

OCT 1992

FEEDBACK

THE OFFICIAL NEWSLETTER OF THE
GEORGIAN BAY AMATEUR RADIO CLUB

Sponsoring

VE3OSR FM REPEATER 146.94- Mhz

VE3OST PACKET DIGIPEATER AND NODE 145.01 145.63 Mhz

GBARC

The Georgian Bay Amateur Radio Club, founded in 1973, is based in Grey and Bruce counties. The club meets at 7:30 P.M. sharp on the second Monday of each month, except July and August, in the O.S.C.V.I staff cafeteria. The club operates a 2 metre FM repeater, VE3OSR, on 146.940 - located at Woodford. The club also operates VE3OST, packet digipeater and node on 145.010 and 145.630, located just east of Owen Sound at the Maclean Hunter site.

NET SCHEDULE

Sunday 09:30 hrs 3.783 Mhz

CLUB OFFICERS

President _____ VE3XOX Bob Vary
Vice-President _____ VE3IJD Gene McDonald
Sec-Treasurer _____ VE3HIP Ian Trenholm
Technical-Director _____ VE3PCK Carl Styan
Program-Director _____ Vacant
Bulletin Editor _____ VE3TSA Tom St.Amand

FEEDBACK

The official bulletin of the Georgian Bay Amateur radio club, published monthly, except July and August. Contributions of articles/letters are encouraged and should be sent to Tom St.Amand, VE3TSA, 1232 3rd Ave. East, Owen Sound, Ont. N4K2L5

DUES

\$20.00 per year due by 31 DEC

MEMBERSHIP

VE3AEO TED	VE3MWU NICK
VE3AUB JACK	VE3NEM TOM
VE3BFV JIM	VE3PCK CARL
VE3BIS DICK	VE3RHJ BRAD
VE3BZC ROSS	VE3RLW ROB
VE3CC CY	VE3RSV RALPH
VE3CRV JIM	VE3TDF PAT
VE3CUV ROSS	VE3TFQ JIM
VE3DIQ BILL	VE3TFV KEN
VE3DKF JIM	VE3TSA TOM
VE3DTS JACK	VE3TTV HENRY
VE3DXO DAVE	VE3TUM RICK
VE3EBM ROY	VE3TUP KLASS
VE3FFN WALTER	VE3TUQ AUBREY
VE3GDH DEREK	VE3TUS BARRIE
VE3HIO RICK	VE3TWI OKKE
VE3HIP IAN	VE3TJW DAVE
VE3HMZ BILL	VE3TWK JACK
VE3HXX IAN	VE3TWL CATHY
VE3IEV JOHN	VE3TXB JOHN
VE3IJD GENE	VE3TYL JIM
VE3IOD GARY	VE3UIC JASON
VE3IXR MURRAY	VE3VTO DON
VE3JUO DON	VE3WNW BILL
VE3LKD BOB	VE3WWS VIHLO
VE3LPD LAVERNE	VE3XOX BOB
VE3LPT MOE	SWL STAN
VE3MTG LARRY	SWL DAN
VE3MTV NORM	

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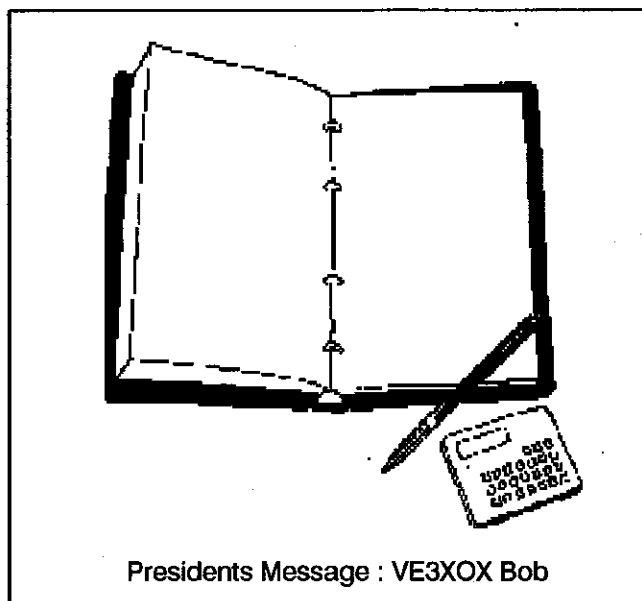
NEXT GBARC MEETING
10 NOVEMBER 92
BREAKFAST MEETINGS:
31 OCTOBER 1992
14 NOVEMBER 1992
JOTA
16-17-18 OCTOBER 1992

HI GANG , WELL TIME TO SAY HELLO AGAIN FOR THE MONTH OF OCTOBER. TIME FLIES WHEN YOUR HAVING FUN. ITS AUTUMN TIME IN THE TWIN COUNTIES. APPLES ARE BEING PLUCKED FROM THE TREES, AND THE BIRDS ARE STARTING TO FLOCK TOGETHER FOR THEIR LONG TRIP TO THE SUNNY SOUTH. EVEN THE SNOW BIRDS ARE THINKING OF HEADING SOUTH THIS YEAR. DOES THAT TELL YOU ANY THING ABOUT WHAT IS COMING IN THE MONTHS TO COME. ON SEPTEMBER 29 AT 8:14 A.M. LOCAL TIME , A QUICK LOOK OUT THE WINDOW OF MY HOME HERE IN WOODFORD GAVE ME THE SHOCK OF MY LIFE (WELL ONE MORE SHOCK ANY WAY). THERE WAS SNOW COMING DOWN. NOT JUST A FEW FLAKES BUT A LOT OF FLAKES. I GUESS IT'S A SIGN OF WHATS COMING. I GUESS WE WILL HAVE TO TAKE WHAT WE GET. THERE HAS BEEN A FEW CHANGES IN OUR REPEATER SYSTEMS IN THE LAST LITTLE WHILE, BUT THERE IS SOMETHING IN THE WORKS AT THIS TIME. THINGS ARE ROSIE AGAIN AS THEY SAY IN THE FLOWER PATCH. OCTOBER 13, 1992. IS OUR NEXT CLUB MEETING AT THE NEW BILLY BISHOP, OWEN SOUND AIR PORT. THOSE WHO DID NOT MAKE IT OUT TO THE LAST MEETING , DON'T KNOW WHAT THEY MISSED ITS A GREAT PLACE TO MEET. TIME OF THE MEETING IS AT 7:30 PM AND

