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TARA NEWS

"Home of the FULL SERVICE Repeaters"

147.27/R
145.17/R
444.225/R

Volume IV NO. 4 PUBLISHED MONTHLY BY THE TROY AMATEUR RADIO ASSOCIATION, INC. April 1994

Troy Amateur Radio Association - 1991 To ??

By David Pascale, WB2HKR

Like a lot of days in April in the Northeast, it was raining pretty hard. As I aimed my car eastward, I couldn't help but think about just who I would meet at Bill Eddy's house. For that matter, I wasn't even sure who Bill Eddy was! But we did all get together on that rainy day in April, 1991. We sort of stared at each other a lot and tried to basically match up faces with names. Many of us had never met each other. We did have a brilliant organizational plan, though. We kicked in 50 bucks apiece and formed a "club". Unfortunately, we omitted a few important details that first night. We had no meeting place, no by-laws, no club repeater, no contest chairman, no newsletter editor, no repeater technical advisors (but that was okay because we had no repeater) and of course, after we paid our first ominous insurance bill, we also no longer had any money.

However, we did elect officers, although none of us were quite sure what they were officers of. But it didn't seem to matter. April of 1991 saw the formation of the Troy Amateur Radio Association.

As the newly elected Treasurer of the club I was given the responsibility of guarding the club's funds. So the day after the first meeting I proudly walked into a bank in downtown Albany and laid our wad of cash on the desk of a customer service representative. My face turned apple red as the bank representative calmly explained to me that we needed things like by-laws, signature cards and resolutions. Details, I thought,were not what our club was about. Fortunately, I was allowed to open the account and submit all the paperwork later, although I was still at a loss about what all this by-law nonsense had to do with yammering on a two meter repeater, which is all I wanted to do at the time.

At first we met in Bill's (NY2U) garage. God must have liked us, or at least he tolerated us, because I don't honestly ever remember it raining that first year. That was a good thing because the club's membership quickly grew and before long we were spilling out of the garage onto the driveway.

As the membership grew the particular expertise of the new members began to pay dividends. This is not the place to catalog a list of the club's accomplishments or advances, except to say that soon many of the club's shortcomings began to disappear, although certainly not all of them but more on that later. But the membership did, and continues, to grow.

When any organization grows there are always new sets of opportunities, setbacks, challenges, and frustrations, and of course our organization is no exception.

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Inside this Issue:

FROM THE TEACHERS' DESK

By Tom Remmert, N2TTA/AA

The Novice/Tech and General Class instruction sessions at Heatly High School have resulted in some new licensees as well as some upgrades!!! These classes have been held by Albany County Emergency Services for some time. This Spring was the first time that TARA was officially a co-sponsor. The Novice/Tech class had 15 students. Of these, 5 are new technician class licensees and are now anxiously awaiting their new call signs. Ten students passed the Novice theory and are planning to try the technician theory again at RPI on April 16. We had three students studying for the general theory exam and two passed. One even tried the Advanced theory and only missed by 3 questions!! We want to thank those who helped as instructors, Ken, KB2KFV, Steve, N7LOD and Tom, N2TTA from TARA as well as those from Albany Emergency Services, Joe, N2NOU and Dave, WB2VXS. A BIG THANK YOU to Bob, WB2ZCM who has been running these classes for many years (and also lugging the coffee pot around). We also want to thank those who answered our call for volunteer examiners, WB2HKR, N2QIP, WA2IWW and N2DCM. I hope I haven't forgotten anyone.

The next session is planned for the Fall. Some felt that cramming everything into three Saturdays was a little intense, so we may return to the evening format spread out over several weeks. Speaking from experience, teaching can be lots of fun. It's extremely rewarding to hear a new licensee say "Hi!! I was in your class!" So, give some thought to volunteering for one or two sessions in the Fall. We'll provide some guidance and some materials, if necessary. *TN*

WELCOME

New Members

TARA is proud to announce its newest members to join our organization.. Congratulations!

- **Donald R. Jones, N2XMQ**
- **William H. St.Jean, (NOCALL)**
- **Carla M. St.Jean, (NOCALL)**
- **Craig M. Wood, N2UID**
- **Karen Lynn Wood, N2WDL**

TARA PUBLIC SERVICE EVENT

We need volunteers!

On Saturday, April 24, 1994 TARA will need as many volunteers as possible for the "Super Walk" sponsored by March of Dimes. Ken Collis, N2RXO, will be handling all scheduling for this event on behalf of TARA. This event is very important to us, so please volunteer your services. The walk will start at Catholic Central High School in Lansingburgh starting at 10 AM. Contact Ken at 235-7433 anytime or Mr.Bill, NY2U.

Treasurer's Report

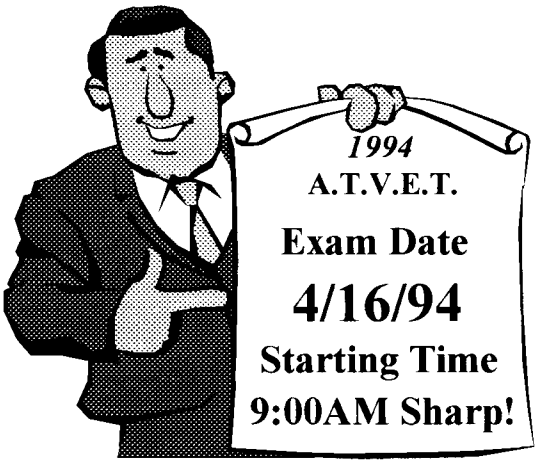
By: Tom Remmert, N2TTA/AA

April 1 saw some pretty hefty expenditures. We had to shell out about $6,000 for equipment for the former treasurer's ham shack (those FT-1000's ain't cheap, ya know!!!). We also had to pay the old treasurer for the equipment passed on to the current treasurer. This plus some new equipment for the current treasurer amounted to around $3,000. The new Lamborghini van for the president wasn't cheap either. It's amazing how much extra they charge for hand controls. Of course, we added the voice activated controls to make things easier. It's a good thing April 1st only comes once a year!!

But seriously folks, we're looking for someone to run for Treasurer for the coming term. Dave, WB2HKR has volunteered to serve as assistant treasurer to fill out my term. I will finish all the work on the tax exempt status, etc. and I will try to help as much as possible from South Carolina. Basically we need someone who can keep a check book and keep track of where the money comes from and where it goes. I have a computer program to help with this and will gladly give it to the new treasurer. If you are interested, contact any board member to throw your hat into the ring.

