



SIGNAL

April 1995 Volume 4 Number 4

From The President's Desk

This month's meeting is an important one with the election of officers for the upcoming year taking place. While it won't take long to do the voting, the effect of the vote will show on everything we do for the next year. Not an insignificant event. So if you want to take a leadership position on the things you would like the club to do, it's not too late to get involved.



Once the new officers are chosen they have to get themselves organized and start making participation decisions on a bunch of activities that are coming up in the next few months. There's the Groton Road Race, Harvard Bike Race, Field Day, Pepperell 4th Parade (comms), Pepperell 4th Parade

(float?), Pepperell Road Race, Rochester Flea Market, Manchester Convention, and I'm sure a few other things. Then there's the regular meeting type "stuff". While they will have to make the decisions, they will need your input to find out what activities are of interest and help in the carrying out plans that are developed for the things we are going to do. So there is plenty for everyone to do in whatever capacity you feel comfortable in.

KD1LE

This Month's Speaker

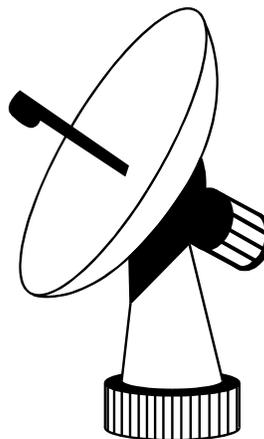
This month our speakers will talk about buying used equipment. This is in anticipation of

the beginning of Hamfest season. Remember that the Rochester event (Hosstraders) is May 13.

At The Last Meeting

At the last meeting we had two speakers; Earl WR1Y talked about antique radios. He started out with a brief history of radio and then talked about some of the equipment he brought for show. (After the meeting we got to listen to the radios.) Then Bruce K1BG talked about Beverage Antennas. He covered the benefits of using them for receiving, the design issues, and wound the matching transformer (with help from Jeremy KB1AWE and Ben KB1ATH). Having shown how easy it is to build, the only thing Bruce left out was the name of the real estate agent to acquire the requisite acres of land from, HI HI. Actually the antennas can be built much shorter (with trade offs) than the hundreds and thousands of feet that is customary.

Interested in Amateur Satellites?



If you are or think you might be, then one way to find out for sure is to listen in on the "Easy Sats". These are the low orbit satellites that have a down link frequency in the 10 meter band. The signal strength is good, and the operation can be monitored with simple equipment. The three satellites RS-10, TS-12, and RS-15 are in low orbit. As a result, the passes are typically 10 to

20 minutes long. There are six to eight passes a day. The orbits are polar. RS-15 is in a slightly

higher orbit and it has a lower inclination. This means that there are more passes and that they tend to be longer. An HF CW/SSB receiver or transceiver can be used to listen to the down link or beacon transmissions. A 10 meter dipole antenna 15 feet or higher off the ground and in the clear is all that is required to hear good signals from the birds. I've heard reasonable signals with a 10 meter mobile and a magmount whip cut down from the CB band. A beam will provide stronger signals, but only if it is pointed at the satellite. This means you need to know where the satellite is. Not a hard question to answer, but to keep things simple we will not go into tracking at this time.

So you're interested, and you've got the equipment all set up now what do you do? Well you need to know when to listen and on what frequencies. The satellites operate on slightly different frequencies. It is possible to identify the satellite by the received frequency if you happen to come across signals while tuning the band. The satellite and frequency bands are listed in Table 1. The higher frequency end of the down link band is usually SSB and the lower end is CW. The beacon is CW at a rather high speed with telemetry date and a ID of the satellite. To provide an opportunity for the newsletter readers to listen in on the satellite activity I have provided a list of satellite pass times. These times are for a few selected orbit passes on weekends. I have provided times near the beginning of the passes starting after 6 PM on Friday evening and between 8 am and 11 PM, Saturday and Sunday for the next four weekends. It's best to be listening a few minutes before the time listed. The computer program steps in 5 minute intervals, and the times are the time after the satellite comes over the horizon. So if you want to catch AOS (accession of signal) you will want to start tuning about 5 minutes before the times listed. It's best to listen for the beacon first as it is the strongest signal. After you copy the beacon then move up to the down link frequencies. When you listen to the received signals you will probably notice a frequency shift. This is due to the Doppler effect because the satellite is in motion. The times listed in the table are for the longer passes. Typically ten to twenty minutes. In several instances two satellites are within range at the same time. If there is future interest in this we might be able to find a way to provide tracking information on a regular basis. If you find that you are interested in this fascinating aspect of ham radio, then you will want to take the next step and get in on the activity. I recommend "The Satellite Experimenter's Handbook" by the ARRL. This publication will go into the equipment required to get in on the action with the "Easy SATs".

