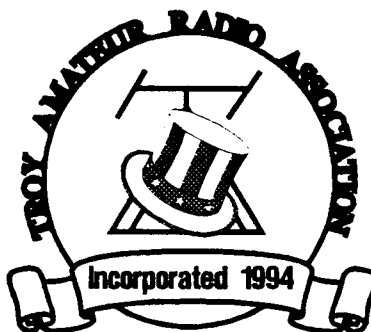


# TARA

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147.27/R  
145.17/R  
444.225/R

## NEWS

Volume IV No. 2

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February 1994

### What is Universal Time, Anyway?

Before 1948, the observatory at Greenwich was known as the Royal Observatory. In 1948, the observatory moved to Herstmonceux Castle in Sussex, and became the Royal Greenwich Observatory (even though it wasn't at Greenwich anymore). The site at Greenwich then became the Old Greenwich Observatory and the historic buildings and instruments there became part of the National Maritime Museum.

The basis of Greenwich Mean Time is the apparent motion of the "mean sun" with respect to the meridian through the Old Greenwich Observatory - zero longitude. GMT uses the "mean sun" because the sun's apparent motion isn't constant. The earth's orbit is slightly eccentric and the plane of its orbit is tilted with respect to the equator. So the sun appears to move faster at some times of the year and slower at others - causing an uncorrected sundial to be off by up to 16 minutes.

When the mean (i.e. corrected) sun stands directly above the Greenwich meridian, the time is exactly 12:00 GMT. Mean times on meridians every fifteen degrees around the globe are called "standard times." Eastern Standard Times (EST), for example, is the mean solar time at 75 degrees west.

In 1928 the International Astronomical Union recommended calling the times used in compiling astronomical almanacs "Universal Time". Even "UT,"

though, has variants. The UT determined by astronomical observations at a particular observatory is called UTO.

The motion of the earth's rotational axis with respect to its crust affects UTO ever so slightly. Correcting UTO for this effect gives us UT1.

But because the earth's spin rate is not precisely constant, UT1 is not a uniform time scale. That's why our civil timekeeping uses Atomic Time - based on the ultra constant frequency of radio emission from cesium atoms when they experience a quantum jump between two particular energy states.

The unit of Atomic Time is the atomic second and 86,400 atomic seconds define the nominal day. Variations in the earth's spin causes the length of the actual day to be shorter or longer than the nominal day.

UTC or Coordinated Universal Time is the time scale based on the atomic second, but corrected occasionally to bring it into sync with the earth's rotation. The corrections show up as the leap seconds put into UTC from time to time - most recently last New Year's Eve. So, GMT - corrected for variations in the earth's spin - and UTC are essentially the same.

by Jim Heil, KB5AWM ARNS Dec. 1993

#### Inside This Issue:

President's Report .....	2	TARA Briefs .....	4	National Weather Service ..	7
Treasurer's Report .....	2	FCC News .....	4	Packet Radio .....	7
Computer Tips .....	3	Mailbag .....	5	Build Your Own .....	8
AM News .....	3	Contest News .....	5	News of Our Neighbors .....	10
Eavesdropper .....	4	VE News .....	6	TARA Trading Post .....	12

## President's Report

**TARA's Future By: "Mr. Bill", NY2U**

The next monthly meeting for TARA will fall on Tuesday, February 15, 1994. I hope we will see you there, if possible. We'll be discussing the future of TARA, not only for this year but for years to come.

One item we still have to discuss is a new candidate for Field Day Chairman. Some months back we voted on having Jerry, N2QIP, return for his second year as chairman but due to graduation ceremonies for Jerrad, KF2MR, he'll be detained most of that weekend. If there is an individual, or several individuals, that would like to volunteer for this position please give me a shout. This does not mean you are left with every assignment of setting up the different operating stations, cooking the food, putting up the tents and raising the antennas. Instead, it means that you are responsible for assigning other members who wish to pick up their share of the load for our Field Day. Remember, this is a club function, NOT an individual endeavor on the part of the new chairman.

Last year we were fortunate to have the amount of time and devotion that Jerry, N2QIP, put towards our Field Day weekend.

Skip, KE2XF, also spent this time as chairman

the year before last. Let's make sure we continue their efforts of excellence again this year.

I have already spoken to our main supplier of equipment, John "Tute", WM2Y, and he quickly acknowledged that both he and his equipment will be there on Field Day. That's a big relief since roughly 75% of the different equipment belonged to John last year.

Those with suggestions, or those that would like to volunteer their help on this committee, are asked to attend this meeting.

