

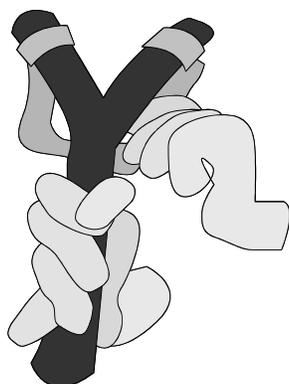


**Nashoba Valley
Amateur Radio Club**

SIGNAL

March 1995 Volume 4 Number 3

From The President's Desk



Things continue to move along at a frightening pace. These months where the second and third Thursday are so early really put the pressure on. This winter has been pretty mild, but that's not always good. We've had quite a bit of ice on the trees and antennas lately, and it finally took one of mine down. Fortunately I had been thinking about field day and had put together

a slingshot/fishing reel combination. It was trial by fire and after working out a few bugs I put the antenna back up ten feet higher than it was. One of the

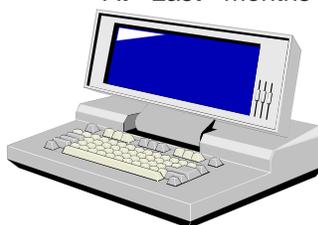


problems with a slingshot is the "take off speed." My fishing reel would not let out line fast enough to keep up with the weight I was shooting. The initial velocity is very fast. You know what happens when the weight goes faster than the string? They become disconnected.

Stan KD1LE

This Months Speaker

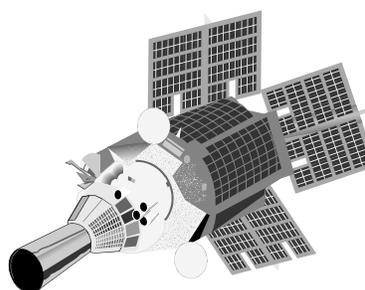
At The Last Meeting



At Last months meeting Deke Lightfoot AA6DF spoke about H.F. digital modes. He covered many of the modes like RTTY, AMTOR, PACTOR, Packet, G-TOR, and Clover. He also talked about which ones were common and why. There were audio tape segments of the various modes so you could hear what they sounded like.

UNAMSAT-1

HR AMSAT NEWS SERVICE BULLETIN 063.01
FROM AMSAT HQ SILVER SPRING, MD
MARCH 4, 1995
TO ALL RADIO AMATEURS BT
UNAMSAT-1 PREPARED FOR LAUNCH



Last week's ANS carried a message from Shlomo, 4X1AS regarding the Israeli TECHSAT satellite built at the TECHNION to be launched March 28 on a Russian launcher from Plesetsk. This note is to provide further information concerning the other amateur satellite to be carried on this launch, UNAMSAT-1. This satellite was built in at the Universidad Nacional Autonoma de Mexico (UNAM) in Mexico City. UNAMSAT-1 is similar to the six previous AMSAT

Microsats (AO-16, WEBERSAT, DOVE, LUSAT, ITAMSAT and EYESAT) and is a cube 25 cm on a side weighing about 10 kg. As was the case with all previous AMSAT Microsats (except DOVE), the satellite downlink is 1200 baud PSK in the 70 cm band. Each of the Microsats has consisted of 5 stacked modules, with four of them being nearly identical (2M uplink receiver, Battery Charge Regulator, computer and 70 cm downlink transmitter, all interconnected with a 20cm long 4800 baud local area network). In all 7 Microsats, the 5th module has been reserved for a special experiment of the group that built the satellite -- this 5th module has sometimes been called the TSFR ("This Space For Rent").

The UNAMSAT-1 TSFR is a very unique experiment. It consists of a ~100 watt radar transmitter and receiver operating at ~41 MHz. This radar employs pulses a few msec long to obtain echoes from the ionization trail left behind meteors as they burn up in the earth's atmosphere. The echoes will be digitized at a fast rate. If the onboard software detects an echo, the raw A/D samples will be downlinked for detailed spectrum analysis on the ground to determine meteor velocities and trajectories. The goal is to search for meteors that have velocities greater than the ~70 km/sec solar system escape velocity, indicating that they originated outside our solar system. The ~41MHz radar is licensed by the Mexican authorities according to the ITU frequency allocations tables.

