Amateur RADIO Society News

Newsletter of The Amateur Radio Society of India (Member of IARU)
October 2013 Issue

President's message

Dear members

A new team was elected to administer ARSI for the next two years at the AGM held in Pune. A lot of new initiatives is on the cards for the following years.

I was extremely sorry that I had to miss out on attending the Hamfest organized by VU2JAU OM Jayu and his team. From all reports it was outstanding and kudos to Jay and his team. A detailed report appears in this issue.

ARSI was present at the Hamfest and a number of new members joined up. Certificates were distributed to the winners of the various HF contests held during the past year and for the first time a "contester of the year" award was presented, which went to OM Chandra VU2RCT from Mangalore. We expect a greater participation in the next year and we will fine tune the rules for the contests also.

I am just returning home after attending the IARU Region 2 conference in Cancun, Mexico. It was an unusual experience as the conference is conducted in Spanish with simultaneous translation into English. It was well attended and a very good experience.

We welcome comments and suggestions from our members on ARSI activities and programs.

73, de Gopal Madhavan VU2GMN

From the Editor's desk

Two big events took place during the last quarter – The General Body Meeting of ARSI at Pune, and the HAMFEST at Gwalior. The Editor congratulates the freshly elected office bearers, wishing them all the best. You have seen the comments by the visitors to the HAMFEST – everyone was very happy and unanimously consider the event a memorable one. Congratulations to Jayu/VU2JAU and his team. The venue for the next HAMFEST is Hyderabad.

Band conditions are poor as ever – with sporadic openings now and then. We are supposed to be in the SOLAR MAX just now, but it is more like the MINIMUM so far – according to reports, this is the weakest solar max in hundred years!

I guess I need to stop asking members for articles/news!

Best wishes to all for the festive season…

73 de Ganesh VU2TS
October 2013

As you are already aware, ARSI's General Body meeting was held on September 15 at Pune; here's the list of office bearers for 2013-15

President	: Gopal Madhavan, VU2GMN
Vice President	: Ved Prakash Sandlas, VU2VP
Secretary	: Ramesh Kumar, VU2LU
Treasurer	: Govind 'Poru' Girimaji, VU2GGM

The ARSI General Council

Pai - VU2PAI
Chandru - VU2RCR
Sanjay - VU2SJD
Chandra - VU2RCT
Jayanth - VU2JAU
Aravind - VU2ABS
Rajaram - VU2KKZ

Good luck to the new office-bearers; let's help them keep the ARSI banner flying high!!

Amateurs get a peek at the MARS ORBITER

The D-day is just round the corner for the Indian space program as the MANGALAYAAN (or Mars Orbiter) readies to head for the skies later this month. The unmanned orbiter weighing 1350 Kg, will cover a distance of 400 million kilometers in about 10 months before entering the orbit of the Red Planet.

As a part of its mission, Mangalayaan will study Martian atmosphere. With the help of several scientific instruments on board, it will look for evidence of origin, evolution and sustainability of life on the Red Planet.

Once in Mars orbit, communications with the craft will take 20 minutes each way; it has many components of in-built autonomy to correct itself. The ISRO has developed its own navigation software.

AMSAT INDIA together with UPAGRAH AMATEUR RADIO CLUB obtained special permission from ISRO/ISITE to visit their establishment and see the MARS ORBITER.

Nitin/VU3TYG reports:

Thirteen Radio Hams + 1 SWL VU3TYG, VU3NXI, VU3HCJ, VU2GUR, VU3DON, VU3JBA, VU3SPD, VU2RMS, VU3SXE,VU2TKX, VU3BJZ, VU2GZ, VU3UNO, SWL Pampati) assembled at ISITE in Bangalore at sharp 9.30 AM on 27th September and were greeted by Mani, VU2WMY.

After completion of mandatory security procedures we were escorted to a conference room. Mr. Madhusudhan Rao, DGM, ISITE greeted us and after a quick round of introductions appreciated the contributions of Amateur Radio and seemed to well aware of the hobby. He explained to us the activities that happen at ISITE and he also showed us an animated video of how the MARS orbiter was built and mission objectives.