There has been little activity in the ole bank account the past month. Basically, we're in pretty good shape to cover field day and the upcoming insurance bill.

We received a letter from the IRS stating that they received our application for tax exempt status and they have assigned us a case number. Estimated time to process it is 100 days as of March 23 (sounds like the same guys that took 4 months to send my first call sign!!). *TN*



Albany / Troy Volunteer Examiner Team

On April 16, 1994 the Albany/Troy VE Team will be administering FCC exams to all candidates Novice through Extra. Exams will be given in the C.I.I. Building (Center for Industrial Innovations), Room 3051, on the Campus of R.P.I. in Troy. The doors will open at 8:20 AM and exams start at 9 AM. NOBODY will be admitted into the exam room after the 9 AM starting time. No preregistration is required for these exam dates or any of the Albany/Troy exams. A test fee of $5.75 (new fee for 1994) either *cash* or *check* is required for those taking any elements above Element -2 or Element -1A. Make sure you bring two proofs of identification, with one being a picture I.D. Also bring your original documents (current license, C.S.C.E.s...etc.) along with photocopies, calculator, pens and pencils to the exam. Our VE Team will provide all FCC 610 forms. Anyone needing special handicap arrangements are asked to call in advance.

- **Team Liaison:Bill Eddy, NY2U**
  (518) 273-9248
- **Team Contact:Bud Hovey, WF2B**
  (518) 283-3227

ATVET 1994 Exam Schedule

Volunteers Examiners from ATVET (Albany/Troy Volunteer Examiner Team) proudly announce their new exam schedule for the new year. Please remember all dates are subject to change as needed.

The following exam schedule (Dated: Jan. 4, 1994) will be held on the Campus of RPI in Troy, NY. All Saturday sessions will start at 9AM, with the doors opening at 8:20 AM. Our Wednesday sessions start at 7PM, with doors opening at 6:15 PM.

Cancellations will be announced on both the Capital District Repeater Net (Nightly on 146.94MHz at 6:30 PM) or WGY - 810 on your AM dial.

April	**May 14**	**June 22**	**July 27**
	August 31	**October 8**	**November 12**

• ***Serving the Capital District Since 1984*** •

Schenectady Amateur Radio Assoc.

VE Team Notes

Testing will be held at each monthly meeting with a limit of one license class per person. Tests start 6:30PM at Schenectady High School.

Contact: Charlie, KA2VNP, at (518)399-1793

Saratoga County RACES, Inc.

VE Team Notes

The next VE exam will be administered on May 14, 1994 starting at 9AM at the Ballston Spa County Solar Building on 50 West High Street.

Icom America Supports Marathoner

On March 6, 1994 marathon runner Fred Doob, AA8FQ, ran in the Los Angeles Marathon raising more than $2,000 for the Childrens Cancer Research Fund. Using a hand held transceiver provided by Icom America, he made more than 400 contacts on 144 and 440 MHz. Icom donated $5.00 to the Childrens Research Fund for EACH contact Fred made.

Fred's operation was coordinated by the Baldwin Hills Amateur Radio Club, organized by President Ed Walker, WA6MDJ.

Fred, 47, topped his last run last November in t he New York City Marathon by 100 contacts and his time was better by 15 minutes.

Those attending the Dayton Hamvention should drop in and meet Fred at the Solder-It booth.

Tnx ARRL Letter

California Amateur Responds

Tnx W6DDB and WA7FCG

Amateur radio made headlines in Action, California, last month, when 36-year-old Chris Killian, N7IOV, helped in the capture of two robbers. According to the *Antalope Valley News* of Lancaster, California, Killian was approached by an armed robber in a McDonald's Restaurant, inquiring about Killian's Hand-held.

When the man and an accomplice left the eatery, Killian, who the paper said is a "reserve deputy"' followed them and relayed their route to another amateur, who contacted sheriff's deputies. The two suspects were picked up that night and charged with the hold-up.

Killian told the *News* that he ordinarily doesn't carry a radio with him in his car but that he had been using the hand-held the previous weekend to "test repeater stations."

Silent Key

Joe, N3EA

On February 14, 1994, Joe Hertzberg died in Silver Spring, Maryland. He was 86. He previously was K3JH. He was first licensed in 1926. During World War II he was involved in the development of electronic navigation systems and was decorated by both the United States and England. After the war he went to work for RCA and in 1956 was named RCA Man of the Year. He ended his career as a corporate vice president of RCA.

In the late 1960s he became active in Amateur Radio once again and his station included a full-size 80 meter cubical quad on a 115 foot Telrex *"Big Bertha"* rotating pole that was featured in a 1970 *QST*. He put his station to good use following several natural disasters, including a 1972 earthquake in Nicaragua.

REMINDER

Next Meeting Date:
April 19, 1994

Weekend Class and the ARRL Technician Class Video Course

Mike Lamb, N7ML, decided to organize a licensing course to cover two Saturdays. He planned the classes around the ARRL Technician Class Video Course. He and the Gallatin Ham Radio Club (Bozeman, Montana) members W7LR, N7FLT, and KE7X, held an orientation session on a Tuesday evening prior to the course. Club members showed off exotic QSL cards and talked about SSB. Others gave demonstrations on packet and Morse code, then displayed sample HF and VHF transceivers. Students were told that they would have to study a lot between Saturdays.

The first Saturday was an all-day training session. Mike said club members were confident in the instruction because they knew that the video contained discussions on all aspects of the exam material, plus practical information. At the end of the day on the first Saturday, instructors polled students and found that 80% felt they could pass the exam at that point. The next question was how many thought they would plan to learn the code and upgrade to another license, 80% said yes!! The second Saturday was a morning review session, and then came the exam.

Out of 32 students, 100% passed the Novice written exam, and 28 passed either the Technician or Technician with code exam! Mike said the videotape course is an outstanding catalyst for any hams interested in providing a worthwhile Amateur Radio class in their community. Students were invited to attend the next club meeting, and most did, nearly doubling the normal number of attendees.

Editor's Note: *TARA purchased a full set of these video tapes which can be used by club members. If you're interested please contact Jack Culliton, N2LBZ, at 271-6763 evenings.*

The Voice of Ravena

Just when we're getting use to Pactor and Clover now we hear rumors about G-TOR. For those of you that enjoy digital communications, the last few years have been filled with new advancements. Those that haven't yet experienced the digital modes are missing a lot the hobby offers in today's new digital technology. I hope you enjoy what I 've found out so far about this new mode.

