



December 1994 Volume 3 Number 12

# The President's Column

For another month the weather has been cooperative and mild. I/we have accomplished much more than we had planned or had a right to expect. The last week alone, I worked on three tower projects. The repeater tower, K1BG's, and my own. I hadn't dreamed of a tower the beginning of summer, to have it up at 50 ft with my 2 meter stuff moved to it gives me a real sense of accomplishment. I thought it would be 50 ft wide and one foot high till next summer. Hihi.



As the year close draws to а there some are things we need to think about. Next month we need volunteers for an officer nominating committee. The elections being at the April meeting. We also

need to get a few people, for a Field Day committee, to start the planning for that June event. In January we should also be running both a new Novice class in Pepperell and the final weeks of the Technician class in Groton simultaneously. Each of these takes at least a few people if we want them to be successful. So we will need some help on these.

I've set two personal goals for this winter. You might call them advanced New Years resolutions. I want to achieve WAS. I only need one state to do it. The problem is it is Hawaii. The other is to get DXCC on CW. That is 100 confirmed countries. I need 30 or so to make it. Band conditions are not going to make this easy. One thing I've never done seriously is plan a contact. That is; looking at the propagation charts and scheduling to be on the air at the "proper times". But with the places I'm looking for, the equipment constraints, and the band conditions that's the most reasonable approach.

While thinking about some of the early "95" activities, renewing our status as an affiliated club came to mind. For the most part it is just filling out the form. We more than meet all of the minimum "club type" requirements. There's only one that takes people other than the officers to complete. It is the 51% or better ARRL membership. I don't know off hand where we stand today. But I wanted to plug League membership. As we get new members they may not know what the league does. As the only organization that represents our interests, at levels higher than the local community, it is important to us. Like all political things there are those who agree and those who disagree with each and every one of its decisions. But as an organization which is recognized as representing the general wishes of US amateurs we should think about supporting it through membership. For example, the ARRL band plans. The FCC uses the ARRL Band Plan for a quideline and has levied fines on people for interference classifying it "malicious" And therefore the malicious interference penalty. In any case the more members we have, the less I have to worry the next time I fill out the affiliated club paperwork, purely a selfish motive from that perspective....Stan

### At The Last Meeting

The November speaker was Martin Bayes W1/G4DZC. Martin presented on a Dxpedition he undertook to Fiji. With slides, a story, and humor. He related the amount of work and preparation that



goes into operating from a foreign country. Such as is there electricity, licensing arrangements, hotel accommodations that are acceptable both inside and out. Nice presentation.

Clint said "Good-bye Y'all". He will be receiving this newsletter down in Texas.

We had a 'everyone wins something drawing". Sergei UA3AGS donated a bag full of Russian items, many with his call on them. Also some Russian radio pins. We ran through all the tickets, everyone choosing an item. The last drawing was the 50/50 raffle which Wolfgangs(KA1VOU) son won.

Stan

# This Months Speaker & Beyond

No speaker this month. We all get to speak about what it is we brought for Home-brew night. Any helpful or creative project could be a good entry. It could be the Teak book stand you built for your log book. It could be that switching arrangement or it could be the Ham Shack you designed. If you can't bring the project...bring pictures. Last time we had about six projects, and since they were classified as six categories, we had six winners. Don't be shy. Stan

# The FCC Doings

(Info gleaned from the ARRL Newsletter and elsewhere)

Effective January 1 1995 the FCC's maximum fee for an amateur license will be \$5.92. The ARRL VEC will charge \$5.90 to each applicant (other than those taking only 1A or 2)

Stan KD1LE

### **\$The Treasurer's Report\$**

For the month of November expenses were \$12.25 and income was a whopping \$49.50 from membership dues, split-the-pot, and one ARRL renewal. The fund balances are:

> General fund\$460.65 Education fund\$240.00



Remember; if you are an ARRL member, renew your membership through the club. As an Affiliated Club, the League permits us to retain a small portion of your ARRL dues--but the club treasurer has to send your renewal in with a special form. Check your latest

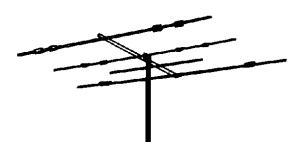
QST mailing label for your expiration date.

If you are not an ARRL member but are thinking of joining, send in your membership through the club. The League lets us retain a larger portion of new member dues!