Hope you find this interesting and get in on the space age activity.

C U on the Birds.
Bob W1XP

SatelliteBeacon	Downlink	
	Freq. MHz	Passband MHz
RS10	29.357	29.360-29.400
RS-12	29.408	29.410-29.450
RS-15	29.531	29.354-29.394

TABLE 1

April					
FRIDAY 21		SATUR. 22		SUNDAY 23	
SAT	TIME	SAT	TIME	SAT	TIME
10	2200	12	1230	12	1300
12	2210	15	1505	15	1430
15	2230	15	1720	15	1640
12	2350	10	2045	15	1900
15	0040*	15	2155	10	2115
				10	2300

April					
FRIDAY 28		SATUR. 29		SUNDAY 30	
SAT	TIME	SAT	TIME	SAT	TIME
10	2200	12	1520	15	1230
12	2235	15	1520	15	1440
15	2245	15	1735	15	1700
15	0055*	10	1900	10	1930
		10	2045	10	2115
		10	2230	12	2245

May					
FRIDAY 5		SATUR. 6		SUNDAY 7	
SAT	TIME	SAT	TIME	SAT	TIME
10	2200	12	1205	15	1240
15	2255	15	1535	15	1455
12	2320	15	1750	15	1715
15	0110*	10	1900	10	1925
		10	2040	10	2115
		12	2205	12	2235

May					
FRIDAY 12		SATUR. 13		SUNDAY 14	
SAT	TIME	SAT	TIME	SAT	TIME
12	2310	15	1330	15	1515
15	2310	15	1550	10	1740
		10	1855	10	1925
		10	2045	12	2035
		12	2150	15	2155
		12	2340	12	2220

TABLE 2
ALL TIMES ARE IN UTC.
*INDICATES TIMES THAT
ARE NEXT UTC DAY.



\$The Treasurer's Report\$

1. Income for the month of March was \$56 from membership renewals and the split-the-pot at the meeting. Expenses were \$31.61. We spent \$22.16 from the education fund for CW practice keys for the class.

The current fund balances are:

General fund	\$588.70
Education fund	\$197.84

73 de Ralph KD1SM



Tour de Shack

We plan to visit the shacks of KD1LE and N1OJW/KB1AWE/N1UPR the morning of April 22 after the breakfast meeting. See you there.

Stan

MORE SPECTRUM?

QST de W1AW
ARRL Bulletin 36 ARLB036
From ARRL Headquarters
Newington CT April 11, 1995
To all radio amateurs

Study sees more ham bands

A US government study concludes that amateurs could use 2180 additional kilohertz of spectrum in the future. The National Telecommunications and Information Administration (NTIA) reports this need in a just-released 10-year projection of spectrum requirements for all licensed radio services.

In June 1992 the ARRL responded to an NTIA notice of inquiry with extensive comments (see January 1993 QST, page 82). Here are the 2,180 kilohertz cited in the NTIA report:

30 to 50 MHz, 5 slots of 50 KHz ea (250 KHz total);
160 to 190 KHz (30 KHz);
Near 5 MHz (50 KHz);
Expansion of 10 MHz band (200 KHz);
Expansion of 14 MHz band (50 KHz);
Expansion of 18 MHz band (150 KHz);
Expansion of 24 MHz band (150 KHz);
219 to 220 MHz (1000 KHz, already in process);
Satellite downlink, 29.7 to 30.0 MHz (300 KHz).

Here are excerpts from the NTIA study:

"The amateur community commenters have suggested significant changes to the allocation table to accommodate expanded amateur operations.

Many of the suggested allocation revisions are reasonable.

"The amateur-satellite service will soon have a new generation of amateur satellites in orbit that will use all frequency bands allocated to the amateur-satellite service from 29 MHz through 24 GHz. For this reason, the retention of current allocations, additional amateur-satellite allocations, and the upgrading of certain current allocations is desirable.

