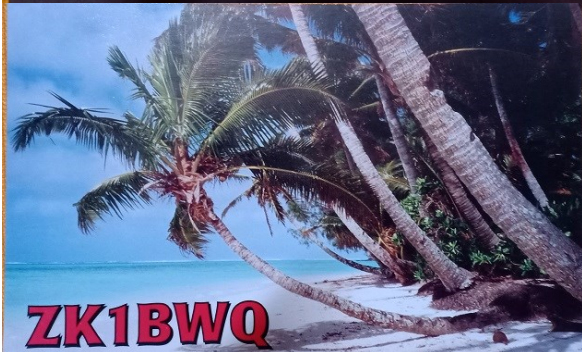
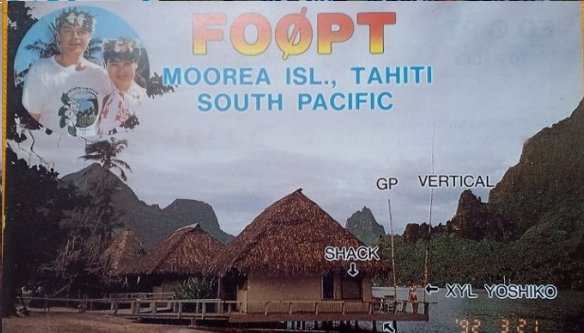
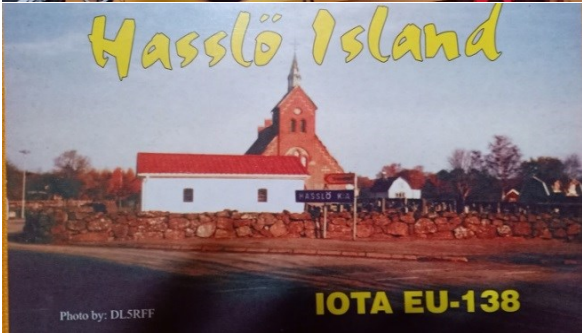
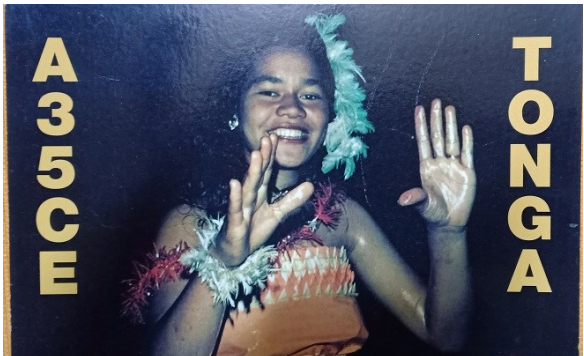
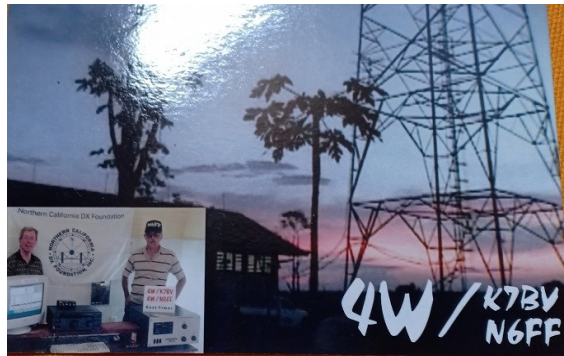


Ham
RADIO
News

Newsletter of the Amateur Radio Society of India (Indian Affiliate of IARU)
 July 2020 Issue



Islands on the Air – QSL collection from VU2TS

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President's message



Stay Safe, Stay Connected!

Despite the mandate for social distancing, staying connected with people continues to be most essential to keep up our social network. Getting on the air and calling CQ can be uplifting for someone on the other end of the contact. Staying virtually connected without the need for in-person contact has been a defining feature of radio amateur. It offers a unique way for us to maintain our social contacts while remaining physically distant. For Radio Amateurs, social distancing doesn't have to mean total isolation!

We are still bumping along the bottom of the solar cycle with no sunspots but the DX has been there on the bands up to 10m. In the last few weeks, we see about 33 specially issued call signs active on the air with abbreviated suffixes for "Stay Home", "Stay Safe" and similar COVID related messages. We are happy to see a lot of activity on 6m with a regular net being conducted at 20.00 hours on 50.700 MHz from Bengaluru and some FT8 activity throughout the day.

Globally, numerous Dxpeditons and events have been hit because of the COVID situation. Starting with the Hamvention in Dayton and Ham-Radio in Friedrichshafen being called off earlier this year, YOTA (Youngsters on the Air), proposed to happen first time in IARU-R3, in Thailand in the first week of October, is also postponed. The national festival of Radio Amateurs, HamfestIndia-2020 proposed to be held in Kerala during November 2020 is also hit, because of the current uncertain situation.

The disruption doesn't end here. Few weeks ago, I lost a mentor and a good friend - VU2RCR, Chandru. Chandru had been guiding us to take important and key decisions in the committee all along. With his vast experience from his postings in different countries while he was with the United Nations, and two terms Director at the IARU-

R3, he steered, managed and guided us at the ARSI for two decades. He was the President of ARSI for two terms and later remained as a GC member.

I would like to leave you with the note that we started with, let Amateur Radio keep us connected through the good and bad times!

73, de Ramesh Kumar VU2LU

From the Editor's desk:



On the Earth, 'lockdown' continues - while on the Sun, the deepest minimum in a century continues. As I am writing this, there have been no sunspots during the last ten days' stretch, and the total number of spotless days during 2020 is 137 days.

Very sad to note that the number of people affected by the virus is on the rise, and it is hoped that it will subside soon.

In the meantime, the 'stay home' situation has not increased activity on the radio significantly. This may probably due to easy access to social media, Hi. I see tons of messages swapped on 'whatsapp' – which, in the olden days used to be on 40 meters. The other reason, of course – the poor band conditions.