I have a supply of ARRL membership forms in the box I bring to every meeting. So you can save yourself a stamp, too. 73 de Ralph KD1SM

Antenna Bills

Date: Mon., 5 Dec. 94 14:06:42 -0500 From: "Shawn O'Donnell"



chairperson Representative (and Framingham Amateur Radio Assoc. member) Barbara Gray.

The bill is now in the House Committee on Bills in the Third Reading. No, I didn't make that up, and it's not from a Monty Python skit either. There is such a committee, and until it reads that bill and approves it, our bill will not make it out onto the floor of the House for a vote.

The House Committee on Bills in the Third Reading is--Chair: John F. Cox (Dracut, parts of Lowell); Vice-Chair: Robert DeLeo (Winthrop & parts of Revere) and Bruce Tarr (Gloucester, Manchesterby-the-Sea, Rockport). 617-722-2410.

Call the Committee on Third Readings and/or your Representative. It's the end of the year and the legislators are dealing with more important things like, well, giving themselves raises. There's always a big crunch at the end of the year, and we have to make some noise if we want to get some attention.

#### PLEASE CALL NOW!

Boston & Cambridge Residents: Once our bill makes it through the House, we'll need someone in the Senate to help. Fortunately, Senator Robert Travaglini is the Co-chair of the Local Affairs Committee. The bill is out of the committee now, but the Senator can still help us. We need support on the Senate side, and he may be willing to help out on a bill he's already signed off on. A call from a couple of constituents reminding him about H-4201 and why it was a good idea in Committee might help. Hey BARC officers--can we get something on club letterhead sent to the senator's office? And is the senator a member of \*your\* club?

Please feel free to forward this message. We need phone calls. Thanks.

Shawn O'Donnell, K3HI ARRL State Government Liaison 4 Blueberry Circle Framingham, MA 01701 508 877 7635

Subj: PRB-1 Bill Emergency ANTENNA LEGISLATION EMERGENCY

#### Re: Massachusetts PRB-1 Bill, H-4201

Today we have good news and bad news on H-4201, but it's mostly bad news. The good news is that the Committee on Third Readings has forwarded our bill to the floor of the House of Representatives. The bad news is that a Republican representative from West Springfield, Walter Di Filippi, has amended the bill so that it is now not only useless, but dangerous. It would be worse to have the bill as it is amended than to have no bill at all.

H-4201 now reads (with the amendments in CAPS):

No zoning ordinance or by-law ENACTED BY ANY CITY OR TOWN WHICH HAS APPROVED THE PROVISIONS OF THIS PARAGRAPH shall prohibit the construction or use of an antenna structure by a federally licensed amateur radio operator. Zoning ordinances and by-laws may reasonably regulate the location and height of such antenna structures, provided, that such ordinances and by-laws reasonably accommodate amateur radio communications by federally licensed amateur radio operators and constitute the minimum practicable regulation necessary to accomplish the legitimate purposes of the city or town enacting such ordinance or by-law. NO SUCH ANTENNA WHICH CONSTITUTES AN EVIDENT SAFETY HAZARD OR DIRECTLY CONFLICTS WITH LOCAL SAFELY ORDINANCES SHALL BE CONSTRUCTED OR ERECTED.

If taken literally, the bill would allow cities and towns that do not approve the provisions of the paragraph to adopt 'unreasonable' regulations on amateur antennas, at least under Massachusetts law. That's a go-ahead to make regulations worse than they are now!

#### WHAT HAPPENED?

Instead of reporting to the Local Affairs Committee staff that they had questions or problems with the bill as it was, the Republican house members simply put through their amendments. The Local Affairs staff member that had been helping us was surprised to find out about the amendments and reported them to me just a few minutes after the House Calendar with the amendments was published.

#### WHAT IS TO BE DONE?

The bill cannot be changed before it gets onto the House floor, but we have a crack at putting the bill back into its original form when it gets to the Senate. Our staff member is going to speak with Senator Travaglini to ask him to put the bill back into its original form, or at least take out the offensive amendment in the first sentence. If Senator Travaglini won't help, our staff member said he'd go to his own Senator!

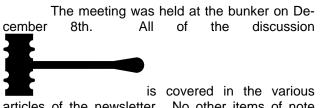
Once again, I'm asking all Boston, Cambridge & Winthrop residents who are constituents of Senator Travaglini to make a phone call and ask the Senator to put the teeth back into H-4201--take out that amendment that allows a local option. The point of the bill is to put Federal preemption into Massachusetts law, not to encourage every city & town in Massachusetts to pick which Federal laws it obeys. The senator's number is 617 722 1634.

