HAM
RADIO
NEWS

Vol. X No. 2

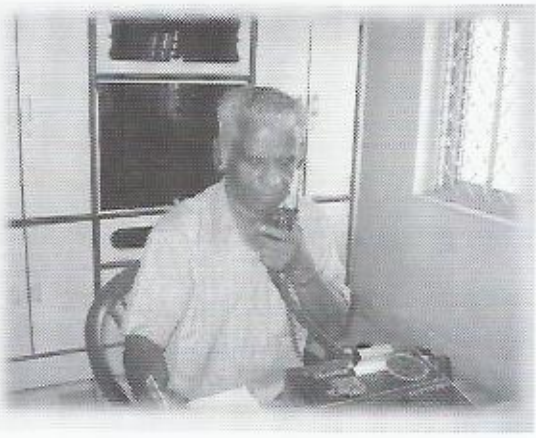
April - June 2004

The Journal of Amateur Radio Society of India (Member of IARU)

Price: Re.1

"AMATEUR RADIO - A NATIONAL RESOURCE"

Elephanta Island
ATØBI
AS169



Unity Is The Motto

CLUB NEWS

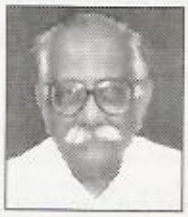
The managing committee of the Mumbai Amateur Radio Society

VU2TSF (Peter) receiving 2nd Prize with VU2PTR & VU3MPA

Youngsters of the KARL In Quilon

VU2VQL (Sadasivam) honored by VU2INA with VU2VIT & VU2RO on the side

From the President's Desk



During the last couple of months I have been traveling, visiting Ham get togethers in different parts of the country.

On 16th of March Gopal VU2GMN and Raja VU2KKZ traveled with me to Coimbatore. OM Vidi VU2DVP and his XYL Chitra VU2CVP organized a get together of Hams in Coimbatore and near by places. About 40 to 50 people including Gopal VU2GDG were present. Between discussions on Amateur Radio activities and refreshments we succeeded in getting a few new members for ARSI. Gopal VU2GDG also promised some advertisements for HRN. (This is being followed up.)

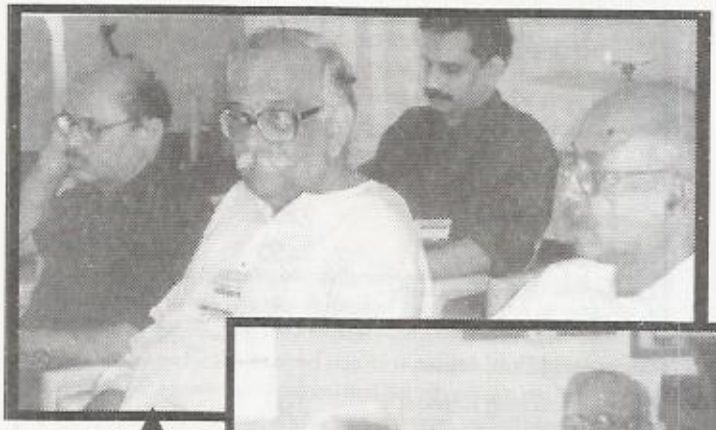
From Coimbatore we traveled to Quilon to attend the Hamvention, organized by the QARL. Nearly 150 people attended the function. The organizer OM Nadarajan VU2KGN was kind enough to ask me to be the guest of honor. The meeting was in the morning and after lunch a boat trip in the backwaters was organized for the delegates. We could not participate in the boat trip as we had to return early. At the Hamvention we were able to enroll more members for ARSI.

Towards the end of April I went by road to Mumbai, where Sarla, Adolf and I met and were able to sort out accounts matters with the bank. All accounts will be totally operated from Bangalore now.

During my return journey home, I traveled via Pune, where a few Hams meet every first Sunday of the month. I attended their meeting on the 2nd of May. It was a good get together with some old timers. Karnic VU2CK, Kalker VU2EN, KEKI VU2KT etc. to name a few. There were also many youngsters. We could get a few new and some renewals for ARSI membership.

On the way back I stopped at Kolhapur and visited the QTH/of Suhas VU2SMN. With his modest Shack he has done wonders. He surely is the winner of the highest number of awards for Amateur radio activities in India. Some of them are displayed on the wall but most of them are preserved in an album.

It was a good trip for me as my aim to enroll more members for ARSI was fulfilled to an extent. Having an eyeball with fellow hams is always a pleasure! I appeal to all members to pay their dues on time. Wishing all of you happy hamming ,73



Quilon

Pune

Coimbatore

Kolhapur

OFFICE BEARERS

President : IARU Liaison Officer & Awards Manager:
R. Ramchandra VU2RCR (Chandru) 488, 14th Main, 3rd Block, Koramangala, Bangalore - 560034 / LL 080 2553 6853 / Cell 080 31820213/ Email :rcr@vsnl.com
Vice President: Ms Sarla Sharma, 7,Gaurav Apts, Behind Ashok Nagar, Nahur, Mulund (West) Mumbai 400080 LL 022 25682361 / 98211 66411
E.Mail:coilnrs@bom3.vsnl.net.in or sarla_sharma@hotmail.com
General Secretary: N. Ramakrishna Reddy VU2RKC (Bobji)76, Vital Malaya Road, Bangalore-560001. / L.L 080 22214228 /Email bobrkc@vsnl.com
Treasurer: K, Ravindran VU2RC (Ravi) 95, Rainbow Drive, Sarjapur Road, Bangalore - 560035. LL, 080 28441588 / Cell 09886228800 /Email : kinetic@asia.com
Editor: Ms. Sarla Sharma
QSL Manager: D.P.Dey, VU2DPD, 5s, Moore Avenue, Kolkata-700040 LL 24114719.
QSL Bureau: P.O.Box 17116, Kolkata -700033.
The current address of the society is: ARSI, c/o R.Ramachandra , VU2RCR, 488, 14th Main, 3rd block, Koramangala, Bangalore -560034.

PAYMENT INSTRUCTIONS

All payments to be made by draft in the name of ARSI payable in Bangalore. Money Order can be sent to the above address. No payments by cheques please.

Note: To Members of the ARSI news group

If you have not received email from the newsgroup for some time, it may be due to your email has or had been bouncing in any one of the Yahoo egroups and you did not reply to the "reactivation" message from Yahoo groups. Until you reply to the reactivation message your account with yahoo groups is suspended. To insure that you don't miss any announcements from any yahoo group please reply to the reactivation message from Yahoo groups immediately and keep your mailbox free to accept more mail. ARSI news group page is at http://groups.yahoo.com/group/ARSI
To Subscribe: ARSI-subscribe@yahoogroups.com
To Unsubscribe: ARSI-unsubscribe@yahoogroups.com
Please send any submissions to arsimail@vsnl.net
73 Raj VU2ZAP Moderator ARSI newsgroup

W.P.C Address : The Assistant Wireless Adviser to The Government of India, Ministry of Communication & Information Technology, Department of Telecommunications, WPC Wing, Amateur Radio Section (Room # 619), 6-Floor, North Core, Sanchar Bhawan, NEW DELHI-1 1 0 0 0 1. Ph: 011-23355441, 011-23036951 Fax: 011-2371611

Contents :

Membership	Admission	Annual
Category	Fees(Rs)	Fees(Rs)
Patron	15000	Nil
Life* (For existing Corporate member)	2250	Nil
Life *	2450	Nil
Corporate (Individual with Valid Amateur Licence)	50	150
Corporate (Club, Society or Institution with Licence)	100	200
Associate (Individual, no Licence required)	50	75
Associate (Club, Society or Institution without Licence)	100	200
Student Member	20	30

*Senior citizens ,i.e, those above 65 yrs, can become life members by paying Rs.1000 only, instead of 2250(1200/-for NEW senior non members instead of 2450/)-YLs will be entitled to this reduced rate after they reach 60 yrs.

FEEDBACK

Dear Editor,

While admiring the achievements of VU2SMN, I think it would be in order, to bring the following facts to the notice of all:

VU2RM, OM Rao was awarded membership of the A1-OP Club by letter dated 6th February 1968. Two more in this club are VU2AJ,OM Dutt and VU2MD, OM Dady S.Major. I have seen the certificate of OM Dutt when I visited him. His CW was music to the ears and even at high speed, did not sound like wood pecking. He participated in the CW check in contest everyday and before QSYing to Hyderabad. Both the senior hams are not with us. There may be other A1 Operators which remain to be verified with ARRL. Similarly we should publish statistics of DXCC award winners in the HRN.

Vittal, VU2VIT

HRN would like to showcase all achievers. We request readers to send information about their achievements and also that of others.

Dear Sarla,

Received the HRN and am happy to note that most of the articles are from VU land unlike other mags publishing articles from the internet. Thanks to ARSI for publishing the 5 band VFO for GE524. A special thanks to Ha5cq and VU2NXM.

In the report by VU2VIT on the CW check in contest, there were some errors, which I would like to bring to your notice. 1) The certificates were printed and donated by VU2 DEV, OM P.H.Ramaprabhu. The name Venkat is wrong. 2) VU3 JIM OM Jagannathan was not mentioned. He had presented a very cute home brewed Morse key made out of a latch in red and golden colour on a wooden whield. This was presented to the 1st Runner up, young lad VU3GOI, Vinay who missed the 1st prize due to his exam timings. 3)BARC(VU2ARC), gave 1 frequency counter, 3 sets of keyers and sets of 3 in one (Time,Temp and Humidity) indicators. The Morse code decoder was not given. Vittal has been informed about this on the band.

Raj, VU2GUR

My dear Sarla,

There is a small correction to be made with reference to your column "CQ ALL VU HAMS" in the Jan-March issue of the HRN. The person you are referring to in the column is my mother Nargesh & wife of General Kab, VU2BK. Very sadly she expired due to a sudden heart attack on 6-2-2004. She was a wonderful person and put up with two die hard hams in the family. She was always doing the extra work so that we could pursue the hobby all the time. Now we miss her very much and of couse ham radio has gown down the ladder as far as priorities go!!!

We all enjoyed the last eyeball qso with you and your magazine is certainly getting better with every new publication. Lots to read and lots to learn!! Keep up the good work and let all VU Hams benefit from this. We need very much a fine ham magazine of our own.

73s/88s

Zal, VU2DK

Sorry for the goof up Zal. The report on the eyeball qso is for all to read in this issue. I am sure you will cope and come back with full gusto on the band!!

Dear Editor,

How is it that you forgot to mention about our friend VU2UR OM Arasu, who was also at Taiwan at the IARU Conference, and got elected unopposed for the post of Regional Monitoring Systems coordinator for another three year term ??? He is with the IARU Region 3 since 1999, if you have that info. All the best,

Vis. SWL-VU-0020

HRN apologises for the slip up.

Dear Editor: Ms.Sarla,

I received my copy of HRN after a long time from ARSI office due to your personal efforts only. I am very much thankful to you for your kind help.

CQ ALL VU HAMS

Its vacation time and I though have not Qsyed anywhere, I still have my hands full!!!

An island activation in our area after ages! Thanks to the duo VU2UR and VU2NXM, Elephanta island was activated. The duo had their quota of problems before they landed in Elephanta. The actual proposed destination was Butcher island and hence the call AT0BI. But at the last moment the venue was changed due to security reasons. I was in constant touch with them all through their journey and was the first to give them a signal report. The next day I went all by myself to Elephanta to record the event in person. I spent a few pleasant hours and soon it was time to leave.