I have been active for the past 55 years, I have not come across such poor band conditions.

Once again, I invite members to forward photos of their shack, articles related to amateur radio and news of their clubs so that we can make the Ham Radio News more interesting.

73, Ganesh VU2TS
Stay Home, Keep Safe

Once again, Amateurs rise to the occasion by volunteering for assisting in disaster communications.

There were two cyclones this year, Amphan in Odisha during May followed by Nisarga in Maharashtra during June. When cyclone Amphan tore through Odisha and West Bengal, the West Bengal Amateur Radio Society organised a group of volunteers who assisted not only the people in the affected area, but the District Administration of South 24 Parganas district. A senior official later stated “There was no electricity. Our mobile phones got switched off. Our satellite phones were also not working. Then, through HAM radio, we established connectivity to district headquarters and other stations on May 20 and May 21. This was a great help.”

Amphan tested what radio amateurs had learnt

The ‘Hindu’ newspaper reported that in May, amateur radio operators worked hand in hand with the Odisha Disaster Rapid Action Force (ODRAF) during of the cyclone Amphan.



One of the teams - on Sagar Island, about 100 km south of Kolkata

Emboldened by their recent experience in Balasore district of Odisha during Cyclone Amphan, radio amateurs are confident of providing communication support to the administration in all coastal districts in times of natural calamities.

“Amphan tested what we had learnt from a simulation of a real-life situation during calamity on an uninhabited island without power and conventional telecommunication in Chilika Lake in 2019 and 2020,” said Gurudatta Panda - VU3GDP, a member of the Amateur Radio Society of Odisha (ARSO).

The Hindustan Times, another English newspaper reported that nine amateur radio operators came to the aid of district officials during Cyclone Nisarga. The newspaper says:

All modes of communication collapsed in less than half-an-hour after severe cyclone Nisarga made landfall over Raigad district, Maharashtra, a group of nine independent ham radio operators using wireless communication became the eyes and ears for the district administration. Their centres? A station without a roof in Shrivardhan, the district headquarters in Alibag and vehicles in Mahabaleshwar.

The entire exercise from the afternoon of June 2 to June 5 evening (when mobile network availability returned in some areas) saw continuous relay of information about deaths, injuries, evacuations, scale of damage (trees loss, falling power lines, and network towers), relief and rehabilitation requirements, across low-lying areas in Shrivardhan, Mhasala, Dighi, Murud, Revdanda, Nagaon, Revas, and Alibag areas in Raigad from the police, local authorities and citizens to radio operators and in turn to the authorities across different parts.



AMATEUR RADIO IN THE ARMED FORCES

By Prashanth VU2PSQ

An article by Arasu Manohar (VU2UR) in the Q1 Edition of the Ham Radio News 2020 motivated me to write this article, as I thought I may add a little more information to his article on the 'Ham Operators in the Indian Armed Forces'.

Introduction to the hobby

I was introduced to the Hobby of 'Ham Radio' by my friend and Elmer, Cmde (then Lt Cdr) Ashish Saxena (VU2ANM) of the Indian Navy, way back in 1992 at Jamnagar, where both of us, were posted as young officers, he as a Lt Cdr at 'INS Valsura' and I, at the AF Station Jamnagar, as a young Flying Officer. I saw an HF transceiver at his shack for the first time and heard a HF contact to Nagpur (my home town) from his shack, with the famous Paranjpe (VU2AU) or 'Paran' and I was hooked to the Hobby. Based on his advice, I went to Ahmedabad to the VSSC to give the Ham exam, after learning Morse and cleared the exam in the first go. I got in touch with Adolf Shepherd (VU2AF), who had retired from the IAF and worked with Bombay Port Trust (BPT) and used to conduct the 'All India Net' on 14150 KHz (USB). He gave me a lot of basic info about the Hobby including being a good mentor in the hobby along with Ashish.

Shortwave Radio Listening (SWL) and 'Alang Ship Breaking Yard'

After passing the exam in 1992, I was keen to hear/ Monitor Ham radio conversations and so I gathered, that if one could buy a good 'Communications Class Receiver' from the Ship breaking Yard at Alang, in Gujarat, it might meet my need, till I got my ticket. I met another Air Force Ham, then a Flying Officer, Umesh Anand (**VU2UMI**) (an Engineer) who happened to be visiting AF Station Jamnagar. On the next weekend, Umesh and I, travelled to Bhavnagar by State Govt bus and met a Local Ham- Rajesh (VU2FCY) who had contacts at Alang and whom I had never met in my life. I saw lot of Radio equipment removed from ships at his house and was amazed to see exceptionally good IIT Makay Marine Receivers. I was keen to buy the eqpt, but had not planned for it and hence, did not carry sufficient money. Then, Rajesh surprised me by saying, that I could take the ITT Marine Receiver and pay later. He even said pay the money to his sister, who stays at Rajkot, as it is close to Jamnagar (where I was posted) and don't have to travel 300 Kms to Bhavnagar. I started monitoring the band on HF with a simple long wire antenna. I heard many stations from 4S7RO-Ron (from Colombo) to VU2MAB (Madhavi, later to be his wife) and Adolf (VU2AF) conducting the 'Airmet' on 20 Mtrs and learnt a lot of operating technique on HF, Net timings etc. by regular radio listening as a SWL. I used to be a Broadcast band SWL prior to becoming a Ham and had heard about 'Ham Radio' on the 'Media Network Programme' on Radio Netherlands. Victor Goonetilleke (4S7VK) was the 'Asian Correspondent' and a Communications expert for the programme hosted by Jonathan

Marks. I got to meet Victor in Sri Lanka many years later in 2010-11 during my visit there.