By: Bruce Roberts, KA2HRM

WHAT THE HECK IS G-TOR? Who else out there has heard of it ? I was just reading a bulletin about it on WA2UMX the other day. It is supposed to be more exciting than AMTOR or PACTOR. I gained the following information from an article by G3KFN and KC6IKO. Here is how it works.

The transmission of data begins. Sufficient time is left between the end of the data frame and the start of the acknowledgment for propagation between stations over an HF path. A change in the flow direction (changeover) is done by extending the acknowledgment bytes into a changeover frame. Once acknowledged by the other station the changeover is complete. Link quality, dictated by the number of consecutive good or bad frames received, determines link speed. The effective performance of stations, while communicating over adverse HF channels, relies on the combined use of forward error correction, interleaving and redundancy. These tools for improvement are incorporated in G-TOR with-in the Firmware of the KAM-PLUS (and KAM with enhancement board). An extended version of the GOLAY Code (23,12,3) is used for G-TOR. Prior to transmission, for example, 300 baud frames are divided into 48 12--bit words and matched with 48 error correction words of 12 bits each. The entire 72 byte data frame is then interleaved bit by bit, resulting in 12 bins of 48 bits and transmitted. When received by the receiving station the reverse process is carried out, and checked for proper CRC. If the frame is found to be in error the receiving station will request that the matching parity frame be sent. If still unsuccessful the ARQ cycle begins again. The dispersment of noise-burst errors via interleaving and the power of the GOLAY code to correct 3 bits in every 24 results more often than not in the recovery of error free frames.

I think that any of you that have listened to the chirping of AMTOR signals or the weird sound of the roar of packet and cycling sound of PACTOR can imagine what this will sound like. What is really happening is the one transmitting is coding the data sent. The receiving station hears it and then adds it up according to the code. Every line should have the same result code. If the receiving station realizes this it then sends a msg back to the sending station saying, "do it again, because what I received doesn't add up"

With this new type of coding that is used, it is making a much faster mode. This new system also allows the radios themselves to adjust their own baud rate, similar to PACTOR. This is really starting to sound good.

Now listen to this from the article. During the month of January over a million bytes were transferred error-free from Lawrence, Kansas to Laguna Nigel, California. During these tests, a trace was set on at each station, enabling the display of acknowledgment bytes and data frames including control bytes. This allowed them to view and count the data and ack. frames without the aid of F.E.C. and interleaving. The results were surprising. While PACTOR often dropped in transmission speed from 200 to 100 baud, G-TOR nearly always kept on crunching frames at 300 baud. Enough frames are corrected to keep the system running at 300 baud, regardless of man made interference and mild multi-path conditions. This was apparent as G-TOR seldom dropped automatically from 300 to 200 baud. Transfer duration for the entire test file varied from 12 to 17 minutes for PACTOR, but only 5.5 to 7.5 minutes for all but one transfer in G-TOR. G-TOR simply maintained its highest pace better, resulting in a substantial increase in average throughput.

Well, what do you think ? Does this sound like the new digital mode ? I think that it may have a good chance. According to Alan and Chris who wrote the article where I obtained my information, KAM is now including G-TOR as standard in the KAM PLUS and the enhancement board for the KAM (predecessor of the KAM PLUS). Firmware eprom updates are also available for both, including the G-TOR manual. G-TOR is not available for KAMs without the enhancement board as the eprom space has been used up. Well, that's all for this month. I will try to get more information if anyone is interested. TN

New York State Hams to Get New License Plates

New distinctive amateur license plates may be available as soon as April 1, 1994, thanks to the efforts of the Tryon Amateur Radio Club and Phil Bradway, KB2HQ. Eastern New York Public Information Coordinator Stephan Anderman, WA3RKB, gives us the following report.

ARRL Eastern New York State Government Liaison Phil Bradway, KB2HQ, was very busy earlier this month. On March 1st, a bill was introduced in the New York State Assembly to allow the issuance of distinctive new license plates for hams. But this particular bill was flawed and might have been a problem if not for some "behind the scenes" efforts by Phil. The *Tryon Amateur Radio Club* of Gloversville has been instrumental in the development of a distinctive ham plate along the lines of the new vanity plates for sports teams, counties, and so forth, but with a ham radio related logo. The new design is currently in the final stages of approval within the NYS Department of Motor Vehicles.

The New York State Vehicle and Traffic Law provides for the issuance of ham registrations under Section 401 (that also covers EMTs and volunteer firemen) which calls for an initial plate charge and an annual $5 surcharge. Plates in this series relate to those classes that provide volunteer public service. Other special plates and "vanity" plates are issued under Section 404 of the V&T Law, with considerably larger annual surcharges. The plans are that the new plates would eventually supersede the existing call plate design and be issued under Section 401. But, there was a hitch. Assembly Bill 9726, introduced by Assemblyman Abbatte of the 41st Assembly District (Kings County) and referred to the Transportation Committee, would have had the distinctive ham plates issued under Section 404 with an initial plate charge and a $15 annual surcharge. In other words, it would have cost NYS amateurs an extra $20 each time they registered their vehicle.

Phil went to work and contacted the Tryon group for background and, as a result, DMV was alerted to the potentially harmful bill. It appeared that the Assemblyman's office was unaware that there was already a provision in the law for ham plates. Within a matter of days the bill was withdrawn, removing the threat of increased costs to hams. DMV will be issuing the new distinctive plates under existing law with just a change in their internal rules and regulations under Section 401 and will carry the usual $5 annual surcharge. New applications are being held pending finalization of design and production procedures, but it is expected that the new plates will be available after April 1st. There is an $18.00 initial charge for the new plates and you must file both the familiar MV-82 vehicle registration form AND the "Emergency Services Special Plates" application, form MV-411. DMV reports that those wishing to exchange their old callsign plates for the new ham tags will be assessed $12.50 for the changeover. More information can be obtained from Linda at the DMV's Albany Office at (518) 473-7719 or by calling 1-800-364-PLATE.

So now thanks to the Tryon Amateur Radio Club, the friendly folks at DMV, plus a little help from SGL Phil Bradway, KB2HQ, amateurs in New York State will have a more distinctive ham plate at the same old price. And now they will also be available for commercial vehicles and the handicapped! This is a perfect example of how local clubs can be effective on a "grass roots" level when they cooperate with League leadership, maintain cool heads, and act "professionally" as "amateurs".

