HAM RADIO NEWS

Vol. IX No. 2

April - June 2003

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

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"AMATEUR RADIO - A NATIONAL RESOURCE"

Unity Is The Motto

VISITORS

4Z4 DX, Dov, in the shack of Sarla VU2SWS in Mumbai. He stopped by on his way to Nepal where he operated as **9N7DX.** He is the hero of our cover story.

I 1HJT, Alfeo, was the guest of VU2NLF, Nilesh in Mumbai. Here he is checking out Nilesh's shack. He hopes to visit Mumbai again.

Datta Deogaonkar, VU2DSI in his shack. He is featured in the Ragchewing Column in this issue.

FROM THE PRESIDENT'S DESK

Since the publication of HAM RADIO NEWS after a long gap, we have been receiving very encouraging appreciation from our members. This is good news. But we need articles which are original for publication. The magazine can be sustained only if members make substantial effort to make it more interesting.

Your Society has been interacting with the W.P.C. Wing to ensure that in the next World Radio Conference (June, 03), the Indian Administration supports the I.A.R.U. proposal of providing 300 kHz to the Amateur Service in 7 MHz band. Several meetings were called by WPC where Indian wireless users, including myself on behalf on Indian amateurs, were asked to present their requirements. As expected, A.I.R., as the most affected user, objected to the proposal while others were generally supportive. We will know more about it after the conclusion of WRC, in June, 2003, perhaps, in the IARU-R3 Conference being held in Taiwan in September, 2003.. In this issue, we are publishing a list of those members who are in arrears for more than 2 years (2001-03). In the ordinary course, we should have discontinued sending the magazine to such members but we are quite sure that this default in payment has not been intentional and the reminder now being issued will result in all the arrears being paid before the new deadline. Following the report on "Green Bird", published in the last issue, there was a mild storm, with some members claiming perhaps genuinely that they had done substan- tial work on the project and that this information was available on the internet. Unfortunately, the publisher is neither omniscient nor is in a position to go through all that is on internet. We have all along been asking for details of all activity by members, including clubs, for inclusion in the magazine. We admit our limitations and only our members can help overcome these. As some of you are aware, the Amateur Section in WPC does not maintain any proper "Guard File", i.e. a record of decisions on procedures, taken from time to time. As a result, whenever a new team takes over, as of now, they decide their own procedures. A small write up is being published in this issue to highlight some of the new procedures being adopted by the present incumbents. We hope to continue our dialogue through HRN. Till then, wishing you best of Hamming!

Sahruddin,
VU2SDN

CQ ALL VU HAMS,

Greetings! And thank you for the lovely words of encouragement. I am deeply touched by all the letters that I received and have printed a few in FEEDBACK. But we need good articles to showcase the wonderful brain power of VU Hams!!! So please write and send us some good articles.

In my various discussions with VU2UR, OM Arasu, the topic of working islands came about and he feels, like all of us, very passionately about this subject. We have so many islands listed on our coastline. The whole world wants to work the Andamans, but the WPC bluntly rejects all requests for permission. The different wings of the Defence ministry, especially the navy is objecting to such operations. Every day a few boats in the western coast are using amateur bands to convey their contraband traffic. This illegitimate activity goes on while a licenced operation is denied permission!!! Even Government departments are transgressing into amateur frequencies but the authorities turn a Nelson's eye to that,while a licenced Ham never transgresses beyond his area!!!In times of natural calamities Hams help thousands who need emergency help and communication. The government should open its eyes to accept and consider amateur radio as Radio Sport and honour our unsung heroes with Dronacharya and Arjuna Awards.

4z4 dx,OM Dov Gavish from Tel Aviv stopped by in Mumbai on his way to a dxpedition to Nepal and the first question he asked me was how to work an Island in India.!!! I had no answer to that. As the saying goes-"Try and try again till you succeed", maybe an intensive joint effort by all of us would yield some results!!!

In this issue I have devoted a few pages to ARSI and WPC matters. Please view the business of non payment of subscription seriously.

I am hoping to do a full issue on Indian Firsts on Amateur Radio. Please do let me know whatever information you have.

Once again I remind you that HRN is your voice, so be heard!!

73 and Namaskar,

Sarla

Sarla
VU2SWS

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PAYMENT INSTRUCTIONS

1. For those cities where there is a branch of ICICI Bank.
Payment can be made by a local cheque or cash at the branch of the bank **(not the ATM),** quoting the name of the Society in full (not "ARSI") and the account number **629701081104.** The Counterfoil - either original copy or a photocopy - should be sent to the Delhi Office. **This is absolutely necessary.**

2. Where there is no branch of ICICI Bank.
Payment can be made through a demand draft, obtained from any bank, drawn in favour of "Amateur Radio Society of India" (not ARSI) and payable at Delhi / New Delhi. As far as possible, please do not send outstation cheques to Delhi office.

Payment of Subscription

Due to the unsettled condition of the Society consequent on our vacating the Kurla Office, members were not very clear as to where they should send the subscription.
As the situation has now stabilised and the Society is functioning properly from Delhi Office, all members who have not yet paid their subscription for 2002-03, may kindly do so as per detailed instruction given above.

Several associate members who have since received their call signs are now eligible for corporate membership. They are now required to pay Rs. 150 as annual subscription instead of Rs. 75. Some of them are in arrears for two years. They are requested to update their payments at the earliest. As licenced amateurs, they are no longer eligible for associate membership.

Contents :

Membership Category	Admission Fees(Rs)	Annual 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.

Advertisement Rates:

Back cover	Rs.5000	(4 colour)
Inside back cover	Rs.1500	(B & W)
		(Add 4000 for 4 col)
Inside Full Page	Rs.1200	(B & W)
Inside ½ Page	Rs. 700	(B & W)

FEEDBACK

Congratulations on your fine job as the new editor of HRN the year's first copy having just reached me. It was good to see many of those new features and noticeable change in get-up that you have introduced. Keep going QRO and take the journal to greater heights!

73 de Siddhartha,VU2SWO

Yes, I got it. In one word its COOOOL! If you can please add some colour inside. Will send you the homebrew articles. I think I will start off with a Project for Homebrew yagi antennas.

73s de Patrick,VU3PAT

I am in receipt of the HRN after a big gap from ARSI and am really very happy. When I went through the magazine I realized the valuable efforts taken by ARSI in publishing the same. I thank everyone who is involved in this effort and am very happy to know that at present the Society is based at your Home QTH in N.Delhi. At this time I thank you once again for your kind cooperation in the renewal of my Licence last year within a record of 7 days from the WPC.

