

HAM

RADIO



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NEWS

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"AMATEUR RADIO - A NATIONAL RESOURCE"



Unity Is The Motto

VU7LD DX-PEDITION TO KAVARATTI ISLAND



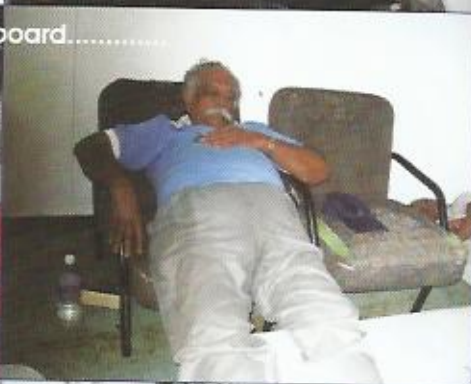
Departure Cochin



.....On board ship.....



.....Night on board.....

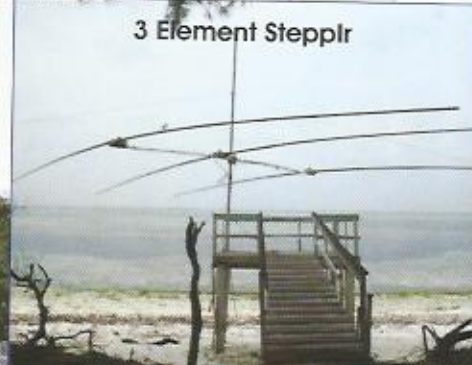


Arrival Kavaratti

2 Element Stepplr



3 Element Stepplr



Vertical Stepplr



Chicken neck station



DOLPHIN DIVE CENTRE
SPORTS KAVARATTI LAKSHADWEEP



VU2 RDQ Shaukat



.....Demonstration.....



VU2 RCR

PRESIDENT'S REPORT



Message from VU2GMN

It has been a very hectic and fruitful few months since the last issue of HRN.

Since then the International YL meet, which our VP organized in Mumbai was conducted with great success. There were representatives from most parts of the world.

We have also had a very successful DXpedition to Kavaratti Island in Lakshadweep and more detailed information is available in a separate story.

Our efforts to get WPC to allocate segments of the 80 M and 30 M bands for Indian amateurs is going on. WPC did not give permissions to Indian amateurs earlier in spite of several approaches from ARSI, but have given it for a restricted period during January at a time when mostly foreigners are active from some islands in Lakshadweep. We have taken up this matter again with WPC for allocation of these bands permanently for VU hams. We would request each of you to make a representation regarding this to WPC as they will be convinced that we require those bands to complete a family of frequencies that are essential for effective communication as allowed in most parts of the world,

More contests are in planning to keep the bands alive and get more hams to be active.

Another issue which is cause for worry is Broadband over powerlines, which the government is viewing with interest. Alarm bells have rung all over the hamworld about the implications of this development. Kindly read the issues involved and the steps that we can take as suggested by a few concerned hams.. This calls for cooperation amongst hams and to work as one unit and talk to the government. Please write to me about your views.

Good luck to all of you and hope 2007 brings great cheer and happiness .

THE EDITOR SPEAKS



It has been a hectic last few months. So much of hamradio activity!!!

The International YL Meeting in October 2006 was a resounding success. The YLs had a time of their lives in India. For most of them it was a first time visit to this part of the world and they were like small children looking at wonderful India. Besides the meeting in Mumbai, the YLs traveled to Delhi, Agra, Jaipur and Goa. For 10 days all of us were like one big family. We traveled by train, bus and air and enjoyed Indian hospitality to the fullest. At the end of the tour we said tearful farewells to each other and we are all waiting for the next meeting in South Africa in 2008.

Immediately after the YL Meet I had to rush headlong into the preparations of the Dxpediton to Lakshadweep(VU7LD). We at ARSI did a marvelous expedition. Everything from the preparation to the operation was grade 1. We have proved to the world that given an opportunity Indians are world class hams. We worked non stop on all the bands and made optimum use of available propagation. It was a proud moment for me in my life to be part of this expedition.

On coming back home, I had to catch up with all the pending jobs as mother, wife and housekeeper all of which had taken a backseat since September!!!!.

This issue has been delayed as I was qrl with too many personal problems. But I hope after this I am able to get the HRN back to the usual dates. It gives me great pleasure when hams call me to enquire about the magazine. Its very rewarding to know that people look forward to it.

So once again please contribute articles. I must also remind you to please update your membership.

Hope 2007 brings you great happiness and lots of good propagation.

73

Please note that there is no issue for Oct to Dec. 2006

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BROADBAND THROUGH POWER LINES

Letters To ARSI : Very Important Please Read

Hi Gopal and my fellow hams,

Very recently, there was news that a few thousand homes each in both Mumbai and Delhi will soon be 'empowered' with BPL Broadband over Power Line! If true, this will be the beginning of the end for Short-wave communications. The effect of communications in the Short-wave frequencies over open Mains Power Lines can well be imagined. It will only create havoc for SW communications in both civil and military domains. Apart from just communications, the physiological impact it will have on humans and possibly all other living things need to be thoroughly researched before this technology can be put to common use. Home brewers amongst us very well know the effects a small QRP transmitter has when adjusting it during its final stages of construction. All of us have suffered a severe headache when we sat doing it continuously for more than half an hour! Imagine the effect hundreds, or possibly thousands of watts will have on us when BPL is implemented. At the end of construction, we 'earth' the body of our TRX to prevent harmful EMI Radiation. Who and how will the open Overhead Mains Transmission lines be covered and earthed? Can they be used for BPL if they have earthed shields? I think not! The poor quality of wiring in our country will only result in hundreds of 'antennae' emitting RF energy in our close vicinity and causing us severe headaches. Can India as a nation afford such large-scale human suffering? Do all of us have to live on 'anti head-ache' pills the rest of our lives? Can Indian businesses afford to let their employees take large-scale medical leave, just to allow a few power companies earn millions? Have we as a nation calculated the costs of such happenings? Each one of us must write to our local administration DC and Chief Medical Officers; the MLA; and the MP of our area to make them aware of the large-scale ill effects this technology will have. Also, please do write to the Minister for Communications, the Wireless Adviser to Government of India, the Health Ministry and to other persons in positions of high responsibility in Government. We must all do everything within our means to bring the other side of this technology to the notice of authorities. We must urge them to establish a proper mechanism to set up, monitor and strictly implement at least two important things:

1. Quality standards for wiring. This must cover domestic; distribution within city; and long distance transmission; and 2. Emission control norms for all electrical and electronic equipment and wiring.

We must act now if we want

a. Our future to be a healthy one; b) Secure civil and military communications; and c) For us to keep enjoying our hobby.

Here's one more link for simple lay-man's explanations of BPL and its impact. It may be noted that the FEMA (USA) - Federal Emergency Management Agency of the US - also objected to the interference this might cause to Communications during emergencies.

