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Established 1984

NEW WEATHER RECEIVER

From: Ken Wood <w00dy65@yahoo.com>

Just an FYI,

I just bought an EAS handheld NOAA Wx radio that is really nice.

- >It has all sorts of Bells & Whistles
- >7 Wx channels
- >EAS Alert (Beeps) w/auto power-on
- >Temp display
- >Time/Date/Alarm/Snooze
- >Freeze Alert Warning (Beeps)
- >Compass
- >LCD w/back light and more!

This little radio is made by Oregon Scientific, I paid \$40.00 and it's very portable and very handy for spotters or anyone who wants to stay on top of severe weather. You can see it on their website <http://www.oregonscientific.com>

FOLLOW THAT FLIGHT!<http://www.thetrip.com>

In a past issue I mentioned an Internet service called "The Trip" that allowed you to track a flight in real time. After playing with this for a bit it reopened some interest in monitoring the air bands. My wife happened to be traveling to Nassau in the Bahamas so I decided to see how far I could follow the flight enroute. While the frequencies for most airports are readily available, each frequencies actual use is not often spelled out. I decided to ask the maven, sometimes scanner net participant / piolet / amateur radio operator Roger, K2JAS. SO what are the frequencies that a piolet uses from the moment he begins his roll out? Over the exchange of several e mails here's how the scenario goes at Newark Airport.

"Before I move the aircraft on the field (or before I get close enough for landing) I should have obtained the terminal weather (weather on this particular field). One does this by dialing in the ATIS frequency (Automated Terminal Information System). For Newark Airport: **115.7 Mhz**. Arriving flights 134.825 Mhz. Southerly Arriving flights 132.45 Mhz. Departing flights. Bt telephone at 624-6463.

This weather and field information is changed frequently and each change is given a sequence letter. "I have information Bravo" means the pilot has listened to the second update.

Then the pilot will probably call Newark Clearance Delivery on **118.85** Mhz. He has previously filed his flight plan (or his office has done it for him) and this details the coded VOR's (three letter identifiers for the navigation VOR's he'll navigate to along his route... ie. EWR (Newark), COL (Colts Neck), ACY (Atlantic City.) The route of flight may also go past way points in the sky that are code named with five letter names such as WALLO INGAS MELBA etc. He may also use Victor airways such as V1 or V1/135 as routes between VOR's. And, of course he may go "direct" via GPS or inertial navigation. Each point in his flight plan is spelled out in the Clearance he receives. These clearances may differ from the ones he's filed or requested because a computer sees a conflict with another aircraft being at the same place at the same time. Either way... he must be prepared to copy the entire clearance verbatim and read it back!

Then he will switch over to Newark Ground Control who will issue him a set of taxiing instructions, taxiways to use, turns to make and where he must "hold short of." He MUST read back all HOLD SHORT instructions. This means that if he is told to "hold short of runway 22 Left he must not enter onto that runway unless he's cleared to do so. There are special lines painted on the taxiways that will tell him he may or may not cross here without permission. Fortunately, most airliners now are equipped with voice recorders that copy this information as it's being sent.

Once he is "CLEARED TO TAXI" he follows the taxi instructions and goes to the designated runway and gets in the cue to wait his turn to take off. At this point he switches to the tower frequency for Newark Tower either **118.3** or **134.05** Mhz. Ground Control will probably tell him the frequency to use.
<Editors Note: 118.3 seems to be the more commonly used frequency>

At some point he will be CLEARED TO TAKE OFF. Having done so he will be told to contact New York Departure Control on **119.2** Mhz. which is a remote operation to some other location. Listen carefully as the control operators on 119.2 will tell each aircraft which frequencies to switch to. This procedure will generally repeat itself throughout the trip.

Arrivals, as far as I know are handled by Approach Control. Aircrafts that are inbound contact Approach control and state their intentions.... ie. landing Newark, transitioning Newark's Class B control zone... etc For flights approaching Newark from 90° clockwise around to 240° listen to **128.55** Mhz. Flights approaching from 240° clockwise to 270° [a much smaller window of approach] use **135.35** Mhz.

NY Center, if I'm not mistaken is the entity that only controls ENROUTE TRAFFIC... away from all the major terminals. There are only few facilities like NY Center for the entire country... which is remoted from, I believe, Islip, LI. NY at MacArthur Airport. They used to be located at Hangar 11 at Kennedy way back when I was a kid.... and I would visit the place at 3-AM when I couldn't sleep... always being assured that someone was on duty and bored out of his skull enough to spend some time chatting.