The contents in HRN are very useful to Hams. We suggest that the following topics may kindly be included in the forthcoming issues-Ham Chat through the Internet, Ham radio related Web Sites, SSTV/ Satscape/ Packet radio etc.

You will always have our full support.

Udamalpet Hams VU2MDA(Soundar),VU2MDM, VU3NWY, VU3MOB, VU3MTR and SWLs.

Thanks a million for reviving this magazine and I am pleased to have my copy!!!!.All new articles(Radio Active, Home Brew, Ragchewing, Fine Copy, Crossword) are a welcome sight. Publishing RM96/VER 2 was simply the icing on the cake. I am tempted to build one for myself, but hey I don't have a license as yet. I guess I will settle for the Rx part. I cant wait to eaves drop on the conversation on the air!!!

Keep up the good work and as I would say "More power to your elbow",VU2SWS,it's a pleasure having you as the Editor of HRN.

SWL V.S.Battu.

I and my XYL Sandhya wish to congratulate you on publishing HRN after a long time. Actually it's a great effort by you and your team and we congratulate all those behind it.

73 to you and yours,

Ram,VU2RNC,Sandhya VU3RNC, from the city of the Taj Mahal.

Please accept my hearty congratulations on becoming a good editor. The articles published in the magazine are quite informative and hope the same temperament will be maintained in future too.

But I would like to bring in your kind attention regarding some real facts about Operation Green Bird. The mastermind who has done a lot of tedious work for this so called green bird has not been highlighted anywhere in this article. As we know, an Amateur is a Gentleman but in my opinion this report does not show true Ham spirit. Many Hams from all over India are getting help and guidance regularly from the mastermind. Even MARS members have benefited for his ideas. You can confirm with them. If you realize I am right then I request you to please mention his name and contribution in the success of Operation Green Bird.

DC Sharma, VU2DCT. Secretary, HAL Scouts Group Amateur Radio

It is impossible to verify the facts of a report coming from Delhi in Mumbai. HRN will be happy to recognize the efforts of the concerned gentleman. But till date I have not received the information. --Editor

Just seen the New Jan-March HRN Magazine. A splendid first attempt. Just keep it up and I think we all will have a darn fine Ham magazine for may years to come. If I come up with something interesting, will surely pass it on to you for publication. Again congrats and keep that press going. 73/88

Zal VU2DK

Just received my copy of the mag and must say it has come out very well indeed. Jolly good show considering all the problems you had to put up with.

I am sure it will be a success and contributions will come in. I will try and feed you stuff I come across, after we get back from our holiday

Gopal, VU2GMN

A Correction:

There are 3 islands in India from the IOTA list which have been activated, not 2 as mentioned in the last issue. They are:

St Mary's Island(Karnataka)	AS016
Sagar Island(W.Bengal)	AS153
Sacrifice Rock(Kerala)	AS161

These are islands activated from the coastal regions of Mainland India. The other activated islands, which are away from the mainland and with a different dx entity are:

Andaman Isls	AS001
Laccadive Isls	AS011
Nicobar Isls	AS033
Minicoy Isls	AS106

To commemorate the 40th anniversary of the Titanic Historical Society and the 91st anniversary of the Titanic disaster, W1MGY was on the air from the Titanic Museum in Indian Orchard, Massachusetts. 'MGY was the Titanic Callsign. Activity commenced at 1330UTC on the 11th of April, the time the Titanic left the Queenstown Harbour and ceased at 0527 UTC on the 15th, the time the Titanic's last transmission was heard by the Virginian. W1MGY was transmitting around 7033,14033,18099,21033and 28033 on CW, and 14260,18160,21360 and 28236 on SSB.

DELHI : The ARSI in collaboration with Vigyan Prasar(an autonomous body under Dept. of Science and Technology,has been holding a get together of Delhi hams for a couple of years. The last such event was held on the 27th April,2003 at the National Headquarters of Bharat Scouts and Guides. Ms Pushpa Nadkarni,VU2PMS, Joint Director,BSG was the hostess for the event. As Dr. V.K.Kamble,VU2VBK could not come due to some prior engagement, OM Sahrduddin,VU2SDN , conducted the proceedings. He briefly described the obsctacles which had prevented publication of HRN for a long time. Members were quite appreciative of th quality of the magazine. The gathering was also briefed about the discussions which took place in W.P.C.Wing, in which ARSI participated, regarding allocation of additional spectrum space in the 7Mhz.band. An appeal was also made to all members present to contribute articles, development stories, and other materials for publication in HRN to further improve the publication. OM,Atanu,VU2ATN suggested that after successful launch of project 'Green Bird" to augment 2 metre activity in the city, effort should now be directed to form a nucleus group which should engage itself in home brewing a 7Mhz,CW,QRP transceiver. Volunteers were invited to register themselves with VU2ATN to be followed by procurement and assembly of components. A brief discussion was also held regarding the desirability of having our own premises to hold such get togethers and also for running a library/workshop of sorts.

LUCKNOW : Club VU2LKO, the HAL Scouts Group Amateur Radio Club, Lucknow, held its General Body Meeting on 13.4.03. Among those present were VU3WJM-Rahul, VU3PBC-Pati, VU3NRI-Nikhil,VU2DCT-Pandit, VU3KIR-YL Kiran and SWL H.K.Mohanti. The members suggested that Hams should be in touch with one another regularly through VHF and HF activity.The problem of SWLs awaiting their licences was discussed and it was decided to hand over their cases to a recognized Amateur Society which will pursue it with WPC in N.Delhi. As this club is a Scouts and Guides Club it was proposed that surrounding areas in the District should also be educated about Ham Radio. For the benefit of the Hobbyist, it was suggested that Ham Radio classes be started during summer vacation. They were assured all help for this purpose from the Regional Science Centre, Lucknow.

MUMBAI : The Mumbai Amateur Radio Club held its 3rd Annual General Meeting and its 4th Managing Committee Elections at the S.S.Hall, Garware Club on 1st May 2003. The New Managing committee and office bearers are as follows:

VU2RIG,Rajan-Chairman, VU2NLF, Nilesh-Secretary, VU2CBU, Prashant-Treasurer. Others elected VU2UGJ-Mukesh, VU3AUA-Arun, VU2ICQ-Mehul, VU2SXF-Sandesh.

BANGALORE : The Bangalore Amateur Radio Club conducted many activities. A Field day was conducted at Doddaballapur. Contacts were established on modes and bands including satellite. A Night Fox Hunt was held around Hessarghatta about 30 kms from Bangalore. It was thrilling. BARC provided Radio Communication with the help of 35 Hams for the Royal Orchid Park Plaza de Bangalore Rally, which was appreciated by both Organizers & Participants for its professionalism. Jamboree on the air was held at Scouts & Guides H.Q with great success on all bands & modes. Membership drive was intensified & many Life as well as Annual Members were enrolled.