The return journey was a very interesting experience. While walking back to the jetty, I was informed that the last ferry had left!!! I really didn't know what to do!!! But, a kind villager, a young lad with a mobile phone, called up the captain of the ferry and it was bought back just for me!! Thank God for mobiles!!!! But then I had to really hurry up. So I did a sprint. What takes half an hour to cover, I did it in 20 mins!!! I work out in the gym everyday and this was proof that I was in ship shape.

At the jetty I was greeted by the cold stares of about 50 60 people, who had to wait for me!! I apologized profusely and felt like a punished schoolkid, made to stand up on the bench!! Before anyone could ask me the reason for my actions, I closed my eyes and pretended to sleep, for the full next one and a half hour journey!! I think I deserve a medal for my racing and my acting.!!! But the silver lining was that I had the material for the cover story of the next HRN!!

Our President Chandru has had a busy month touring and making new members. We settled the bank affairs when he was in Mumbai and had a spot of lunch together.

All eyes are on the Mumbai Amateur Radio Society who have still not divulged the venue, dates for the next Hamfest. HRN wishes them all the best and hope to hear some news soon.

Till next time, 73

Sarla

.....

Through this magazine I would like to inform all that, about 30 members and I have started a FON Amateur Radio Club in Agra Cantt. , Now we have decided to hold ASOC examination and other related activities for the improvement of the club and its new members with the help of the Agra Radio Club.

FON Amateur Radio Club, Agra Cantt. is a member of the ARSI and most of the 30 members are also individual members of ARSI. So it was a dream comes true in Agra , to be affiliated to a well known society where we can do something for the betterment of Ham Radio

I request to our President Mr.R.Ramchandran and you as a vice president of ARSI to persuade the WPC to issue a Club Licence soon to FON Club Agra. The application for club licence has been sent to WPC in Nov.2003 with all relevent documents with copy to Mr.Shahrudin.

The HRN magazine is very much appreciated and is improving with every issue and I hope is received and read by all Indian amateurs.

With good and best wishes. 73s,

Ram , VU2RNC

The Fourth Annual General Meeting and Elections for the Fifth Managing Committee of the **Mumbai Amateur Radio Society(MARS)** was held 1st May 2004 at the S.S.Hall, Garware Club, Churchgate, Mumbai. The meeting was well attended . There was no voting required as there were only 7 nominations for 7 posts in the Managing Committee. The new Committee consists of VU2 HIT- OM Huzefa(Chairman), VU2ICQ-OM Mehul(Secretary), VU2CBU-OM Prashant(Treasurer) and committee members VU2RIO-OM Pankaj, VU2MIG-Kapil, VU2OZO-OM Manish and VU2AUA-OM Arun.

The meeting of the **Madras Amateur Radio Society** was held on April 24th 2004. Besides the members, 9V1JN OM Jothi a Past President of SARTS- Singapore Amateur Radio Society and IARU delegate, also attended the meeting. VU2GMN-OM Gopal gave an update regarding the activities of ARSI, the setting up of a permanent office in Bangalore and the attempt to contact individual hams to give them details of ARSI. Jothi also spoke about his long association with SARTS and IARU, and the importance of the majority of licensed hams becoming members of the Apex body in India. There was a lot of discussion on what could be done to enable ARSI to be effective. 1) To try and get the renewals of ham licenses decentralized and get the regional offices enabled for the renewals. 2) To advise everyone about the current address of WPC and also the method of sending applications for renewals etc like only sending letters by ordinary post, the actual amount of d/d's for renewals etc. This was discussed at Coimbatore and Quilon. It would be useful to disseminate this information to not only ARSI members but also to other licensees. 3) Whether it would be possible for an organization like MARS (Madras or Mumbai) to become a member with a consolidated amount payable annually so that all members of MARS automatically become members of ARSI. The members are paying an annual fee for the individual clubs and something may be possible to link that with an ARSI membership, with the association sending a consolidated payment once a year to ARSI.

Eyeball meet at Mahabalipuram on 14th and 15th Feb 2004 For the second year in succession an eyeball meet at Mahabalipuram was held with nearly 60 people attending. There were about 15 outstation participants. A quiz programme was conducted by VU2PTR, OM Thyagarajan who also sponsored the prizes. Nearly, 30 people participated in the program and about 50 questions were asked. All participants enjoyed the program which is an indication of the high level of knowledge of technical matters relating to electronics and dxing. No need to mention that the ozone filled air of Mahabalipuram beach was enjoyed by participants staying over on Sunday who enjoyed strolling on the beach. The event was marked by the visit of old timers - VU2VQL, OM Sadasivam who has been promoting ham radio in Madurai for the last decade, is a Retd. Prof. of Madurai Kamaraj University and is continuing his noble service to Ham Radio, VU2RJN, OM Rajan from Shoranur, an ex Marine Radio Officer who has been promoting cw for the last decade, VU2RO, OM Soma from Bangalore who is a Retd Scientist from DRDO and AIR, past vice president of MARS(Madras)and has been keeping alive the Bangalore repeater check- ins by conducting some discussions on air on various subjects from astrology to atomic bomb every Sunday, VU2RM, OM Rao whose circuit RM96 has exceeded double century, VU2INA, OM Inarappan and his XYL Geetha the hosts and took care of all the Hams. VU2XHA, OM Padmanaban, VU2MPK Om Kannappan, VU2KBX OM Kannan thanked the hosts and participants look forward to this meet every year.

The World Amateur Radio Day was celebrated by the **Quilon Amateur Radio league** on 18th of April 2004 in a grand scale. The day started with the 8th Kerala VHF Fox hunt for the CSD Rolling Trophy. About 6 teams from Kerala and Tamil Nadu participated in the event. The 1st prize was won by the Kerala team and the 2nd prize by the Tamil Nadu team. Next, a meeting was organized in Jaladarsani Hotel on the water front. OM Vaiyan VU2VAT welcomed the gathering. OM Suri, VU2MY of NIAR Hyderabad inaugurated the meeting by lighting the traditional oil lamp. In his address he stressed the need for unity amony hams in this country.In his presidential address, the President VU2KGN, OM K.G.Nadarajan sid that everything that exists is a part o God. A tangible way of achieving this is to practice selfless service and this is what hams do. OM Chandru VU2RCR ,one of the directors of IARU and the President of ARSI was honoured by offering a golden shawl by VU2KGN. In his addresshe requested all the join and strengthen the amateur radio movement for the development of scientific temper and for nation building. He also requested all to help him in organizing the 2005 Seanet convention to be held at Bangalore. Many new members joined the ARSI. VU2PAJ, OM Kumaraswamy Raja from Rajapalayam, VU2 VQL, Prof. Sadasivan from Madurai, VU3SIO, OM Sanil from Calicut offered felicitations. The souvenir was released by VU2GMN, OM Gopal Madhavan from Chennai. Prizes for the Fox Hunt was distributed by OM Suri and the Lake City phone contest prizes were distributed by OM Chandru. Chandru also inaugurated the Wireless exhibition, were many homebrewers exhibited their rigs. VU2SYT, OM Surendran proposed the vote of thanks. VU2SXC, OM Sunil was the master of ceremonies. After lunch, there was a boat trip on the Azhtamudi Lake were eventing tea was served. The whole event was enjoyed by all and the function ended at 5 p.m.

The **Quilon Amateur Radio Club** is conducting the following nets:1)The Quilon VHF morning net thro the VU2CSD repeater from 7am and 7.15 am. 2)Lake City net at 7085 Khz from 8am to 8.30 am. 3)Lake City VHF net at 145.50 Mhz from 9pm to 9.15pm. 4)Quilon VHF evening net thru VU2CSD Repeater form 9.30pm to 9.45pm. The Quilon repeater VU2CSD is connected to Eco link from 20-4-04.

BIRD OF PARADISE AWARD

This award is conferred when you are able to provide evidence of confirmed contacts with 5 P29 operators in 3 separate provinces of PNG. A certificate acknowledging that the holder has met the requirements of the Bird of Paradise Award is sent to successful applicants. Stations meeting the Award requirements can apply for the certificate with a US$5.00 handling and postage fee. NOTE no IRC's accepted! P29KPH Peter, PO Box 384 UKARUMPA EHP 444 , PAPUA NEW GUINEA

NASA names new supercomputer after lost Columbia astronaut "KC" Chawla, KD5ESI (May 12, 2004) -- NASA will dedicate a new supercomputer in memory of Kalpana "KC" Chawla, KD5ESI. She was one of the seven shuttle Columbia STS-107 mission crew members lost February 1, 2003, as the vehicle was returning to Earth. The May 12 dedication ceremony will be held at NASA Ames Research Center in California. "It is indeed an honor to name NASA's new SGI Altix 3000 supercomputer after Kalpana Chawla," said Ames Center Director G. Scott Hubbard. "She was not only a member of the NASA family, but also a special member of our own Ames family.

We all miss her and her many contributions to the agency." The first Indian-born woman to fly in space, Chawla served as a flight engineer and mission specialist aboard Columbia. Before joining the astronaut program, Chawla was an aerospace engineer at Ames from 1988 to 1995. There she had the challenging task of computing the airflow surrounding a jet-supported delta-wing aircraft during landing. NASA says that of the dozens of experiments successfully conducted by the Columbia crew, Chawla's favorite was the Israeli Mediterranean Dust Experiment, which involved pointing a camera at Earth to study the effects of dust on weather and the environment. "Fittingly, the SGI Altix 3000 supercomputer that will be named 'Kalpana' is being used to develop substantially more capable simulation models to better assess the evolution and behavior of Earth's climate system," said Ghassem Asrar, NASA's associate administrator for earth science. NASA's naming of the new "Kalpana" supercomputer follows a long tradition at the research center of naming its new supercomputers after pioneers in the supercomputer industry or others in recognition of their achievements. The Columbia STS-107 crew, headed by Commander Rick Husband, also included Pilot Willie McCool and Mission Specialists David Brown, KC5ZTC; Laurel Clark, KC5ZSU; Michael Anderson and Payload Specialist Ilan Ramon, the first Israeli astronaut.

Two more European countries have gained access to the 7100 to 7200kHz segment of the 40-metre band. San Marino, T7, has authorised amateur radio operation in the 7100 - 7200kHz band on a Secondary non-interference basis, with effect from the 25th of February. The Norwegian Post and Telecommunications Authority has also announced that Norwegian radio amateurs can use frequencies in the segment 7100 - 7200kHz with secondary status starting from the 1st of April. This is in addition to the existing segment 7000 - 7100 KHz where radio amateurs have primary status. The maximum transmitter output power in the 7100 - 7200 segment will be 100 watts in Norway, and the maximum bandwidth 6 KHz. Croatia, 9A, was the first European country to expand its 40-metre band in December last year.

