Ham RADIO News

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The Journal of Amateur Radio Society of India (Member of IARU)

"AMATEUR RADIO- A NATIONAL RESOURCE"

Courtesy- VU3NSH

Ham Radio 2000

MILLENIUM HAM MEET

December 22, 23 & 24th- Hyderabad

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MILLENIUM HAM MEET INTIMATION

Hyderabad Hams are organizing the **"Millenium Ham Meet"** on December 22, 23 & 24th in Hyderabad. Convenor for the Meet is Om Jagdish, VU2JH. The Delegate Fee is Rs.300/- per Ham and Rs.150/- per head for XYL & Harmonics above the age of 10 years. Delegate Fee is to be sent in the name : **"Ham Radio 2000"** payable at: Hyderabad and mailed to: Post Bag No: 15, Secunderabad- 500003 or couriered to: 303, Sree Raghav Apartments, S.D.Road, Near Sangeet Cinema, Secunderabad- 500 003.

There will be contest for best Home-Brewer, Best CW Operator, Best Dxer and over all Active Ham awards. Also, there will be a Lucky Dip for all the Delegates (including XYL and Harmonics accompanied by licensed hams). We plan to give attractive prizes for the Lucky Dip winners. The First Prize will be a 100 watts HF transceiver, Second Prize: VHF Base Station, Third Prize: VHF Handie, Fourth Prize: 13.8V-25 Amp DC Power Supply, Fifth Prize: 13.8V- 15Amp DC Power Supply and ten consolation Prizes like Antennas & Cables. There is absolutely no contest or other Rules & Regulations for this Lucky Dip. You only need to attend the Meet as a Delegate. We are planning this Meet to be the highlight of this Millenium. So, please participate in large numbers and make it a grand success. Lets make the society feel the strength of Ham Radio in India. Incidentally, we wish to dedicate this Meet to the untiring services rendered by some of our fellow hams during the recent Orissa Cyclone.

For further details please send email to: **ljrao@yahoo.com** or snail mail to: Post Bag No:15, Secunderabad- 500003. Details/Registration Forms are also available on Belgaum Net, Charminar Net, Air Net India and some local VHF Nets with the Net Operators or with Om Paddy, VU2PEP, whenever he is available on these Nets.

EDITORIAL

With the advancement in technology, and the use of digital systems, the need for using call signs as a means of identification is becoming obsolete. Today, the main users of call signs are aircraft, ships and radio amateurs. Large call sign blocks thus remain unused. As a consequence, some countries have released several call sign blocks for use by radio amateurs, irrespective of the number of people seeking amateur licence.

The ARSI proposes to approach the Government for releasing additional call sign blocks. At present, we have only VU2 (for advanced grade and grade I) and VU3 (for grade II and restricted grade) series. Before so doing, we would like to get the opinion of our members and others. (It is strange that we rarely receive any letters from members, commenting, criticising or appreciating any of the activities of the Society.) The call sign blocks allotted to India are ATA-AWZ, VTA-VWZ and 8TA-8YZ. Opinions and suggestions will be published in the next issue of the Ham Radio News.

The World Radio Conference (WRC-2000), held at Istanbul, Turkey, in May this year, has tentatively included in the agenda for the next WRC (scheduled 2002-2003), the IARU proposal for harmonising the 7-MHz band. This proposal, in effect, means an increase in the 100 kHz slot in 40-metre band to 300 kHz. This can be either from 7000-7300 kHz (as in Region 2 at present) or 6900-7200 kHz. This new 300 kHz slot will be common to all Regions. If implemented, it can be a boon to Indian amateurs for whom the present 100 kHz slot is as good as non-existent due to the large number of non-amateur operations.

In meetings and group discussions, I am often asked: What are the advantages of becoming a member of the ARSI? The quarterly magazine and QSL Bureau are the visible benefits. I do not consider these of great significance, though these have their own importance. What is significant is protection of amateur band frequencies, getting additional frequencies and emissions, improvement in rules governing the amateur radio activities, eliminating other obstacles in the functioning of the activity like providing help to those having problems with the licensing authority, co-ordinating the amateur radio activities in India with those in other countries by regularly participating in IARU's triennial conferences, etc. And all this is possible only if you support your National Society. I am tempted to repeat what the president of RSGB has said in a recent issue of Radcom.

1. Do not make statements to the media unless you are an expert on both the topic and in handling reporters.
2. Keep your equipment and working methods in proper order. Causing TVI in your neighbour hood could easily escalate into an acrimonious dispute.
3. Support your National Society by becoming its member (and remaining a member). It speaks on behalf of all radio amateurs, whether members or not, but the more members we have, the more weight we carry.

Sahruddin VU2SDN

Radio Amateurs are reported to be great lovers.
They do it with *frequency*

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Which Battery Should *you* use in your Equipment?

Selecting the best battery for your particular application can be a compromise between cost and length of service. Here is a description of some of the many types available.

Courtesy Don A. Gagnon, WB8HQS - QST April 1999

Batteries! Batteries! Batteries! They're every where! With several new battery types coming onto the scene in the last 10 years or so, it's hard to keep up with what's available today! And even more important- how do they differ from one another, and which is best in *your* application?

The tried and true standby batteries for hand-held transceiver, video cameras and portable computers have been nickel cadmium (NiCd). For less-portable applications, sealed lead acid (SLA or gel) cells are often used. Today we have nickel-metal hydride (NiMH), lithium ion (Li-Ion), lithium polymer (Li-Polymer) and reusable alkaline. Each of these types has good and bad features, and selecting the battery for your needs can be a real headache unless you understand those features and how they may apply to your needs. Here, I'll try to shed some light on those subjects.

Battery Types

Nickel Cadmium (NiCd)- Mature technology, used where long use life, high discharge rate and reasonable prices are important. Not good where long shelf life is essential.

Nickel-Metal Hydride (NiMH)- Has been around for about 10 years, offers a somewhat better power density than NiCd, but also has a reduced total number of charge/discharge cycles and a lower peak output current (because of higher internal resistance).

Sealed Lead Acid (SLA) or Gel Cells- Best suited for higher-current power applications, or those requiring low current for extended periods of time. The downside of these batteries is their large physical size and weight.

Lithium-Ion (Li-Ion)- A somewhat new technology, really emerging in the least five to seven years, although it has been experimented with for some time. Li-Ion cells provide a much higher power density (power available per unit volume) than NiCd. The downside is that they require very tight control of charge current, charge voltage and discharge to defend against plating metallic lithium inside the battery.

Lithium Polymer (li-Polymer)- Not commercially available yet, Li-Polymer is a modification of Li-Ion technology and promises to be less expensive to manufacture, but will have a low maximum output current. Best suited for slow drain, low-current applications.

Reusable Alkaline- Cousin to disposable alkaline cells, reusable alkaline cells are good for low-cost and low-power applications. They're known for having a very low self-discharge rate.

That, in a nutshell, is a quick overview of the battery types available today and in the near future. Table 1 summarizes and compares these battery types. Because the Li-Ion technology holds the most promise for amateur and home entertainment use, the remainder of this article focuses on Li-Ion technology, how it works, and the special precautions you must take when using Li-Ion batteries.

What Makes Lithium-Ion Batteries tick?

Lithium is the lightest of all metals; it also has the greatest electrochemical potential available. Rechargeable batteries using lithium metal are capable of supplying both high voltage and extraordinary energy density. However, batteries using lithium *metal* have a very severe draw-back. The cells, especially during the charging process, can grow lithium dendrites internally (small slivers of lithium metal grow between the internal electrodes). These dendrites can short the cell and send it into thermal runaway. The cell will get hot enough to melt the lithium metal and will likely explode! For this reason, lithium cells have been limited to small-capacity applications such as watch batteries.

Because of the instability of lithium metal, research shifted to nonmetallic lithium in the form of lithium ions, which are generated by using chemicals such as lithium-cobalt dioxide ($LiCoO_2$). This provides a very stable battery with reasonably high discharge rates, high power density and a low self-discharge rate. On the horizon are other materials, such as amorphous tin-based composites, which will provide even higher power densities, but these are still a few years away.

For safety and battery-life reasons, each battery pack must be equipped with control circuitry to limit the peak voltage of each cell during the charge cycle, and to prevent the cell voltage from dropping too low during discharge. Most of these circuits also properly limit the charging and discharging current and monitor the cell temperature. There are many battery-monitoring microcircuits available that perform all of these functions with a minimal number of additional components, components that are intended to be incorporate into the battery pack itself. (These will be discussed in greater detail a bit later.) By carefully monitoring and controlling all these parameters, we can virtually eliminate the chance of plating metallic lithium within the battery.

At present, there are two major types of Li-Ion butteries: The *coke* and *graphite* versions. The graphite version has a somewhat flatter discharge curve (with a sharper knee), has a higher peak output current, and its full discharge point is 3.0 V. The coke version must be discharged to 2.5 V (these voltage levels can also vary among manufacturers). Both types are widely used today. Manufacturers are constantly working to improve the chem-

istry of their Li-Ion batteries.

There are two major advantages of Li-Ion batteries for use by radio amateurs: They can be recharged anytime during their entire discharge cycle, and they can be rapid-charged. In just one hour, they go from fully discharged to 80% of capacity, and are at 100% in just 2.5 hours.