CDARC Sponsors *"Introduction to Packet Radio"*

A new *"Introduction to Packet Radio"* course will begin on Wednesday, April 27th, starting at 7 PM, in the second floor auditorium of the Schenectady Museum and Planetarium located at Nott Terrace Heights in Schenectady. Each session of this three week *FREE* course will last about two hours. The course is sponsored by CDARC, the Capital District Amateur Radio Council, in conjunction with SMARA, the Schenectady Museum Amateur Radio Association and will be taught by Stephan Anderman, WA3RKB. Like the first course, this class will be non-technical in nature and VERY informal. Talk-in will be available on the 147.06 repeater. Pre-registration is required due to room size limitations and so that adequate course materials may be prepared. For more information or to register, contact WA3RKB, on packet @ WA2UMX, on various local repeaters, or via landline evenings after 8:30 PM at (518) 877-7374.

1991 to ?? (continued from Page 1)

Counted among our successes certainly should be things like our joint participation with the Albany A.R.A. in VE sessions, our fine local showing in ARRL November Sweepstakes, our service to the community by providing communications at charitable events, our two club repeaters and most importantly, the camaraderie enjoyed and the friendships established at our monthly club meetings.

With all this in mind we seem to be doing well, and we are, and should be, very proud of our accomplishments. Yet, we should remember to maintain just a sense of uneasiness. We should all have just a little anxiety about what the Troy Amateur Radio Association is about, and that is probably best defined by talking about what the club is not about. As crazy as it sounds, our club is not about contesting or repeaters or providing communications for charity events. Frankly, if these things were what our club was about we would be pretty disappointed. There will always be other clubs that will do these things better. What we need to continue to do best is offer a hand in friendship to another operator or prospective operator who attends one of our club meetings. We can do that by sitting next to that strange face and making conversation about that hobby we all love–amateur radio. Or, we can offer a snack or a soft drink to those one or two lost souls we know are at every meeting. We know they are there because WE were all there too, at one time. Nothing is more important than this type of interaction. Of course, this is hard for us to do. We all have to push ourselves out of our shells sometimes. There are nights when we're just too tired or too hungry or we just flipped over our gas truck, but we still have to do it. I'll be honest, there have been nights when I have been tired and hungry (don't worry, Clayton would never let me drive the gas truck) and I did stick too much with the "folks I know". We all do that sometimes--but we shouldn't. We have to try and meet the "new guy", whether its someone who is just in town for a day and we may never see again, or its someone who turns out to be a lifetime friend--saying that first "Hello, how are you?" matters a great deal. It signifies that we have captured the sprit of fraternity that is amateur radio. *TN*

Modernization and Restructuring Well Underway at NWS

By Stan, KB2LNI

Changes have already begun at the National Weather Service in Albany, and many more are on the way. These changes are meant to provide the residents of Eastern New York and Western New England with the best weather forecasts and warnings available worldwide. As I mentioned last time, the *"State of the Art"* WSR-88D Doppler radar has been up and running since November. Judging by the way its performed during this past winter season, my colleagues and I can hardly wait to see it in action when the thunderstorms come rumbling into the area later this spring and summer. That's when we'll be able to utilize this new technology to the fullest.

Also recently installed at the airport is the new Automated Surface Observation System, or ASOS. It's able to continuously record cloud and ceiling height, visibility, temperature, dewpoint, humidity, wind, pressure and precipitation without the aid of an observer. While there are still some bugs which still need to be worked out, once its officially commissioned, it will free the meteorological technician/observer to do other important duties.

Other ASOS installations in the area will provide real-time surface weather observations at locations where such data was never available before, or available on only a part-time basis. This technology will allow changes to occur in the structure and responsibility of the National Weather Service Forecast Office. First, beginning June 1st, there will be a realignment of the County Warning Areas in New York and Western New England. Locally, the Albany office will pick up responsibility for issuing Tornado, Severe Thunderstorm and Flood Warnings in Bennington and Windham Counties in Vermont. Later this Summer, Albany will also pick up warning responsibility for Litchfield County, Connecticut. We will give up Franklin and Essex Counties to the Burlington NWS office, and Sullivan County to the Binghamton NWS office. These changes are based on the coverage of the WSR-88D. Since ASOS is an automated system, we will no longer have to stay at the Albany Airport to support aviation interests. As a result, we'll be moving to a new facility on the campus of the State University at Albany. The move is scheduled to occur in February, 1997. A collaborative effort between the National Weather Service and the University (merging operational and research meteorology) will be a unique venture in the Nation.

There is one other bit of news which I'm sure you'll like to hear: Changes in government purchasing rules will soon allow us to purchase our own amateur radio equipment for the office. The recognition of the importance of the SKYWARN amateur radio program to the Weather Service mission of providing accurate severe weather and flood warning services to the public was a factor in this decision. Personally, I'm delighted at the news! I'm looking forward to seeing some of you drop by the office in the coming months to check out the new toys!! *TN*

WMHT Auction Time

Tnx. Jack, WA2YBM

The Amateur community in the Capital region has been asked by television station WMHT-TV to help with their auction again this year. It will be on Friday, April 22,1994 from 5:30 PM to 11:30 PM. Actual air time starts at 6 PM. We have to be there no later than 5:30 PM for orientation. Those who volunteered last year had one of their most memorable events of all time. All new comers to the Amateur Radio Community are encouraged to volunteer this year. Anyone, young, old, or in between, YL, XYL, anyone, please help. We can be either manning the phones, bringing merchandise from the storage area to the stage settings, marking boards with the bid amounts as they are called in, or whatever may be needed. Food and drink will be available at no cost to us. There will be break times.

To volunteer, please contact Jack, WA2YBM, at (518) 869-1074, on the 145.19/R KM2H repeater or on the 146.94/R W2LWX, CDN net most evenings at 6:30 PM. Twenty of us are needed. Directions to WMHT-TV will be provided to those who do not know where it is located in Rotterdam, about 25 minutes from the Colonie Shopping Center area. Amateur Radio will be mentioned as a volunteer organization during the course of the evening. Hope to hear from you soon.

Club Elections Coming Up

At the April monthly meeting we'll be looking for a couple of volunteers that would take on the duties of an Election Committee. These volunteers would canvas the membership and seek out those interested in running for one of TARA's elected positions.

Elections will take place on the evening of our June monthly meeting and only those members that are PAID IN FULL for '93 & '94 are eligible to vote. Please keep in mind this has nothing to with our new dues schedule coming up in June for '94 & '95. Those wishing to run for office must also be current in their dues. Our treasurer will have a complete up-to-date list of those that are eligible to vote at the June meeting.