WPC has granted the call sign VU2LCI to the Lions Club of Bangalore North which intends to put up a full fledged HF/VHF/UHF Station at Malleswaram. Ham Radio Service is in tune with the Lions motto "We Serve" The Committee consists of the following Ham-Lions: VU3VLG-Guruprasad, VU3MMP-Prashanth, VU3ICC-Venkatesh, VU3GFB-Shivaprasad, VU3JEE-Mallikarjun, VU3JED-Sandhya and VU2JHM-Ajoy.

MADURAI : Chamber of Amateur Radio of Madurai(CHARM) celebrated its anniversary day on 9th March 2003.

QUILON:The Quilon Amateur Radio League is conducting the Amateur Radio Festival, Hamfair 2003, on 18th May 2003 at Jaladarshini Auditorium, with flea market and stalls with a wide range of exhibits from various distributiors of Amateur Radio. The VII Kerala VHF Fox Hunt for the CSD Rolling Shield will be conducted on the same day.

HAMFEST 2003 dates have been announced on air as the 8th & 9th November at Gandhinagar Gujerat..

WORLD AMATEUR DAY

IARU celebrates World Amateur Radio Day.

Each year on the anniversary of its founding, 18th April, the International Amateur Radio Union(IARU) marks World Amateur Radio Day. On this, the 78th anniversary of its inaugural meeting in Paris, the IARU dedicates World Amateur Radio Day to the radio amateurs, educators and administrators who use Amateur Radio to support technology education in the classroom.

Such programs are not confined to the developed countries. They are even more valuable in countries where telecommunications technology is not yet commonplace, and where natural disasters and other disruptions can cause the overloading or even the loss of regular communication circuits.

The theme of this year's IARU World Amateur Radio Day is to be "Amateur Radio supporting technology education in the classroom"

Radio technology offers a wide array of tools for teachers to use as they integrate technology into the curriculum. In schools without an Internet connection, Amateur Radio can fill that void through interactive communications and shortwave reception. Elementary school teachers using AM radios, can interject fun while helping students learn basic electricity and regional geography. Social Studies teachers can use Amateur Radio and shortwave receivers to teach about different cultures the world over, as well as advancing deeper into geopolitics and geography. Earth science and physics teachers can use radio to teach electricity and electronics, radio wave propagation, weather and atmospheric science. Language arts teachers may use radio to supplement writing, speaking and listening skills while providing access to numerous foreign languages from the lips of native speakers.

With almost three million licensees in nearly every country on Earth, the amateur service provides an ample reservoir of expertise for use in classrooms throughout the world.

Ole Garpestad, LA2RR, the Chairman of IARU Region 1 writes: "There is not doubt that the future of amateur radio belongs to those that are now in the classroom. In keeping with this theme, I would like to encourage every society in the Region to let our young people know that amateur radio is a unique hobby-simultaneously sport, scientific study, personal pleasure and collective activity. And that radio amateurs today are voluntary and selfless researchers in the technological field of amateur radio, an important resource to every country, and something to be proud of."

"But the 18th of April is not only a day to think about our future, it is our day, a day for celebration. All of us, societies and individuals, can celebrate in our various ways- organizing presentations, club meetings, parties, honouring senior radio amateurs who go back to the early years of IARU, or just putting our equipment on the air and making just a single QSO on this day, so realizing how large our ham community is".

The IARU is the worldwide federation of national Amateur Radio organizations representing radio amateurs in 158 countries. It is a Sector Member of the International Telecommunication Union and is the recognized representative of the Amateur and Amateur Satellite Services at the ITU

The WARD Award: This award is to commemorate the World Amateur Radio Day celebrated by IARU every year. It is issued by MK QTC- Polish Amateur's Radio Journal, with PZK (Polish Amateur Radio Union) support. The WARD Award is available for at least the following number of contacts: 10QSOs on HF Bands or 5 QSOs on VHF Bands. All contacts must be made on 18th April between 00:00UTC and 24:00UTC. A standard application form with the list of QSOs should be sent by 31st May 2003 to Redakcja MK QTC, ul Wielmozy 5b, 82/337 Suchacz Zamek, Poland. The price of the Award is 5USD or 5EURO. Full Colour Award sized 210x297mm. The Award is also available for the same amounts of SWL reports. **Email:**qtc@post.pl.

The 5th IARU World Championship for High Speed Telegraphy took place at a picturesque site of the sport complex "Raubichi", near Minsk, the capital of Belarus. 13 countries participated. 2 World records,for transmission of text(271 digits per minute)and mixed texts(216 digits per minute) were set. Andrei Bindasov of Belarus attempted to beat the World record of mixed texts. For the first time the participants and spectators could watch the entire process on large computer monitors installed in special halls and corridors. There was instant computing of results of all categories of the competition as all computers were networked. The main monitor in the press centre presented the results of every competitor and the results were updated every 10 seconds. These factors made the competition spectacular and attracted many spectators, and it was featured in the local newspapers and Television.

(IARU map on back Cover)

Silent Keys
VU3EMS, Vijay
VU3VYR,Prince
W3AU (Formerly W3MSK/VU2MSK)
Ed. Bissell

COVER STORY

9n7 dx

From Tel Aviv to Nepal: A wonderful experience.

(By Dov 4Z4DX, with an introduction by Sarla, VU2SWS)

SARLA: Dov Gavish is licenced since 1968 and is the second generation of Hams in the family. His father was 4X4VB,an active SSTV operator in his days and son Matan is 4Z5DX!!

When I got the message that Dov would be passing through Mumbai on his way to Nepal for an expedition, I was delighted. After all he did have so many aces up his sleeve! Awards and diplomas like the 9 Band WAZ, 5 Band WAS, IOTA Honour Roll with 950 islands confirmed, 6 mtr DXCC, RTTY DXCC to name a few. As I was just beginning to experience contesting, I was eager to meet this person who holds 4 World records (as ZC4DX in 1987, as 4Z8DX in 1988, as 4Z4DX in 1980 on 40 mtr and 1981 in 80mtr) in the CQWW Contest. The icing is the fact that Dov was in the expedition to Jordan after the Peace agreement in 1995 between Jordan and Israel and he worked with King Hussein JY1, with a special callsign JY8WW. At the airport he was as delighted to meet me as I was him, and this was his first visit to this part of the world. He had all his Ham stuff in his backpack!! An ICOM 706 MkII with all the filters, a Toshiba 8000 Laptop and a 6mtr antenna!! I took him for a long drive all over Mumbai and had a chance to listen to all his activities on the band. He visited my shack and gave me lots of advice and encouragement. I was sad to see him go in the evening and wished I could go to the expedition with him!!