<http://computer.howstuffworks.com/bpl.htm>

Please do collect and circulate as much information as we can so all build up a good case. For the time being, please mark all your mails/info to VU2GMN, Gopal so we have it in a single place. Once a group is formed basis suggestions from OM Horey (VU2HFR) and Kitchu (VU2KFR) the mails can be addressed to the group.

73, Bharat VU2BDX, Gurgaon New Delhi.

Dear Gopal,

This is in response to the impending threat to our HF Amateur Radio Frequencies from the Broadband over power line service or BPL. The same has already created a storm in the US with the FCC, ARRL and ISP providers involved in a bitter legal and political struggle.

The same is being implemented on an experimental basis at various states resulting in heavy QRN (around 60 dB increase in the RX noise level) the audios being available at the ARRL website. Radio Amateur senators are trying to pass a bill for protection of the Amateur services. In India the scenario is even grimmer. The voice of radio hams is extremely feeble (practically inaudible), and I don't think WPC will protect the rights of radio hams when the question of cost benefit ratio of BPL comes to light. However as radio hams we owe it to our hobby as well as to future generations of hams to come that at least we made an effort to save our HF radio spectrum. In this regard my proposal would be as follows:

1) Forget differences (sacrifice our egos) between the various Amateur Radio Societies in the country. The main objective will be beneficial to all. 2) ARSI as a member of IARU and the primary Amateur Radio body in India should play a lead role. 3) A special committee / team should be formed with regional representatives from all parts of the country to form strategies to combat this threat. 4) This special committee should involve all local bodies and bring everyone under the same umbrella in this fight. It should form a common resolution which should be passed by ARSI as well as all regional clubs / bodies with signatures of hams around the country. For a start a signature campaign should start as early as possible with the same resolution being passed by all local bodies and copies of the same being sent to the central committee under ARSI. The same should be forwarded to WPC and to the concerned ministries. 6) A special fund should be created with contributions of Amateurs across India which will be used in the campaign against BPL and to cover all expenses including the costs of what could be a long legal battle.

I would request ARSI to come to the forefront in this matter immediately and it should be the duty of all hams belonging to all local bodies to support this cause. In the end it is not important whether we succeed or not, decades later if HF Amateur Radio becomes extinct and we never hear the crackling audio of an open 20M band

we can place our hands to our breasts and swear that AT LEAST WE TRIED.

73, Horey, VU2HFR, Kolkata

Hi Gopal,

Yes, Horey is right. We need to do something before everything is lost. The steps that we can take are as follows: (a) Form a team called the "Amateur Radio Spectrum Protection Group" with representatives from most of the Indian States, Clubs and Societies and arrange the meetings in the major Indian cities. (b) Handpick a core team of 8-12 people from the Amateur Radio Spectrum Protection Group to represent the cause of band protection to the GOI. Members in the core group must have some something special.. like ..Amateur Radio experience of over 10 years..(not VHF exp.), have done some emergency comm. work like Tsunami / Latur / Orissa disaster operations, or some other achievements known to the public. And they must also have oratory powers. (c) Make a signature campaign and send a letter to the WPC ...the core team meets the Wireless Advisor to the GOI to put forward this issue of band interference....(d) Make a representation to the THE PRESIDENT OF INDIA who is a technocrat...the core team should meet the president to explain to him the threats to Amateur Radio and also to radio communication (aircraft ,marine and defence bands) in general..We need to involve our Prez in this.

(e) Make a representation to the Mrs Sonia Gandhi (she happens to have a call sign)...the core team should explain to her the threats to Amateur Radio. (f) Try to find out away to get a source to talk to the IAF comm. wing and Civil Aviation guys.... They have a lot of Comm. networks, HF/ VHF/UHF that will be grossly affected and also defence networks in the HF band will be finished once broadband over power line starts..Its death for all HF comms. networks in the country..and this is the main point that we have to drive into the minds of the bureaucrats and planners. (g) Form AR Band Protection Budget and start collecting funds..Parallely start talking to a law firm in Delhi (or maybe we could be having many lawyers in our group) who would be filing the suit at the Delhi High Court..The case will be against WPC who would be authorising the BPL. (h) Find out environmental hazards of BPL..(We could try to involve AIIMS in this) We should study and make a report which we can push through PCB or some authority that handles EMI/RFI hazards to public health..We should bring up the issue of Public Health... Better still we need to find out whether this affects woman and in particular pregnant women.

Why I am saying all these is that THE GOVT. WILL NEVER LISTEN TO A HANDFUL OF 5000 ACTIVE HAMS ON BPL PROBLEMS.. THEY WILL ONLY MOVE WHEN DEFENCE AND PUBLIC HEALTH IS AFFECTED..We need to form a strategy to combat this issue. Let's discuss this more...

73's Kitchu, VU2KFR "

IARU NEWS

IARU Region 3 to participate as an Observer at the APT's Conference Preparatory Group meeting

The road to the ITU's World Radiocommunication Conference to be held in Geneva in November 2007 (WRC-07) is a long road, and the IARU cannot just sit by as an Observer at the WRC. The three Regional organisations, matching the three Regions that the ITU divides the world into, are important because where the administrations in a Region agree on a "common position" then a single vote can be exercised that carries the votes of a number of countries.

In Region 3 the Asia-Pacific Telecommunity (the APT) has become increasingly effective and so increasingly important. It has established a Preparatory Group to work toward common positions at WRC-07 and that Group will meet for the 4th time in Bangkok, Thailand between 8th and 12th January 2007 (the APG2007-4).

The IARU Region 3 Directors newly appointed at the Bangalore Conference in August 2006 met for two intensive days of meetings in Tokyo on 5 and 6 December 2006, hosted by JARL. The Directors are Chairman Michael Owen VK3KI, Shizuo Endo, JE1MUI, Peter Lake, ZL2AZ, Gopal Madhavan, VU2GMN and Joong-Guen Rhee, HL1AQQ. Among many other decisions taken by the Directors was one that individual Directors would take particular responsibility for particular activities of the Region. The budget was revised, and the working procedures

of the Region were reviewed. Participation in the IARU Administrative Council, particularly the next meeting in May 2007 (the last meeting before WRC-07), was reviewed and attendance agreed. Better methods of communicating with member societies and amateurs generally were explored in depth. At their meeting the Directors recognised the growing importance of the APT and need for Region 3 to establish closer links to it, particularly as IARU Region 3 is responsible for representing the amateur service before the APT.

Region 3 will participate in the APG meeting as an observer, represented by two of its Directors, Shizuo Endo, JE1MUI and Peter Lake, ZL2AZ. A third Director, Joong-Guen Rhee, HL1AQQ will also be present in a professional capacity.

In addition, IARU Region 3 has submitted an Information Paper for the APG, setting out the preferred options in the draft Conference Preparatory Meeting report in relation to a proposed secondary allocation in the band 135.7-137.8 kHz and the still unsatisfied requirement for a harmonised band at 7 MHz, which could be met by an allocation from 7.2 to 7.3 MHz. In addition, because it is a new matter, the paper provides information on the suggested allocation of a secondary allocation at around 5 MHz, particularly stressing the importance of the band in the context of emergency communications.