A special and interesting **"countdown on the air"** program will be active from many Greek radio amateurs on last 99 days until 13 Aug, the starting day of the OLYMPIC GAMES 2004. Nine (9) Multi operators special Event Stations as SX9A, SX8A, SX7A, SX6A, SX5A, SX4A, SX3A, SX2A and SX1A from the nine (9) Greek regions, are active now until 12 Aug. These stations will be on the air every 10 days one by one, to celebrate GAMES. No QSL manager, QSL via Greek Bureau ONLY. More info, calendar and on-line logs for the "2004 OLYMPIC GAMES Countdown on the air program" you will find at:

http://www.qsl.net/sv2ngct/sx.htm

Olympic Prefixes For Greeks And Foreign Ham

The Greek Communications Authority has announced that Greek radio amateurs may use the optional SX2004 or SY2004 call sign prefix from 1st June 2004 until 15 November 2004 to commemorate the Athens Olympic Games and Paralympic Games 2004. Also foreign radio amateurs, as visitors in Greece, from CEPT countries or from countries with reciprocity (U.S.A., Canada , Cyprus , Switzerland and Australia) can use the special prefix J42004 from 1 Aug 2004 until 15 November 2004 without any license from Greek Authorities. All others need communicate with Greek Authorities for special permission.

The event to celebrate the entry of ten more new states to the European Union, have been done by many countries of Europe with special calls with suffix EU. Some calls heard are C4EU, OR5EU(HQ stn), S52004EU etc

Dayton Hamvention

The Worlds Biggest Ham Radio Event - DAYTON HAMVENTION May 14th to 16th was a very grand event.Those who are planning to visit USA or going to be in USA - do note down these dates to attend 54th Dayton Hamvention (R) - May 20th to 22nd, 2005 (also it will be the 75th Dayton Amateur Radio Association's 75th Year !!), May 19th to 21st, 2006 and May 18th to 20th, 2007 are Future Dayton Hamvention (R) Dates already announced !!! The size of this venue 165000 Sq Ft with 7000 Car parking Space and more than 25 Thousand Hams visiting from all parts of USA and world. Do keep checking the website http://www.hamvention.org

(Ragchewing cont. From page 15)

of antenna is 60 feet to the T. Other wire antennas are also used like the open wire Zepp and Delta loops for the WARC bands. Till 1970 Kab and Zal used only quad antennas but then maintenance was getting very tough. This beam shows a gain of approx. 9db and a front to back of approx.38db. This side to front is a very sharp at almost 45db. Only thing is that this antenna is not broad banded due to its old design meant for valve type gear. With an atu it works A ok.

Zal can be found rag chewing on 14.130+- qrm with his good pal dev VU2DAD and anyone caring to join a real hearty qso!! He does dxing once in a way and as he says "if I can be hears between all the big wigs"!! The tribander yagi and other antennas are remote witched with coax switches from VU2DK to VU2BK and vice versa.

Zal was one of the first official VU2SWLS in the mid 1950's holding the call VU-0006. At that time he used an old HRO type rx with a wingdom,ground plane,quad and 3 element homebrew 20m.yagi antennas. He shuns publicity and Sarla VU2SWS had to make a special trip to Pune to get him on her camera. It was an enjoyable eyeball after all the effort!!

QUICK FIX COLLINEAR DUAL BAND ANTENNA.

- By Soma, VU2RO

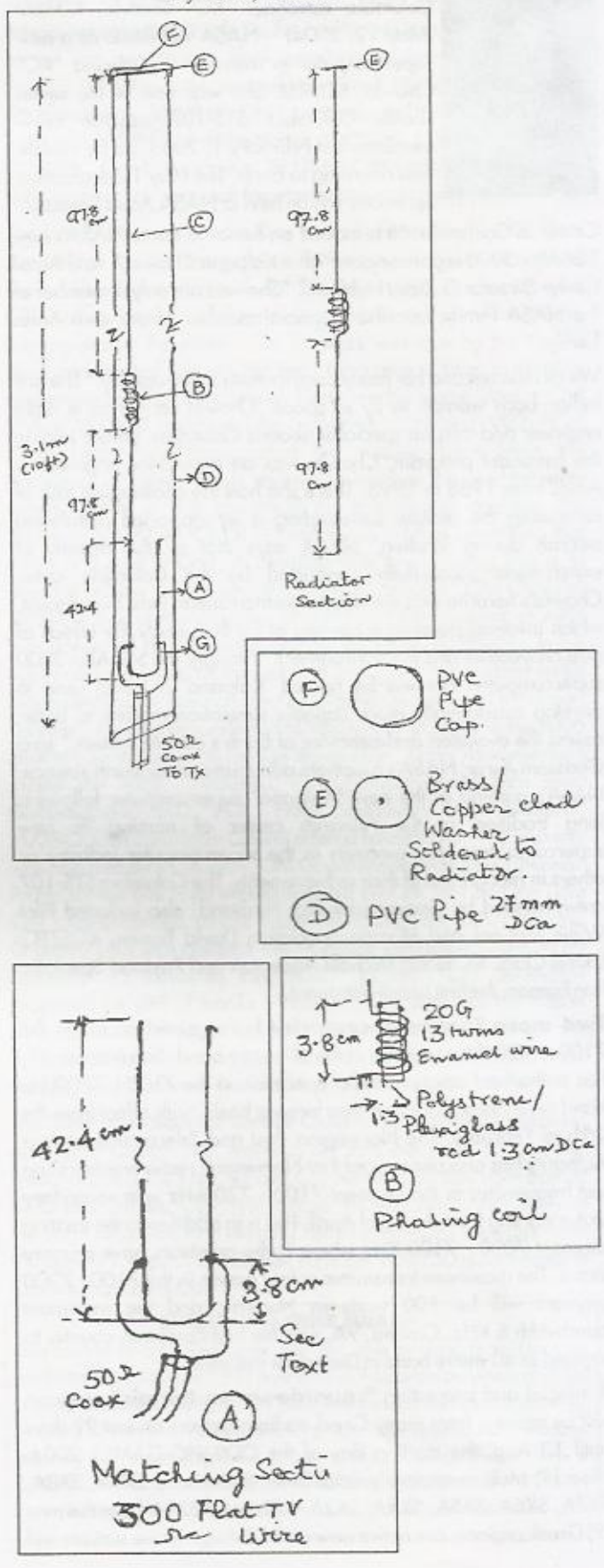
BARC (Bangalore Amateur Radio Club) in their Feb 2004 bulletin published an article on easy to build antenna by Crazy George from the internet ,without the figure for construction. I tried to execute the same after making the drawing from the details given and found it working very well. So I wanted to share this information with the other fellow hams. The antenna will also be non conspicuous except for a pvc pipe of 3.1 meters protuding on the terrace. It has good long distance propagation on VHF, but could be used for UHF also on the same feeder. Since I do not have 70 cm rig I could not test the same.

Bill of components:

1. 1 piece of 300 ohms, TV flat cable 50 cm long.
2. 1 phasing coil on a former of 13 mm diameter,13 turns 3.8c long.
3. 2 radiators of 12/10 gage insulated solid /multistrand wire used in house wiring of 97.8 c each.
4. PVC pipe 27mm diameter 3.1 m long.
5. 1 copper clad/brass washer of 28mm diameter to be soldered on one radiator on top.
6. 1 PVC pipie cap (PVC Chair leg stopper) for 27 mm diameter pipe.

The antenna has five parts, the TV flat cable as the matching section, connected to the radiators, with the phasing coil in the middle. The top radiator can be soldered to copper clad washer so that it holds the radiator inside the PVC pipe. The antenna can be pushed inside the PVC pipe after soldering the Quarter Wave Matching section with the 50ohm co-axial. The lengths of the elements and the matching point from the shorted end of the matching section are adjusted for the best VSWR. The length of the matching section with one end shorted is 42.4 cms as given in the diagram . Other details are selfexplanatory. The pipe can be attached to a support after assembling the antenna and inserting inside. It gives a very satisfactory performance and it is comparatively cheap and worth experimenting.

Fabrication: Take the flat TV cable of 50 cm long and cut it to measure 42.4 cm. Trim the three winds from insulation, join two ends to form a short. Remove insulation from 4cm to 5 cm from the shorted end and tin for soldering the 50ohm co-ax cable. At one of the trimmed end at the top, connect the radiator 97.8 cm. Make the phasing coil as per figure and solder the one end. The other end of he coil is soldered to the other radiator. The free end of this radiator is soldered to the copper clad, washer bigger than the diameter of the PVC tube, which will enclose the antenna. The co-ax is connected such that the screen is connected to the radiator of the flat cable as shown in the diagram. Suspend the antenna from a pole and adjust for minimum SWR, by trimming the point of solder of co-ax, and also the length of the radiators. Then insert the antenna inside the 27mm PVC tube from the top, with the soldered washer preventing the system from coming sown. Cap the top with fevibond with PVC cap. You are now in business when the PVC pipe is fixed to a pole depending on the height requirement in your QTH. Enjoy the fun with this simple but effective antenna, instead of investing a large amount on a ready made one.



REMINISCENCES

- By R K Murthy, VU2RAJ,

It was in 1954. I was staying with my Grandparents at Coimbatore and was in my final year in school. My Uncle, Sri Dwaipayan always had a flair to choose judiciously, useful and justified inventories for the house hold. So the domestic radio receiver at home was chosen carefully and the owner's pride was a "National Echo", a band spread model. Of course, the radio was so good that it was our neighbors envy too!

Uncle was a complete man, (though not robed in Raymonds) and a person who had a big say in the discipline of the house hold members. I think with his mother by his side, my uncle could command his position without any verbal deliveries on 'do's and 'don'ts! At that time the census at home stood at 9 adults and few youngsters and children, not to speak of the floating population!

However I took advantage of being a favorite to my Commander in Chief, the Grand Mother, and encouraged by the fact that Uncle was away almost throughout the daytime, I pleaded and obtained permission to try my hands on the Radio! I am talking of a moment 50 years ago! I was in class X. A broadcast receiver at that time is a prize possession. Will C-in-C dispose the humble petition in my favour?. I didn't know that that moment was what paved the way to my entry into this wonderful Hobby! I was surfing on the band carefully and gently and watchfully. It was a pleasure to tune the receiver to various stations thanks to its prestigious "flywheel tuning system". I surfed various broadcasts. But one sounded very odd! It looked that someone was casually talking and making a request! I listened a couple of times and understood that someone wanted to know how exactly he sounds at the receiving end! It was a clear message and there was an address for the listener to respond to! I said to myself, that's something! I hurriedly scribbled the address on the empty spaces of The Hindu that was lying around. I vaguely remember that only advertisements used to be in the front page and Uncle would skip that page and that I may not face a court martial! The address was that of Sri Lanka(then Ceylon).

Having clarified about the postage from the stamp vendor at the local post office who lived just nextdoor, I wrote to Mr Nicholas at the given address and enquired ,"What's all this about?". I aited for a week praying constantly that the reply should not go through the "customs" regulations at home! The fear was unfounded. One fine evening, on my return from school,

Grand Mother told me that there was a strange looking letter for me! She had not obviously seen a letter from Ceylon, but then neither had I! Mr. Nicholas has responded! OM Nicholas 4S7SN had taken pains to explain in simple language and about Amateur Radio and said that I should get in touch with one Baba at Coimbatore! I did and then almost immediately was bitten by the bug! Time rolled, years passed. Since this hobby needed financial resources, knowledge in electronics and time to spare, I postponed taking the plunge till I was comfortably settled in Chennai (the then Madras) with a job. The seed sown by Nicholas and Baba was now a nice little plant. VU2MN, OM Chander who happened to live in the same lodge as mine did the rest of my grooming.