Mr. Chinnadurai (VU2DUC), Engineer took over from here and escorted us to the clean room viewing area where we saw satellites under various stages of construction, he also explained the activities that are done in a clean room and answered questions from the visitors.

Mr. Jagadesh Babu (VU2WAH) , Deputy Manager, ISITE escorted us to the vibration test viewing area and there we had the first glimpse of the MARS Orbiter which was setup for vibration testing, he explained in simple terms giving some good examples why vibration testing is such a critical pre-launch task before the spacecraft leaves the facility for launch. He also escorted us to the acoustic test area and explained why acoustic testing is a very important pre launch activity, this is the first and the last time we will see a door weighing 220 tons used to seal the acoustic chamber. We also were awe-struck when we saw the entire acoustic chamber placed on huge springs to handle the vibrations and isolate from the rest of the building. This was a very interactive session with some good questions from the visitors.

Mr. Vijai Senthil, Engineer showed us how Nitrogen is used for acoustic testing and the huge horns which are responsible for the testing.

On the way out from the Acoustic test building we were met by Mr. Aravindakshan, DGM, Facilities Group who made us aware of the objective of the MARS mission and answered some questions.

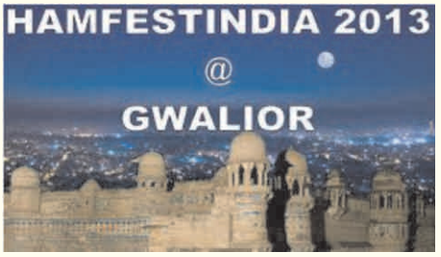
I would like to thank Mani, VU2WMY for organizing this visit in very short notice as getting last minute approvals may at time's will be difficult and also for explaining how the MARS orbiter will reach its orbit. Thanks to all those at ISITE mentioned above who spared their valuable time to explain in detail and patiently listen and answer our queries.

Bottom Line - We got more than what we were looking for in this visit and this will linger in our minds for a long time.

Lastly- Wishing ISRO and all those involved in this project all the very best for a successful launch and deployment of the MARS Orbiter.

73 Nitin [VU3TYG]

HAMFEST INDIA 2013 GWALIOR



It was a wonderful feeling for all of us in here in North India and especially in Gwalior when HAMFEST India 2013 was allotted. It was a big task to make it successful as it is being hosted for the first time in this part as well as how much support we will get from fellow hams.

Preparations started from December 2012 itself. Since the venue was no problem i.e. Atal Bihari Vajpayee IIITM, one of the

renowned colleges of our country was already decided. The 35 M.Tech. students joined HAMFEST India 2013 team. The students did a wonderful job looking after the entire event from registration, distribution of kits, welcoming, Exhibition, hospitality, catering, sight seeing etc

Another feather in HFI2013 cap was due to Gwalior Glory High School, who steered the ship from day one to the end, efficiently. Principal of the school Mrs. R. Sawant and their teachers along with smart children did fantastic job by doing expert anchoring of program and supporting on all other fields of venue. Gwalior Glory High School also provided their buses to move delegates from hotels to venue and back including sightseeing around Gwalior.

It was great experience to work with all new and young gang of people. We have presented an example to make the HFI successful with new faces. They all are motivated by Amateur radio hobby and now planning to appear in the ASOC exam.

Gwalior engineering College and State Bank of India supported equally well for the HAMFEST India 2013 in Gwalior.

Kudos to the main persons who worked hard were OM Kailash Agarwal Ex VU4KC, OM Aniket VU2LOL, Harsh Chaturvedi VU2HRR, OM Caudhery VU3SLX, supported by Avinash Ashtikar , Dr. Kumar, OM Vivek Joshi, OM Aditya Ashtikar, Om Prakash Bhise and team of Ashok Radio (Amit and Sumit).

A gathering of around 500 delegates from our country and two from Nepal had come together to participate in the event. Registration counter was well efficiently look after by complete team under the guidance of OM KailashAgarwal Ex VU4KC.

Exhibition, Transportation was well handled by OM Aniket VU2LOL and OM Harsh Chaturvedi VU2HRR, Catering, Media coverage and Emergency medical cell were looking after by OM Vivek Joshi and OM Dr Kumar.

Senior amateurs as well as past conveners of the previous HAMFESTs were felicitated. Awards were distributed to the winners from officials of Amateur Radio Society of India.