Licensed Ham

By 1993, I was transferred to Bangalore and finally got my Ham licence issued in Oct 1993 with a Callsign- **VU2PSQ**, which was great for a new ham, as a lot of Ham activity was on at Bangalore. I met and made many friends, got my VHF handy (Yaesu FT-11R) and also my first HF Rig, a Kenwood TS-530SP Hybrid HF set, from a Ham (Masood-VU2MIR) in Hyderabad. I met and made many friends like Natraj (VU2NTA), Bobjee (VU2RKC), Rajan (VU2RBJ), VU2ITI (Vardhan), VU2SE (Subi) and also met VU2SO (Capt Saibal Ghosh) at Subi's house in Bangalore, with whom I worked in the Tea Gardens in the East Assam. Also, met Ramesh (VU2RMS) and visited his 'Little Lilly's School' the first to talk to Astronauts via a telebridge as part of SAREX programme.



First Ham shack with the Kenwood TS 530SP and FT-11 R in 1993-94

VHF Nets (VU2RSB, VU2TWO) & meeting the 'CHIEF'

I learned a lot of my radio operating technique at Bangalore, through the many VHF and HF Nets at Bangalore on the VU2RSB and VU2TWO (repeaters) and also the 40 M and 20 M, HF nets (Belgaum net, the SWL net conducted by Sanil deep VU3SIO and AIRNET). I was fortunate to meet Brigadier Les King (VU2AK) popularly known as 'Chief' and his XYL Audrey (VU2YL). He was the first 'Armed Forces Ham' that I met after getting my licence. He was a great homebrewer and a fine gentleman. It was a pleasure meeting him and his wife. I spent about 2-3 hours at his house, over hot coffee on a Sunday morning, with them. I was really impressed to see his entirely homebrew setup. Also, the many QSL cards and awards. It was, as if, I was in wonderland!!! It was a really motivating visit and chatting with two very elderly & homely people. I am enclosing a few photos taken in 1993-94 at their Shack at Bangalore.



Brig Leslie King (VU2AK) and Mrs. Audrey King (VU2YL)

Talking to an Indian Ham at Somalia

Initially, I operated from the Club Station of the Indian Institute of Science (IISc) for a short while and later from my own shack at Hebbal, near Mekhri Circle. In February 1994, while tuning the HF band, I suddenly heard a new station with a callsign 'UN2CS', but with an Indian accent, from Baidoa in Somalia. It turned out to be an Indian Army Captain Charanjit Singh VU2CJH of the Army Education Corps (AEC) who was deployed there, alongwith a Helicopter Detachment, with an Air Force Engineer, Sqn Ldr MU Khan, who was based at Bangalore. Charan was happy to know that I was at Bangalore and later Sqn Ldr MU Khan also came up to Charan's radio shack the next day to hear us talk. His wife, Prafulla, was at Bangalore and later visited us to hear an HF contact, as those days, 'ISD calling' was very expensive and mobile phones were unheard of. I got Sqn Ldr and Mrs. MU Khan to have a short 'modulation test' and they were thrilled to be able to hear and talk to each other over the radio waves. In those days, it was a big thing to be able to 'talk overseas' without paying any ISD charges, Hi!!!

Permission to operate Amateur Radio in the Air Force

While the Indian Army was the first to support and encourage Amateur Radio Hobbyists - like in every country the world over, with the 'First Club Station' in India being at Mhow at the School of Signals (with a callsign of **VU2SS**) in 1948 or thereabouts. The Army had permitted their people to operate as early as in 1959 and updated the orders in 1972. The Indian Navy had permitted its personnel to operate with formal orders in 1988. Many 'sailing expeditions' of the Navy used Amateur Radio for communication with the base/ India.

Not many people know, but the Director Signals (Air) of the Air Force, Air Vice Marshal PS Rajagopalan (VU2PSL) had written a paper about Ham Radio in 1988 prior to his retirement, which I used, to get permission to operate Ham Radio at Bangalore after I got licenced in 1993. Subsequently, based on a paper written by me in 1999 during

the Orissa Super Cyclone (1999) formal orders were issued in 2000 permitting Ham Operations by Air Force personnel. The order has subsequently been updated in 2014.



L-to R. AVM PS Rajagopalan (VU2PSL) & Adolf Shepherd (VU2AF) at Bangalore

Historical perspective of Amateur Radio in the IAF

The Armed Forces are careful with 'security issues' and hence, sometimes, the initial reluctance to permit Wireless operations/ Amateur radio to their personnel. As a result many hams would have operated/ enjoyed their hobby only after their retirement from the Air Force. Though, interestingly, the Ground Training School at Jalahalli, had a Ham Radio Club Station licence with a callsign VU3GTS in the mid-1960s. This was and is the Communications Training Institute (CTI) where they train the 'Signals' people of the Air Force. Many of you would know of Air Cmde V Subramaniam (VU2UV), a pioneer in Satellite Communications. I had the pleasure of meeting him at Bangalore many years later at the Bangalore Hamfest 2009 during the Golden Jubilee of BARC.