The UNAM organization responsible for UNAMSAT is called Programa Universitario de Investigacion y Desarrollo Espacial (PUIDE). Longtime AMSAT member David Liberman, XE1TU is responsible for the development of PUIDE and UNAMSAT. The effort involved many graduate students, faculty and staff at UNAM.

UNAMSAT-1 was built totally in Mexico. AMSAT-NA volunteers offered assistance when it was needed, including WD0E, NK6K, W3GEY, WD4FAB, N4TPY and W3IWI.

In addition to the meteor radar experiment, UNAMSAT-1 has all the "PACSAT" store-and-forward capabilities of the other Microsats (except DOVE). The exact divvy of time between the radar experiment and amateur packet radio communications will be determined as the mission progresses.

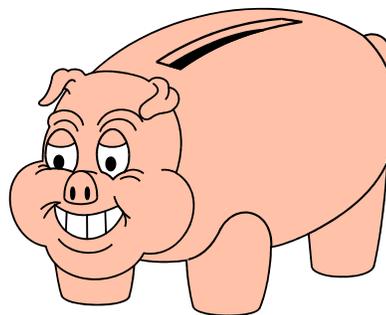
XE1TU and his students are very busy at this time. They depart for Moscow (en route to Plesetsk) next week. After the launch, they will return to Moscow where initial spacecraft checkout will be done from an amateur station located at the Moscow Aviation Institute (MAI); MAI was responsible for the ISHKRA amateur satellites. They will then return home to Mexico in early April. All are certain to look forward to hearing their stories about launching from the arctic Plesetsk site in temperatures of -20 degrees.

Tom Clark W3IWI comments that he looks on UNAMSAT-1 with the pride of a "godfather"!

ANS thanks Tom Clark W3IWI for the information used in the preparation of this bulletin.

\$The Treasurer's Report\$

Income for February was \$99.50 from membership renewals and the split-the-pot at the meeting. Expenses were \$4.31 (the newsletter expenses have not yet been included).



The current fund balances are:

General fund	\$ 564.31
Education fund	\$220.00

73 de Ralph KD1SM

Tour de Shack

At the Board meeting we discussed having "Shack Tours" so that the new Hams might see some "typical" set ups. Not that there is a typical station. More to see the variety and range of what we're using. It turned out that the interest was much wider than just for the new people.



Tentatively, I'm working on the idea of meeting for the Saturday breakfast (the weekend after a regular club meeting) with the tour to follow. I would like to plan the first one for after the April meeting. The tour would stop at

three prearranged sites that would be close to each other. They would tour the "antenna farm" and the "shack" and the guide would give a brief explanation of the equipment and layout.

If you are interested in participating on either side of this tour let me know so that I can plan further. Also, the intent is not to look at the most expensive, or prettiest, or biggest. It is maybe more important to show the range and that you don't need

the most expensive or biggest to have fun and to operate successfully. For that reason, don't rule yourself out because your shack isn't the fanciest with all the gadgets. Mine isn't either. We certainly don't want to give anyone the impression that you need \$10,000 worth of equipment and three 100 foot towers to get on the air.

Again, let me know if your interested. I need to get an idea of the level off interest and if the Saturday morning part works for most people.

Stan

GROTON ROAD RACE

Workers needed for the 4th Annual Groton 10K Road Race.

Workers are needed to help with the 4th annual Groton 10K road race, to be held on April 30th. This year the event is being held a few weeks later, with the hope that the weather is warmer. Those of you with long memories will recall some of the previous events, where the major attraction appeared to be keeping warm.



For hams, this will be an opportunity to get out into the field and put those hard earned privileges and skills to practical use. As in past years, the radio hams will be providing communications from the

course. Our primarily task will be to relay health and safety traffic to the net control at the start/finish line. We will have communications coordination with the Police and EMS services, and will be able to call upon their services should it be needed. In past years we have had a strong police presence with police volunteers from neighboring communities. In most of these cases, we the radio hams, are the binding communications between these various services.

In addition to the health and safety aspect, a team of fit individual radio hams will be assigned to the various team captains, who are responsible for specific tasks during the build up to the race start. Here we will be providing the cross link communication between these teams to ensure a smooth event.

