



## President's message



The Hill Topping Exercise turned out a disaster as WPC at the very last moment refused permission for temporary change of QTH for all restricted grade licensees. Initially all club licenses were also refused but they changed their mind.

This upset everything as WPC had been giving permissions all these years and some new officer seems to have traced some rule to deny permission.

ARSI has taken this up very strongly and the matter was again discussed at Delhi by me. We have received a note that the matter is under "active consideration".

ARSI also wrote to the Prime Minister about doing away with these obsolete and irrelevant regulations and have received a copy of a memo the PM's office has addressed to Secretary DOT to respond. Let us hope that something will happen soon.

We recommend that every ham writes to WPC demanding that mobile operation be permitted without any pre-authorization. This will generate some pressure.

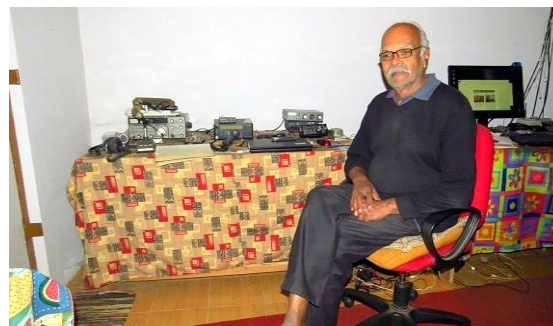
ARSI is also pursuing other issues but there have been changes in the WPC officials at the senior level

and so we have to start moving things again. This is very frustrating.

It is around this time that several clubs hold their ham fests. Kollam and Chickmagalur have already announced their dates. We expect a very good attendance at these gatherings.

73 - Gopal Madhavan VU2GMN

## From the Editor's Desk



We are currently over nine years into Sunspot Cycle #24. The current predicted and observed size makes this the smallest sunspot cycle since Cycle 14, which had a maximum smoothed sunspot number of 107.2 in February of 1906. Planning for satellite orbits and space missions often require knowledge of solar activity levels years in advance. Solar activity remained at very low levels and expected to remain at low levels the rest of the cycle.

Elsewhere in this issue I have included an article on "Solar Cycle Prediction" which I thought is useful information for all amateurs.

The FIELD DAY is round the corner – I hope to hear many of you QRV.

73 – Ganesh VU2TS



**The ARSI Annual *National Field Day* is scheduled for the weekend of 15 & 16 April 2017**

In the meantime, THE BANGALORE AMATEUR RADIO CLUB – BARC - conducted a field day during February last. Here is a report from the Secretary:

“Greetings to ARSI from the Members and Office Bearers of Bangalore Amateur Radio Club.

BARC successfully concluded the field day held over the weekend of 25th and 26th February 2017. The venue of the field day was the spectacular location of Devarayanadurga Hills, near Tumkur which is about 75km from Bangalore.

It was a very memorable event for the 23 hams and 4 SWL's who attended the field day. The venue had great scenic views to soothe the overworked brains of the hams, ancient temples to get the spiritual blessings of the Almighty to ensure good band conditions and historic fort to remind us of the past achievements of our forefathers.

It was a unique achievement that the stations were operable on all bands from 80m to 2m. There was an array of antennas starting with G5RV, Hex beam, Multiband dipoles, homebrewed and commercial verticals, inverted Vee's, Yagi for 6M and CP22 for VHF. There was no opportunity lost for making VU2ARC heard on the band as it was silent for quite a few years due to conditions imposed by WPC against shifting of club stations locations. CW, SSB and for the first time, *Digital* modes were also operated with newcomers latching onto it like eager beavers.

Special thanks to OM Ramesh Kumar - Secretary of ARSI and Govind Girmaji- Treasurer of ARSI for their presence at the event. We also would like to thank ARSI for graciously agreeing to loan the band pass filters to enable multiband operations simultaneously. Our thanks the team of OM Srivatsa VU2AE, Shashidhar VU2TKO, Ramesh Kumar VU2LU and Vivek VU3JHK for their

invaluable support in helping setting up the Digital Station.

As much as there was food for the soul - food for survival was also required. Thanks to team of OM Hariharan VU3HEA, Srinivas Shenoy VU3NIX, Harsha Girimaji VU3HPG , Anand VU3USG for providing all the members a homely lunch which was well appreciated and relished enthusiastically.

Our President OM Ram Mohan VU2GRM ensured that all of us partook in the delicious Puliyoogare home brewed by his XYL .

BARC thanks all those stations who took time off from their busy weekend and made themselves free to establish contact with the field day station and helped us make it a successful event.

73 and best wishes,

P. Kiran Kumar  
VU3PKE  
Secretary,  
Bangalore Amateur Radio Club



**QUILON – KERALA**

The **World Amateur Radio Day** is celebrated every year on 18<sup>th</sup> April to commemorate the formation of International Amateur Radio Union (IARU) on that day in 1925 at Paris. The QARL celebrates the event every year on 18<sup>th</sup> April or the nearest Sunday by conducting Ham fair. This year the program will be held on Sunday, the 23<sup>rd</sup> April. Lake City Contest and VHF Fox Hunt are also conducted in connection with the Amateur Radio Day celebrations.