I became a SWL with my HRO. But then I shifted to Ranchi, Bihar and my deputation to USSR for 1-1/2 years and thereafter after on my return getting crystal controlled etc kept me away from my building a shack for myself. This remained so till I found VU2PFD, Om Prasad. He put me on the fast track to get my ticket in 1973! A Full 23 years from the day I got Om Nicholas's letter in response to my curiosity! But then it is better late than never! Many fellow hams helped me shape my dream! VU2SE gave me lot of junk! He helped me to kickstart in home brewing. PFD gave me lot of hints on circuit design. VU2LL gave me such an encouragement, I can never forget his contribution! Indeed many other fellow hams are architects of my dream. I have tried to list them all in my web page: http://www.qsl.net/vu2raj/index.html and the links. Finally I owe my greatest gratitude to my mother who, though a very ordinary indian orthodox woman, kept my inquisitiveness on radio, highly active! Her constant wonder was "How Radio bridges the distances in sound reproduction?". I wish she lived long enough to get at least a basic xplanation from me! To day wireless technology has developed in leaps and bounds. Every mother in each generation should keep wondering the same way as my mother did so that the technology developes to a height for which the sky is the limit!

TRACKING THE BIRD

- By VU2ROE (RONY)

This is the story of my entry into the world of satellites. It all started when my H.F. Radio started giving problems while transmitting. That's when I started looking into other aspects of this hobby. I decided to look at satellites as they had always fascinated me and I wanted to unlock at least some of their secrets.

I started by searching the web and I was bombarded with a wealth of information I really did not know where to start. It was during these search that I came across the site http://www.satscape.co.uk where I down loaded the program called satscape. It had a real time view of almost any satellite you could think of. So off I went and switched on my receiver to track the satellites. It did not seem easy at all I checked and monitored the satellite frequencies in range but soon ran in trouble as I would not get the consistency.

That was when I remembered the web site of amsat-http://www.amsat.org. On looking there, all my problems were sorted. Here was the listing of all the operational, semi operational and non-operational satellites. From here things started to fall in place. I could track RS15 and take down the telemetry in C.W. and also decode it following instructions given on some web sites. It was enthralling to see the battery voltage, beacon transmit power and other parameters of the satellite in real time.

After some time I became used to satellite tracking. I realised that I could see the satellite in the sky if I knew where to look for it. During the course of time I set out to do something more. My next step was getting weather data from satellites. I stumbled upon the program wxtoimg from http://www.wxtoimg.com. I down loaded this. Using a vhf receiver an audio cable and a home PC, I was all set to get my first weather picture using the program and following some simple instructions. Helped by my swl friend Sandeep, I had my first glimpse of the satellite in the night sky as well as a live picture of the weather above me. So there it was, my basic vertical antennae,(even an ordinary dipole will work) vhf receiver and a computer and I had a weather station at home.!!!!

My quest goes on in ham spirit I will write when I find some thing new to tell until then enjoy the airwaves 73's and good luck I take this opportunity to thank VU2CY Cyril Martin, VU2FCX Alex Fernandes and SWL Sandeep Purushan whose constant inspiration has led to my quest for something new.

BALUNS

- By Art Blick, VE3AHU

We can use two W2DU 1:1 Choke Baluns to create a 4:1 Choke Balun. This can readily be done by using a parallel connection at one end and a series connection at the other.

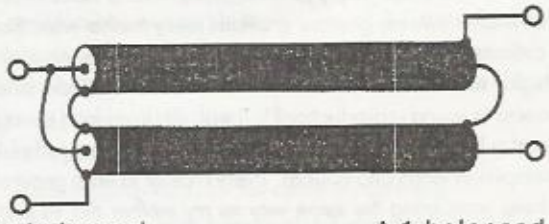


Figure 1: Balun using two W2DU 1:1 Choke Baluns

PUE156

Fig. 1 depicts how the coaxial cables, in the Choke Baluns, are connected to form a 4:1 balun such as can be used in feeding transmission lines or antennas that have an impedance of 200 ohms using 50-ohms using 75-ohm coax and 300 ohms using 75 ohms coax.

Three 1:1 Choke Baluns could also be used to create a 9:1 Choke Balun to match 50 ohm coax cable to a 450-ohm feeder /load by again connecting the one end in parallel and the other in series.

When using a 4:1 Balun and 300-ohm transmission line to feed an Off-Centre Fed (OCF) antenna. There is a possibility that there will be a degree of RF current flowing on the outside of the coax cable shield. If this occurs, the flow of RF current can be minimized by the insertion of a 1:1 Choke Balun below the 4:1 Balun.

Suitable W2DU Balun can be purchased from Amateur antenna suppliers or can be easily made : (a) using small diameter coax cable --- by placing 50 Amidon # FB-73-2401 ferrite beads over a 1-foot length of cable, or (b) using larger diameter cable - by placing 12 Amidon # FB-77 -1024 ferrite beads over a 1-foot length of cable.

The cable and beads are then inserted into a piece of PVC tubing, with one end of the cable using a PL-259 coaxial connector (or similar) to join with the coax cable feeder and the other end divided into two lines -- the inner coax conductor and the outside coax shield - to become the balanced feeder.

Information re Amidon ferrite beads and other useful items can be obtained online at <www.amidoncorp.com>.

A type of balun, used in VHF designs and not mentioned in recent columns, is that using an added length of coaxial cable to form either a 1:1 or 4:1 balun.

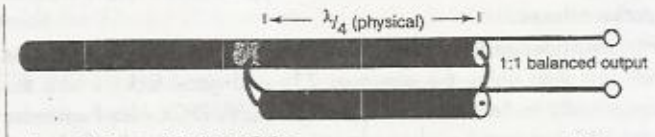


Figure 2: Pawsey Stub 1:1 Balun

PUE157

The simplest type, called a Pawsey stub and shown in Fig. 2, consists of a short - circuited, quarter-wave section of coax cable connected as shown.

The length of the stub is a *physical quarterwavelength* and is equal to (5902 K) / f [Mhz] inches with the value of "K" (for coaxial cable) of 0.955.

As a "rule of thumb", separate the stub from the feeder by the width of the coax cable used - a piece of wood dowelling works great ! -- and then weatherproofing the balun with vinyl tape.

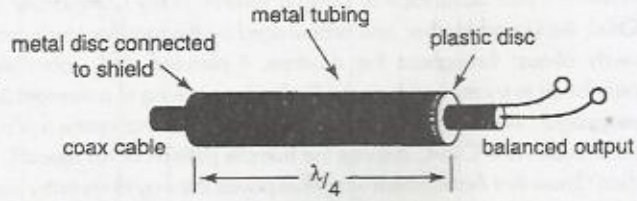


Figure 3: Coaxial Sleeve Balun

PUE158

A preferred 1:1 balun for VHF use is the type that uses a coaxial sleeve - see fig 3. The coaxial sleeves is made from a physical quarter-wavelength of metal tubing that is open at one end and connected to the coax cable outer shield at the other.

The shield should have an inner coax cable diameter to inner tubing diameter ratio between 2:1 and 4:1 -- using RG-213, 50-ohm coax; a metal tubing diameter between 1 and 2 inches is required.

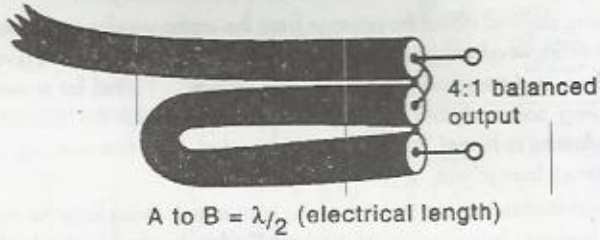


Figure 4: Coaxial Cable Balun

PUE159

For a 4:1 balun, use an electrical half-wavelength of coax cable similar to the feeder. Coax cable has a "K" of 0.66 and this added length is attached and configured as shown in Fig. 4 to give a balance output of 4 times the Characteristic impedance of the coax feeder.

Note that the antenna input impedance must be balanced and have a similar value as the balanced output impedance of the 4:1 Balun, e.g. use 75-ohm coax cable for the feeder and the 4:1 balun to match an antenna input impedance of 300 ohm such as a "folded dipole".

A reminder that weatherproofing of these baluns can be readily performed using an application of vinyl tape first, followed by an application of "self-fusing silicone tape".

(From The Canadian Amateur, Magazine July/Aug 2001)

TIPS FOR THE SHACK

- By Frank Merritt, VE7FPM

Since the beginning of the solid-state revolution (or perhaps evolution) there has been a profound move in the direction of the use of "building blocks" in electronic design. The first Integrated Circuits (ICs) are a dramatic example of this shift. Before the development of ICS, the circuit designer was faced with the problem of individually designing all of the circuits that would be included in his equipment. Particularly in the case of logic (computer) design, the development of the IC meant that the designer could use pre-designed and packaged logic IC circuits. If he needed an *and* gate he could simply use a 7400 IC. When powered the IC just did the job of the *and* gate in his circuit.

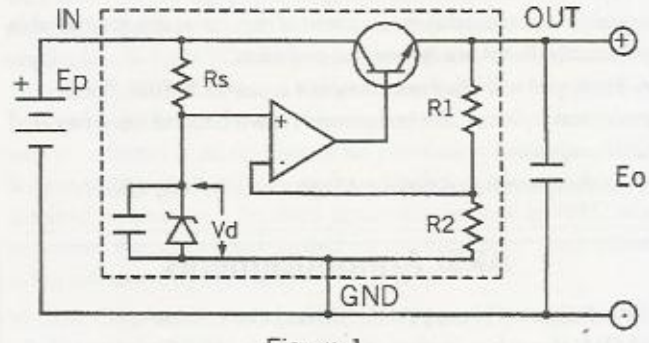


Figure 1
BASIC VOLTAGE REGULATOR

The same evolutionary movement existed in solid-state voltage regulators. The Zener diode can be a bit tricky to design with and definitely required more static or non-functional current; this affected the current budget of the design. One of the most dramatic shifts in solid-state design has been that of reducing operating current and also overhead (or current not used in the actual operation of the circuit) current. The three-terminal regulator was developed to fill this design niche.

As might be imagined the three -terminal regulator has three electrical terminals. The terminals are Input, Ground (or reference) and Output. How simple can something become !

Basically, but not exclusively, there are four packages that are most common with three-terminal regulators. They are :

1) TO-39 : Small plastic. Used in low-power regulators. Note : There are at least two other small plastic packages for low and medium-power regulators.

2) 221A : Large plastic package with heat sink tab. Used in 1-A regulators.

3) TO-3 : Metal diamond large package for 1-A regulators.

4) SMT or 751.01 Miniature Surface Mounted Technology (SMT) package for very low-power applications.

First, let's review the operation of the simple linear voltage regulator. The basic concept is rather simple. A series - connected transistor is regulated in current flow to result in an output voltage that is the result of a divided EMF applied to the negative input of an operational amplifier. A reference voltage is applied to the positive input of the operational amplifier. An operational amplifier (op-amp) is an electronic amplifier that can provide amplification of a very small input to be an output that is the multiplication of the input by the gain of the amplifier.

The positive input of the operational amplifier provides an output which is amplified and not inverted when a positive voltage is applied to the positive input of the op-amp, with respect to the negative op-amp input. At the same time the op-amp will provide an inverted output when a positive voltage is applied to the negative input of the op-amp.