A counter for ARSI membership growth was installed in the exhibition where OM Poru VU2GGM and OM Ramesh VU2LU were looking after inquiries and membership enrolments.

Kenwood Diamond and other companies had displayed their products.

The Inaugural function started with Mr. A.K. Gupta, D.G.M. State Bank Of India Gwalior as

Chief Guest, Mr. Amar Sharma Director Gwalior Engineering College as Guest of honor and Mr. H.M. Gupta Head of Dept. Electrical, IIT New Delhi as Key note Speaker along with OM Jayant S. Bhide VU2JAU Chairman and OM R.K.Khetan VU2IG Secretary on the dais.

Gwalior Glory High School Children recited Saraswati Vandana as the invocation. All the dignitaries were impressed by the arrangements and praised it in their lectures.

Exhibition was also inaugurated and guest had a round and inspected each stall. Stalls were well decorated by their products. Guests had shown their keen interest in the exhibition as 22 different stalls were installed.

In the evening sightseeing program was organized as buses were kept ready to those who were interested. Those who did not make it enjoyed the entertainment program by school children.

The dinner was started at 8.30 p.m. and all delegates enjoyed delicious food on all three occasions.

The second day, in the valedictory session, Mr. S.G.Deshmukh,, Director ABVIIITM was the Chief Guest who was very happy to the gathering of all HAMs and the way HAMFEST was organized . He also arranged a tree planting program around the venue where OMPoru, OM Atanu. OM Rajan , OM Dosu and others planted Ashoka tree saplings.

Eye ball QSO contest winners were awarded prizes. ARSI officials also awarded certificates to the winners of the contest held earlier.

The next HAMFEST proposals were opened and there were three contenders. Kolkatta, Bengalooru and Hyderabad were given chances to present themselves. In the end voting was done and Hyderabad received the maximum votes and next HAMFEST was awarded to OM Ashhar Farhan of Hyderabad.

Thanks to all the delegates who attended the event and I hope there will be more opportunitiesto meet in future.

73 de Jayant Bhide VU2JAU

WILDLIFE WEEK

The first week in OCTOBER every year is earmarked as the WILDLIFE WEEK in our country. Likewise, the second week is celebrated as NATIONAL WILDLIFE REFUGE WEEK in U.S.A.

Amateur Radio operators can help to let the public know about the National Wildlife Refuge System by operating from refuges during National Wildlife Refuge Week October 13-19, 2013 (radio operators mark the event from October 12 until October 20), highlighting refuge features, wildlife and geography while contacting other stations across North America. The goal for participants is to combine their communication skills with their enjoyment of the outdoors to help others learn about the National Wildlife Refuge System. Authorized, safe, responsible access to refuges is sanctioned by this event. New this year, hams also may operate from wildlife refuges, areas or preserves managed by any state, territory or Canadian province. Those planning to operate from a National Wildlife Refuge must obtain permission from the refuge manager and submit operating plan to have their operation listed on the website. Hams experienced in operating from refuges are available to answer questions.

SPACE WEATHER RADIO - QRT

As a result of indiscriminate "sequester" budget cuts by the government, the USAF Space Surveillance Radar is being shut down by the end of September. Anticipating the shutdown, their radio engineer Stan Nelson is changing frequencies. According to Stan:

“Readers have asked what this means for SPACE WEATHER RADIO. For years we have been broadcasting Space Surveillance Radar echoes from meteors passing over the facility.

I have erected a new 50 MHz 4-element beam antenna for the Digital TV carrier of 54.310 MHz and have it feeding the receiver at SpaceWeather- Radio.com," he explains. “The echoes we hear now will be TV signals bouncing off the ionized trails of meteors. I will be experimenting with the direction and signal strength over the next couple of days, so stay tuned."

Formerly known as NAVSPASUR, the Air Force Space Surveillance Radar transmits 800 kW of continuous-wave (CW) radio power into an east-west oriented fan beam at 216.98 MHz 24 hours a day. The radar's primary mission is to track satellites and space debris for the US Space Command. Meteors, satellites and space-crafts passing overhead reflect the signals back to earth.

