOR EXAM
92	INFANT TRANSFER
93	LIFEBIRD ON STANDBY
94	LIFEBIRD TRANSPORT

That's it for this issue, I welcome your input, opinions and suggestions for this column.

FLORIDA

This column will cover the State of Florida

FLORIDA - By the NESN Staff, c/o NESN, P. O. Box 62, Gibbstown, NJ 08027

From our old friend, **Scott Glicker**, we have this input:



PLANTATION, FLORIDA

POLICE DEPARTMENT

DISPATCH (CH. 3)	860.2625	TELETYPE/CAR TO CAR (CH. 2)	859.2625
TACTICAL (CH. 1)	858.2625	VICE	860.7625

FIRE DEPARTMENT

DISPATCH (CH. 1)	154.4450	TRUCK TO TRUCK	155.0550
TRUCK/TRUCK (CH. 5)	151.0250		

FASHION MALL AT PLANTATION	855.0375
BROWARD MALL	464.7125

The primary use of 155.055 is for the Department of Public Works. The primary use of 151.025 is for the Building Inspectors. Broward Mall Security uses the Broward Sheriffs Office Codes & Signals The Fashion Mall Security uses their own Codes and some of the Broward Sheriff's Office Codes and Signals.

FASHION MALL AT PLANTATION TEN CODES



10-1	UNABLE TO COPY-CHANGE LOCATION
10-2	SIGNALS GOOD
10-4	ACKNOWLEDGMENT
10-5	RELAY
10-6	BUSY - UNLESS URGENT
10-7	OUT OF SERVICE
10-8	IN SERVICE
10-9	REPEAT
10-10	FIGHT IN PROGRESS
10-12	STANDBY
10-18	REPORT TO MALL OFFICE
10-19	REPORT TO SECURITY
10-20	YOUR LOCATION
10-21	CALL _____ BY PHONE
10-22	DISREGARD
10-23	ARRIVED AT SCENE
10-24	ASSIGNMENT COMPLETED
10-25	REPORT IN PERSON TO _____
10-29	CHECK RECORDS FOR WANTED
10-32	MAN WITH GUN
10-33	EMERGENCY (SEE CODES BELOW)
10-35	MAJOR CRIME ALERT
10-38	SHOPLIFTER
10-40	MEAL BREAK
10-41	BEGINNING TOUR OF DUTY
10-42	ENDING TOUR OF DUTY
10-43	INFORMATION
10-46	ASSIST MOTORIST
10-50	ACCIDENT-F, PI, PD
10-56	INTOXICATED PEDESTRIAN
10-57	HIT AND RUN
10-59	CONVOY OR ESCORT
10-60	SQUAD IN THE VICINITY
10-63	PREPARE TO MAKE WRITTEN COPY
10-70	FIRE ALARM
10-76	ENROUTE
10-96	MENTAL SUBJECT
10-99	WANTED/STOLEN
10-100	WASHROOM

CODE 1 BOMB THREAT
CODE 4 CIVIL DISTURBANCE (RIOT, STRIKE, ETC.)
CODE 5 EVACUATION

10-33 SPECIAL EMERGENCY SIGNALS:

CODE 2 FIRE CODE 3 SEVERE WEATHER

CODE 6 OTHER CODE OTHER

This column is vacant. If you are interested in editing this column, please send a sample copy and a note about yourself, scanning experience, scanning equipment, etc. to the above address.

CENTRAL UNITED STATES

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Send Frequency and other information to:
Central U.S. Editor, National Scanning
Box 360, Wagontown, PA 19376

ALABAMA

Dean Harnick wants us to know that the Alabama Emergency Management Agency can be heard on 453.400, 453.650, 453.725, and 453.425. When he's not listening for emergencies, Dean listens to the action at the local prisons. "Holman and Draper Prison use 45.980, as does Tutwiler and Kilby Corrections. The Atmore Prison Farm in Atmore uses 155.010."

ARKANSAS

Grady Walker lives in England...England, Arkansas, that is. Good frequencies if you're passing through this pseudo-royal city are 158.865, 37.240, and 37.080. The low band frequencies are police and other county units are often heard when the skip is good "which just makes for better listening!"

ILLINOIS

Michael Dieckmann advises that these are the numbers you need if you're going to have any luck listening in Belleville: Belleville Police 453.950, Belleville Local Government 453.425, 154.025, Belleville Fire 453.425 and St. Clair County Police 154.740.

These are a "complete, if unofficial" list for Stephenson County, donated by Tom Pinner:

Freeport – 154.415 Dispatch, 153.890 Input, 154.190 Channel 2
Rural Freeport – 154.190
Dakota and Davis – 154.190
Rock City – 154.190 Ch.1, 154.325 Ch.2 Tri District Ambulance: 151.325
Pearl City and Kent – 154.190
German Valley – 154.190 Dispatch, 154.130 Channel 2
Lena, Winslow, Cedarville, McConnel – 46.10 Orangeville: 46.10 Ch.1, 46.140 Ch.2

INDIANA

Hunting for a particular service can be a real chore, but Melinda Barry found Medical Response International in Muncie on 155.160 after several weeks of diligent searching. She says MedStar Ambulance is on 155.340 and 155.400 and Fire is on 154.190. "The 154-156 MHz range is real active."

IOWA

Derrick Washington (IA 0 WNB) had this to say in a recent letter: "Dow City Fire Department is using 154.160, Crawford County Sheriff is on 154.800, 155.190, 155.610, 155.910 and Crawford County Local Government crews use 155.865 and 453.975. I hope your readers can use this information. I'm using a BC155XLT and hope to upgrade as soon as funds allow."

KANSAS

The Kansas City Fire Department recently switched to an 800 MHz system, according to a news clipping provided by George Beard (KS 0 ADT). During the past few months, simulcasting on both old and new frequencies has been heard, but now that the switch has been made, all KCKFD communications will be on 800 MHz, with only Bonner Springs Fire dispatch and some administrative duties being carried out on the old

frequencies. George says that "up until the change, KCKFD did most of its dispatching on 153.770, now they are using 859.9375, which is one of ten frequencies used by the Kansas City, Kansas Police between 856.7625 to 860.9375." David McGuire advised us that KCKPD narcotics officers communications on the 800 system are scrambled. He also said that ATF and DEA units have an 800 MHz link with KCKPD.

KENTUCKY

"Ever notice how some schools use medical frequencies for dispatching? 155.220 is popular and so is 155.235." Bill Roman isn't sure why this is so, but he catches many low powered school stations using these frequencies. Give them a try and see what you can hear between the medical chatter.

LOUISIANA

Two corrections to the last issue; Joseph Catalina, Jr. should have been given credit for the state frequencies that appeared here. He also points out one error. "KPLC Channel 4 should read KPLC Channel 7." Thanks, Joseph.

Houma was once featured on a TV series called "Swamp Thing" (catch it in reruns on the Sci-Fi channel), but Paul Presley says there are no swamp creatures in Houma and if there were, he'd be the first to know! "I monitor Fire on 154.175, 154.355, 154.280, 154.385 and Police on 39.780, 39.500, and 155.190.

MICHIGAN

Richard Reyes out in Adrian sent along these frequencies for air ambulance services in the area. You'll find Survival Flight based at Ann Arbor Municipal Airport in Washtenaw County on 123.050. Midwest Medflight in Willow Run uses 130.000.

MINNESOTA

Fire Department monitoring is popular in the state, according to Will Duncan (MN 0 OOC). "I listen with a BC220XLT with a custom antenna cut for the 154 MHz band. You'll notice in this list that lots of departments dispatch on the same frequencies. I've thrown in some police freqs, too." Osakis Police 154.845, 155.490 (KNIJ 476); Douglas County Sheriff 155.490 (KWM 895); Brandon Fire 154.175, 154.295 (WRE 420), Carlos Fire 154.175, 154.295 (WZY 366), Forada Fire 154.175 (WQU 335), Kensington Fire 154.175, 154.295 (KNCG 839).

MISSISSIPPI

T. Thornton (MS 5 AAE) in Mize says "yes, there are other trunked systems in use in the state. The three that I listened to lately are Laurel: 856.2625, 857.2625, 858.2625, 859.2625, 860.2625; Harrisburg: 856.2375, 857.2375, 858.2375, 859.2375, 860.2375 and Ridgeland on 857.2125, 858.2125, 859.2125, 860.2125. There is another one that should already be in operation in the capitol city of Jackson and surrounding Hinds county. A newspaper article quoted Jackson Police as saying that the new radio system would make it hard for reporters to follow communications and that the switch was being made so that all the criminals with scanners could not follow law enforcement movements."

Ken Rodgers (MS 5 ACE) provides us with the freqs for the Tupelo/Lee County E-911 system: 856.2625, 857.2625, 858.2625, 859.2625. Other active freqs are 135.9 Memphis Center, 128.5 Memphis Center, 127.375 Memphis Center, 122.7 Tupelo Unicom, 241.0 National Guard Helos, 301.5 Columbus AFB discrete, 295.0 Tupelo Sector Jet Training. "I hope you can use these frequencies. I have enjoyed your magazine and have found it to be very useful in providing frequencies that were not published anywhere else. The articles are well written and very informative. Keep up the good work!" With input like yours, Ken, how can we fail?

"You probably don't get a lot of information for the Raymond area, so please accept my list. It may help out those around here who are searching for frequencies," says Walt Sheridan. He gave us the freqs to Hinds Junior College, which can be found on 155.595 and 460.725, Raymond Fire on 154.160 (KKM 215), State of Mississippi on 45.240 (KTK 745), Town of Raymond 154.025 (KKM 216), Hinds County 155.055, Hinds County Engineer 156.225 (KET 298), and the Mississippi Forest Service on 151.145 and 151.355. Thanks, Walt!

MISSOURI

Buck Scott in St. Louis writes "here are some assignments for the St. Louis Hospital Association. I've checked these out and they are all active. A good pair to keep in your scanner are the HEAR Nets on 155.340 and 155.400. St. Joseph's uses 155.160, while De Paul, St. Luke's, St. John's, St. Mary's, Jefferson Memorial, Jewish, Lutheran, St. Anthony's, St. Louis Regional and University, Alexian Brothers, Incarnate Word, Barnes, Bethesda, Deaconess and Missouri Baptist use 155.220. The ARCH Aeromedical Helicopter Unit is on 155.295. By the way, St. Vincent's uses 155.280, St. Genevieve 155.265 and St. Luke's Northland 155.400."

NEBRASKA

We give the nod to Joseph Catalina, Jr. (TX 5 ABG) for sending along these numbers active around the state.

