

## No trumpets – No fireworks – None of the usual fanfare

For bringing in the New Year!

The COVID-19 pandemic has made 2020 a challenging year for all the inhabitants of our fragile planet.

Whether you like it or not, you need to acknowledge that

# 2020 WON!

## **HAPPY NEW YEAR!**



## CONTENTS

- 3 President's message
- 4 From the editor's desk
- 5 VHF Hilltopping and National Field Day
- 7 ARC Gwalior conducts Field Day
- 9 News from Pune, Maharashtra
- 12 History of Lamakaan Radio Club Repeater VU2LCH By Prashanth VU2PSQ
- 14 100 Years of voice ARRL
- 15 How to find distance to horizon by Ganesh VU2TS
- 16 Activation of KAPU Lighthouse, Udupi by Ajoy VU2JHM
- 17 Youngest YL hams of Karnataka

New Amateur VLF Record

Scuba Ham Award



## **President's Message**



## Importance of QSL Cards

The exchange of QSL cards by radio amateurs is a practice that is almost as old as Amateur Radio itself. It started as reports of distant reception by postcards, at a time when two-way contacts over long distances were rare and the reports were valued as evidence of a mutual communication. Over time it became a social gesture -A QSL is the final courtesy of a QSO".

The term "QSL" comes from the international Q code and means "I confirm receipt of your transmission". A QSL card is therefore a written confirmation. The sending of QSL cards dates back to the 1920s when AM radio broadcasts were still a novelty and stations wanted to know how far away, they were being received.

According to some references, the first QSL card was sent in 1916 from 8VX in Buffalo, New York to 3TQ in Philadelphia in the USA. Another instance of a first was in Europe when W.E.F. "Bill" Corsham, 2UV, operating from Harlesden, England first used a QSL card in 1922. (www.electronics-notes.com)

Most countries with large amateur radio populations have a QSL bureau. QSL bureau enables cards to be sent in bulk from sender to recipient. The sender sends a bundle of QSL cards to the national bureau. Here they are sorted along with cards from many other stations. Again, they are sent in bulk to the destination country and again sorted by the recipient station. When sufficient cards have accumulated to be sent to the recipient, they are mailed to him / her. As cards have to wait until sufficient cards have accumulated for them to be sent at each stage, it can take many months for them to arrive. It is not unusual for replies to take a year or more, and so patience is definitely needed when sending cards via the QSL buro.



In India, we receive about a thousand QSL cards into our bureau from various countries. The outgoing cards we receive at the bureau from our members are considerably less. A few prefer to directly send the cards to other bureaus if they are very active dxers.

In recent times, electronic QSLing has replaced the bulk of the QSL cards as hams have switched to LOTW and eQSL, which are easy to verify for awards. The courtesy of sending QSL cards will however continue as some of us still love to display them on our walls and have them in our albums.

73, de Ramesh Kumar VU2LU

## From the Editor's Desk



We're at the start of a new year and a new decade. We are in a new solar cycle too; let's hope that things will look up on all fronts in the coming years.

The hill-topping and National Field Day is around the corner; I hope there will be a good number of entries. In case you didn't know about it, check it out – the details are included in this issue.

The new solar cycle is picking up; the sunspot number went up to 37 recently. Through last year, the Sun was blank for a total of 208 days, and record was 2019 with 281 spotless days – that is 77% of the year.

Band conditions remain poor with sporadic openings on 15 and 40 meters.

73 - Best wishes for 2021; get on the air!

Ganesh VU2TS



## VHF HILL-TOPPING AND NATIONAL FIELD DAY

## Event:

Last weekend of February every year Saturday 0330 UTC to Sunday 1230 UTC (Saturday 9AM IST to Sunday 6 PM IST). Total contest duration is 33 hours.

## Date: 27th & 28th Feb 2021

## **Registration:**

Registration is mandatory to participate in this event.