It can detect objects as small as 10 cm orbiting 15,000 km above the earth's surface. Stan offers these details: "I'm currently tuned to 216.97927 MHz. using (USB) Upper Side Band on a ICOM R8500 receiver. The antenna is a 13 element yagi pointing east with a 15 degrees upward tilt. The receiver audio is sent to a ACER PC (Vista Windows) line input. The audio is encoded running Edcast using AAC at 16Kb. I have a 20 db. pre-amp at the antenna feeding about 50 ft of RG8.

MOBILE HOMES ON THE AIR

They are also known as CARAVANS, CAMPERS and RVs [Recreational Vehicles]. I thank Rolf DK4XI who sent us the introductory mail with the help of which I was able to gather some more info on the new and exciting group of amateurs: A community intended to bring together the amateur radio mobile home drivers and their families.

Rolf said: Community of interest in amateur radio mobile homes; Amateur radio in the camper is on the rise. The RV parks are almost full. And all have radio on board. All are QRV on 2m,70 cm and HF. Many also send APRS positions.

[FYI: WOMO is Wohn Mobile - German for mobile home]

There are groups in Europe, UK, France, Germany and USA. Based on Rolf's information, I was able to gather the following information from Jim N5RTG who is an avid camper.

"Welcome to the International RV Service Net, an amateur radio club affiliated with ARRL. We are amateur radio operators traveling the country in RVs, hosting radio nets, or at least interested in RVing. We welcome all appropriately licensed hams to join us for our daily nets.

We enjoy keeping in touch with one another. We pass messages to our members out on the road. We host a number of rallies, allowing us to get together for face-face QSOs. In addition to this Internet site, our members receive our newsletter to bring more detailed information about our activities to the membership.

A non-profit organization sponsored by the Wally Byam Caravan Club International (WBCCI), the purposes of the club are: (1) service to the public, (2) furtherance of public welfare by relaying messages via ham radio in time of need and emergency, (3) promotion of education and interest in the sciences of amateur radio, and (4) promotion of fellowship and goodwill among all radio amateurs and the public.

If you are a licensed ham and either travel in an RV or are interested in RVing, please consider joining the RV Service Net and helping support this friendly club. You can't meet a friendlier or more welcoming net.

SPECIAL EVENT STATIONS

Often you see mails posted by me on the ARSI Reflector with the subject line "SPECIAL EVENT STATIONS". To the Radio Amateur, any event is an event worth celebrating or commemorating; be it historical or current affairs, of international or local importance – a Radio Amateur somewhere will want to set up a Special Event Station.

A Special Event Station is, quite simply, a temporary Amateur Radio station set up to publicize an event. This is one way to let the public learn about this wonderful hobby. For example, during the second weekend of August this year, Ajoy/VU2JHM led a team to Puducherry [formerly Pondicherry] to set up a special event station with the call AT1LH

Puducherry Lighthouse Activated

Ajoy/VU2JHM along with Laxman/VU2LX and Arasu/VU2UR was QRV from the lighthouse in Puducherry [formerly Pondicherry] through the second weekend of August 2013 – which happens to be the International Lighthouse-Lightship weekend. Band conditions were not favourable, but that did not deter Laxman and Arasu from logging some 1,200 QSOs.:

HAVE YOU TRIED JT9?

This weak-signal mode can give little gun stations big gun results.

Sometime ago, Lucky/VU2LBW told me about a new mode he was trying very successfully – the JT9 - and he was all excited. Why? Because he was using only 1W output and working long-haul DX.

If a quick conversation with someone far away while running minimal power to a simple antenna is your type of fun, JT9 is worth a try.

Joe Taylor, K1JT, is the prime mover behind the JT series of modes, known for his Arecibo moon-bounce fame and other accomplishments. [1993 Nobel Laureate in Physics]. Some of the old timers may remember Joe was visiting Raman Research Institute, Bengalooru - and met our VHF group back in the eighties and talked briefly on his activities at Arecibo, properly stunning us with the information! [The Arecibo antenna is 350 meter diagiving a 60.2db gain on 430 MHz and 52 db on 144 MHz]

Joe originally developed the JT series of weak signal communication modes for UHF and VHF moon-bounce and meteor scatter transmissions. He has built upon these to develop JT9 for HF and MF. JT9 makes it a pleasure to work very weak, low power stations thousands of miles away.