I also show a frequency for Newark Radar on 127.85 Mhz. and Departure Delivery on 118.85 Mhz. These frequencies are listed for VFR Arrival and Departure Routes. VFR is Visual Flight Rules.... meaning "see and be seen" with specified distances from clouds.

Some Additional Info

Anytime a flight takes place above Flight Level 18..... 18,000-ft.- it MUST be IFR or following Instrument Flight Rules.... which requires controllers to provide vertical and horizontal separation of all aircraft. All those aircraft will probably be in positive radar contact along the entire route of their flight. VFR aircraft will never fly above FL 18. They can be IFR below of course. VFR aircraft can request Flight Following from approach controllers and be given advisories as to proximity of nearby aircraft.... but no mandatory sequencing and separation....and then only on a workload permitting basis.

However, when an aircraft is within a Class B control area, such as surrounds Newark, LaGuardia and Kennedy the aircraft MUST receive special clearance to enter the control zone and then once

inside, must be given separation and sequencing! Those aircraft must also have a transponder and a blind altitude encoder. The controller will tell the pilot to "squawk 5126 and Ident." This means that he must dial in the numbers 5126 on his transponder and when he presses his Ident button... his blip on the controllers radar screen will bloom. It will also show his ID number 5126... which is different from all other aircraft and of course it will also show his altitude.

There's probably a little more I haven't covered.. but then again... I only learned this stuff in the last few months and it's still new to me. It is fascinating however. Please understand that I would rarely use this information since I generally stay out of Class B areas or I fly under or over them. They are shaped like upside down wedding cakes and extend up to 7,000-ft in our area and are 30-km in diameter. It's all rather complex business but it does run rather smoothly... once one knows what's going on.

Comments from the Editor!

So using this information I was able to track my wife's flight till I lost them approaching Washington Center! The return flight was a bit more interesting. I arrived at Newark airport about half an hour before the scheduled arrival. Listening to "approach" on 128.55 I first hear her flight about 20 miles south of the airport. At 14 miles the American Airlines flight right behind her declared an Emergency and everything went wild. To explain the impact of such a declaration let me include some of Roger's comments at this point.....

"When a plane declares and "EMERGENCY" it has the right of way over every single aircraft in the sky! The pilot gets to call all the shots and everyone else is just to give whatever assistance they can. It's an awesome thing. Consequently, pilots are really loathe to use the "E" word unless it's ABSOLUTELY NECESSARY! The paperwork can be daunting to explain what happened. Diverting other flights and gearing up emergency personnel is VERY VERY EXPENSIVE. No one uses the "E" word lightly. Sometimes pilot's will declare as "situation" or ask for a "priority clearance" without being too specific. I don't know too much about this stuff as I'm still learning. It's all very interesting."

US CIVIL AIRCRAFT FREQUENCIES

108.000-117.950: VHF omni-range

108.100-111.950: ILS localizers

118.000-121.400: Air traffic control (towers/centers)
121.500: Civilian aircraft emergency
121.600-121.925: Ground control (25 kHz spacing)
121.950: Flight schools
121.975: Flight service stations (private aircraft)
122.000: Flight service stations (national flight watch-private aircraft)
122.025: Flight service stations (private aircraft)
122.050: Flight service stations (aircraft transmit)
122.075: Flight service stations (private aircraft)
122.100-122.675: Flight service stations (private aircraft transmit)
122.700: Unicom (uncontrolled airports)
122.725: Unicom (uncontrolled airports-private aircraft only)
122.750: Unicom (private air-to-air fixed wing)
122.800: Unicom (uncontrolled airports)
122.825: ARINC/Airline company frequency (aero enroute)
122.850: Multicom/NOAA severe storms study aircraft/U.S. Forest Service helicopter operations
122.875: ARINC/Airline company frequency (aero enroute)
122.900: Multicom/U.S. Coast Guard search and rescue/U.S. Forestry Service fire cache air operations/Numerous government agencies and military services
122.925: Multicom (plane-to-plane)/NOAA severe storms study aircraft/NASA research aircraft / National Park Service aircraft / Numerous government agencies and military services
122.950: Unicom (controlled airports)
122.975: Unicom (high altitude)/U.S. Forest Service air operations
123.000: Unicom (uncontrolled airports)
123.025: Unicom (helicopters/air-to-air)/U.S. Forestry Service helicopter (helispot) operations
123.050: Unicom (heliports)/NOAA severe storms study aircraft/U.S. Forestry Service helicopter (helispot) operations.
123.075: Unicom (heliports)/U.S. Forestry Service helicopter (helispot) operations
123.100: U.S. Coast Guard/Civil Air Patrol search and rescue
123.125: U.S. Air Force NAVAID flight check
123.125-123.475: Flight Test (Itinerant:
123.125/150/175/400)
123.200: Flight schools
123.300: Flight schools/balloons
123.400: Flight schools
123.450: Multicom (air-to-air informal)
123.500: Flight schools/balloons