A special issue of 'QARL News' will also be published on this occasion. You are requested kindly to

contribute articles and advertisements well in advance.

On behalf of the QARL, we invite you along with your family and friends to participate in the program and make it a grand success.

Looking forward for a memorable eye-ball.

P.Surendran VU2SYT – President  
Nishant A.K. VU2MOE - Secretary  
K.G.Nadarajan VU2KGN - Patron

## QARL 21st Kerala VHF Fox Hunt

22<sup>nd</sup> April 2017 – 3.00 PM

Starting at: QAC Ground, Near Lal Bahadur Stadium, Kollam

Fox hunt is open to all hams and SWLS. The CSD rolling shields will be awarded to the team leaders of the first three winning teams, in addition to cash awards and certificates.



*This year the first prize is a **VHF handy transceiver sponsored by Vimal, VU2VML** in addition to the prizes mentioned above.*

## LAKE CITY CONTEST

The Lake City **contest** was conducted from 5.00 P.M on 11/3/2017 to 5.00 P.M on 12/3/2017. The contest was on 40M band only, CW and SSB.



## HAM FAIR, 2017

Venue: Ferns Hall,  
Kochupilammood, Near Beach,  
Kollam

**Date: 23/4/2017**

10.00 AM: Registration of delegates

11.00 AM: Inauguration by

**Shri N.K.Premachandran,**

**Hon'ble Member of Parliament**

*Prizes of winners of Lake City Contest and 21<sup>st</sup> Kerala VHF Fox Hunt will be awarded in the function.*

**Exhibition:** 12.30 P.M to 4.00 P.M

*(Exhibition and sale of new as well as used wireless equipment and components are arranged)*

## **PUNE, MAHARASHTRA**

The VU2PHA Radio Team & the PUNE HAMs & AMATEUR RADIO CLUB (VU2PHQ) had organized a combined **Fox Hunt and Field Day** on Sunday 15th January 2017 at DSK VISHVA, VADGAON DAHERI off Sinhagad Road, Pune.

It was a full day program and 22 ham radio operators & SWLs participated in the event. Among them were three amateur radio operators from **TEAM MARI** (Mumbai) who drove all the way to Pune to show solidarity with PHARC & to participate in the event. The participants were divided into teams consisting of two persons each. Three rounds of the fox hunt were conducted during the day long program. The winning teams in each of the fox hunts were given prizes.





The momentum to this event was built up by the **Tape Yagi Antenna workshop** that was conducted during the September and October 2016 at the monthly eyeball QSO of the club where the participants constructed their own yagi antennas and learnt about it. The foxhunt helped them understand about the practical aspects of a yagi antenna.

The fox used at event was a very low powered transmitter designed and homebrewed by VU2ASH Ashok Joshi especially for this event.

The event was very enjoyable and a learning experience for all.

Attached is one of the many comments we received. This one is from Kiran Madane /VU2MXE of Mumbai.

***It was truly a great event and very well planned, Excellent execution by vu2PHA Radio Team. Team means Team...this is what is called as \*"TEAM"\****

Each one from VU2PHA Radio team was allocated a separate task to manage and responsibilities were executed excellently without interfering with others tasks.. Truly it was a great execution by vu2PHA Radio Team..

For more photos and information do visit our page at : <https://www.facebook.com/punehams>



Was held on Sunday, 5th MARCH, 2017, at the PHARC Club STATION - VU2PHQ c/o MQTH of VU2UPQ / Udaya Patil in the Cantonment Area, Pune.

VU2NP/ Dosu Paymaster, and VU2DNP/Veera Paymaster who were visiting Pune and their son SWL Cyrus Paymaster who lives in Pune attended the eyeball QSO.



Besides discussing the advantages and limitations of the BITEK radio, there was a lengthy discussion on Dipole antenna, a sloper and an inverted V antenna and on the various types of materials that can be used as end connectors and about home brewing of the center piece.

Almost all the candidates who had appeared and passed the ASOC exam held in August 2016 at the PHARC Club Station VU2PHQ have received their licenses and many of them have started coming on air.

A regular VHF Net, the PUNEree VHF NET is conducted every Saturday evening @ 2200 hrs IST on 145.100Mhz by the members of PHARC. One can also access the Pune Repeater on 145.100Mhz (+600) and check in to the net. For photos and updates about the club activities you can look us up at: <https://www.facebook.com/punehams>



## BITEX 40 Workshop

Ham Radio license holders in Pune, who passed their exam in August 2016 & got their Amateur Radio Operating licenses recently, participated in a workshop conducted by the PUNE HAM'S & AMATEUR CLUB (VU2PHQ) to assemble the BITEX 40 HF Radio kit that started on 19th March 2017 and is being conducted over three Sundays.