An intro to JT9 with reference to the more popular JT65 on HF

JT65A has been developed for weak signal communication on HF bands. It is an off-shoot of the WSJT modes (such as ISCAT, JT65B and JT65C) that are popular amongst EME, meteor scatter and VHF dxers. A JT65A signal occupies about 170 Hz of bandwidth on HF and typically, one is able to have a qso with received signal strengths as low as –25dB. Typical output power recommended for this mode is between 5 and 30 watts. 30 watts is QRO for this mode!

JT9 is a highly optimized version of the WSJT suite of modes and has been developed for HF communications. JT9 signals typically have a bandwidth of <20Hz. A 2 kHz spread of frequency can accommodate about 200 JT9 signals without overlap! JT9 qso's are possible with 1 watt or less of output. Often, the signal is hardly discernable through the speaker of the radio and cannot be seen clearly on the "waterfall", but the software can decode it 100%!

JT9 Equipment requirements

In order to enjoy JT9 dxing, it is imperative to have a transceiver with a very stable VFO. More than 2 Hz of drift during a transmission will result in no decodes at the receiving station. The other parameter that is critical to JT9 operations is that your computer has to be time synchronized to within 100 milliseconds. This is easily accomplished by installing Dimension4 or Meinberg NTP software on your computer. Needless to say, you will need an internet connection for periodic time-sync to happen.

A note about your computer – It is recommended to install and run the <WSJT-X> software on a computer that has a fairly recent generation CPU. JT9 is processor intensive as it attempts to decode every JT9 signal available in the audio passband of your transceiver. The time period available for decoding is 10 seconds in a cycle! It is also

recommended that you do not use the on-board sound card as the noise floor of these devices is usually high.

The transceiver-computer interface needs to provide the two basic functions of interfacing audio in and out of the transceiver to the computer, provide a PTT signal to the transceiver and optionally, provide an interface for CAT commands between the transceiver and the computer. Known products are the <microham> and <Signalink> interfaces. A homebrew interface will suffice too as long as you can avoid ground-loops for the audio.

A note on audio levels that are recommended for JT9 (as well as JT65A) – Audio output from your computer should be adjusted to ensure that the ALC indicator on your transceiver just begins to rise. Higher audio levels will distort your signal on the air and you not be decoded by the receiving station.

Add-on Helper Apps

The operating experience on JT9 can be enhanced by adding on applications which will assist and aid on-the-air as well as logging and frequency control. A couple of very popular applications that work with WSJT-X have been developed by Laurie/VK3AMA and are distributed free. One is <JTAlert> and the other is <JTMacros>. JTAlert helps you track the stations you need and provides you a multitude of options like spot counts, qrz.com lookups, and audio alerts that will help to add to the JT9 experience. It allows you to interface with popular logging packages like <DXKeeper> and < HRD>. JTMacros provides you additional text messages that you can use during a qso. JTAlert and JTMacros have a huge following and can be found at http://www.ham-apps.com.

Reverse Beacons

Reverse beacons give you a live snapshot which part of the world your signals are being decoded. Two popular reverse beacon sites are <pskreporter.info> and < hamspots.net>. Pskreporter.info aggregates spots on numerous modes and supports JT9 too. WSJT-X can be enabled to send data on stations you have decoded along with their signal strengths and can be visualized on the graphical display on the site. Hamspots.net is developed and managed by Laurie/VK3AMA and provides spotting info for JT9, JT65 and various digital modes. JT9 spots can be filtered and seen in single, double and three-band pages. A section also lists the stations that have spotted your signals. Both sites are invaluable aids that bring a new dimension to your dxing.

A word about weak signal operations

The first thing to mention is that weak signal operation is not similar to QRP work. Weak signal modes like JT9 allow you to decode extremely low power signals with ease. The transmitting station is not necessarily a low power station. Weak signal modes allow you, with the help of advanced compression and decompression algorithms and digital signal processing, to be able to make qso's with a modest ham radio station. Weak signal dxing is highly rewarding if you can setup your station with good antennas, a sensitive receiver, sufficient computing power and good RFI and EMC suppression. With an optimal station, it is also possible to make qso's at qrp levels. A good example is making a QSO with Equador with a power output of 400mW from India!