163.860 – FBI
163.965 – FBI
167.410 – FBI
155.340 – HEAR
152.300 – Happy Cab (Base)
152.330 – Happy Cab (Base)
157.560 – Happy Cab (Mobile)
157.590 – Happy Cab (Mobile)
155.370 – Interstate Police
451.750 – Internorth Security
155.085 – Omaha Airport Security
154.010 – Omaha Fire
154.190 – Omaha Fire
460.500 – Omaha Police Citywide
460.375 – Omaha Police Command
460.425 – Omaha Police Detectives
460.275 – Omaha Police Information
460.150 – Omaha Police North
460.100 – Omaha Police Traffic
460.225 – Omaha Police West and South
39.820 – Omaha Rescue Squad
461.875 – Omaha School Bus
173.225 – Omaha World Herald

OHIO

Thanks to John Johnson for this update on Goodyear Blimp frequencies. There are currently three blimps in use by this company: the Spirit of Akron in Akron, Ohio; Stars and Stripes in Pompano Beach, Florida, and the Eagle in Los Angeles, California. Active frequencies to listen in are: Ground Control to Blimp 151.625, VHF Company 132.000, Blimp port 123.050, 123.250 Suffield, Ohio Wingfoot Facility, Low Power 465.9125, Low Power 465.9375, Low Power 465.9625.

"The University of Akron is communicating on 453.425 and 453.250," says Daniel Freemantle. "Also, Ohio State University can be heard on 453.500 and possibly low power on 458.1875, though I haven't confirmed that one yet." Tom Swisher mentioned via Internet that Ohio State University is now on the Ohio State Trunked system, so check those frequencies out as well.

OKLAHOMA

Dean Farris up in Copan sent along these numbers for us. "I'm just glad Copan is still on VHF, those 800 systems are a killer! Copan Police use 155.415 and 155.490, Copan Fire is on 154.130 and 154.325."

TENNESSEE

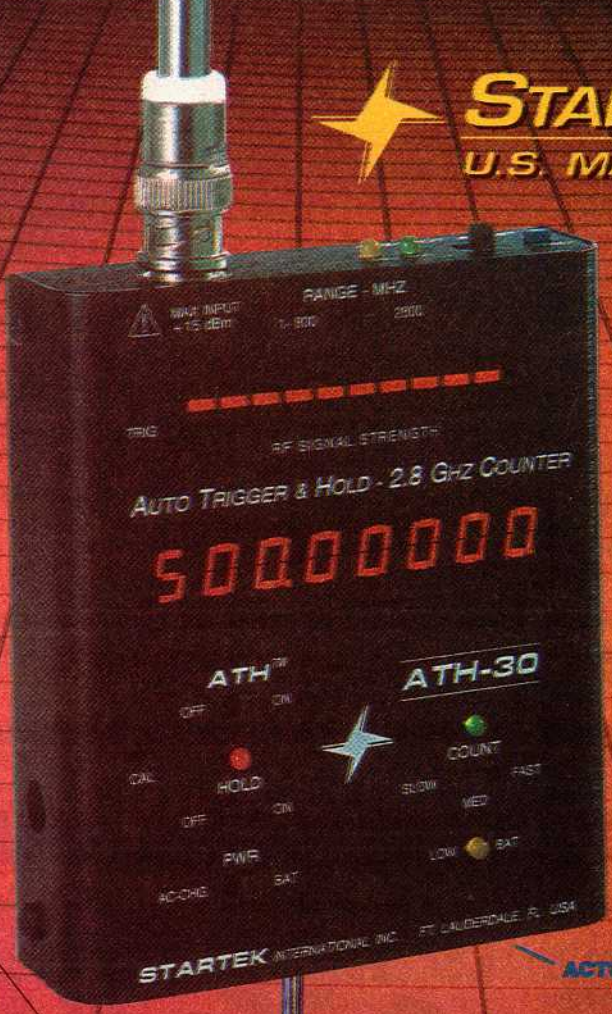
Nashville Metro Police are planning on moving to a state of the art communications system in the near future, according to a news clipping sent in by Charles Gossett. Phase one of the plan will be purchasing of the $28 million system, phase two will include adding two police precincts, moving one and redesigning the other three in a move toward becoming more centralized and community based. Metro Police have applied for an FCC license and hope to tie in the Office of Emergency Services, Fire Department, Public Works, etc, with the Police system. The plan for the new communications system is still in the early stages.

TEXAS

Joseph Catalina, Jr. (TX 5 ABG) in Port Arthur has Pony Expressed us an "update on the frequencies for the fire departments of Port Arthur, Groves, Nederland and Port Neches." Jefferson County Trunked Fire uses 856.7125, 857.7125, 858.7125, 859.7125, 860.7125, and 878.4125. "460.400 is central dispatch for the above cities. Also, the Port Arthur Police frequency is 453.675 Channel 4 and 460.150 is Channel 5." Joseph also updates on freqs used by Jefferson County Sheriff's Department 460.500, and Beaumost Police which uses 460.075 Channel 4 and 460.175 Channel5. Just for the heck of it, Joseph kindly threw in the police, fire, ambulance trunked system for Orange County: 856.4375, 857.4375, 858.4375, 859.4375, 860.4375, 866.0125, 866.5125, 866.5125, 867.5125, 867.0125, 867.5125.

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#RD-450	450 MHZ Rubber Duck Antenna	16
#RD-800	Cellular phone band RD Antenna	16
#P-110	200 MHZ 1X-10X Probe	39
#LP-22	Low Pass, Audio Probe	25
#DC-10	Direct, 50 OHM Probe	20
#DC-5	BNC Cable to Clip Leads	12
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Fort Worth is doing the 800-thing, though the Department of Public Safety is still on 155.460 and 155.445, says Terry Vansickle in the DFW area. Here's his list to keep you busy. To save time, all frequencies begin with 866 and 867. Agencies using the system are Ft. Worth PD and FD, Medstar Ambulance, North Richland Hills, Southlake, Tarrant County Sheriff, Haltom City and Kennedale

System 1 Public Safety -- 866/867.8375, .7125, .8875, .7625, .6625, .3375, .2125, .3875, .2625, .1625
System 2 Public Works -- 866/867.8625, .8125, 7875, .7375, .6875, .3625, .3125, .2875, .1875

WISCONSIN

"I live in Wausau and thought you might like to know what I listen to," says Scott Davis (WI 9 BNV). 453.375 Jail, 453.775 Local Government, 453.525 Parks and Recreation, 154.845 Sheriff's Department Detectives, 155.520 Sheriff's Department Dispatch, 158.790 Sheriff's Department Tactical Ops, 154.995 City, 155.100 Fire and Medics, 155.880 Fire.

CANADA

Occasionally we run across some frequencies sent in by our neighbors to the north. We'll toss them in the Central column, for want of a better place. Thanks to Michel Vasquez for posting these numbers: Gatineau Police Department F1 154.980, F2 154.040; Gatineau Fire 153.980.

Rumor has it that Toronto's only traffic helicopter can be heard communicating on 450.9625.

If you're in Ottawa, check out Ottawa Police Channel 3 and 4 for some interesting traffic. According to Darrell LaRose, OPD is testing GPS (Global Positioning System) incorporated into the MDT for tracking police unit speed, location, etc. Darrell says those in the west end of the city should listen for Unit 215.

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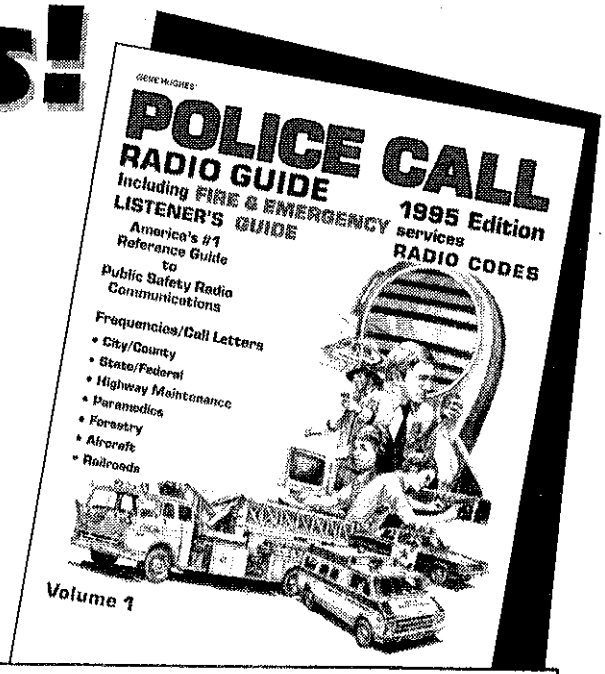
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WASHINGTON

Active Police and Fire frequencies in Benton were sent in by Andrew Davis (WA 7 UIO). "Benton City Police are on 155.190, County Sheriff use 154.815, 154.860, 155.310, 155.610, and 155.670. Fire uses 154.010, 154.340, 154.175, 154.415, 154.355, and 154.415."

OREGON

Looking for frequencies? Steve Culliton obliges with this nice list from around the state. Don't forget to send along your lists for inclusion here.

Lake Oswego City -- 453.9375
Public Works -- 45.520
Fire -- 153.830, 154.010, 154.205, 154.250, 154.400, 154.190, 154.220, 154.280, 154.325
Police -- F-1 460.450, F-2 460.225,
Metro Net -- 159.030.

Tri-County EMS -- 462.950
Washington County Life Flight -- 462.975
University of Oregon Hospital -- 463.075

Clackamas County Sheriff -- 155.610, 158.850, 158.970, 155.430, 155.190, 460.500

Portland KEX -- 450.550
Traffic -- 450.4875
Police -- F-1 Central 460.325
F-2 East 460.200
F-3 North 460.100
F-4 Multnomah County Sheriff 460.125
F-5 Cars 460.425
F-6 Special/Cars/ Detectives 460.250
F-7 County 460.350
F-8 Info 460.050
F-9 Tac 460.275
Tac 460.500
Tac 460.6375
Airport Police 460.225
Justice Center 460.550
River Patrol 158.730

Portland and Multnomah County Fire -- 154.430,
F-1 Admin 154.010
F-2 Fireground 154.250
F-3 Fireground 154.145
F-4 Fireground 154.175
F-5 154.355
F-6 Mutual Aid 154.325
F-7 Mutual Aid 154.220
F-8 Mutual Aid 154.280

Oregon State Police - Portland, Columbia City -- 154.935
McMinnville, Banks, Beaverton -- 156.225
Portland -- 155.460
Washington County -- 159.105

Robert Holmes of Eugene tells us that Lane County Firecom 3 and 4 operate on 154.430 and 154.205 respectively.

CALIFORNIA

Escondido's California Center for the Arts had its grand opening several months ago and the first

order of business for area scanner listeners was to determine what frequencies were being used. The local newspaper ran a story on the behind the scenes activities, including shots of crew using handheld radios. The text did little to help the search for the freqs, except to say that radio was essential on the 12-acre site. So, area listeners went hunting. During a recent performance of "Evita", 464.550 and 466.500 were discovered in use by Arts Center personnel. Apparently, everyone from the director to the ticket takers were wired up with radios. One scanner user reported that the opening curtain was delayed and one conversation referred to one of the workers "being on the cellular to the manufacturer trying to fix the problem." Switching to the cell band, the listener caught the frantic phone call, as the technician followed phone instructions to get the house lights working again. The opening was delayed twenty minutes. Just goes to show you that there isn't anywhere that a scanner isn't needed to keep track of what's going on.