"Amateur requests for international reallocations would be appropriate issues for ... future World Radiocommunication Conferences (WRCs). Additional allocations at 160-190 KHz, and near 5 MHz will require technical studies to determine the availability of these bands to support amateur use.

"The expansion and upgrading of amateur allocations in the 10, 14, 18, and 24 MHz bands are acceptable, but will depend on future decrease of requirements for the aeronautical mobile or the fixed services internationally. The alignment of the amateur 3.5 and 7 MHz bands worldwide will require the inclusion of these issues in U.S. preparations for future WRCs.

"As noted, FCC rulemaking is in progress for amateur access to the 219-220 MHz band. The request for additional narrow spectrum allocations between 30 and 50 MHz for propagation experimentation (e.g., five, 50 KHz slots) will need to be studied for technical compatibility."

Finally, the study said that "any sharing of military radiolocation spectrum (e.g., 430-440 MHz) with the amateur services on a co-primary basis in current Federal radiolocation bands is not feasible because of the potential loss of operational flexibility for military radar systems. Further, the expansion of use in the 902-928 MHz band by federal and non-federal users, including the operation of wind profiling radars, may make this band untenable for amateur operations in the future."

NOMINATING COMMITTEE

We have an election nominating committee composed of Ralph KD1SM, Bruce K1BG, and Bob W1XP. They have been canvassing the membership for some candidates for the April election. While they have found a few people willing to lead the club for the future, they still need a few more.

FAIRS

Special Bulletin 17 ARLX017
From ARRL Headquarters
Newington CT April 10, 1995
To all radio amateurs

U.S. grant to Ukraine

Ukrainian Amateur Radio operators will benefit from a 24,987 dollar grant from the US Agency for International Development. The grant, from USAID through the Eurasia Foundation, was obtained by a proposal made by the Foundation for Amateur International Radio Service, a nonprofit public foundation founded in May 1991. FAIRS has charter groups in Ukraine, Guyana, Bangladesh, and Russia.

The grant will fund electronics hardware to extend APLINK coverage to Kiev from the Western Ukraine, with nodes also going to Hungary, the Czech Republic, and Poland. An Internet gateway also is planned, as well as an additional APLINK station and an FM repeater in western Ukraine.

Delivery of the equipment is expected by early summer, and will include hardware for seven digipeater nodes, including terminal node controllers, radios, and antennas. About 35 Ukrainian amateurs have packet capability in the current APLINK system.

The FAIRS grant proposal was written by Executive Director David Larsen, KK4WW, and European Director Victor Goncharsky, US5WE.

A previous FAIRS project, training of prospective amateurs in Bangladesh, was described in September 1993 QST, on page 86.

NVARC Classes

The classes we were running are all completed now. Linda Bisbo N1UPR and Bob McArthur N1UPQ passed their Tech license tests. A few more of the students are scheduled to take tests in the next few weeks. We wish them the best of luck.

With the number of new Hams in the area due to classes and such is there any desire out there to start a General Class License session?

Stan

CQ Hall of Fame

Special Bulletin 18 ARLX018
From ARRL Headquarters
Newington CT April 11, 1995
To all radio amateurs
New to CQ Halls of Fame

CQ Magazine has announced its 1995 inductees into its Contest and DX Halls of Fame. The sole new member of the CQ DX Hall of Fame is Carl Henson, WB4ZNH. New members of the CQ Contest Hall of Fame will include Ken Wolff, K1EA; Dick Norton, N6AA; Jim Neiger, N6TJ; and Tine Brajnik, S52AA.

Carl Henson, 52, of Fairburn, Georgia, conducted a number of DXpeditions to rare countries in the 1980s, mostly in Africa. His wife Martha,

WN4FVU, accompanied him on most of these operations. He was nominated by the Southeastern DX Club, based in Atlanta.



Ken Wolff is 46 and wrote the "CT" contest operating software. He continues to update and distribute it to amateurs around the world.

He lives in Harvard, Massachusetts and was nominated by the Yankee Clipper Contest Club.

Dick Norton, N6AA, is 53 and lives in Topanga, California. He was recognized for his long-time contest activity from 9Y4VT, as well as his participation on the CQ Contest Committee. He was nominated by the Southern California Contest Club.

Jim Neiger, N6TJ, is well known for his contest operations for many years from Ascension Island, as ZD8Z. He's 56 and lives in Orange, California. He was nominated by the Northern California Contest Club.