The BITEX 40 Radio kit is been designed & is supplied by Ashar Farhan VU2ESE.

At the workshop, 10 kits were assembled under the guidance of our Elmer OM Ashok Joshi / VU2ASH at the PUNE HAM'S & AMATEUR CLUB Station VU2PHQ c/o MQTH of VU2UPQ. The project coordinators are VU3MXE /DEVENDRA VISHVAKARMA & VU2SFJ /SHRINIVAS N.



73 on behalf of **VU2PHA Radio Team & the PUNE HAM'S & AMATEUR RADIO CLUB (VU2PHQ)**

**-Udaya Patil / VU2UPQ - +919823026567**

## ASOC EXAMS HELD IN PUNE



The Amateur Stations Certificate (ASOC) Exam was conducted by a team of officers from Borivli monitoring station, at VU2DYP Ham Radio club station of **AJEENKYA D.Y.PATIL UNIVERSITY**. The club station has sanction of VHF & UHF Repeaters - VU2TED & VU2DYQ. 28 people attended:

(1) ADYPU - Members VU2DYP Ham Club;

(2) Teachers of Pawar Public school, Hinjewadi.  
Thanks to visionary Mr Devendra Kumar, Principal

(3) A team from Ahmednagar, (VU2DSI students)

(4) JSPM Engineering collage Professors (starting a project of Ham band Micto satelite)

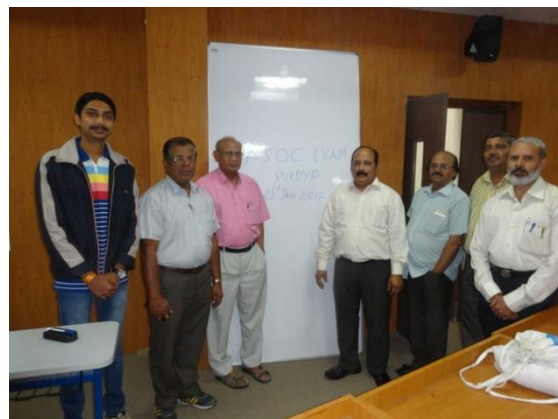
(5) Pune Hams. Visually handicapped swl Dilip Bapat also appeared along with a writer.



10 students of St Mary School did not attend due to the date clashing with school exams.

Special thanks to VU2MSB, OM Milind Bhagvat & Mr Laxmikant Hase for their wonderful support. Thanks to Engineering collage staff members Mr Riyaz Kazit and Mr Manish Patel who coordinated the students activity.

Another batch of 30 candidates is ready for ASIOC. Planned the Exam next month



ADYPU's Engineering students are excited, and we propose to start BiTX Transceiver project very shortly.

73,

Vilas-Rabde,VU2VPR

+919822502078

JUST HEARD FROM VILAS VU2VPR as News Flash

### 26 STUDENTS PASS THE ASOC EXAMS

Our congratulations to all; hoping they receive the licences very soon! Good work, Vilas!

## Eyeball QSO with Hams

Eleven hams and SWLs of Pune and gathered at Hotel Kollage, near the Film Institute on 5<sup>th</sup> March, 2017 for their monthly eyeball, over a cup of Tea.

The meet started with welcome to OM Shripad Kulkarni SWL (Recently appeared for ASOC) and VU2MPC Praveen Magar.

OM Shripad is Radio enthusiast and runs "Shripad Radio" a Web Radio for 24 x 7 Hindi Music Channel:

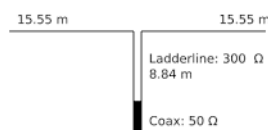
<http://shripadradio.airtime.pro>

He has a very good collection of vintage Radios.

OM Praveen is an old timer and was with Brahmakumari, Mount Abu. Praveen runs his Industry manufacturing innovative Water heating system where atmospheric heat is absorbed.

The discussions started on G5RV all band HF Antenna. VU2VPR demonstrated a commercial **MFJ-1778 G5RV WIRE ANTENNA**.

As most of you are aware, the G5RV antenna is a dipole with a symmetric resonant feeder line, which serves as impedance matcher for a 50 Ohm coax cable to the transceiver.



It Covers all bands, 160-10 Meters with an antenna tuner. 102 feet long, shorter than 80 Meter dipole. Use as inverted vee or sloper to be more compact. Use on 160 Meters as Marconi with tuner and ground. Handles full legal limit power.

VU2VPR also demonstrated tiny Chinese make 25W VHF/UHF FM Transceiver BASE STATION which was liked by all the Hams. The signal reports are very good from all the Hams. It is a cost effective solution for new Hams costing just Rs 7.5 K.

At present VU2VPR is operating BiTx with 45W WA2EBY Linear Amplifier pushing 30Watts



QRV in all the morning nets, the reports are encouraging for audio quality from most of the VU stations and net controllers. The dds VFO is performing with excellent frequency stability.