San Ramon isn't one of those heavily covered areas in frequency listings, says Julie Links (CA 6 XOS). Here's what she has gathered from her monitoring with a BC890XLT.

Sheriff's Department -- 155.640 Primary; SO 155.040 F-5
SO 155.790 Car to Car
Fire -- F-1 46.440, Fire F-2 46.420
Public Works Department -- 453.450
Regional Medical Center -- 155.400.

Thanks to Ken Navarre, we have these two frequencies for Carnival Cruise Lines. Listen to 156.300 and 156.350 while you're dockside and aboard ship.

NEVADA

A correction to this section on Page 61 of the March/April issue: City of Yerlington should be City of Yerington (Sorry, I'm partial to L's!)

"Las Vegas Fire Department is communicating simplex on 153.770, 153.950, 154.205, 154.340, 154.370, and 154.430. Battalion 1, Tac 1 is 453.150, Battalion 4, Tac 4 is 453.400, Battalion 5, Tac 2 is 453.100 and Battalion 6, Tac 3 is 453.700." That's from Joe Fox, who invites us to visit, saying that we won't be disappointed unless we gamble and then it's all a matter of luck. "By the way, I listen to police also: North Las Vegas Police uses 460.050, 460.125, 154.845, 155.475, 158.810. City Marshal's are on 158.925 and the jail is 155.685."

ARIZONA

Randy Richards (AZ 7 PID) in Park County is an aero monitor. This is what he listens to in the Cody area. Cody VOR/DME -- 111.8, Flying L Skytel Airport --122.8, E.E. Faust Regional Tower --122.8, Centennial Airlines -- 122.875, Cody Aero Service -- 123.5, Arinc -- 130.050, Arinc -- 132.0, Powell Municipal Airport -- 122.7.

If you're a military monitor, you'll like these numbers for the Yuma Proving Ground. Military Police -- 141.000, 163.535; Fire and Crash Rescue -- 140.875; Range Control -- 140.950, 274.0, 290.1, 358.6.

UTAH

The Drug Enforcement Administration's national system can be monitored wherever you are, says Robert Denning (CO 0 YUG), though the channel designations may differ. 418.625 F-1, 418.900 F-2, 418.750 F-3, 418.675 F-4, 418.825 F-5, 418.950 F-6, 418.975 F-7/8, 417.750 F-9/10. "All of these frequencies are active, some more than others. Some are used for repeater operations, some for car-to-car and surveillance. Program them all in and I guarantee you will hear something."

IDAHO

"I've been listening for shuttle activity on 259.7, 279.0, 296.8, AM mode," Ed Walker (ID 7 VZX) tell us. "The best communications can be heard on amateur radio frequencies, as the UHF freqs are only used during extravehicular activities and shuttle landings. Maybe during the Mir dockings we'll hear something off UHF. Meantime, if you're interested in the shuttle, check out the ham channels around 144-148 and 445-450 MHz."

MONTANA

We like letters like the following one from David Harper (MT 7 XSD). "Love your magazine! Keep up the excellent work! If you can, please include these frequencies in your next issue. They have all been personally confirmed by me and my PRO-37."

Custer County Rescue -- 155.280, 155.385
Custer County Engineer -- 156.240, 159.120;
Montana Forestry Rangers -- 151.175, 151.475, 451.725;
Telecom Paging -- 152.030
Mountain States Telephone -- 152.600
Montana Highway Patrol -- 39.82 (Net 1), 39.88 (Net 2), 39.90 (AID), 155.550, 155.790.

WYOMING

Jim Baker in Meeteetse sent along these frequencies.

Park County Sheriff -- 155.190, 155.790
Powell Police Department -- 154.815, 155.190
Meeteetse Fire District -- 154.250
City of Meeteetse Fire/Rescue -- 155.340
Powell Fire Protection District -- 153.950, 154.400
Soil Conversation Service -- 154.040
City of Powell -- 158.880
City of Meeteetse -- 155.955
Powell Municipal Airport -- 122.700

COLORADO

Jim Fun dropped the following frequencies into the ether of the Internet. He's looking for other freqs used around Aspen, because he's sure that he is missing something. Too much time on the slopes, Jim?

155.250 -- Aspen Police
155.535 -- Aspen Police
155.730 -- Colorado State Police
463.075/468.075 -- Aspen Valley Hospital
154.385 -- Snowmass EMS/FD
155.160 -- Search and Rescue
461.050 -- Snowmass Resort
151.775 -- Aspen Ski Corp.
461.875 -- Aspen Ski Corp.
461.950 -- Aspen Ski Corp.
462.125 -- Aspen Ski Corp.
462.575 -- Aspen/Snowmass Ski Areas
462.675 -- Aspen/Snowmass Ski Areas
462.725 -- Aspen/Snowmass Ski Areas

Mike Mayer in Boulder passed these numbers along for Summit County, Breckenridge Ski Patrol -- 151.685, 461.300, 461.500, 461.525, 461.825.

The "Ten Code" used in the state goes like this, says an anonymous contributer:

Code 1 - Traffic Hazard
Code 2 - Traffic Stop
Code 3 - Emergency Traffic Only
Code 4 - No Further Help Needed
Code 5 - Prisoner
Code 6 - Mental Case
Code 7 - Meal Break
Code 8 - Arrival
Code 9 - Arrest Warrant
Code 10 - Officer Needs Assistance

Hot frequencies around Denver Airport are 128.325, 133.175 and 126.5. Thanks to Bishwa Shrestha who did the listening that dug up those gems. Bishwa says that controllers aren't audible because of distance, but the pilots come in just fine.

NEW MEXICO

Here's what is popping on the airwaves around Melrose: Fire 153.770 (KNBD 971), 154.190 (WZC 521), 154.310 (WZC 521), 154.370 (KNBD 971). According to our correspondent, Mike Walton, Melrose shares 154.370 with Texico Fire (WNAR 649). The City of Melrose communicates on 153.800 (WNND 785).

NORTH DAKOTA

Dickinson in Stark County has a "whole mess of frequencies that are interesting to listen to," says Bill Simmons (ND 6 UIJ). I use a BC8500XLT connected with RG-58 coax to a ground plane on my roof. Works great!"

Highway Patrol -- F-1 154.905, F-2 154.935
Stark County Sheriff -- 155.130, 155.430, 155.505, 155.565
Dickinson Police -- 156.090, 453.500
Stark County Fire Network -- 154.010, 154.415, 154.415
Stark Fire -- 453.800
State Government -- 154.085
County -- 154.980
State College -- 453.275

City of Dickinson -- 453.550
Dickinson Flight Service Station -- 122.1, 122.2
Dickinson Air Service -- 123.0
Dickinson Unicom -- 123.0
Dickinson Tower -- 123.6
Dickinson FSS -- 255.4
Richardton Airport -- 122.9

SOUTH DAKOTA

"Can you confirm that these frequencies are valid for Bonesteel?" asks Mort Danville (SD 0 SEC): 153.770 Bonesteel Fire Department, 154.310 Bonesteel Fire Department, State Government 158.895. That's what our records show, also, Mort. Looks like you have the right ones. Mort passes along Burke frequencies: 39.1, 39.16, 39.18, 39.32 Gregory County Sheriff; 39.10 and 39.32 Gregory Police Department; State Ambulance and Rescue 155.325, 155.340; Gregory Municipal Airport 122.8.

HAWAII

In the January/February issue John Vlahos asked about Atlantis submarine frequencies. Bruce Ames wrote to tell me that he has covered the subs in the past. He was kind enough to provide me with frequencies. Unfortunately, I don't have an office at Bearcat headquarters, so I'm unable to run database searches. I often must toss the question out to the readers, who are our best source of up-to-date frequencies. Apparently it worked this time. Thanks, Bruce! Atlantis' frequencies are: 156.000, 156.450, 156.700, 156.800, 156.925, 156.975, 157.025, 464.0875, 464.1875, 464.2625, 469.0875, and 469.1875.

I must admit to a transgression from the January/February issue, in which one of our Hawaii correspondents, Michelle, mentioned hearing cellular phones in the 895-916 MHz range. Says Bruce Ames, "The FCC cellular bandplan for the United States is from 869.0400 to 893.7900 with 30 kHz steps. Control channels are 879.3900 to 880.6200, again with 30 kHz steps. Any cellular reception that Michelle is hearing above 893.9700 is not cellular but rather as the result of radio overload or images." I slipped.

The Big Island has never lacked scanning targets, but one of the most popular is emergency medicine. Scott Cross (HI 7 ALO) pulled the relevant ambulance frequencies from his database and sent them along to us. "My database allows me to keep track of frequencies by service and makes it easy to find what I'm looking for. I recommend that every scanner listener use some type of computer database, otherwise you'll drown in frequencies!"

155.2950 -- International Life Support Ambulance
462.9500 -- International Life Support Ambulance
462.9750 -- International Life Support Ambulance
453.4000 -- Kauai Ambulance Service
462.0750 -- Hawaii Air Ambulance
453.7000 -- Hawaii Ambulance Service
453.9250 -- Hawaii Ambulance Service
453.4000 -- Hawaii County Emergency Medical Services

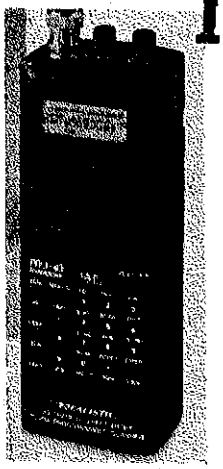
Rodney Souza (HI 7 ABF) is looking for frequencies for "a handful of companies that have been elusive." Seems they're not in any frequency book or FCC database. Can any readers help? The companies are Kaahumanie S.C. Security, G.K. Security, Island Movers, Tr. Isle Trucking, Valley Isle Express, Haleakala Transfer and Warehouse, Maui Arts and Culture Center. Rod also kindly answered John Vlahos' question about the freqs used by Atlantis Submarines off Oahu and Maui. "They're on 156.450, 156.975 and 156.925." Thanks, pal.

ALASKA

"Alaska is a big state with two time zones, 46,000 miles of shoreline and more than 375 million acres of land and inland waters," according to Ben Roman (AK 1 IOP). "It can get to -70 degrees F in winter and up to 90 degrees F in summer. Most access is by air or water. One in every 80 Alaskan citizens owns an airplane and one in every 49 has a pilot's license. Here's some frequencies you ought to monitor if you visit." Thanks, Ben!