Please see Mr.Bill, NY2U, at the meeting if you could help by volunteering for the Election Committee.

The following elected positions will be open in June 1994.

Officers:

- ❑PRESIDENT 1 Year Term
- ❑VICE PRES. 1 Year Term
- ❑TREASURER 1 Year Term
- ❑SECRETARY 1 Year Term

Directors:

❑There will be (2) Board of Directors positions open, which are 1 year terms.

Thank You

Kudos this month go out to both Denise, N2WSW, and Tom, KB2NAV, for building up the first of two crystal radio kits the club purchased.

At our last meeting (March) this little radio was on display and it sounded terrific. Tom even remarked favorably about the receiver as in comparison with another HF radio he had at home.

Both of them enjoyed building this kit very much. Tom expressed the kit was of excellent quality. It probably would be tailored towards someone that has built a kit before,however.

Our second kit will be assembled by Steve, N2PZP, as soon as he finds a spare minute. Lately Steve has been repairing a lot of watches in his spare time.

Hopefully after we start our new budget we'll have additional funding for more kit building. Do you have any suggestions? If so, please contact one of the club officers with your idea. *TN*

Federal Communication Commission

Amateur Radio Call Signs

Issued as of March 1, 1994

Radio District	Group"A" Extra	Group"B" Advanced	Group"C" Tech/Gen	Group "D" Novice
0	AA0QI	KG0LO		KB0LYV
1	AA1IV	KD1TZ	N1RMF	KB1BGS
2	**AA2RH**	**KF2UA**	**N2YBR**	**KB2QXD**
3	AA3HG	KE3MC	N3RPA	KB3BBC
4	AD4QG	KR4NY		KE4KAL
5	AB5TB	KJ5VI		KC5FON
6	AC6AP	KN6YT		KE6FTE
7	AB7BL	KI7WH		KC7BDO
8	AA8ON	KG8HH		KB8RSM
9	AA9KI	KF9UM	N9WHC	KB9IXF
N.Mariana Is.	AH0W	AH0AQ	KH0CK	WH0AAY
Guam	WH2D	AH2CU	KH2JB	WH2ANK
Johnston Is.	AH3D	AH3AD	KH3AG	WH3AAG
Midway Is.		AH4AA	KH4AG	WH4AAH
Hawaii		AH6NF	WH6SV	WH6CRD
Kure Is.			KH7AA	
Amer.Samoa	AH8I	AH8AG	KH8BB	WH8ABB
WakeW.Peale	AH9C	AH9AD	KH9AE	WH9AAI
Alaska		AL7PO	WL7QW	WL7CHL
Virgin Is.	WP2G	KP2CC	NP2HG	WP2AHU
Puerto Rico		KP4WM		WP4MNW

New York City Taxi Drivers Eye Ham Radio!

New York City taxi drivers apparently have a campaign going to install ham radio equipment in their cabs. Brochures claming, "Ham radio will keep you from getting killed on the streets of New York City" and, "Ham radio is 100 times better than CB Radio" are being circulated. Dispatching of cabs is not condoned but claims include "Ham radio also gives you help from other taxi and livery drivers in locating hard to find streets, clubs, restaurants, and knowledge of traffic conditions." This sounds like prohibited business communications to us!

Group *"C"* Amateur Calls Near Depletion ?

N-by-3 (Group "C") ham call signs are being very quickly used up. Only the 1st, 3rd and 9th call sign regions have them left. The 9th will run out in about 60 days. The 1st, and 3rd have enough call signs to last about 6 months. Group "D" (2-by-3) call signs are assigned to General and Technician Class when all Group "C" are allocated.

Computer Companies Fined

The FCC has stepped up their enforcement program against companies that market uncertified computers. Century Computers (Greenville, Texas) and Roselius Computer Corp. (Edmond, Oklahoma) each received $5,600 fines from the FCC.

Broadcasters Levied $437,500 in Fines

The FCC has just levied more than $437,500 in fines against various broadcasters for airing indecent material during "The Howard Stern Show" in August, September, and October 1993. Total fines involving The Howard Stern Show now total more than two million dollars!

CB Radio Store Fined

The CB Radio Store at the Shady Grove Truck Stop in Road Forks, New Mexico, has asked that their $7,000 fine imposed for offering to sell a 150-watt Blue Streak CB linear amplifier to an FCC inspector be canceled since no sale took place. FCC rules prohibit the sale, lease, offering for sale, importation, advertising or distribution of any external power amplifier capable of operation on frequencies between 24 and 35 MHz. The FCC said that an actual sale need not take place for a violation to occur. It did, however, reduce the fine to $5,600 since the defendant had no prior history of violations. Tnx W5YI Report

News Of Our Neighbors

R.V.W.A.R.S.

Rip Van Winkle Amateur Radio Society
Club Repeater: 147.21/R WB2UEB

The Rippers are offering assistance to any club member that needs help erecting a tower or antenna this summer. There is no charge of course for this, but you'll be required to put the coffee pot on for the gang. If you've considered the possibilities of a new tower ,why don't you bring your plans to this next meeting or phone one of the many RVWARS members for their thoughts. With the tremendous amount of knowledge in this field they can make your next project a breeze!

It seems that Marty, N2LDR, and Wayne, N2ROR, are doing a super job with this year's NOVICE/TECH class being held at Columbia Greene Community College. Marty took over the position as Education Chairman for RVWARS this year for Dave, WD2K. Many of you have meet Marty as a Volunteer Examiner for the Albany/Troy VE Team. Also Marty serves as a VE for the Rippers VE Team. For information about RVWARS please call Dave, WD2K, at (518) 732-7532 evenings. TN

S.C.R.A.

Saratoga County R.A.C.E.S. Association
Club Repeater: 147.24/R WA2UMX

Once again our good friends to the north put out the red carpet and welcomed amateurs throughout the region to join them for their late winter flea market. This meeting always draws a very good crowd and this year was no exception. Also it serves as a warning that spring is just a few days away, we hope!

Recently Saratoga County RACES had to shut their repeaters off due to some unwanted amateurs using them. Please keep in mind it's not a right that you can use all of the repeaters,it is a privilege! Just check the FCC rules if you don't believe it. Saratoga has established guidelines to be used if and when these privileges are abused. However, they regret any inconvenience for their members and other users of the system.