The youngest, SWL Arvind, student of VIT Collage of Engineering shared his Super capacitor based Elevator project. Very innovative approach for Elevator control by students. Pune Hams will extend full support to OM Arvind who has also appeared for ASOC recently. The one hour meeting ended with the group Photo.



The next meeting will be on 2nd April at OM Shripad's QTH to witness his Radio collection.

-O-O-O-O-

**Here is a letter received from Vilas – VU2VPR:**

*Hello VU Friends*

*I was in Alibagh – close to Mumbai - on vacation recently, and had an opportunity to visit SWL Dilip Bapat 's QTH. I must appreciate, the excellent hospitality rendered by his family.*

*SWL Dilip (58) who is visually handicapped, listens to most of the Hams on 40 and 20 meter bands with his whip antenna hooked to a tiny Sony make communication Radio. He monitors at least three nets at a time using 3 such Radios and exchange signal reports calling on mobile phone. He is very famous on most of the nets on 40 Mtrs. His 80 year old mother is equally keen to monitor and can recognise Ham voice. His passion for radio dates back to 1975 and he has a very good collection of Radios.*

*OM Dilip is active on Hamsphere and made more than 700 QSOs. He is now preparing for ASOC exams.*

*OM Dilip worked for the State Transport Alibagh Depot, and is a drama enthusiast and has participated in several dramas and TV serials. He also acted in few Marathi movies.*

*I am sure with his strong will power and perseverance, he will get his ticket come on the bands shortly. All the best to Dilip ki.*

## **Pune Hams meet OM Klaus DL4TD**

The meeting started with special announcement for DL4TL on web Radio **Shripad**. The SWL and now Ham Shripad Kulkarnin made several Welcome announcements which are heard by more than 200 listeners world over.

SWL Kausthubh Tamhane demonstrated his homebrewed Morse Key.



The workmanship was appreciated ex Radio Officer OM Ronny VU2CBR & Klaus.

*OM Klaus is on business tour to India. He is expert Automotive Electronic Engineer working on ABS controller for **KNORR-BREMSE Technology Center India Pvt Ltd**. Earlier he was with Bosch. He is regular visitor to Pune India and next visit will be in May 17. I am arranging a presentation on "Electronics behind ABS" & "Ham Radio activity in Germany" at ADYPU Club station VU2DYP during his next visit.*

OM Klaus' home QTH is Nuremberg, a city in northern Bavaria, He is active with his ICOM 706 with 3 Element beam. The Nuremberg Hams meet every Saturday & Klaus attends the meetings whenever he is not on tour. OM Klaus is avid sailor too, and has undertaken several long distance expeditions in his sail boat. The first remarkable sailing was in 1983 from the Caribbean to Germany.



73

**Vilas Rabde VU2VPR**

## BHOPAL, MADHYA PRADESH

**MANIT College** of Bhopal has set up a VHF/UHF station for Satellite tracking and as a project for the college students. We all know 24 students have cleared the ASOC exam and now waiting for their licenses. We can see a student Miss Aishvarya and Ishita along with their teacher Ms Sangita testing the station on VHF. The test was successfully done in guidance with om Jayant S. Bhide VU2JAU, who has frequent visits to MANIT for the same purpose. They all are expecting ISRO team to visit in near future. All students are working on AZAD satellite.



We are fortunate that the activity of HAM Radio in Bhopal is taking momentum as on 25 March professor of Womens Polytechnic College Bhopal has shown her interest to have an expert lecture in their electronics department. Jayu VU2JAU along with Mata Sharan VU2NB, one of the oldest HAM of 88 years age having received his license in 1965 and Manish VU2EH provided all the details of HAM Radio and its advantages to students. OM Sharan VU2NB shared his experience during the Bhopal Gas Tregedy in 1984 along with few Mumbai HAMs who provided their services. The students were thrilled to learn about the situation of Bhopal Gas tragedy. He also stressed to work on Home brewed

work and shown a small X-Tal CW transmitter which was the best show.



We can take advantage of real old timer like om Sharan VU2NB. OM Manish gave an idea to work on digital communication for the advancement of HAM Radio with new technology. He also helped in providing live communication with om Jayu VU2JAU.



We also had with us Retired Telecomm Engineer from Railway, who also share his experience on microwave signal used in Railway. It was an unique experience to the students to get maximum knowledge on a single platform. I am thankful to OM Sharanji VU2NB and OM Manishji VU2EH for their coordination and cooperation. We hope the HAM Radio activity will reach to its height.



## HAM Radio in SIRT, Bhopal

A program on HAM Radio was conducted at **Sagar Institute and Research Technology**, Bhopal on 27/02/2017. B.E. Third year EC branch students attended the program. Prof. Sangita Shukla along with other faculties managed the event where Jayant S. Bhide VU2JAU was the main speaker to motivate the students. Many future workshops have been discussed which will be conducted soon in the Institute. A training to prepare for ASOC Exam will also be organized soon where students and many faculties will appear in the exam.