Bengal Amateur Radio Society along with The Bharat Scouts & Guides, Eastern Railway Barrackpore Group conducted JOTA station with the BARS club callsign VU2CVH from the Barrackpore Scouts Ground (Adjacent to Barrackpore Railway Station), near Calcutta on Sunday, 22nd October 2006. The station was QRV from 0630Z (12 noon IST) on 22nd December on HF and VHF. VHF 2M FM Link Radio connected to Echolink VU2CVH-R (Echolink Node No.: 23511)

The First India Disaster Management Congress was held at the Vigyan Bhawan, New Delhi on 29 & 30 Nov 2006. It was inaugurated by Prime Minister Manmohan Singh and Mrs. Sonia Gandhi was the Special Guest. Others present and who spoke at the opening session were the Home Minister Shivraj Patil, Minister of State for Home, S Raghupathy, Gen. Vij the Vice Chairman of NDMA and VK Duggal the Home Secretary. It was organised by the National Institute of Disaster Management (NIDM), New Delhi, a body under the Ministry of Home Affairs with the NDMA as one of the cooperating bodies.

Just three days before the Congress, NIDM invited Bharat VU2BDX (Life Member of ARSI) to participate in and present a paper on the role of hams in disaster management. VU3SKD Sushanta K De from Kolkata was presenting a paper on hams and Bharat chose a topic that would build on OM De's presentation. Bharat's topic was "Ham Radio in Disaster Management - The need for a coordinated effort". His presentation, though short, was well received. The audience appreciated the difficulties Hams face in their hobby in general, and more specifically in providing communications support during disasters.

It is important to mention that the above two significant achievements, that is, Ham Communication during Mock Disaster Exercise in Gurgaon and VU2BDX (Bharat's) representing ARSI in the First India Disaster Management Congress were all successful due to the tremendous efforts of Bharat (who initiated it), the ARSI-Gurgaon and support from New Delhi Hams.

The Mahabalipuram Ham Meet is scheduled for the 10th and 11th of February 2007. Mahabalipuram, also known as Maamallapuram is a 7th Century Port City of the Pallavas and is located around 60km south from Chennai. The main aim of this Meet held since 2003 is to encourage hams and school students to meet other hams without excessive expenses. Admission is free for all radio amateurs and shortwave listeners. Seniors, prominent and successful hams are attending this meet. Participants are encouraged to bring their ham materials for sale or exchange. A table fee of Rs100 will be collected for displays. For details on room accommodation please contact VU2INA, OM Inar at 044-27487373. OM Vittal, the founder and moving force of the meet is available on 044 22312420. All announcements regarding this meet will be announced on air.

The Mysore Repeater (Chamundi Hills) is back on the air after a long break. Yes "Break" in many aspects. "Broken" antennae - 3 to be exact, "Broken" Roof (The house where the repeater is installed was under renovation, expansion etc), "Break" in activity, etc. The present set up is - NEW Antenna, NEW Height (Increased),

SAME Location, SAME Power (5W). Give it a try - U listen 145.725MHz - U Transmit - 145.125 MHz.

JOTA and hamradio demonstration was conducted by VU2NXM, OM Basappa and group at V.K.High School, Panvel, under the aegis of the Panvel Nagarpalika and Technologist Association of Panvel (T.A.P) under the chairmanship of Prof. Ranade, on 21st & 22nd October 2006. The demonstration was done with HF/VHF rigs - Inverted Vee/Half square and Telescopic vertical antenna.

The Sheveroy's Ham Meet organised by the Repeater Society of Thiruchengode was conducted to celebrate the successful completion of the repeater VU2TCD on 27th and 28th January 2007 at Yercaud, a beautiful Hill station situated in the Sehevaroy Range of Hills near Salem in Tamil Nadu. The height of the town is roughly 1500 metres above sea level with a clear view and no obstructions all around and hence a perfect spot for the repeater. This repeater works unbelievably well, connecting long distance stations right from North to south and east to west in the southern peninsula. Stations from Thiruvalla in South Kerala are able to trigger the repeater which is almost 400 km away and make a contact with Kasargode which is in the northern end of the west coast. Contacts between Chennai and Bangalore has become possible almost daily and a regular net is held, one in the morning at 0715 hours called Shervaroy Net and one in the evening at 2115 hours called the TCD evening VHF Net.

About 100 delegates (Hams and SWLs) gathered with the families and accommodation was arranged for all the delegates right from the time they arrived until the function was wound up around 5 pm on Sunday. Excellent food was provided for all delegates and there was magic show and mimicry show for the children. The Master of ceremonies was Greig VU2GRJ and veterans like VU2TX SAMY and VU2YFS Santhanam appreciated the fantastic work done by Panneer VU2PCP, ably assisted by VU3URJ VU2RVK, VU3ITI, VU2DPN and others. Hams from Kerala, Bangalore and Chennai were present. Stalls were put up to display and share the homebrew collections. There was a session of self introduction and all participants came to the stage and introduced themselves. It was a real eye ball get together without the formal technical sessions and lectures. The response from the hams for the Ham Meet was spontaneous as the announcement was made only in the middle of December and people from far off places like Keelakkara and Ramnad were present. Old timers like Anantha VU2QM who got the ticket in 1960 came all the way from Nellore Andhra Pradesh. So the Repeater at Yercaud has connected four southern states of India in addition to Sri Lanka. A net was conducted by Deepan VU2DPN from the venue and the total number of check ins were 111 which is the record for any net either in HF or in VHF on any band. Hats off to Panneer VU2PCP who did this possible and everyone congratulated Panneer as YOUNG KAMARAJ who spoke less and did more. Here's wishing many more years of VU2TCD operation!

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INTERNATIONAL NEWS

India has been re-elected to serve on the Council of International Telecommunication Union (ITU) during the elections held at the 17th International Telecommunication Union (ITU) Plenipotentiary Conference held from 6 November to 24 November 2006 in Antalya, Turkey. The Plenipotentiary conference is the supreme organ of the ITU, which comprises of 191 member countries. 161 Countries participated in the voting. India secured 113 votes at this election. It may be recalled that India has been regularly serving on the ITU Council since 1952, according to an official release. This conference is the top policy-making body of the ITU held once in every four years. The Conference sets the Union's general policies, adopts four-year strategic and financial plans and elects the senior management team of the organization, the members of council and the members of the Radio Regulations Board. Meanwhile, P K Garg wireless adviser to the government of India telecommunications department has been elected to the Radio Regulations Board (RRB) from the Asia and Australasia region. According to the release, Garg secured 103 votes. The other members elected from Asia Region are from Pakistan and Malaysia. The Radio Regulations Board of the ITU is a part time body comprising 12 elected part time members representing the world's five regions (Americas, Western Europe, Eastern Europe, Africa, Asia and Australasia). The Board has 3 members from the Asia and Australasia region. It may be recalled that at the conference, India had also been earlier elected as chairman of the important Working Group of the Plenary dealing mainly with the World Summit on Information Society (WSIS) issues, implementation of the Geneva (Phase 1) and of the Tunis (Phase 2) Action Plans of WSIS.