Farhan (VU2ESE) with Subi (VU2UV) at the Hamfest 2009, (VU2UV with VU2VTM)

Hams from the Army, Navy and Air Force

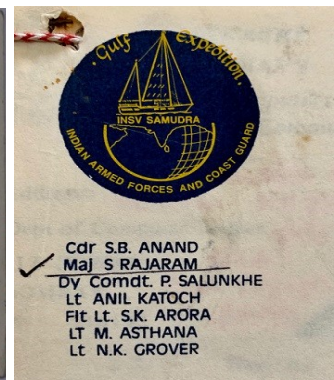
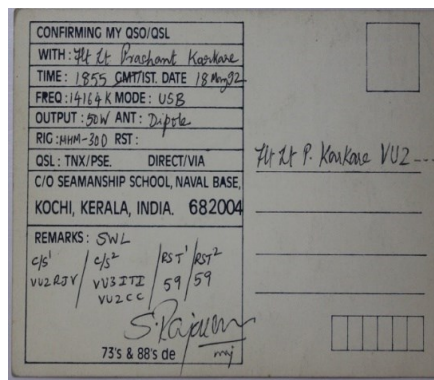
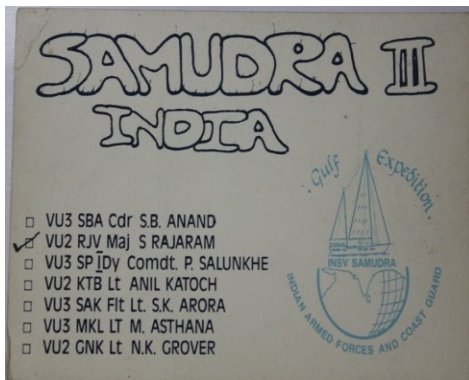
I was fortunate to meet many hams from the Armed Forces due to the frequent transfers, which is part of life in the armed forces. It was an interesting Tri Services meeting, when I got to meet Maj Gen SG Vombatkere (VU2DAY) along with (then) Cdr Ashish Saxena (VU2ANM) at New Delhi in 1997. I had heard Maj Gen Vombatkere, while he was operating from Leh. I was also fortunate to meet Maj Gen Kabraji (VU2BK) at Pune in 2002.



Maj Gen Vombatkere (VU2DY)-1997 (Delhi) and Maj Gen Kabraji (VU2BK) in 2002 (Pune)

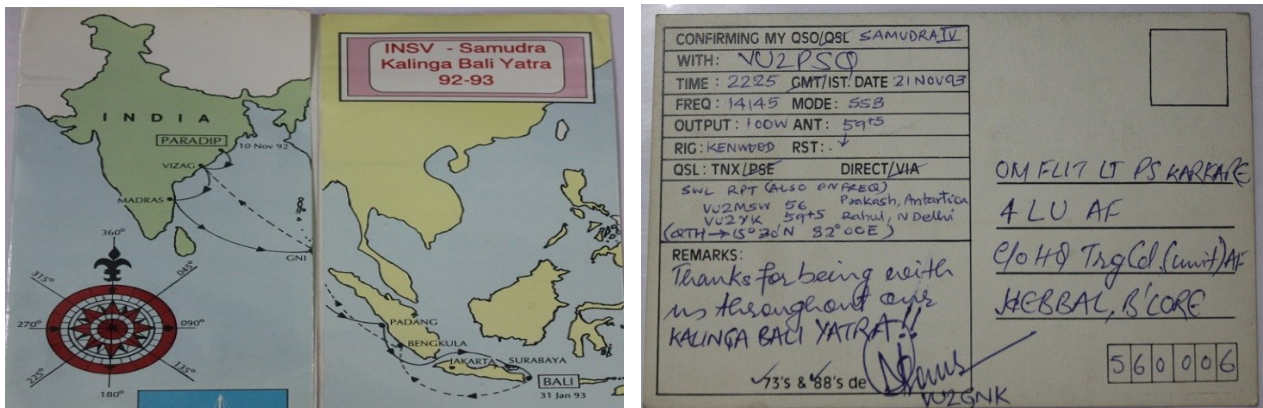
Monitoring Sailing Expeditions, Shortwave Listening and QSL Cards

Arasu had mentioned there were many Club Stations in the Armed Forces in the 50's, 60's and 70's. He mentioned of the Club station at School of Signals (now called Military College of Telecommunications Engineers (MCTE) at Mhow (near Indore) and IMA Dehradun. Army also had club stations at the Military College of Electrical and Mechanical Engineers (MCEME) at Secunderabad. I had heard some hams and worked them later. Maj Rajaram (VU2RJV) was one such Ham who operated from MCEME, Secunderabad.



SWL Report from Maj Rajaram in 1992 with a Samudra III QSL Card

I had also monitored another interesting Sailing Expedition of the re-enactment of the Kalinga Bali Yatra in 1992-93. The Indian Naval Sailing Vessel (INSV) Samudra IV expedition in 1992-93 was re-enacting a historic journey done many years ago, from Paradip to Bali and back



Historic Naval Contact. While I was following the Kalinga Bali Yatra on radio, I also happened to monitor a 'historic ham radio' contact between Cdr MS Prakash (VU2MSW) at Antarctica and Lt NK Grover (VU2GKN) while sailing in the sea. The QSL card above documents the contact on 21 Nov 1993 at about 2245 h while INSV Samudra IV was at sailing in the Arabian Sea (15 Deg 20'N, 82 Deg 00'E !!!) Mukul Asthana (VU3MKL) who was also on the INSV-III, is also a Rear Admiral now, in the Navy, though not active now.

Air Force Ham

One of the most motivated and active hams from the Indian Air Force in the current times is Gp Capt Mukundamoni Venugopal Menon (earlier VU2MVX and now **VU2MV**). His mentor and Principal of the Trivandrum Engineering College (TEC) was the famous Ham, Professor Jayraman VU2JN (SK), who was a legend in India. Venu and Salim (VU2LID) were undergraduates in College when they learnt about Ham Radio from their Principal. Both of them are active Hams. Venu is a great collector of Morse Keys and a keen CW operator. He was active from Coimbatore (Sulur) in 2018-19 but has recently shifted to his native place in Kerala in 2020. Recent pictures of him in his shack are placed below:



Radio Shack at New Delhi



The author with VU2MV at Suler, Coimbatore

Hams from the Navy

Two active hams from the Indian Navy are Cmde Ashish Saxena (VU2ANM) and Cmde MVS Negi (VU2MNX). Ashish has been my Elmer and has been an active Homebrewer. He has been active from the many places of this postings including from Bhopal and currently he is active from Mumbai. Cmde Negi was initially licenced in the 1980's, but was not active for many years in between. He has recently reactivated his licence in Apr-May 2020 and has become active on HF, VHF and Digital modes like RRTY & FT-8 from New Delhi.