## GWALIOR, MADHYA PRADESH A.S.O.C. Exam results

Gwalior ASOC exams was held on 7 July 2016, results declared in Feb 2017. Total 50 candidates filled the forms, 40 appeared for the exams, 29 Passed in Restricted-grade.

13 from Bhind, 3 from Etawah, 2 from Agra, 1 from Banda and 11 from Gwalior. Congratulations to all those passed in the examination.

Amateur Radio club Gwalior organized a program on 24/02/2017 at The Indian Institute of Travel and Tourism, Gwalior to distribute ASOC Examination results to those who passed the examination. 11 candidates from Gwalior, 2 from Agra and 3 from Etawah were present. Gwalior Commissionaire Shri Rupalaji along with Director Shri Kulshresthji, IITTM Gwalior graced the occasion. Jayu VU2JAU, om Tuniya VU3TNG, Durgesh VU3DUB, om Kailash VU3CTP, om Shubham VU3SXN, om Sumit VU3VFE and om Avinash VU3XAY along with many Computer Society of India Gwalior Chapter were present.



## Workshop in Kendriya Vidyalaya Training Centre, Gwalior

On 31 December 2016 a workshop on HAM Radio was conducted in ZIET, Gwalior. 54 teachers attended the workshop and shown their keen interest in HAM Radio activity and have assured to start the HAM Radio activity in their schools.

From the first day of year 2016 till end of 2016 I have enjoyed the whole year extremely well and tried to educate people about HAM Radio and Disaster Communication around Gwalior and other cities. Many new HAMs are coming on the air as I am also preparing them to bring on VHF as well as on HF. Over all it was a nice 2016 year for me.

**73 de Jayu S. Bhide VU2JAU Gwalior**



Throughout the year, Jayu VU2JAU was instrumental in spreading knowledge on **HAM Radio** across the state - from Patana, Jagannath Puri, Amravati, Pachamarhi, Bhopal, Datia, Bhandar, Indergarh, Ratangarh and many more. He has conducted several classes for the preparation of ASOC exams in addition to organizing examinations.

**ARSI congratulates Jayu VU2JAU and appreciates his sincere efforts to promote Ham Radio!**



**WELCOME TO MUMBAI AMATEUR RADIO INSTITUTE – MARI – VU2BPA - as an institutional LIFE MEMBER of the AMATEUR RADIO SOCIETY OF INDIA – ARSI.**



MARI had organized an ANTENNA BUILDING WORKSHOP at Don Bosco Institute of Technology, Mumbai. Around 50 engineering students along with the faculty actively participated; several VHF yagis were built.



Team MARI received the club callsign VU2BPA from the WPC. The inauguration was on 26 July 2016 by the youngest member of the team MARI - Shri Padma Bhushan Dr.V.P.Singhania (Honorary) Air Commodore, IAF



On this particular event, team MARI also felicitated the honorary life membership of Mumbai Amateur Radio Institute (MARI) to Dr.V.P.Singhania and OM Ashok Joshi/VU2ASH. OM Ashok is an avid home-brewer and chief mentor to Team MARI.



## SOLAR CYCLE PREDICTIONS

A new model of the Sun's solar cycle is producing unprecedentedly accurate predictions of irregularities within the Sun's 11-year heartbeat. The model draws on dynamo effects in two layers of the Sun, one close to the surface and one deep within its convection zone. Predictions from the model suggest that solar activity will fall by 60 per cent during the 2030s to conditions last seen during the 'mini ice age' that began in 1645.

It is 172 years since a scientist first spotted that the Sun's activity varies over a cycle lasting around 10 to 12 years. But every cycle is a little different and none of the models of causes to date have fully explained fluctuations. The sun's north and south magnetic fields can be thought of as waves of magnetism that flow at about 60 feet/second from the equator at sunspot maximum to the poles at

sunspot minimum, and back again to the equator at the base of the convection cell. At sunspot minimum they are equal and opposite in intensity at the poles, but at sunspot maximum they vanish at the poles and combine and cancel at the sun's equator. The difference in the polar waves during sunspot minimum seems to predict how strong the next sunspot maximum will be about 6 years later as the current returns the field to the equator at the peak of the next cycle.

Sunspots are formed continuously as the Sun's magnetic field actively moves through the Sun. Sunspots often have poles ("polarity") like the south and north poles of magnets. The sun's magnetic field changes polarity approximately every 11 years - the solar cycle. Scientists have put the cause of the solar cycle down to a dynamo effect caused by convecting fluid deep within the Sun. Now, scientists have discovered a second 'dynamo' close to the surface.

Consequently, the magnetic wave components appears in pairs, originating in two different layers in the Sun's interior. They both have a frequency of approximately 11 years, although this frequency is slightly different, and they are offset in time. Over the cycle, the waves fluctuate between the northern and southern hemispheres of the Sun. Combining both waves together and comparing to real data for the current solar cycle, the scientists found that their predictions showed an accuracy of 97%.