In this case, the op-amp is a voltage comparitor which means that, when the divided EMF from the output voltage applied to the negative input of the op-amp is more positive than the reference voltage applied to the positive input of the op-amp, the resultant output of the op-amp is negative. The more negative output from the op-amp decreases the base-to-emitter current thus reducing the current flowing from emitter to collector. In other words, when the error voltage is too high, the pass transistor is reduced in current which reduces the output voltage.

The opposite occurs when the sum error voltage is negative. In this case, the output current of the op-amp increases the conduction from the base to the emitter and the pass current of the pass transistor is increased. Fig. 1, Simple Linear Regulator, provides a schematic.

It will be noted that a Zener diode is used to establish a positive reference voltage which is applied to the positive input of the op-amp. The voltage divider in this case is shown as two series resistors but it is most common to use a potentiometer to vary the error voltage which establishes the output voltage. In the case of the three-terminal regulator we have a package that has only three terminals which are Input, Ground (or reference) and Output.

The most common family of three-terminal regulators is that of the 78/79 type. The 78XX type indicates, by the "8", that it is a positive regulator. The "XXs" indicate the regulated output voltage. In the case of a 79xx regulator, the "9" indicates that it is a negative regulator. Again, the "Xxs" indicate the negative regulated output voltage.

There are a great number of manufacturers who market three-terminal voltage regulators using various nomenclatures. With the 78/79 regulators, the devices are available in at least two output

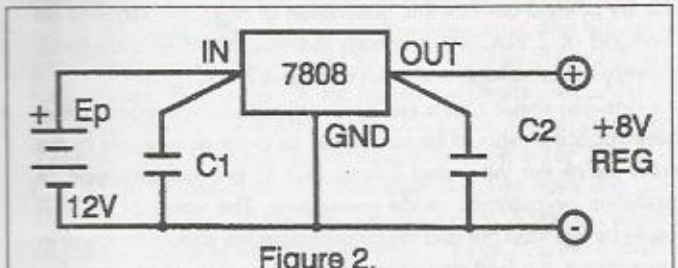


Figure 2.
BASIC POSITIVE VOLTAGE
3-TERMINAL REGULATOR CIRCUIT

voltage tolerances. The most common is 4%. That indicates that the device will provide an output DC voltage which is within 4% of the rated voltage.

In some applications, the temperature range is important hence devices are available which will function normally in several temperature environment ranges. In the situation of the TO-3 case style, the outer metal case of the device is used as the Ground terminal. Likewise with the TO-220 case style, the metal tab is the Ground terminal. The terminals on the 78XX regulators are different from the terminals on the 79XX regulators and caution should be exercised in their application.

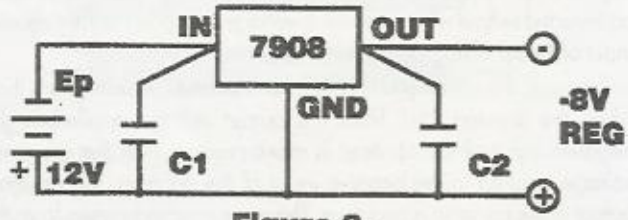


Figure 3.
BASIC NEGATIVE VOLTAGE
3-TERMINAL REGULATOR CIRCUIT

Initially, it was found that when a three terminal regulator was used it occasionally would be destroyed. This occurred when the filter capacitance on the output of the device greatly exceeded the capacitance on the input of the device. In this situation, the pass transistor is back biased and this can cause a failure of the pass transistor. Therefore, it is a matter of correct design never to have more capacitance in the output of the regulator than in the input.

Another way of dealing with this problem is to place a 1 A diode from the input to the output with the cathode of the diode at the input terminal . In the event that the output capacitance maintains the voltage across the pass transistor in the reverse direction, the diode will dissipate the reverse energy thus protecting the pass transistor.

The standard output voltages of the 78XX series are : 5, 6, 8, 12, 15, 18 and 24 VDC. In each case the input voltage may rise to a value considerably higher than the output voltage but the manufacturers specification should be referred to in a particular case. Fig. 2, Basic Three-Terminal Regulator Circuit, presents an example of the use of this type of device.

In the design shown in Fig. 2, 12 VDC is indicated as the input voltage. The range of input voltage is from 10.5 VDC. It should also be pointed out that this generation of regulator requires an overhead of 2 VDC which means that the minimum differential between output voltage and input voltage is 2 VDC.

The drawing shows C1 as the input capacitor. It is important that these capacitors should be connected as close as possible to the terminals of the Integrated Circuit (IC) to prevent any type of oscillation or common mode connection. The value of C1 will mostly be less than 5uf and the output capacitor should be lower in capacitance. It is best design to use *only* tantalum capacitors due to their superior quality and unusually low failure rate.

The failure rate of these regulator devices is very low and it is usually necessary to try very hard to cause them to fail. This, of course, is with the exception of an unusually high output current or a short in the output voltage line. In the case of an open, from input to output, 3-terminal device it is wise to first check for a short in the output of the regulator.

Fig.3, Basic Negative Voltage 3-Terminal Regulator circuit, provides information on the negative voltage regulation case.

It will be noted that the basic use of the 79XX regulators is in the same architecture but with the polarity of the In and Output voltages reversed. Of course, the correct polarities of C1 and C2 must be observed. The 1A regulators must be provided with a metallic heat sink to avoid overheading problems.

Within the last few years, and entire new breed of 3-Terminal regulators has been created in the SMT technology. These are a fraction of the size of the older types and, of course, are very current limited.. They are mainly being used for applications in which SMT is a requirement and the current required is very small. The three-terminal regulator is firmly entrenched in our present electronic technology.

Fortunately, present day three-terminal regulators are very reliable and usually do not present service problems.

Try them, you will like them. They are a part of the new "popcorn" generation in which the components have become very tiny and most inexpensive.

(From the Canadian Amateur, Magazine July/Aug 2001)

ARSI Announcements

OM G. Girmaji (Poru) VU2GGM and Om J. Bhide VU2JAU have been inducted as Members of the Gov. Council of the ARSI

This is just to remind every one that the Seanet 2005 will be held in Bangalore from the 7th to 9th October 2005. Planning has already been started by the Seanet 2005 committee, and the venue has also been zero-ed on. A few of us have decided to go to Bangkok for this year's conference (19th to 21st November 2004) where a Power Point presentation is going to be shown detailing the programme for the conference and giving India and Bangalore / Karnataka due publicity. Pre and Post conference tours will also be available for those interested. We expect over a 100 foreign delegates. Last years conference had this number and not just from the Southeast Asia countries but as far away as Mexico, Germany etc. It would be nice if many more would join the group as it is relatively inexpensive to travel to Thailand and there is a lot to be seen, and a sizeable delegation from next year's host country would be a good boost for our event.

If the response from our hams is good, then we can work out good deals with the travel agents including some side trips to interesting places outside Bangkok. Perhaps a trip totaling a little over a week would be very nice. Do think about it and let us know of your interest.

Vu2GMN Gopal MadhavanTel: 91 44 2493 7724, Fax: 91 44 2493 9818. Gopalmadhavan@vsnl.com

Link for the Seanet 2004

conference.http://www.seanet2004.com/

The ARSI's new webpage is underconstruction.!!!The address is:http://www.arsi.info

Check it out!!!

OUR TRYST WITH AT0BI

- By VU2NXM Basappa Arabole and VU2UR OM Arasu.

Elephanta island is a tourist spot off the coast of Mumbai. It is home to ancient Shaivite caves and is accessible by boat from the Gateway of India or from Uran.

VU2NXM, OM Basappa: In 2003 after extensive planning to activate the listed Janjira Island off the coast of Maharashtra, I was disappointed when IOTA HQ informed me that it cant be considered as an activation because Janjira was an island in a bay and not an island as defined by IOTA rules!! Though disappointed, I still proceeded and operated from there! So it was to my delight that in the revised list of islands, I found Butcher island and Elephanta islands listed. Once again I was bitten by the adventure bug and decided to try my hand in activating Butcher island. I immediately made the required application to the WPC who processed it quickly and gave me the special call AT0BI. But I was in for another jolt. The Mumbai Port Trust, whose clearance was required, stated that Butcher Island was a restricted area and hence no permission could be given!! But they suggested that I operate from Elephanta island as this was a tourist destination. So once again it was back to WPC who processed the papers and allotted the same call sign. I was joined in this adventure by my friend Arasu, VU2UR.

VU2UR, OM Arasu: I was so happy and excited to be part of this island activation, that I did not disclose my destination to even my family members!! At this juncture, I would like to give a little background information on the whole business of island activation. The Indian peninsula has a few of States with maritime boundaries. These States are Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Pondicherry, Andhra Pradesh, Orissa, West Bengal & Union Territories of Diu, Daman. There are several islands in the sea face of every one of these states. The territorial waters/maritime boundaries are governed by the Central Rules and maps issued by the Survey of India, and Maritime Maps help in precisely locating the islands.

Islands On The Air (IOTA) HQ, of RSGB, UK, refers to precise maritime/Admiralty maps available at the Cambridge University Library, for all references. They have listed most of the islands of every State, into the respective state Group after checking the island for the criteria they have, in order for them to be entered into the numbered/unnumbered State Groups. These islands are referred in this article, as coastal Indian islands. The islands of Lakshadweep,Andaman, Nicobar and Minicoy etc., which are far away from the mainland and with a separate DXCC entity, are not discussed here.

We left Lodhivali village on 26th March 2004 by road and reached the jetty of Uran village, in order to take a boat to Elephanta Island. After landing, our first job was to find a proper location. God manifested himself in the form of Shri. Narendra H Padte, a resident of the village, located in the island. On hearing about our plans, he was kind to offer us the total hospitality,of the place, food and all help from his home QTH. This made it possible for us, to set up shop, by 1230 UTC with two inverted vee antennae for 40 and 15m separately, amply helped by the ATU by MFJ.

Our first test call to VU2SWS, failed and YL Sarla reported distortion in the signal. The clue was enough for us to clean the terminals of the battery, and after that we had our first ever QSO from Elephanta Island with VU2SWS. We planned to put out 30 watts on CW and 50 watts for SSB operation. When our signals in SSB mode on different bands were heard in Europe, there was a mad pile up with all stations coming up with almost an equal signal strength, thus making copying any call sign completely a very tough job. Every system like working split frequency, call area technique, calling a particular country, etc failed, because of an unruly crowd. The Italians were the strongest of the Island Chasers, who never gave us a chance to copy others. Even then, we had to miss many weaker Italians. It was almost a QSO with "one in five". This unruly EU crowd, did not allow us, to fully utilise our battery power as we had to keep asking their call signs many times and this drained the battery!