Another issue I would like to touch upon is the long range plans of TARA. What do each of you see for TARA several years from now? The Board of Directors have begun discussions regarding this topic. Maybe it's time to begin discussing our options. Now that we're incorporated and will hopefully have tax exempt status soon, does this help change the future for TARA? How many of you think we could, or should, make plans for a building of some sorts to call our own club station? We need your thoughts and dreams.

These are just a few topics for the next meeting. Hope to see you at the meeting.

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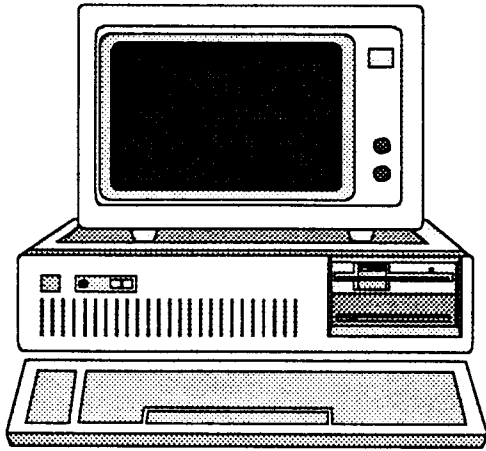
## Treasurer's Report de N2TTA

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It looks like we'll have enough money to make it through Field Day!! With our new dues structure, we won't have any large amounts of money coming in until approximately July 1, when everyone is up for renewal. Until then, we don't expect much in the way of revenue. Expenses coming up before then include about \$500 for insurance, \$150 for the application fee to the IRS for tax exempt status and whatever we spend on Field Day. One thing the Board needs to determine is how much of a "cushion" we want to keep in the account for unexpected expenses. We are considering building up to

about \$2,000 at the rate of \$500 per year. If you have any thoughts on this, please speak to me or any board member.

The powerhouse combo of WB2HKR and N2TTA will be working on finishing up the IRS application for tax exempt status this week. We'll make 'em an offer they can't refuse. Regarding the incorporation, we officially became the Troy Amateur Radio Association, Inc. on January 10, 1994. The filing receipt from the New York State Secretary of State says "Duration - Perpetual." Let's hope they're right!!!



# Computer Tips

TARA Computer Consultant: Tom, N2TTA

## Easy to understand DOS prompts

Now that you've all trashed your Windows programs with the tips from the last few months, let's try some DOS tips. One thing you don't want to do is to have a backup of your root directory on your C drive. Should someone type **DEL \*.\*** at a C prompt when they thought they were at an A prompt, you would really enjoy rebuilding your CONFIG.SYS and AUTOEXEC.BAT files. If you have a bootable DOS diskette with copies of these files from your C drive, use it next time you need to copy a game; you know you'll never need it.

But seriously folks, how about a look at the old PROMPT command. We all know that **PROMPT \$PSG** gives us the drive and directory on the screen. You can do much more than that. Issuing the command **PROMPT Mr. Bill's Machine\$ \_PSG** would result in "Mr. Bill's Machine" on one line, followed by the normal prompt on the next line. Want to have some fun? The next time you're at a friend's house, just type **PROMPT PARITY CHECK 2** and watch for the funny looks of horror. You can also have the date and/or time in the prompt. For additional commands for the prompt, just check your DOS manual.

One final suggestion: Windows allows you to have a different prompt in DOS windows. You do this with the command **SET WINPMT=Windows is Active\$ \_PSG**. This must be typed before entering Windows, or you can put it in your AUTOEXEC.BAT file. Any valid prompt command is allowed. I use the one shown so I can tell if I'm running DOS under Windows or just plain old DOS. Gee, I hope Bill transcribes this so it's understandable!!!

## Ancient Modulation News

We're sure there are still a few of you that remember the good old days when real radios glowed in the dark.

They didn't have Single Side Band either.

If the days of AM still bring back some fond memories for you, why not share them here with us. We have this spot available to a club member that would enjoy taking all of us back each month with a little AM trivia of sorts. You can even keep us updated about the modern day AM'ers and what types of equipment they're still resurrecting. If this sounds like something you would enjoy, please call Jack, N2LBZ *TN*

## Strong support in VHF Sweepstake

The club is presently accepting log sheets from those that participated in this years 47th ARRL January VHF Contest held on the last full weekend in January. With the number of club members heard during this contest our club score should be quite good again this year. However, that depends on each of you to make sure we get your logs. Each contest we go through the same thing. We all want to wait and put off that terrible chore of going through the logs for mistakes, but it has to be done. Hopefully, the sooner the better.

If there are any questions that you need answered please contact our VHF/UHF Chairman Art, KB2JZJ or Chris, N2NEH. Also the club has a large supply of log sheets for those that still do the old method of hand logging and dupe checking.

Please make sure when filling out your claimed score sheet to put the club's name on it. Each year I bet we lose a few points to that minor detail.