Tine Brajnik, 46, lives in Slovenia and is well-known for his contest operations earlier as YU3EY and YT3AA. He also is an organizer of the S50A contest station. He was nominated by the Slovenia Contest Club.

The induction ceremonies are conducted each year at the Dayton Hamvention.

.DX INFO

DX BULLETIN 16 ARLD016
FROM ARRL HEADQUARTERS
NEWINGTON CT APRIL 6, 1995
TO ALL RADIO AMATEURS

THIS WEEK'S BULLETIN WAS MADE POSSIBLE WITH INFORMATION PROVIDED BY STEVE, W9NUF, THE NORTHERN ILLINOIS DX ASSOCIATION, KEN, V73C, RALPH, K1RH, JOE,



NJ1Q, TEDD, KB8NW, THE OPDX BULLETIN, THE YANKEE CLIPPER CONTEST CLUB PACKETCLUSTER NETWORK AND THE CONTEST CORRAL COLUMN FROM THE PAGES OF QST MAGAZINE. THANKS TO ALL.

CAMEROON. JIM, TJ1JB, AKA 5X1B, HAS BEEN OPERATING CW AROUND 14027 KHZ

BETWEEN 1930 AND 2330Z. HE IS WORKING FOR THE AMERICAN EMBASSY IN CAMEROON. QSL VIA KE9A.

UGANDA. FRANK, 5X4D, IS ON THE AIR ALMOST DAILY STARTING AT 1800Z ON 21295 KHZ AND THEN ON 14245 KHZ AT 1900Z. HE MAY BE LEAVING SOMETIME EARLY THIS MONTH. QSL VIA IN3DYG. 5X4B HAS BEEN OPERATING FACTOR ON 14073 KHZ AT AROUND 2040Z.

ETHIOPIA. ET3KV WAS HEARD ON 18117 KHZ AROUND 1930Z, ET3BT WAS HEARD WORKING FREE STYLE ON 14226 KHZ AROUND 1915Z, AND ET2AA WAS HEARD ON 21240 KHZ AROUND 1345Z.

DJIBOUTI. J28FD, J28GR AND J28BQ WILL BE ON THE AIR AS J20SF APRIL 14 TO 20. THEIR LOCATION WILL BE SEVEN BROTHERS ISLANDS GROUP, IOTA AF-059, LOCATED IN THE GULF OF ADEN. PLANS ARE FOR CW AND SSB ACTIVITY ON THE IOTA FREQUENCIES. QSL VIA F5LBM.



VIETNAM. XV7SW REPORTS A BREAK IN HIS NORMALLY BUSY WORK SCHEDULE

AND EXPECTS TO BE ABLE TO SPEND MORE TIME ON THE AIR. HE IS ONLY AUTHORIZED TO OPERATE ON CERTAIN FREQUENCIES, AND HAS APPLIED FOR PERMISSION TO OPERATE ON 1827 AND 7012 KHZ. LISTEN FOR HIM ON 3505 KHZ.

MALDIVES. DL1IAI WILL BE QRV AS 8Q7AI APRIL 12 TO 27. HE WILL OPERATE 80 THROUGH 10 METERS AND ATTEMPT SOME WORK ON 160 METERS. QSL VIA HIS HOME CALL.

NEPAL. AN ALL BAND, CW AND SSB OPERATION BY JA8MWU WILL BEGIN ABOUT APRIL 26 FOR APPROXIMATELY 10 DAYS. QSL VIA HIS HOME CALL.

MAURITANIA. A MULTI-OP GROUP FROM ITALY WILL BE SIGNING 5T0AS THROUGH APRIL 20 FROM TIDRA ISLAND, IOTA AF-50. QSL VIA IT9AZS.

MARSHALL ISLANDS. KEN, V73C, REPORTS THAT HIS NEW QSL MANAGER IS BRUCE SMITH, N4GAK.

QSL NOTES. RALPH, K1RH, WANTS IT KNOWN THAT HE IS NOT, AND NEVER HAS BEEN QSL MANAGER FOR FP5DX. HOWEVER, K1RH IS MANAGER FOR FP5EK. RALPH HAS NOT BEEN MANAGER FOR TF3CW FOR MANY YEARS. CARDS FOR HIM SHOULD GO VIA THE TF BUREAU. AND K1RH WAS QSL MANAGER FOR 8R1K THROUGH 1982. SINCE THAT TIME THE 8R1K CALL HAS BEEN RE-ASSIGNED SEVERAL TIMES, IN 1991 TO OH2BH, AND 1992 AND 1993 TO OH0XX.