The IARU member society for Turkey organized a demonstration station and exhibit of Amateur Radio emergency communications capabilities adjacent to the conference site. Approximately 2,000 attended. Among the ham radio observers at the gathering were be International Amateur Radio Union Vice President Tim Ellam, VE6SH, and International Coordinator for Emergency Communications Hans Zimmermann, HB9AQS.

According to the ARRL Letter, the league's Alabama Section and the Huntsville Hamfest Association will co-sponsor GAREC-07. IARU International Coordinator for Emergency Communications Hans Zimmermann, F5VKP and HB9AQS, says it will take place Thursday and Friday, August 16 and 17 at the Embassy Suites Hotel, just prior to the convention and hamfest. This will mark the third annual Global Amateur Radio Emergency Communications Conference and the first held in the United States. GAREC-07 is an acronym for Global Amateur Radio Emergency Communications Conference.

The 'Bangladesh 2007 DXpedition' with call sign S21XA took place between the January 10-16th. The team members were Josep/EA3BT (Team Leader/SSB/Digital), Tony/EA2PA (CW), Nuria/EA3WL (YL/SSB/Digital), Fernando/EA5FX (CW) and Juan/EA8CAC (CW/SSB). Activity was on SSB, CW and RTTY, on all bands from 160-6 meters. Their aim was to give a new entity to the maximum number of stations, and that's why they had 3 stations on the air simultaneously.

In 2007 Mexico's FMRE will celebrate 75th anniversary (LMRE, FMRE) and XE stations will use new prefixes: 6G1LM from Jan. 1 till Dec. 31 2007. 6F75A from Jan. 1st to Dec 31st for contests for FMRE, 6H1 for XE1 and suffix 6I2 for

XE2 and suffix XE2MX as 6I2MX, 6J3 for XE3 and suffix working foreign stations. 6E4 for XF4. In future Mexico will use 10 zones XE1, XE2, XE3, XE4 XE5, XE6, XE7, XE8, XE9 AND XE0. XE2MX may be XE7MX (hi) around May 1 2007.

The Belgian Radio Society, better known as the U-B-A celebrated its 60th birthday on December 1st. To help in the festivities, the Belgian Institute of Post and Telecommunication is permitted the use of the special prefix ON60 by all of that nations radio club stations holding membership in the U-B-A. This, from November 1st to next February 10th. The Belgian Radio Society was first created in 1923 as "Le Réseau Belge." It became the U-B-A in 1946.

Croatian Telegraphy Club invites hams to become a member and welcomes membership applications from telegraphy lovers from all parts of the world. If membership application (contains only your call sign, name and the wish to be CTC's member) is submitted by E-mail membership is gratuitous and no fee is required because it is the Club's principle of supporting CW which is far more important than any financial consideration. Take a look at www.qls.net/ctc Chairman Den - 9A3FO

The Microlite Penguins Dxpediton to Raoul Island in the Kermadecs went QRT at 2200 UTC on 17 October with over 40,000 QSO's in the log. Operators were EI6FR, HB9ASZ, K9ZO, N0TT, N6MZ, VK6DXI, W7EW and 9V1YC. Total on-air operating time was just over 7 days Eight team members and only a week on-air made this trip somewhat smaller and shorter than usual, but overall the results were still within their goals, and the spirit of low-power DXing.

Landing on Raoul Island involves a rather dangerous jump from a zodiac onto a rock face, but thankfully the seas were cooperative and none of the team slipped or was injured in the process. All equipment was directly hoisted out of the zodiacs and onto a cable transport for loading up on top of the island. Transceivers consisted of six, brand new Icom IC-7000's sponsored by Icom America and antennas were all simple wire dipoles strung up in the surrounding pine trees. With heights ranging from 120 to 150 feet, and situated on a cliff 300 feet above the beach, the operating location was absolutely perfect. Given the weak worldwide propagation at this point in the solar cycle every effort was made to work as many European stations possible. Almost all of the expenses for this trip were paid by the team members themselves. But given the extraordinary expense it takes to charter a ship to a remote island in the Pacific for two weeks the group hopes that each and every DXer will help contribute to this endeavor, either by donations with QSL cards to their manager VE3XN, or by joining the NCDXF - the Northern California DX Foundation.

The ARRL has formally announced that Morse Code testing is no longer mandatory for procuring a licence in the USA. Please read all about it in the ARRL website www.arrl.org.

Phil/G3SWH and Jim/G3RTE will be active from the island of Montserrat between February 21st and 28th 2007 using the call sign VP2MPW. Activity will be primarily on CW with the possibility of some RTTY and PSK31 on all bands 160-10 meters. Propagation permitting, they plan to have two stations on the air for as many hours every day as is possible. Their main objective is to work as many European, North American and ROTW stations on as many bands as possible. QSL via G3SWH, either direct with SAE and adequate return postage or via E-mail for a bureau reply or via the bureau.

HOME BREW

CVGNUS7 - A 315° WAVE 2 METRE ANTENNA
By N.S.HARISANKAR, VU3NSH. Phone : 0491-2576102

Frequency : 144 MHz to 146 Mhz

Gain : 8 dB typical

Power : 150 W Max.

VSWR : Less than 1.2 : 1 @ Resonance

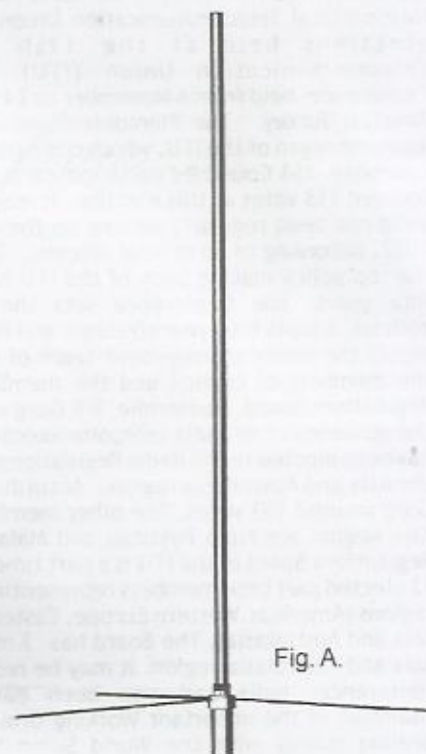
Bandwidth : 2 MHz

Impedance : 50 Ω

Type : Vertical, 315 Electrical Degrees (7/8th)

Radials : 3 Nos @ 120° -Hor ($\frac{1}{4}\lambda$)

Radiator : DC Grounded 3/8th Alu. (No Fear of Lightning)



In 1995, I started the 2 metre antenna modelling and R & D. At that time, most of my experiments were on beam (yagi) antennas. After doing a lot of experiments, I found that the 7 element Antenna is good for VHF, because, these antennae have medium sized booms for easy handling, giving 11 dB gain for DXing. I found that some homebrewers attached one element to this specification to make an 8 Element yagi and some removed one element to make a 6 Element yagi. In RSGB reference the gain of a 6 element beam is 10.2 dB and 7 element is 11 dB gain. The difference is 0.8 dB. In the case of 7 element and 8 element, the gain difference is 1 dB. For a significant change in performance, we need a 6 dB gain. For getting 6 dB gain, 4 elements can be attached. Otherwise the total result will be zero. In a calibrated S-metre reading, one S-point means it is a 6 dB gain. In vertical class (Omni), the stacking techniques are used to achieve more gain.