Let's not worry about the safety amendment. Not only will we look stupid if we demand that it be taken out, but its presence may appease someone who would otherwise think we're trying to sneak something through. The second amendment--that antennas must be safe--is one of those "Rule Number 2 is, Obey Rule Number 1" laws, and we can live with it (aren't we already living with it?) if that's what it takes to get PRB-1 into Massachusetts law. I'll keep everyone updated on what I hear. Stay near a phone, and find out who your state senator is. You're going to be calling him shortly.

Spread the word!

Shawn O'Donnell K3HI ARRL State Government Liaison 4 Blueberry Circle Framingham, MA 01701 508 877 7635

### **Board Meeting Notes**



articles of the newsletter. No other items of note and no financial issues.

The Pepperell Parks and Recreation Committee newsletter went out and has a listing for a class after the first of the year. If enough people sign up we will need help to teach it. For a few weeks it will run concurrently with the Groton class so that makes it a little more difficult.

Stan KD1LE

# **ARRL EMA**

Excerpts from Phils notes....

The Eastern Massachusetts section leadership held an organizational meeting November 15. Acting Section Manager Phil Temples K9HI called the meeting to order. A Moment of silence was observed for Dave Crocker W1TMO. A proposal for a fund with the ARRL Foundation to honor Dave was proposed.

Staff changes;

N1IST-----Bulletin Manager K3XL-----Section Emergency Coordinator KA8SCP-ASM for Internetworking KB2R-----ASM for Operating Activities WA1IDA-First ASM



There was discussion about Phil's plans to push down the responsibilities to the various leaders. Phil defined the roles of the new ASMs. In addition he will appoint regional ASMs for Cape Ann, Cape Cod, and ASMs for VE. and vouth activities. Terry KA8SCP discussed how Ham radio might serve some state agencies. Dave K1MBO gave the OO report and discussed the need for local interference committees. There

were recommendations for candidates to fill the

Technical Coordinator and ASM/Youth positions. There was a critique of the SET. Credit was given to K3XL and WA1TTV for the recent section wide SET. WA1TBY was asked to explore expanding the distribution of the Networks (the section NTS newsletter) to west Mass traffic handlers.

December 6, 1994

FROM: Phil Temples, K9HI Section Manager, Eastern Massachusetts

#### KC1VS APPOINTED ASM FOR EDUCATIONAL ACTIVITIES

Today I have appointed Larry Ober, KC1VS of Acton, MA as an Assistant Section Manager for Educational Activities within the section.

Larry earned his Novice ticket in 1989 after thinking about it for twenty-five years and presently holds an Extra Class license. He is President of the Middlesex ARC and has been active in club work for the past five years, both with Middlesex and the Boston ARC. He has taught licensing classes to adults and young people, helping a number of newcomers earn their first license. He is accredited as a Volunteer Examiner. Larry primarily operates HF phone but has been known to visit the Novice CW bands. The digital modes are next on his agenda. Education remains his pet interest and he has a strong commitment to elmering as well as the promotion of amateur radio in the schools.

Larry's contact information is as follows:

Larry Ober, KC1VS 51 School Street Acton MA 01720 Tel: 508 263-2498 Packet: Email: leo@tiac.net

Please join me in welcoming Larry to the important section leadership position!

### 1994/95 Groton Class

In spite of a snowy night the class had a successful trip to the Acton VE session Dec. 7th. Students earned various licenses and CSCE's during the session.

# **ARRL NOTES**

Phil Temples K9HI has been appointed to fill the term of Dave Crocker as Eastern Massachussetts Section Manager. CQ Magazine prepares to unveil its 50th anniversary issue in January. It will have a 72 page section on the history of ham radio.

The GOLIST is changing hands. Jay and Jan O'Brien, W6GO and K6HHD are retiring next month after 15 years of publishing the W6GO/K6HHD QSL Manager List. The new proprietors af the list are Paul and Nancy Smith, N4FFO and KB4RGW, of Paducah Kentucky. The Smiths say they plan to continue the List in all its forms, including DX-BBSm without interruption.

# Hamfests & Survival Guide

The Algonquin ARC will hold an ARRL approved Hamfest on February 18, 1995. Hosstraders May 13, 1995

### Below is an article about Hamfests.--Stan

With the Hamfest season swinging our way again, I thought that this article would be of some help to those looking for equipment. Also, there are some "rules of thumb" for hamfests. I hope that you enjoy this article and find it informative.