Details of the team-lead whose callsign will be used for operation, along with a **scanned copy of the valid Amateur Radio Station License** has to be sent along with 6-character Grid-Square location and category of operation. Please send all details to contests@arsi.info

Important: The operators have to strictly adhere to their emission mode and power output in accordance to their category of license.

## **Objective:**

To promote hams to go out to remote places such as hills, beaches etc. and establish stations to communicate with other hams in the country. This can be treated by individuals as emergency preparedness, serious contest, and experimentation of antennas or just picnic with friends. However, winning the contest will require smart search of the locations and preparations.

#### Categories:

Category A – HF Bands: 160, 80, 40, 20, 15, 10 M Category B – VHF, UHF & 6 M Category C – HF, VHF, UHF & 6 M

#### Rules:

- 1. Any number of teams can be participating from a single Grid Square. Such team should internally sort out on the exact station location. ARSI will not intervene in any issues surfacing due to team conflicts
- 2. Each station should take local authority permission if required to operate and make their own arrangement to stay. Local authority permission and stay is the responsibility of the team and not ARSI
- 3. Only one callsign should be used for a team. For Example: VU2LU, VU2GGM, VU3HPG. While in the contest, only leader call which has been declared to the contest manager in advance, should be used for the station by all the operators.



## 4. Multiplier points :

I. Multiplier for UHF and VHF: A distance Multiplier of 1 for every 10 Kms distance between each station will be computed as the Distance Multiplier. The distance multiplier shall be computed from the Grid Location exchanged between stations.

II. 6m, VHF and UHF contacts earns 1, 2 & 3 QSO points respectively, for each Grid-Squares they have contact with (other than their own grid-square).

III. For HF, each QSO with "VU" hams is 1 QSO Point and DX hams is considered as 2 QSO points

IV. No points for contacting via terrestrial repeaters

V. Solar or Battery operated station will earn a multiplier of 1.1 on their total score. Proof of activity should be justified with photos.

VI. Station staying outdoors with camping gears will earn a multiplier of 1.2 on their total score. Proof of activity should be justified with photos.

VII. Stations placing Ham Radio promotion banner and inviting school children or VIP guests will receive 25 points. To qualify for the points, Team should send photos of the station with the guests along with log.

5. Stations operating from home will be considered under a different (Home Station) category.

6.Stations should exchange and log grid-square of the location for VHF, UHF and 6 mtrs.

7.On HF bands (160, 80, 40, 20, 15, 10) exchanges are normal signal (RST) reports.

8.**QSO logging should be UTC time only**. Log submission will be due in 15 days time from the contest conclusion. All logs should be converted to computer readable format and sent. No paper logs will be accepted. Logs to be sent as email attachments to contests@arsi.info The subject of the email should be only the callsign of the team-lead/individual. The log file name should also contain the team-lead / individual's callsign.

This event is open to all valid licensed Radio Amateurs in India.





## Amateur Radio Club Gwalior conducts FIELD DAY

A FIELD DAY was conducted by **Amateur Radio Club Gwalior VU2GWL** in association with **Institution of Engineers of India, Gwalior Chapter,** between 19<sup>th</sup> and 20th December 2020. The field day QTH was Devalaya Resort, 22 km away from Gwalior.

The purpose of the *field day* was to spread awareness of amateur radio as a hobby while at the same time, provide on-hand experience to interested youngsters - in the setting up a wireless station, erecting antennas for various bands and operating the station.



It was a successful event as 50 professors and faculties of different institutions and the university participated in it.



In the morning the program was inaugurated by Sant Kripalsinghji, Chief Guest and President of Amateur Radio Club, Gwalior. During the inauguration the Chief Guest



had a communication on air with OM Dattaji VU2DSI, Ahmedanagar. All present there were happy to see the contact made on wireless. After the inauguration a Technical Session was organized. Shri R.K. Khetan VU2IG, member of I.E. India and Amateur Radio Club Gwalior, gave a detailed presentation on lonosphere, and an explaination of wave propagation and how long distance two way communications are carried out.