Anyone that hasn't already mailed in his or her log is asked to bring them to the next monthly meeting. *TN*

## British Amateur Radio Eavesdroppers Get Busted

Both the *San Francisco Chronicle* (12/28/93) and *Chicago Tribune* (12/27/93) newspapers reported on a rather amusing story involving British ham radio operators. (The story originated over the *Reuters* news wire.)

It seems British cops set up a sting operation to catch ham radio operators in Northern England who break the law by illegally using police radio transmissions. The police issued a phony broadcast about aliens landing nearby and then arrested those who showed up to see the people from outer space. The eavesdroppers "could hardly believe their ears -- aliens were invading planet Earth. Doncaster to be exact." Several people were charged with acting illegally on information contained in police broadcasts.

Another spoof broadcast said bags of money had been discovered in woods with large sums blowing around. Within two minutes, a first car of eavesdroppers arrived in the hopes of picking up some of the booty. South Yorkshire police ordered "Operation Marconi" when they suspected that criminals were benefitting from information gleaned from the airwaves.

While it is not illegal to listen to police radio transmissions in Great Britain, it is against the law to act on any information heard when monitoring police frequencies. It should also be pointed out that in England, scanner operators are also considered amateur radio operators. Tnx: W5YI Report

## TARA News Briefs

■ In anticipation of the Information Highway, firms are rushing to get an "on line" (entrance ramp) service going! The key players now are *America On-Line* ®, General Electric's *Genie* ®, *Prodigy* ® (IBM/Sears) and *CompuServe* ® owned by H&R Block. Together they reach some four million subscribers.

Microsoft ® has a new one coming (Code named "*Marvel*") and Apple Computer launched "*e-World*" a couple of weeks ago which (at present) works only on Macintosh computers and Newton personal communicators. The service will be bundled with every Apple computer sold. Plans are to expand it to IBM-compatible PCs running Windows™ later on this year. Through "*e-World*," subscribers can access the Internet, and other on-line services. Apple-Link, an electronic mail service, will be folded into *e-World*.

■ All Telephone area codes with "0" or "1" as the middle digit have been assigned. New codes will have a middle digit of 2 through 9. This could cause difficulty with some phone systems which preclude long distance access based on the existence of a 0 or 1 as the second digit.

■ If you hear a VE9 prefix on the air be aware that it is New Brunswick, (Canada). Up until last month, New Brunswick amateurs were all VE1s. They now have the option of: (1) retaining their VE1 call or; (2) going to the new VE9 prefix with their current suffix or; (3) obtaining a completely new VE9 call sign. No new VE1 call signs will be assigned in New Brunswick. Tnx: W5YI Report

## News From The FCC

### Call Sign Administrator Plan Laid To Rest

The FCC on December 29, 1993, withdrew an order issued May 1993 establishing a club and military recreation station call sign administrator program.

The FCC said that its newly proposed vanity call sign program, in PR Docket 93-305, and to be administered by the commission itself, would make the administrator plan unnecessary.

The FCC said that its administrator plan would have allowed clubs and military club stations to obtain call signs "without an undue burden on the Commission. A new automated licensing system is being activated that will enable the Commission to perform with minimal additional burden the function that administrators in the private sector were going to provide without reimbursements. The FCC also said that a petition for Reconsideration of the administrator program, filed in June 1993 by David Popkin, W2CC, had merit. Popkin said that contrary to the FCC's Order, establishing a call sign administrator program in the amateur service is controversial, and should have been subject to a notice and comment rule making proceeding. The FCC said it would return applications to be call sign program administrators to the parties concerned, without action. The ARRL Letter

## Letters from the Mailbag

### February 1994

To whom it may concern:

Once upon a time in the land known as Latham dwelt a mild mannered ham known as 'Gentle Ben.'

This kind soul lived in his little kingdom surrounded by his devoted pets and family while living a life of rustic simplicity.

One dark evening a prince from a Kingdom to the south tempted our master to try contacting a station from across the sea. The sorcerer from across the sea muttered the magic words we'll never forget, "You are five by nine," and our master was captured by the DX bug.

The now Not So Gentle Ben surrounded his little Kingdom with a high wire fence and ignored his family and pets and is now found nightly screaming "Kilo Fox Two Lima Whiskey" into his microphone and plotting still longer and higher fences.

The Bond Family

*Editor:* We can only hope that this madness will pass and that once again Ben's family and pets will regain their gentle master from the clutches of the Sorcerer from Across the Sea.

Troy A.R.A.  
P.O. Box 589  
Latham, N.Y. 12110

Dear Members,

While most of us are reading about RF exposure Glenn, WB2FOB, has forged ahead with cutting edge experimentation. Surrounding himself in an R.F. field he bravely uses himself to prove that such exposure has no effect on the human body.