123.525-123.575: Flight Test (Itinerant: 123.575)
123.600-128.800: Air traffic control (towers/centers)
126.200: U.S. military control towers / ground controls
128.625: NASA/NOAA research frequency
128.825-132.000: ARINC/Airlines company frequencies
132.025-135.975: Air traffic control (towers/centers)
 134.100 Military airports (ground controlled approach radar)
135.850: Federal Aviation Administration/U.S. Air Force/U.S. Army NAVAID flight inspection
135.950: Federal Aviation Administration/U.S. Army NAVAID flight inspection
135.975: U.S. Forestry Service air-to-ground (wildfires)
136.000-136.075: Air traffic control operations
136.100: Reserved for future unicom or automatic weather observation stations
136.125-136.175: Air traffic control operations
 136.200 Reserved for future unicom or automatic weather observation stations
135.225-136.250: Air traffic control operations
 Reserved for future unicom or automatic weather observation stations
136.300-136.350: Air traffic control operations
136.375: Reserved for future unicom or automatic weather observation stations
136.400-136.450: Air traffic control operations
136.475: Reserved for future unicom or automatic weather observation stations
136.500-136.875: aeronautical enroute (domestic VHF)
136.900-136.975: aeronautical enroute (domestic/international VHF)

NY STATE SCANNER LAW

Section 397 - New York State Vehicle and Traffic Law. The following is the complete text of section 397 of the New York State vehicle and traffic law. This section governs the use of mobile scanners in motor vehicles. Following the statute is a brief summary of the case law relevant to this section.

This text is from McKinney's Consolidated Laws of New York Annotated.

397. EQUIPPING MOTOR VEHICLES WITH RADIO RECEIVING SETS CAPABLE OF RECEIVING SIGNALS ON THE FREQUENCIES ALLOCATED FOR POLICE USE.

A person, not a police officer or peace officer,

acting pursuant to his special duties, who equips a motor vehicle with a radio receiving set capable of receiving signals on the frequencies allocated for police use or knowingly uses a motor vehicle so equipped or who in any way knowingly interferes with the transmission of radio messages by the police without having first secured a permit to do so from the person authorized to issue such a permit by the local governing body or board of the city, town or village in which such person resides, or where such person resides outside of a city, or village in a county having a county police department by the board of supervisors of such county, is guilty of a misdemeanor, punishable by a fine not exceeding one thousand dollars, or imprisonment not exceeding six months, or both. Nothing in this section contained shall be construed to apply to any person who holds a valid amateur radio operator's license issued by the federal communications commission and who operates a duly licensed portable mobile transmitter and in connection therewith a receiver or receiving set on frequencies exclusively allocated by the federal communications commission to duly licensed radio amateurs.

GPS - A CLOSER LOOK

A few issues back we reviewed a number of current GPS receivers. I actually got quite a few favorable comments from readers who were toying with the idea of purchasing one. Prices are falling and the number of new features added seem to increase with each product generation. There's a definite method to my madness, so try to stick with me as tell my story!

After reading the article, Dave, WI2Q offered to let me borrow his Garmin GPS III. As tempted as I was, I didn't take him up on his first offer as I really didn't have the free time to play with it as extensively as I would like to. Be that as it may, Dave assured me that his offer was always there should I change my mind. About this time responsibilities in my personal life were eating away at any free time I had. Aside from several long term projects my son had at school, my wife's uncle passed away suddenly. As he enjoying the sea, boating, and fishing he requested that his remains be scattered at sea so the task of arranging that part of the memorial services fell upon me and my wife. Learning of his death and last wishes, my sister mentioned that she worked with a member of the US Coast Guard Reserve who had participated in a burial at sea. Placing just one call, I discovered that Coast Guard

Group Sand Hook was more than happy to assist the family. After the paperwork and a few formalities were completed, the family, escorted by the USCG would be able to come to closure with this unfortunate event. I might sound a bit morbid, but I really wanted to know the exact spot where her uncle would be laid to rest.