If you need to find out more about this organization please contact President Jim Polewczak, KG2H, at (518) 695-6878. TN

A.C.E.S.

Albany County Emergency Services
Club Repeater: 147.12/R WB2ZCM

RACES, along with TARA have just rapped up a three week No-code Technician Class, combined with a three week General Class study group at Heatly High School in Green Island. This was the first time that either group has used the new three week format. As of press time all the particulars pertaining this class are still being reviewed. Although the classes were long (9:00 to 4:00PM), and it demanded a student be thoroughly prepared each week, it does relieve the long commitment on the instructors for 8 weeks. This class marked the first time that Albany RACES and TARA jointly sponsored such a class, and hopefully won't be the last! The open communications between both organizations should be credited as well as the instructors that volunteered.

For more information concerning Albany County RACES, contact Chief Radio Officer Bob, WB2ZCM, at (518) 237-8473. TN

B.A.R.C.

Burlington Amateur Radio Club
Club Repeater: 146.61/ -600

Members of BARC will be testing their skills at foxhunting at the April monthly meeting. There will be a short class prior to the meeting.

The May meeting is scheduled to have Mark Allard speaking to the membership about working with the Red Cross in California on earthquake relief.

It was reported that the 146.61/R is working just fine except for the INTENTIONAL interference by local hams.

BARC will host their Hamfest '94 on the weekend of August 12 and 13, 1994 at the Old Lantern. They're working on a new flyer that will be mailed out shortly.

In the March issue of the *BARC News* they welcomed their newest member Chris Coleman, KB1ASH, into the club.Congratulations Chris!

For more information about BARC contact: Ralph Stetson, KD1R,at (802) 878-6454 TN

News Of Our Neighbors

R.C.RACES.

Rensselaer County ARES/RACES
Club Repeater: 147.18/R WS2B

The RACES newsletter will be called the "Air Waves," from now on. The new name was on their March newsletter.

RACES is saddened to announce the untimely passing of one of their members John Zalinka, KB2YX. Oddly enough just prior to his death, John completed work on the new replacement for the 147.18/R in Grafton. This repeater will be picked up soon and put into service when the manpower becomes available. John has worked on many projects in the past for RACES and will be deeply missed.

On Wednesday evenings at 7 PM RACES hold their weekly training net on the 147.18/R in Grafton. All are welcome to join.

If you have a certain field of expertise that you would like to share with others please step forward and join the team. To find out more about RACES please call Chief Radio Officer Neil, N2LOD, on the 145.37/R TN

S.A.R.A.

Schenectady Amateur Radio. Association
Club Repeater: 147.06/R K2AE

I hope that many of you had an opportunity to make the April 4, 1994 meeting that had Hal Post, AK2E, speaking about FCC Rules and Regulations. Hal has a world of knowledge in this field and also volunteers his time as an Official Observer (OO). Hal is a past President of SARA.

Plans are underway to publish a current directory of SARA members. If there is any reason you wish your number deleted from the directory, please contact Phil Bradway, KB2HQ, at 377-8938 before the 15th of April.

At the May Board of Directors meeting SARA will have the new supply of club patches. These patches may be purchased at the meetings or through the BoD's for $3.00.

To find out more information about SARA contact President Don Walsh, WA2TSW, on the 147.06/R TN

A.A.R.A.

Albany Amateur Radio Association
Club Repeater: 145.19/R KM2H

AARA has reserved the Italian-American Community Center on May 13 for the Annual Club Banquet. Following dinner and a few after-dinner talks, music for dancing will be provided by Seth Evans Entertainment. The cocktail hour will begin at 6:15 PM. The price of tickets are $19.00. Those needing ticket information or the choice of dinners available should contact Bob, W2XM. AARA will be raffling a AEA CP-1 (Computer Patch) that was donated to the club by John Spagnuolo, WA2CK, before he departed for warmer weather. Raffle tickets will be sold at the April meeting for just $1.00! Albany meets the second Friday of each month at the Colonie Community Center off of Central Avenue. Meetings start at 7 PM with a social gathering, followed by the regular meeting beginning at 7:30 PM. To get more information about Albany ARA please call Ernie Popp, KA2HTU, at (518) 477-9581. TN

So.V.A.R.C.

Southern Vermont Amateur Radio Club
Club Repeater: 145.39/R WA1ZMS

SoVARC has begun making plans for Field Day '94 with Walt, AA2KM, offering the use of a 100' crank-up tower. Maybe Walt could accidentally deliver that little gem to the TARA Field Day location, surely by mistake! Soon Volunteer Examiners from SoVARC will be using a new headphone system to administer CW elements to candidates. The examiner team presently is collecting the necessary funds through the reimbursement plan allowed by the FCC. (Accredited VEs are allowed to keep up to $4.00 of each fee collected from candidates. The fee charged by ARRL VE Teams is $5.75) Bob, KA1PXF, told the membership at the last meeting that the funds are being collected and the examinees in the future should make all checks payable to "Robert Moeller" instead of the usual "ARRL VEC."

SoVARC meets on the fourth Tuesday of every month at the Bennington Free Library. TN

Troubleshooting Your Radio Equipment

Troubleshooting your radio is easier than you think. If you follow these troubleshooting rules, you'll be able to solve most problems yourself without the cost of expensive repairs. Tnx *QST*

By Harry Ricker, KC3MX • 34 Cross Ridge Court • Germantown, MD 20874

You awake one Saturday morning, eager to check into your favorite net. But when you turn on the radio, nothing happens. This is the moment that all hams dread. Your equipment doesn't work, and you have visions of expensive repair bills and several weeks or months off the air. You desperately hope that nothing serious is wrong. But, remembering that terrific thunderstorm last Thursday evening, it becomes clear that your radio has been hit by lightning. All those sensitive integrated circuits must be blown up. "Great," you think. "I can't hear anything even with the volume turned all the way up. My receiver is blown for sure."

When this happened to me, I was certain that my $1000 solid-state radio was badly damaged. However, by using basic troubleshooting methods, I determined that the problem was a short in the microphone connector that had locked the radio in transmit mode. The problem was easily fixed at no cost!

Something like this is going to happen to you. It's inevitable. When it does, you need to apply sound principles of equipment troubleshooting before you decide to turn your rig over to a radio shop. Most equipment problems are caused by operator error, and defective cables and connectors. When equipment is sent to the shop for repair, the technician may not be able to fix it because the failure was not in the equipment.