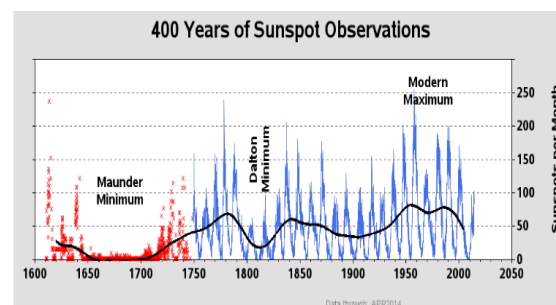
Looking ahead to the next solar cycles, the model predicts that the pair of waves become increasingly offset during the next Cycle - #25, which peaks in 2022. During Cycle #26, which covers the decade from 2030-2040, the two waves will become exactly out of synch and this will cause a significant reduction in solar activity.

In cycle 26, the two waves exactly mirror each other -- peaking at the same time but in opposite hemispheres of the Sun. Their interaction will be disruptive, or they will nearly cancel each other. The scientists predict that this will lead to the properties of a 'Maunder minimum'. Effectively, when the waves are approximately in phase, they can show

strong interaction, or resonance, and we have strong solar activity. When they are out of phase, we have solar minimums. When there is full phase separation, we have the conditions last seen during the Maunder minimum, 370 years ago.

Apparently such a minimum has some effect on HF communications – the bands are a lot quieter now than it was a few years ago, Hi I can only conclude that it does not have any significant effect on radio communications; I also see that scientists are more worried about the effects on climate. A lot of research is going on in this field.

Would love to hear from anyone who has more information on the subject.



73 / Ganesh VU2TS

## Learn Morse code semiconsciously

Learning Morse code, with its dahdidahdit rhythms of dots and dashes, could take far less effort—and attention—than one might think. The trick is a wearable computer that engages the sensory powers of touch, according to a recent pilot study. The results suggest that mobile devices may be able to teach us manual skills, almost subconsciously, as we go about our everyday routines.



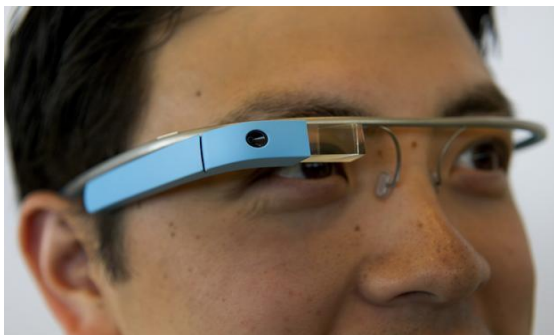


Ph.D. student Caitlyn Seim and computer science professor Thad Starner of the Georgia Institute of Technology tinker with haptics, the integration of vibrations or other tactile cues with computing gadgets. Last September at the 20th International Symposium on Wearable Computers in Heidelberg, Germany, they announced that they had programmed Google Glass to passively teach its wearers Morse code—with preliminary signs of success.

For the study, 12 participants wore the smart glasses while engrossed in an online game on a PC. During multiple hour-long sessions, half the players heard Google Glass's built-in speaker repeatedly spelling out words and felt taps behind the right ear (from a bone-conduction transducer built into the frames) for the dots and dashes corresponding to each letter. The other six participants heard only the audio, without the corresponding vibrations.

After each run of game playing, all the players were asked to tap out letters in Morse code using a finger on the touch pad of the smart glasses; for example, if they tapped “dot-dot,” an “i” would pop up on the visual display. The brief testing essentially prompted them to try to learn the code. After four one-hour sessions, the group that had received tactile cues could tap a pangram (a sentence using the entire alphabet) with 94 percent accuracy. The audio-only group eventually achieved 47 percent accuracy, learning solely from their trial-and-error inputs.

The work shows that “it is possible to teach a system of typing without the user paying much attention to it,” Starner says. Passive haptic learning could help users quickly master new text-entry methods for accessory keyboards or an eyes-free, Morse code-like system of taps on a smart watch, he adds, noting: “That might really change how people use mobile and wearable devices.”



The results are also “exactly congruent” with other effects of passive haptic learning that the researchers have found in past studies, Seim says. For example, the group has developed computing gloves that deliver vibrations to the fingers to teach the “muscle memories” for playing a piano song or typing Braille.

Although it was small scale, the experiment demonstrates how wearable computers could permit users to “go about your daily business—and while you do that, you can get information to actually learn things,” says Paul Lukowicz of the German Research Center for Artificial Intelligence, who was not involved in the study. Now if only listening to Mandarin in your sleep could impart fluency.

*By Ingfei Chen | Scientific American February 2017 Issue*

*Pics: Getty Images*

## HAVE YOU HEARD OF THE RaDAR CHALLENGE?

The **RaDAR 'Challenge'** is a unique event aimed at promoting the use of **Rapidly Deployable Amateur Radio stations**.

Categories may be changed at any time during the challenge. The points system is so structured as to encourage portable RaDAR operations especially moveable RaDAR stations.