JT9 and JT65 operations from India

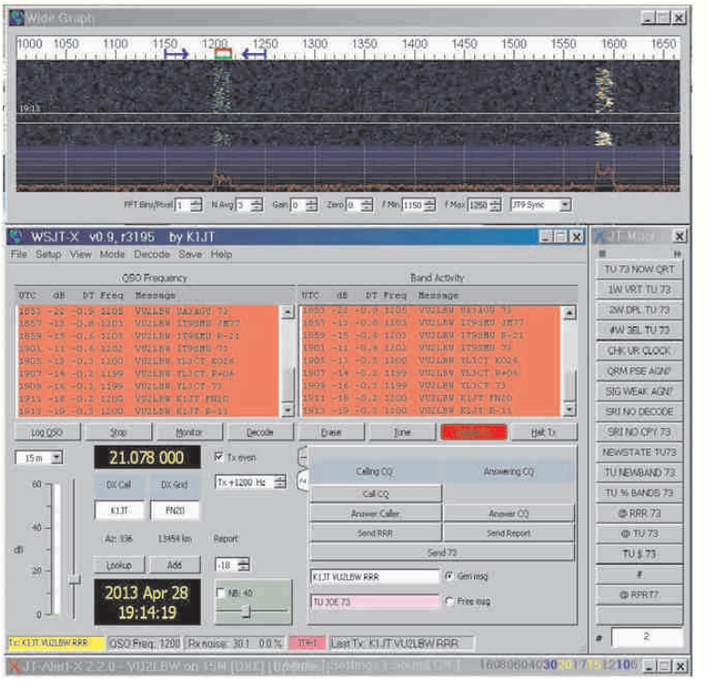
India has been heard on JT65 for a couple of years now. VU's who have been heard on JT65 are VU2TE, VU2ATN, VU2TRI, VU2UNO and VU2LBW. VU2TRI and VU2LBW have been logged on JT9 too.

A 1W to 5 W transmitter output works quite well because each transmission of 13 characters is 50 seconds in length and the computer analyzes the signal according to the complex structure that's been created by K1JT and other developers. Power is not needed and is not appropriate for this mode. In fact, power levels greater than 20 W can be detrimental and may even cause other stations to be unable to decode the signal. What is required, however, is good time synchronization. Your computer must be accurately synced to an accurate UTC time source.

Let's see now: You need to download the <WSJT-X> software, and the <Meinberg NTP Timing Program> to sync your computer's clock, and a display program known as<pskreporter>. Put these together with the <SignaLink> USB audio interface and — presto! — you are on the air, whispering around the world..

When operating low power CW you can get discouraged when you call stations and get no responses or responding stations lose you in the interference. With JT9 running 1 W, you might not be answered by the station you are calling, but using the pskreporter.info program, you can see that you have been heard everywhere! This turns discouragement into excitement!

[VU2TS with inputs from VU2LBW]



ISS Ham radio contact with Indian school

An amateur radio telebridge contact was successfully made between the ISS and students at Gwalior Glory High School in Madhya Pradesh.

The contact took place on Saturday, August 31 while the International Space Station was over Europe and a telebridge link to the school was provided.

The coordinator from India, J S Bhide VU2JAU, was connected to Shane Lynd VK4KHZ, moderator in Australia who was linked to the coordinator in Japan, Satoshi Yasuda 7M3TJZ, who linked with Claudio Ariotti IK1SLD in Italy who established direct contact with the ISS.

Around 22 students and three teachers participated in the event with ESA astronaut Luca Parmitano KF5KDP who was using the callsign IRØISS from the amateur radio station located in the Columbus module of the ISS.

"Do you feel homesick?" "How do you shave and have a haircut?" such were the questionsa hurled at Nasa astronauts aboard the International Space Station by the children of Gwalior Glory High School.

Many students and their parents witnessed the programme.

Luca Parmitano, an Italian astronaut replied that they are trained to carry out all normal routines. "Astronauts carry electronic shavers with them. We do miss our families but we were prepared for it well in advance," he said.

Students also wanted to know how they eat, sleep, and feel physically when they come back to earth, what they miss most from home and what it would take to get them to abort their mission. The questioned were replied accordingly.