At the first sign of trouble, do the following:

***Check the positions of all the operating controls.**

***Check all of the mode indications and verify the mode.**

***Check all the cables and connections of your equipment.**

Eliminate the Operator First

Most problems can be easily solved by examining the controls. For example, you turn on your radio, but don't hear audio. Check the audio-gain control. Is it turned down? Is the squelch turned up so that the audio output is muted? Don't laugh! When this happened to me the first time, I was stumped--until I took a look at the squelch setting.

Another common operator error involves transmitting CW with the transceiver set to the SSB mode. When you try to transmit, nothing happens. This problem is easily identified by referring to the mode indicator. Sometimes, the source of this problem is not this obvious. For example, some radios have a control-lock button that disables the front panel controls. If this button is pressed by mistake, the radio appears to be unresponsive to any commands--because it is!

When checking your control settings, be sure to include your cables and accessories. Suppose you turn on your transceiver and tune across the band without hearing a single signal. Is the band dead? Tuning to another band, you discover that it's dead also. This makes you suspicious, and you begin to think that your receiver has failed. Well, maybe not.

First, verify that the antenna is connected. If this doesn't reveal the problem, check all your cables and connectors to make sure they're hooked up correctly. If you have an antenna switch, is it in the correct position? If you have an antenna tuner, check to see that it's tuned to the correct band. A tuner acts like a filter. If your transceiver is tuned to 10 meters, but your tuner is set for 80 meters, your tuner attenuates the 10-meter signals. Finally, be sure to check the attenuator setting on your rig. I operated during a contest once with my 20-dB attenuator switched on. I couldn't understand why the band conditions were so poor. By the time I discovered my error, the contest was over!

When operating VHF FM via a repeater, verify that your controls are set properly before transmitting. If you fail to access a repeater when using an HT, low battery voltage may be the culprit. (Most HTs provide a low-battery indicator. Check this first.) If the repeater requires a CTCSS tone to activate, is your CTCSS function switched on? Is the correct tone selected? Make sure the repeater offset is set to the proper value. This is a very common problem. If the repeater is listening 600 kHz below the output frequency, you can't activate it with your offset switched to 600 kHz above!

Always Check Your Cables and Connectors

Seasoned hams know that the most failures occur in the cable and connectors. Connectors are especially vulnerable because they're constantly being connected and disconnected. The first step is to verify that the connectors are screwed in tight. This can be a problem with a PL-259-type connector. You may think it's screwed in tightly, but the teeth were not lined up. When you encounter a high SWR or a low output-power indication, look for a loose connector first.

After you have checked for loose connectors, look for shorted or opened cables. Shorts are often caused by poorly soldered connectors or crushed cables. Open cables are usually caused by broken wires at the connector. Use a VOM (volt-ohm meter) to check your cables. Disconnect both ends of the cable and remove it from the equipment. (Don't assume that the cable is not connected to a short circuit. Remove the cable.) Switch the meter to the resistance scale (2000 ohms full-scale or less) and measure the resistance between the center pin of the coaxial connector and the shield. If a short circuit is present, the resistance will be nearly zero (see Fig 1).

If the cable isn't shorted, you're not out of the woods yet. You need to check for an opened cable. Connect your VOM between the center pins of both connectors. Then connect your VOM between the outer shells of both connectors. The resistance should drop to nearly zero because in both cases. If it doesn't, you have a break in the cable.

If you've followed all these steps and you still haven't discovered the problem, it's time to get out your equipment manual and review the troubleshooting section. This section gives possible causes for common symptoms. It is important that you read and study it before you decide to open up your radio.

Use All Your Senses

Don't be deterred by the difficulty of performing repairs on your own equipment. Some problems that seem impossible to solve turn out to be simple to fix. When the controls of my 2-meter handheld stopped working, I was prepared for an expensive repair bill. The radio failed to respond to the controls. I couldn't enter frequency or change the mode. Surely the microprocessor had failed.

I opened the radio to determine if I could replace the chip. While inspecting the circuit board, I noticed that a small metallic particle was shorting two of the printed circuit traces. When I removed it, the radio worked perfectly!

The moral of the story is: Carefully inspect your radio. After you open the case, look for short circuits, loose or broken connections, and burned components. Smell is as important as sight. Smell your radio for burned components. Look for burned spots or evidence of arcing. Take your time. You never know what you may find.

To Fix or Not to Fix

Once you've completed your inspection, you need to decide whether to take your radio to a repair shop. At this stage you should read the troubleshooting section of the ARRL Handbook. It will give you ideas on how to troubleshoot your equipment. Call a repair shop and see if they have a simple fix. Some problems can be diagnosed over the phone! Ask if this is a problem that occurs frequently because of a design deficiency in the transceiver. If the technician thinks that the problem can be fixed, be sure to get a cost estimate. As an additional precaution, get a second opinion. Call another repair shop and compare the results of the two estimates.

After you obtain the repair estimates, consider the following: Were the technicians confident that the problem could be fixed for a reasonable cost? Was the technician familiar with a similar problem that he or she had successfully repaired. Finally, consider if the problem is something simple that you can fix yourself. If the repair estimate is high, consider troubleshooting it yourself--at least to the point where you can verify that the problem is not a simple, low-cost repair. But if you don't have good grasp of electronics, and you don't know someone who does, send the radio to the shop.

Three Ironies of Troubleshooting

The First Irony: Whenever you are absolutely certain that you have correctly guessed the cause of a failure, you will be wrong.

This is my primary rule for troubleshooting. When you've deduced the cause of failure, you also need to think about the cost of being wrong!

The Second Irony: Whenever you believe that an expensive, hard-to-find component is the cause of your failure, you will be wrong.

In other words, you should check and replace the inexpensive components first, before you attempt to replace the expensive parts.

The Third Irony: The amount of effort required to replace a component is inversely proportional to the probability that it has failed.

Putting it another way, don't go after the hard-to-replace components until you eliminate all other possibilities.

If you decide to fix the equipment yourself, make the simple, low-cost repairs first and the high-cost

repairs last. For example, if your tube-type radio has low output power, it's reasonable to suspect the final amplifier tubes. Don't rush to buy new ones, though. Arrange to have a friend loan you his tubes and see if that fixes the problem. Check the suspect tubes on a tube tester. Be sure to check the driver tube, too. Once you've verified that you need new tubes, then it's time to get out your checkbook. The important thing to remember is that you should look for the simple problems first.