ALL ARE WELCOME. WE HAVE A LITTLE BUSINESS TO LOOK AFTER, AND THEN ITS CHAT TIME AFTER THE MEETING. THE OWEN SOUND FALL FAIR WAS ON SEPT.10TH THROUGH 13TH AND THE CLUB HAD A BOOTH SET UP AT THE LOCATION. WE HAD A GREAT TIME AT THE FAIR. MEMBERS WERE BOOKED IN FOR AN HOUR OR TWO THROUGHOUT THE FAIR IN DIFFERENT TIME SLOTS, AND MOST IF NOT ALL SPENT MORE TIME AT THE BOOTH TALKING TO OTHERS THAT SHOWED UP TO GIVE US A HAND. ALL IN ALL IT WAS A BIG SUCCESS

FOR OUR FIRST FALL FAIR. WE HAD LOTS OF HELP AND TO ALL WHO HAD ANY THING TO DO WITH THE FAIR , I WOULD LIKE TO THANK YOU FOR THAT HELP. OUR FALL AMATEUR RADIO COURSE STARTED LAST MONTH , AND THERE HAS BEEN A GOOD TURN OUT THIS YEAR. WE HAVE PEOPLE FROM NEAR AND FAR IN THE CLASS. THERE ARE SOME INTERESTING PEOPLE HOPING TO BECOME AMATEUR RADIO OPERATORS. THE CLASS RUNS FOR 14 WEEKS AND WILL TAKE

US TO THE END OF THE YEAR. I BELIEVE WE HAVE 19 OR 20 IN THE CLASS. GOOD LUCK AND HARD WORK TO ALL THESE FUTURE AMATEURS . WELL THAT DOES IT FOR ME AT THIS TIME... 73 AND CATCH YOU ON THE AIR...BOB



Presidents Message : VE3XOX Bob

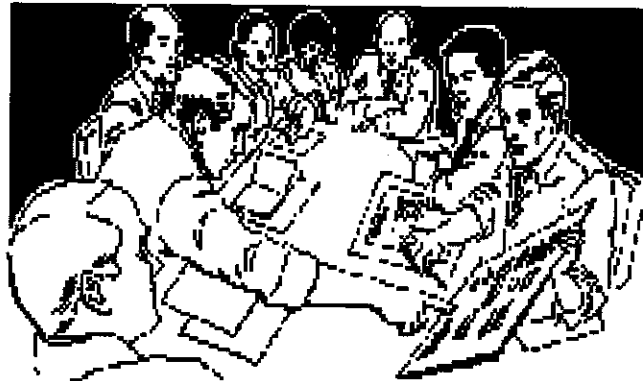
Here are our soon to be amateurs.... on behalf of the Club, we wish you the best of luck, and we hope to hear you on the air in the newyear....73 *editor*

- Peter and Janet Atkinson,Port Elgin Basil Doman Owen Sound Linda Droine, Owen Sound
- Bob English, Owen Sound Murray Fischer, Ayton Dan Hannington, Owen Sound
- Gerry Ishaw, Hanover Fred Leatham, Durham Henry Olsen, Hanover Lynn O'Shea, Tara
- Jim Pearson, Owen Sound Alan Perks, Ayton Mark Purvis ? Jack Seaman, Owen Sound
- Merv Solomon, Warton Jerrine Verkaik, Elmwood Jane Davidson, Kincardine Morris St.Onge ,Hanover

Minutes of Meeting of the Georgian Bay Amateur Radio club -SEPT 8 1992

Total of 23 members and one visitor attended the meeting held at the Billy Bishop Regional Airport, Owen Sound. Meeting opened at 7:45 p.m. by Pres. Bob XOX. Our visitor was Jack Farmer N5ZIK, from Owen Sound who has a winter home in Mission, Texas. Jack joined the club this evening and was extended a warm welcome by Pres. Bob. Jack plans to write the exams this winter to obtain his Canadian ticket. Minutes of June 8th. moved by Tom TSA, seconded by Gene IJD, with no alterations or additions. Secretary/Treasurer read notes regarding arrangements for the classes at a meeting held at Jack TWK's QTH. Also correspondence sent to Bob Fenton, at the airport confirming arrangements for our monthly meetings which will be held on the second Tuesday of each month at 7:30P.M.. Moved by Gene IJD, seconded by Jim TFQ that half of the 50/50 draw money, plus any donations be paid to the airport for use of the facilities. Carried. Bob XOX recapped field day activities for the group, and mentioned that 870 contacts were made. Lots of kidding to Don VTO, for his questionable "J7 Japan contact". It was suggested the club obtain the field day kit from CRRL for next year, to assist in log keeping. If duplicate calls are found in our submission, the whole club report is disallowed for points. The kit consists of dupe sheets for each band. It appears that all had a good time and lots to eat. Many thanks to Gene and his xyl again for allowing the club to stomp all over his grass like that each year. Tom TSA received a message back from VE3CNE, thanking us for the donation. John TXB, visited the station while it was operating. Volunteers were requested to sign up for assistance in setting up and manning the booth the club will be putting up for the fall fair in Owen Sound. Gene, IJD will be circulating a sheet with 2 hour time slots, for each of the fair days. Set up will be Wed

night, Sept 9th. Jack TWK reported that all arrangements were in place for class registration night, Sept 16th at the West Hill Secondary High School, room 315A at 7:30P.M. Approximately 20 persons have shown interest to date. Gene IJD and Bob XOX agreed to look into purchasing 2-12 amp power supplies for the controller and radio and return Carl PCK's own D.C. supply back to him. Cost of the 2 supplies is approx. \$100.00 total from Northwestern Electronics, Owen Sound. The club approved of this purchase at the meeting of March 9th, 1992. Discussion on insurance coverage of our equipment. None is on any of our equipment at the present time. Bob XOX agreed to look into the cost for coverage for all our repeaters. Bob XOX described the set up, frequencies, locations, etc of the various repeaters and plans to link all together. Bob offered to sell his own repeater to the club for the money he has in it, ie: \$150.00. Jack DTS suggested information be put in feedback on our repeater frequencies, locations and call signs and what's in the plans for each. Many club members are unaware of what's out there!. Bulletin Editor Tom TSA agreed to do so for the next issue. Ranges and repeater overlaps would be helpful. Suggested that it might be possible to cut out unwanted link-ups by tone control. Bob XOX agreed to check with Carl PCK and inquire what goes with the G.E. Executive repeater if the club decides to buy it. No motion at this time on the purchase. Some surplus equipment may be included which looks after the de-sensing problem. Gene described how a bulletin board works on packet. Not many members of GBARC on packet yet.