We are also looking for amateurs that would like to show off their ATV skills. There are several opportunities for an ATV feed from points along the course, to the finish line. This would provide a valuable public service to the waiting crowds of well-wishers and supporters, along with a captive audience to educate about the fun of amateur radio.

If you would like to help out in this event, please contact Erik Piip, KA1RV, on 508-448-5536.

For non-amateurs (spouses, siblings, children, etc.) there are many opportunities to contribute to the success of the event as there is a need for helpers in many different areas. If you would like to help out, contact Erik. 73's Erik KA1RV

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.

AMSAT

From: EA1IW@EA1URS
To: ALL@AMSAT
Subject: A NEW DIGITAL SATELLITE JAS-2
From: JH1AOY
To: ALL

Subject: JAS-2 info.

JAS-2 will be launch in January 1996 or February 1996, The launcher rocket: H-II main payload: is ADEOS

Satellite's specs;

Size :(same as JAS-1), 44cm x 47cm.

Weight: 50 kg.

Altitude: 800-900km.

Polar circular orbit.

Stabilization 3-axis stabilized earth pointing by electrical magnet.

The following are the satellite frequencies:

145 MHz UPLINK 435 MHz DOWNLINK

Digital mode

145.850 435.910 145.870 145.910

Analog mode

145.900-146.000 435.800-435.900

Digital mode of operation 9600 bps FSK or 1200 bps PSK.

Digitalker: about 30 sec. FM voice messenger. TX power: 1W CPU: V50(NEC) Memory: 2M bytes
73s Masaji Tamagawa, JH1AOY

(edited...stan)

NVARC Classes

The class in Pepperell is still moving along. We've missed some days due to school closings, for vacation and weather, but that was anticipated. Now the first students are taking exams. Linda Bisbo and Bob McArthur have passed their Tech license tests and are continuing in the class. Since we have two weeks left in the Novice portion of the class, that's great advanced work. We still have about six weeks to complete the Novice then the Technician parts of the course.

Stan

Novice Roundup

This year's Novice Roundup, perhaps the last, will always be remembered by me as being the best. It was simply one of the most fun on the air operating activities I've experienced in a long time.

The Novice Roundup is sponsored by the ARRL. It is their entry level amateur operating event aimed at the Novice (or Tech Plus) operator. It began on Friday, January 28 and finished on Sunday, February 7. During this time, Novices and Techs) work as many stations as possible, and higher classes work as many Novices as possible.

During this time, I worked 60 Novices in 37 ARRL sections. My best DX was Charlie, WL7SF, calling me after a CQ. It was quite exciting having a Novice call me like that. On the first day, I worked WP4KXV in Puerto Rico. Diego's code was quite slow (around 6 WPM), but he was making quite an effort. Lots and lots of Novices calling him for that PR section, as well!

During the first couple of days, I was logged into the local PacketCluster node, NO1A, and I was looking up stations as I was working them. I worked people of all ages, including operators as young as 9 and as old as 78! Lots of the operators were teenagers. Who sez CW is dead?

There was a lot of DX on for the Novices as well. A C6 (Bahamas) was working Novices on 80 meters, and I think the Novices were surprised that they could work DX on 80. A ZL (New Zealand) called ME on 15 meters and I had to explain to him what "CQ NR" meant. Remember, I was using 100 watts and a 40 meter dipole, so ZL is a long haul. Away he went, and I heard him calling "CQ NR" a few minutes later. 15 meters opened up during the first Sunday morning, and everyone was so busy working Europe, they wouldn't even bother working a "local" like me! A single pass noted DX from Germany, Holland, Latvia, England, Spain, Norway, Serbia, Italy, and Russia, all working Novices in the 15 meter Novice band, and there were lots of other DX stations on. All this, while 10 METERS WAS TOTALLY DEAD!

On the last Saturday, I heard Diego at it again, this time with a pile-up on 40. He was working them pretty quick, probably around 11 or 12 WPM. It seems like his code speed picked up by leaps and bounds during that week on the air. And it seems like the stations calling him didn't mind much either!

For all the other club members who participated, thanks for helping out some of our newest operators. I've heard rumors that this might not be the last Novice Roundup. I hope not. A good time was had by all!