Clear Thinking is Important

It is very easy to get into trouble when attempting to repair your own equipment. Clear thinking is the most important troubleshooting tool you have. Don't hurry to fix the problem. This is always disastrous. Hurry causes panic, which prevents clear thinking. Before you dig into the problem, plan a course of action. Read your equipment manual and the troubleshooting section of the ARRL Handbook to refresh your memory. The following story shows how panic can magnify a small problem into a big problem.

I connected my Kenwood TR-9130 all-mode transceiver to a power supply with the wrong polarity. Of course, the radio didn't work. Discovering my mistake, I corrected the polarity, but the radio still didn't work. Swearing at myself for gross stupidity, I was sure that I had destroyed my expensive radio. Panic and anxiety took over. I desperately needed to fix the problem.

I visually checked the fuse, and it looked good. Because I was in a panic, I proceeded to make a series of blunders. Opening up the case, I began looking for damaged components. Using my VOM, I discovered a short circuit between the power supply terminals of the radio. I tried to test the power supply protection diode. It indicated a short to ground. Convinced that the diode was bad, I attempted to remove it from the circuit. During this process I broke the diode. After an hour I managed to remove the broken diode and install a replacement. I reconnected the radio and it still didn't work!

I had missed something, but what? Stopping to think for the first time, I decided to recheck the fuse. It was bad! Even though the fuse looked good, a resistance check with my VOM showed and open circuit. The broken fuse wire was hidden by the cap at the end of the fuse. A new fuse solved the problem.

The problem was simple--a blown fuse. I had violated basic troubleshooting methods by thinking that the failure was in the radio--and I was wrong. However, my primary error was not stopping to think clearly. I just assumed that the fuse was good because it looked good! But, panic clouded by judgment and I magnified a simple blown fuse into a major repair operation.

Harry Ricker, KC3MX, became a ham at age 15. Amateur Radio was the inspiration that led to an electrical engineering career in satellite communications. Harry holds an Extra Class license and is an active operator on HF QRP and six meters. He teaches Amateur Radio license classes sponsored by the Montgomery Country Amateur Radio Club.

From the MODEM Line!!

By: Ken Storm (*STORMY*), N2VLS

Looking for that one program that will turn your system into a super ham base? Serious computer equipped amateur radio operators will find many useful programs available at no cost on local landline BBS's.

There are many Amateur Radio files in the public domain and shareware (you pay when you use it). At this time there are two computer landline BBS's available in this area for the serious computerized amateur operator. Access is by telephone line (landline) using a modem (MODulator/DEModulator), and is free. Each of the two systems shown in this article are unique to their own specialties. The files listed here are available on both systems and are made available from the Ham Distribution Network (HDN).Both systems are 14,400bps V32b.

Don't forget the latest Keplarian Elements, Propagation, DX, AMTOR, etc. While STEAMER ONE does not maintain a working library of bulletins, you will find them on RADIO FREQ'S. Check it out! *TN*

NOTE: Last month in the *Tara News* we listed the number for Radio Freq's incorrectly. It is shown correctly below. We apologize for any inconvenience this may have caused the SysOp. Please make this correction to your dialing directory.

•RADIO FREQ'S BBS•
(518) 782-0507
SysOp: Tom Woznack, N2SQO
Latham, New York

FREE!
24hrs. Daily

•STEAMER ONE BBS•
(518) 753-7421
SysOp: Ken Storm, N2VLS
Johnsonville, New York

94CONTST.ZIP Listing of 1994 Contests
BAY-TPK.ZIP Packet Driver Set for TPK
BPQ407A.ZIP G8BPQ switching/host packet program.
DXCOM231.ZIP Drake R8 Receiver control & database program
DXOL.ZIP Bearing, range and signal propagation, by KD5ON
FBB515C.ZIP Bug fix and upgrade to FBB515
FRGSC123.ZIP FRG-9600 scanner control program V1.23.
FT11R.ZIP Extend Frequency Coverage of Yaesu Ft-11R
FT530.ZIP Extend Frequency Coverage of Yaesu FT530
HAMCOMX.ZIP Packet Terminal Program by AE6G
HOD001.ZIP Ham on Disk #1 vol 1 - Newsletter
HOD002.ZIP Ham on Disk #2 vol 1 - Newsletter
HOD003.ZIP Ham on Disk #3 vol 1 - Newsletter
IC2SAT-1.ZIP Extend frequency range of IC-2SAT
ID112.ZIP ID timer for Windows 3.1 by KK7A
JVFAXPCB.ZIP Post Script PCB layout for JvFax
KB0ZPLOG.EXE KB0ZP contest logging program Ver. 940105. Shareware
MACLIST.ZIP List of available MacIntosh amateur radio software.
N6TR405.ZIP N6TR contest logging program
PCTRK30A.ZIP 3D Satellite orbit visualization-File 1 of 2
PCTRK30B.ZIP 3D Satellite orbit visualization-File 2 of 2
PED410L.ZIP CW contest training program.
PKTWIN21.ZIP Packet TNC Driver program for windows 3.1 by G4YFO
SELCAL13.ZIP Marine SITOR SECAL translator
SM410.ZIP Super Morse 4.10 - Morse Code Trainer
SWL120.ZIP Shortwave logging program. Writes QSL's in 9-languages.
SWRADIO.ZIP SW Radio Construction on a budget
TRAK300A.ZIP TrakSat v3.00 Satelite Tracking Pgm-File 1 of 2
TRAK300B.ZIP TrakSat v3.00 Satelite Tracking Pgm-File 2 of 2
TRAKBOX.ZIP PCB layout Corel draw panels by W4UJZ
TS50-1.ZIP Increase output power of TS-50 to 200W
VA-QSO.ZIP Logging program for the Virgina QSO Program
VESTER-A.ZIP SSTV/FAX480/WEFAX System for IBM & Clones by K3BC
VHFDIR10.ZIP Terrestrial VHF+ V1.0 - Active VHF/SHF stations throughout NA
WG010.ZIP Control Program for JRC NRD-535D
WXFAX1_2.ZIP Weather Facsimile Database Program, V1.2.

Editor's Note: If you ever have a need for a particular program but you cannot find it anywhere, drop Stormy, N2VLS, a note or give him a shout on 147.27/R WA2SPJ. Look here again next month for more interesting programs ***From the Modem Line***.

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John Tutein, WM2Y
Ken Collis, N2RXO

Troy Amateur Radio Association
PO Box 584
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place

label
here
Bill

NEXT MEETING: April 19,1994
Green Island Municipal Bldg.

7:30 PM