IOTA SHORTS. VK6ML WILL OPERATE FROM A SMALL OFF-SHORE ISLAND OR SHOAL FROM MAY 12 TO 16. HE WILL SIGN VK6ISL. LISTEN FOR A THREE DAY OPERATION FROM A SMALL SOUTHERN JAPANESE ISLAND BY JA3IG/6 STARTING APRIL 23. BOTH OPERATIONS WILL BE NEW ONES FOR THE IOTA AWARD.

Club Callsigns

ARRL Bulletin 37 ARLB037
From ARRL Headquarters
Newington CT April 11, 1995
To all radio amateurs

ARRL037 New club licenses surface
New club licenses surface The FCC's Gettysburg license processing facility has begun issuing new Amateur Radio club station licenses. The first ones appear to have been issued on April 4. These licenses come with systematically issued Group D call signs. Obtaining such a license and call sign is a necessary first step toward later obtaining a vanity call sign for a club.

For more information, see QST for April 1995, page 41, and for May 1995, page 95.

Board Meeting Notes

At this month's board meeting we discussed the upcoming events and what we might want to participate in. Some of them are; Harvard Bike Race, Groton Road Race, Rochester Flea, 4th of July activities and Field Day. We discussed plans for the Shack Tour and Elections.

Stan KD1LE

Field Day

Remember, it's not too far off. Also, have you read about the Pepper Hill ARC field day in the May issue of QST? The author, Pat KC1TD was a

member of NVARC till he moved to Acton a year or so ago. I wonder if there a connection between Pepper Hill and Pepperell? Stan

THE KY1N MEMORIAL LIST

SCHEDULED VE EXAMS CT MA ME NH RI VT
04/07/95 10:27
Chick KC10X Editor

APRIL

20 Salem NH Denise 603-434-4490
22 Lynn NSRA MA Herb W1KVQ 508-468-2780
P26 Lunenburg MA Tom K1JHC 508-534-9377

MAY

3 Acton\Boxboro MA Charles W1BK 508-562-5622
P 7 Shirley N/T MA Tom WA1RHP 508-425-6672
10 Billerica MA Bruce W1LUS 508-851-2886
13 Marlborough MA Bill K1IJZ 617-891-9079
P13 Rochester HMFST NH Dave KD1GH 508-998-5914
P17 Lunenburg MA Tom K1JHC 508-534-9377
P21 Shirley N/T MA Tom WA1RHP 508-425-6672
27 Lynn NSRA MA Herb W1KVQ 508-468-2780

JUNE

P 4 Shirley N/T MA Tom WA1RHP 508-425-6672
7 Acton\Boxboro MA Charles W1BK 508-562-5622
10 Marlborough MA Bill K1IJZ 617-891-9079
10 Rochester NH Bill WA1PEL 603-742-0130
14 Billerica MA Bruce W1LUS 508-851-2886
17 Nashua NH Jim WW1Y 603-672-4035
P18 Shirley N/T MA Tom WA1RHP 508-425-6672
P21 Lunenburg MA Tom K1JHC 508-534-9377

NVARC QSL BUREAU

No cards were sent out from the club this month. I hope to be making a shipment in the upcoming month. So, bring your cards to the meeting or to breakfast. Stan

From the Video Library

The Video Library now has seven 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	772-4138
NTS, MARS Stan Pozerski	433-5090
RACES Ben Akins	433-9227
TCP/IP Ralph Swick	582-7351



Nashoba Valley Amateur Radio Club

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V Pres.: Scott Pyles, WX1J
Secretary: Duane Long, KD1JY
Treasurer: Ralph Swick, KD1SM
Editor: Stan Pozerski KD1LE
PIO: Earl Russell WR1Y

Meetings are held on the 3rd Thursday of the month - 7:30 p.m. - Pepperell VFW hall. Talk-in 146.490 simplex

This newsletter is published monthly. Submissions, corrections and inquiries should be directed to the newsletter editor. Articles and graphics in most IBM-PC formats are acceptable.

Packet address: PEPMBX (145.09 MHz)