RCO/CTAF Wrangell Airport -- 122.6
RCO Yakutat Airport -- 121.4
RCO Unalakleet --123.6
Barrow Airport -- 123.6
Barrow FSS 122.6/122.2
RCO Wainwright -- 122.5
RCO Point Lay -- 122.4
RCO Barter Island -- 122.0
RCO Lonely -- 122.4
RCO Oliktok -- 122.5
Deadhorse Airport -- 123.6/122.2
FSS, Kotzebue -- 123.6, 122.2, 122.05
RCO Cape Lisburne -- 122.3
Point Hope -- 122.1
Ambler -- 122.0
Selawik -- 122.5
Murphy Dome -- 122.3/122.45
Cape Yakataga -- 122.5
Cold Bay -- 123.6, 122.2, 122.35
Dillingham -- 123.6
BLM Operations -- 127.45

Ask The Experts



Q: How can I tell when my PRO-43 was manufactured and if it's modifiable for cellular?
-- Roger Armster
Bar Harbor, Maine

A: Check inside the battery compartment for the date code. This is usually in the form of "xxAx." The first two numbers will be the month of the year, the A is always present and the last number will indicate the year of manufacture. A 3 would indicate 1993. Finding out if your 43 is modifiable is even easier, look at the serial number on the back of the unit. If it begins with an "A", you're out of luck, it's a post-ban unit.

Q: I am looking for a copy of a manual for a J.I.L. Model SX-100 scanner I picked up at a garage sale. Any help?
-- R.S. Maneen
Voorhees, New Jersey

A: The SX-100 was manufactured by Nissan-Denshi Co. Ltd, of Japan. Have you tried contacting the company directly? That might be your best bet. In the meantime, we'll toss this one out to our readers. Perhaps one of them may have an answer for you.

Q: I've heard that there's now a federal law against listening to cordless telephones. Is this true?
-- Bart Williams
Benton, Washington

A: Public Law 103-414 was signed by President Clinton in late of 1994. Section 2510 and 2511 of Title 18, US Code, was amended to include cordless phones in the prohibition against cellular listening. So now both cordless and cellular monitoring are prohibited nationwide.

Q: A local security service is using GP300 radios. Where would I find their communications?
-- Stan Marlen
Tamarac, Florida

A: GP300's operate on both VHF and UHF. The closest you can come to knowing where to search for communications is by examining the model number of the radio. The third digit from the left in the model number indicates the band. If it's a 3, the unit operates on VHF. If it's a 4, look in the UHF band.

Q: Would you know of a device to decode encryption that sounds like open squelch? My local police department is using this type of Motorola-built system.
-- Terry Dodds
Perth, Ontario, Canada

A: Most encryption is beyond the decoding capabilities of the average hobbyist. Simple voice inversion can be overcome by do-it-yourself kits on the market. For instance, the Ramsey Electronics kit is alleged to decode phase shift scrambling. The system you describe sounds like something you'll have to live with, at least for the time being.

Q: I've been trying to find the frequency of my local cable TV company, Dimension Cable. Would you know where to look?
-- Steve Mulligan
Cheshire, Connecticut

A: Your first stop should be the business band between 461-466 MHz. This heavily used area is a magnet for communications related to businesses such as cable TV. Secondly, the company may be using a frequency in the 800 MHz band. It could be a repeater or an SMR and may take some searching to find.



Q: Where can I find NFL helmet-mike communications?
--David Rochester
East Lansing,
Pennsylvania

A: Set your scanner up to search between 600-900 MHz. Yeah, I know, it's a large range to check, but you've got four quarters to work on it!

Q: I live in the small town of Essex, Massachusetts. The local police operate on 155.820, but I'm trying to get their second channel. Where would I find it?
-- David N. Williams
Essex, Massachusetts

A: Check the 155-156 MHz range. Secondary frequencies are usually close to the primary. If you find nothing here, expand your search until you've covered everything from 153-160 MHz.

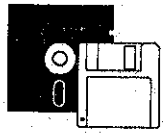
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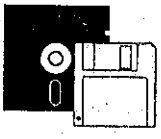
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Same format as Mr. Scanner's Frequency Lists on Disk, except this is a raw dump of the entire FCC database from 25 MHz to 1.3 GHz for a state. Not only includes public safety, but business, taxi cabs, railroads, news media, etc.

Mr. Scanner's Down & Dirty Disk.....$35.00
Additional States.....$15.00 each
Shipping.....Included



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This is a computer frequency management program that comes with a database for the State or Province of your choice. Services covered include: Police, Fire, Ambulance, Rescue Squads & Hospitals, Local Government, Forestry Radio Service, Marine, Mobile Telephones, Aircraft and Amateur Radio. Program will accept entries for any other service. Can look up listings by city, licensee, name or frequency. Look up frequencies by limits (much like a search on a scanner). Print frequency list by county and service.

Mr. Scanners Frequency List on Disk
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Shipping.....Included



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100 channels. Coverage from 29 - 54 MHz, 108 - 174 MHz, 406 - 512 MHz and 806 - 956 MHz (less Cellular Telephone Band) CELLULAR BAND CAN BE MONITORED ON THIS SCANNER WITHOUT MODIFICATION BETWEEN 895.010 AND 916.500 MHz. Dual conversion receiver with a scan rate of 100 channels per second. Please specify color when ordering.

Sportscat Scanner (Yellow) or (Black).....$188.00
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200 channels. Coverage from 29 - 54 MHz, 108 - 174 MHz, 216 - 512 MHz, 806 - 956 MHz (excluding cellular telephone band which can either be restored or searched on an image from 895.010 to 916.500 MHz). Dual conversion receiver with scan rate of 100 channels per second.

BC 890 XLT.....$255.00
Shipping.....$6.00



Model BC 9000 XLT

500 Channel. Base mobile. Coverage from 25 MHz to 1.3 GHz (less Cellular Telephone band and a small portion of UHF TV -- 650 - 760 MHz). Triple conversion can not restore cellular. Multiple banks and priorities, frequency transfer, automatic store, automatic sorting, Twin Turbo Search & Scan.

BC 9000 XLT.....$388.00
Shipping.....$6.00



Model BC 80 XLT

50 channels. Coverage from 29 - 54 MHz, 137 - 174 MHz, 406 - 512 MHz and 806 - 956 MHz (less Cellular Telephone Band) CELLULAR BAND CAN BE MONITORED ON THIS SCANNER WITHOUT MODIFICATION BETWEEN 895.010 AND 916.500 MHz. Dual conversion receiver with a scan rate of 100 channels per second.

BC 80 XLT.....$145.00
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Model BC 3000 XLT

400 Channel. Handheld. Coverage from 25 MHz to 1.3 GHz (less Cellular Telephone band and a small portion of UHF TV -- 650 - 760 MHz). Triple conversion can not restore cellular. 20 banks, 10 priority channels, frequency transfer, automatic store, automatic sorting, Twin Turbo Search & Scan.

BC 3000 XLT.....$356.00
Shipping.....$6.00



Model BC 220 XLT

200 channels. Coverage from 29 - 54 MHz, 108 - 174 MHz, 406 - 512 MHz and 806 - 956 MHz (less Cellular Telephone Band) CELLULAR BAND CAN BE MONITORED ON THIS SCANNER WITHOUT MODIFICATION BETWEEN 895.010 AND 916.500 MHz. Dual conversion receiver with a scan rate of 100 channels per second.

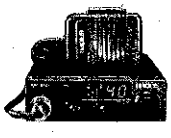
BC 220 XLT.....$225.00
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900 MHz Spread Spectrum Cordless Telephone. DON'T LET SOMEONE WITH A SCANNER LISTEN TO YOUR PRIVATE TELEPHONE CONVERSATIONS. The EXP 9100 Cordless Telephone gives you unparalleled range and performance when compared to normal 46/49 MHz cordless phones. With the digital spread spectrum technology you will have a secure link between the base unit and handset, which virtually eliminates any chance of outside monitoring and improves noise reduction for top quality sound.

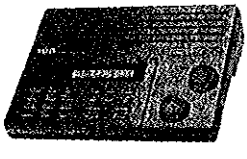
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Model PRO 610 XL

Compact Professional Mobile CB Radio. This CB sets a new standard for Citizens Band Communications in performance, dependability and size. Its compliment of features include Automatic Noise Limiter (ANL) to help eliminate unwanted noise and interference. Modulation: Class B amplitude modulation (AM).

Uniden Pro 510 XL.....$45.00
Shipping.....$6.00



Model BC 860 XLT

100 channels. Coverage from 29 -54 MHz, 108 - 174 MHz, 406 - 512 MHz and 806 - 956 MHz (less Cellular Telephone Band). CELLULAR BAND CAN BE MONITORED ON THIS SCANNER WITHOUT MODIFICATION BETWEEN 895.010 AND 916.500 MHz. Duel conversion receiver with scan rate of 100 channels per second. Twin turbo feature lets you select either 100 or 300 steps per second when searching frequencies.

BC860XLT.....$165.00
Shipping.....$6.00



Model GMR 100

462 MHz transceiver. 1 watt output power FM operation on 8 pre-selected channels. Ideal for the outdoorsman or for businesses requiring short range (1 mile or less) operation. Comes in heavy plastic case with rubber duckie antenna and belt clip.

GMR 100.....$155.00
Shipping.....$6.00

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Hertz So Good

by Professor Gene Hughes

SCANNER SCHOOL

Scanner School has just one room, in which we have to teach several grades. Today's class is for beginners, and we'll look at some basics: possibly, we may answer some questions that you were either afraid or embarrassed to ask.

We'll start with definitions. It's odd, but the United States is only one of two industrialized countries in the world that have not completely switched over to the metric system of measurement. It hurts our country in several ways. Look at how complicated our system is: distance is measured in inches, feet, yards, rods, furlongs, and miles; weight measures are grains, drams, ounces, pounds and tons; and, the units of liquid are drops, ounces, gills, cups, pints, quarts and gallons. Without a calculator or pencil, how many of you can convert miles to inches? Tons to ounces? Gallons to liquid ounces? The metric system is much easier to learn and use: everything is based on "tens."

When we manufacture items for export, dimensions must be changed to metric, which costs money and makes our products more expensive. The entire scientific world uses the metric system, as does our armed forces. To complicate things even more, in some areas we are half and half: A 38-caliber revolver is English measure (.38 inch), while a 9 mm automatic pistol is metric.