Cmde Ashish Saxena at his Radio shack



Cmde MVS Negi (VU2MNX)

Regulations on Ham Radio in the Armed Forces

As many of you would be aware that the Indian Army was the first of the three services to be active as Ham Radio Operators from the Pre independence time. It also had the First Club station of the country at Mhow at the School of Signals (callsign VU2SS) now called the Military College of Telecommunication Engineering (MCTE). Unfortunately the club is not active at present, though efforts are on to revive it. Army

Orders permitting Ham Radio by their personnel were issued as early as 1953, 1955, 1959 and then updated in 1972. Navy was next to follow with Navy Orders in 1988, 2005 and 2018 and the IAF issued its first AF Order permitting AF personnel to operate Ham in 2000 and this has been updated in 2014 when the WPC changed the Rules in 2009/2010.

Hamfest India 2014 at Hyderabad

So, there are many serving and retired Armed Forces personnel from all the three services, who are actively pursuing the Hobby of Ham Radio. During my stay at Hyderabad, I was involved in the conduct of the Hamfest India (HFI2014) and would like to share that there were many Hams from the Services, who got together for a 'nostalgic photograph'. You might be able to recognize many of them.



Lt Col S Mallikarjan Rao (Retd) (VU2SMQ) (better known as Malik Garu), an 83 year old ex Corps of Signals Officer, is seen with Paddy (VU2PEP) and me, is settled at Hyderabad and is a VEC examiner for the US Ham Licence. A real old timer from the Indian Army. He participated in the 1962 war providing Radio Relay communication, he was reported missing (for 18 days) but returned back safely. Also, participated in the 65 and 71 Indo Pak wars.

I hope this gives an update of some of the current active Hams from the Services.

73,

Air Commodore PS Karkare (VU2PSQ)

New Delhi (active on HF, VHF, Satellite and Echolink)

Postscript: I have tried to cover aspects that were not covered earlier by OM Arasu and added a few interesting events, as I saw them.

Morse Code lessons on Social Media

Laxman VU2LAU is running Morse-code classes on Whattsapp successfully for the past year or so. Here is a brief report by Laxman:

It all started during our college days, when we were drawn into this fascinating hobby of science.

At this juncture, I have to remember the Elmer's who gave lot of support and encouragement to develop in this hobby.

While I was studying PUC in 1989 I got the opportunity to know about HAM RADIO through Shivamogga Amateur Radio Club. After passing the exam, I first obtained the grade II license, later the Advanced Grade licence in 1995 with Callsign VU2LAU. The club was started by Former President Sri H N Gundu Rao VU2HVG, Sri Jois, VU2SLJ, Sri B C Patil, Former secretary. Their vision of making Ham Radio a hobby for mass was deeply rooted in our heart.

Under their leadership we conducted lots of activity to the students and public and also assisted the local Election officers in conduction of election with the support of other Ham clubs.

Every year our club conduct awareness program to Scouts and Guides and also train Morse code. Club also assists in conducting the annual Jamboree on the Air.

Morse code is the first step to get a licence. With our experience, we found that, Morse code can be learned easily and effortlessly only when learned continuously for 30 to 35 days. Learning with the help of a tutor may be difficult for several reasons. Learners may not find tutors easily, and if they do find one, the tutor may be busy, or it may be difficult for the learners to attend the classes regularly. While learning, they require repetition, tutors may be busy, or out of station.

So, In consultation with the present President of Shivamogga Amateur Radio club Sri H K Pradeep VU2YPY, secretary Rajesh VU2ARG, and Nagaraj VU2GNR, I planned of bringing the experience of teaching Morse code, into practicality - through Assisted Self Learning. Learners can learn Morse Code themselves in their own homes, at convenient time and pace.

In order to spread the motto of 'One World One Language' we have initiated teaching Morse code through the far-reaching social media, by recording Morse practice lessons and uploading the audio clips on Whattsapp. Care is taken not to overload the students with a heavy dose of lesson for the day. This lessons are recorded for duration of 5-6 minutes per lesson and uploaded every day. The eager students who have access to Whattsapp can download and practice by copying it. Total 65 practice lesson for 42 days are uploaded on You-tube for learners.

Those interested beginners staying in remote areas, those who like to brush their skills, can start copying these lessons & become proficient, and those who plan to take up General grade ASOC exams, can start practicing these lessons. After a good control over copying Morse code is achieved by a student, a simple CPO (code practice Oscillator) with straight key is made available at an affordable price for practicing Morse code 'sending'. For students who are interested in increasing their proficiency, lessons for on the air sending and receiving are being prepared.

A Complete Morse Training of 42 days with 65 Videos by VU2LAU uploaded, here are the links:

https://www.youtube.com/playlist?list=PLAi-x4LAY8BCAaBZovY8owJ6_MIZkCkDG

Morse code training by VU2LAU in Google drive:

<https://drive.google.com/drive/folders/1PWJxfGT9wwYQJofeerTMLV-b8Ph782H2?usp=sharing>

With our permission, around 20 Indian Ham clubs, 13 Whatsapp groups and several individuals are utilizing these lessons.

I am happy to say that one Italian Ham club and one Nepalese Ham club are using this tutorial for teaching Morse in their clubs. More than 4000 views have been made so far to the Lessons uploaded in You-tube.



73, de VU2LAU – Laxman
Shivamogga Amateur Radio Club

NEWS FROM CLUBS

PUNE, MAHARASHTRA

Pune Hams are organising “**Tech Talks**” on the air every Sunday, inviting well known amateurs and professionals to talk on subjects of interest to Amateurs.