MINUTES OF THE LAST GBARC MEETING

Gene, IJD will be circulating a sheet with 2 hour time slots, for each of the fair days. Set up will be Wed night, Sept 9th. Jack TWK reported that all arrangements were in place for class registration night, Sept 16th at the West Hill Secondary High School, room 315A at 7:30P.M. Approximately 20 persons have shown interest to date. Gene IJD and Bob XOX agreed to look into purchasing 2-12 amp power supplies for the controller and radio and return Carl PCK's own D.C. supply back to him. Cost of the 2 supplies is approx. \$100.00 total from Northwestern Electronics, Owen Sound. The club approved of this purchase at the meeting of March 9th, 1992. Discussion on insurance coverage of our equipment. None is on any of our equipment at the present time. Bob XOX agreed to look into the cost for coverage for all our repeaters. Bob XOX described the set up, frequencies, locations, etc of the various repeaters and plans to link all together. Bob offered to sell his own repeater to the club for the money he has in it, ie: \$150.00. Jack DTS suggested information be put in feedback on our repeater frequencies, locations and call signs and what's in the plans for each. Many club members are unaware of what's out there!. Bulletin Editor Tom TSA agreed to do so for the next issue. Ranges and repeater overlaps would be helpful. Suggested that it might be possible to cut out unwanted link-ups by tone control. Bob XOX agreed to check with Carl PCK and inquire what goes with the G.E. Executive repeater if the club decides to buy it. No motion at this time on the purchase. Some surplus equipment may be included which looks after the de-sensing problem. Gene described how a bulletin board works on packet. Not many members of GBARC on packet yet.

NEW BUSINESS

Bob XOX gave a summary of the planned set up of rigs and packet radio set up for the fall fair. Tom TSA will supply his tri-bander. A trapped dipole may also be set up. Names of volunteers for set up and operating were obtained. Exhibitor passes will be obtained for admittance to the grounds. Gene IJD reminded members of the Boy Scout Jamboree at Harrison Park on October 17-18th. Members are encouraged to participate. See Gene after the meeting if you can assist. Jack TWK has some Commodore PET computers from the school for sale. These work on basic software. 50/50 draw won by Stan, SWL. Meeting adjourned at 9:30 by Walter FFN.

CRRL BULLETINS

HR CRRL BULLETIN 12 FROM CRRL HEADQUARTERS LONDON ON SEPTEMBER 09, 1992 TO ALL RADIO AMATEURS

IARU REGION 2 CONFERENCE AUGUST 31 TO SEPTEMBER 04, 1992. CURACAO NETHERLANDS ANTILLES.

Hosted by VERONA..The Region 2 Member Society in Cuaraco, the Eleventh General Assembly of Region 2 was a great success. The Conference was followed by a meeting of the IARU Administrative Council headed by IARU President Richard Baldwin W1RU.

There were 28 countries in this hemisphere represented in person or by proxy with more than 130 people participating in the Conference.

The CRRL Canadian Delegation was headed by George Spencer, VE3AQS, CRRL Vice-President for International Affairs with CRRL President Dana Shtun, VE3DSS, Past President Bruce Balla, VE2QO, and Mal Hamon VE3KXH, the Canadian Coordinator for the Region 2 Monitoring Service. VE3DSS was elected the Chairman of the Conference Committee C, dealing with VHF/UHF/SHF and Satellite matters.

Former CRRL President Tom Atkins, VE3CDM, member of the Region 2 Executive Committee for the past nine years, the region 2 Secretary, was the conference organizer for Region 2.

CURACAO -92 dealt with a wide range of important matters that affect Canadian Amateurs..band planning, new communication techniques, regulations, common licencing, monitoring, QSL handling and establishing the Region 2 priorities for the next three years. Specifically, the preservation, protection and active promotion of the amateur radio service with special funds being planned for to meet these objectives.

The following were elected to the Region 2 Executive Committee for the next three years:

* President Alberto Shaio, HK3DEW * V.President and Area A. Director: Thomas Atkins, VE3CDM Secretary and Area E Director: Pedro Seldemann, YV5BPG Treasurer: Steve Dunkerley, VP9IM Area D Director Fabin Zarrabe, YS1FI Area F Director Alfonso A. Calderon, OQ4QP Area G Director Reinaldo Szama,

LU2AH

* Members of the IARU World Administrative Council.

The delegates at the Conference voted for Niagara Falls, Canada as the location of the Twelfth General Assemblay of IRAU Region 2 in 1995.

73 DE VE2QO BRUCE BALLA BULLETIN EDITOR

HR CRRL SPECIAL BULLETIN 003 FROM CRRL HEADQUARTERS LONDON ON SEPTEMBER 10, 1992 TO ALL DIRECTORS AND SECTION MANAGERS AND TO ALL CARF AND CRRL MEMBERS

RE MERGER BALLOTS

It has been suggested to me that the published "majority" meant nothing, if it hid the fact that only a minority of the members had responded.

This could lead to an interesting argument, except for one thing, the assumption is incorrect.

Out of the eligible members 75.7% cast their ballot.

Out of the eligible members 73.7% were in favor of merger.

While 97% may look like a better number, the two given above are equally impressive, and show the level of members participation in the decision.

Your Truly R.G. Staines, CGA., CBV VE3ZJ



DX NEWS

PUT ON HOLD. According to DXNS, the proposed KH1 DXpedition to Baker and Howland has been postponed until late January or March 1993, due in large part to lack of operators. The JA2NQG and JA0GZ trip to Lord Howe Island has been postponed until February 1993.

MINAMI TORISHIMA. ESDX, the European Satellite DX group, reports Kuruja, JJ1ZNF, will sign JD1/JJ1ZNF/P for a new country on the satellites. The starting date of this operation will be near the end of September and Kuruja plans to stay on the island until the middle or end of November. Look for him between 1300 and 1400Z, and again between 2000 and 2100z.

9K, KUWAIT. Bob, N6BFM, 9K2ZZ et al, and his XYL are moving from their present QTH in A6 back to Kuwait City and should be back on the air in 3 or 4 weeks. He hopes to be very active on 80 and 160 meters this winter.