DOV: In 1996, I met Bill 9N7ZK in the IARU convention in Tel Aviv. I had always wanted to operate from Nepal in memory of Father Moran, 9N1MM, an old friend. I also wanted to be the first to make a QSO in 6 mtr from Nepal and operate RTTY and SSTV. Plus of course, have a vacation with the entire family. So I started working on the plan.

In February 2003 I applied for the call sign 9N7DX to the Ministry of Information & Communications in Nepal and received the basic confirmation from Satish, 9N1AA. I then contacted my friend IZ8 CCW from the MDXC Club in Italy, of which I am a member and asked him to help me design a Website, which would represent my activities and frequencies and I daily sched for everyone on 14.195 at 1500 GMT.

I finally left Tel Aviv for Kathmandu via Mumbai on the 21st of April 2003. I met my good friend Sarla, VU2SWS in Mumbai and spent the day with her, sightseeing and visiting her shack and family. On the 21st evening I was finally in Kathmandu! Hugo,9N7YJ and my son Mat,4Z5DX received me at the airport and we headed for the Hotel in Thamel where we put up a tower with 4 different dipole antennas and we were all set for the action.

But the beginning was not that easy. The procurement of the licence was long and tedious. I had to go from one official to another, from the bank to the ministry and it took a good 4 days for it all to end. During this period I traveled around the Kathmandu area.

Finally on the 26th of April 2003, I was on air!!! The pileup was tremendous from all over the world. So much so, that I had to call by the numbers in the call signs, to cope. I operated split and worked SSB on 28.495, 21.295 and 14.195. Every one hour I worked RTTY after giving sufficient notice and operated split, 2-10 up. Late in the evening when conditions deteriorated, we operated CW at 40 wpm.We faced the problem of electricity failures. Also, conditions in Nepal were limited between 9.30z to 21.00z.

My first weekend, I spent with Bill, 9N7ZK and his wife in their palatial house in Kathmandu where I was given 5 star hospitality and I had the opportunity to operate from his shack with a beam antenna. As soon as I put up the 6 mtr antenna which I had bought with me, I had a contact with VK8MS, VR2XMT and lots of Japanese!!! In fact my first QSO on SSTV was with JA0SC. After I clocked about 3000 QSOs, I took a break .

My son Matan and I headed for the mountains. We trekked for 5 days through the mountains after flying to a point 3000 ft up. I flew in a small aircraft with 9N as its number!! The terrain was breathtaking and we stopped for "chai" every hour and walked for a minimum of 8 hrs every day. On the last day we had a good soak in the hot springs. We then went river rafting in Pokhara before finally returning to Kathmandu and working the radio.

After working for another 4000 QSOs , we decided to call it a day and prepared to head for home.

Looking back, there are a few pointers for my ham friends who may want to work dx from Nepal.

1)The price of a licence in Nepal is very high. Its around 50$ per band.2) The licencing process is very slow and valuable time is lost.3)Kathmandu is not a good location to operate on lower bands. It is better to go closer to the Tibetian border in northern Nepal. But the conditions are open for only short periods of time. Linears would help, but rules in Nepal do not allow Linears to be used.

On the positive side, I was so happy to meet many of my Ham friends since the last 30 yrs on the air from this rare location and I was pleased that I gave them a new RTTY country. I had a fantastic time with Bill and Jennifer who were most cooperative and perfect hosts. They are moving out of Kathmandu soon as Bill's tenure there is over. The Nepalese people are

(Continued in Page....11)

ANNEXURE VII

Government of India
Ministry of Communications
(Wireless Planning & Coordination Wing)
Form of application for issue of duplicate of an Amateur Station Licence or Document Showing the renewal of the licence
(See Rule 20)

1.Full name of the applicant in block letters

2.Permanent address in full

3.Particulars of amateur station licence or document showing the renewal of the licence

4. Whether the licence or the document showing the renewal of the licence is lost or mutilated or destroyed?

5. Whether any reasonable search has been made for the licence or the document showing the renewal of the licence?

I hereby declare that in the event of the Original Licence/or the document showing the renewal of the licence be found, either the original or the duplicate shall be sent to the Ministry of Communications.

Station.....