It is conducted on the VHF Repeater VU2ETD of Ajeenkya DY Patil University – on 144.800 MHz with -ve shift which is connected to Echolink. It is also streamed on "You Tube Live" by OM Mangesh VU3OUM for the benefit of SWLs & Ham Sphere users.

02.05.2020 – OM Das VU2DH from Chennai spoke on ‘Fox Hunt’ – the *Radiosport*. Das is a well-known Fox Hunter in India having more than 30 years’ experience in Ham Radio. OM Das shared valuable tips through a power point presentation - on how to locate the Fox quickly.

OM Rajesh VU2EXP from Gujerat gave expert comments whereas VU2JA OM Raja from Chennai shared good old memories of Fox hunting with Das and concluded the Fox hunt presentation. Here is the link to the video:

<https://youtu.be/opnCJid4mA1>

24.05.2020 – OM Mangesh VU2OUM explained how to capture weather images from the NOAA weather satellite. Most of the Ham groups in Odisa & Kolhapur who are engaged in disaster mitigation operation need accurate weather data. Every Ham operating in critical areas with weather station need latest overhead weather data for planning & forecasting operations. Here is the link to the video:

<https://youtu.be/HXqN65XNx88>

31.05.2020 – Dr.T.Jaisakthivel VU3UOM from Chennai will spoke on DX chasing. He is Assistant Professor, Department of Journalism and Communication, University of Madras, Chennai. Here is the link to the video:

<https://youtu.be/2vCCma5zXI8>

07.06.2020 - OM Balasubramaniam VU3TBR from Chennai gave a presentation & talk on “Digital Mobile Radio (DMR) – First Step to embrace - Peanut”. He is the Director of Gulf Ocean Shipping Pvt. Ltd and Proprietor of Softway Computers having over 4 decades of experience in Shipping and Trading and passion for the electronics and music. He has been involved on various projects of late and is willing to share his experience with all of us. Here is the link to the video:

<https://youtu.be/Q8wmJcDBWQ>

14.06.2020 - Dr. N.Mohan, Asst. Professor (Retd.) Botany Dept., University of Madras Chennai – spoke on “Digital Radio Mondiale” DMR for beginners. Here is the link for the video:

<https://youtu.be/viEfR4PXmMQ>

21.06.2020 – OM Clement VU3PQN from Chennai gave a presentation & talk on “What is SSTV? What are the activities we can do using it?”. OM Clement works for the Southern Railway Headquarters office, Chennai. Here is the link to the video:

<https://youtu.be/Tk8IVdxYfrc>

28.06.2020 – OM Bala VU2TBR from Chennai started series of presentations on “Digital communication”. He will give total of three presentations in the coming Sundays. The presentation started with the basic and popular modes. Here are the links to the videos:

<https://youtu.be/VgiaCWubmC8>



Pune Hams celebrated World Telecom day on **17th May 2020** jointly with IETE Pune, in their weekly Sunday TechTalk.

Pune IETE President Mr Kishor Shende & Mr Vineet Mathur, Deputy Director General (T.E.R.M) at Department of Telecommunications, Ministry of Communications & IT Pune, Maharashtra, India shared video messages

The presenter was OM Rahul VU3RAZ who is an RF engineer by profession and has been working with cellular network planning and technology for 25+ years. He currently heads the technology vertical for APAC region in Ericsson.



Rahul and his team are involved in new technology and product introduction in the region. They develop solutions for all the leading operators like Telstra, Singtel, Cellcom Airtel, Vodafone, Idea etc. These network use Ericsson developed E2E Technology solutions to provide services to the users.

The program was streamed on *YouTube live* for the benefit of Engineering Students, staff and SWLs. OM Mangesh VU3OUM created the special link. Here is the link:

<https://youtu.be/d2dY2OWp38Y>

Vilas Rabde **VU2VPR**

President

Ajeenkya DY Patil University Ham Club VU2DYP(M)+91 98225 02078, +918999055112

Radio: VU2VPR-144.800 MHz with -ve shift VU2ETD, 

Radio contesting

By Madhukar VU2MUD

In amateur radio, there are various activities which operators can involve themselves in. General QSOs, rag-chewing, discussion on technical topics, experiments, net check-ins, working dx, chasing rare DX, etc. One more in this list is CONTESTING.

Contesting grew out of other amateur radio activities in the 1920s and 1930s. As transoceanic communications with amateur radio became more common, competitions were formed to challenge stations to make as many contacts as possible with amateur radio stations in other countries. Contests were also formed to provide opportunities for amateur radio operators to practice their message handling skills, used for routine or emergency communications across long distances. Over time, the number and variety of radio contests has increased, and many amateur radio operators today pursue the sport as their primary amateur radio activity.

The advantages of participating in contests

As an amateur radio operators, we do a lot of changes in our equipment, antenna setup, new accessories, etc. Whenever we add equipment in the shack or make any changes, we would always like to check on the air the way it works and any reports. Usually we get to a stage of going on the air with these changes at odd hours – usually after the regular activity on the local bands has ended and the dx is not to be found on other bands. That is when we desperately look for stations to just see if our equipment is working.

If we have made any changes to our antenna setup, we would always like to check how far it is reaching.

The weekends are a great time to make these tests. There is never a weekend without some contest going on. It could be an international contest or a local club contest – I am basically talking about HF bands. This can also be of use on occasional local VHF Contests.

Getting started

The international contests normally run over a 24- or 48-hour period. Starting on a Saturday and finishing the following Monday is a very long time to sit on a radio. Some operators stay up overnight and put in a grand effort, but over a 48 period, one will find that multi operator is a better choice for them. (I for one like my sleep). There are also contests that run for multiple short durations – called sprints – say like 2 hours in the morning, 2 hours in the mid-day and 2 hours in the night.