Next lecture was by OM Jayant Bhide VU2JAU on Satellite Communications.



The following members were present: OMs Kailash Agrawal, VU3CTP, R.K.Khetan VU2IG, Vishwakarma VU3EYU, Chaturbhuj Makhija VU3UHT, Sumit Agrawal VU3VFE, Sant Kripal Singhji VU3ODA, Jayant Bhide VU2JAU and SWL Anurag. All the hams present have given their support in setting up the station and putting up the antenna. The organizers are thankful to all.

The programme ended with lunch.





Pune Hams Field Day on 12/13 Dec 2020 at Joshi Farms, Rajgad Fort basement, (65 Kms away from Pune) was a \*Grand Success\* as all the activities planned were completed.

There were 12 Ham participants including YL & SWLs. The youngest one was Shrivatsa 13 to eldest VU2NDF OM Nandu 72 years old.We left home after Breakfast around 9:00 AM. We had our first break at McDonald on Bangalore highway for a cup of Tea and grouping. We started further journey in convoy using 145.00Mhz as calling frequency. There was \*No Mobile network\* once we left the high highway till the next day evening.

We reached Joshi Farm around 1:00 PM. Immediately after lunch installed G5RV All HF Band Antenna & Diamond X30 A VHF/ UHF Antenna. \*Pune Hams white Caps\*. were given to all for protection from Sunlight. PI refer below links for Antenna details:

https://www.electronics-notes.com/articles/antennas-propagation/dipoleantenna/g5rv.php

https://diamondantenna.net/x30a.html

**Star Gazing:** After dinner – Mangesh VU3OUM organised \*Star Gazing\* with his state of the art \*Star Tracker\* telescope.

Next Day on Sun13th Dec, the young team left early in the morning 6:30 AM for Rajgad Fort on "**Mission Hunting Pune Repeaters**". The team could hit VU2TED and VU2DYQ repeaters using a 'tape yagi' and Baofeng 5W handy. Thanks to Milind VU2MSB. Arjun VU2RYU and Dilip Bapat VU3UEL for monitoring.





Congratulations to the winners of the "Hunting VHF and UHF Repeater Award " – Monica VU3OPX and VU3OWZ Radhe with the team of SWLs.

The Sr Hams team at base camp were busy attending all morning 40 meter Nets

We started the Technical sessions after early lunch around 1:30 PM.





Om Mangesh VU3OUM demonstrated Diamond X30 VHF / UHF Antenna using \*MFJ 259B Antenna Analyser\*. He also Demonstrated RTL\_SDR dongle by receiving VHF signals. The ISS slow scan TV pictures were demonstrated on mobile phones using recorded pictures. The SWLs took keen interest in this project for monitoring Pune Hams morning VHF net. Mangesh also demonstrated \*FT8 mode\* on his IC7300. The 40 & 80 MTR was wide open early morning.

\*SWL Aniruddha Kulkarni, our Antenna expert\*, presented \*Smith chart software\* It is for any antenna matching with Transceiver.Very interesting inputs for using Antennas efficiently.

The program ended with Prize distribution. \*The chief guest was the youngest school going SWL Shrivatsa.

We all left for Pune around 4:00 PM after Tea & snacks..

With best regards & 73's

Vilas Rabde VU2VPR- Pune Hams

## SUNDAY TECH TALKS of Pune Hams are held on the first Sunday of each month.

Tech Talk on 01 November 2020 was by OM Ranjit Pendse VU3TOI and the subject was "Hombrewing the QO100 Satellite receiver"

Tech Talk on 06 December 2020 was by OM V.K.Arya VU2VAB from New Delhi spoke on "Rules and Regulations for the ASOC examinations as per Syllabus"

Tech Talk on 03 January 2021 was by OM Balasubramaniam VU2TBR on "Yet another Didital Mode – DVSwitch, DudeStar, DroldStar and Globetrotter.