By now you probably figured out the next step.... I got on the phone and called Dave, explaining my new found interest in GPS. The next day I met Dave and he gave me the crash course in GPS use. I was amazed how simple it was. And despite the fact that we were inside the car we could still receive 5 satellites! This was a far cry from the Panasonic unit I played with several years ago that acquired 2 satellites in about 10 minutes! Graphically, the GPS III displayed the sky position of each satellite and their respective signal strength in real time. It should be noted that the number of satellites and their relative positions changes constantly relative to any position.

Aside from the normal latitude and longitude, the Garmin GPS III provides a visual map that include some of the larger streets in most cities. Add to this, 500 way points, a real time compass and a computer interface and you've got an instrument that Christopher Columbus would have sold one of his ships for!



After using Dave's GPS down at Coast Guard Group Sandy Hook, I was hooked! Returning home I visited Garmin's page and discovered that the GPS III was updated to the GPS III+. Two major improvements include a battery saver mode and the ability to upload street level detail from an optional CD. I placed the order and had the new GPS III+ in my hands in just a few days. I also managed to

obtain an evaluation copy of the CD. The GPS III+'s street level capability is limited to an additional 1.5 mb of data that is uploaded from the CD to the III+ via the computer interface cable that is included with the receiver. On the GPS III, the cable was optional. While 1.5 mb of additional data might not sound like much, I was able to upload all street info for Bergen, Hudson, and Passaic counties with about 450K to spare. And yes, it's street level! Major buildings, such as schools, churches, hospitals and police departments are all noted. You can also use the GPS III+'s menus to navigate you to the "closest (any of the above)." While driving, if you happen to travel outside the area supported at street level, the surrounding area do not display any detail. To return to normal operating mode you need only select the map key and turn off the "map source" option.



I'm including a few pictures I received, courtesy of USCG member Bob Heinzmann, my contact that aided in the plans for the burial at sea. My family and I were lucky enough to get a ride on one of their newest boats, fully equipped with the latest electronic goodies! So the next time you're in the area of 40' 26.71 N 73' 52.37W stop by and say hello to Uncle Walter!

ONE STOP RADIO SOFTWARE DL AREA

<http://www.flink.com/users/unholey/software/software.htm>

Looking for the latest version of MDT, Radio Manager, or other radio related software? Check this site out... it's certainly a great place to start looking!

Here's another interesting software page called "Goran Vlaski's Software Page." Check it out at <http://www2.crosswinds.net/frankfurt/~vlaski/>

Black Cat Systems - Radio Software for your Mac

<http://www.blackcatsystems.com/>

NEW SPEECH INVERSION PROGRAM

<http://www.lpc.com/download.html>

Available for download is a real-time Speech Inverter system for Windows 95 or Windows NT and a full-duplex sound card. The inversion point is variable. Usually, it would be used in conjunction with a mixer control, such as the mixer that comes with Windows, to mute the passed-through audio so that the processed audio can be heard clearly. Connect the phone/tape output of the radio to the mic/line-in input of the sound card. An attenuating cable may be necessary, especially if the radio's audio is connected to the microphone input of the sound card. These can be found at your local Radio Shack. When you want to decode an inverted signal, start the inverter. Adjust the slider until the audio is understandable. Mute the mic / line-in input on the mixer control to remove the unprocessed signal.

KOSOVO RELATED MILITARY FREQUENCIES

WBFM w/SSB sub-carriers: 230.650 and 264.600
NJANG and USAF off NJ coast: 233.6, 255.0, 286.2, 364.2, 381.6

HF

11.175 (Z175) Pri., 10.204 (Z190) Secondary, 8.968 & 11.267 w/EAMs (in parallel)

Also.....

4.732, 6.739, 7.651.6, 7.831, 8.992, 9.016, 10.780
11.271, 13.907

And while we are in this part of the world, lets not forget that shortwave can provide window to Yugoslav action.