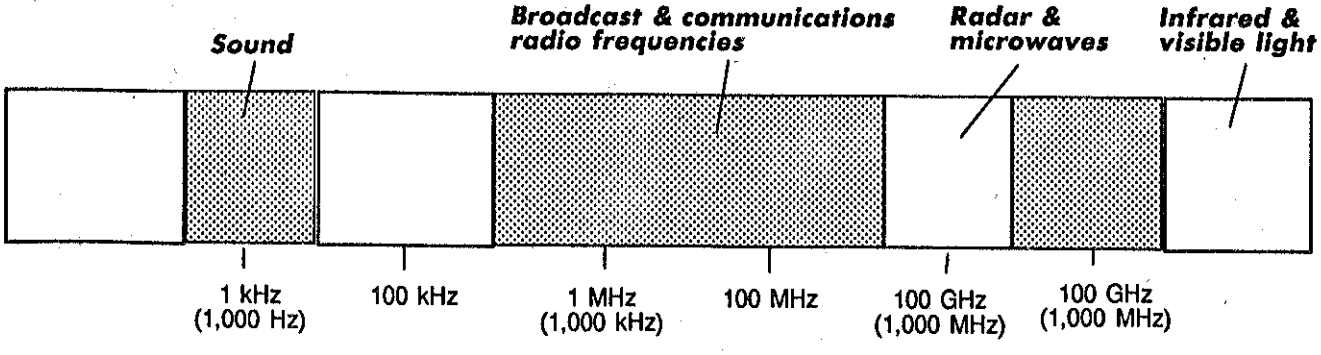
We're going to go with metric in talking about radio. All you have to remember is that the prefix kilo is one thousand (1,000) and mega is one million (1,000,000). We'll only use the unit of length, the meter, which is just a bit more than one yard (1.1 yards is close enough).

One more definition. When any action is repeated over and over, each complete action is called a cycle. A bicycle wheel going around once completes one cycle: The moon going around the earth one time completes one cycle. However, a number of cycles won't give us much useful information by itself: what have we learned if told that a bicycle wheel has gone around 30 times? But, if we know that it completed 30 cycles in one minute, we now have a meaningful statistic. When we link cycles with the amount of time, we have the frequency. An idling automobile engine may turn at a frequency of 1200 cycles (revolutions) per minute.

Some things that we measure in cycles go around: Others go straight. An example of the latter are ocean waves. Sound consists of repetitive air vibrations that travel like waves. The faster the vibrations (the closer together the waves) the higher the tone. Humans can hear sounds with frequencies in the range of 50-20,000 cycles per second (cps). These are called audio frequencies (AF). We know that animals, such as dogs, can hear even higher frequencies that we humans can't hear.

Another type of vibration that sends out waves is the electromagnetic spectrum, which includes radio, ultraviolet, infrared and visible light. Incidentally, some reptiles can "see" infrared light when it is in the form of heat. Radio frequencies (RF) are so high that they have to be ex-

Sound to light spectrum



pressed in **kilocycles** (thousands of cycles) or **megacycles** (millions of cycles) per second. You won't see those two words used today. In honor of a man named Heinrich Hertz, who pioneered the study of radio waves in the 19th century, "cycles per second" was changed to Hertz (Hz). Now we measure radio frequencies in **kiloHertz (KHz)** and **megaHertz (MHz)**.

Another way of measuring waves is by their length. At the seashore, you can count the waves per minute to find their frequency: or, you can measure the distance from the top of one wave to the top of the next wave to determine the wavelength. You might do the same thing in a pond by dropping a rock in the water.

Even though we cannot see radio waves, we can deduce their length from their frequency. We know that radio waves travel at the same speed as light waves: approxi mately 300,000 kilometers (186,000 miles) per second. Let's imagine that we have a tube exactly 300,000 kilometers long. Let's also hypothesize that we have a device at one end that can generate any frequency we want from 1 Hz to a zillion Hz. We'll start by generating a signal of one Hertz (one cycle per second). When the second ends, the front of the wave has traveled to the far end of the tube, 300,000 kilometers away, while the back end of the wave is just leaving our generator. Obviously, the wave's length is 300,000 kilometers. Now let's generate two Hertz. By the time the second is over, the front of the first wave has reached the far end of the tube, and the back end of the second wave has just left the generator. There are two waves in the tube, so each one must be half of 300,000 kilometers, or 150,000 kilometers long. *No matter how many waves we generate in a second, their total length must add up to 300,000 kilometers!* Therefore, the higher the frequency, the shorter each wave will be.

When we know one measurement, it's easy to determine the other. Just remember the magic number, 300:

Divide 300 by the frequency (in megaHertz) to find the wavelength.

Example; if the frequency is 50 MHz, the wave length is six meters (300 divided by 50 = 6).

Divide 300 by the wavelength (in meters) to get the frequency. Example; if the wavelength is two meters, the frequency is 150 MHz (300 divided by 2 = 150).

In the earlier days of radio, bands were referred to as "long wave" (below 500 KHz), "medium wave" (500--3000 KHz), and "shortwave" (anything over 3000 KHz). You will still hear the uninitiated referring to our scanner frequencies as "shortwave."

Keeping in mind that a meter is just over three feet, here are the wave lengths for the center of the most popular scanner bands:

VHF-low -- 7.5 meters
VHF-high -- 2 meters
UHF -- .67 meters
800 MHz -- .37 meters

Why all this fuss about wavelength? Many aspects of scanning are affected by wavelength:

- Wavelength determines how far over the horizon a radio wave will travel. The shorter the wavelength, the less distance.
- Wavelength determines how well a radio signal will penetrate structures. The shorter it is, the more openings it will find.
- Wavelength is directly related to antenna design: There are quarter-wave, half-wave and 5/8-wave antennas, plus combinations of these.

The history of 2-way mobile radio can be traced by the ever higher frequencies used. Prior to World War II, 48 MHz was the upper limit. High-band VHF was developed during the war, and came into use in the late 1940's. UHF gradually came into use in the mid 1950's. At that time, the frequencies above 800 MHz were considered microwave, and suitable only for point-to-point transmissions. When using those frequencies, systems designers carefully calculated paths so there would be no interference. When it was proposed to use frequencies in the 800 MHz band, there were many so-called "experts" who proclaimed that such high frequencies were impractical for mobile radio. Some of those same experts also maintained that the cellular mobile telephone system could not possibly work with mobile units using just three watts of power. The FCC is now allocating frequencies as high as 1800 MHz for mobile and portable two-way communications. Let's just hope that scanner manufacturers can keep up with technology.

Are there any subjects you would like to see discussed in our little schoolhouse? Just drop us a little note c/o National Scanning.

Members Classifieds



For Sale. New GRE Super Conververter 9001 base model. Receives cellular and converts to 400 MHz so scanner can pick it up. Call Jerri Houston 812-567-4681.

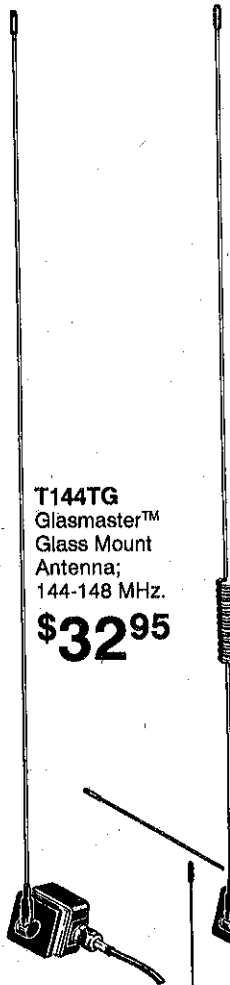
Free to a good home. Brand new, unused owner's manual for Realistic PRO-39 handheld. Jack McCartan, Box 9453, Newark, DE 19714

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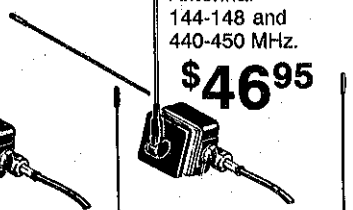
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TMM002
MICRO-MAG® 2 Meter Mobile Antenna. 144-148 MHz.
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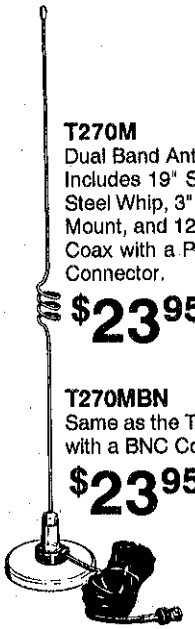


TMM270
MICRO-MAG® Dual Band Antenna. 144-148 and 440-450 MHz.
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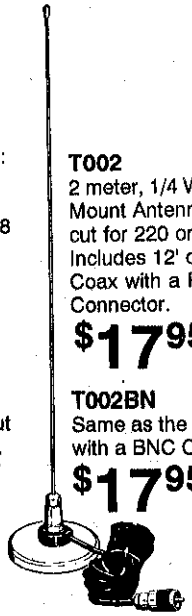
T270M
Dual Band Antenna Kit: Includes 19" Stainless Steel Whip, 3" Magnet Mount, and 12' of RG58 Coax with a PL-259 Connector.
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T270MBN
Same as the T270M but with a BNC Connector.
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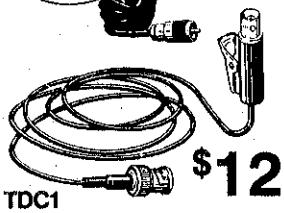


T002
2 meter, 1/4 Wave Magnet Mount Antenna Kit; can be cut for 220 or 450 MHz. Includes 12' of RG58 Coax with a PL-259 Connector.
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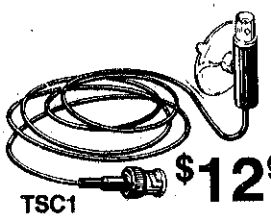
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TSC1
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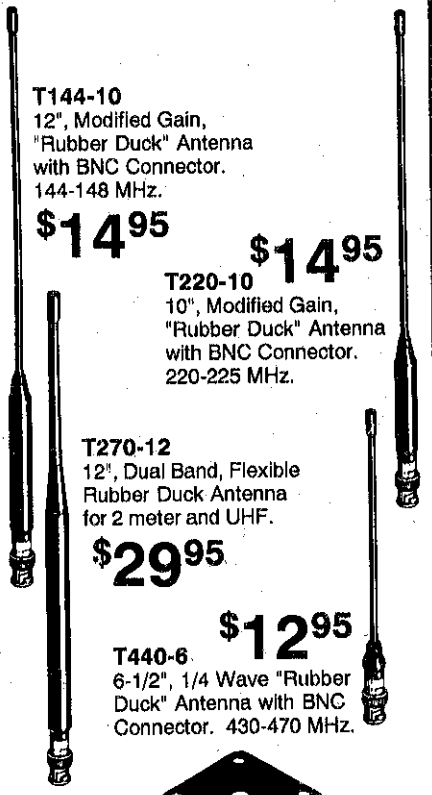


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$19.95



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12", Modified Gain, "Rubber Duck" Antenna with BNC Connector. 144-148 MHz.
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T220-10
10", Modified Gain, "Rubber Duck" Antenna with BNC Connector. 220-225 MHz.
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T270-12
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$29.95

T440-6
6-1/2", 1/4 Wave "Rubber Duck" Antenna with BNC Connector. 430-470 MHz.
$12.95

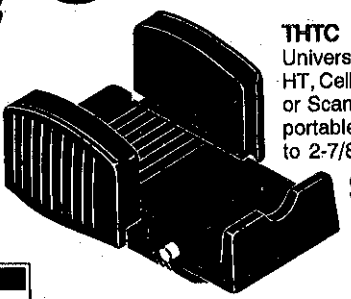
TPM-6
6" Pedestal Mount. Adjustable. Black.
$19.95



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Extensions; recommended for use with the TPM-6.