Sometimes, a non-ham friend will ask me, "What is a hamfest". My usual response is, "Well, it's basically a flea market where electronic and ham radio stuff is sold". Sounds deceivingly simple, doesn't it? Of all the amateur radio activities that I participate in, none gets me more excited than a good, old fashion hamfest/swap meet.

No doubt many readers of this essay will have attended swap meets themselves and they probably will have heard several "rules of thumb" on how things are done and where the bargains are. In the following paragraphs, I'll talk about some of these rules and about a few others that I've learned on my own.

"Get there early because all the good deals go down before daybreak." Well, yes and no. Those "good" deals that go down early are often made by two groups: ignorant sellers and smart buyers, or smart sellers and ignorant buyers. Hopefully, you will be on the buying end of the former group. And hopefully, you'll be on neither end of the latter group.

The ignorant sellers are those who are offering a TS-940 for \$400. They simply don't know what their stuff is worth and since they haven't toured the grounds yet they're not likely to find out. Should you take advantage of their ignorance? Well, if you don't then someone else surely will. Watch out for basket cases. Don't hesitate to ask the big question, "why are you selling it?". Pay close attention to lots of uh's and er's in the answer.

How many really hot, smoking deals on late model, expensive gear are out there to be had? Once in a while one comes along, but on the overall, few if any. Most hams know what they have, know what they paid for it and know what it's worth. If you hear a fantastic deal such as "I'm selling this 940 for \$400 because I just want to get rid of it..." then buyer beware, there is no free lunch - if it looks too good to be true, than chances are it is! The best value deals will generally be on equipment that is 5 to 10 years old.

Ignorant buyers are those who blindly believe that "the best deals are the early deals" and are predisposed to spending their money no matter what. They will probably buy the first piece of equipment they see which remotely resembles their wants and needs. An informed buyer will have cased the swap meet at least once before making an offer on anything. Some buyers will even come out with flashlights as the sellers are unloading their cars hoping to find that elusive deal. Personally, I prefer daylight to flashlight if I'm going to spend anything over \$100. I really have to SEE it first.

Experience has shown that prime time at most hamfests is between 8 and 10 AM. Hamfests which start earlier sometimes do some business before 8 AM but the real crowds, and the real competition (both buying and selling) happens during prime time. Prices never go up as the day wears on, they only go down.

Another "great deal" time is also at or near the close of the event. You can often prey on seller desperation by waiting till closing time or until he's packing up before submitting your insultingly low offer. If he's hungry, he might just take it. Also, many sellers revert to giving things away rather than cart them home. I've picked up - and disposed of some good stuff this way.

"I've got a few things to sell. How do I set up a booth?" A few basic things: Try not to look too professional and try not to look too naive. If you look like the sidewalk sale at K-Mart then many buyers will peg you as a pro and will walk right by. If you have your stuff heaped in a pile on the ground, you'll get plenty of lookers rummaging through it but don't expect to make any money. Try for a middleground, soft sell approach. Avoid prepackaged and shrink wrapped items, and avoid store bought price stickers. Arrange your merchandise so that people can easily touch it and gather around it.

If you have original equipment boxes, keep them visible but off of the main display (looks too professional). Don't use a cash box or register. Avoid big, fancy printed signs and advertisements neat but handwritten notes on index card sized pieces of paper look more sincere. Do everything you can to have at least one other person helping you. You'll need this person to take over for you so that you can do some buying yourself and to perform the necessary recon to check your prices. Don't expose yourself to petty thieves.

Expensive handhelds should be kept visible but just out of reach. At a certain hamfest a few years ago, one guy stepped up to a commercial display and picked up a handheld and began looking at it. A few minutes later the clerk noticed something awfully strange: That new handheld had metamorphosed into an old, beat up IC-2AT!

Some dealers don't open their booths until after they've had a chance to go shopping first. Some of these guys are very shrewd and will go around buying up a lot of things which will then show up for sale in their booths a little later in the day. I suppose that there's nothing much one can say about this sort of thing but it does tend to rub me the wrong way. Needless to say, these guys are sharks.

Here is the second part of this article, I hope that you find this information useful in your search for the "Great Deal" at the hamfests.

### "HOW ABOUT PRICING AND HAGGLING?"

Make no bones about it, you're in a flexible price environment. Both buyer and seller alike are aware of this, and it's expected. Many people won't buy regardless of the price unless they can negotiate for some kind of discount. I've come down as little as 5 percent to make a sale which wouldn't have been made otherwise. Buyers want a deal, regardless of the price.