If you are not real confident to kick off on your own, then I am sure any contesting Amateur you ask will let you drop in and let you watch and get some useful operating tips. If you stay in a remote location and no nearby contesters to go to – Just listen to the contests and observe the way they operate. Pick up the operating procedure.

Getting Started

Before making your first QSO, there are certain things you need to do. Prior planning prevents poor performance and will save time when you really do make those contacts. And if it's your first time, it's good practice to have a system check over.

1. Select the contest you would like to enter and read and understand the rules.
2. Check your radio for operation. Just so that when you are really ready to get on the air – you find it is not working properly – it could be a real dampener
3. Check the antenna is resonant on the frequency of operation.
4. Decide whether to use a logging program or hand write the log.
5. If you are using a computer for logging, make sure you have the latest version of software as last-minute rule changes or point scoring will have been updated in the software.
6. Check the logger program serial connection to the radio is working if you want automatic frequency and mode logging.
7. Check the rules for start time and have a bottle of water nearby to keep the vocal cords lubricated.

8. If you have decided to hand write the log, draw up a log sheet with information already known to save time during logging. The consecutive serial number that you give out can be written in. Most signal reports are 59. No-one seems to care that you may be 57. 59 is easier and normally pre entered in logging software. Have enough sheets made out to accommodate your targeted QSO score and some more – just in case you exceed the number. It always good to be prepared

In a contest the EXCHANGE is the critical aspect. All contests will have a 2 reporting – The Signal Report – which usually is 59/599 in the case of CW/RTTY and the Exchange. The exchange can be a sequential serial number, the operators age or the average age of the contesters in a multi operator team, the CQ Zone, the ITU Zone, the output power, the club name and so on. So, it is always important and helps to know the rules and the exchange required for the contest that you intend to enter.

If you intend to use a logging software, the most popular one is the N1MM. It is essentially a contesting software with all the popular & regular national and international contest exchanges pre-programmed. If a contest requires serial numbers, your sequential number gets updated every time you complete a qso. The Signal Report of 59/599 displays automatically for both the sent and received. All you have to do is enter the exchange you receive. Of course, the auto displays can always be overwritten – just in case you need to.

Operating Practices in Contesting

There are different ways in which one can involve themselves in contesting. The casual operator, the log filler, the DX hunter, the achiever and the real serious contesters. Let us see how each of these operators can participate in a contest – it can be any contest.

The Casual Operator – participates just for fun. They go around spinning the dial working any one they hear calling CQ. They are not really worried who they work

The Log-filler – participates with an intent of working a pile of stations. They are more serious in their operation – usually occupy a frequency over long periods calling CQ

The DX Hunter – participates in contests specifically looking for rare DX which is wanted by them for filling specific band and mode slots in their personal score cards for DXCC purposes. They may not work other stations.

The Achiever – is a very serious contesters. Their aim is to achieve scores – personally better their previous scores or to top their country/ continent/ all of the world.

The Real Serious contesters – spends a lot of time preparing for the contest – upgrading equipment, testing and optimizing antenna setup, form groups to ensure

that their presence is found on multiple bands simultaneously and for the entire duration of the contest.

Categories of contests

1. International – Here everyone can work everyone else for different scoring points – longer the distance between 2 stations geographically – more the number of points
2. Continental – Here all other continents need to make contacts with countries located within the target continent – For example The All-Asia contest organized by the Japanese Amateur Radio League.
3. Country Level – Here operators in other countries need to concentrate on a specific country – for example the CQ-VU contest by ARSI – In such contests there are no points available for scores for QSOs within the organizing country
4. Club Level – Certain clubs organize international contests to popularize the activities of their organization with additional bonus points for contacting members of their club. It also gives their members an opportunity to get on the air and be the target for DX contacts.

Good Operating Practices

There are certain ethics to be followed when you participate in contests.

1. Know who is operating or OWNING a frequency. If you hear a station call CQ or having a QSO – contest or general – do not start operating over them. You may not be heard or you may not be able to hear others calling you. If there is a general qso going on – do not butt in asking for a qso for the contest. The very fact that they are chatting during a contest means they are not interested in the contest. This we have seen plenty of times during our local club contests on 40m. This is best avoided.
2. Listen carefully before you call a station. You will know if he is calling or working specific areas. Especially in international contests, there are certain periods or openings as they are called between specific continents where bonus points may be available for both and the operator will be trying to maximise his score. He may not hear you or he may ignore you. Either way you will be spending time when you can actually look around for others to work.
3. Do not contact the same station again – Duplicates do not carry points in the contest. This is where logging software can help – the callsign if entered again pops up an alert. Of course, you can work the same station on other bands – that is allowed.
4. A very good source of the all the contests over the year is www.contestcalender.com. It gives you a very detailed listing of almost every single active contest in the world. It also gives you a brief of what the contest

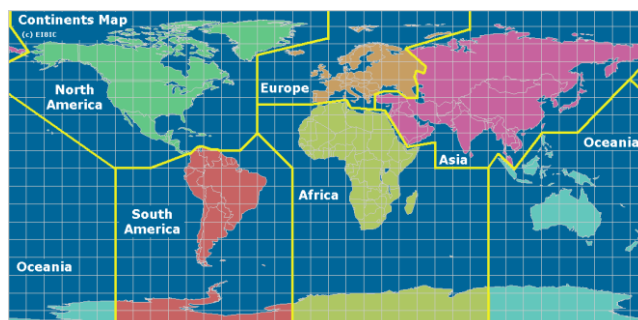
is all about – The date, the start & end time in UTC, The Geographic focus, Who can participate, Contest Mode, Bands, categories of entries, The exchange that is to be used, The scoring formula, log submission end date, and the link to the website of the organizer for the complete rules of the contest. This is very exhaustive. Of course, we have VU2TS – who sends out a post on the ARSI group reflector every week on the major contests taking place for the coming weekend.