## **PROMOTING HAM RADIO**

**Pune Hams (VU2RCP)** organized a public show at Tukai Temple, Baner hill, Pune – to demonstrate the reception of SSTV images transmitted by the International Space Station Sunday 27th December 2020 at 12:30 PM, This was a special occasion to celebrate the 20th anniversary of ARISS on board the International Space Station.





## HISTORY OF LAMAKAAN AMATEUR RADIO CLUB REPEATER (VU2LCH) AT HYDERABAD By Prashant (VU2PSQ)

The Lamakaan Amateur Radio Club's VHF repeater has very interesting history. Hyderabad had initially only one VHF repeater of the NIAR Club, but it was not very active for some time well into the year 2011-12. The Lamakaan Amateur Radio Club (LARC) members led by Ashhar Farhan (VU2ESE) decided to improve the Ham Activity at Hyderabad and had volunteered to host the Hamfest India 2014 (HFI 2014) at Hyderabad.

The LARC had an experienced team of Hams/ Home brewers/ experimenters led by the President of the Club- Mr. R Krishnamurthy (Rajan-VU2KNN), Paddy (VU2PEP), Sasi Bhushan (then VU3ELR-now VU2XZ), Sarath (VU3RSB now VU2RS), Dr. Naidu (VU2ZAB), Dr. Rajashekhar (VU2HMY). They were thinking of ideas to increase/ improve the VHF activity in Hyderabad. A unanimous decision was taken to have a Ham repeater of their own as a run-up to the Hamfest 2014.

And so began the story, Amarendra (VU2AAP) donated a Kenwood TKR-750 VHF FM repeater for use by the Lamakaan Club. A date was set for inauguration after formally having applied and received the licence from WPC, in the name of Farhan (VU2ESE) for the Lamakaan Amateur radio Club (LARC) and a 'Repeater Callsign' of VU2LHR.



Kenwood VHF FM Repeater



VHF Antennae for the Repeater

This is the Second Amateur Radio VHF repeater of Hyderabad (VU2LCH), which was inaugurated by Rajan (VU2KNN), the President of the LARC and an old timer on 08 Dec 2013, in the presence of Gopal Madhavan (VU2GMN), the then President of ARSI and Member of IARU from India, who had specially flown in from Chennai for the Annual Lamakaan Ham meet, almost a year prior to the Ham Fest India (HFI) 2014 to be hosted at Hyderabad. This one activity of the installation of a new VHF repeater by the Lamakaan Club definitely proved to be a great primer and build up to the Hamfest India 2014.





The group that was involved with the conception and installation of the VHF repeater VU2LCH at Banjara Hills at its first location. The repeater is now at its new location atop the Muffakam Jah or MJ Engineering College at Banjara Hills.

Lamakaan Amateur Radio Club (LARC) at Hyderabad has been very active in the last seven years and the installation of the new VHF Repeater way back in 2014 gave a boost to the VHF activity at Hyderabad. There are many experienced Hams who were instrumental in the formation of the club – Rajan (VU2KNN), Ashhar Farhan (VU2ESE), Paddy (VU2PEP), VU3RSB (Sarath) and Sasi Bhushan (VU3ELR) being the founder members of the club.

The Lamakaan Annual meet at Hyderabad is a great Amateur Radio promotion event happening regularly from 2014, sponsored by the Lamakaan members, which has a host of technical lectures, home brewing activities & demonstrations and eagerly looked forward to by Hams from all over India.

About the author: Air Vice Marshal PS Karkare (VU2PSQ) is serving IAF officer, who used to run the Sunday morning VHF Net on VU2LCH in the year 2014 for a year, while being posted at Hyderabad.





## **100 Years of Voice**

### "Hello!"

Not surprisingly, it was the first word to be heard over the radio a hundred years ago. From the time he was a young boy, Canadian Reginald Fessenden was fascinated with the idea of transmitting voice. Upon hearing his uncle describe Alexander Graham Bell's demonstration of the telephone, the 10 year-old reportedly asked, "Why do they need wires?" He then spent much of his life trying to figure it out.