RaDAR operators are encouraged to be self-sufficient during each challenge, with not only power supply and communications equipment but food, water, protective clothing and shelter, not forgetting the first aid kit.

The first RaDAR Challenge for 2017 takes place on Saturday 1 April from 00:00 to 23:59 UTC, but each radio amateur can decide his or her maximum, single period, four-hour activity. All amateur bands are allowed including cross band contacts via amateur radio satellites. Modes - CW, SSB,

AM, FM or any legal digital mode. The exchange is your call sign, your name, a RS or RST report, your QTH and grid locator.

Information about the scoring, multipliers, bonus points and log sheets can be found on page 26 of the 2017 Blue Book. Are you going to take up the challenge?

[The South African Radio League](#)

*I included this news item from the South African Radio League - it may be tried out in VU also as it will be very useful in case we need emergency communications at any time. Ed/*

## Netherlands get 5 MHz

The Netherlands State Gazette for March 28, 2017 announced that on April 1 Dutch radio amateurs will have the new 5 MHz band, agreed upon earlier at the WRC-15

The World Radio Conference 2015 allocated 5351.5-5366.5 kHz to the Amateur Service with a maximum permitted transmission power of 15 Watts EIRP.

## Hong Kong now on 5 MHz

The local telecommunication authority in Hong Kong, OFCA, has now allocated 5351.5-5366.5kHz to the amateur radio service on a secondary basis

## Franz Josef Land

Members of the **Russian Robinson Club** (RRC) are planning their next Arctic operation from Franz Josef Land. Look for **RI1F** to be active from Victoria Island (EU-190) sometime late September (26th or 27th was mentioned). This island group has never been activated before. I think this is in CQ ZONE – 2. Dxers' dream, Hi

Activity will be on various HF bands. They plan to have up to 12 operators.

QSL via ClubLog's OQRS or by the Bureau. Their Web page is still under construction.

## USA ham radio allocations at 472 and 135.7 kHz

**ARRL** says: It's been a long time coming, but the Amateur Service in the USA will get two new bands in the near future

The FCC on March 28 adopted rules that will allow secondary Amateur Radio access to 472-479 kHz (630 meters) and to 135.7-137.8 kHz (2,200 meters), with minor conditions.

Read the ARRL story at <http://www.arrl.org/news/new-bands-fcc-issues-amateur-radio-service-rules-for-630-meters-and-2-200-meters>

## School closes so students can attend ham radio event

A school in the city of Xenia, Ohio will shut on Friday, May 19 so the students can attend the amateur radio Hamvention

The Xenia High School site says:

Xenia will welcome Hamvention to our community for the first time ever this year. Hamvention will be taking place May 19-21. Since this is the first year of Xenia hosting it, we want our students to have the opportunity to take advantage of all of the sessions associated with this program.

We also anticipate a large number of people from outside the city coming to Xenia for the convention. Thus, the Board of Education has decided to cancel school on Friday, May 19th. Teachers will be involved in professional development programs on this day.

We are excited about what Hamvention can mean to our city. Additional information will come regarding student tickets to the convention and any other opportunities that may be available.

Source <http://www.xenia.k12.oh.us/News/15508>

***This is the kind of encouragement every country needs to give to Amateur Radio!! Ed:/***

## AMATEUR RADIO ON ISS



The **ARISS** team took a giant step closer to flying the new ARISS Interoperable Radio System to the International Space Station, having met a major milestone.

Lou McFadin, W5DID, and Kerry Banke, N6IZW, traveled to the NASA Johnson Space Center (JSC) in Houston, Texas, in mid-February for preliminary testing of Banke's breadboard version of the ARISS Multi-voltage Power Supply. The two worked alongside JSC engineers and JSC EMC lab personnel, putting the specially built power supply through its paces, checking against US and Russian space specifications for Power Quality and Electromagnetic Compatibility (EMC) preliminary tests.

The result: Outstanding news-the ARISS Team can move on to the next step, fabrication of prototype and flight units. The JSC engineers disclosed that the ARISS breadboard power supply was the first hardware to have passed all of the space agencies' tests! They said the very professional ARISS Team certainly knew hardware development and design.

ARISS-International Chair Frank Bauer thanked Banke and McFadin for the multiple days spent putting the unit through the serious battery of NASA and Russian preliminary electrical tests. Banke expressed pleasure with the results: "I was looking to come away with what we needed to move forward. We achieved that." He was impressed with the support he and McFadin received from the testing group, and said key players on those teams who are also ham radio operators, commented that they find equipment brought in that is supported by ham radio operators, to earn particularly good

marks. McFadin asserted that the Multi-voltage Power Supply's fine test results are due to ARISS's team working very well together and being very experienced.

The completed testing of the breadboard unit means McFadin can now purchase expensive space-certified parts so the final prototype/flight power supplies can be fabricated. He and Banke now know that when the final, even more rigorous tests are done, the units will pass with flying colors.