Fig. C. Fig. B. Vertical antennas have their own radiation angles (take off angle). A 5/8th omni will have typical 3.4 dB gain horizontally and in vertical angle (300) it is more (5.2 dB). In a 7/8th type, the horizontal gain is 4.5 dB and in vertical (300) is 8 dB. The three dimensional imaginary figure is like an apple. Vertical antennas are popular because VHF repeaters facilitate mobile operations. These verticals have lesser visual impact, the ability to change directions instantly and face less damage from weather. For using directional antenna (beam) we have to use a rotator to access stations in all directions and it is large structure in a horizontal plane. CYGNUS, is a Greek myth of a flying swan and it is a star constellation. Here, CYGNUS7

is a mono band 315° wave omni directional antenna for 2 metre amateur radio operations. During Y2K, I had designed a 5/8th antenna and its name was SKYLARK. This was due to heavy compulsion from my friend Mano, VU2KNQ. The main aim of that 5/8th antenna was to use that as a mobile antenna or as a station mount antenna. After testing it in different ways I started homebrewing the same. For increasing the gain I had to start stacking techniques on the same structure. Due to many mechanical joints in the radiator, there were problems. The only remedy was a straight long element according to the electrical degree proportion. So I decided to make a 7/8th omni and that was born on Y2K6 as CYGNUS-7.

The base antenna CYGNUS-7 is a DC grounded radiator so that there is no fear of electrical (static) charge or lightning. Due to its electrical wave of 315 degrees, that can provide 8 dB gain typically which is more than a 2 stage 5/8th and its radiation angle is 30 degrees. By avoiding the stacking method in this design, we can eliminate the mechanical problems, gain-loss problems, homebrewing difficulties etc. In my homebrew production I am using a HW PVC for RADOME to protect the radiating element from rain, high wind etc. The mounting section and the whole body can be made out of solid Aluminum rods / tubes by machining process. You can see the total structure in Fig. A..

In Fig. B, you can see the internal electrical structure. The radiator length of this design is 1.72 m, 3/8th Aluminium Tube and all three or four ground radials are typically of 20 inches 4 mm rodd. The loading coil is made out of nineteen or twenty SWG - twelve turns on twelve mm dia former

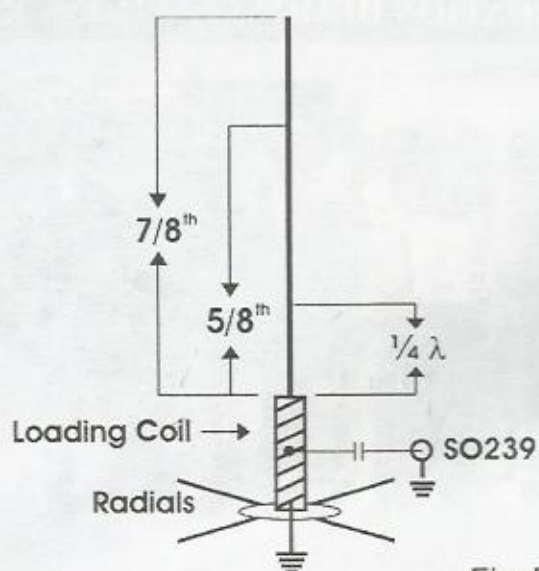


Fig. B.

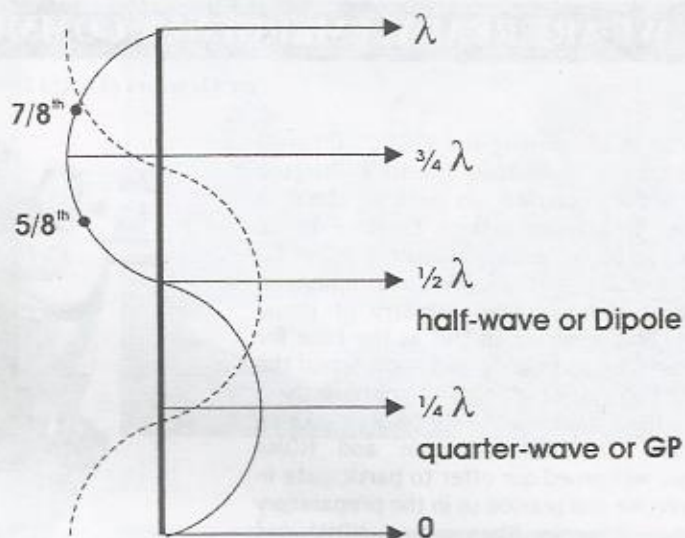


Fig. C.

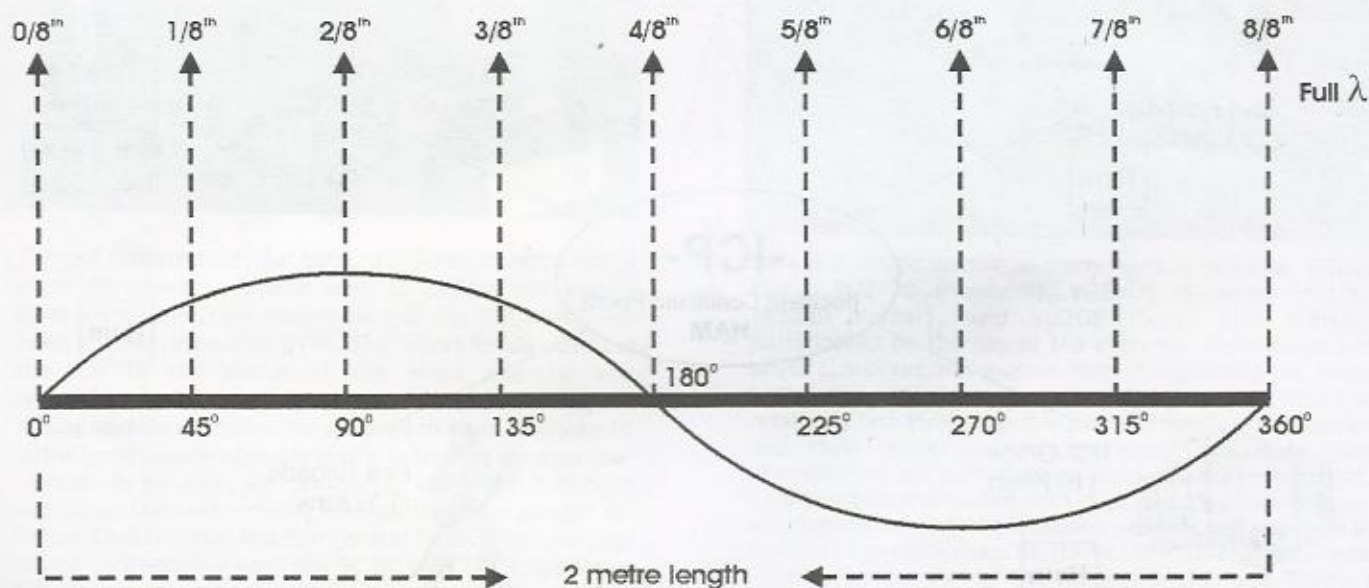


Fig. D.