Certain erratic, not to say eccentric, behavior has been noted. We have been assured by folks who know him that this effect is not R.F. related and is only noted during certain phases of the moon and during contests. Anonymous

*Editor:* We will follow this experiment with great interest and report to you in the future.

## Contest News

There were two local amateurs that faired pretty well in the 1993 CQ 160 Meter World-Wide DX Contest, sponsored by CQ Magazine. Overall in this contest the CQ Magazine contest department received 671 CW logs and 387 for SSB. During this contest 26 stations worked all 50 states on CW and just 12 on SSB, while over 100 found the 48 continental states on both modes. Locally George, K2ONP, finished 4th on CW, with a score of 90,090 and Dick, K2POF, finished 7th on CW, with a score of 37,584. Both are members of Albany ARA.

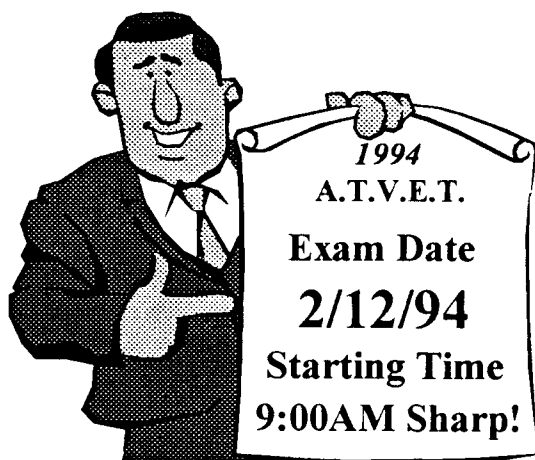
On the SSB side of this contest another local ham Rich, KE2UJ, finished 7th in New York with a score of 4,004 in front of George, K2ONP, who finished 9th with a score of 1,501.

Have you ever wondered just how many different call sign prefixes there are? Well, the recent CQ WPX Honor Roll shows a few guys that certainly have worked a few! Listed on the Honor Roll are John, K2VV, with 4,148 in the mixed mode, 3,522 in the SSB mode, and 3,578 for CW. Next on the honor Roll is Seymour "Ruthless," N2AIF, scoring 1,868 on the Mixed, 1,317 SSB, and 1,506 on the CW mode. Congratulations gentlemen.

### Contest Calendar

- ♦ Feb. 6-7 1994 Classic Radio Exchange
- ♦ Feb. 12-13 EA WW RTTY Contest
- ♦ Feb. 19-20 ARRL CW DX Contest
- ♦ Feb. 26-27 CQ WW 160M SSB Contest
- ♦ Mar. 5-6 ARRL SSB DX Contest

If you enjoy breaking the big pile-ups, you better strap yourself in and try busting the one on 3YØPI, Peter Island. They'll be on all bands, both CW and SSB. Ben, KF2LW, worked 3YØPI on 20 meters SSB the second night they were on the air. Not bad! They expect to work some 60 to 70,000 stations during this DXpedition. Also look for PYØSP from Feb. 3-15 from St. Peter & St. Paul Island. *TN*



## Albany / Troy Volunteer Examiner Team

On February 12, 1994 the Albany/Troy VE Team will be administering FCC exams to all candidates, Novice through Extra. This exam 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 9:00 AM. NOBODY will be admitted into the exam room after the 9:00 AM starting time. No pre-registration 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 photo copies, 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

### 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 6:30 PM at Schenectady High School.

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

### Saratoga County RACES, Inc.

#### *VE Team Notes*

The next VE exam will be administered on May 14, 1994 starting at 9:00 AM at the Ballston Spa County Solar Building on 50 West High Street.

Contact: Millie, KV2A, (518)587-7794

## ATVET 1994 Exam Schedule

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

The following exam schedule will be held on the Campus of RPI in Troy, NY. All Saturday sessions will start at 9:00 AM, with the doors opening at 8:20 AM. Our Wednesday sessions start at 7:00 PM, with doors opening at 6:15 PM.

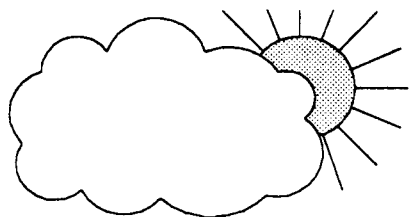
Cancellations will be announced on both the Capital District Repeater Net (Nightly on 146.94MHz at 6:30 PM) or WGY - 810 on your AM dial.