Table 1
Battery Type Comparisons

	NiCd	*NiMH*	*SLA*	*Li-Ion*	*Li-Polymer*	*Reusable Alkaline*
Energy density	40-60	60-80	30	100	150-200	80
Cycle life *	500-1500	500	200-500	500-1000	100-150	10
Fast charge time	1 h	2-4 h	8-16 h	3-4 h	8-15 h	2-3 h
Overcharge tolerance	Moderate	Low	High	Very low	N/A	Moderate
Self-discharge (per month)	25%	30%	5%	10%	N/A **	0.30%
Individual cell voltage	1.25 V	1.25 V	2 V	3.6 V	2.7 V	1.5 V
Maximum load current ***	>2C	0.5-1C	0.2C	1C	0.2C	0.2C
Typical averaged cost (with NiCd being unity)	1.0	1.4	0.5	2.0	0.9 (est)	0.1

* Cycle life is w hen full capacity decreases from 100% to 80%. For reusable alkaline, it drops to 65%.
** Control & protection circuitry contained w ithin the battery pack typically consume 3% per month.
*** The C specified here refers to the cell's ampere-hour capacity. For e.g., if a cell is rated at 1.5 Ah & you discharge it at a 1C rate, you w ill be draw ing 1.5 A for 1 hour, if you draw only 0.75 A from it (0.5C), the cell should last for 2 hours.

Table 2
Some Sources for Li-Ion Supervisory Microcircuits

Company Name	*Web Site*	*Part No.*	*Features*	*Functions**
Maxim	**www.maxim-ic.com**	MAX745	Monitors 1 to 4 cells.	charge
		MAX846		charge
Linear Technology	**www.linear.com**	LT1510	Works w ith NiCd	charge
		LT1511	NiMH or Li-Ion. Get Design Note 111 & App Note 68	charge
Benchmarq	**www.benchmarq.com**	bq2054	Monitors 1 to 2 cells	both
		bq2058	Monitors 3 or 4 cells	both
Temic (Siliconix)	**www.temic.com**	Si9730	Monitors 2 cells	both
National	**www.nsc.com**	LM3420	1 to 4 cells	charge
Semiconductor		LM3620	1 or 2 cells	charge
		LM3621	1 or 2 cells	charge

* Charge = monitors & controls charging of the batteries.
Both = monitors charging of the batteires & monitors the discharge to ensure you don't bring them too low.

Remaining-Capacity Predictions

Another advantage of Li-Ion is a highly predictable "remaining capacity" indication. Although specific details of the methods used to obtain remaining capacity information are beyond the scope of this story, I will give you an inkling of the two most popular methods.

Analog-to-Digital Conversion

This method uses a low-value series resistor as a current sensor, amplifies that signal, and applies it to the input of an 8 to 16 bit ADC, that provides a dynamic range of about 450:1, producing a digital level that is a fairly precise indication of the battery's output voltage. By knowing the precise dishcarge curve of the partiuclar cell(s) you are working with, a well defined "remaining time" can be calculated. The main disadvantage of this method is that a low current draw (as during standby), the ADC accuracy is not very good, because it is at the low end of its resolution.

Voltage-to-Frequency Conversion

The second method is similar, but it uses a voltage-to-frequency conversion, and a microcontroller does the calculations for you. This approach also requires a stable clock source, but it can have a dynamic range of more than 4500:1, and will be much more accurate at all levels of usage.

Safely Charging and Discharging Li-Ion Battery Packs

There are a number of microcircuits available today that perform all of the needed functions to properly supervise from one to four cells, and do so with a minimum number of additional components. These are all designed to be built into the battery pack itself, so that charging the batteries involves simply attaching a proper voltage source to two terminals and the battery pack does the rest! These microcircuits are available from several manufactuers (see Table 2), but here I will discuss the Bechmarq bq2058 circuit in particular.

The Benchmarq device is a bq2058SN, factory set for an overvoltage threshold of 4.25 V. Several other thresholds between 3.4 V and 4.375 V are available, and you can consult their spec sheet for more information. With the addition of 10 resistors, 10 capacitors, a Zener diode and four switching FETs, you can build a complete three or four-cell (10.8 or 14.4 V) Li-Ion battery pac,. that draws only 0.7 uA while sleeping (not in used), or 25 uA when the battery is being discharged or charged. The Benchmarq device provides

over and undervoltage and overcurrent protection- essentially everyhting you need for a complete battery pack. Benchmarq also offers a complete supervisor module with everything but the batteries themselves, fully assembled on a 2.6x0.7 inch PC board (bq2158). You can get a spec sheet from their Web site (see Table 2).

With a battery pack such as described in the Benchmarq data sheet, you could have a 14.4-V battery pack for your H-T that will likely give you twice the operating time, quick recharge capability and long shelf life. A ham's dream come true!

Battery Form Factors and Availability

There are many sources of Li-Ion Cells; I have compiled basic information on several of them. Although Sony is probably the world's largest manufacturer of Li-Ion batteries, at this time they have chosen to keep that manufacturing captive and not sell them to outside users.

Summary

All in all, the hobbyist has several choices today in battery power, and Lithium Ion appears to offer the best over all-performance for use in H-Ts and similar electronic equipment. The one "gotcha" you must pay very close attention to is the careful control and monitoring that is necessary during charging and discharging. Luckily, there are several microcircuit manufacturers that can suppy ready-to-go solutions to those issues.

Don A. Gagnon, WB8HQS, was first licensed in 1970. In addition to ham radio, Don's hobbies include general electronics and computers. Don is a Staff Component Engineer at ITT Industries, Aerospace/Communications Division. You can contact Don at 2805 Nordholme Ave, Fort Wayne, IN 46805-2945; ***dagagnon@pipeline.com.***

'PROTECT YOUR RIG & ANTENNA FROM LIGHTNING & STATIC CHARGE'

DR.OM, this is a quick action surge arrester; it will protect your Rig and Antenna from lightning and static charge. Static charge from cloud/air will by pass through this unit. Internal device is From SIEMENS-GERMAN. It is a substitute of CA35R (DIAMOND-J-LAND).

Commercial cost for a Surge Arrester is Rs.2000/-. But this will cost Rs. 420/- only. Internal device is replaceable type.

Cost including Postage is Rs. 420/-. D.D. or M.O. send to N.S.Harishankar, Payable at Palakkad.

QSL Info:

N.S.Harishankar VU3NSH
Sankar Nilayam
Ambikapuram
Palakkad- 678 011
Kerala
Ph : 0491-510102

Specification
VSWR- 1.1:1 or low
Freq.- 500 MHz. Max.
Power- 200 W PEP Max
Imp - 50 Ω
Conn. - SO239

SATINFO

A Couple of weeks earlier SO-35 had been pulled off the ham band because it had become "Over heated." Much to the relief of VU sat fans it is back on the band. alive & kicking!

*** I guess this was said too soon! Saturday 24th may: looked like a good pass, but output of SO-35 was intermittent. Downlink was strong but came out in short bursts with long intervals in between. The bursts at one time seemed periodic but this is not definite. Hope SO-35 will recover from these hiccups. Could it be the effect of Solar Flare, or is SO-35 protesting trigger happy Users/ Controllers? Perhaps it was just digital mode.

***May 25 SO-35 Mode B FM worked perfectly!

AO-10 (info earlier Samachar was incorrect)

Uplink: 435.030 Mhz to 435.180 Mhz CW or LSB

Downlink: 145.975 Mhz to 145.825 Mhz.

Modes: CW or SSB

AO-10 has an inverting transponder. Signals sent up as LSB came down as USB.

AO-10 is a real survivor. At launch some thing went wrong with the kick motor and the sat went into an orbit with lower inclination than planned. But this was quite all right for us near the equator. The sat tended to dwell too long in the Van Allen belt. It's IC's were not Radiation hardened and got cooked. The On Board Computer (OBC) went Kaput. The telemetry too went with the OBC. The Beacon lived on as a plain carrier. Mode L failed but the satellite continued to be very popular on Mode B. The Batteries worked on gamely for many years and finally after a real good innings called it a day.

With the Battery dead there were some anxious moments. Nobody knew what would happen when the satellite emerged from the routine eclipse. Would it fail to switch on? If it did, which antenna would be activated? What Mode would it be on? There were many doubts, and it was anybody's guess as to what would happen. AO-10 emerged from the eclipse its sporting self! It was on mode B of course and working well, on the Omni antenna. Every time it was out of the eclipse, it was bit of a chance which antenna was "On", the Omni or the gain antenna? No matter which antenna was "On", mode B worked and worked well and that was all that mattered to all the AO-10 users! In time the spin rate of the satellite slowed down and eventually AO-10 stopped spinning. Now the sat is tumbling, resulting in frequent deep QSB but still producing excellent DX QSO's!

The sat had been extremely popular from day one of its launch and continued so despite the launch of AO-13, and is still a very popular satellite.

Satellites AO-13, RS-10 and others have long gone QRT, but good old AO-10 lives on!

TIT BITS

PACTOR MAILBOX

(Pactor the most efficient and reliable HF communication mode). A Pactor (/Amtor) mail box is working in Kerala for the past 2 year. At present it is available between 5 pm and 12 pm in the evenings. Frequency is (14.076 MHz Centre) 14.077.12 MHz in LSB. It uses a 3 element yagi beam looking slightly northwest... Stations in (20 m range) and beyond Bangalore can easily access VU2DIG Pactor mail box. This station is located in the sourthern tip of Indian peninsula, it serves to be a connecting link between Eastern side (VK, ZL, 9M, 9V etc) and the western (Middle east Europe and Africa and England) side. Hams are welcome to make use of this mailbox. This Mailbox is backed by PTC Plus with 256k inbuilt ram.