It was great to hear OM Roger G3KMA of IOTA HQ, personally coming on our frequency on15mtrs, and giving us the provisional number AS-169 for the Elephanta Island. But for the unruly crowd, we had repeated help from PY7ZZ and 4X4JU telling us of our comparative signal levels at different times and there were many stations guarding the frequency for us. We didn't have much luck in the CQWW WPX Contest QSOs, as the multi-multi 3B9C station was very dominating. There were many CW stations close to our frequency. We still notched about a thousand QSOs, from all the continents except Antarctica, with some duplicates by stations who wanted to make doubly sure that they are on our logs!! With no computers to help us, all the logs were hand written. The memory keyer unit of MFJ, did a good job, occasionally telling all about the QTH, AS-169, and QSL detailing. We had our guest operator YL Sarla VU2SWS on the 27th in the location who tried making a few QSOs. Some pictures were taken by the YL, specially for the HRN, in her Digital Camera. The operation ended at 0500 UTC on 28th March, when our batteries, were dead

We express our gratitude to the State/District Authorities and OM Mutktesh Chander VU2HJZ, the Dy Inspector General of Police, Goa, VU2SWS for all the encouragements and timely help. There are many others who have directly/indirectly helped and encouraged us, though due to their preoccupations, they could not come with us and operate. This was an operation managed purely out of the personal savings of the two operators. The equipment gifted by OM Josh N7XM and OM Pat WX7M to VU2NXM, were fully utilized. They were Ten Tec Model 540 transceiver, ATU MFJ 901B,Logikey-K1-Keyer,MFJ 107 B UTC Clock: Electronic Keyer K 2216 by Unita of Poland. In addition, the equipment of VU2UR like FT 757 GX of Yaesu and his Vibroplex bug key were also used. Thus, OM Basappa, VU2NXM, became the 1st VU to operate from two of the islands of Maharashtra state. The post island activation documentation to be submitted to IOTA HQ, has been promptly done by VU2NXM, in record time and the island number is a regularized one, now, as the IOTA HQ is satisfied. The voluntary offering of YL Vani, VU2LYX, daughter of OM Arasu VU2UR, to

print a colour QSL card for this operation and work as a QSL verifier/manager, helped a lot. By the time you read this article, over 200 QSLs to DX land and locals, would have been despatched.

Of late, the licencing authorities are very cooperative, progressive and understanding. They are indeed encouraging contest and other operations by issuing special call signs in the AT0 block. We wish and hope to see the days when newer prefixes like AT4,AT5,AT6.AT7,AT8,AT9 in the AT block and all possibilities in AU, AW and 8T blocks are given to amateurs.

We wish to salute all the previous IOTA expeditions. 1)AS096- St. Mary island, near Malpe, by OM Bernard VU2BMS/DL2GAC/H44MS, OM Nagesh VU2NUD, OM Guru VU2GUR, OM Prasad VU2PTT and others 2) AS-153-Sagar Island by The Calcutta VHF Amateur Radio Society with OM Horey VU2HFR,2JSH , 2SKD and others.. 3) AS-161-Sacrifice Rock by the members of the Mangalore Amateur radio society -VU2SBJ, VU2PAI,VU3DMP,VU2MTT,VU2RDQ and YL Sukanya and others.

For planning your activity from a coastal island, please take care to plan a numbered/unnumbered island of IOTA list for operation. You must get in touch with IOTA HQ for publicity and your accurate planning. Find out in advance the availability of power, food, place to stay etc. If any light house is available within a kilometre from your operating location, its number should be obtained and this can be mentioned on your QSL card. Clearance from WP&C should be procured well in time, with a special call sign, for the group, rather than the individual . Do check if the local, district or state authorities who control the Island, are aware of amateur radio services etc. Try obtaining local man power, food, place for resting. Have a group of operators for CW, SSB, RTTY, and other modes, if planned. Sufficient equipment and good antenna and other essentials like medicines should be carried. Have a mobile/cell phone for emergency contacts. Before you leave for the operation, make and send Xerox copies of the permission from WP&C, together with your planning, to the District Authorities, both Civic, Law and Order.

Once you start operating go ahead in SSB first, in the bands which are wide open, on the IOTA frequencies like 14260, 21260, 28460 kHz etc, and try to achieve, at least 300 QSOs. from all the continents. The IOTA HQ and their check points would be monitoring your activities and they convey the provisional number to you, on the air, so that you can repeat that later on, frequently. After the required number of QSOs in SSB are achieved, change over to CW, RTTY, PSK31 or whatever mode you think of, always telling your next move, before QSYing, to a new frequency. Discuss with your group the strategy to tackle pileups. After the operation, you have to process the documentation for submission to the IOTA HQ, for regularising the operation. This includes the clearance from WP&C, the cash bill for the services from the boat you took to the island, document from the light house keeper if there is any on the island, and copy of the log for at least 300 QSOs, QSL route, etc. A good QSL card has to be designed and printed. The proper QSLing is an integral part of your successful operation. Many of the cards come to you directly with a SASE enclosed and they need your reciprocal card direct. Rest via the QSL bureau of the National Society is acceptable.

We hope our experience will be followed by many island activations in our coast! All the best!

KUDOS KORNER

Congratulations to:

VU2UR, OM Arasu for receiving the SPDXC Award ,Holyland Contest awards for 2003 and for Worked All Pacific Award from New Zealand, mixed mode VU-1, becoming the first VU in that mode. VU2NXM, OM Basappa and VU3DJQ, OM Raman for receiving the SPDXC Award for 2003. VU2JOS, OM Jos for receiving the Holyland Contest Award 2003.

The following hams who are listed as the top dxers from India:

C/S	WORLD RANK
VU2DSI	125
VU2WAP	264
VU2BK	430 (ONLY CW)
VU2PAI	804
VU2ELJ	953
VU2RAK	1001
VU2XO	1149
VU3DJQ	1492
VU2NXM	1770 (ONLY CW)
VU2LX	2934
VU2UR	4719

The simple method followed by KB9AMG is to spot the call sign of any DXer appearing in the DX cluster. The greater the times his call appears in a given period, he is the top DXer of the country.! Cap'n Fatty Goodlander, W2FAT & his YL Carolyn for completing their 4 year long 'circumnavigation' round the world...on a small sailboat..all alone..without any media hype! He sailed enroute Kochi (Kerala, India) Photo Gallery of his boat is at:

www.qsl.net/vu2msy/Wild_Card/Thumbnail_for_Web/index.htm and www.qsl.net/vu2msy/wild_card_cresting_Indian_Ocean_waves.htm

Cap'n Fatty has 'demonstrated' to the whole world what ham radio is 'today' and how important ham radio is even in the age of Internet and mobile telephones...or rather 'how ham radio can outsmart 'satellites' and 'mobile phones'?..How e-mails can be sent 'free of cost'? How 'technology' can be 'for the people'...He also practically demonstrated how ham radio can strengthen the bond of International brotherhood.

CONTESTS

Attention 6 meter operators. The Rientolan Amateur Radio Club which operates station OH3AG, invites you to participate in the first Global Six Meter Marathon. The party starts May 8th, at 0000 UTC and runs through 2400 UTC on August 8th. Operation is across the entire six meters band with the simple objective being to work as many DXCC countries as possible.

This 6 meter marathon is open to all amateur radio operators world wide. The results will be made public during the Tampere Six Meter Forum on August 14th. You can follow this contest online a www.50mc.tk (GB2RS)

All Asian Dx Contest-CW sponsored by the JARL form 0000Z 19th June to 2400Z-20th June.

Marconi memorial HF Contest-CW sponsored by ARI from 1400Z-June 26th to 1400Z June 27th.

Iaru WW competition organized by ARRL for IARU from 1200Z July 10th to 1200z July 11th.

PRODUCT REVIEW

ICOMT90 TRIBAND HANDY

- By Vijay VU2VVP

I always dreamed of a small handie with multiband 5 W Tx-Rx and wideband scanning capability. Though the YaesuVX-5R has been around for quite a while, its receiver is not 100% continuous coverage. The VX-7R is fine, but I believe it is complex to use. TH-F6 by Kenwood is also a tribander, but its third band is 220 Mhz, which is not permitted in India. Icom`s T-90 triband handy just fitted the bill, hence I went ahead and got one for myself in July 2003.

I have been using the rig ever since and have found it to be a nice little radio. It measures just under 2.5" W x 3.5"H x 1.5" with the battery and weighs 280 gms. It gives 5W output on 6mt, 2mt, & 70 cms. Its receive coverage, though not exactly `dc to daylight` is pretty vast : 495 Khz to 1000 Mhz with no breaks (asian version) in FM, AM & WFM modes. One can select any mode on any frequency but Tx is only in FM. There are 500 alpha numeric memory channels and 13 user selectable steps from 5 Khz to 200 Khz. The rig has plenty of bells & whistles.

Like any other rig, this one too has its ups and downs. On the "up"` side - the handy looks very good and feels nice and sturdy. The body is all metal. Icom build quality and ruggedness is evident here. Transmit and receive audio is excellent with very good receive sensitivity on all the bands. The radio is splash resistant. I noticed a thin high quality rubber ring around the battery pack. The radio is simple and easy to use with no function button. I needed to see the instruction manual only once initially!

Well, on the "down" side- the radio suffers from serious images from 156 -160 Mhz area. For example, a low power station transmitting on 158.400 Mhz a few kilometres away can be heard strongly on 145.00 Mhz and 158.625 can be heard on 145.475 Mhz and so on. In Mumbai, we have a lot of activity on 156 - 160 Mhz & beyond. This is a very annoying problem. I wonder, how the engineers at Icom chose to ignore this serious problem. I have mentioned about this in my review on www.eham.net, several months back. This one is a very popular amateur radio website. I was surprised to learn that very few people had noticed this design flaw.

Another strange point about this handy is that you cannot use the rig with 13.8V or even 12V external dc input. Maximum external dc input allowed is 11.5V. The supplied wall charger gives more than 12V, but one is not supposed to turn the rig on while its battery is being charged. The manual warns of a possible damage to the radio if it is turned on while the external dc input is more than 11.5V. The Li-Ion battery (BP 217) takes 15 hours to charge with its wall charger. You can go in for BC 139 optional rapidcharger, but it is very expensive like the other T 90 accessories.

The radio has only two power settings: high and low : 5W and 500mW respectively. The performance of the rigid stock duckie is inadequate. The guys at Icom realize that, hence it is mentioned in the instruction manual that aftermarket antennas would give better performance. There are quite a few interesting small duckies available with Comet and Diamond. It is worthwhile getting one of these.

Finally, with all its flaws, I still would like to keep this radio. Where would you get such a tiny radio that can do so much for just USD 230 !! I have had my say, the choice of course is yours entirely!!!

A Comparison : IC-718 vs. YAESU FT-840

- By Chuck KG8ZH

I have owned both rigs (840 and the 718) and found the 718 to be the better of the two. The 718 has a built in keyer, full QSK, it has a built in SWR meter, adjustable backlighting levels, direct entry keypad, DSP, RF gain, VOX, recieve pre-amp, and you can run the 500hz cw filter in SSB mode for PSK. The 840 has none of these features.

Also, the IC-718 is compatible with all Icom desk mikes. The FT-840 is not compatible with all Yaesu desk mikes. I found out the hard way that not all Yaesu HF rigs have the same mike wiring when I bought my MD-100 mike.

The 840 does have adjustable AGC(fast and Slow) with very little difference to the ear between the two settings, but the 718 lacks that feature, and the 840 has optional 10 meter FM and the 718 does not.

My 840 had a very noisy reciever. The noise blankers in both of these rigs are useless. The only way the 840 might serve as the better rig is if you really need 10 meter FM. Aside from that, the 718 beats it hands down.

(This excerpt is from a discussion on the IC718@yahoogroups.com)

IMPORTANT NOTICE REGARDING MEMBERSHIP PAYMENTS

Since November, 2002, some members both old and new have deposited their subscription in ICICI Bank in their area. They have, however, failed to send us the copy of the counterfoil of the pay-in-slip. Without this, we just do not know who made the payment and can not, therefore, account for it.