Novice Roundup by Bruce, K1BG

DX INFO

DX BULLETIN 10 ARLD010
FROM ARRL HEADQUARTERS
NEWINGTON CT MARCH 3, 1995

This week's bulletin was made possible with information provided by Steve, W9NUF, Tedd, KB8NW, Joe, NJ1Q, Wayne, WB6EQX, the Northern Illinois DX Association, the Ohio/Penn DX Bulletin, the Yankee Clipper Contest Club and Tokyo PacketCluster Networks and the Contest Corral column from the pages of QST magazine.

Thanks to all.

SPRATLY ISLANDS. Yet another group has announced plans to operate from "Spratly." This operation is to be from Layang Lagang Island, the Malaysian claimed part of the Spratly Islands. This Dxpedition will be from March 29 to April 3. The operator list consists of JA9AA, JA9AG, JR9GBJ, JS1QHO, 9M6BZ, 9M6JC and 9M6ST. Two of three stations will be on the air full time, with plans to operate CW, SSB, RTTY and SSTV signing 9MOA. For CW try 1825, 3502, 7002 10102, 14002, 18070, 21002, 24940, 28002 and 50110 KHz. On SSB try 3790, 7080, 14195, 18115, 21295, 24990, 28495 and 50110 KHz. For RTTY try 7029, 14080, 21080 and 28080 KHz. SSTV will be on 14230 and 21330 KHz. QSL via JA9AG.

The Philippine Amateur Radio Association, PARA, will be leading a team to the Spratly Islands and operate as DU0K on all bands and modes from April 10 to 16. QSL via DU9RG.

ZONE 23. A Dxpedition to the Tuva Republic of Russia is being planned by the Foundation For Amateur International Radio Service, FAIRS, and Friends Of Tuva, FOT. Yuri, UA4LCQ, and Pat, AA6EG, are organizing a team of American operators to go to the capital city of Kyzyl. The Dxpedition should run for nearly a month starting in late May or early June. Interested parties should contact Pat Barthelow, AA6EG, 1388 Boles Court, Seaside CA 93955, (408) 394-5531, or via the Internet to 4947 @ mgs.com.



LAOS. Reports from the Ohio/Penn and Tokyo PacketCluster Networks indicate a station signing XW1 as being on the air. The Tokyo node reports the operator is JH1AJT. Check around 14195 to 14200 KHz between 1300 and 1400Z, and again from 0000 to

0100Z. QSL via JH1AJT.

ASCENSION ISLAND. Jim, N6TJ, signing ZD8Z, was very active during the past week. He was worked on 21250 KHz at 2000Z on Wednesday. He plans to be in the ARRL DX SSB Contest over the weekend. QSL via VE3HO.

ETHIOPIA. ET3BT is a fairly easy catch. Try 14226 KHz at 1945Z.

MALAWI. 7Q7LA was worked on 18153 KHz at 1945Z from northern Illinois.

MAURITANIA. 5T5JC was quite active all bands this past week and worked on 24900 KHz at 2015Z as well as 28468 KHz at 2050Z.

TOGO. 5V7MD was active on a net on 14247 KHz at 2300Z.

TUNISIA. Danny, ON4VT, was reportedly traveling to 3V-land in late February with plans to operate club station 3V8BB. To date there have been no PacketCluster spots on the New England network for this one. No documentation for this operation has been received by the DXCC Desk.

MADAGASCAR. Ben, 5R8DS, reports Germans DL5UF, DK1CE and DF5WA will be active through March 10. 5R8EI has been worked on 7004 KHz between 2245 and 2315Z from New England. QSL via DL2GBT. 5R8EJ has been worked on 1823 KHz at 0222Z and 7008 KHz between 0315 and 0345Z.

NAMABIA. DL7UTR and DL7UOO were reported to be signing V5/THEIR home calls through March 19 on CW and SSB on all bands. However a station signing V52UOO has been very active and worked on 3505 KHz at 0443Z, 3511 at 0505Z, 7001 at 0532Z, 7004 at 2149Z and 7009 at 2201.

BERMUDA. Jeff, N2MZH, is supposed to become radio-active today at N2MZH/VP9 for a five day stint. He will be on all bands with a focus on WARC and low bands. Jeff prefers CW but will operate RTTY or SSB on request. He will be joined by VP9ID and operate VP9DX in the ARRL DX Contest this weekend. QSL N2MZH/VP9 via N2MZH direct w/SASE via CBA. QSL VP9DX via WB2YQH direct w/SASE or via the bureau.