Other questions were like how it feels to be in the outer space, food habits, recreation, training undergone at zero gravity to adjust in space, how the solar or lunar eclipse and sunrise or sunset looks from the sky, the surroundings at such height, how they breathe, whether staying in ISS is same as living in a house etc.

The telebridge established for the interaction was through ARISS. Around 22 students and three teachers interacted with Parmitano through Telebridge from 16:52:28 to 17:03:48. The interaction was followed by a closing speech by the Australian moderator.

The others present at the event were: Directors of School, Director of Gwalior Engineering College, Sandeep Barua / Scientist from Vigyaan Prasaar.

So far, only eight Indian schools have made successful contacts with the ISS – all of them via Telebridge:

Vasant Valley School New Delhi
Dibrugarh Univ
St.Anthony's College Shillong, Meghalaya
Aaxam Jatiya Vidyalalya Guwahati Assam
College of Agriculture Manipur Univ
Sri Krishna Vithyaalayam Matric School, Pollachi T.N.
Cujarat Council of Science
Gwalior Glory High School
For more information:
http://www.ariss-eu.org/schoolcontacts.htm

UK HAMS ACHIEVE WORLDWIDE FAME

A STOCKTON Heath (UK) hobby radio enthusiast has been putting technology he once created many years ago to good use.

It is reported that Colin Horrabin G3SBI, aged 72, a member of Warrington Amateur Radio Club (WARC) and with the help of Dave Roberts G8KBB, aged 54, also from Stockton Heath and George Fare G3OGQ, aged 83, from Latchford, have jointly released the new radio

which is now used by more than 800 enthusiasts worldwide.

Colin made use of components he once developed 20 years ago while working at the Daresbury Laboratory.

The unique ability of the new HF7070 radio is to pick out weak radio signals next to very strong ones, something which has surprised many in the world of radio technology.

The development is not only superior to anything currently being made in Japan; it also breaks a conventionally accepted theory proposed by David Leeson in 1996.

Colin, a former Stcokton Heath Primary School pupil, first became interested in radio during the days of government surplus in the 1950s.

His attraction soon turned to a profession. After training in electrical engineering he worked at Daresbury Laboratory after sending bosses of the then newly opened facility a letter asking for a job in 1968 before retiring in 2000. Even in retirement Colin is heavily involved in the world of electronics – describing it as a way of life.

[Tnx: This is Cheshire]

OFFICE BEARERS

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

Vice President
Ved Prakash Sandlas, VU2VP
C9-9109, Vasant Kunj
New Delhi 110070
Phone: +91 (11) 2613 2130
E-mail: vicepresident@arsi.info

Hon. Secretary
Ramesh Kumar VU2LU
C/o Linux Learning Centre Private Limited
635, 6th Main Road, Next to Bank of India
Hanumanthnagar, Bangalore-560019.
E-mail: secretary@arsi.info

Treasurer
Govind Girimaji, VU2GGM
No. 36, Poorna Sheha Colony
Chikkal Sandra
Bangalore - 560 061
Phone: +91 94484 90465
E-mail: treasurer@arsi.info

Editor
T. S. Ganesh, VU2TS
B.R.HILLS
KARNATAKA 571313
Phone: +91(8226) 244034
E-mail: editor@arsi.info

QSL Manager
Ananth G. Pai, VU2PAI
Post Box No. 730
Bharath Bagh, Kadri Road,
Mangalore 575 003.
Tel : +91 98441 13030
E-mail : qslbureau@arsi.info

Monitoring Systems Coordinator
B. Manohar Arasu, VU2UR
MIG 6 80 Feet Road, KST
Bangalore Karnataka 560060
Phone: +91 93426 67388
E-mail: monitoring@arsi.info

Contest and Awards manager
Prasad Rajagopal, VU2PTT
Post Box No. 7523, Bangalore 560 075.
Tel : +91 98450 72165
E-mail : contests@arsi.info

The address of the society to which all correspondence should be sent is:
Ramesh Kumar VU2LU
C/o Linux Learning Centre Private Limited
635, 6th Main Road, Next to Bank of India
Hanumanthnagar, Bangalore-560019.
E-mail: webmaster@arsi.info