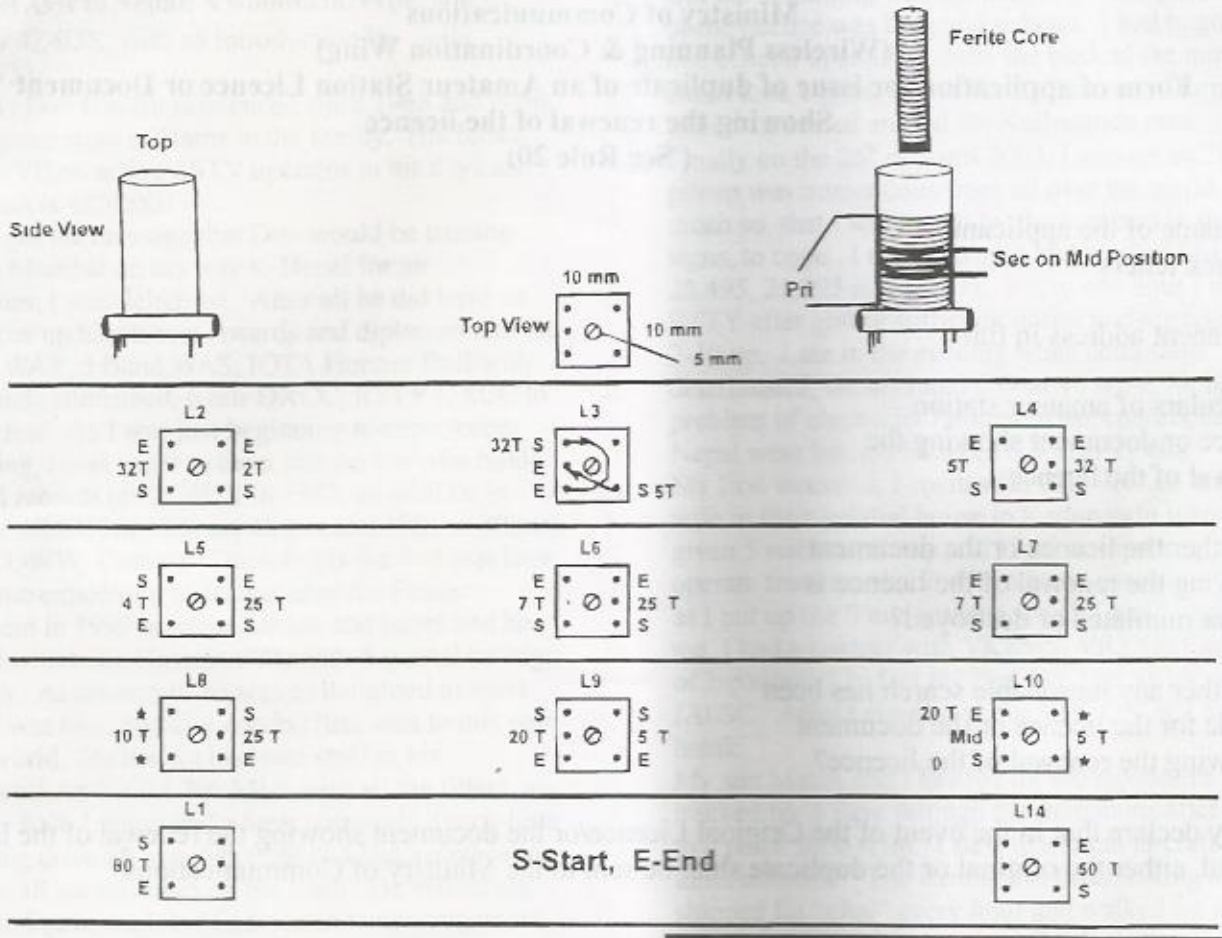
Signature of applicant

Date.....

Present address

RM 96 SSB TRANSCEIVER - COIL WINDING DATA

BY N. S. Harisankar VU3NSH



All coils are closed winded, more turns at first and less turns at mid. In figure, Left and right pins positions as on PCB Top side. All coil winding wires is of 36 SWG. Above mentioned all coils are IFT type and 5mm coil former with 10mm squire base and 5 pins and ferrite slug and can

For IFT formers, help may be available from VU2VIT, VU2SDN & VU2PTR.

Other coil details and tips on the next issue.

KUDOS KORNER

Let's all Clap For

VU2 RM. Rao, for successfully conducting his 2 way QSOs via Satellite AO-40 using "S" Mode-CW on 25th Feb. 2003. His equipment-AIDC 3733 transverter from 50Mhz to 435Mhz Uplink frequency with a power output of 8watts, a 12 ele. Yagi with folded dipole, receiving setup of a 2 feet parabolic dish fabricated by VU2YE for 2.401 Ghz. Contacts were made with Australia, Japan and Europe between 1010-1042, 1222-1227and 1333-1402 UTC.

VU3DJQ, Ram, for achieving the first ever DXCC for 20 mtr (new category issued by ARRL) for SSB!!

VU2UR for achieving the WAS (USA) Award in March 2003.

SWL VU 0020 ,Vishwanathan for receiving the following awards for 2002-03;

IOTA from RSGB England(The first ever for India)

R-150-C from Russia,

MMA (Maritime Mobile Award from Poland

SSA-75 from Sweden

GSQA(German Square Award) from Germany(First for India and South East Asia).

Amateur Radio :100 Years Of Discovery

Part-II

The '50s-Normalcy

The 1950s began with a bang: basic changes in the amateur license structure were announced in 1951. The Novice, Technician, and Amateur Extra license were announced by the FCC, along with name changes of the old class A, B, and C licenses to Advanced, General and Conditional, respectively. The Novice license was a one-year, non-renewable, ticket with CW privileges on portions of two HF bands, and phone on a portion of 2-meters. The Technician license was created in response to a clamor to accommodate those who wished to experiment on the VHF and UHF bands above 220MHz, without talking a 13-WPM code test. Both of these new licenses required 5-WPM code tests. These new license classes were highly successful, if the number of new hams was any measure.

Scarcely a year later, in late December 1952, the FCC changed the licensing structure once again. No new Advanced licenses would be issued, and special phone privileges on HF for Advanced and Amateur Extra licensees were withdrawn. Privileges for the Novice and Technician licensees remained unchanged. (Technician licensees eventually gained privileges on 6 and 2 meters.)

Mean while, a gradual technical revolution was taking place-consumer products employing those strange creatures called *transistors* began appearing and construction articles using transistors began appearing in ham magazines. Just as the spark operators had to learn about vacuum tubes in the 1920s, now the tube buffs had to hit the books and learn about transistors.

Another hint of things to come occurred in January 1953 when Ross Bateman, W4AO, and Bill Smith, W3GKP, working together at Bateman's Falls Church, Virginia station, heard echoes of their own 2-meter signal reflected from the Moon. So began the era of moonbounce communication between amateurs.

The '60-Incentive Licensing

The 1960s were exciting times for Amateur Radio. The decade brought us amateur moonbounce, OSCAR satellites and FM repeaters. Still, the '60s will forever be remembered by old timers not for exciting technical achievements, but for something quite different: incentive licensing.

Back in 1952 the FCC had eliminated the incentive licensing system on HF; the General, Advanced, and Amateur Extra class licensees all were given identical privileges. As the years passed many hams came to believe that the lack of special privileges for higher-class licensees acted as a *disincentive* for some to better themselves technically and operationally. As a result, and after months of debate within the pages of QST and other magazines, in club bulletins, at conventions, on the air and elsewhere, the ARRL petitioned the FCC to bring back incentives to amateur licensing. The filing, made in October 1963, asked for reinstatement of the Advanced license. No new privileges were proposed for Advanced or Amateur Extra class licensees, but it did propose that HF phone privileges for General licenses be phased out on the 80, 40, 20 and 15 meter bands. Growth of the US amateur service had been brisk, running at about 8% to 10% per year since the Novice and Technician licenses were created in the early '50s. Once the debate started, however, the growth rate fell sharply.