Pactor remote commands

h(elp)	q(rt)	da(te)	ti(me)
d(ir)	w(rite)	r(ead)	del(ete)
sh(ow)	v(ersion)	p(hase)	lo(g)
cl(r)	l(ist)	s(end)	be(ll)

Characters within the brackets are optional. For more information type h(elp). Command (eg: help send)

For beginners: When you are connected to this mailbox by calling VU2DIG, you will be greeted by a Welcome text... Welcome to VU2DIG mailbox... and there will be a mail announcement... such as.. "no new mail for you" or "there are X new mails for you." Immediately you will get a prompt to give a command to the mailbox. If you have a mail waiting, type dir VU2XXX (where VU2XXX is your call). Now your directory will be displayed. Or you can type "list VU2XXX." Then the list of mails in the mailbox in your name will be displayed. Then you can read a mail "read 4", then the 4th message will be displayed and so on. If you want to send a mail to VU2DIG, then type w(rite) vu2dig Good evening George... the first part is the write command and the second part is the call of the addressee and the last part is the addressing. Then the mailbox will ask you to write the text message for VU2DIG ending with <control-Z> or a change over.

Then your mail to VU2DIG will be accepted by the mailbox. Please feel free to experiment with and enjoy digital communication. If you need any more information please connect directly in the evenings or send mails by e-mail or post mail.

Sysop: K.George, VU2DIG, "Diana" Karunagappalli, Kerala state India PIN 690518. Phone: 0476 620337 and 622955. E-mail: kgeorge@vsnl.com

FIRST UHF Net In India

The very first regular net on UHF in India began on 1st May. "Garden City UHF Net" meets every evening at 2000Hrs IST on 435.500 Mhz.

Regular on the net:- VU2RRN, VU2GUR, VU2GX, VU3EMS, VU2QX, and VU2IR. VU2MKP looks in now and then. A wonderful cross band link was provided by VU2EMS Vijay, much to the delight of many VHF ops who could easily check into the UHF net.

SATELLITE TRACKING SOFTWARE

"PREDICT" is Simple, Best & for Free!
"STATION" is Good & Comprehensive
"WINORBIT" is good but not simple to use
All may be downloaded from AMSAT
For Predict:
ftp://ftp.amsat.org/amsat/software/pc/tracking/predict2.0.2d.zip

HAM PROFILE

VU2RRN R.RAJU NAIDU

Eighty year young "Raju" VU2RRN, is famous for his "On Air" laughter.

When Raju is on the band there are numerous breakers anxious to join Raju's cheerful "Round table." His enthusiasm and good humour are infectious.

Raju is a man of many parts, one who is truly versatile. A prolific home brewer, who built a boom less Quad recently, also a J-Pole, a Slim Jim and 5/8 Ground Plane for VHF and a GP for UHF.

At the age of 10 Raju learnt Morse to Army (all category) standards. Raju did his Graduateship in 1942 but sadly ended up a wounded soldier.

But, Raju stood first among 150 candidates in a P&T exam in 1944. He is an excellent amateur photographer (since 1944) specializing in Bird photography. Raju could do pro grade Carpentry & Tailoring, has done a stint of gardening, specializing in Roses and has been a Homeopath since 1945.

After retirement, interest in music increased greatly. Now Raju is an accomplished Percussionist playing Tabla (Carnatic) style. He is popular Sai Bhajan singer and an Audio enthusiast. His collection of rare cassettes number a thousand. Present Shack Set Up is:

Yaesu FT 840 Transceiver, HP757 HD Power Supply & FC700 Antenna Tuner for HF. Icom IC2710 Dual bander Base station for VHF/UHF. Antennas: 2-EL Boomless Quad for 20, 15 & 10. G5RV for 80 through 10. J-Pole, Slim Jim, 5/8 GP for VHF and GP for UHF.

Raju got his Ticket in 1976. He has been a keen home brewer since.QRV on all bands & almost all Modes including activity via satellites. Raju is now "Playing" around with a superb Computer tutored by his grand child!

On May 1st, Raju started the "Garden City UHF Net" dedicated to G.V.Sulu VU2GV. Meet Raju on HF, VHF, UHF and via Satellite.

SILENT KEYS

"GOLF X-RAY", VU2GX, "GIRI"
- by Bindu VU2IR

Giri's work on the Quad is well known. Many of his specially designed Quad Centre Piece are still around and more are being asked for. Not so well known is Giri's remarkable success in "Controlled Carrier" system of modulation. Controlled Carrier Modulation is a variation on the erstwhile popular Screen Modulation. Normal screen modulation is not efficient. Controlled Carrier is efficient and maintains high depth of modulation at all carrier levels. It is possible to achieve high output from the final valve. Giri built a very rugged Controlled carrier Rig which saw "Action" in many a real rough old style Field Day operation. It never failed and always came out with flying colours. A remarkable thing about Giri's Controlled Carrier Rig was that the SSB operators, DX & Local, whom he contacted were totally astonished to learn that Giri was on AM! They always believed Giri was also on SSB! Many an AM op was also taken in. When told what it was, the op would switch off the BFO and find that Giri was indeed on AM. As recently as the end of '99 VU2GUR Gururaj got the special transformer required for the system wound by VU2FF who had helped Giri build his rig.

G5RV- Louis Varney

This month saw the passing away of possibly the most popular name in Amateur radio - Louis Varney G5RV, whose name is synonymous with the Famous Multi Band Dipole Antenna, is about the most popular HF antenna in use in the world of amateur radio.

Louis Varney, G5RV, inventor of the world famous G5RV antenna, died peacefully at his home yesterday, 28 June. It is probably true to say that the G5RV, with its characteristic open-wire matching section and coaxial feed, is the most popular of all antenna types. It was described by its inventor in the November 1966 issue of the RSGB Bulletin.

Louis was still a very active radio amateur, having regular contacts with friends of many years' standing.

His proficiency with the key was legendary, and he spent a great deal of his time experimenting with antennas, and employed a full-size and a double-size G5RV (both with open-wire feeders) for his own radio operations. He had been a member of the RSGB for 74 years.

Courtesy BARC News letters.

VU2GX- Girimaji

The story of VU2GX is not just the story of a Ham. It is the story of a hero who became a legend in his own times. Many of the present day hams may not be aware of the different aspects of this multifaceted personality. To cite a few examples he was an electrician, Ham Radio Operator, a photographer, a stamp collector, an Amateur Astronomer, a Freedom fighter, a Freemason, a Film actor and Giri was an ideal apiculturist besides being a good horticulturist. He had tried his hand practically in every hobby. He was a practical man, he gained knowledge by experience and experimentation. During the pre independent days the attic in his QTH was a safe abode for many a freedom fighter. During the freedom movement days he went on transmitting clandestinely vital information through his "harmonium box." The police never knew that there was a QRP hidden inside the harmonium. The legendary Ham-nights arranged at Giri's QTH where many a homebrewer could take their half-made or faulty Tx. and sit allthrough the night and make it work under the guidance of Giri by sunrise next morning. Needless to add that there used to be continuous supply of food items from the kitchen by XYL of Giri. These Ham-Nights are still green in the memory of some oldtimers of today. This apart there used to be a young Ham or two at any given time in his shack practising Morse Code, or building a Tx or using his QRP. Giri used to participate in emergency work. One could find him at the disaster site much before others arrived there. On one occasion he was taken by a helicopter to an otherwise inaccessible disaster site where he set up a make shift Ham communication center within no time using whatever material was readily available.

He made a good deal of research work and experiments in the field of antennas. His boomless quad and helical are popular among the new comers. His skills knew no bounds. He held an 'Instruments Licence' for Aircraft maintenance work. During one of the test flights on a B-17 Bomber, there arose an emergency suddenly. The landing gear refused to drop out which means a belly-landing. This is a real hazardous operation as the excess fuel has to be used up by circling round and round in the sky. In the meanwhile Giri's ham-skill was encashed and the landing gear was made to behave resulting in safe and smooth landing. He was a keen photographer and was the President of the Photographic Society. He was green fingered too. In his small but well maintained kitchen garden one could find some rare and useful plants. His collection of cacti is worth mentioning. He used to give away useful saplings generously to those who were interested in them. His stamp collection contained many rare and valuable stamps particularly the F.D.Cs of post independent era are a real asset.

He was good at four wheelers also and a good mechanic. Just a couple of weeks prior to his death when he was eighty five plus he made a quick dash to Mysore and back to Bangalore all by himself. In his younger days Giri used to perform acrobats on his motorcycle for stunt cinemas of those days. One can go on enlarging this list ad infinitum. Suffice to say that his interests were many and varied. But his first love was Ham Radio. He lived for Ham Radio and died for Ham Radio at a field day spot on the outskirts of Bangalore. But for his encouragement many a present day ham would not have seen the light of the day. With his departure the link between the old timers and the new generation is cut off.

Ramaswamy- VU2BRK

RAOJIBHAI J. PATEL- VU2GD

Old veteran ham known in 1950s' as Glittering Diamond (VU2GD), Raojibhai J. Patel became silent key on July 16, 2000 at his QTH in Vallabh Vidyanagar, near Anand, Gujarat state.

Born in Nar (Kheda District-Gujarat) on October 14, 1909, son of Late Jivabhai Patel- principal of Borsad High School, Raojibhai obtained his primary and secondary education at Petlad. VU2GD devoted all his life working in the field of education.

Accomplishments:

- He obtained Wireman's certificate from Government of Bombay in 1937 after graduating from Secondary School (SSC).
- Certificate of competency from Public Works Department Electrical Department.
- Amateur Radio Operator's Grade I License from Ministry of Transport and Communication, New Delhi in 1952. His license number was 28.
- Diploma of Proficiency in Electrical Engineering from Benet & Coleman College, Sheffield, United Kingdom (UK).
- Obtained Diploma in Cine Sound Expert from UK.
- Designed and constructed "The Electronic Omni Checker" with local available components and published a paper on its operations in the "Radio Craft", an American magazine in October 1946. Many people around the world appreciated the paper.