You don't have to tune very far from the amateur HF bands to find different perspectives of the current crisis in Kosovo. NATO air strikes against Yugoslav targets resumed March 26, and many overseas correspondents have been expelled from Yugoslavia by the Milosevic regime.

Larry Magne, editor-in-chief of International Broadcasting Services Ltd which publishes Passport to World Band Radio, says Voice of Russia World Service, Radio Tirana, Radio Yugoslavia, and the BBC World Service offer a variety of points of view on the current happenings in the Balkans. International Broadcasting Services keeps an ear on world shortwave broadcasts from its primary monitoring site in Paraguay.

"Voice of Russia is interesting because they've sort of taken up the Serb cause," Magne explained. "In a way, their reaction is more important because they have some clout." Radio Tirana, from the Albanian capital, supports the other side of the conflict in which ethnic Albanians in Yugoslavia seek some degree of independence, while Radio Yugoslavia will offer the perspective of the Milosevic regime. Magne said it's hard to beat the BBC World Service for a more neutral position.

Magne said he considered it a bit odd that Radio Yugoslavia, with powerful transmitters installed under the Tito regime, still was on the air as of March 25, but IBS monitoring indicated the station was active on 7115 kHz 0100-0130 UTC. The shortwave station is "typically, the first thing they go after" when bombing, he said.

Voice of Russia and Radio Tirana both can be found evenings within the amateur 40-meter band (the 41-meter international broadcasting allocation). IBS monitored Radio Tirana on 7160 kHz between 0245 and 0400 UTC. Russia is available on 7125, 7180, and 7250, as well as other frequencies. IBS has monitored Voice of Russia on 12,000, 12,020, 12,040, and 15,595 kHz during the last 24 hours. Magne said the economic crisis in Russia has made that country's international broadcasting schedule a bit more unpredictable than in the days when it was known as Radio Moscow.

Magne says 5975 kHz is the best spot for the BBC World Service. Croatian Radio also has been heard evenings on 9925 kHz.

"Radio France Internationale, Radio Free Europe / Radio Liberty, and others are adding transmissions to the Balkans, so it is not inconceivable that some of the international broadcasters with access to large transmitting facilities may add frequencies because of the Balkan situation," Magne said.

Radio B92 (92.5 MHz) in Belgrade has been shut down by the Yugoslav government but has attempted to continue to broadcast via the Internet to avoid possible censorship. IBS says it has an unconfirmed report that the independent Radio B92 will be rebroadcast on shortwave to Yugoslavia and much of Europe. "The shortwave broadcast supposedly will operate this weekend from 0700 UTC (Saturday March 27) on 11415 USB," Magne said. "This reported transmission would appear to be

via the facilities of an existing Western European hobby pirate station, probably using a modified ham rig and thus at very low power."

B92's Web site,

<http://www.b92.net/>

, does not mention a shortwave broadcast. The site offers English-language broadcasts, but these generally have been unavailable since the bombing began. The Web site suggests listeners try the Real Broadcast Network if they experience problems. Magne confirmed that Radio B92 Web service has been intermittent but said the station was managing to get through using telephone lines to feed its audio. The Web site also provides news in English and Serbian.

B92 also has been distributing audio files of its news bulletins in Serbian at

<http://www.webactive.com/webactive/events/b92/b92live.ram>

or

http://www.xs4all.nl/~opennet/audio/live_feed.ram

These have been intermittently available the past week, but service is spotty and disconnects frequent.

SPRING SUMMER SHORTWAVE UPDATES By "R"

Belgium, Radio Vlaanderen airs a 25 minute English broadcast to N America on 15.565 at 2230 UTC and again at 0400 UTC.

Radio Bulgaria from Sofia can be heard in English to N America from 2300-0000 UTC and again from 0200 - 0300 UTC on 9.400 and 11.720

HCJB, Quito Ecuador seems to be using the same frequencies as their previous schedule. They can be heard throughout N America on 15.115, 12.005, 11.21.455 USB. In addition their morning schedule seems to have been extended to 1630 UTC (1100-1630)

Radio YLE from Finland can be heard in English to N America from 0330 - 0400 UTC on 9.845. On Monday's you can also hear them on 11.985

KBS from South Korea offers a 30 minute broadcast to N America in English via their Canadian Relay. Check out 9.650 from 1100 - 1130 UTC

Radio Sweden from Stockholm offers a 30 minute broadcast to N America on the following frequencies as noted....