(equally spaced). The tap from the top is at five turns. You can select the input capacitor by using a small trimmer and this depends upon the metallic casing design you choose. In Fig. C, you can see the current and voltage path and the lambda combination of the full wave length. In figure D, you have the radiator length proportions and degrees for easy reference.

I hope this illustration and the text is sufficient for you to build this CYGNUS-7, that will shake the air with energy !, and for more hunting range. In the next article we will discuss about other verticals and some calculations.

I thank OM VU2NNE, VU2DX, VU2LLN, VU2YNS and SWLs Rejeesh and Sajeesh for the generous help. Special thanks to VU3NKK, VU2DX, VU2UJE, VU3KEN and VU3RSI for on-air test and evaluation of this project.

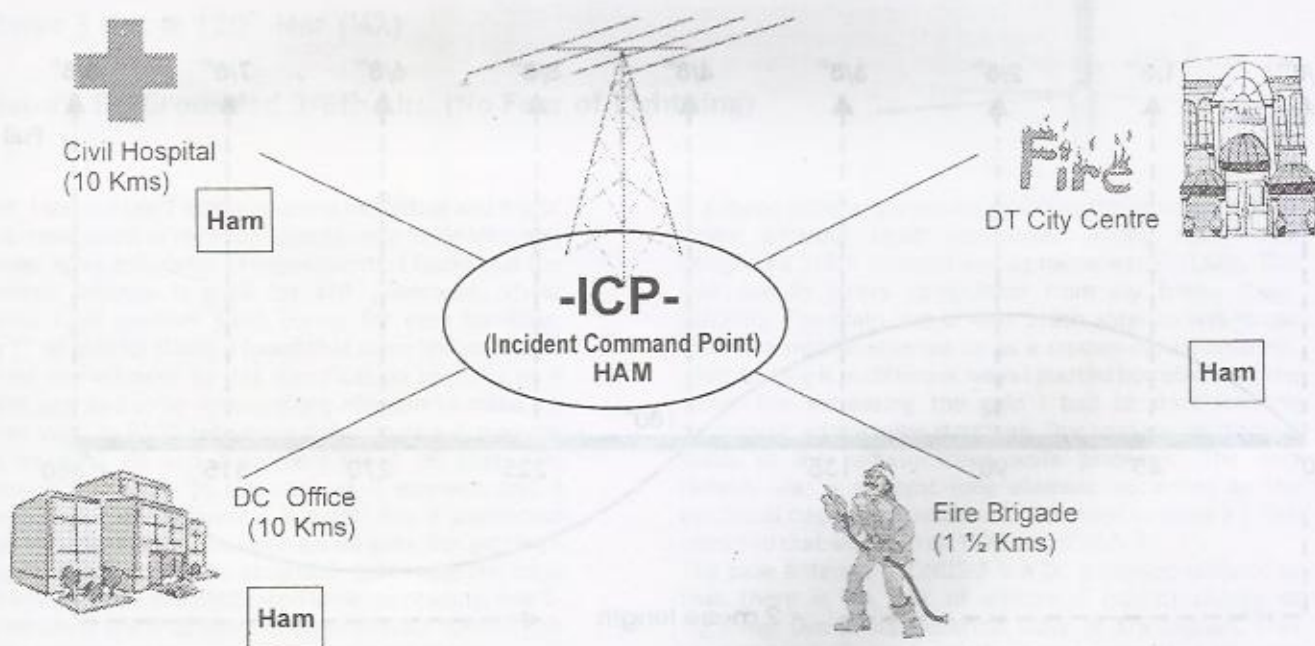
WE ARE READY: EMERGENCY COMMUNICATION DEMONSTRATION

By Members of ARSI Delhi-Gurgaon

It was an usual morning and VU2BDX (Bharat) picked up the newspaper. The local Gurgaon news section carried an article about a Disaster Preparedness Mock Exercise to be conducted by Gurgaon Administration on 1st December 2006, at the initiative of NDMA an autonomous body under Ministry of Home Affairs. Bharat reckoned this as the time for local hams to participate and approached the District Secretariat officials to appraise them about ham radio and its power during disasters. The Administration and NDMA officials welcomed our offer to participate in the exercise and praised us in the preparatory meetings. Brigadier Khanna from NDMA was delighted at the response of hams for selfless support. With this encouragement, we had a lot of homework to do.



(left to right) VU3AXS (Anu), VU2UCC (Sunil), VU2PSQ (Prashant), VU2KD (Sofi), VU2OB (Sri), VU2XD (Madan), VU2KI (Kailash), VU2MUE (Sandeep), VU2BDX (Bharat) and VU2OEC (Rajesh).



(Distance between the hams and ICP during Mock Exercise)

At the second meeting, the Gurgaon Administration asked what remuneration we would be charging. This left us a bit perplexed they were obviously not fully aware of the way we Hams worked! We explained in detail that we are hams and provide voluntary support in times of disasters - without any monetary interest. The Administration Officials now developed a great sense of respect for Hams. In fact, one of them repeatedly said that in such case the Government must definitely do something for us. It is our hope too that some day we Hams will be given our due recognition for selfless service.

The ARSI-Gurgaon hams met and decided to do radio checks and take stock of equipment - trx, antennae, coaxial cable, battery back-up etc. of all the participating hams. Team spirit was at its best as each ham lent and borrowed to make sure all necessary equipment was ready and working properly.

Early morning on Saturday the 18-Nov, VU2BDX transmitted from each of the locations, viz., Fire Brigade, the DT City Centre (the venue of actual exercise) and the ICP Incident Command Point (Main Control Centre). Other hams, VU2ATN (Atanu), VU2LAS (Satish), VU3AXS (Anu), VU2DED (Ajay), VU2WX (Sharma), VU2OEC (Rajesh) gave the signal reports of VU2BDX at their respective QTHs.