His early attempts at voice transmission were unintelligible. With government backing, Fessenden, and his assistant Thiessen, kept trying various improvements until they met with success.



Fessenden formed the National Electric Signaling Company (NESCO) with a pair of Pittsburgh millionaires as backers after his contract with the government ended, and began working with the United Fruit Company helping perfect their wireless communication between land stations and ships at sea.

Reginald Fessenden's Workshop

With the powerful transmitters and antenna systems at this disposal, he began more earnest experiments in voice transmissions and in June 1906 successfully transmitted a message from his Brant Rock, Massachusetts office to a receiver at Plymouth, a distance of about 12 miles. Improvements to the antenna installations at Brant Rock continued through the summer with more successful experiments until Fessenden was certain the process would work properly.

Working in secrecy, he planned a surprise for a 9 p.m. broadcast on Christmas Eve in 1906. With the assistance of his wife and trusted employees, he scripted a program of music and Bible readings. Shipboard operators had been tipped to listen for something special during the December 24 transmission, but no one could have anticipated what was planned. At the appointed hour, radio operators across the North Atlantic were surprised to hear voice coming from their radios, calling "CQ, CQ". It was Fessenden beginning the first "radio" program. After a brief introduction, Handel's "Largo" was played from an Edison wax cylinder phonograph, followed by the inventor playing "O, Holy Night" on his violin. The planned Bible reading by Mrs. Fessenden and his



secretary had to be quickly covered by the inventor as the first reported cases of microphone fright and dead air occurred when both women froze.

After Fessenden's historic feat, thousands of inquisitive hobbyists began to experiment with this new-fangled technology called Radio. They were, and are still, called "amateur" radio operators. Commercial Broadcasting didn't begin for another 14 years after Fessenden's historic Christmas Eve broadcast. They laboured in attics, barns, garages and cellars to perfect what we now call radio.

In 1912, Congress passed the first laws regulating radio transmissions in the U.S. By 1914, amateur experimenters were communicating nationwide, and setting up a system to relay messages from coast to coast (This is where the name "ARRL - American Radio Relay League, and then The National Association for Amateur Radio" came from!). In 1927, the precursor agency to the FCC was created by Congress and specific frequencies were assigned for various uses, including the ones set aside for Amateur Radio.

## (Source: ARRL)

## How to find distance to horizon

You are aware that frequencies beyond the HF spectrum are useful only for 'line-ofsight' communications. So you are on a hilltop – or on top of a tall building carrying a 2 meter handie and want to know how far your signals will go if there are no major obstructions in a certain direction. There is an easy way to find out:

Find out your altitude – height of the building or the hill, whatever - and add the height of the transmitting antenna from the floor; if it is a handie, then it may be around 1.5 meters or so. If you are using a base station hooked to an external antenna, then find out he height of the antenna from where you are standing.

Let's say you are standing on top of a building that is 60 meters high, and are using a hand-held – so the total altitude will be 61.5 meters. Multiply this by 13 and find out the square root of the product, you will get the distance to horizon in kilometers.

So, 13 x 61.5 = 799.5 Square root of 799.5 = 26.27 kilometers

This is theoretical. But in practice, the signal may go over the horizon some distance. Furthermore, the distance will be doubled if the other station is also on an equally tall hilltop or a building.

The above calculation is only to find the distance to your horizon.