Hobbies

- Radio & electronic equipment repair.
- Designing & experimenting with various electronics gadgets.
- Photography

He started his career working with Water Works in Ujjain, Madhya Pradesh as an electrical supervisor. As a favorite pastime he used to assemble & repair radios & public announcement systems. Almost all cinemas in Ujjain sought his services as a cine consultant. In 1947 he started his career with Birla Vishwakarma Mahavidyalaya, an Engineering College in V.V.Nagar, Gujarat. He was chosen by Late Principal Mr. S.B. Jurnarkar based on a paper he wrote on "The Electronic Omni Checker". He was pioneering in instituting, developing and operating the electrical laboratory at the college. He provided his services at the college until retirement.

After obtaining his ham radio licence, he build an AM/CW crystal controlled TX and together with his old BC348C RX he used to work many local as well as DX stations. His favorite ragchew members with whom he talked frequently were VU2BK (Kab), XZ2KN (Tarasingh), VU2EF (Dr.Sarin), AP2U (Noor Mohamed), VU2AX (Shankar), VU2AJ (Dutt), VU2RM (Rao), VU2RA (Rajan), VU2CK (Karnik), VU2HV (Haveliram), VU2AU (Pranjepee), VU2RX (Vasant), VU2CQ (Mickey) and last but not the least young lady from Ceylon 4S7YL (Soma). His favorite DX stations were W2BDS, W4ANE, LU4DMG, JA1FNX, CX2CO, CO2BK, PY2CK, VQ4ERR and many more.

Raojibhai was influential in rearing following hams in his family.

5ZEA B.R.Patel, Nairobi (Kenya) SON
VU2PT N.R.Patel, (Anand, India) SON
VU2XO M.R.Patel, (Baroda, India) SON
VU3PHM H.M.Patel, (presently in USA) GRANDSON.

He was very active till his last breath. May his soul rest in peace. DE.

M.R.Patel (VU2XO)
37 "Nirmal", Gulabwadi Soc.
Old Padra Road, Opp Tube Co.
Baroda 390 020. (Gujarat-India)

FEES 2000-2001

Members fees for 2000-2001 are overdue. Members who have not paid up kindly do so immediately. Please include Rs.10/- as late fees in all DDs sent. DD not having the late fee may not be accepted. Nor will outstation cheques be accepted.

UNCLAIMED FEES

One DD for Rs.310/- issued from the Allahabad Bank- Paharganj branch New Delhi is lying witht the Society with no particulars of the sender. Kindly claim this DD bearing no. 572970 dtd 8/7/2000. Also an M.O. for Rs.150/- sent from Girgaon is lying unclaimed with no particulars of sender. Kindly claim.

QSOs with nine different OZ stations; each OZ call area (1-9) must be represented, a minimum of three must be from Odense (separate rules apply to those in LA/OZ/SM). A contact with OZ3FYN, the EDROdense Division club station, may be used to replace one call area. Only two-way CW QSOs since December 6, 1967, the centenary of Hans Christian Andersen's being appointed an honorary citizen of Odense, count for the award. All amateur bands (3.5 to 1296 MHz) are valid; crossband QSOs do not count, nor do mobile/portable contacts. Minimum signal report is 338. To apply, send a certified list of QSOs and 6 IRCs to: E.Hansen, OZ7XG, 14 Sophus Bauditz Vej, DK5210, Odense, Denmark.

FINLAND (OH)

General rules for OH awards, sponsored by the Finnish IARU Society, Suomen Radioamatoorilitto (SRAL), are as follows:

All contacts must be made with Finnish fixed stations after June 6, 1947 (after February 1, 1967 for OHA 500). Do not send QSLs: send a list of QSLs checked by two amateurs or the Awards Manager of the national Amateur Radio Society. This list must include the call sign, date, time, band, mode and report for each QSO/QSL. eight IRCs (or $2 US) are required for each award. For further information and application forms, contact Jukka Kovanen, OH3GZ, SRAL Awards manager, Varuskunta 47 as 11, SF-11310, Riihimaki 31, Finland.

Finnmaid-Work three OH YLs.

OHA-Work 15 OHstations in at least five call areas.

OHA 100- Work 100 OH stations in all 10 call areas using at least two bands.

OHA 300- Work at least 300 OH stations.

OHA 500- Work at least 500 OH stations.

OHA 600- Work at least 600 OH stations.

FRANCE (F)

The following material is translated from *Les Diplomes Francais* by F6AXP, published by Reseau des Emetteurs Francais (REF).

General application requirements:

Each application must be dated and contain a signed statement that all awards rules have been complied with. the application must be addressed to the appropriate Awards Manager. The application must include a detailed list of QSOs, indicating call sign, date, frequency and mode for each QSO.

The applicant must provide evidence in the form of QSLs or a certified list of QSOs/QSLs verified by an official of the applicant's National Society. A self addressed envelope must be provided when sending QSLs. When applying for an endorsement, the number of the basic certificate and mode must be supplied. *(to be continued)*

Everybody loves success,
but hate successful people.

UNPAID MEMBERS

The following members have ceased to be members of the Amateur Radio Society of India w.e.f. 1st April '2000 due to non-payment of fees within 24 month of it becoming due. This is in accordance with Rule 19(e). If they desire to rejoin they may be considered afresh or pay all the arrears of fee with penalty as may be decided by the Governing Council. All the members have been sent individual notices about their dues to the society and have failed to respond.

C-1347	VR2YSS	C-0094	VU2ADE	C-1348	VU2AGJ
C-0902	VU2AKZ	C-0903	VU2AMJ	C-0904	VU2APC
C-0359	VU2APE	C-1079	VU2ASC	C-1066	VU2AVL
C-0151	VU2AWL	C-1625	VU2AXA	C-0910	VU2BRL
C-1147	VU2BSJ	C-1607	VU2CJW	C-1432	VU2CKD
C-1422	VU2CUO	C-1415	VU2DFZ	C-1545	VU2DKK
C-1498	VU2DST	C-1044	VU2DVC	C-0887	VU2DVD
C-1258	VU2DXC	C-1421	VU2EAF	C-1455	VU2EBI
C-1353	VU2EM	C-1106	VU2FI	C-1617	VU2FSX
C-0835	VU2FW	C-1450	VU2GD	C-1417	VU2GOQ
C-1538	VU2HRG	C-1543	VU2HRI	C-0725	VU2HY
C-1444	VU2ICC	C-1222	VU2IW	C-0936	VU2JAK
C-1429	VU2JBP	C-1108	VU2CMN	C-1351	VU2CMR
C-1352	VU2COZ	C-0917	VU2CSA	C-1542	VU2JKV
C-1162	VU2JPG	C-1371	VU2JPS	C-1624	VU2JSH
C-1462	VU2JSM	C-1482	VU2JVH	C-1375	VU2JYN
C-1521	VU2KCX	C-1299	VU2KJS	C-1471	VU2KLD
C-1546	VU2KMU	C-1430	VU2KOC	C-1520	VU2KPJ
C-1551	VU2KSJ	C-0952	VU2LEX	C-1524	VU2LLN
C-1501	VU2LU	C-1618	VU2MBU	C-1502	VU2MIK
C-1321	VU2MLC	C-1534	VU2MMA	C-0929	VU2MNI
C-1612	VU2RBY	C-0208	VU2REC	C-1531	VU2RED
C-0093	VU2RF	C-1611	VU2RGU	C-1626	VU2RMT
C-1446	VU2ROH	C-1180	VU2RPO	C-1463	VU2RSU
C-1182	VU2RVK	C-1532	VU2SBI	C-1522	VU2SBQ
C-1161	VU2SCI	C-1059	VU2SE	C-1527	VU2SEP
C-1172	VU2SHV	C-1265	VU2SID	C-1092	VU2SJU
C-1174	VU2SLF	C-1549	VU2SMM	C-1053	VU2SNW
C-1513	VU2SOB	C-1500	VU2SUB	C-1613	VU2SWI
C-1560	VU2SXB	C-1445	VU2SXG	C-1529	VU2TH
C-1544	VU2TKZ	C-1571	VU2UJG	C-1368	VU2UNO
C-1123	VU2VAS	C-1039	VU2VIZ	C-0527	VU2VKG
C-1434	VU2VMM	C-0495	VU2VSK	C-1176	VU2WKZ
C-0381	VU2YK	C-1156	VU2YOR	C-1210	VU2ZON
C-1000	VU2ZQJ	C-1036	VU2ZWC	C-1283	VU3AGT
C-1264	VU3AKI	C-1473	VU3BBT	C-1536	VU3BBU
C-1178	VU3BGI	C-1398	VU3BKV	C-1621	VU3EOF
C-1257	VU3EON	C-1341	VU3FEK	C-1227	VU3FMN
C-1171	VU3GGB	C-1505	VU3HPG	C-1409	VU3HRK
C-1572	VU3MDA	C-1300	VU3MHM	C-1504	VU3MMP
C-1237	VU3MRV	C-1204	VU3MSP	C-1447	VU3NGB
C-1503	VU3NOI	C-1606	VU3PDS	C-1525	VU3PMQ
C-1420	VU3PPL	C-1170	VU3PST	C-1416	VU3RIH
C-1488	VU3SDO	C-1557	VU3SGS	C-1490	VU3SIL
C-1282	VU3SMZ	C-1411	VU3SPJ	C-1558	VU3SUU
C-1328	VU3TFZ	C-1507	VU3TGC	C-0997	VU3VOA
C-1508	VU3WIC	C-1574	VU3YBM		

If any of the above members have paid their fees, kindly intimate this office with details of receipts & amounts.