**February 12**  
**March 12**  
**April 16**

**May 14**  
**June 22**  
**July 27**

**August 31**  
**October 8**  
**November 12**

• *Serving the Capital District Since 1984* •



## National Weather Service Report

### *Cold Weather—Hot Technology!*

**By Stan Levine, KB2LNI**

Weatherwise, the month of January was one that most people would rather forget! After a relatively mild and snow free December, January was cold and snowy. In the spirit of the Olympics, the month was a medal winner! It won at least a silver medal as the second snowiest January on record. As of January 28th, 40.9 inches of snow was recorded at the Albany County Airport. The record snowfall for any January was 47.8 inches which occurred in 1987.

We're also on track for a silver medal for monthly temperature. The average temperature for January thus far was 11.6 degrees. If this holds up for the remaining few days of the month, it will be the second coldest January on record. The coldest January on record was a bone chilling 9.7 degrees which occurred in 1970. New low temperature records were set on January 21st (minus 18 degrees) and again January 27th (minus 23 degrees).

Last November, an exciting new radar was delivered to the National Weather Service in Albany. It's been dubbed the WSR-88D. The three letters "WSR" stands for "Weather Surveillance Radar", "88" stands for 1988 which is the year of production, and the "D" stands for doppler. This new radar will replace the WSR-74C ("C" stands for "C-band", or 5 cm wavelength) currently in service. The new radar is more powerful and much more sensitive than its predecessor. It will give our forecasters a much better idea of rainfall intensity. It's even better for snow detection. On the old radar, we were

fortunate to detect snow 50 miles away. However, on the new radar, we've already seen snow squalls forming off of Lake Ontario over 120 miles away.

By far, the biggest advantage of the new radar is the doppler technology. In addition to better estimating rainfall or snowfall intensity, meteorologists are now able to detect particle motion and velocity for the first time. We're now able to see tornadoes developing in the thunder cloud before it actually touches the ground. We're also able to estimate wind velocities associated with thunderstorm downbursts. This will mean more timely and accurate warnings being issued to the general public.

Does the delivery of the doppler radar mean the end of the SKYWARN program? DEFINITELY NOT!!! The National Weather will still greatly rely on reports from its SKYWARN/amateur radio spotters. For one thing, despite improvements in radar technology, nothing beats ground truth reports of weather events. For instance, we may know that heavy rain is falling, but how heavy is it? Is it causing flooding of rivers and streams? Is that funnel cloud detected by the WSR-88D actually touching the ground? How much damage is it causing?

As you can see, we'll continue to need your help as much as ever in protecting people from weather hazards.

## Packet Radio Course Starts Feb. 23rd

*"Introduction to Packet Radio"* Instructed by: Stephan, WA3RKB

Sponsored by CDARC and SMARA

The new *"Introduction to Packet Radio"* course, originally scheduled to begin in January at RPI, has been moved and rescheduled to begin on Wednesday, February 23rd, starting at 7:00 PM, in the second floor meeting room of the Schenectady Museum and Planetarium, located at Nott Terrace Heights in Schenectady. This FREE course will be taught by Stephan Anderman, WA3RKB, over three consecutive Wednesdays with each session lasting 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. Steve promises that the class will be non-technical in nature and VERY informal. Talk-in will be available on the 147.06 repeater. Pre-registration IS PREFERRED so that adequate course materials may be prepared. For more information, catch WA3RKB on packet @ WA2UMX, or various local repeaters.

# Building Your Own Station Accessories

By Jeff Gold, AC4HF, 1751 Dry Creek Rd, Cookeville, TN 38501

## Build it Yourself!

Next time you need an accessory for the shack, or you are in the mood to build, look through the kit catalogs. It's relaxing to sit down for an evening, or for a few hours on a weekend and take your time building one of these small projects. The therapy of building is usually worth the price of the kit. For me, the satisfaction of using equipment that I've built myself can't be beat.

## Frequency Counter

Another useful tool is a digital frequency counter. They are handy for aligning VFOs and other oscillators. Counters are often expensive and most offer the disadvantage of coming already assembled. (Well, at least it's a disadvantage if you're a kit lover!)

I recently put together a HF frequency counter from a kit made by S&S Engineering. The kit with 4-digit display only costs \$49.95. A 4-digit add-on kit is \$16.95. The kit does not come with an enclosure, but sits on four standoffs. You don't really need an enclosure, but you can build one if you wish.

S&S Engineering offers an unusual guarantee. If you build a kit and it doesn't work, they'll fix it. If the fault has anything to do with the kit, they fix it free of charge. If you messed it up, they fix it for less than \$25.00. They boast a 24 hour turnaround time on repairs.

The parts are all good quality and the printed circuit board is the finest I have ever seen in a kit. It's clearly silk screened, plated through and double sided. I loved soldering the components onto the board and it looked great when it was finished. Parts are packaged separately so it takes a minimal amount of time to prepare the kit for assembly. This attention to preparation makes the kit a lot more fun to build.