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Simple Scanning Projects

By Wayne Heinen N0POH

Taping your catches... On a limited budget

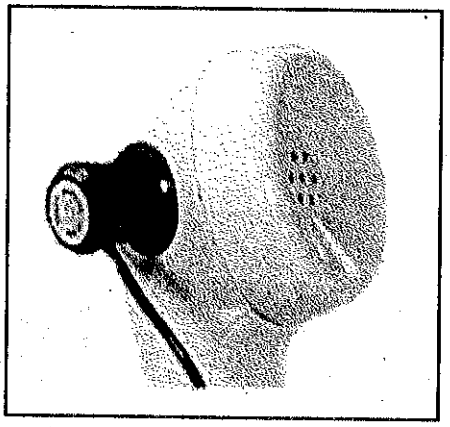
A question arose recently about taping various transmissions that are received on a scanner. We all know that certain transmissions are NOT to be monitored and it's a pretty good bet that if someone knew you were taping these you might be headed for trouble.

Divulging the contents of a conversation that you have overheard on the radio has been illegal since the Communications Act of 1934! As a third party you are not to use or divulge anything not intended for you to hear. Keeping this in mind, taping things of interest and of a historic nature, especially things that are from the public service bands, becomes something less risky from a legal standpoint.

For more on the legal aspect, check out Frank Terranella's "Listener's Lawbook" available from DX Radio Supply. It goes into far more detail than I can here.

Back to taping. If you're using your scanner with a stereo system, taping is really no problem. However, for those who are not using a stereo system or some form of mixing device, taping and listening simultaneously can become VERY DIFFICULT!

Here are a few solutions that have been devised by myself and others to allow taping and monitoring at the same time. The first has been used successfully by fellow scanner enthusiast Curt Mann N0GTG. Curt acquired a

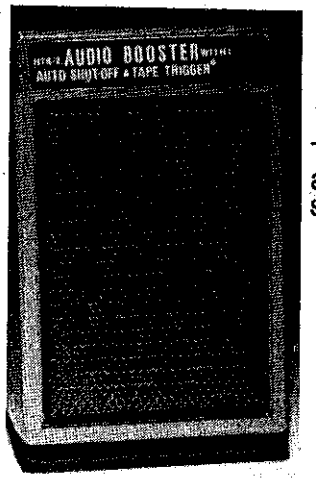


Suction cup microphone

small suction cup microphone that is designed to adhere to a telephone and allow you to tape phone conversations (Radio Shack item 44-533 $3.99). Instead of a telephone, just attach it to you scanner and plug it into your tape recorder. You'll need to set the level at which the audio is best recorded without distortion. If your recorder has a control for setting the level, all the better, just set the scanner volume to a comfortable listening level and set the record level as needed for an intelligible recording.

The device comes with a 1/8th inch monaural jack. This will work fine with most battery operated portable recorders. If you are using any type of stereo recorder, you'll undoubtedly want to record both channels. A one channel recording, even on a tape that was blank to start with, is usually noisy and hard to understand when played back in stereo. Once again the needed adapters and splitters can be found at your local Radio Shack. An inexpensive mono to stereo splitter, with the appropriate adapters, will allow you to match up almost any combination of tape recorder inputs to the 1/8th inch monaural jack of this microphone.

Another option which has been tried with success is using a mono splitter from your scanner's external speaker or earphone jack and feeding one side to your tape recorder and the other side to an amplified speaker. Although this puts a load on the amplifier within the scanner, it is not enough to cause



The amplified speaker

damage to the scanner. The important part is the amplified speaker, use the volume control of the scanner to obtain a good record level with your tape recorder, then use the amplified speaker's volume control to increase the speaker volume to the level you need for good listening.

Monitoring Nets...

The above reference to the Radio Shack telephone microphone from my friend Curt was heard on our local Monitors Net. This net is an Amateur radio meeting held on repeaters operated by the Colorado Repeater Association. Run by the Mountain News Net organization, the net meets each Sunday at 8 PM on 147.225 and 224.98 in Denver. The net is also linked up with the 145.46 repeater in Boulder and the 145.16 repeater in Colorado Springs. Colorado readers are encouraged to monitor the net. If you're a licensed amateur, please check in. For those who aren't licensed, there are phone numbers which you can call with questions and comments. Your feedback to the net will be used the following week.

Look for other nets listed in *National Scanning* from time to time. If you're licensed and belong to a repeater group, you may wish to approach them about starting your own area Monitoring net. These nets help get the local changes to monitors and also help with equipment and interference problems. If you do start a local monitoring net make sure to let us know and we'll get the word out.

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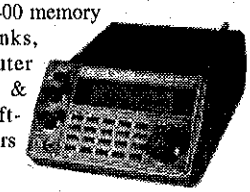
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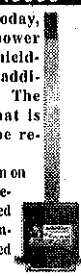


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Computer Interface for the AR8000

Unlike some of the European devices sold today, this unit is smaller, lighter, and makes no power demands on your receiver. With the extra shielding and smaller size there is less chance of additional interference leaking into your radio. The AR8000INF is also the only interface that is upgradeable for use with the optional Tape recorder controller due first quarter '95.

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Receive TV With Your BC-8500/2500

Mod House

BY STEVE DONNELL

TV Reception with the BC-8500

Here is something that may be a bit exotic, but it is very simple and can be a lot of fun. It will also take you away from what you may think of as typical scanning. You may already know that the BC-8500 can be tuned to receive the audio portion of some regular broadcast TV transmissions. It may not have occurred to anyone (myself included), that the design of the Uniden BC-8500 scanner lends itself very easily to be used as an effective receive converter for the video and audio signals from conventional broadcast TV (VHF and some UHF) channels, and even more interestingly, amateur television transmissions that exist in portions of the 430, 920 and even 1260 MHz Ham bands.

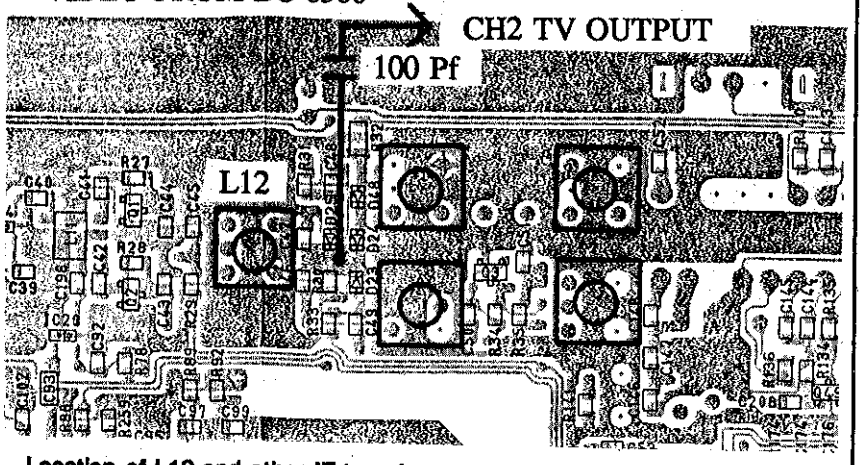
To understand how this can be done, you must understand the IF conversion sequence that takes place during operation of the BC-8500: The intended receive carrier frequency is first converted to a first IF frequency of either 250 or 500 MHz, depending on the particular frequency the '8500 is programmed for. This is then converted to a second IF with center frequency of 58.075 MHz, prior to being converted down even further to a third and final IF frequency of 455 KHz.

It is the second IF that is of interest to us here. 58.075 MHz is within the frequency band allocated for broadcast TV channel 2. It is very easy to tie into the second IF signal path within the BC-8500 in order to sample a portion of this signal, and couple it into the antenna connector of any regular TV receiver. Look at diagram 1. The second IF signal is picked off at the junction of C46 and C47 (directly adjacent to IF transformer L12), through a 100 pf capacitor. The other end of the capacitor is connected to an "RCA" or mini audio jack that can be mounted on the rear of the BC-8500's chassis.

You could install an "F" type connector through the back panel of the BC-8500, but this would require drilling a much larger hole. Be sure to drill the hole high enough up so as to not damage any of the components on circuit board. Also be sure to completely remove any metal filings that drop onto the '8500's PC board. If your TV uses the older style "twin lead" antenna cable you will want to attach a balun transformer onto the TV's antenna terminals, then connect an appropriate coaxial patch cable from the coaxial connector on the balun over to the IF signal output jack on your BC-8500.

Depending on how your TV tunes in different channels you will most likely want to first simply set the TV to channel 2. Then with your BC-8500, try and tune in the signal from any nearby VHF TV stations. Because you

Diagram 1



Location of L12 and other IF transformer outlines, and location of IF tap point

These modifications, like many modifications, are experimental in nature. The publisher of this magazine does not test the accuracy of this material and therefore takes no responsibility with respect to the information contained herein. All questions and comments should be addressed to the author at Box 360, Wagontown, PA 19376. Any modifications made to equipment are the sole and complete responsibility of the owner. Modifications are not recommended by manufacturers and invalidate the terms of your warranty. Use of equipment must be in compliance with federal, state and local ordinance.

are trying to receive both the audio and video carrier signals, you will want to set the BC-8500 on a frequency near the middle of allocated channel "band" for a given station. See table 1. For example, when tuning in the signal from a channel 9 TV station, I found the best reception occurred when I tuned for 188.075 MHz, about 1 MHz up from the allocated video channel. It may take some practice to get the tuning just right. Try adjusting the "fine tuning" control on your TV.

In using a small portable TV that used a channel tuning control which permitted me to "slide" in between channels, I found best reception occurred when I tuned just below channel 3, and tuned the BC-8500 for the allocated audio channel frequency of a TV signal.

TV Reception with the BC-2500

Since the BC-2500 portable scanner uses the same receiver IF architecture as the larger BC-8500, it is also possible to use a BC-2500 as a portable multiband down converter for various TV signals. To perform the second IF sampling tap modification start by removing the rear half of the scanner's cover by removing the two screws on the upper section of the rear of the case and two more under where the battery slides on. Then carefully lift the case off, by compressing along the sides of the case.

Examine the lower edge of the receiver PC boards, on the upper most board, along it's bottom edge, toward the center,you will notice a multi-pin inline connector. Slightly further to the right you will find a similar 2-pin connector.This 2-pin connector is where the 58.075 MHz IF signal can be tapped from. The pin to the right you will notice is tied directly to the ground plane of the scanner's PC board. The other pin to the left carries the "hot" IF signal. Attach a piece of miniature coax cable to the PC boards opposite the side where these pins are attached (coax shield can go to the grounded pin and the center lead to the IF "hot" pin).