5. If you make any QSOs in a contest – even if it is just for fun/casually – ensure that you send in your log entry to the organizer. This is very important as your logs are required to verify other log entries. Some contests have penalties for unsupported log entries. Paper logs need to be posted before the due date also. The date stamp is the criteria for acceptable logs. Nowadays almost all major contests require the logs to be submitted in Cabrillo format – a computer format which has just the basic details when compared to the adif format. I understand there is a software available for contest managers who can import all the received Cabrillo logs and can get the results almost instantly – of course they also run random physical log verifications for unique callsigns reported, too many local QSOs reported, use of online spotting services for making QSOs – which will go as assisted category, etc. Also major contests have stopped using paper logs as valid entries for prizes and paper logs are used as check-logs – i.e., to verify the other serious contesters. So if you intend to have your logs listed as a valid entry – you will need to use a logging software to generate the required Cabrillo logs.

Above all – enjoy the contesting experience. Don't make it a burden on yourself. Test yourself out. Test your equipment out. Test your operating skills. The lesser number of errors you make – the better and more accurate you can be when you handle a pileup – either as a DXer / Dxpedititioner or you want to be a worthwhile operator during real emergencies when you need to grasp and reproduce the received messages in one go.

That is the brief about contesting.

This is Madhu VU2MUD signing off, 73



Why the 'inclination' in a satellite orbit?

A rocket has to travel at a certain minimum speed to overcome Earth's gravity and enter space - this is known as the 'escape velocity', and it is 11.2 km per second. In other words, a rocket needs to travel at 40,320 km per hour or more, to escape Earth's gravity and enter space. Speeds under this will take the rocket up to a certain altitude and promptly bring it back to Earth due to Earth's gravitational pull.

Earth's atmosphere extends right up to about 400,000 kilometers but it begins to get very thin even at 100 kilometers up where aircraft cannot sustain flight; this is known as the "Karman Line" beyond which is considered outer space for all practical purposes.

Earth is rotating on its axis west to east at the rate of one revolution per day. This makes the surface of Earth at the equator move at 1,670 km per hour. The speed slowly reduces as we proceed higher or lower from the equator because Earth is a sphere..

Launch pads are located as near to the equator as possible to take advantage of Earth's rotation. Florida is 27° above the equator and California is 36°, Baikanor is at 46°. But Sriharikota, on the other hand is only 13.7° above the equator. The launch site of the European Space Agency at Kouru in French Guyana is still better, lying on 5° north of equator.

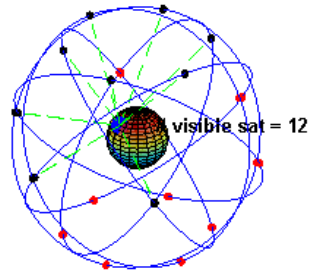
At Sriharikota, for example, the Earth's surface is moving at 1,622 km per hour, whereas in Florida and California where NASA has launch pads, the speed is 1,487 km and 1,351 km per hour respectively. At Baikanor in Russia, it is only 1,160 km per hour. At Kouru the Earth's rate of rotation is fastest, the surface moving at around 1,650 km per hour.

This means, the rocket with the satellite and the full payload - ready to launch in Sriharikota is already moving at 1,622 km per hour – of course, we don't notice it because everything else including us – is moving along with it at the same speed. However, when a rocket is launched from Sriharikota, the rocket gets a 'push' by the Earth's rotation, and the needed escape velocity is that much less, saving on fuel. Remember, for the kind of weight the rockets carry, even an increase of speed by 1 km per hour means extra energy and so extra fuel requirement.

If a rocket is launched to orbit the Earth on the equatorial plane, then the inclination is zero. But satellites in low earth orbit and medium earth orbit over the equator are useless because they pass over the same locations on every orbit.

That's the reason why satellites are launched on a **polar orbit** – meaning they orbit the Earth perpendicular to the Equator, on a north-south-north path, and as the Earth rotates below, the satellite covers every point on Earth. But a satellite on a truly polar orbit will have an inclination of 90° and will need the maximum energy for launch.

However, even a satellite with inclination up to 50° will cover the entire earth, and so satellites are launched with a certain inclination as they can use the Earth's rotation to help boost them into orbit. The International Space Station, for instance, orbits at an inclination of 52° and this makes it easy for the cargo vessels and astronaut ferry spaceships to be launched either from the U.S. or from Russia.



Summer Camp For Learning Morse Code

PRAGATHI FOUNDATION, in co-ordination with JANASTU, another NGO have Organized a Summer School for a duration of 10 Days starting from 10th July.

The Rural students surrounding Devarayana Durga in Karnataka who have pioneered under Stewardship of Shri Girish, in Running a Community radio using Old coin Phone Booth, old School Geometry Boxes, providing free WiFi facility for interaction with the Radio station "NAMADU 1 RADIO" airing cultural, Programs, Quiz , interactive sessions with local villagers. <http://www.namdu1radio.com/>

For this Summer with a new concept of Summer school is being Organized for a period of 10 days. On completion the participants will be allowed to lead & conduct the next program for 10 days.



Under the Leadership of Shri Girish, Ham Radio Classes for the participating students is planned so as to enable the students of Rural Background to understand the Hobby Ham Radio, assisting Civil Administration during Natural calamities, during the failure of available established mode of Communication like Landline, Cell Phone, Internet Servers down or getting overloaded.

In this Juncture a low budget Buzzer Key used for teaching Morse Code by Laxman VU2LAU of Shivamogga – sponsored by Mr Shan Of Mysore have extended Supporting hands to Mr Girish and making this Program a Grand Success.

Padnekar – VU3CFR talking about ham Radio to young students in Girish's summer camp.



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