## Activation of KAPU Lighthouse, Udupi, Karnataka

Amateur Radio Lighthouse Society ARLHS is a organization that deals with this topic and their annual membership subscription is USD 15/- though there are few Indian in active members (*inactive members are also shown in their member roster*) https://www.arlhs.com



There are many occasions that the Special events are held annually for putting up Amateur Radio stations in or around the Lighthouses and Lightships around the world notably during Christmas holidays. The International Lighthouse and Lightship Weekend ILLW - another organization <u>https://www.illw.net</u> encourages lighthouse activity during the month of August – and the 15<sup>th</sup> happens to be our **Independence Day.** 

In India this activity of Amateur Radio at Lighthouse started officially in 2008 when we obtained permission from Directorate General of Lighthouse and Lightship DGLL and Archaeological Society of India to activate the Mahabalipuram lighthouse, and a special event call AT8LH was obtained from the WPC. This was a well published event. (*details on Qrz.com*). From then on, amateurs have activated several Lighthouses, with a few with the IOTA also...

This year during August, keeping the 2020 covid pandemic in mind, without crossing my state border I plan activation of Kapu Lighthouse which is 120 years old built on the rock touching the Arabian Sea - south of Udupi the ILLW IND 23. I look forward to co-operation of members in Manipal and Mangalore to take it further....

## 73, Lion Ajoy VU2JHM



## YOUNGEST YL HAMS IN KARNATAKA

Smrithi Hegde from Bengaluru and Prama Rao from Mysuru – both thirteen years olds and students of Class 8, recently obtained their tickets **VU3FNT** and **VU3FNV** respectively.

Congratulations to the young hams!

## **New Amateur VLF Transatlantic Record Set**

As someone said: "*Records and meant for breaking*". *VLF* enthusiast Joe Craig, VO1NA, reports that on 11<sup>th</sup> Jan 2021, Stefan Schaefer, DK7FC copied a 50-character message transmitted from Newfoundland on 8.271 kHz, with a radiated power of 10 mW. only.

"This is a new record for amateur transatlantic VLF," Craig told ARRL. "The mode used was EbNaut by Paul Nicholson. EbNaut is a synchronous coherent BPSK mode for use at VLF and low LF. Craig's tower supports a VLF RL (rotated L) 10-meter (33 feet) average height and 100 meters (328 feet) long. VLF is the ITU designation for radio spectrum in the range of 3 - 30 kHz, corresponding to wavelengths from 100 to 10 kilometers, respectively.

"Since VLF waves can penetrate at least 40 meters (131 feet) into saltwater, they are used for military communication with submarines," Craig noted.

ARRL News

## SCUBA HAM AWARD

DX Holiday introduces the SCUBA HAM AWARD, the diploma of **amateur radio scuba divers**, with the sponsorship of Mediterraneo DX Club.

**Participation:** any world-wide OM and SWL can participate.

Starts: 00:00 UTC on February 1st 2021

Ends: 23:59 UTC on February 28th 2021

**Bands:** 160 – 80 – 40 – 20 – 15 – 10 meters

Modes: SSB,CW, DIGITAL



**Calling:** SCUBA HAM's stations will call CQ Scuba Ham Award on phone, CQ Scuba on CW and DIGITAL.

**Score:** SCUBA HAM's stations will send RST report plus a letter indicating the scuba diver certification owned.

The category letter must be indicated on the NOTE row on your log.

Example: VU2JHM - SCUBA HAM station, will send 599 I to IK4XXZ on CW. IK5XXX is a diving instructor and the score is 6 points.

A Scuba Ham station may be worked once on each band and mode for a QSO point credit.

### Contacts on FM, via relay or packet radio are not allowed.

The final score will be calculated adding the score of each single contact.

Please follow the table for the score to each contact.

**Scuba Ham List:** all the amateur radio with a scuba diving certification can subscribe to the list, there is no time limit. Subscription is free of charge. Please fee free to send us a copy of your diving certification to our e-mail address dxholidayinfo@gmail.com.

**Certificates** PDF for all stations who will send a log.

Logs: electronic submission of logs is required for all entrants, in ADIF format. Dead line 15 March 2021. Filenames used must be: yourcall.ADIF

Full details: <u>https://www.dx-holiday.com/scuba-ham-award/</u>

Rules:<u>https://a37.veron.nl/wp-content/uploads/2021/01/SCUBA-HAM-AWARD-RULES-.pdf</u>

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