The counter works great. I own the 8-digit model and have tested it against more expensive, factory-assembled frequency counters. Its accuracy was comparable.

I modified my kit slightly by installing some test leads with alligator clips. I found that when I grounded one lead to the chassis of a transceiver and laid the other lead across the back of the antenna connection, the counter read the frequency accurately. If you take the positive lead and bring it near an oscillator circuit, it will read the frequency, too.

## Audio Filters

When operating any transceiver there are times when you need to filter out unwanted noise or interference. One approach to noise and interference reduction is to use an audio filter. These filters can easily be plugged into the headphone or speaker jacks of your transceiver.

A simple, effective audio filter is available in kit form by Oak Hills Research for \$69.95. The original design for this filter was presented by Samuel Ulbing, N4UAU, in the October 1992 QST. The filter is a switched-capacitor type (SCAF). It has six different bandwidths ranging from 108 Hz to 2440 Hz. It reduces noise and interference by narrowing the audio-frequency bandwidth to the range specified by the switch setting. Any signals that fall outside the bandwidth are reduced or eliminated. The filter is selective and effective for both CW and SSB. It operates on 12 vdc and requires only 50 mA of current. The filter measures 1 3/4 x 4 1/4 x 3 3/4 inches.

The kit is 100% complete and comes with a nice cabinet. It's easy to assemble with the detailed instructions included.

In preparation for Field Day 1993, a few of us at the university ham club persuaded the membership to invest in a narrow CW IF filter for the club's Kenwood 440S/AT transceiver. (Unlike an audio filter, an IF filter restricts the signal bandwidth in the intermediate-frequency [IF] stage of the radio.) During the previous Field Day we were unable to use this rig for our CW station because it was too hard to separate all the incoming signals without some sort of filtering. We borrowed an older radio with a CW IF filter and the our team brought in more points—with about one fourth the number of operators—as the SSB team.

This year I brought along my newly assembled Oak Hills switched-capacitance audio filter and an extra keyer or two. When Field Day started we found the Kenwood worked much better with its new IF filter, but we needed even more filtering. We hooked up my Oak Hills audio filter and had a good deal of success using it. The only problem we encountered was a loud popping sound in the headphones whenever the operator switched filter bandwidths.

Tejas sells a variable-peaking bandpass CW filter. It's a two-stage active audio filter that has a control for peaking the center frequency of the received signal. The PC board is only

1 5/16 x 2 1/2 inches, making it small enough to add to existing QRP rigs or other equipment. The kit comes with a silk screened board and instructions. I found that even with a well-filtered power supply, the audio filter picked up too much noise. I changed the power connector plug at the rear of the



case and direct wired some battery connectors. The filter works well when powered from my 12-volt gel cells.

The Tejas filter is a good performer in crowded band conditions, or when you're grappling with a serious noise problem. The complete kit with a small enclosure sells for \$49.95. You can also buy the basic kit with the PC board and parts only for \$29.95.

When you're shopping for audio filter kits, don't neglect DSP (digital signal processing) technology. DSP filters take the audio from your transceiver and chop it up into digital data. Sophisticated programs sort through the data, reducing or eliminating anything that doesn't meet the filtering criteria. Finally, the data is transformed back into audio—minus much of the annoying noise and interference.

In the September 1992 QST, Dave Hershberger, W9GR, presented a low-cost DSP filter project. He also made available a circuit board and parts kit. He later updated his kit to include a single processing chip that performs ten filter functions. You'll need to provide an enclosure if you build this kit. (The board fits nicely into a Radio Shack 270-253A cabinet.) The circuit board is top quality, clearly silk screened with plated-through holes. The kit comes with instructions and is easy to build. It sells for \$125.

You install the DSP filter between your rig and your speaker or headphones. The filter operates from any 12-volt power source and has an LED bargraph display to indicate audio level and filter selection.

In position one, the filter acts as either a switch-selectable dual-noise filter (QRN reducer), or as an automatic notch filter (eliminates multiple tones). In position two, the filter acts as a simultaneous noise and notch filter. Position three is an optimized noise filter and position four is an optimized automatic notch filter. Positions five through nine are CW filters with different center frequencies and bandwidths going down to an ultra-narrow 30-Hz bandwidth! The last position is an HF packet and RTTY filter. I have my DSP hooked to my Kenwood 850s and find that it works extremely well, especially on 40 and 80 meters when conditions become rough.

## Antenna Tuners

Whether you're running 1 watt or 100 watts, you want to make sure that all of your power is being transferred to your antenna system. If the SWR at your transceiver is 1:1, you're fine, but this is not always the case. When the SWR climbs above 2:1, many transceivers automatically reduce their output to avoid damage. If you must operate into a high (2:1 or greater) SWR, you need an antenna tuner.