The test repeated the next Saturday 25-Nov morning with a slight difference - VU2BDX went to each of the earlier locations and VU2OEC stayed back at the ICP with other hams at their respective QTHs. The report for signals from the ICP to the venue of the mock exercise was unsatisfactory with poor signal report lots of crackling and hissing background noise. We debated this and attributed it to the large volume of motor traffic in front of the exercise venue. To be sure, we decided to stage a full-fledged simulation the next morning from all the other points - DC Office, Civil Hospital and Fire Control Room. The total Line of Sight distance between the DC Office/Civil Hospital and DT City Centre (venue of mock exercise) was 10 Kms (approx). The total area covered was about 100 Sq. Kms. VU2OEC and VU2BDX surveyed the terraces of the DC office and of the civil hospital for fixing antenna and simulated signal testing. VU2ATN and VU2LAS provided feedback from the ICP. YL VU3AXS gave signal reports from her QTH, which was very near to the place of mock exercise. The simulation tests with 5-9 signal reports at all the ends brought cheer on our faces and a bright sparkle in our eyes. Brigadier Khanna of the NDMA designated locations for hams on Friday 24-Nov before the exercise. This gave an indication of the number of Hams required and we applied for permission for Mobile Operation to the WPC Office. They especially Mr. Meghwal - were kind enough to 'work overtime' and give us approval in double quick time. Finally, on D-Day, everyone reached the ICP. Keeping in

view our aim to involve as many hams as possible, VU2KD (Sofi), VU2PSQ (Prashant), VU2MUE (Sandeep), VU2XD (Madan Kumar), and VU2OB (Sree) also actively participated on the day of the exercise. Their moral and physical support was a great help in organizing the event successfully. A few more hams from Delhi were keen but our relatively late involvement in preparations for the exercise and their preoccupations precluded large-scale ham involvement. All participating hams were at their best, fully charged and loaded with their gear. Within one hour, everyone reached their locations and erected antennae in no time. The mock exercise started at 1100 hrs. Ham radio communication during the mock exercise was flawless without any communication disaster Hi. Two hams VU2KD (Sofi) and VU2OEC (Rajesh) were deployed at DC office and Civil Hospital, which was quite far away from ICP. VU2BDX (Bharat) being the communication participant in recent car rallies in Himachal Pradesh, Haryana and Rajasthan drove the car just like car rally participants and we could install our antennae well in time at both locations. Sandeep, VU2MUE demonstrated the capability of APRS to Brig. Khanna. Vigyan Prasar Club Station was kind enough to lend us sets for the demo. Wg. Cdr. Karkare (Prashant) VU2PSQ chipped in with his expertise in handling 'Control' positions for car rallies. His experience and advice stood us in good stead. We thank the authorities at Vigyan Prasar and the Indian Air Force for acceding to our last minute request and officially relieving both Sandeep and Prashant respectively. Both Kumar VU2XD and Sree VU2OB too joined us at very short notice. Sree volunteered with transporting the hams

(Contd...page 16)

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VU7LD - DX - PEDITION TO KAVARATTI

1st - 30th December 2006 : by Gopal Madhavan, VU2GMN President Amateur Radio Society of India

VU7LD The First Operation from Lakshadweep in over 13 years!

FINDING LAKSHADWEEP:

Scattered on the clear blue waters of the Arabian Sea off the western coast of India is a group of coral islands of unparalleled beauty known as Lakshadweep. "Lakshadweep" which means 'A Hundred Thousand Islands' is an archipelago consisting of 36 islands, 12 atolls, 3 reefs and 5 submerged banks in the Arabian Sea. These emerald islands, rich in greenery and fringed by silvery beaches overwhelm you with their natural beauty. The total population of all islands is approximately 60,595 (as per 2001 Census), with Kavaratti's population being just over 10,000.

Prior to being declared as a union territory on 1st Nov 1956, Lakshadweep formed a part of the erstwhile Madras State. The entire group of islands is considered as one District and is divided into four Tahsils each under the charge of a Tahsildar. The administrative headquarters was transferred to Kavaratti Island in 1964. Kavaratti Island is the most developed with fifty-two mosques spread out over the island, the most beautiful being the Ujra mosque with elaborate hand carvings adorning the pillars and ceilings.

THE BEGINNING: VU7SF was the last DX-Pedition from Lakshadweep in January 1993. Lakshadweep is an extremely rare gem in the world of Amateur Radio and had risen to no. 2 on the DXCC Most Wanted List. Many organizations and personnel have tried numerous times to activate a major expedition from this exotic DX location over the years. The Amateur Radio Society of India (ARSI) made its application to the WPC, the district administration of Lakshadweep and the naval authorities in February 2006. The whole application process was handled by YL Sarla, VU2SWS from Mumbai. For the next few months all her time was spent following the application through various processes and finally the call came in September from the WPC!!! ARSI had the permission! VU7LD for the whole month of December 2006!!! The location was Kavaratti island, the capital of the island territory where non-Indians (non VU's) are not permitted.

THE PREPARATION: The first meeting was held in Mumbai and was attended by VU2GMN, Gopal, YL Sarla VU2SWS and VU3RSB Sarath. With very little time left, they brainstormed on all issues pertaining to the expedition. After a marathon session lasting from morning till night they had a financial and operational plan chalked out with operators for all the modes of operation. The operators were VU2GGR, VU2GMN, VU2IZO, VU2LBW, VU2LX, VU3MTT, VU2NKS, VU2PAI, VU2PJP, VU2RCR, VU2RDQ, VU2RJP, VU2SJD, VU2SWS, VU2TS, VU2UR, VU2ZAP, VU3DMP, VU3KKZ, VU3RSB, VU2NXM, VU3ELR and VU3SPQ. With little advance notice, ICOM and ACOM stepped up to the plate and agreed to supply seven complete HF stations (i.e. (IC-746PROs and ACOM-1000) and SteppIR agreed to provide a sizeable discount on the purchase of new antennas. They even had begun the packaging and shipping

process to get the equipment to our North American contact. We had to cancel the HF radio and amplifier effort about three weeks before departure because the import tax into India and transportation burden precluded our taking advantage of the offers. We just did not have the extra money in the budget to make this happen.

Two members, VU2PJP and VU3KKZ, who had prior knowledge of Lakshadweep went off to investigate what resources were available and to determine what needed to be brought to the island. The boys from Mangalore were also able find that there were regular sailings of small mechanized vessels which sailed from Mangalore to Kavaratti, our destination, so all heavy stuff had to be sent first to Mangalore for onward shipment to Kavaratti. Many members of our team are strict vegetarians and so precooked veggie food also had to be shipped as the staple diet out there was fish!!

Armed with all the necessary information, the next meeting was held in Bangalore and was attended by all members except YL Sarla, who was busy with the International YL Meet held at the same time!!! At the meeting, a slide presentation of the island with the probable locations for the stations was done. It was decided that there would be a minimum of 4 locations. It was also decided that each team member would bring their own equipment and extra equipment would be sourced from well wishers. VU2RDQ, Rohit from Mangalore was given the task of sourcing and sending all the equipment from Mangalore to Kavaratti by boat. The whole group was split into teams so that they could take turns being in Lakshadweep - most of them could not take off for a whole month and also facilities on the island could not cope with a large contingent. It was also decided that each team member would spend their own money initially with a hope to get funding later by sponsors. Then started the real preparations. VU3KKZ, VU3MTT and VU2RDQ handled all the logistics with help from VU2RCR who ferried most of the stuff to Mangalore from Bangalore in his car. VU2LBW formatted the laptops and installed WriteLog and the templates for logging. Even though Lakshadweep is part of India, there are very stringent restrictions for visitors and entry permits had to be obtained for each operator from several departments of the administration. The tickets for the journey by ship had to be organized. VU3KKZ, and VU2PJP, made innumerable trips to Cochin to organize everything. Due to personal reasons, VU2UR, VU2LBW, VU2ZAP and VU2TS dropped out of the expedition.