Never, ever, price your for sale item at your minimum price. Avoid the use of the word "Firm" in your pricing. You can keep the firm or lowest price in your head. If you don't like to haggle then don't expect to sell much, or, if buying expect to overpay.

Don't be insulted by a 50 percent offer on your asking price, its a typical ploy. A large percent of such offers really mean "I'll give you 75 to 80 percent of what your asking for". Don't shut your bidder off with a blunt "no" response - unless it's so ridiculously low as to be obviously insincere. Do your best to counter any offer you get. You must show at least a willingness to concede something.

Research your prices before the event. New gear less than a year old typically loses 20 to 30 percent of its value - sorry, but its a fact of life. Nobody is going to buy your "mint" condition rig on a 10 or 15 percent discount off the list. Get the AES catalog - its the pricing bible for new and late model gear. Gear that's between 2 and 5 years old is typically worth between 50 and 70 percent of its original purchase price. Don't bother consulting those fictional manufacturer's "list" prices, as everybody knows that they're just hype. Older gear is priced roughly 30 to 50 percent of what comparable new gear would cost. For example, a Kenwood TS-520 (non digital) will go for around \$300 while a new TS-140 is about \$750.

A note about options such as CW filters, PL encode/decode modules, desk microphones, and other add-ons: sadly, they plummet in value much more rapidly that the gear to which they're attached. When the prospective buyer looks at a piece of used gear, the options add only about 30 percent of their original value to the price, regardless of the age of the equipment. For example, a PL decode unit might cost you \$80 new. It won't however, add anywhere near \$80 to the resale value of the rig. This is especially true for the hand-held (HT) accessories. \$150 dollars of HT accessories will be lucky to new you \$50 dollars in resale - when sold along with the rig. Selling them separately does no better, you lose either way.

There are a few brand names which hold their prices better than others. For HF gear, the Big 3 (Icom, Kenwood, and Yaesu) hold their value over time the best. In used rigs, Collins is the all time leader in resale value retention. Don't get suckered into paying too much for a Collins, because for the same money you could probably buy a new transistorized (and WARC capable) rig from one of the Big 3. Drake has a brisk second hand market, especially the newer models. Forget about Swan, Eico, Gonset, most Heathkits, Atlas, Galaxy, and most of the all-tube rigs (except Collins). Lovers of these older rigs please don't take offense, I'm simply stating that their resale values don't hold up very well.

In the classic arena, Hallicrafters, Hammarlunds, Johnsons and National's seem to be quite well liked. Each brand has a range of models ranging from CB-style cheap to broadcast or mil-spec quality. Prices vary with function, condition, and sentimental value to the current owner.

When selling new, late model gear, some buyers may grunt that your price is too high and that with a new one they can get a warranty. I've successfully countered this argument - and won - by offering to warrant the unit to the buyer myself, it works! This shows that you're 100% confident in the equipment and that it's worth every penny of your asking price.

Here's a potpourri of miscellaneous observations about buying and selling:

Don't bother with Old Farts who only have one thing to sell. It's usually their dearest old HF rig that they bought new in the mid-70's. You can bet that it's overpriced, and that he really doesn't care if he sells it or not. Yes, we know that it's unmodified, that it's been meticulously fed and cared for, that it has the original cartons, manuals, and sales receipts, and that he's damned proud of it. But remember, its still a used rig that's worth the prevailing used price plus at most 10 percent more for being in excellent condition.

If you're a seller and things are moving really fast, and/or people don't seem to be haggling much, then take note - your underbidding your merchandise. Don't wait until you're almost sold out to realize this. If you have several of the same item, try to hold a few in reserve for this contingency. If you show a box full of 100 of the same widget, the seller will offer you less than if you only had one or two on display. Never get sentimental or emotionally attached to any item. This killer attitude can cost you big \$\$\$. If in doubt, don't. Pause, wait, research, and rethink your position before you buy. Don't let the seller know when you are absolutely in love with an item - it'll cost you. Find out if the seller is a local ham or not. Bluntly, local hams are less apt to screw people which might hear them on local repeaters. It's one of the peculiarities of this hobby people talk. It can help you and it can hurt you. Ham gossip travels relativistic speeds. If you take advantage of people, or if you misrepresent your wares, you'll soon be persona non grata both on the air and around town.

Rigs which come with service manuals: This definitely means that the owner was a tinkerer. It could mean that the rig has or had serious problems. It might mean nothing - just something else to think about.