UNIDENTIFIED PAYMENTS					
Date	Amount	Date	Amount	Date	Amount
02.11.02	125	12.03.03	225	13.05.03	150
17.06.03	310	08.07.03	60	10.07.03	85
12.07.03	470	21.07.03	120	25.07.03	70
02.08.03	75	27.08.03	310	10.09.03	300
15.09.03	255*	19.09.03	200	30.12.03	150
26.02.04	1000	02.03.04	150	27.03.04	200

(* DD No. 438779 deposited in bank at Delhi. The identity of payer not recorded through oversight) The concerned persons are requested to kindly inform VU2 SDN, Sahruddin in Delhi immediately. His email address is vu2sdn@rediffmail.com.

The next issue of HRN will be sent only to those members who have paid up.

AWARDS IN AMATEUR RADIO

- By Arasu, VU2UR

1) Contesting Awards

When you participate in the various amateur radio contests that are held in the weekends and achieve the highest score for your country, you may win a wall paper. These contest awards are available for various operators (single or multi); various modes(CW or Phone, sometimes RTTY, Packets, PSK 31 etc.); various bands (from 1.8 to 28 MHz, excluding the WARC bands); various power levels (QRP less than or equal to 5 watts; low power up to 100 w and high power above 100 w) and, categories for the participants from every country. If you judiciously select among the group of interested contesters from India, almost all can be assured of a wall paper.!! If you want to win a plaque, cup or world level award, a lot depends on the equipment you have at your disposal, antenna and the operator's skill. Contest entries have to be sent preferably by E-mail or on diskettes in Cabrillo format. Paper logs are now seldom accepted.

Winning a contest award depends a lot on your preparations, watching the band openings and the skilful management of your equipment, to procure higher QSO points and multipliers, which produce a sizable final score.

The important contests like CQWW CW/Phone; CQWW WPX etc last for 48 hours, that is, the whole of Saturday and Sunday as per UTC reckoning of day. Other contests may last anything from 12 to 36 hrs or at times even less.

All the contest participants in India, must meet regularly before a contest and plan about the participation, like each one taking a different band, different mode, all bands, etc, in order to avoid duplication and undue competition among ourselves on the same mode and category.

To get a feel of competitions , you must listen to the bands carefully and find out what is the exchange between contesting stations and how operate. India has a few contesters like VU2ZAP, WAP,LBW,NTA,CC,UR,PAI,MTT,NXM etc, who work both CW and Phone modes. The greatest contester VU2AJ OM Dutt, took part in many contests in both the modes till he signed off for ever. VU3DJQ is the only unique contester, who is participating only in 20m SSB. All his DXCC achievements are on that band only and it is unique in India. Contesting is a craze and addiction in the wide spectrum of amateur radio specialization.

2. Achievement Awards:

If you are a regular Dxer and send and collect QSL cards, then you may be qualifying for some awards. In order to claim the achievement awards, your plain paper application is generally required containing all the information on the QSL cards which are needed. The application is to be signed by two other amateurs of your area or the Secretary of the Club. This process is called GCR (General Certification Rules). The award carries a fee to be paid in IRCs (International Reply Coupons which can be purchased from the General Post Offices of your city) or US Dollars.

Worked All Continents (WAC): is a simple award. This is issued by the IARU. The application for having worked all the continents, has to be forwarded through the National Society only.

DX Century Club (DXCC): Issued by the ARRL. You have to submit a minimum number of 106 QSL cards for getting the basic award of 100 countries worked and confirmed. The extra six are added so that, any rejections, should not bring your final QSL/Country count to less than 100.

You have to submit the prescribed specific proforma completed, the 106 cards and necessary fee of the award and the return postage for your QSL cards to be sent returned to you. Al these, make it to be an expensive award, but, the fame is quite obvious.

Islands On The Air- Basic (IOTA): This is issued by the IOTA group of RSGB for successfully working and getting QSL cards from a minimum of 100 islands. You must possess their Directory and have to quote the serial number for claiming the award. Here too all the QSLs are to sent along with fee for the award and the return postage for your QSLs. This is also an expensive award. Only two Indian amateurs are said to have this award, so far, while DXCC is held by many from 100 plus countries to 300 plus countries,

Worked All States of USA.(WAS): This is also issued by the ARRL, for submitting proof of having worked and having received QSLs from all the fifty States of the USA. The fee is to be sent along with the specified proforma, duly filed in to ARRL, after getting all the cards verified by the Officials of the National Society.

Worked All Zones of the world (WAZ): This is issued by the CQ Amateur Radio Journal of the USA. Specified proforma, fees are necessary. If the CQ Checkpoint verifies your cards, then there is no need to send the original cards to USA with reply postage.

Worked Prefixes Award (WPX): Also issued by the CQ Amateur Radio Journal for over 400 prefixes of the world and over 600 prefixes for the honour roll. Only the specified proforma duly filled in and submitted with the fee is sufficient.

There are many awards from every national society of the world of amateur radio. NZART, JARL, WIA, RSGB, UBA, ARI, FRR, DIG, RAC, IARU etc., have their own achievement awards.

There is the Certificate Hunters Club/ Award Hunters Club, wherein the members get all the latest information about new awards etc.

Almost all the above achievement awards, need that you apply for it. But, the only award of great fame is **"A-1 Operator's "Club award.** This is the one award which comes to you as a surprise, when the world notices your systematic work, QSLing, operating behaviour, etc, and the award comes unannounced. A handful of Indian Amateurs have indeed won it, like VU2GW(SK);VU2AJ(SK);VU2MD(SK); and among the living ones VU2SMN, VU2RM are well known.

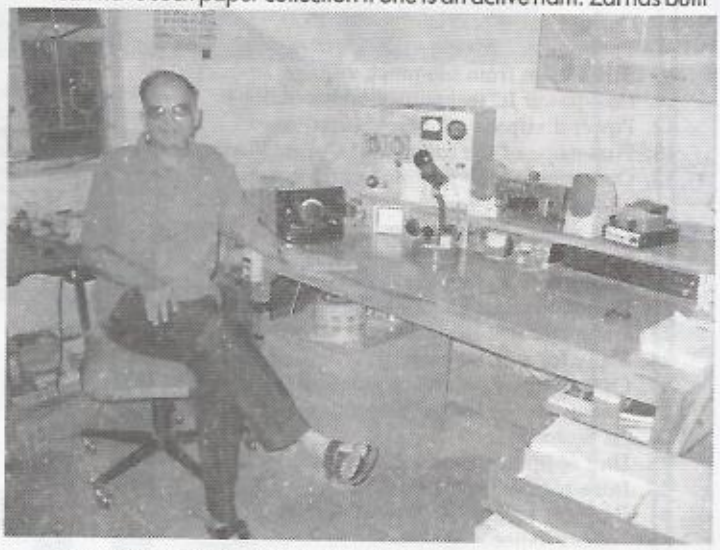
There are constant changes taking place in many of the requirements. One must keep abreast of the changes via the internet or magazines and other sources. Happy hunting!!!

RAGCHEWING WITH VU2BK, KABRAJI AND VU2DK, ZAL

VU2BK, fondly known on the air as Kab, is a retired Major General & old time ham with more than 55 yrs of ham radio to his credit. Till the late 60's he has been operating CW, AM & SSB with all home made equipment, mostly using his favorite quad antenna . He and his good friend Gill,VU2PS were some of the first VU2s to experiment and use the quad in the mid 50's from Mhow in central India. Kab has a great many ham certificates and prizes collected over the years, not to mention several thousand Qsl cards!!!. Even at this ripe old age he maintains an up to date manual log and elaborate index system for all his Qsos over the last so many years of ham operation. He qsls 100% for the different band contacts ,via bureau and direct. Kab was also instrumental in starting the VU2/4S7 40 metre net way back in 1957 when he was located in Wellington, Nilgiris. Some famous members of this net at that time were: VU2AC Raj from Erode,VU2SE Mani from Coimbatore,VU2AK Les from Avadi,VU2RA Rajan from Tumkur,VU2JA Joe from Bangalore. The Sri Lankan (then Ceylon) boys were: 4S7GE Glen, 4S7SW Senavi, 4S7SR Ratna,4S7 IW Ian and the world famous 4S7YL, YLSoma. Till 1959 the net was very popular and many people joined the round table.

Kab was also one of the team members in the first Bhutan dxpedition VU2US/AC5 in the early 60's. Nowadays Kab operates only on CW and the equipment used is homemade and an old commercial American rig.The photo shows an Hallicrafters HT32B transmitter, all bands all modes and a drake R4B receiver modified with lattice filters by his son Zal VU2DK. On top of the HT32B is a homemade all band ATU. In the background is a multiband 150watt cw rig built by Kab and on top sits a modified Heathkit VFO from the early 1950's. On the table you can see his menu driven MFJ keyer with a special left hand adjusted bencher model paddle.

Zal VU2DK needs no introduction and started the hobby at a very young age mainly due to his father VU2BK. He has more than 39 years of ham radio to his credit. He has won many world wide contests. In the 1973 CQ WW Contest, he was trophy winner and an asian topper. Again he was Worked all Europe contest first from Asia and Trophy winner in 1967. He was no.1 from India in the ICVA SSTV contest in 1987 with trophy award. He has numerous paper certificates and qsl cards by truck loads!!!. He attaches very little importance to all this wall paper because anyone can have such paper collection if one is an active ham. Zal has built

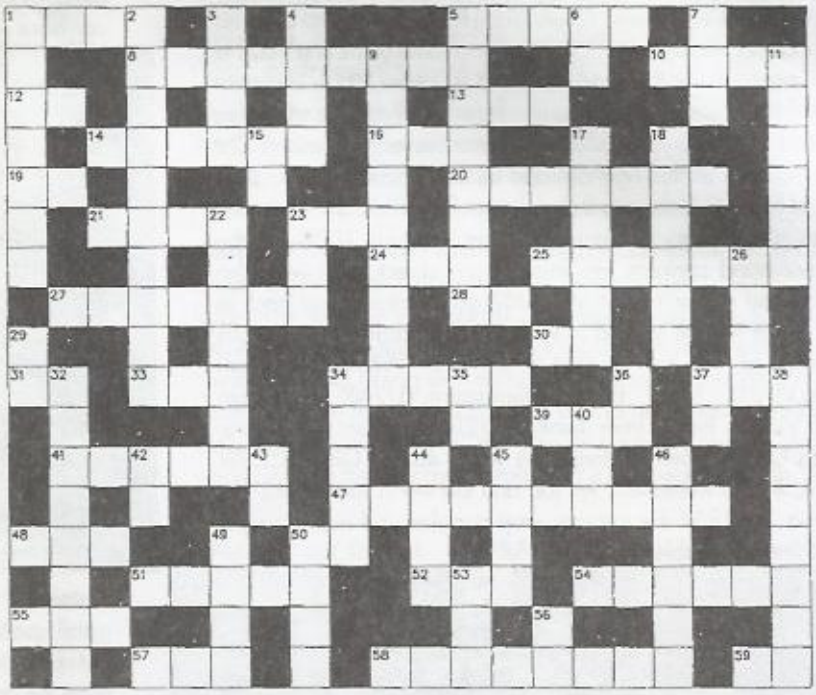


numerous ssb rigs, transmitters and receivers. He is known for his good quality phone signals. The toughest gear he made was a Plumbicon tube type camera for SSTV. It took him a complete year to align the camera with modest equipment but once done it worked like a charm. He has also made a sstv monitor from an old Italian kit and used that till the computer took over and digital technology changed completely. He also made OM Raju VU2NR's first model NR60 rx/tx and swears by the good design. At present he uses an Icom IC-735 rig. The rig is only Icom looking from outside. Inside the rig has been completely modified and an outboard Nuvistor tube rf pre amp is used. This enables VU2BK and VU2DK to operate at the same time on the same band within 200khz of one another without any qrm to either one. This photo shows his old favourite linear 400W pep which he built 28 years ago and kept improving upon it. On the left is his homemade triple conversion all solid state receiver made into the shell of an old bc221 Frequency meter. Basic rx is 3to4 mhz. With 9 mz crystal filter if and all ham bands with a crystal controlled bandswitched convertor, it's a dream rx and he also uses the same to carefully monitor his own outgoing signal. This way he does not have to rely too much on other's nice reports!! He has a host of audio gear but only to fool around with!!!. He is of the opinion that you cannot do much to make real ssb sound like hi-fi. He also specializes on complex rf processing circuits which he has built into his Icom rig. A real heart transplant job!!