Earlier in the planning, our team had offers from many international skilled contest SSB, CW and Digital operators to be part of our team, but this option was terminated since the operation was limited to Kavaratti where foreigners are not allowed. The DX community was totally un-aware of this effort. Our mission as an all Indian team was going to be truly tested as to how we as operators conducted ourselves, in spite of limited or no prior exotic DX-Pedition or high volume contest experience, and to perform in an effective manner with the resources permitted and propagation

available.

THE OPERATION: The first team with OM Basappa - VU2NXM, OM Chandru - VU2RCR, OM Chetan - VU3DMP, OM Krish - VU2VKU, OM Murthy - VU2MTT, OM Micky - VU2IZO, OM Nandu - VU2NKS, OM Pai - VU2PAI, OM Peter - VU2PJP, OM Rohit - VU2RDQ, OM Rajaram - VU2KKZ, YL Sarla - VU2SWS and helpers left Kochi port by sea on 29th November 2006 and arrived at Kavaratti on the 30th. Throughout the journey, propagation trends and operating schedules were discussed and by the time the island was sighted, the excitement was palpable!!!!

We were welcomed to the island by the locals who had put up a banner at the entrance!!! On checking into the hotel the next thing to do was to check the locations and set up stations. A main station with VHF connectivity was installed in the hotel to coordinate the event. The entire day was spent in setting up the antennas and exactly at 0001 HRS IST on the 1st December, the first CQ call was made and the first contact made on 80M with VU2TS.

LOCATION 1: This location was an unused police tower about 80 ft tall, with a room underneath. While VU2NKS, OM Nandu used his expertise in assembling the antenna at ground level, VU2IZO, OM Mickey, used his experience as a mountaineer, to set up the 3 element SteppIR antenna on top of the tower. It involved many trips up and down the tower in the hot humid weather, but when it was finally done, the signals were fantastic. This station was manned by VU2SWS, VU2IZO, VU2NKS, VU2GGR and VU2NXM. A 40 metre wire dipole was set up in the same site. The radios used were ICOM 746pro, ICOM 706, and Yaesu FT 840. Modes operated were SSB, CW & Digital.

LOCATION 2: This location was right on the seashore in an unused hut. A 3 element SteppIR antenna was set up at a height of 15 ft from the ground and a wire dipole for 80 and 160 metre was also homebrewed and installed. VU2PAI, VU2MTT operated on CW and SSB modes and put out fantastic signals which were heard all over the world.

LOCATION 3: Very close to location 2 was another station manned mostly by VU2VKU, OM Krish. A 2 element SteppIR antenna was installed in quick time by him and with his ICOM 756 pro 2, he had thumping SSB signals!!

LOCATION 4: This was in the Dolphin Dive centre, where a vertical SteppIR antenna was set up right next to the water and the rigs were placed under a big open hut. It was DXpeditioning in true beach style, where one could work radio and sleep under the stars. This station performed par excellence and was operated by VU2RCR, VU3DMP and VU2RDQ on SSB mode. Whenever possible all operators tried to operate from different locations.

For the first few days all the operators worked practically all day and night with very little rest. Whenever there was a band opening, there were at least 2 stations on SSB and CW and a station on digital mode. Though the team had studied all the propagation charts and worked as per the scheduled openings, mother nature ruled the skies!!! 40 metres was a tremendous challenge with the noise level being 59. There were pirate stations on air, and solar flares during which all bands went dead.

The second group of OM Gopal - VU2GMN, OM Sunny - VU3SPQ, OM Sanjay - VU2SJD, OM Lakshman - VU2LX, OM Sasi - VU3ELR & OM Sara - VU3RSB arrived on the island on

the 10th. A few of the operators from the 1st group left the island. This group too operated on all the modes.

The third and last group to remain in the island were VU2IZO, VU2NKS, VU3RSB and VU2RJP. They finally wound up all the stations on the 29th and set sail for Kochi.

Being the first operation of this kind to Lakshadweep made the on-air activities in some ways second priority. We were very conscious of the fact that nothing we did should impact future expeditions. We therefore had to take especial care that we did not intrude on the islanders' activities or be a burden on their limited resources. Our team also spent time conducting seminars on amateur radio for local officials and getting them interested in the hobby. The goal was to develop relationships for future support and eventually be in a position to help them set-up future club stations on various islands. We vested about 20% of our operation time in developing and maintaining island relationships and establishing communication methods. To put it in basic terms, if we failed to treat the first trip in a sensitive and delicate manner, all future trips might be impacted or not authorized.

Band openings were very unpredictable and as we did not have access to the internet on a regular basis, we were unable to take advantage of predictions and cluster information. E-mail messages received on the mainland with suggestions were passed on to the team by VU2ZAP via mobile phones. VU2ZAP also, very efficiently, took on the task of sifting through logging data and answering the hundreds of messages that started pouring in after online logs were put out.

With over 57,000 QSO's, the VU7LD DX-Pedition was very successful! So successful, that it has impacted the overall DXCC Most Wanted List ranking which will fall to the number 10 position prior to being activated by future planned VU7 DX-peditions.

We have received numerous letters and emails from the international amateur radio community thanking the VU7LD team for new country and a job well done! VU2ZAP and VU3KKZ are now handling the actual despatch of QSL cards from Bangalore after receiving the stickers and envelopes from our QSL Manager Joe W3HNK.

OUR APPRECIATION:

We are very grateful for the spontaneous support from equipment suppliers and encouragement from the DX community with substantial grants from NCDXF, the Clipperton DX Club, David S. Topp, The Mumbai YL meet, RSGB and the GDXF, with numerous smaller grants and donations from groups and individuals. All donors have been acknowledged on our webpage <http://arsi.info/vu7/> where photos are available for you to take a look.

We are also very grateful to the Kavaratti islanders who welcomed us to their island and made us feel at home. Specially, Mr. C. M. Ahmed, Director IT, Mr. Shaikat Ali of Dolphin Dive Centre, Mr. Atta Koya who personally supervised the shipping of all our materials, and the district administration

As President of the ARSI, I wish to congratulate the full team who worked with great zeal and were responsible for a very successful DXpedition. We have proved to the world that VUs are a force to reckon with. ARSI looks forward to many more DXpeditions in the future.

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INTERNATIONAL MUMBAI YL MEET - OCT 2006



THE SHEVEROYS HAM MEET



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