SCHEDULES FOR SATELLITES RS-12/13 FOR CENTRAL INDIA

Schedules for Satellites RS-13 & UO-14
DATE/Time is in UTC. For IST add 5 1/2 Hours.
AOS=Times when you start hearing the satellite
MAX=Time when you get maximum Range on satellite
LOS= Time when satellite signal is lost.
AOS, MAX,LOS all in HHMMSS
Example:AOS 105723=10hours57minutes23seconds UTC, which is 16hours27minutes23seconds IST, or 4:27:23 PM IST
UO-14
UP LINK (Transmit on) : 145.975Mhz FM.
DOWN LINK (Receive): 435.070Mhz FM. Reception is better on 435.075 at the start and 435.060 at the end of the pass. VU Hams get through the Sat on Hand helds. It IS easy!
Evening Passes are South to North.
Morning Passes North to South
RS-13
Refer to Back issues of HRN for info on working RS-13. Presently, evening passes, North to South and morning passes, North to South over India.

SCHEDULE FOR SATELLITE RS-12/13 FOR CENTRAL INDIA

Date	AOS	LOS	EL	AZ
20AUG	052208	053820	31	88
20AUG	070739	072343	25	282
20AUG	163043	164555	18	78
20AUG	181516	183234	43	271
21AUG	040952	041716	3	82
21AUG	054920	060654	70	87
21AUG	073737	075024	10	284
21AUG	165801	171510	40	81
21AUG	184410	185922	20	273
22AUG	043422	044802	13	85
22AUG	061725	063450	55	278
22AUG	081007	081432	1	287
22AUG	154303	155404	6	74
22AUG	172541	174335	86	58
22AUG	191347	192457	7	277
23AUG	050048	051701	31	88
23AUG	064619	070223	25	282
23AUG	160925	162437	18	78
23AUG	175356	181114	44	271
24AUG	034836	035601	3	81
24AUG	052759	054533	69	88
24AUG	071613	072909	10	285
24AUG	163642	165351	39	82
24AUG	182250	183802	20	273
25AUG	041303	042644	13	85
25AUG	055603	061328	56	278
25AUG	074836	075337	1	288
25AUG	152147	153230	6	73
25AUG	170422	172216	85	65
25AUG	185225	190344	7	276
26AUG	043919	045542	31	89
26AUG	062459	064104	25	282
26AUG	154807	160310	18	78
26AUG	173236	174954	45	272
27AUG	032721	033446	3	81
27AUG	050638	052413	68	89
27AUG	065448	070753	11	285
27AUG	161523	163223	39	80
27AUG	180129	181641	20	273
28AUG	035144	040516	13	85
28AUG	053441	055216	57	280
28AUG	072702	073240	1	288
28AUG	150031	151114	6	74
28AUG	164303	170047	83	55
28AUG	183104	184222	7	277
29AUG	041807	043429	30	87
29AUG	060337	061942	26	281
29AUG	152649	154152	17	78
29AUG	171116	172834	45	272
30AUG	030606	031313	3	81
30AUG	044517	050252	67	90
30AUG	063323	064629	11	284
30AUG	155405	161104	38	81
30AUG	174008	175520	21	273
31AUG	033025	034358	13	85
31AUG	051319	053054	58	279
31AUG	070352	071110	1	287
31AUG	143915	144939	6	73
31AUG	162144	163928	82	61
31AUG	180942	182100	8	277
01SEP	035646	041301	30	88
01SEP	054214	055828	26	282
01SEP	150531	152024	17	78
01SEP	164956	170713	46	272
02SEP	024451	025140	2	82
02SEP	042356	044131	66	90
02SEP	061159	062523	11	285
02SEP	153247	154946	37	82
02SEP	171848	173408	21	273
03SEP	030906	032230	13	85
03SEP	045157	050932	59	278
03SEP	064402	065016	2	288
03SEP	141759	142823	5	74
03SEP	160024	161808	81	66
03SEP	174820	175947	8	277
04SEP	033527	035142	29	88
04SEP	052051	053706	27	281
04SEP	144413	145857	17	77
04SEP	162836	164553	47	272

Date	AOS	LOS	EL	AZ
05SEP	022336	023025	2	81
05SEP	040235	042010	65	91
05SEP	055034	060358	12	284
05SEP	151128	152817	37	80
05SEP	165727	171247	21	273
06SEP	024747	030111	13	85
06SEP	043035	044811	60	277
06SEP	062233	062904	2	288
06SEP	135643	140649	5	73
06SEP	153904	155647	80	70
06SEP	172657	173833	8	276
07SEP	031407	033022	29	88
07SEP	045928	051552	27	282
07SEP	142254	143738	16	78
07SEP	160716	162432	47	272
08SEP	020221	020853	2	81
08SEP	034114	035849	64	92
08SEP	052909	054243	12	284
08SEP	145008	150658	36	81
08SEP	163606	165125	22	273
09SEP	022628	023953	12	85
09SEP	040913	042658	61	279
09SEP	060104	060753	2	288
09SEP	133527	134515	5	73
09SEP	151744	153527	79	73
09SEP	170535	171711	8	276
10SEP	025246	030902	29	88
10SEP	043805	045429	28	281
10SEP	140136	141611	16	77
10SEP	154555	160311	48	271
11SEP	014107	014720	2	82
11SEP	031953	033733	63	90
11SEP	050745	052128	12	284
11SEP	142849	144529	35	80
11SEP	161445	163004	22	273
12SEP	020509	021834	12	85
12SEP	034751	040536	62	278
12SEP	053933	054641	2	288
12SEP	131411	132359	5	73
12SEP	145624	151358	77	68
12SEP	164413	165548	8	277
13SEP	023126	024741	28	87
13SEP	041642	043307	28	281
13SEP	134017	135452	16	78
13SEP	152435	154150	49	271
14SEP	011953	012607	2	81
14SEP	025831	031617	62	89
14SEP	044621	050004	12	284
14SEP	140729	142409	35	81
14SEP	155323	160842	22	273
15SEP	014351	015707	12	85
15SEP	032629	034414	63	277
15SEP	051806	052531	2	288
15SEP	125255	130224	4	73
15SEP	143504	145237	76	71
15SEP	162250	162842	8	276
16SEP	021006	022621	28	87
16SEP	035519	041153	29	281
16SEP	131859	133324	15	77
16SEP	150314	152020	49	273
17SEP	005833	010447	2	81
17SEP	023710	025456	61	89
17SEP	042457	043849	13	284
17SEP	134609	140249	34	81
17SEP	153201	154720	22	273
18SEP	012232	013539	12	85
18SEP	030507	032253	64	276
18SEP	045639	050404	3	288
18SEP	123156	124050	4	74
18SEP	141343	143116	75	74
18SEP	160127	161319	9	276
19SEP	014845	020501	27	87

SCHEDULE FOR SATELLITE UO-14 FOR CENTRAL INDIA

Date	AOS	LOS	EL	AZ
20AUG	042512	044000	46	101
20AUG	060536	061740	14	290
20AUG	153331	154700	24	72
20AUG	171243	172629	25	263
21AUG	035615	040946	21	97
21AUG	053524	054920	29	287
21AUG	150524	151636	11	69
21AUG	164241	165728	55	264
22AUG	032756	033843	9	94
22AUG	050535	052032	62	282
22AUG	064842	065427	2	295
22AUG	143844	144521	3	64
22AUG	161310	162757	69	73
22AUG	175510	180513	7	265
23AUG	030136	030520	1	91
23AUG	043607	045104	62	102
23AUG	061700	062756	10	292
23AUG	154409	155813	32	72
23AUG	172403	173707	19	263
24AUG	040700	042105	28	99
24AUG	054636	055958	22	288
24AUG	151545	152806	15	70
24AUG	165348	170818	40	263
25AUG	033822	035027	13	96
25AUG	051639	053119	46	285
25AUG	144815	145709	6	67
25AUG	162405	163901	87	321
25AUG	180718	181521	4	267
26AUG	031103	031832	4	94