MARKET REEF. DX/Conetst club station OH1AF will be active as OH1AF/OJ0 starting October 6 for a one week operation. They will use CW, RTTY and SSB on all bands, including 6 meters, VHF/UHF and some satellites. Special attention will be given to 28 and 50 MHz. Two or three HF stations will be active. QSL CW Qs to OH1NOA and SSB Qs to OH1EH.

CHAD. Ken, WA4OBO, has postponed his trip until mid-October. He plans 4 full days of operating on 80 through 10 meter SSB around the CQ WW SSB DX Contest. He will then be moving north on business, but will be in Chad again in March of 1993 for 3 Geeks.

COUNTY HUNTERS. Richard, AH6IO, says there will be a special event station on Kalaupapa peninsula November 13, 14 and 15. Activity will be on 160 through 6 meters with a possibility of some satellite work. This is one of the rarest U.S. counties.

WARC BAND ACTIVITY. 30 meter spots include the following goodies. 5N0ZKJ, SM6CST, KE9I/V2, FK8GJ, OD5/SP1MHV, ZA1J, UB4CM, LZ1FI, FY5FA, HA7PF, ZA1C, ZA1BK, 9H3PB, KL7S AND OD5/SP7LSE.

On 17 meters there was ZD8LII, EA6ZY, IS00MH, ZD8LII, PP1CZ, V2/KE9I, OD5/SP7LSE, P40P, LA4RJ, 4K4NN, SV0MG, U0AG, TK/HB9ASZ, PY2EYE CE3ZW, GD4RAG, VQ9QM, F6BLQ/D2, FY5FJ, ZK2VJ,

VP2V/KE9I, ZL2AAG, CN8NS, NL7WH, V2/N4WQB, ZS6YA, 5N0MRD/6W1, NL7J, PZ1EE, TK5BF, T77T, TG9AJR, XE1CI, 6Y5CE AND FK8CP.

And on 12 meters, PY5TRT, PJ2/NX1L, P40P, VK3CWB, VQ9QM, VK4KO, OA4BCZ, 9H1NB, CE3GEI AND ZD8Z.

CAMBODIA. Antoine, F6FNU, is the QSL Manager for XU0NU, XU1NU and XU2NU. These stations are part of a French contingent to the UN peace keeping forces.

CORRECTION TO ARLD036 AND ARLD045. Under item one, FR/G/E/J, Indian Ocean, the correct QSL route for FR5ZU is:

Jacques Quillet PO Box 347 1 Cite Meteo Chaudron F-97494 STE. Clotilde Cedex Reunion Island, via France GLORIOSO. Jack, FR5ZU/G, has been very active on RTTY, but there have been no reports of SSB or CW. Plans are to move on to Juan de Nova, FR5/J, and operate there from September 21 through October 4. He will then be travelling to Europa, FR5/E, for October 5 through 15 activity. The correct QSL information is Jacques Quillet, PO Box 347, 1 Cite Metro, Chaudron, F-97494, Ste. Clotilde, Cedex, Reunion Island, via France.

NORTH KOREA. Maarti, OH2BH, reports that progress is being made on a possible P5 DXpedition, although no starting time or date has been set.

WILLIS ISLAND. Operators VK9NS, VK9NL and VK2BEX plan to spend a week here around October 7 through 14. Their Mellish Reef operation has been cancelled.

YEMEN. Europeans have been heard working 7O0ZZ and 7O1ZZ, purported to be operated by VE7ZZ. Yet according to VE7ZZ, he is not now nor ever has been in Yemen.

BAHAMAS. To celebrate the 500th anniversary of Christopher Columbus discovering the new world, the Bahama Amateur Radio Society, BARS, will be on through the month of October signing C6A500. BARS members will be signing their calls with the /500 suffix. Awards will be available.

BANGLADESH. Cards are now being received stateside for the Jim Smith S21ZA operation. Bob, S21ZD aka G4APV, has his license but has yet to be heard on the east coast. He should be active again September 20, 21 and 22.

An Introduction to packet by Larry Kenney WB9LOZ

Over the next 5 issues of feedback will be a set of articles which do a very good job of explaining packet radio. This is good reading for the packeteer as well as the new comer. Even if you don't have a TNC or do and don't seem to get the most of it, read on and take the mystery out of all those wierd commands..... *editor*

PACKET RADIO: An Introduction - - by Larry Kenney, WB9LOZ

Packet Radio is the latest major development to hit the world of Amateur Radio. If you haven't already been caught by the "packet bug", you're probably wondering what it's all about and why so many people are so excited about it. Well, continue reading, because you're about to find out.

Packet seems to offer something different from other facets of Amateur Radio, yet it can be used for everything from a local QSO to a DX contact 2500 miles away (on 2 meters!), for electronic mail, message transmission, emergency communications, or just plain tinkering in the world of digital communications. It presents a new challenge for those tired of the QRM on the low bands, a new mode for those already on FM, and a better, faster means of message handling for those on RTTY. Packet is for the rag chewer, the traffic handler, the experimenter, and the casual operator.

A ham can get involved very easily with relatively small out-of-pocket expenses. All you need is a 2-meter transceiver, a computer or terminal, and a TNC. You probably already have the two meter rig and a computer of some kind, so all you need to buy is the TNC, which costs just over \$100. The TNC is the Terminal Node Controller, the little black box that's wired between the computer and the radio. It acts very much like a modem when connecting a computer to the phone lines. It converts the data from the computer into AFSK tones for transmission and changes the tones received by the radio into data for the computer. It's a simple matter of wiring up a plug and a couple jacks to become fully operational.

Packet is communications between people either direct or indirect. You can work keyboard to keyboard or use electronic mailboxes or bulletin board systems to leave messages. Due to the error checking by the TNC, all of it is error free, too. (That is, as error free as the person at the keyboard types it.) As the data is received it's continuously checked for errors, and it isn't accepted unless it's correct. You don't miss the information if it has errors, however, because the information is resent again. I'll go into how this is accomplished in a later part of this series.

The data that is to be transmitted is collected in the TNC and sent as bursts, or packets, of information; hence the name. Each packet has the callsign or address of who it's going to, who it's coming from and the route between the two stations included, along with the data and error checking. Since up to 256 characters can be included in each packet, more than three lines of text can be sent in a matter of a couple seconds. There is plenty of time between packets for many stations to be using the same frequency at the same time, and all using the same repeater. The repeaters, known as digipeaters, are simplex operations and occupy a single frequency, as opposed to the common two-frequency repeaters used for voice communications. You can link from digipeater to digipeater, extending your range tremendously. I've worked twelve states on 2-meters with packet, all with a ten watt rig, thanks to this linking capability.