Watch for more news stories on the hardware and the fundraising campaign to help support the costs associated with designing, building, and testing the new ARISS radio system-the Kenwood D710GA and Multi-voltage Power Supply. Those wishing to contribute toward the final fabrication and flight tests are highly appreciated and asked to go to the AMSAT website, [www.amsat.org](http://www.amsat.org), to click on the "ARISS Donate" button. Or visit the donation page on the ARISS website, <http://www.ariss.org/donate.html>

Source ARISS News Release 17-04

Frank Bauer, KA3HDO was on the Ham Talk Live podcast discussing ARISS and the gear aboard the ISS. The link to the podcast is: <http://www.spreaker.com/user/hamtalklive/episode-55-ham-radio-on-the-iss-with-frank-bauer>

## HAVE YOU HEARD OF THE VUCC AWARD?

No, it has nothing to do with VU/India. This is the VHF/UHF CENTURY CLUB award for making contacts with a hundred or more GRID SQUARES

The ARRL VUCC Award is the most prestigious and sought after award for satellite operators. The award is what inspires all of the roving activity here in the United States and around the world. The Central States VHF Society sponsors the reverse VUCC award for rovers who operate in 100 or more grids away from home.

[www.arrl.org/vucc](http://www.arrl.org/vucc)





## AFTER JT-65 - HERE'S OPERA

Opera is the name given to a relative new digital mode in 2012 created by **Jose Alberto Nieto Ros**, who has the ham callsign of EASHVK.

So, here's my experience of this interesting mode. Maybe it will tempt the absolute new bod to dip his/her toes hi.

Opera, a weak signal mode on the general lines of WSPR, is basically meant for propagation study. That is to say, it is primarily a beacon mode. However, many people, including myself, find it a fascinating way of seeing how distant their signal can be received, especially when only operating qrp. 5 watts being the general norm. As I love all things data I couldn't resist dedicating a page to Opera. As the mode itself is being constantly updated I will try to update this page accordingly. Download the latest copy of Opera here - <http://rosmodem.wordpress.com/> with an associated operating guide (A bit dated but may be helpful) by Andrew O'Brien (K3UK) here <http://www.obriensweb.com/operaguide.html> If this mode turns you on, then please consider joining the O\_P\_E\_R\_A Yahoo group and the Opera Facebook group.

Tnx: Southgate ARC News

**Amateur radio, a key wireless communication facility, is little known among the public, and remembered by administrators only in times of disasters. Can we change that?**

**I have noticed almost everyone writes 73s or 73'es. I don't know why. 73 is "Kind regards" - already plural - so 73s will be "Kind regardss" and so on. Just remember '73' will do nicely, Hi**



## OFFICE BEARERS

### President

Gopal Madhavan VU2GMN  
"Shreyas Apartments"  
128 Greenways Road, Chennai 600028  
Phone: +91(44) 2493 7724  
e-mail: [president@arsi.info](mailto:president@arsi.info)

### VICE PRESIDENT

Ved Prakash Sandlas VU2VP  
C-9 -9109, Vasanth Kunj  
New Delhi 110070  
Phone: 91 (11) 2613 2130  
e-mail: [vicepresident@arsi.info](mailto:vicepresident@arsi.info)

### HON. SECRETARY

Ramesh Kumar VU2LU  
Care of: Linux Learning Centre Pvt. Ltd  
635, 6<sup>th</sup> Main Road, Next to Bank of India  
Hanumanthanagar, Bengaluru 560019  
e-mail: [secretary@arsi.info](mailto:secretary@arsi.info)

### TREASURER

Govind Girimaji VU2GGM  
36, Purna Sneha Colony  
Chikkal Sandra, Bengaluru 560061  
Phone: 91 94484 90465  
e-mail: [treasurer@arsi.info](mailto:treasurer@arsi.info)

### EDITOR

T.S.Ganesh VU2TS  
B.R.HILLS, KARNATAKA 571441  
Phone: 91 99450 25607  
e-mail: [editor@arsi.info](mailto:editor@arsi.info)

### QSL MANAGER

Ananth G.Pai VU2PAI  
Post Box 730  
Mangalore 570003  
Phone: 91 98441 13030  
e-mail: [qslburo@arsi.info](mailto:qslburo@arsi.info)

### Monitoring Systems Co-ordinator

B.Manohar Arasu VU2UR  
MIG-6, 80 feet road, KST, Bengaluru 560060  
Phone: 91 93426 67388  
e-mail: [monitoring@arsi.info](mailto:monitoring@arsi.info)

### Contest & Awards Manager

Deepak Pathak VU2CDP  
Post Box 9730, MUMBAI 400066  
Phone: 91 9820762216.  
e-mail: [contests@arsi.info](mailto:contests@arsi.info)

### The address of the Society to which all correspondence is to be sent:

Ramesh Kumar VU2LU  
Care of: Linux Learning Centre Pvt Ltd.  
635, 6<sup>th</sup> Main Road, Next to Bank of India  
Hanumanthanagar, Bengaluru 560019