Date	AOS	LOS	EL	AZ
26AUG	044703	050209	83	111
26AUG	062832	063802	7	293
26AUG	155453	160923	42	73
26AUG	173533	174745	14	265
27AUG	041746	043217	38	99
27AUG	055752	061031	17	289
27AUG	152615	153918	20	71
27AUG	170500	171904	30	262
28AUG	034855	040200	18	97
28AUG	052746	054208	34	285
28AUG	145820	150849	9	68
28AUG	163505	164952	66	261
28AUG	182014	182433	1	268
29AUG	032050	033037	7	94
29AUG	045802	051259	74	286
29AUG	064033	064744	4	294
29AUG	160542	162029	57	71
29AUG	174707	175811	10	265
30AUG	042837	044326	51	99
30AUG	060912	062051	12	291
30AUG	153643	155030	27	73
30AUG	171612	172942	23	262
31AUG	035937	041325	24	98
31AUG	053856	055244	26	287
31AUG	150838	152015	12	69
31AUG	164605	170044	49	261
01SEP	033109	034231	10	95
01SEP	050904	052353	55	285
01SEP	065237	065656	1	297
01SEP	144141	144909	4	65
01SEP	161635	163131	76	62
01SEP	175857	180826	6	266
02SEP	030418	030946	2	92
02SEP	043933	045430	69	99
02SEP	062039	063109	9	292
02SEP	154729	160141	35	73
02SEP	172739	174026	17	264
03SEP	041021	042444	32	99
03SEP	055009	060322	20	288
03SEP	151901	153139	17	70
03SEP	165713	171143	36	262
04SEP	034137	035408	15	96
04SEP	052009	053440	41	286
04SEP	145120	150048	7	68
04SEP	162732	164227	80	275
04SEP	181120	181813	3	267
05SEP	031350	032228	5	93
05SEP	045030	050535	88	258
05SEP	063214	064109	5	294
05SEP	155812	161250	47	73
05SEP	173912	175058	12	265
06SEP	042109	043549	42	99
06SEP	060126	061348	15	290
06SEP	152927	154257	22	71
06SEP	170830	172226	27	263
07SEP	035215	040537	20	97
07SEP	053116	054521	31	287
07SEP	150126	151221	10	69
07SEP	163832	165320	59	263
07SEP	182442	182718	0	269
08SEP	032401	033431	8	94
08SEP	050129	051626	67	284
08SEP	064420	065040	3	295
08SEP	143500	144044	2	65
08SEP	160904	162352	64	72
08SEP	175051	180120	8	265
09SEP	043201	044658	57	100
09SEP	061248	062401	11	292
09SEP	154003	155407	30	72
09SEP	171948	173309	20	264
10SEP	040257	041654	27	98
10SEP	054226	055557	24	289
10SEP	151146	152350	14	70
10SEP	164931	170410	44	260
11SEP	033423	034610	12	95
11SEP	051232	052720	49	284
11SEP	065826	065843	0	294
11SEP	144422	145259	5	66
11SEP	161958	163454	85	45
11SEP	180243	181120	5	265
12SEP	030714	031408	3	94
12SEP	044257	045803	77	105
12SEP	062416	063412	7	293
12SEP	155048	160510	39	73
12SEP	173115	174344	15	264
13SEP	041342	042813	35	99
13SEP	055340	060637	18	289
13SEP	152210	153506	19	71
13SEP	170047	171500	33	263
14SEP	034454	035742	17	96
14SEP	052337	053759	37	287
14SEP	145421	150432	8	68
14SEP	163055	164551	72	268
14SEP	181517	182102	2	267
15SEP	031656	032626	6	94
15SEP	045355	050125	80	285
15SEP	063555	064358	4	295
15SEP	142908	143218	1	62
15SEP	160135	161613	53	73
15SEP	174248	175409	11	265
16SEP	042432	043920	47	100
16SEP	060459	061655	13	291
16SEP	153244	154623	25	71
16SEP	171155	172543	24	262
17SEP	035533	040912	22	98
17SEP	053445	054841	28	287
17SEP	150435	151604	12	69
17SEP	164157	165644	53	263

IMPORT OF YAESU EQUIPMENT

The Society intends to import Yaesu equipment for its members. Members were asked to book their requirements with the society by the 31st May. Unfortunately there were more enquiries than bookings. More queries were on the prices and the type of equipment. Well the equipments are the HF FT 840 which will cost below Rs.40 K/- approx and also the VHF Handy FT 411 E, which will be within Rs. 10 K/- approx and includes the usual accessories and the optional PA 6 adapter. The rate of Import duty at present works out to 9.2 %. The costs indicated are landed costs inclusive of all duties and taxes.

There were also suggestions for import of other models of Yaesu rigs. Now you can book any rig from Yaesu Musen range as long as the CIF value does not exceed Rs.75 K/- which is the allowance under concession duty for every license holder. Your Editor is probably visiting J land and will be negotiating with M/s Yaesu Musen for some more concessions in the costs of these rigs for the Indian Hams. Wish him all success. In the meantime you can book your requirements with a non-refundable fee Rs.200/- sent by DD favor of ARSI (AO) payable at Mumbai. The cutoff date will be 30th September 2000. The faster you give your requirements the sooner will you get your equipment. ***SO DO HURRY & SEND IN YOUR NEEDS & GET ON THE AIR.***

FROM THE SECRETARYS' DESK

ANDHRA TOUR: Recently I made a small tour of some cities/ towns in Andhra Pradesh for enrolling members to the Society. The places visited were Vizag. Kakinada, Vijayawada, Elluru, Guntur & Hyderabad. During my tour and meeting with Hams in these places it was felt that the spirit of the hobby had died down to a certain extent due to some regional factors. First of all the effect of the fallout of the misuse of Amateur radio in those parts of the country where stations had been set up and handed to the Governmental agencies and here is the gross misuse of the hobby. What was meant to be a very useful agency during natural calamities has become a nightmare to the ham community in these areas by the gross misuse and politicization of the hobby. A stop has to be put to this sort of nonsense.

During my tour I happened to see some very useful home brewing too, at least in the young generation. First of all VU2NR had given the young and old, a very useful rig the NR 60 and many of them are still working well on the air. Now good friend VU2RM has given another product the RM 96, which has become the favorite overnight. I have seen and even spoke to these youngsters who have home brewed this version with a very solid and good signal. These youngsters are doing a fine plus job much to the envy of some of our old timers.

HAMFEST Y2K: During my stay at Hyderabad I happened to meet the man who is deputizing for the G.C. of Hamfest Y2K scheduled at Hyderabad on the 30 Sept/ 1-2 Oct. It was thought to be a non-starter but when he was asked to give some dope it was revealed that he was a stand in for the G.C. who does not stay at his QTH for more than 3 days since his work involves travelling all over the country. Time is short & if they can pull off a good event then it will be a miracle. All eyes & ears are waiting with abetted breath to see something happening in the year 2000 AD. The hall was to be booked & the latest heard was that the hall was to be booked on a certain day since the day was auspicious. After that nil was heard & am still waiting. Those who need info on the latest developments can email *info@kediainfo.com* or *kediagroup@yahoo.com*. His handle is Ashok K.Kedia & he is the M.D. of a company known as Kedia Infotech Systems Ltd. I wonder if MDs can devote so much time to organize Hamfests? In the meantime the Hams of Hyderabad are organizing a Millenium Ham Meet known as HAM RADIO 2000 on the 22,23 & 24th Dec 2000. See article else where.

MEMBERSHIP FEES: There has been quite a substantial inflow of fees from the members after individual notices were sent. But a lot more has to come in by way of arrears of fees from Corporate and Associate members. Please do pay your fees in time. Also some of the Associate members who have received their tickets have not informed the society nor have they upgraded to Corporate membership. If any please do so now and pay the appro-

priate fees. Similarly Student members who have crossed 21 years of age have not intimated the society and upgraded to Associate membership or to Corporate membership if they have received their tickets. Also students members who have left their institutions do make it a point to intimate the society of their change of address. This in fact applies to all members who change their address, please intimate the society on a post card your new address. It will save the society a lot of money by way of postage back and forth and will ensure that all correspondence comes to you in time. From now onwards all fees received will be confirmed by e-mail if available and the receipt sent in the next issue of Ham Radio News. Also do give your Callsign/Membership number at the back of the D.D. If Money Orders are sent do give your Callsign/ Membership number on the bottom slip that is to be retained by the receiver of the M.O. There are M.Os and DD received with no particulars of the sender and is pending. For particulars see elsewhere in this issue.

ADDITIONAL FREQUENCIES FOR INDIAN AMATEURS

As you are aware, we had requested the Wireless Planning & Co-ordination Wing of the Ministry of Communications to release (a) 20 kHz slot in the 80 metre band (the DX window for working with Region 2 stations), (b) 50 kHz in 30 metre band and 200 kHz in 6 metre band.

We are now pleased to inform you that the W.P.C. Wing has accepted our request in part, which is as follows:

(a) 3,790 - 3,800 kHz (10 kHz)
(b) 10,100 -10,150 kHz (50 kHz) and
(c) 50,350 and 50,550 MHz (2 discrete frequencies)

This permission is on no-interference / no-protection basis with a maximum power of 150 watts in H.F. bands and 25 watts in V.H.F. band, both on CW and phone. It is effective from 01.08.2000 to 31.01.2001 on trial basis. The frequency(ies) is to be used only when free. In case the operations of existing users are not affected adversely by amateur radio transmissions in these bands, the permission is likely to be extended beyond 31.01.2000.

Since the use of 6 metre band involves procurement of equipment, which cannot be allowed to go waste, it is important that amateurs who use these frequencies must make sure that they do not cause interference to existing users so that the permission is extended beyond 6 months, and hopefully, indefinitely. This precaution is also to be taken in the H.F. bands so that their usage is simultaneously extended beyond January, 2001.

The release of these bands for use by amateurs involved lot of spade work by the Society and it is for the members to safeguard it by judiciously choosing their operational frequencies without causing interference to anyone.

We hope that the Indian amateurs will enjoy operating on these additional frequencies.- ***Sahruddin VU2SDN***

CLUB NEWS

The Bharat Scouts & Guides, National Head Qtr. New Delhi has conducted VIII Ham Radio Course from 16th to 30th June'2000 at New Delhi. The Jt. Director (SS) & Incharge B.S&G Ham Radio Club (VU2BSG), Mrs.Pushpa Nadkarni, VU2PMS approached me to assist her during the course. I myself and Om Laxman, VU2LAU from Shimoga Ham Radio Club, Karnataka reached New Delhi to help VU2PMS during the course. The course has been conducted under supervision of VU2PMS and 31 candidates from different parts of the country took part in the same. The ASOC exam was conducted on 28th & 29th June'2000 at National Head Qtr, New Delhi.