The tri band yagi antenna used by VU2BK and VU2DK is an obsolete American model Telrex antenna which was very famous till the late 1970's. It has full sized reflectors for 10 15 and 20 meters. Traps are only for the director and driven element. Special heavy duty traps had to be made to order which could stand Zal's linear amplifiers otherwise the normal 2kw traps supplied with the beam melted and vanished every time he hit the send button! Just a joke between father and son! The boom length is appox. 25 feet. Height

(Cont. On page 5)

Semiconductors



ACROSS

1. Current at the operating point
5. Company that made transistorized radio kits
8. Breakdown from too much voltage
10. Low-power IC technology (abbreviation)
12. Power dissipation (abbreviation)
13. First name of the founder of Collins Radio
14. Operating region in which current stops flowing
16. Low noise amplifiers cost a...
19. Local oscillator (abbreviation)
20. Most transistors are made of this element
21. Control terminal for field-effect transistors
23. Parameter that measures ac current gain
24. Slang for a metal package
25. Current that flows when a device is off
27. A transistor no longer in control of current flow is probably...
28. Unit of high voltage (abbreviation)
30. Infra-red (abbreviation)
31. Batteries supply this type of current (abbreviation)
33. Logical inversion
34. Analogous to a collector in an FET
37. Internet Service Provider (abbreviation)
39. Oscillator (abbreviation)
41. Turn upside down
47. Circuit with two transistors connected emitter-to-base
48. One type of bipolar transistor
50. What Hamlet had to decide, or base-emitter abbreviation
51. Logic zero and logic one are a Boolean...
52. Pulses per second (abbreviation)
54. A circuit clock provides this type of reference
55. The other type of bipolar transistor
57. Control voltage in a bipolar transistor (abbreviation)
58. Where the action is. A diode has only one of these
59. Milliseconds (abbreviation)

DOWN

1. Earliest type of transistor construction
2. When the transistor is fully on
3. Milli-micro (abbreviation)
4. Inverse of twice
5. This keeps the cool
6. US company that made the first IC calculator
7. Type of miniature coax connector
9. One of the two noncontrol electrodes of a bipolar transistor
11. Analogous to a bipolar emitter
15. Cut-off frequency (abbreviation)
17. Reproduces signals accurately
18. When operating properly, a PLL is...
22. Complement of 9 Down
23. A high-current device is a power...
26. Material that makes low-noise microwave amplifiers
29. Abbreviation for voltage at an FET drain. V____
32. Synonym for flattopping
34. Simplest bipolar semiconductor
35. Many transistors make up these (abbreviation)
36. Current that can't make up its mind (abbreviation)
37. How smart you are, or current at the quiescent point of operation
38. These enclose the transistor
40. A weak power supply does this in response to a heavy current drain
42. Voltage at the load (abbreviation)
43. Internal transistor temperature (abbreviation)
44. Current flow across a semiconductor junction causes voltage ____
45. Slang for Morse code dots
46. The terminal of a transistor at the reference voltage is referred to as ____
49. Radio ____
50. Greek letter signifying dc current gain
53. Rectifier made from a layer of intrinsic (undoped) semiconductor placed between P- and N-type material.
56. First two variables of thermal noise equation

UMS
HAM HF & VHF Antenna

2 M-Verticle

2 Meter Vehicle is a omni directional antenna and can be used with radials. This antenna is ideal for fixed station. It is designed for frequency ranging from 140 Mhz to 175 Mhz

Features

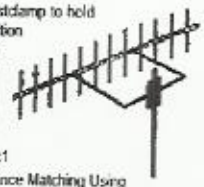
Brass base turned to micron tolerances to maintain the precision limits of the loading coil and capacitance.

- Gain above 6.8 dBi
- Low VWR 1.3.1
- Rugged Construction to withstand high wind
- Quick and easy instalation
- High Mechanical stability

2M - YAGI

2 Meter yagi antenna is designed for Frequency ranging from 144 MHz - 148 Mhz and is available in 8 & 12 elements

Features

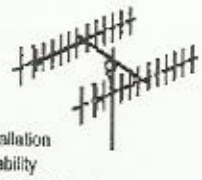


- Unique Die-castclamp to hold Antenna in position
- Gain-above 12 dBi for 12 element and above 10 dBi for 8 elements
- Low VSWR 1.3:1
- Perfect Impedance Matching Using Gamma Machining Using Gamma Match assembly
- Rugged construction to
- With stand high wind.
- Weather proof cable connection
- Quick and easy installation High mechanical stability

2M - 2682 Boomer

This 2682 Boomer is a broad vertically polarized array and this antenna is designed for frequency ranging from 144Mhz to 148 Mhz.

Features



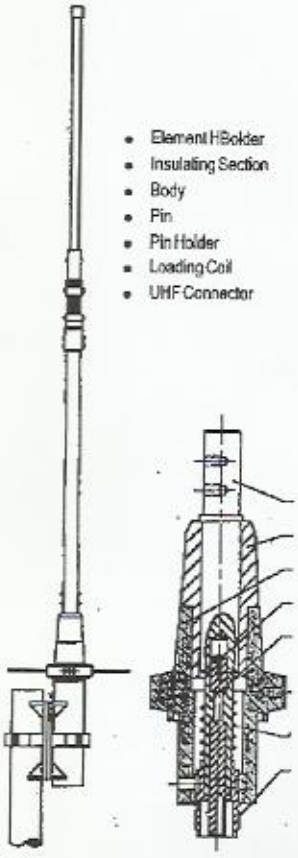
- Gain - 18 dBi and front to Back ration 26 dBi
- Low VSWR 1.2:1
- Quick and easy Installation
- High mechanical stability
- High power rating, watts PEP 2000

UMS
VHF Antenna CA 1
5/8 wave stacked GP antenna

A sophisticated antenna manufactured to the highest precision, using brass turned to micron tolerances so that the loading coil and capacitance is maintained within precise limits. Quality Highest Plastic materials assure very low losses. Due to all these and other features the gain of the antenna is above 6.8Dbi.

OTHER FEATURES :

- Rugged Construction.
- Low VSWR 1.5:1
- Quick & easy installation
- 140 to 150 Mhz
- 50 Ohms impedence & 400 W
- Wind survival upto 100 mph
- Height 2.71m (106 inches)
- Weight 900g



- Element HBolder
- Insulating Section
- Body
- Pin
- Pin Holder
- Loading Coil
- UHF Connector

UMS
GSM/WLL/DCS/PRODUCTS

✶ G.S.M. Indoor Booster

806 - 960 Mhz
1700 - 1800 Mhz
Power - 10 m Watts

✶ G.S.M. YAGI ANTENNA

806 - 960 Mhz
1700 - 1800 Mhz
Zo - 50 Ohms
Gain - 17dBi
VSWR < 1.5

✶ G.S.M. DIPOLE ARAYS PANEL

65° HALF POWER BEAM WIDTH
Dual Polarization
Frequency 806 - 960 Mhz
Connectors 2 x 7/16 Female
VSWR < 1.5
Impedence - 50 Ohms
Gain 2 x 18dBi

Max Power per input 600 watts.
Height / Width / depth 2580x262x116mm

UMS Ten - Tec Transceiver

Specification

Frequency range	:	143.5 - 148.5Mhz
Power requirements	:	13.5V - DC / Receive 0.2A Transmit 5A (Max)
Dimensions	:	H = 55.88 cm. W=165.1 cm, L = 177)
Weight	:	145 Kg.
RECEIVER		
Sensitivity	:	0.2 uv or less
Auto output	:	2 Watts
Adjacent channel Rejection	:	70 dBi at 20 kHz offset
Image rejection	:	65 dBi
TRANSMITTER		
Power output	:	High 30 W Low 5W
Spurious - Harmonic		
Signal Suppression	:	60 dBi or better
Standard Accessories	:	Hand held mike Mobile mounting bracket

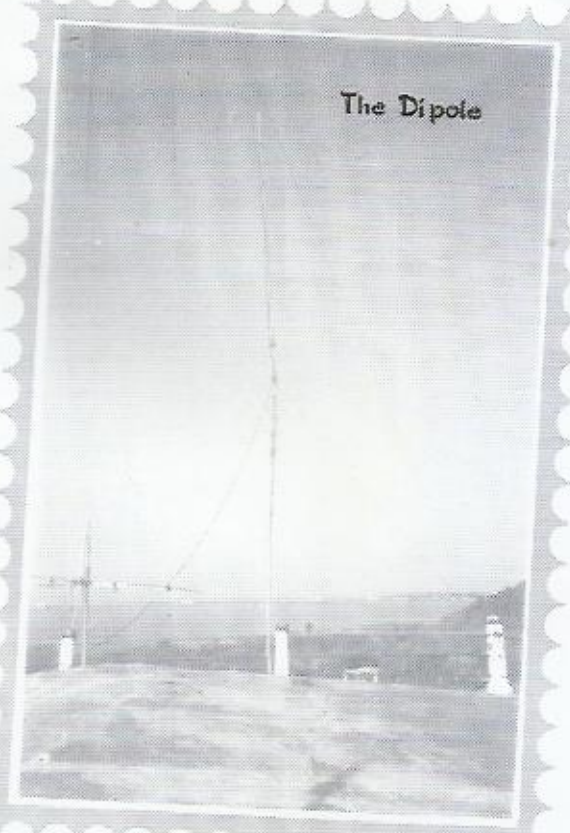
UMS RADIO FACTORY LTD.,

H.O. : 'Gopal Bagh', 1062, Avinashi Road, Coimbatore - 641 018. Ph : 2213439 (5 Lines) Fax : 2212760

Registered with the registrar of Newspapers under R. No. 59916 / 94

The guardian angels

The Dipole



IOTA
ISLANDS ON THE AIR

Guest Operator
VU2 Sarla

Landing at Elephanta!!

Our Helpers & Us!

Printed and Published by Ms. Sarla Sharma on behalf of Amateur Radio Society of India &
Printed at J. P. Graphics, 100, 2nd Floor, Bhandup Indl. Estate, L.B.S. Marg, Bhandup (W), Mumbai - 78. Tel. : 55993659, Fax : 55993660 &
Published At 7, Gaurav Apt., Nahur, Mulund (W), Mumbai - 400 080. Tel. : 25682361. Editor - Ms. Sarla Sharma.