The debate continued until the FCC handed down its decision in 1967: incentive licensing was restored. Exclusive subbands on the 80, 40, 20, 15 and 6-meter bands were set aside for Amateur Extra and Advanced class licenses. Those subbands were withdrawn from use by General hams. Sufficient it to say, most Generals were *very unhappy.*

Since 1967 there has been liberalization of privileges for Novice and Technician licenses, plus expansion of HF phone bands and modifications to the specifics of the the exclusive subbands for Advanced , and Amateur Extra hams. Even so, the broad scheme set by that 1967 decision by the FCC is with us still. Today, some 33 years later, there are those who are still bitter about the outcome of the incentive licensing debate of the 1960s. Remember the quote from Confucius given at the beginning of this review? 'Applying Confucius' thoughts to the 1960s incentive licensing debate it's clear that a lesson has been learned: Never, *never* **never should anyone propose to reduce operating privileges!**

Incentive licensing was by no means the only major event in the '60s. For example, in July 1960 the first two-way contact via the Moon on 1296 MHz was logged by the Rhododendron Swamp VHF Society in Massachusetts. It took place between station W1BU, spearheaded by Sam Harris, W1FZJ , and the Eimac

Radio Club in California, led by O.H. "Hank" Brown, W6HB. Only a bit more than a year later Amateur Radio leaped into space in the form of a small, beeping, OSCAR (Orbiting Satellite Carrying Amateur Radio) satellite. It was the brainchild of a group of hams from the area now known as Silicon Valley. They arranged to have passed the baton to AMSAT, the Maryland based Amateur Satellite Corporation, still the principal satellite-specialized Amateur Radio organization in the US. The 1960s also saw the first move to amateur FM repeaters, destined to reshape the character of 2-meters and above.

The '70s-Repeaters and Packets

The '70s must surely be remembered as the decade of the FM repeater. Not because FM repeaters were "invented" in the '70s-they actually appeared much earlier - but because it was during this decade that amateur FM repeaters on VHF and UHF "took off" and literally reshaped the 2-meter, 1¼-meter and 70-cm bands.

The amateur FM repeater revolution had roots much farther back in time. Repeaters had been in use on 5 meters in the 1930s, but they were essentially experimental machines and never gained much popularity. In the 1950s AM repeaters started appearing, scattered throughout the nation. The repeater idea was sown.

It was the success of commercial FM repeater systems that gave amateur FM repeaters the greatest boost. After WW-II commercial users discovered the value of channelized FM for mobile use. Throughout the 1950s manufacturers churned out large quantities of equipment designed to satisfy that new demand. As the popularity of the new systems increased, so did congestion on their bands. In order to relieve that congestion the FCC finally required the commercial users to tighten up on their channel spacing. The commercials were obliged to do so, with the result that, throughout the 1960s large quantities of outmoded (from the commercials standpoint), but entirely serviceable equipment became available on the surplus market. Guess what? The gear operated on frequencies close to the amateur 6 and 2-meter bands, as well as 70-cm, and was easily converted from commercial to ham use. As the installed base of amateur FM repeaters grew, mostly built of converted commercial equipment, a demand for low-cost mobile and hand-held equipment grew and was satisfied by both domestic and foreign manufacturers. The era of the ham FM repeater was in full bloom.

While repeater systems were being brought on-line across the nation, a new kind of revolution was quietly underway, thanks to early work by some of our ham friends in Canada. This revolution was based upon the digital computer, which was attracting interest from many technically oriented hams. The Canadian experiments using packet techniques began in 1978. By 1979 Doug Lockhart, VE7APU, had developed a board capable of assembling and disassembling packets, and the board was offered to the ham community as kits. The kits sold briskly, and as the decade ended, so began the new gold rush - the rush to amateur packet radio. Unfortunately, ASCII modes weren't allowed under FCC regulations, so although experimentation was moving right along, US couldn't legally converse on packet with each other or with their Canadian counterparts.

Another significant event in 1979 occurred in Geneva at the World Administrative Radio Conference. At the end of the conference, due in no small measure to superb planning and lobbying by the IARU delegations, hams had three new HF bands, at 10, 18, and 24 Mhz.

The '80s-Space and Packet Radio

In March 1980, the FCC finally permitted ASCII modes in the US. This coincided with the sudden rise in popularity of affordable personal computers. That was all it took to ignite amateur enthusiasm for packet radio and other digital modes. Members of AMRAD (the Amateur Radio Research and Development Corporation) in the Washington, DC area represented one hard-core group of packet enthusiasts. They were responsible, in collaboration with AMSAT, for the first ARRL Amateur Radio Computer Networking Conference. Out west, in Tucson, Arizona, TAPR (Tucson Amateur Packet Radio) was formed. The TAPR group proceeded to produce a line of popular terminal node controlers, further fueling the packet conflagration.

Digital activity blossomed on HF as well. In 1982 Peter Martinez, G3PLX, put the power of the personal computer to work, combining it with a modified version of the SITOR protocol to create AMTOR - the first amateur HF digital mode that offered error-free communication.

Meanwhile, the ham community was electrified in 1983 by the launch in to space of Owen Garriott, W5LFL, an astronaut with the space Shuttle program. Garriott carried a 2-meter rig with him, and passed out nearly 300 QSOs from space .Since that time amateurs have been included in the crew of virtually every Space Shuttle launch. In later years the SAREX program (Shuttle Amateur Radio Experiment), initially spearheaded by Roy Neal, K6DUE, has turned out to be a superb tool for helping students throughout the world develop an appreciation for the wonders of space and the space program. It has also been a boon for recruiting young, eager, new hams.

(Concluding part in next issue) *Reprinted from QST Magazine*

(9n7dx continued from page...6)

helpful and polite and are happy in their own little world in the mountains, where their basic needs are taken care of. It was great to work the radio with my son who is a great CW operator. Even though conditions towards N.America were not good, I managed to work some old friends like W3UR, K0BX and worked many new countries on RTTY. As I worked with the system of numbers, I was able to get through to QRP stations and also stations without big antennas or linears. I know that many of them were working 9n7 after ages.

My total tally:
RTTY 1650 QSOs
6mtr SSB & CW 253 QSOs
SSB all bands 3200 QSOs
CW all bands 3500 QSOs

On my way back home, I had 2 full days in Mumbai. I met VU2SWS Sarlaji again and Prashant , VU2CBU. Though the weather was hot and humid, their hospitality made me very comfortable. I hope to work dx from an island close to VU someday!!

I am back home now and I carry very fond memories of this entire expedition. Namaskar and Shalom!!!!!!

Yagi Quiz

1) Who was Dr Yagi's co inventor of the antenna which is now generally known only by Yagi's name?
2) Directors are (longer)(shorter) than Reflectors.
3) The Reflector element is resonant at a frequency that is (higher)(lower) than the resonant frequency of the driven element.
4) Increasing the number of elements in a Yagi (increases)(decreases) the antenna pattern beamwidth.
5) Yagi antennas include parasitic elements to improve the **a)**front to back ratio **b)**forward gain **c)**both (a) and (b) **d)**neither (a)nor(b).