An eye ball QSO was organized at VU2BSG, 16 M.G.Road, New Delhi-2. Many active Hams like Om Sahar VU2SDN, Om Kumar VU2XD, Om Balwant VU2BSB with XYL, Om Bhan VU2MB, Om Karan VU3GTF, Om Raj VU2VTH, Om Sanat VU2YI, Om Ashok VU3AKW, Om Laxman VU2LAU, YL Pushpa VU2PMS and D.C.Sharma VU2DCT were present threre. The meeting was presided by Om Sahar VU2SDN and conducted by YL Pushpa VU2PMS. The Delhi Hams appreciated the club incharge VU2PMS to host the meeting at NHQ and requested her to organize the same in future.

All Hams met with the participants came to attend the HAM course. The participants were astonished after seeing number of Hams under one roof. Om Sahar replied the participant's queries regarding Ham Radio and assured that they would get the ticket. At last, VU2PMS thanked all the Hams participated in the meeting and assured to host the meeting at NHQ in future also.

The meeting came to an end with combined effect of HAM Radio & Scouting.

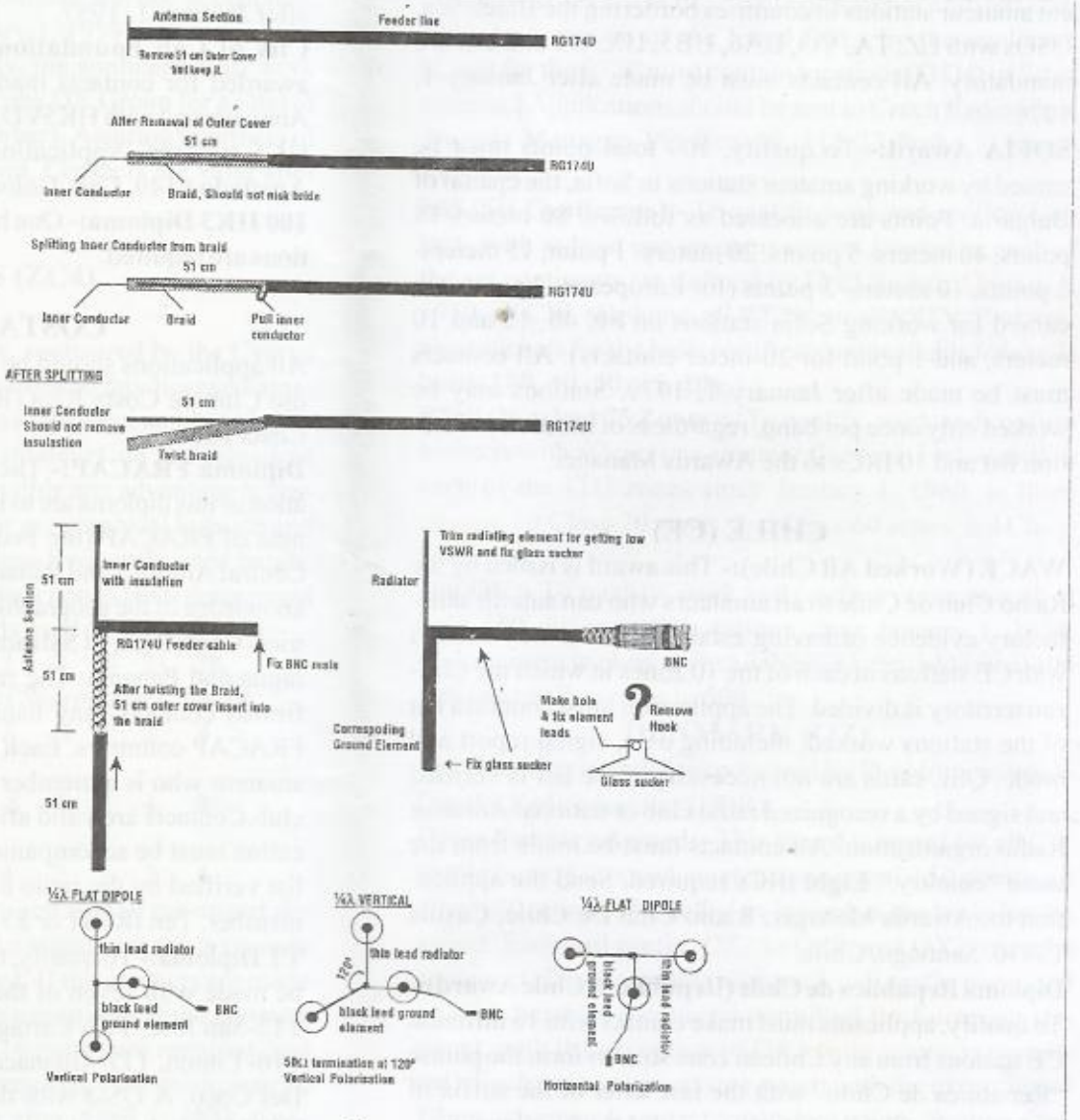
Courtesy- D.C.Sharma, VU2DCT

NSH QW STICKING ANTENNA

Easy to build, Easy to carry, Stick on anywhere- By N.S. Harishankar VU3NSH

Specifications	Features	Parts List
Frequency- 2m (144-146 MHz)	Easy to carry anywhere	RG174 U-50Ω RF Cables
Impedance- 50 Ohms (It can be altered)	Fully flexible	BNC Male (metal)
Gain- Around 3dB	No joint in between antenna & feeder line	Vacuum Glass Suckers- 3 nos.
Polarization- Vert/Hor	Easy to build	Super Wiz..... etc.
VSWR- Below 1:1.5	Economical	

Anybody can homebrew this antenna design within 45 minutes. It is convenient for mobile as well as indoor use. This quarter wave antenna is meant for 2m frequency. Basic principle of this design is a split dipole. Advantage of this design using of same feeder cable as radiating elements. So there is not joint in between antenna and feeder line. It is a sticking type antenna. One can stick it on mobile glass or glass door in a shack or any other clean and flat surface. Before making this antenna, you have to decide the feeder length. The VSWR should match before fixing glass suckers at radiating element. Connect RIG and VSWR. Fix the antenna elements at 120°, read the VSWR at decided frequency. If it is above 1:21.5, then trim the vertical element by cutting 0.2 mm, then read VSWR again. Stick this antenna at a possible height for better gain. Check signal level. if low change the antenna location for maximum gain. If the elements are fixed at 120° the termination resistant should be 50Ω. Never use BNC male fully plastic covered, it will give unwanted radiation. Preferred type BNC male is MX 169 metal. Fix glass suckers and elements with super wiz. So guys Homebrew it, Stick it, Forget it !!!!!



Operating Awards
(ARRL Handbook)

BULGARIA (LZ)

The Bulgarian Federation of Radio Amateurs (BFRA) offers four certificates for two-way contacts on CW, SSB/AM or mixed modes. Applications should include a list of claimed QSOs verified by two licensed radio amateurs or local radio club authorities indicating stations worked, date, time, band and mode, together with 10 IRCs. Send all applications to: Bulgarian Federation of Radio Amateurs, Awards manager, PO Box 830, 1000 Sofia, Bulgaria.

5-Band LZ Award:- To qualify, work one LZ1/LZ3 and one LZ2/LZ4/LZ6 stations on each band, 80-10 meters. Contacts must be made after January 1, 1979.

W 100 LZ Awards:- To qualify, work 100 QSOs with different LZ stations during one calendar year. Contacts must be made after January 1, 1979.

Black Sea Award:- To qualify, work a total of 60 different amateur stations in countries bordering the Black Sea. QSOs with LZ, TA, YO, UA6, UB5, UX, UT and UU are mandatory. All contacts must be made after January 1, 1979.

SOFIA Award:- To qualify, 100 total points must be earned by working amateur stations in Sofia, the cpaital of Bulgaria. Points are allocated as follows: 80 meters-15 points, 40 meters- 5 points, 20 meters- 1 point, 15 meters-2 points, 10 meters- 3 points (for Europeans, 2 points are earned for working Sofia stations on 80, 40, 15 and 10 meters, and 1 point for 20-meter contacts). All contacts must be made after January 1, 1979. Stations may be worked only once per band, regardless of mode. Send station list and 10 IRCs to the Awards Manager.

CHILE (CE)

WACE (Worked All Chile):- This award is issued by the Radio Club de Chile to all amateurs who can submit satisfactory evidence of having established two-way contact with CE stations in each of the 10 zones in which the Chilean territory is divided. The application must contain a list of the stations worked, including date, signal report and mode. QSL cards are not necessary if the list is verified and signed by a recognized radio club or national Amateur Radio organization. All contacts must be made from the same "country." Eight IRCs required. Send the application to: Awards Manager, Radio Club De Chile, Casilla 13630. Santiago, Chile.

Diploma Republica de Chile (Republic of Chile Award):- To qualify, applicants must make contact with 16 different CE stations from any Chilean zone so as to form the phrase "Republica de Chile" with the last letter of the suffix of their call signs. All contacts are valid starting January 1, 1986 on any band and mode. Applicants may send QSL cards or preferably a list of QSOs duly certified by an IARU Member- Society. QSLs or QSO list must be arranged in order to spell Republica de Chile. Fee: 8 IRCs. Send applications to the Radio Club de Chile Awards manager at the address above.

COLOMBIA (HK)

Unless otherwise noted, please send all applications to: Liga Colombiana de Radioaficionados (LCRA). PO Box 584, Bogota, Colombia.

CHK Award:- Contact and confirm different HK stations as follows: North and South American stations must contact 50 HK stations, elsewhere 25 different HK stations. Send log data and 8 IRCs.