Townsend imports the C. M. Howes CTU30 QRP antenna tuner kit. The tuner covers all bands from 160 up to the top end of 10 meters. It works with up to 30 watts output and accommodates coaxial cables or balanced (open-wire) feed lines. The kit comes with a silk-screened printed circuit board

and board parts. You must provide your own enclosure. The kit sells for \$66.95.

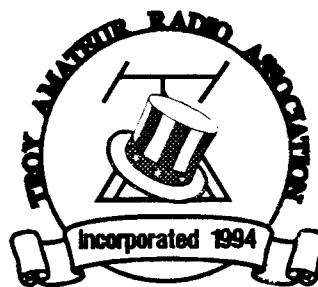
Howe has a unique approach to some of their kits. You can buy sub-kits which function on their own. These can be incorporated later into a larger units. For example, you can build a transceiver by buying separate receiver, transmitter, VFO, S meter and audio filter. You can build, test and use each part separately, or combine them to make a complete radio. The same is true for their antenna tuner accessory. I built the tuner first, then the oscillator and then the SWR/power meter. When I had finished all three kits, I put them together in a single station accessory that functions as a tuner complete with dummy load, SWR/power meter and side tone oscillator.

Kanga is an English company that sells kits. Kanga US distributes them in this country. These are fairly inexpensive, bare-bones kits for the more experienced builder, or the builder that likes to customize projects. You get the basic circuit parts, a schematic and basic instructions. I built their Super Vee antenna tuner. This is a tuner designed by W3TS. The kit sells for \$20.

The parts consist mostly of slide switches and inductor cores. You wind the inductors and solder them directly to slide switches. The tuner works with coaxial or balanced feed lines. The directions tell you to select either type and build accordingly. (I added an additional switch to allow me to select the type.) Using slide switches to match an antenna system takes some practice, but once you find the appropriate settings, it's easy. You must provide your own enclosure. The only hard part about building this tuner is cutting the square holes in the enclosure for the slide switches.

*Please Note:* The TARA Bookstore has ARRL publications aimed at the new electronic experimenter.

- **First Steps in Radio** \$5.00
- **Understanding Basic Electronics** \$17.00



## News Of Our Neighbors

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

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

The Rippers had a good showing at the annual "rumble" held at the Four Brothers Restaurant. They got there early to be sure there was enough food to feed them. All told, they had about 40 members there, including wives and guests.

The illustrious Dave the Rebel, WD2K, received a beautiful award from TARA. It was a framed gift certificate for one visit to Dr. Jack Kervorkian.

There is an upcoming Novice/Technician class to be held at Ichabod Crane High School. Pre-registration is requested.

RVWARS didn't participate as a club in the January ARRL VHF sweepstakes. They're still biting their nails waiting for the results of the November HF Sweeps. But we all know what the outcome will be!!!

Anyone that requires information about this club please contact Dave Watrous, WD2K, at home (518) 732-7532 evenings please. TN

**A.C.E.S.**

**Albany County Emergency Services**  
Club Repeater: 147.12/R WB2ZCM

Albany County Emergency Services is planning to conduct both Novice/Tech and General Class instruction sessions, in conjunction with TARA. Classes are planned for 3 consecutive Saturdays in March (total 6 hours each day). Anyone who can assist as an instructor is asked to contact Bob, WB2ZCM, Ken, KB2KFV or Tom, N2TTA. Even if you can only teach half of one Saturday, that would be great.

The February meeting included a presentation on amateur and emergency communications presented by Frank, WB2HKU, who is a professional emergency communications operator. Next month we go to MARS with John, WA2QCY.

Meetings are held the first Tuesday of each month at the Albany V.A. Hospital. For more information concerning Albany County RACES, contact Chief Radio Officer Bob, WB2ZCM, at (518) 237-8473. TN

**S.C.R.A.**

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

The long awaited date for this years 9th Annual Ballston Hamfest '94 has just been announced. This event will take place on Saturday, September 10, 1994 at the Ballston Spa Fairgrounds. Now if that isn't enough to get you thinking of the upcoming season, how about their Fourth Annual swapfest? On March 14, 1994 RACES will once again sponsor a swapfest that will be held in the county Solar Building the site of their monthly meetings.

The next RACES sponsored VE exam will take place on Saturday, May 14, 1994.