If all of this sounds confusing, don't let it bother you, because that little black box, the TNC, does everything for you automatically. Packet might seem very confusing at first, but in a day or two you're in there with the best of them. In future parts of this series, I'll be telling you more about packet--how you get on the air, how to use it to your best advantage, and ways to improve your operation. We'll even talk about that little black box, the TNC, and tell you about all its inner-most secrets.

PACKET RADIO: An Introduction - PART II - by Larry Kenney, WB9LOZ

In the first part of this series we told you, in general terms what packet radio was all about...what it is, its uses, the equipment used and, generally, how its transmitted. Now we're going to tell you how to get on

the air, make a QSO, and become familiar with your packet station. Whether you're new to packet, having just received a new TNC, have been involved for just a short time, or are one of the "old timers" with three or four years of experience, this series should help all of you. Even if you don't yet own a TNC, you should keep this article handy for future use. I'll bet you'll be joining us soon!

The equipment needed to get on the air is a VHF transceiver, a computer or terminal, and a TNC - the terminal node controller - the little black box we talked about in part 1. (There is packet activity on HF, but VHF is where all the action is. It's the best place to start out in packet.) The TNC contains a modem and is equivalent to the modem used to connect your computer to the phone lines, except that it also contains special software that's specially designed for ham radio packet use.

When you buy a TNC and take it out of the box, you'll find cables supplied for connecting it to the radio, but you'll have to attach the appropriate mic and speaker jack connectors for the radio you're going to use. You also have to furnish the cable that connects the TNC to your computer or terminal. In most cases, the standard RS-232 port is used between the TNC and computer, however this varies on the type of computer and TNC used. The operating manuals supplied with the TNC have a good write up on the various computers and the cabling needed. I would advise that you read the introduction and set up procedures for your particular TNC very carefully. Most companies have supplied excellent manuals, and you usually can figure out all of your set up problems from the the information supplied in the manual.

Once you have everything wired and connected together, turn on the computer, load a terminal program (anything used for a phone modem will work well for packet) and get into receive mode. Now turn on the radio and make sure the volume is turned up about a quarter turn (about the "10 o'clock" position) and make sure the squelch is set. It should be at the point where the background noise disappears, just as it would be set for a voice QSO. Next, turn on the TNC. You should get a "greeting" or sign on message showing the manufacturer's name, software version, etc. If you see a bunch of gibberish, such as `&tf$d.#ssan>m`, it means that the data rate of the TNC and computer are not the same. This data rate is better known as the baud rate. The baud rate of the

TNC has to match the baud rate used by your computer terminal program and is easily adjusted. Check you TNC manual for this procedure, as it varies from TNC to TNC. If you don't see a "greeting" or the gibberish, check your cables and connections. Make sure that you have everything connected properly, that the right wires are on the right pins, etc.

Now we need to explain the three levels of communicating you can do from the keyboard. First, you can communicate with your computer for setting up the terminal program; second, you can communicate with the TNC; and third, you can communicate with the radio. It's very important that you know which level you're in when working packet. I can't help you much with the computer level, since that varies with manufacturer, model and type, but once you get the terminal program ready to receive data, you're ready to talk to the TNC.

First, do a "control C" (press the CNTL and the letter C simultaneously); this puts the TNC in COMMAND mode, the level where you communicate directly with the TNC from the keyboard. You should see "cmd:" on your screen. Enter "MYCALL - - - -" with your callsign in place of the dashed lines, such as "MYCALL VE3TSA", followed by a carriage return (CR). All commands are followed by a (CR). This sets into the TNC memory the call that you're going to use on the air. If you type "MYCALL" (CR) now, it should respond with your call. If it does, you've proven that the computer to TNC linkup is working fine. If you do not see anything on the screen when you type, blindly enter the following: ECHO ON (CR). If you see two of everything that you type, such as MMYCCAALLL, enter ECHO OFF (CR).

You're now ready to go on the air! Tune the receiver to any odd numbered frequency between 144.91 and 145.09 that has some activity on it and set the rig up for simplex operation. Enter "MONITOR ON" (CR), then watch the screen. You should soon be seeing the packets that are being sent over the air by other stations. If you don't see anything in a minute or two, try tuning to another frequency. Watch for callsigns with a * next to it, such as VE3XOX-1*, VE3LKD-1*, or VE3FFN-2*. Callsigns with an asterick indicate that you're copying the packet from that station, as it's being repeated, or digipeated. Jot down the call.

In packet, you can have up to 16 different stations on the air at the same time using the same callsign. That's where the numbers come into play. The calls

VE3IJD, VE3IJD-1, VE3IJD-2, VE3IJD-3 and VE3IJD-4 are all individual stations operating under the same station license. The numbers are used to differentiate between the various stations.

Now, before you try to make your first QSO with someone else, you should check out your equipment to make sure it's set up properly. To do that, you can CONNECT to yourself. Note one of the callsigns you jotted down a minute ago. Make sure your radio is still tuned to the frequency where you heard that call, then enter the following: "C - - - - V - - - -" (CR) where the first dashed lines are YOUR callsign and the second dashed lines are the call of the station you jotted down. The C means CONNECT and the V means VIA. "C VE3ABC V VE3IJD" means connect to VE3ABC via VE3IJD. You should soon see "*** CONNECTED TO (your call)" on the screen. You have now entered the third level of communications, called CONVERSE mode, and this is where you communicate from the keyboard to the radio.

Anything you type on the keyboard will be transmitted over the air as a packet every time you hit a (CR). If you enter "Test" (CR) you should see "Test" a second time on the screen, as it's transmitted, then digi-peated and sent back to you. In this case you'll only be talking to yourself via another station, but it's a good way to check to make sure your system is working properly. If that works, hit a CONTROL C. This puts you back into COMMAND mode where you talk to the TNC again. Enter "D" (CR). This will disconnect you from the other station, and you'll see "DISCONNECTED" on the screen.

Now you're ready to talk to someone else! Watch for a familiar call on the screen while monitoring or note calls you see frequently. Be sure to note whether or not a digipeater is being used by watching for the *. If you see VE3OVV > VE3XOX, VE3IJD-1*, for example, you're receiving the packets from VE3IJD-1. If you do not see an asterick, you are copying the station direct. When the station you want to contact is finished with his QSO, enter "C - - - -" or "C - - - - V - - - -" (depending on whether or not a digipeater is needed) followed by (CR). You should get a "*** CONNECTED TO ..." on the screen, which means you're in converse mode, and your first QSO with someone else is underway! Anything you type now will be sent to the other station, and anything he types will be sent to you. When you're finished, be sure to do a CONTROL C to get back into command mode, then enter "D" to disconnect from the other

station.