Answers
1) Dr Uda was the co inventor of the Yagi Uda Array. **2)** Shorter **3)** Lower **4)** decreases.An antenna with more elements generally has a narrower or sharper radiation pattern. **5)** both. Forward gain and rejection of signals off the rear are improved by proper placement of parasitic elements.

From : Radio Puzzler (N0AX'S)

W.P.C MATTERS

New Procedures

The Amateur Licensing Cell in W.P.C is now being manned by a new team. They are evolving their own procedures. These are detailed below so that, by following them, delays and problems can be avoided.

RENEWAL OF LICENCES: Application for renewal must be sent at least 3 weeks before expiry. Late fee (of Rs.10 for every 6 months or part thereof) will be calculated on the basis of the date of receipt of papers in the section(and not the date of Demand Draft, as was the earlier procedure). Invariably, quote your call sign, licence number and the date of expiry. A certificate to the effect that you 'have made more that 40 QSOs per year during the last 5 years before the expiry of the licence' is an absolute must. The draft should be obtained from State Bank of India, drawn in favour of *"PAY & ACCOUNT'S OFFICER (HQ),DEPT. OF TELECOMMUNICATIONS"* and payable at New Delhi Service Branch (Code 7687).

If you are applying for renewal more than two years after expiry of the licence, make sure to give adequate justification for the delay. In case the delay is more than 10 years, the licence will be renewed only after fresh security vetting. Accordingly, do not send any fee. Send only 4 copies of Personal details on the prescribed form. Only after receipt of clearance, the WPC will ask for fees etc.

CHANGE OF ADDRESS: The application (along with original licence) should indicate reasons for the change and whether the change is short term or long term. The fee is Rs.5 for this purpose.

SSB ENDORSEMENT: The application should be accompanied by the copy of the log book, showing over 100 QSOs, as well as the original licence. Each page of the log book should carry the call sign and name of the licensee. The licensee should put his/her initials against each entry. There is no fee for this service.

NEW LICENCE: While making initial enquiries, indicate date and center of examination. Such an enquiry may be made after 4 months of declaration of result. Keep a record of the WPC reference number after this enquiry.(The reference number of the result has no relevance in W.P.C.) Any payment made without quoting the WPC reference number is likely to remain untraced.

DUPLICATE LICENCE: If you have lost your original licence, send an application and Annexure VII(reproduced here)duly filled in, along with a demand draft of Rs.10 and two small size identical photographs.

IMPORT LICENCE: Earlier, Import Permit was being issued for one H.F., one V.H.F Base equipment and 2 hand held sets, within the cost ceiling of Rs.75,000. Now, only one hand held set in each band (2-m and 70-cm), will be allowed to be imported.

(See page...7)

DIGITAL FREQUENCY SYNTHESIZER WITH AUTO-SWEEP

Modified by V.S.Battu, SWL

This article describes in detail, a digital frequency synthesizer with auto-sweep facility. The design and operation of the instrument has been explained thoroughly. It is believed that it will be of assistance to amateurs as well as professionals who need to know the typical intricacies in the design of such instruments.

As shown in the block diagram of Fig 1, the system is made up of the following sections:

i) VCO
Ii) Reference clock
iii) Phase-frequency comparator
iv) Programmable divider chain
v) Multiplexed display
vi) Keyboard encoder
vii) Ladder filter.

The main unit of the synthesizer is the voltage-controlled oscillator. One Schmitt triger 74LS14 (ICIA) is connected in the astable mode by joining the input and output pins through a tunable inductor (L_1).

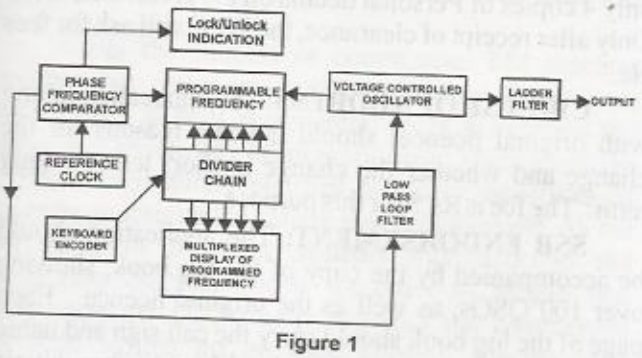


Figure 1

The input is also connected to a reverse biased GaAs light emitting diode which behave as a very good varactor for this application. The control voltage to determine the frequency of the VCO is derived from the phase frequency comparator Cd4046 (IC2). Although this integrated circuit is capable to serve as a PLL oscillator, its VCO unit is not suitable for the high frequency required. So the separate high frequency VCO is provided. The output from the VCO is filtered in the ladder network (L_2, C_2, L_3, C_3) to remove the harmonic distortions.

The stability of the output frequency is determined by the reference clock generate by the CMOS NOR gate CD4001 (IC3A) connected as a crystal oscillator. A crystal of 20 kHz is used. As the crystal frequency is quite low, a TIL oscillator is not satisfactory in this place. The 20 kHz output is divided by 74LS90(IC4)and 7493(IC5B) to get 2 kHz and 1kHz, both at 50% duty cycle for Multiplexing the display, in addition to feeding 0.5 kHz to the phase-frequency comparator CD4046 (IC2). Low power Schottky TTL has been used for (IC4) to avoid overloading the crystal oscillator buffer (C3B). CD4046 (IC2) is composed of two phase comparators. The phase comparator (I) output is available at pin 2. This phase comparator is an EXOR network. The output of the phase comparator (II) is available at pin 13. This phase-comparator is an edge-controlled digital memory element. It is preferred here instead of the phase-comparator (I) because it is not sensitive to the duty cycle of the input waveforms and it can not lock to any harmonics of the VCO. One input to the comparator is the 0.5 kHz crystal-controlled reference signal. The other input is obtained by dividing the VCO output by a programmable number in the divider chain of four 74192 (IC6, 7, 8 and 9) and 7493 (IC5A). The output of the comparator is a series of pulses proportional to the phase difference between the inputs. This is properly filtered in the low phase filter (R_1, C_1, R_2, C_2) to give a smooth correcting voltage to the VCO, to avoid the drifting of the programmed frequency.

Under normal steady condition, the VCO is phase locked to the reference frequency (multiplied by the programmed factor) due to the closed loop corrective action. To obtain 5.123 MHz, the divider chain must be programmed to divide the VCO output frequency by 5123 X 2 for example. In communication use several finer details of the PLL design are to be given due consideration for satisfactory overall performance as follow:

1) Good transient response, 2) Fast settling time, 3) Sufficient dynamic range to accommodate the frequency change, 4) Minimum sidebands caused by the pulsating output from the phase detector, 5) Acceptable VCO noise affecting the output, 6) Other spurious response affecting the output.