The cable then needs to be terminated to any coaxial type connector that can be easily mounted through the scanner's case. Be sure to also include a 100 pf capacitor in series with the center lead of the coax at one of the cable. Your best choice of shielded connector for use with this is an audio "mini" plug. This can be mounted through the top of the case where the boot for the earphone and external speaker jack dust cover is located, along the top edge of the scanner's case.

Ham TV

After you get the feel for tuning in Broadcast VHF-TV signals you'll want to look around for some TV signals transmitted by radio Amateurs. There are several areas within 440 MHz Ham band commonly used for this purpose. Try checking around 420 -- 430 MHz and from 435 -- 442 MHz. Hams can also use frequencies in the 902 -- 928 MHz band and across 1240 -- 1290 MHz for sending video signals.

You should also be aware that the 902 -- 928 MHz band is also used by various low power transmitters known as "wireless VCR extenders". These devices let people watch something on their VCR, on a TV in a different room of their home. One product of this type is marketed under the name: "VCR Rabbit". A similar version of VCR/TV transmitter,that was banned by the FCC, transmits on frequencies in the 520 MHz area.

Choice of antennas to use for TV reception is not too important for initial testing with nearby TV stations. You may want to try attaching your BC-8500 to the lead in cable from your existing VHF TV antenna. When receiving the signal from some very local TV stations (under 10 miles or so distant), you may actually want to use only a very small whip antenna to reduce the strength of the receive signal into the BC-8500.

For best reception in the 430 MHz Ham band you may want to use a specially tuned beam antenna. Note that antennas used for Ham TV in some areas uses vertical polarization, and horizontal polarization in other areas.

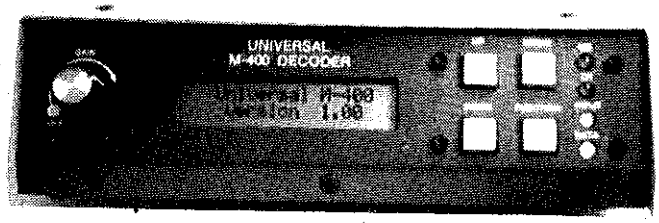
For best reception in the 900 MHz band try using a regular UHF-TV beam antenna. Or possibly try a simple whip meant for use with a cellular telephone. In several comparison tests, the overall reception performance of this modification, for the BC-8500, is at least on par with, or better than, the sensitivity of an ICOM IC-R7000 with it's factory designed video adaptor unit.

Table 1

VHF TV CH	Channels Band Assignment	Video Freqency	Audio Frequency
2	54 -- 60	55.25	59.75
3	60 -- 66	61.25	65.75
4	66 -- 72	67.25	71.25
5	76 -- 82	77.25	81.75
6	82 -- 88	83.25	87.75
7	174 -- 180	175.25	179.75
8	180 -- 186	181.25	185.75
9	186 -- 192	187.25	191.75
10	192 -- 198	193.25	197.75
11	198 -- 204	199.25	203.75
12	204 -- 210	205.25	209.75
13	210 -- 216	211.25	215.75

The Ultimate Accessory for Every Shortwave & Scanner Enthusiast

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Many early teletype listeners started their monitoring hobby with code readers. However, readers have fallen out of favor in recent years because of their limited performance, limited mode coverage and lack of features. The M-400 reverses this trend, providing a high quality demodulator, extensive mode coverage, state-of-the art display and parallel printer port. The Universal M-400 incorporates capability never seen in a reader before. It is the ultimate affordable accessory for the SWL and the scanner enthusiast.

The M-400 provides all the benefits of a reader, without the limitations. The M-400 is totally self contained; there is nothing else to buy. It is compact and operates from 12 VDC making it a natural for auto or boat installations. The two line liquid crystal display provides a (40) forty characters readout (not just 8 or 16 like other readers). This super-twist LCD can be read from any angle, and the front of the M-400 is sloped to provide the optimum in viewing and operating convenience. LED indicators for *Mark, Space, Input* and *Data* are provided. A gray, all-metal cabinet provides a solid look of quality. For the shortwave listener, the M-400 provides all the standard reception modes ... and then some.

- **SHORTWAVE MODES**
  - **Baudot,** the original RTTY mode, can be copied in all five speeds (45, 50, 57, 75 and 100 baud). Baudot is used by some press agencies and weather stations.
  - **SITOR A and B** are extremely popular teletype modes on shortwave. SITOR is used for communications between ships and coastal stations.
  - **FEC-A** is a new press-diplomatic mode gaining wide acceptance primarily in Europe. Extensive FEC-A traffic can be monitored in North America during the day.
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  - **ACARS** Stands for *Aircraft Communications Addressing and Reporting System.* This new aviation teletype mode is in wide use at most major airports. Extensive traffic can be copied from both nearby commercial airports and aircraft. The M-400 is the first unit to offer this capability.
  - **GOLAY** digital pager mode.
  - **POCSAG** digital pager mode.
  - **DTMF** decoding of all 16 DTMF digits.
  - **CTCSS (PL)** frequency decoding is also available. Read all 41 standard tones.
  - **DCS** (*Digital Coded Squelch*, also referred to as *Digital Private Line*) all 104 standard codes.

The M-400 has several functions that you can program. With the use of an optional speaker, the M-400 can be programmed to pass only the audio you want to hear! You can set the M-400 to only activate the speaker when it receives a CTCSS, DCS or DTMF code of your choosing. The M-400 comes with an instructive *Owner's Manual* and a wall adapter that provides 12 VDC. Note: For accurate DCS and PL reception, direct connection to the receiver's discriminator may be required. One year limited warranty. Manufactured in the U.S.A. by Digital Electronic Systems. The M-400 is *the* affordable accessory for every shortwave or scanner enthusiast. Available now for only **$399.95** (+$6). Order *#0400.*

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  45, 50, 57, 75 and 100 baud.
- **SITOR A**
  ARQTOR, Amtor A
- **SITOR B**
  FECTOR, Amtor B, NAVTEX
- **ASCII**
  75, 110 and 150 baud.
- **SWED-ARQ**
  3, 9 or 22 character groups.
- **FEC-A**
  96, 144 and baud.
- **Facsimile (FAX)**
  120 LPM 576 IOC
- **POCSAG**
  Digital pager mode.
- **GOLAY**
  Digital pager mode.
- **ACARS**
  VHF Aviation teletype mode.
- **DTMF**
  16 digits
- **CTCSS (PL)**
  41 standard frequencies
- **DCS (DPL)**
  104 standard codes

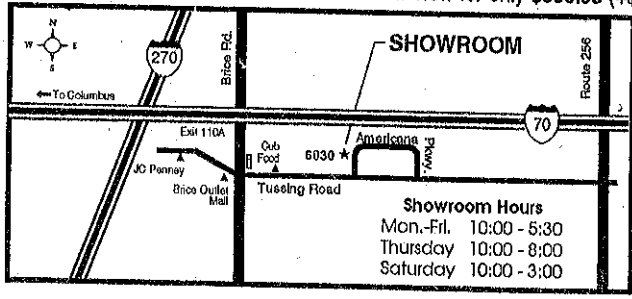
SPECIFICATIONS

Dimensions	8.75"W x 2.5"H x 8"D
Weight	2 Lbs. (5 Lbs. ship with PS)
Display	LCD two line 40 char. total
Filter Tones	Low tone (mark = 1275 Hz) Fixed: 170, 425 and 850 Hz Variable: 100 - 1000 Hz
Power	11-16 VDC @ 200 ma AC wall adapter included.
Speaker Input	4-16 Ohms 100 MW max Mono mini jack (1/8")
Discriminator Input	10K Ohms .25V max Mono mini jack (1/8")
Speaker Output	Mono mini jack (1/8")
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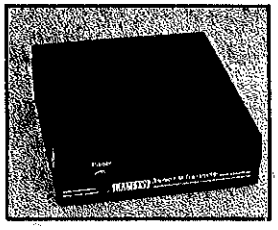
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New Products Preview

By Larry Miller

R120 Aircraft Band Receiver

Hamtronics has produced a high-quality crystal controlled VHF aircraft band receiver with excellent sensitivity of 0.2 uV. The unit consists of two PC board modules: an IF board and a VHF converter board that are easy to assemble and align. The R-120 is only $99 for the kit or wired and tested for $219. A channel crystal is $12. Interested? Write Hamtronics, Inc., 65-F Moul Road, Hilton, New York 14468-9535 or call 716-392-9430 for more information, a complete catalog of VHF/UHF transmitters, receivers, repeaters, converters, preamps and accessories, or to order.



Remote Control Your Scanner

As the weather gets nicer, a lot of us will be spending more and more time outdoors, working around the yard, cutting the grass. That doesn't mean that we cant still listen to the scanner. The FM 10A hooks to the earphone jack of your scanner and actually broadcasts the scanner's audio so that it can be picked up on any regular FM radio within a roughly 1/4 mile range. The FM10A is, in essence, a little FM radio station that can be used to broadcast virtually anything you want. It comes in an easy-to-build kit form that takes about an hour to put together. The price is $49.95 plus 4.50 UPS. You can order yours from DX Radio Supply, Box 360, Wagontown, PA 19376. For questions, call 610-273-7823. To order, call 1-800-753-2060. Incidentally, Ramsey has just released a new deluxe version of the FM10A with PLL synthesized frequency control for better stability. It retails for $129.95 and is also available from DX Radio Supply.

American Railroad Radio Frequencies

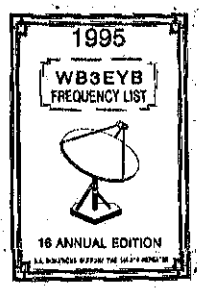
The new 13th edition of rail scanning's "bible," *The Compendium of American Railroad Radio Frequencies*, is now available. The book is arranged by railroad type – Railroads of the United States and



Canada Industrial Railroads, Transit Systems and Museums and Tourist Railroads. Under each heading, the railroads are listed alphabetically, complete with frequency, location and usage information. The compendium of American Railroad Radio Frequencies is 200 pages and is available for $16.95 plus 4.50 UPS from DX Radio Supply, Box 360, Wagontown, PA 19376. The order line is 800-753-2060.

Pennsy Frequency List

The best frequency books come directly from the printers of hobbyists. When you combine a hobbyist with a Police radio communications specialist, you've got an unbeatable combination. Tim Shingara, with the Pennsylvania State Police Communications Division, has compiled a booklet called the *"WB3EYB Frequency List."* According to the cover, this is the 16th annual edition. My only question is: why haven't we seen this before? Shingara presents the info that area scanner listeners need with no fanfare. You get frequencies and lots of them, in order from 30 MHz straight through to 960 MHz. This allows a listener to simply look up and identify the frequency he hears quickly. The 5-1/2 x 8-1/2 inch booklet is the perfect resident next to your base scanner or along for the ride with your handheld. To order, send $4.00 plus $2.50 shipping and handling to Tim Shingara, 2857 Rumson Drive, Harrisburg, PA 17104. Tell him that Larry Miller said "hi!"