You're on the way now to lots of packet fun and adventure!

INTRODUCTION TO PACKET RADIO - PART 3 by Larry Kenney, WB9LOZ

In our last column I talked about how to get on the air and make your first QSO. This time I'll be explaining the special calls used in packet radio, the use of digital repeaters (called digipeaters), and how to use some of the commands in your TNC.

THE SSID: Each licensed amateur is allowed to have up to 16 different stations in operation at the same time on packet radio. You could have your home station, several digipeaters and a bulletin board system all operating with your callsign. To differentiate between the various operations you use an SSID, a "Secondary Station ID", attached to the end of the callsign. The SSID is shown as a dash followed by a number, 0 through 15. An SSID of -0 is usually not shown, and is not needed.

DIGIPEATERS: Digipeater is the term we use to describe a packet radio digital repeater. Unlike voice repeaters, most digipeaters operate on simplex and do not receive and transmit simultaneously. They receive the digital information, temporarily store it and then turn around and retransmit it.

Your TNC will allow you to enter up to eight digipeaters in your connect sequence, but using more than 3 usually means long waits, lots of repeated packets, and frequent disconnects, due to noise and other signals encountered on the frequency.

When entering the list of digipeaters in your connect sequence, you must make sure that you enter them in the exact order that your signal will use them. You must separate the calls by commas, without any spaces, and the EXACT callsigns must be used, including the SSID, if any. That means you need to know what digipeaters are out there before randomly trying to connect. Turn MONITOR ON and watch for the paths that other stations are using or check the digipeater listings. Here are some examples of proper entries: C VE3IJD v VE3OST , C VE3EFX-2 v VE3OST-1, VE3WWD, C VE3TSA-1 v VE3GDH, VE3IJD, VE3XOX

Something to remember when using digipeaters is the difference between making a connection and sending information packets. If the path isn't all that good, you might be able to get a connect request through, but will have a difficult time with packets after that. The connect request is short so it has much less of a chance of being destroyed by noise or collisions than a packet containing information. Keeping information packets short can help keep retries down when the path is less than ideal.

NODES: Net/Rom and TheNet nodes are another means of connecting to other packet stations. A complete review of their operation will be covered in a later part of this series.

TNC PARAMETERS: The Terminal Node Controller, that "little black box" we've talked about in the past, has more than 90 different commands available. You're able to customize your packet operating with these commands and turn on and off various features as you wish. Not all TNCs are exactly alike, but all have pretty much the same functions. I'll be using the commands used by the TNC2 and clones in my examples.

We covered a few of the commands in a previous article: CONTROL C for entering command mode, MYCALL, MONITOR, CONNECT, and DISCONNECT. Now let's discuss a few that can change the way your station functions.

ECHO: This command tells the TNC whether or not it should send what you type back to the monitor screen. If you don't see anything when you type, set ECHO to ON. If you see yooou sseeee ddoouubbllee, like that, set ECHO to OFF. This setting will depend on how your particular computer system functions.

CONV (converse mode): Your TNC will automatically switch to this mode when you connect with someone, but you can also do it by entering CONV (CR) at the Cmd: prompt. When in converse mode, anything you type will be transmitted via the path you set with UNPROTO. (See the next paragraph.) Anyone in monitor mode will be able to read what you transmit. Packets in converse mode are sent only once and are not acknowledged, so there is no guarantee that they'll get through. This mode is used frequently for sending CQ's.

UNPROTO: This command designates the path used when in converse mode. The default is CQ, but you can enter a series of digipeaters if you wish, or a

specific group or club name. Some examples: CQ v VE3OST-1,VE3WWD Remember, you have to change UNPROTO for use on different frequencies, unless you leave it set simply to "CQ".

FRACK: This determines how long your TNC will wait for an acknowledgement before resending a packet. It shouldn't be set too short, or you simply clutter up the frequency, yet it shouldn't be too long, or you'll spend too much time waiting. I use FRACK set to 7, and have found that to be an overall good value.

DWAIT: Used to avoid collisions, DWAIT is the number of time units the TNC will wait after last hearing data on the channel before it transmits. I have DWAIT set to 16, and have found that to work well.

PACLEN: Determines the number of characters in your packets, ranging from 1 to 256. The more characters you send per packet, the longer it takes to transmit the information and the greater your chances are of noise, interference or another station wiping it out. I've found a PACLEN of 80, which is the length of one line, to be a good value. When working a station nearby, PACLEN can be increased. When working a distant station, it should be decreased.

RETRY: Your TNC will retransmit a packet if it doesn't receive an acknowledgement from the station you're working. RETRY indicates the number of times the TNC will try to get the packet through before giving up and disconnecting. This can be set from 1 to 15, but I've found 8 to 10 to work well. Less than that causes an unnecessary disconnect if the channel happens to be busy, but more than that clutters up the channel.

Try working with those commands. In the next article I'll cover a few more, plus take a look at how to use a packet bulletin board system.



short bits

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Gold Award. Contact Canadian Radio Amateurs in ALL Canadian provinces and territories other than ones own. Each contact to last at least 10 minutes with a total contact time of at least 125 minutes.

Contacts may be made on any mode or frequency (except as specified for the Bronze Award).

Contacts made during the period January 1 1992 - December 31 1992. may be counted towards these awards.

Contacts using repeaters, satellites etc may not be counted toward these awards.

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920927 JAMBOREE-ON-THE-AIR

Hi there everybody!! This year, the Scout JAMBOREE-ON-THE-AIR (JOTA) will be held october 16-17-18. This event, which is by the way the biggest ham radio event in the world, gives the chance for boy scouts to communicate with other scouts worldwide and make friends on the air. If you want to volunteer to set-up a station at a meeting area or invite the scouts at your ham shack, please don't hesitate to contact your nearest scout office. It's sure to please and amaze a lot of young people. Who knows? Maybe it'll interest them to get their licence like it did to me!!