Please remember that Saratoga is still helping with the National Weather Service Fund Drive. If you know anybody that would like to donate to this very worthy cause they may contact Millie Feeny, KV2A at (518) 587-7794. If you need to find out more about this organization please contact President - Jim Polewczak, KG2H, at (518) 695-6878. TN

**B.A.R.C.**

**Burlington Amateur Radio Club**  
Club Repeater: 146.61/-600

BARC recently had their hands full when a 12,000 gallon liquid propane tank caught fire on December 30, 1993 at 2:45 PM in Burlington, VT. All residents that lived within a one half mile radius were ordered by emergency officials to evacuate their homes. On January 31, at 6:00 AM the Governor of Vermont, Howard Dean declared a State of Emergency and Vermont National Guard troops were activated to assist with roadblocks and aircraft for monitoring the site. At one point, plans were made for an ATV (Amateur TV) monitor to be installed at the fire for monitoring purposes. BARC contacted Randy, KA1LEX, and Eric, KA1BJP, who were quickly put in charge of this operation. Although the ATV was never used, Command Post officials were very impressed with their capability and have added it to their resource list. Members of this organization provided a grand total of 268 man-hours. TN

## News Of Our Neighbors

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

**R.C.RACES.**

Monthly meeting for RACES are held on the second Wednesday of each month on the Campus of HVCC in Troy.

Over the winter months the 145.37/R (N2JXO) has experienced several problems in the final section that left it off the air. This is not the first time this repeater has been plagued with this problem, but as of Monday, January 31, it was back running with the Satellite Net. During the down time the net moved to the TARA repeater on 145.17/R. The bulletin service "This Week In Amateur Radio" will be on soon.

On Wednesday evenings at 7:00 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

### *Albany Amateur Radio Association* Club Repeater: 145.19/R KM2H

**A.A.R.A.**

Albany's new Vice President, Dave Jones, WB2YLR, is calling upon club members to become Elmers. These new Elmers would be available to answer questions on a wide variety of topics. (Refer to this month's article from Bruce, KA2HRM, about becoming an Elmer). If you are interested please contact Dave at the monthly meeting in February. Also Geoff Phillips, N2TJK, will be chairing a committee

for newcomers.

Last month Stan Levine from the National Weather Service of Albany discussed the new equipment recently installed at the airport. This new equipment included the new Doppler radar system. Albany meets the second Friday of each month at the Colonie Community Center off of Central Avenue. These meetings start at 7:00 P.M. with a social gathering, followed by the regular meeting beginning at 7:30 PM. To get more information about Albany A.R.A. please call Ernie Popp, KA2HTU, at (518) 477-9581 TN

### *Schenectady Amateur Radio Association* Club Repeater: 147.06/R K2AE

**S.A.R.A.**

The February monthly meeting had guest speaker Jim Greene, WA2FTX, speaking about the SKYWARN program. Jim is no stranger to SKYWARN or RACES operations and holds the office of Assistant Radio Officer of Schenectady County RACES.

On February 5, 1994, plans are called for an organizational meeting to be held at the county EOC in the Schenectady Police Department.

In the latest issue of the SARA News it was requested that during winter months or inclement weather to please leave sufficient space between each transmission for breaking station with emergencies traffic. They ask everyone not to just acknowledge the breaking station and go on with a long "philosophical dissertation." To find out more information about SARA contact President, Don Walsh, WA2TSW, on the 147.06/R TN

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

**So.V.A.R.C.**

As of press time we still haven't received full results from the elections recently held. However, inside sources tell us that one of New York's most noted amateurs Walt, AA2KM, has filled the office of Vice President for SoVARC. Keep in mind that this is the same individual who operates a bull dozer on one track, transmits on his 2 meter radio while the antenna is in the trunk, and runs around in the back yard of Al, WA2FQL, calling like a turkey.

SoVARC presently is accepting projects for 1994. Some new projects include a 450 MHz repeater, 2 meter packet node and possibly a summer picnic. President Randy Gates, N1GWL, explained to the membership that these new projects could become a reality if everyone pulls together! The next meeting of SoVARC will take place on February 22, 1994. TN

## OFFICERS

President: Bill Eddy, NY2U 273-9248

Vice President: Jack Culliton, N2LBZ 271-6763

Secretary: June Smith, KA2VEK 664-4521

Treasurer: Tom Remmert, N2TTA 456-6191

Sergeant at Arms: Skip Wilson, KE2XF 664-4521

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Sue Rothschild, N2LBR

Events Committee: Ken Davis, KB2KFB

UHF/VHF Contest Coordinator: Art Ceas, KB2JZJ

Chris Linck, N2NEH

VE Team Contact Bud Hovey, WF2B

Field Day Committee Chairpeople :

Jerry Jackson, N2QIP

John Tutein, WM2Y

Ken Collis, N2RXO

Troy Amateur Radio Association  
PO Box 584  
Latham, NY 12110

NEXT MEETING: Feb. 15, 1994  
Green Island Municipal Bldg.

7:30 PM