1130UTC on 18.960 and 21.810
 1330UTC on 15.240
 0230UTC on 9.495
 0330UTC 9.495 and 12.060

Radio Yugoslavia airs a 30 minute broadcast to N America at 0100 UTC on 9.580 (Mon - Sat). This is repeated to the West coast at 0530 on the same frequency.

WBCQ, Monticello Maine, 7.415 has been airing lots of Jean Shepards older material from his NYC radio days at about 4:30 daily. WBCQ signs on at 4:00 pm local Eastern time.

LAST MINUTE KOSOVO INFO!!

Actual HF Military Loggings During the Kosovo War!

11300 KHz HOT FREQUENCY! Serbia Fighters, Also weak English transmission in very excited voices 3/27/99 Submitted by Enea Colzi in Italy but was also copied here in Lancaster, PA, USA

6912KHz French AirForce Between France & Italy. Main Call is "CIRCUS VERT", planes using COTAM xxxx callsigns 3/27/99 Anonymous Source

11239KHz BRAVO BRAVO talking to DUMBO DUMBO seems to be either a bomber or tanker. 3/27/99 Submitted by Enea Colzi in Italy

11245, 11175, 6959, 3930KHz Air Traffic around Camp Darby & PISA Bases. 3/25/99 Submitted by Enea Colzi in Italy

11243KHz Gibralta FlightWatch giving aviation weather for Italian Military Bases. (Italy is less then 100 miles from Kosovo) 3/25/99 Submitted by Ken Taylor

4742 KHz UID station calling Architect (Royal Air Force) with code word "Miller Time". 3/25/99 Submitted by Ken Taylor

5325, 6729 & 6773 KHz NATO frequency I hard some week sigs on, English but couldn't make out what was being said. 3/25/99

11267 & 11175 KHz Heard lots of stuff here. At 1935 UTC broadcasting long EAM's (About 1 hr after

the WAR Started!) 3/24/99

11230 KHz Traffic Heard but nothing strange. 3/24/99

11233 KHz Traffic Heard but nothing strange. 3/24/99

18006 KHz ANDREWS at 1825 UTC Asking VOLITION about QRM. Some DATA comm's. 3/24/99

11244 & 8992 KHz Long EAM's at 1855 UTC. 3/24/99

Actual VHF & UHF Military Loggings During the Kosovo War!

English ShortWave Broadcasts Of WAR Interest

Radio B92 Belgrade 3/27/99 from 0700 til ?? UTC 11415 KHz USB I received notice that B92 (92.5FM In Belgrade) will be broadcasting via shortwave. Reports have it that they probably will use a Western European hobby pirate station, probably be low power. Good Luck.3/27/99

R Tirana 0245-0400 UTC 7160 KHz R Tirana supports the ethnic Albanians seeking independence. 3/27/99

R Moscow Various Times 7125, 7180, 7250, 12000, 12020, 12040, 15595 KHz Anti-American 3/27/99

Radio Sweden 0200 UTC 7115 KHz 3/25/99 Submitted by Glen Briggs

Radio Yugoslavia 0100-0130 UTC 7115 KHz English QRM from another station but R. Yugoslavia is still good sig. 3/25/99

Radio Croatia 0800-0810 UTC 13820 KHz 10 Minutes of English News before switching languages.3/24/99

Radio Bulgaria 2300-0000 UTC 7195, 9570, 11830 KHz New in English. I'm sure we'll start hearing Anti-American stuff here soon!3/24/99 note: Glen Briggs reports R. Bulgaria's 9570 Freq being Jammed 3/25/99 by carrier.

We leave you this month with an image of a true "World Class Dx'er, a person who up until recently has been as mysterious as Havana Moon. A person who has contributed a considerable amount of information to this newsletter as well as several others and has gone of his way to answer many of our questions. We suspect that weight distribution and head cover have varied slightly since this phot was taken in 1979 while doing a radio remote at 7:00 a.m. in a field in Norwalk, CT. We now have proof that "R" is a real person! Perhaps, in a future issue we will be able to apply facial features ! Thanks for the photo!!



The Urban DX'er would like to thank all those who contributed to this months issue!

Charlie - N2NOV, "R", "Agent "R", KC2AYC, Ken Wood, Warren Silverman, N2RAH, Bob Heinzmann,