Here are some calling freqs. for the JOTA. (Note: These are the calling freqs. But we usually QSY to avoid confusion on those freqs.): These are in KHZ: CW-3590, 7030, 14070, 21140, 28190 PHONE-3740, 3940, 7090, 14290, 21360, 28990 The Moncton (NB, CANADA) Area station, VE1JAM will be operating most of the day Saturday and Sunday of that weekend. It will be operating 20, 40 and 80 meter bands and we will be operating ***PACKET*** on 14105 khz. If you plan to have a station on for JOTA, please send a schedule of operation and callsign so we can try to make a QSO on either voice or packet (maybe CW).

If you have any questions on JOTA or need any info, please don't hesitate to send to:

VE1JAM @ VE1FUN.NB.CAN.NA.

TNX, 73's, best of DX and best of JOTAs from VE1STE @ VE1FUN.NB.CAN.NA STEPHANE NILES.

The FCC has cited an amateur for "**indecent speech**" on the 20-meter band. On September 23 the Commission announced a Notice of Apparent Liability (NAL) for 2,000 dollars had been sent to Allen Burton, KA4URC, of Hornbeak, Tennessee, alleged for wilful violation of FCC Rule 97.113(d), which prohibits transmission of indecent words and language on Amateur Radio stations.

Burton, 60, is a General class licensee. According to the NAL, on the afternoon of June 29, 1992, the Commission's Kingsville, Texas office monitored a conversation on 14.300 MHz which included KA4URC. "We find," the NAL said, "that the words and language transmitted are indecent within the meaning of Section 97.113(d) and prevailing Supreme Court and Commission precedent."

"We find that the transmissions describe sexual acts and organs in a patently offensive manner and go well beyond what an average adult person in any community would consider to be worthy of protection," the Commission said.

The NAL said one of the Commission's goals is to "protect children from exposure to sexually explicit communications over the airwaves," and noted here that "the transmissions were made in the summertime in the afternoon when there is a real likelihood that children are listening." An ARRL survey of young radio amateurs was used as corroboration.

Burton was fined less than the 5,000 dollars that

Commission guidelines would have allowed because it was his first offense and because he is an individual rather than a corporation (such as a broadcast radio or television station). Burton has 30 days in which to pay the fine or to explain why it should be reduced or not imposed.

YOU can help VE3CNE! From:VE3RJO@VE3CNE
To:ALL@CANADA

Hello all! We are looking for a donation to the VE3CNE station for next year. We would like to set-up a paging system that can be used by hams who want to contact the station for information/emergency use, or to arrange to have someone meet them at the gate for admission to the grounds so they can participate. The reason we are seeking a donation is that we do not want to be dependent on the generosity of the vender who is donating the station equipment, and this radio will be modified for our own use. Our requirements are simple: What is needed is an older VHF (2M) rig that is xtal controlled or synthesized and is solid-state. A 12 volt DC power supply rated 5 to 10 amps to run the rig. A 5/8 mobile or base antenna (mag-mount not necessary). Also, if someone can spare it, a DTMF decoder is needed as well. Any donations will be gratefully accepted and acknowledged. Please help us by supporting VE3CNE, Canada's premier public exhibit of Amateur Radio. Please contact: Richard VE3RJO @VE3YRA -OR-Larry VE3FXQ @VE3OY (VE3CNE Station Manager)

73's from all at the Canadian National Exhibition.

920919 International overview I saw this in Space News a short while back and thought you might be interested. The data is theirs, the format's mine as are all potential mistakes

Country Civil Space Programs Launch Sites Budget (operational to orbit)

Argentina \$10 million Astronomy satellites

Australia \$13 million Deep Space tracking, space science

Austria \$28.5 million ESA, mission to Mir Kourou

Belgium \$134.8 million ESA Kourou

Brazil \$100 million launch vehicles, remote sensing sats

Canada \$292 million ESA associate member, robotics,

comsats

China \$1.2 billion launchers, comsats, Jiquan, Taiyuan, meteorological sats Xichang

Denmark \$28.9 million ESA Kourou

Finland \$46 million ESA associate member

France \$1.38 billion ESA, Mir mission, Kourou remote sensing

Germany \$969 million ESA, comsats, space Kourou plane research

India \$182 million Launchers, comsats Shar

Ireland \$5.9 million ESA Kourou

Israel \$6 million launchers, comsats, Palmachim AFB researech sats

Italy \$973.4 million ESA, tethers Kourou, San Marco

Japan \$1.262 billion Space Station, Tanegeshima (NASDA) remote sensing, lunar Kagoshima (ISAS) probes, launchers, space science

Netherlands \$87.4 million ESA, X-ray & IR cameras Kourou

Norway \$29.2 million ESA, sounding rockets Kourou

Pakistan \$7.5 million Research sats, sounding rockets

Russia \$741 million launchers, planetary Plestek, Kapustin Yar, probes, Mir, comsats Baikonur remote sensing

South Africa ??? launchers & sats

South Korea \$50 million comsats

Spain \$144.6 million ESA microsattellites Kourou

Sweden \$81.9 million ESA, comsats, science Kourou sats

Switzerland \$60.8 million ESA Kourou

Taiwan \$75 million comsats

Ukraine ??? launchers, instrumenets

United Kingdom \$206.6 million ESA, remote sensing Kourou

United States \$14.7 billion shuttle, Freedom Kennedy, Vandenberg AFB (NASA & NOAA) space science, Cape Canaveral AFB, planetary probes, Wallops remote sensing

Notes: Launch sites for Russia include former Soviet

sites outside Russia's borders. Budget is given at current exchange rates. ESA has a budget of \$3 billion. Projects include launchers and space station programs

Josh Hopkins

Cross-band repeater legality? FROM DAVE VE3MMN I was taking a quick look through my copy of the RIC-25 the other day and came across an interesting section of the regulations pertaining to license classification and privilege. The section reads as follows: RESTRICTIONS ON LICENSEES WITHOUT ADVANCED QUALIFICATIONS 46. (1) A licensee of an amateur station who does not hold an Amateur Operators Certificate with Advanced Qualification shall not install or possess a station that is

(a) capable of receiving and automatically retransmitting radiotelephone communications;

(b) capable of executing actuation of, or frequency changes to, or tuning or other adjustments to the station apparatus by means of radio remote control; or

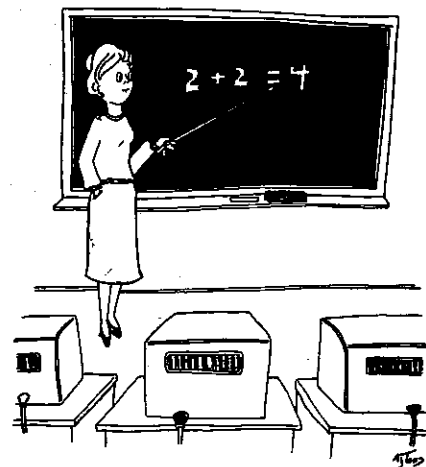
(c) to be used as a club station Of course, section (a) deals with repeaters and remote bases, and section (b) deals with remote bases specifically, but as I read this information, the only conclusion I can draw is the following:

- it is illegal for a Basic amateur to possess radios capable of cross-band repeater operation, although it would seem that equipment which must be modified to act in such a fashion should be OK as long as the modifications are not done. Still, this encompasses a rather wide variety of radio equipment on the market today.