ZHK Award:- Contact and confirm the Colombian call areas as follows: North and South American stations must work 9 call areas, elsewhere 8 call areas. Log data required.

HK5 Diploma:- American stations must contact 12 HK5 stations, others must contact 8 HK5s. Contacts are valid after January 1, 1957.

City of Call Foundation Diploma:- This diploma is awarded for contacts made on July 25 (Sectional Five Anniversary) with HK5VD, 5J5VD, 5K5VD and five other HK5 stations. Applications to LCRA, Sectional Cali, Apartado 6149, Cali, Colombia.

100 HK3 Diploma:- One hundred contacts with HK3 stations are required.

COSTA RICA (TI)

All applications should be sent to: Awards Manager, Radio Club de Costa Rica (RCCR), PO Box 999, Heredia, Costa Rica.

Diploma FRACAP:- The principal reasons for the creation of this diploma are to increase the international awareness of FRACAP (the Federation of Radio Amateurs of Central America and Panama) and to raise the interest and knowledge of the geographical location of its member countries- Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama. The requirements are two-way confirmed contacts (any band/mode) with each of the six FRACAP countries. Each contact must be made with an amateur who is a member of a FRACAP affiliated radio club.Contacts are valid after August 16, 1985. The application must be accompanied by either the QSL cards or a list verified by the radio club of which the applicant is a member. Ten IRCs (or $5 US) required.

TT Diploma:- To qualify, two-way QSOs (any mode) must be made with seven of the eight Costa Rican call areas: T12-San Jose, T13- Cartago, T14- Heredia, T15 Alajuela, T16- Limon, T17- Guanacaste, T18- Puntarenas, T19- Isla Del Coco. A QSO with the official RCCR club station, T10RC, can be used to replace one call area. Verified list

of QSLs and 10 IRCs (or $4 US) required.

CUBA (CO)

To apply for awards sponsored by the Federacion de Radioaficionados de Cuba (FRC), send a certified list of QSLs and 10 IRCs (or $2 US) for each award. All bands/modes are acceptable. Address applications to: FRC, Awards Department, PO Box 1, Habana 1, Cuba.

America Award:- To qualify, the applicant must work 45 countries and islands in America for Class III; 50 countries for Class II; and 51 + for Class I. A contact with Cuba is mandatory; KG4 contacts are not acceptable.

Cuba Award:- To qualify, the applicant must work all eight Cuban call sign districts, CM1/CO1-CM8/CO8. Cuban Amateur Radio Club stations (three-letter suffixes) can be substituted for up to three missing districts. Contacts are valid after January 1, 1959.

Caribbean Award:- To qualify, the applicant must work 20 or more of the 32 countries in the Caribbean, including CO, HK, HP, HR, TI, TG, V3, XE, YN and YV. CO contacts are mandatory; KG4 contacts are not acceptable. Contacts are valid after January 1, 1959.

Cuba DX Group:- To qualify, the applicant must work four official members of the Cuba DX Group for a total of four points (one point per member). Aspiring members of the DX Group count a 1/2 point. Contacts are valid after September 1, 1980.

CYPRUS (ZC4)

The *Cyprus Award* Certificate, sponsored by the Cyprus Amateur Radio Society, is awarded to any licensed amateur outside Cyprus who makes a specified number of two-way contacts with licensed amateurs on the island of Cyprus. To reduce as far as possible any advantage accruing to stations by reason of their geographical location and to encourage activity on the less-frequently used bands, the certificate will be awarded on a points basis determined by CQ Zone location and bands used as shown below:

	1.8	3.5	7	14	21	28
Zone	*Points Scored Per Contact*					
20	8	2	1	1	2	4
1,2,3,6,7,10,12						
19,24,25,26,27,	16	8	4	2	4	8
28,29,30,31 & 32						
All other Zones	8	4	2	1	2	4

The total number of pints required to win the award depends on the bands used. If all contacts are made on only one band, 32 points are required. If the contacts are made on any two bands, 24 points are required. If the contacts are made on any three bands, 16 points are required, and any four bands, 12 points are required. Any mode may be used. Contacts must be made after April 1, 1973. Contacts with any one Cyprus station can only count once per band. To claim the award, copies of log entries should be submitted under the following heading: DATE/TIME UTC, STATION WORKED, FREQUENCY BAND, SIGNAL REPORTS IN AND OUT. Each log sheet should headed with the applicant's call sign, zone number and complete mailing address, preferably typed or printed in block capitals. Either the appropriate QSLs or a statement from the applicant's National Society certifying that the QSL cards have been produced to them is required. In countries without a National Society, a similar statement signed by two other amateurs will suffice. Log sheets and 10 IRCs should be sent to: Awards Manager, Cyprus Amateur Radio Society, PO Box 1267, Limassol, Cyprus.

CZECH REPUBLIC (OK)

The following awards are issued by the Czech Radio Club. The fee for all awards is 10 IRCs. For endorsement stickers, send a confirmed list and 4 IRCs, and indicate the number and issue date of the basic award. QSL cards may be sent with the application; cards need not be sent when the national-level Amateur Radio Society or club has confirmed possession of the listed QSLs by the applicant. [Cards for the P75P must contain locations (QTH) of listed stations.] Applications should be sent to Czech Radio Club, Awards Manager, PO Box 69, 113 27 Praha 1, Czech Republic.

S6S (Six Continents):- To qualify, work and confirm contacts with at least one amateur station located in each of the six continents (as defined by IARU) since January 1, 1950; all CW, all phone, all RTTY, or all SSTV. Endorsement stickers for the basic certificate are available for single bands (80, 40, 20, 15, 10).

P75P (Worked 75 Zones):- To qualify, work and confirm contacts with at least one amateur fixed station location in each of the ITU zones since January 1, 1960, in three classes; 1st Class-70 zones, 2nd Class-60 zones, 3rd Class-50 zones.

100 OK:- To qualify, work and confirm contacts with at least 100 different OK stations since January 1, 1954. Endorsement stickers are available for every additional 100 stations confirmed up to 500.

DENMARK (OZ)

The following awards are sponsored by Eksperimenterende Danske Radioamatorer (EDR):

Cross Country Award:- This award is issued for all CW or all phone. European amateurs must make 50 points, all others 40 points. The call sign is used as the basis for the award. Each call prefix, OZ1 to OZ9, and OX3, must be contacted. Three contacts with each call prefix permitted on each band (two contacts permitted for European stations), with the exception of OX3 (nine contacts permitted). Each contact counts one point, with the exception of 70 cm, where each contact counts two points. Starting date: April 1, 1970. Send a list certified by the Awards manager

LIST OF EQUIPMENT FOR DISP0SAL (From VU2ST)

MANUFACTURER	MODEL	STATUS	PRICE
EVERSHED Bridge Meggar	(With Case)	Working	Rs. 350/-
DC4 INVERTER MOBILE Power Supply	DC or 115 V AC	Working	Rs. 200/-
LOCAL MADE	Sig Generator 900 A	Working	Rs. 2000/-
JAPANESE	Fist Mikes	Working	Rs. 800/- ea
RF SIGNAL GENERATOR	SANWA	Working	Rs. 300/-
YAESU	SP102 P Speaker	Usable	Rs. 150/-
HEATH KIT	SB610. Oscillescope	Repairable	Rs. 500/-
SCIENTIFIC MES TECH INDORE	Oscilloscope HM 204	Repairable	Rs. 500/-
DIGITAL LCR METER		Repairable	Rs. 1000/-
HEATH KIT SINGLE BANDER T/R	No Tubes	Repairable	Rs. 1000/-
WANNDEL & GOLTERLELERMAN (German)	Frequency Counter	Repairable	Rs. 2000/-
BEL	Transceiver	Junk	Rs. 100/-
AERIAL UNITS	Qty-9	Junk	Rs. 50/- ea
HRO COILS	Qty-9	Junk	Rs. 25/- ea
SONY CITIZEN BAND		Junk	Rs. 50/-
AR 88		Junk	Rs. 1000/-

SPECIAL OFFER

A large quantity of valves- list on request
Antenna Tuner Hallicrafter AT10. 6 pcs- 500/- each
Original Unused Yaesu Power Supply FD 700- Rs. 10,000/-
Morse Practice Tapes 5 wpm- Rs. 30/- ea
Morse Keys & CPOs- various models available.

CONTACT: SAAD ALI, VU2ST
4 Kurla Industrial Estate, Ghatkopar,
MUMBAI- 400086. Phone- 5147574

of the National Society and 5 IRCs (or $2 US) to: EDR Awards manager, Tage Eilman, OZ1WL, PO Box 213, 5100 Odense C, Denmark.

Greenland Award:- This award is issued in three categories-CW, phone or mixed, in three classes:
Class 1-five different locations and 15 different stations.
Class 2-four different locations and 10 different stations.
Class 3-three different locations and five different stations.
Only two way CW or phone QSOs with OX23 stations made after January 1, 1978 count. One contact per band with the same station permitted. All amateur bands (3.5 to 1296 MHz) are valid. Crossband QSOs do not count. Minium report 33 (phone), 338 (CW). Contacts with portable or mobile stations are not valid. A detailed list of contacts (certified by the Awards Manager of a National Society) and 5 IRCs (or $2 US) should be sent to O1 WL (see address above).

Fairytale Award:- Radio amateurs in Odense, the native town of Hans Christian Andersen, the fairytale writer, issue the Fairytale Award. Amateurs outside of Scandinavia are eligible for the award after making nine two-way CW

(Continued on page-8)

"With Best Wishes to fellow Hams from Kapadia family"

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