When buying old, tube-type gear, be especially cautious of those which utilize TV sweep tubes in the finals - most of them stink. Even Heathkit used 6146's (as did Collins), which are a good indicator of a robust design. When these rigs were designed, TV sweep tubes were intended to be a more cost effective solution. Today, sweep tubes cost just about as much as 6146's and so the intended savings is lost. In fact, you'll likely blow two or three sets of sweep tubes before you'll put a dent in a 6146. Just look in an old tube manual (boy, I'm glad I saved mine from the 70's) at the sweep tube ratings. They're junk! Many sweep tube rigs also generate a lot of RFI.

Most homebrew equipment is worth nothing. About the only homebrew device I would buy would be an antenna tuner - but only if I could see the inside first. Hopefully, it will have a roller-inductor.

Used coax is a gamble. There's no telling how long it has weathered. Watch out for "RG-58" cable that says "30 Volts" on it. It's probably thin ethernet which doesn't even come close to being usable. It's probably OK if it is Belden GR-58 A/U type. The black insulation should be shiny.

Boat anchors like old test equipment and the like can be a real good buy if you can pick them up for about \$10 or less. The more knobs and switches the better. Sometimes the cabinets can be worth quite a bit, especially if you're a builder. There's usually about \$50 worth of good, high-quality parts inside these gems. Don't hesitate to scrap what once was a precision piece of test gear - even if it's a name brand like HP or Tektronix. You'll get more for the parts at future hamfests than you paid for the whole unit. Also, your junk box will be well stocked afterwards.

Save all the old vacuum tubes that you can get your hands on. An old HP frequency counter, for example, might have 100 tubes in it. There are virtually no tube manufacturers left and these old pulls will soon be in very high demand. I picked up a very good tube tester with charts for \$2. I have since found it to be indispensable.

Well, that about brings me to the end and I hope that you will find this information useful and/or interesting. The comments and observations given here are my own and your mileage may (will) vary. Have fun and see you at the next hamfest!

Taken from The Chicago FM Club Inc. Newsletter "SQUELCH TALE" de Tim WD9DZV

### NVARC QSL Bureau

I like to see lots of QSL's in my mailbox (both domestic and foreign). But they only come if I put in the air time.. I certainly haven't been on enough lately, although I put in a few hours during the CW portion of the Sweepstakes contest. Now that the cold weather is setting in I hope we all have more time to spend on the air. I shipped about a pound of club members cards to the Bureau in November.





Erik KA1RV and I have attended some planning meetings for the Groton Road Race. The race will be Sunday April 30th this year. It has moved to avoid conflicts with other events at the school. The race should be bigger again this year. They are planning to have an "Expo", on the Saturday preceding the race, with running clinics, displays, and vendors related to running. Additionally there can be displays by the sponsors and supporting organizations. So if we want a radio booth that day we need

someone to plan it and some volunteers to staff it. For the race day we probably need 20 to 30 people again. Quite a bit of communicating goes on during the whole morning before the race. Coordinating parking, buses, registration, and shadowing the various decision makers. Then



there is staffing for the whole race course. They

have eliminated the "walker" aspect of the 10K race. That should help by shortening the duration of the race. The walkers took several times the time of the runners. Stan KD1LE

# The Breakfast Club

For those who may be wondering where the Saturday Breakfast Club (SBC) is meeting. We've returned to Pa's. The restaurant at Donelans ( the former Razzi's) has reopened under that name. Meeting time as before is 8:00 AM. or when you get there.

# From the Video Library

The Video Library now has six titles available to loan.

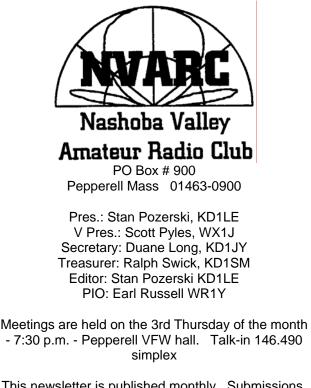
The Last Voice From Kuwait The all China DF Competition Your League at Work Signal to Noise Story Gonzaga Prep HS Radio Club Satellite communications

### The New World of Amateur Radio

You can get them anytime you can catch me at home, and I will bring the available tapes to each meeting. Stan

# **Resource List**

Construction Earl Russell	448-5822
DX Bruce Blain	448-9438
NTS, MARS Stan Pozerski	433-5090
RACES Ben Akins	433-9227
TCP/IP Ralph Swick	582-7351



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