- it is doubly illegal for a Basic amateur to *possess* equipment which is capable of cross-band repeater operation AND control of frequency and operation remotely, and example of such being the ICOM 2410A/H with the optional DTMF control board.

- whatever is construed as a club station is anyone's guess, but it seems to me that allowing others to utilize your cross-band repeater if you do not have an Advanced qualification seems to fall into this grey area as well. Just because you can cram a dragster engine into your family car does not make it legal to drive it on the street. Also, it seems to me that if the Japanese are going to go techno-crazy and build radios which

can speak English and Japanese plus act as cross-band repeaters plus play an assortment of LCD video games (a ploy to sell front panel microswitches I am sure!), why can't they build the facility into the equipment to properly identify the stations as such. After all, if you run a repeater with no ID'er sooner or later someone will come along and cause a ruckus, and the cross-band repeater operation is no different except for the spacing between receiver and transmitter. Perhaps there has already been some sort of creative ruling on these issues that I am unaware of, but perhaps there is none. I may be accused of being a Luddite for pointing this out, but conversely it does not take too much effort to make yourself a menace with a cross-band repeater system. We have had cases in this area of people cross-banding repeaters to the SSB portion of two metres (to the enjoyment of the weak signal folk) and I am sure there are cases of OSCAR downlinks and uplinks that have had problems at some time. It is unfortunate, but the indoctrinational practices which used to exist a number of years ago for those entering the fraternity seem to have fallen by the wayside as the DOC question bank increases in popularity. It is unfortunate too that there is no required material on the voluntary band plans which exist in Canada these days in the test material, and for the person who is not exposed to this material before they get their license and who then purchases one of these fancy Japanese radio's on the way home from the district office it is not surprising that problems of this nature do crop up from time to time. Perhaps this is one of the items that RAC can deal with when they climb out of their catered hall of mirrors and back into the real world... Comments or opinions? 73 de Dave VE3MMN.

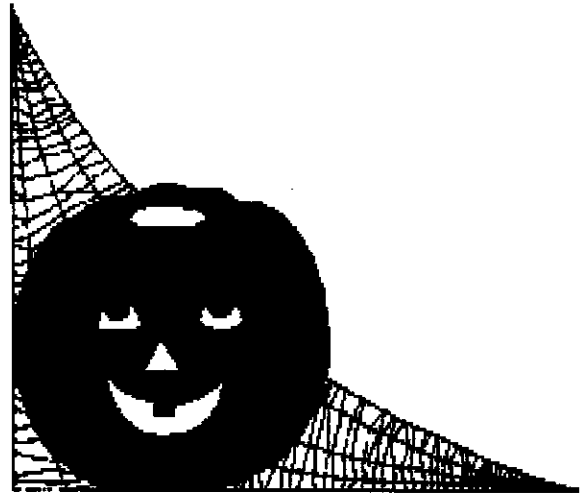


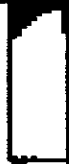
Computer Training Class

SATELLITE NEWS

Satgen 182 Satellite Orbits 1 by GM4IHJ 19th Sept 92

Most amateur satellites go into orbits determined by the main payload. The people paying for the launch get the orbit they want and, we, hitchhikers accept the orbit as part of our free/cheap ride concession. Early AMSATs were mostly sent aloft with US military payloads going into low earth near circular orbits in the altitude zone 1300 to 1800 kms height, and inclined at just over 90 degs to the Equator. This gave excellent orbits high over both polar regions, able to see stations as far apart as the UK and California, at the same time. Early Russian amateur sats had similar orbits excepting that they orbited just east of the pole with inclinations of about 82 degs. Then the Russians introduced the first important change by launching six satellites at the same time, so that eventually they came past your station one after the other providing almost continuous communications coverage. Unfortunately this situation could not last. Almost half the Amsats and RS Russian sats suffered radiation damage as their high orbits took them into the lower edges of the earth's radiation belts - thereby gradually destroying their onboard controls and computers. So since 1982 almost all Amsats and RS sats, have orbited below 1200 kms. This avoids serious radiation damage but it results in the satellite no longer being able to connect UK to California, being limited to UK to US Eastern states for simultaneous coverage. Breaking this pattern, Amsat Oscars 10 and 13 used Ariane civilian launches to geostationary transfer orbits. Then once safely there, their amateur controllers ordered the sats to fire their auxiliary kick motors - small rockets designed to raise the orbit low point perigee well above the atmosphere and, tilt the orbit to an inclination of about 60 degs with respect to the Equator. This did not work for Oscar 10 which was marooned in a low inclination near equatorial orbit where radiation damage rapidly destroyed its onboard computer. So Oscar 10 is now uncontrollable but still works spasmodically on 435 up 145 down Mode B. Oscar 13 fared better and got to 57 degs inclination almost clear of radiation problems, but like the Russians before them, the controllers found that at Oscar 13's 36000 km high point it was being pulled away from the Earth by the Sun. Worse still, this meant that Oscar 13's perigee low point was being pulled down to a very low altitude where the satellite could be lost due to atmospheric drag. At the moment the Solar pull is no longer in resonance, so Oscar 13 is relatively safe at about 600 kms perigee, but in the next 2 years or so the Solar pull is likely to become effective again pulling Oscar 13 out of orbit as perigee eventually drops into the thicker part of the atmosphere, where Oscar 13 will burn up. When Amsat sent up high elliptical orbiters, the Russians adopted a different strategy - sending their latest RS sats up, permanently fixed inside geodetic sats and navigation sats. There the new RS's have the benefit of the big power supply of the parent sat, allowing the RS transmitters to be much more powerful and capable of new techniques such as digital FM repeating. Meanwhile Amsat has launched a fleet of small micro sats. About which I will write more, later. 73 de GM4IHJ @ GB7SAN





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