WINDOWS Control for Scanners

San Diego-based Radio Control Systems, Inc. has introduced ScannerWEAR SoftControl 1.3. The software allows WINDOWS control of your OptoScan456/535 enhanced PRO-2005/6, ICOM R7000/R7100, or AOR 3000/3000A scanner. Some of the great features include memory banks with 100 channels per bank, search ranges including frequency, step, mode and description, data logging to a file with date and time stamp, signal strength, ton and number of hits, spectra analysis, provisions for CTCSS and DCS controlled scanning with Opto 456/535, birdie control file, unlimited file size, and the ability to import the PerCon FCC database. The RCSI ScannerWEAR SoftControl 1.3 is $99.00 plus tax and shipping from RCSI, 8125-G, Ronson Road, San Diego, CA 92111 or call 800-560-7234.

Which Way Did He Go?

Tracking radio signals can be a tough job, but with the right radio direction finder, it can become a whole lot easier. Radio Engineers has introduced their Vector-Finder series of VHF radio direction finders. The Vector-Finder series provide compact, light-weight, active antenna, suitable for use with handheld transceivers and scanners. The design allows for easy stowing for transport in any vehicle. All units operate on the phase-shift technique and interface with any FM receiver or transceiver via the antenna jack and earphone jack. Several models are available, ranging from the $139.95 VF-142 covering 144-230 MHz with audible response only, to the $289.95 VF-142Q covering 144-500 MHz with audible and LED left/right direction indicator. Interested? Detailed specification

sheets are available for the Vector-Finder series. Contact Radio Engineers, 7969 Engineer Road, Suite 102, San Diego, CA 92111 or call (619) 565-1319.

Keeping Dry

You've hit the beach and are ready to slip on your snorkel, but you don't want to leave your scanner or ham transceiver on the beach. And you certainly don't want them to get water logged. What do you do? You get Magellan's Water Pocket, a leak-proof waist bag that keeps water out down to 130 feet. It's $11.85 plus shipping or $15.85 plus shipping for the larger Watch Pouch. For more information, a catalog or to order, contact Magellan's, Box 5485, Santa Barbara, CA 93150-5485 or toll-free 800-962-4943.

Scanning Luxury

If you've been scanning any amount of time, you can't help but be amazed at the sheer technonological sophistication of today's radios. Radio that carry this level of near artistry -- not to mention price -- deserve more than your respect. They deserve your loving care. Howard Bornstein understands this and, witvh the hand of a true craftsman, has custom designed sturdy leather cases for several of the leading scanners of the day. If you have an AOR AR1000, Fairmate HP-100, 200, or 200, a Yupiteru MVT-7100, or a PRO-39, 43 or 44, you're in luck. Howard's cases will fit your radio like a glove, offering it a level of protection unparalleled in the hobby. Check it out for yourself. The cases retail for $29.95 plus $2.00 shipping. You can get more information -- or order -- by contacting Howard at his firm, Design EQ, Box 1245, Menlo Park, CA 94025. You can also call or fax Howard at 415-328-9181. Tell him that you heard about his cases in NalScan.



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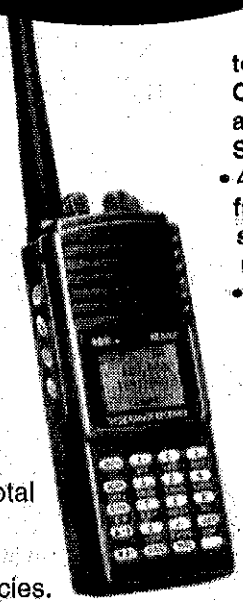
AR 8000

The New Concept - AR8000 shocks the market. AOR made every effort to incorporate the latest technology in to this new scanner.

• SPECIFICATIONS •

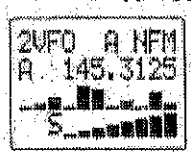
- **Range:** .5 - 1900MHz usable to 100kHz
- **Modes:** AM/NFM/WFM/USB/LSB/CW
- **Stepsize:** 50Mz to 999.995kHz
- **Sensitivity(μV):** 30 to 1000MHz **SSB** .2 **AM** 1.0 **NFM** .35 **WFM** 1.0
- **Filters:** (kHz) **SSB** 4 **AM/NFM** 12 **WFM** 180
- **Memories:** 50 ch. x 20 banks=1000 total
- **Size/Wt.:** 6.1 x 2.8 x 1.6 inch. 20 oz. batt. incl.

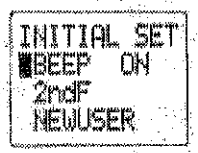
* Cell blocked for all, but Approved agencies.



- Covers .5-1900MHz*
- Ferrite Rod antenna below 2MHz
- Only portable scanner on U.S. market to have true SSB, both LSB & USB. Others attempt SSB using a BFO, but are difficult to tune and produce poor SSB audio.
- 4 level alpha numeric LCD read out frequency, mode, signal strength, band scope spectral display, battery low, remote and more
- Computer control up/down load data, will add a new dimension to the world of scanning.
- Clone your memory banks with a friend, load 1000 memory channels in seconds

.1 - 1900MHz*





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SDU 5000

NEW



The Spectral Display Unit adds a new dimension to the signal interception hobby. Imagine seeing stations above and below your receiving frequency. Usually the transmissions are short, perhaps 1 or 2 seconds. What are the chances of you being tuned to the exact frequency at the instant of transmission? Very slim. With an SDU you can watch for stations to pop up over a 10MHz window, then zero in. The SDU 5000 offers features unheard of only a year ago.



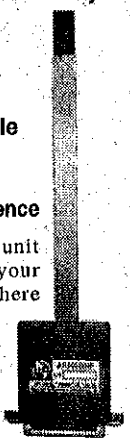
Δ Frequency coverage up to 10MHz Δ **Display** - 3.1" HQM Simple matrix color LCD Δ **Resolution:** 5 or 30kHz selectable Δ **Input:** 10.7MHz Δ 50dB Dynamic range Δ Screen refresh 2/s Δ Composite video out Δ Full computer control Δ Video output NTSC or Pal display, on TV or record on VCR Δ RS232 9600bps Δ Instant receiver set from cursor via RS232 Δ Store image on disc or your video recorder Δ Menu driven system makes SDU5000 simple to operate Δ SDU5000 is designed to work with the AR3000A (modified with a 10.7MHz output) using RS232 link with or without a computer. Other receivers with 10.7MHz IF output but digital linking may not be straight forward.

AR8000 Interface



Computer Interface for the AR8000

- Δ Low Power, powered by your serial port
- Δ No Drain on the batteries in the radio
- Δ Light weight, perfect for Laptop use
- Δ As small as a DB-25 Connector
- Δ Hi-Tech Surface mount design for reliability
- Δ 100% Shielded cable to receiver for reduced interference
- Δ PC Software included for Windows and DOS
- Δ Manual included
- Δ Detailed Programers documentation available
- Δ Designed and Manufactured in the USA
- Δ Optional 100% shield computer cable from AR8000INF to computer for reduced interference



Unlike some of the European devices sold today, this unit is smaller, lighter, and makes no power demands on your receiver. With the extra shielding and smaller size there is less chance of additional interference leaking into your radio. The AR8000INF is also the only interface that is upgradeable for use with the optional Tape recorder controller due first quarter '95.

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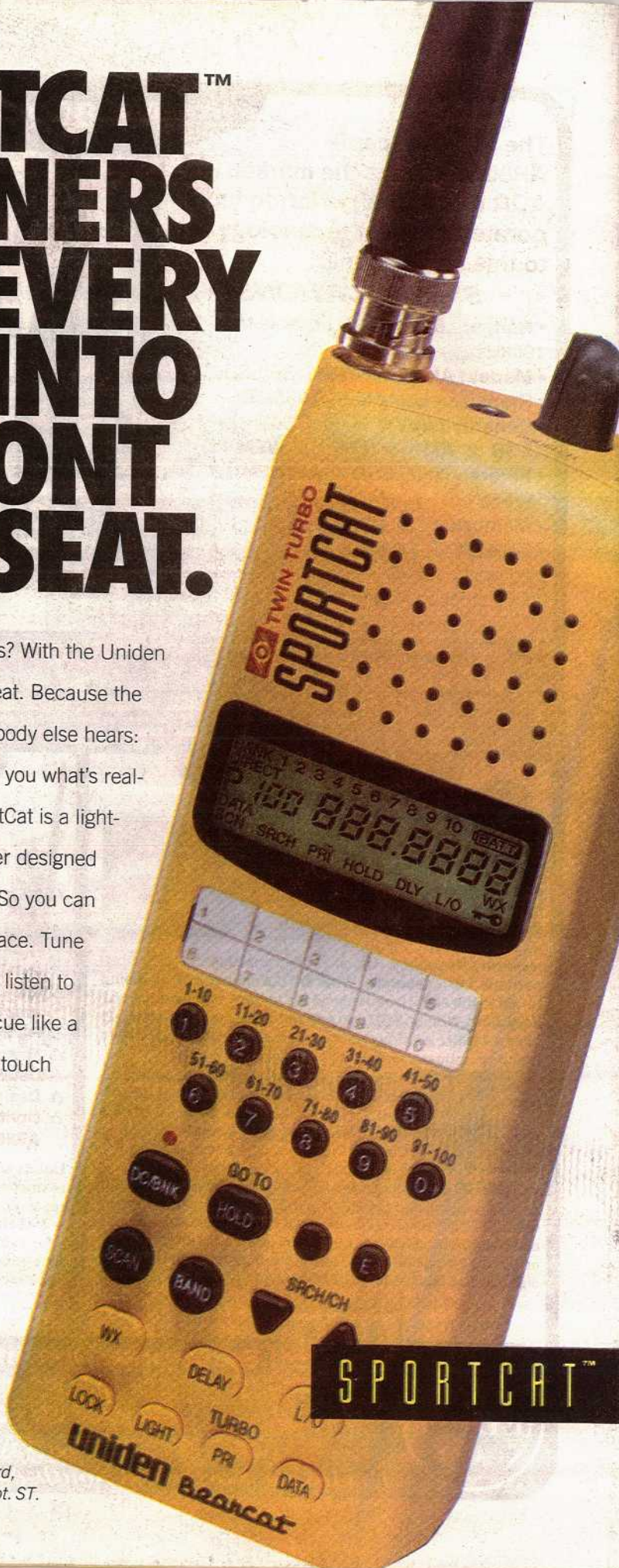


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Got a cheap ticket. Who cares? With the Uniden SportCat, you still get a great seat. Because the SportCat lets you hear what nobody else hears: the radio transmissions that tell you what's really happening. The Uniden SportCat is a lightweight, easy-to-program scanner designed specifically for sporting events. So you can jump from pit to pit at an Indy race. Tune into the pilots at an air show. Or listen to police, fire, emergency and rescue like a conventional scanner. All at the touch of a button.



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