QSL INFO. Wayne, WB6EQX, reports receiving cards for 9K2MU and KG4DX. The correct QSL route for 9K2MU is via WA4JTK. For KG4DX, QSL via K0IEA.

THIS WEEKEND ON THE RADIO. Check out the phone portion of the ARRL International DX Contest. It starts at 0000Z March 4 and wraps up at 2400Z on the 5th. W/VE stations exchange signal report and section/province. DX stations exchange signal report and output power. Complete rules appear in the December issue of QST on pages 122 and 124. Good luck in the contest.

Mt. Washington Auto Hillclimb

The Mt. Washington Auto Road Hillclimb is an exciting time for HAMS to participate in a public

service event. Unfortunately it's also FIELD DAY weekend. If field day isn't your cup of tea, then how about having some fun up north?

Hams are needed for emergency communications at 35 checkpoints starting at the base of the auto road, and ending at the very top. The road will be closed to regular traffic to allow the cars to race



up the mountain. The record time so far was 6:46 minutes for a distance of 7.6 miles, which means the average speed for the winner was 65.5 MPH!!! Some of the

checkpoints are physically very challenging, being exposed to the elements, but that's half the fun!

Communications will be via 2 meter mobile or handhelds. Help is needed for Friday June 23rd from 6 AM to 11 AM (practice), Saturday June 24th from 6 AM to 11 AM (qualifying), and Sunday June 25th from 9:00 AM to 2:00 PM (main event).

To sign up contact: Ian MacLennan - AF1R at 617.449.1227 7 PM to 9 PM.
Jim Evans N1HTS

Board Meeting Notes

At the March meeting we had a report from several of the nominating committee members. They are still looking for a few candidates for the April election. We also discussed the need to start collecting volunteers for the Groton Road Race, which is the end of April. Erik has an article elsewhere in the newsletter. Besides volunteers to work the race we will also need to staff the NVARC booth. The current status of the one active class was reported on. We discussed some program ideas for upcoming meetings. We discussed planning a trip the League HQ. We also started planning for a Ham Shack Tour of club members shacks.

Stan KD1LE

ARRL NOTES



ARRL Bulletin 21 ARLB021
From ARRL Headquarters
Newington CT March 7,
1995

Vanity call schedule

The Federal Communications Commission form necessary for applying for an Amateur Radio vanity call sign--Form 610-V--will not be available until after May 1. Amateurs who call the FCC to request the form before then will not have

their names recorded and it will be necessary for them to request the form again, when it is available.

Applications for amateur vanity call signs will not be accepted until after the forms are available, i.e., until sometime after May

The FCC will make a public announcement of the date of opening of the first "gate" for vanity call sign applications.

Beginning May 1, 1995, FCC Form 610-V may be requested by calling the FCC Forms Distribution Center at 800-418-3676. Or, send an SASE to ARRL-VEC anytime, for a form 610-V by return mail as soon as they are available after May 1. Write "Form 610-V request" on the outer envelope.

From ARRL NE Div Bulletin 95-1

Rosalie White WA1STO, ARRL SAREX co-ordinator has announced that schools in CT, NH, and MA will participate in upcoming SAREX missions; the Plymouth Center School of Plymouth CT in March with STS-67, the Forest Avenue School of Hudson Ma in May with STS-71, and the Concord HS of Concord NH in June with STS-70.

Other Club News

MARA has moved its meetings from Townsend to the Burbank Hospital in Fitchburg.

March 18 Hudson NH. Interstate Repeater Society Flea

March 19 Westboro, MMRA Hamfest

April 16 MIT Flea Market opens for the season.

March 18 VE Session Nashua, NH

NVARC QSL BUREAU

The "bureau" shipped out cards right after the last meeting. Just under a pound of cards again. That's about 150 cards to the pound. Not too bad for just Jeremy and myself. We're trying to put Pepperell on the international map. How about giving us a hand.

Bring any cards you want to go to the "out going bureau" along with your ARRL QST label to the club meetings or to my house....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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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)