Many of these requirements are conflicting each other so a compromise is needed. The final values of the circuit components have been selected after considerable theoretical analysis and experimental observations. For convenience to operate the synthesizer, six push buttons have been provided to change the output frequency. These are grouped into two for increasing and decreasing the frequency. In each group, the three push buttons are for fast, medium and slow variations of the output frequency. These switches are connected the oscillators made of Schmitt triggers 74LS14 (ICIB, IC1C). For increasing the frequency,

IC1B produces a series of pulse to feed the chain of four 74192 (IC10, IC11, IC12, IC13) in the count up mode. For decreasing the frequency, IC1C produces the pulse for count down mode to IC10.

The condition of the four 74192's (IC10, IC11, IC12, IC13) decide the present count for the four 74192's (IC6, IC7, IC8, IC9) connected as preset down counter, so that the PLL output frequency is controlled by this chain. To display the output frequency, the four 74192s (IC10, IC11, IC12, IC13) are multiplexed by the two multiplexes 74151s(IC14, IC15) to feed the seven segment LED driver 7448 (IC16). The common cathode digit drive for this display ϕ is obtained from the decoder 7442 (IC17). The BCD-7 segment decoder 7448 (IC16) has a built-in 2 kilo ohms pull-up resistor at each collector output. For more driving current for the display, external pull-up resistors of 1 kilo ohms each have been added.

To make sure that the displayed frequency is the true output frequency from the PLL, one green LED for indicating the locked condition and one red LED for out-of-lock condition have been provided. The principle behind the lock detection is as follows. In the phase-frequeny comparator Cd4046 (IC2), the voltage output at pins 1and 2 are never low simultaneously if the two input frequencies being compared are equal to each other, although they may have any amount of relative phase difference. The NOR gates CD4001 (IC3C, IC3D) with the associated diode, capacitor, resistor network detect the phase lock condition. Inverter 7404 (Ic18) provides sufficient drive for the LEDs.

CONSTRUCTION

The entire circuit is constructed on a 4" X 6" veroboard with 0.1" hole spacings. All TTL ICs are mounted on sockets for ease of trouble shooting. Individual connections are made by point-to-point soldering. It can also be fabricated by wire-wrapping technique. It is very essential to use as many by pass capacitors as practicable. This keeps the power supply noise sufficiently low. We recommended at least one by pass capacitor for every two integrated circuits.

Extra precaution must be taken to avoid ground-loop problem affecting the VCO. Modulation of any kind appearing on the VCO control line causes spurious side-bands. This may happen for the other TTL ICs sharing the supply and the accumulated noise on the ground bus can be troublesome. This is avoided by taking separate supply lines for the VCO, phase comparator and the reference clock. These sensitive ICs are provided with isolating diodes at the supply lines so that any momentary dip in the overall power supply voltage will not cause much disturbance to these ICs.

The counter chain (IC6, IC7, IC8, IC9) is loaded when the borrow output pin 13 of IC9 is momentarily low. This loading pulse is normally too narrow, so some jittering is observed when the preset value is 5000. This is cured by adding a small delay by 7404 (IC18). For incrementing the preset frequency by single step, the Schmitt trigger input of 74LS14 (IC1B or IC1C) is grounded. Some resistance is essential (R3, R4) in the ground path, otherwise the lead inductance and capacitance may result oscillatory discharge, causing several steps of increase. The contact debouncing of the keys is ensured by the capacitors (C7, C8). As CD4046 (IC2) can not function well with too narrow pulses, 7493 (IC5A) is needed to get clean square wave for the phase comparator.

OPERATION

The synthesizer is very easy to operate. The green LED indicates that the output frequency is equal to the displayed figure. If the frequency is to be increased fast, the "FAST UP" button is pressed. This enables the frequency to be increased at about 100 KHz / second. The red LED indicates that the desired frequency is beyond the range of the VCO. In that case, the variable inductor (L1) is adjusted until the green LED in on. Ideally, the synthesized output should be a pure tone free from any sidebands. This can be checked in a spectrum analyzer or simply by AM and FM detectors. Even an ordinary AM/FM radio receiver will give a quite sensitive indication of the purity of the synthesized output.

OBSERVATION

A detailed study of the designed digital frequency synthesizer was made and the summary of observation is tabulated below with suitable remarks.

Range	Remarks
i) Frequency : 4 MHz to 7MHz	Minimum coverage
ii) Resolution : $\pm$ 1000 Hz	May be reduced by additional components.
iii) Accuracy : $\pm$ 10 Hz	This depends on the reference quarts crystal
iv) Digital readout : 4 MHz to 7 MHz	Upto 4 places
v) Phase Lock : Red (Out of range) indication Green (Perfect Lock)	To confirm correct synthesis
Vi) Output : 1 volts rms voltage	Distortion free output

APPLICATION

This instrument may be useful for a very wide variety of applications, where a single source of high precision and variable frequency is needed. Some typical applications are listed here.

1. 5.5 MHz TV sound IF Alignment.

2. Stable local oscillator for super heterodyne receiver.
3. VFO for Radio Amateur transmitter
4. Calibrated sweep generator VHF to MW band be obtained by suitably dividing or multiplying the synthesized frequency and scanning over a band.
5. Very accurate and stable sine wave of any frequency may be generated by feeding the synthesized output to a binary counter chain and sequentially reading a sine table read-only memory into a digital-to-analogue convertor. This will be useful in audio and subaudio range for testing musical instruments and structural vibration analysis.

APPENDIX

Some useful formulate for calculating the PLL components are noted here. However some departure from the calculated value, may be necessary in the actual set-up as several requirements like dynamic range, transient response, seetling time, side-band level, VCO noise and spurious interference, are contradictory to each other and a compromise is needed, according to the specific application of the PLL.

1. Decide output frequency range of the PLL
2. Decide minimum frequency steps. This is twice of the reference frequency comparator.
3. VCO should be capable to cover additional 25% of the output frequency range on either end.
4. The response of the PLL is similar to a damped turned circuit, i.e., the actual output frequency has a tendency to hunt above and below the target frequency in an oscillatory manner. The natural frequency and damping characteristics of the oscillatory behaviour depends on the PLL components. It should be such that the hunting tendency is within acceptabhle limits for quick setting and stability. The formulas are :

$$\omega_n = \sqrt{\frac{K\phi K_V}{N_{max} RC}}$$

$$\xi = \frac{\omega_n R'C}{2}$$

Where ω_n = natural frequency of the PLL system in rad/s.

$K\phi$ = phase detector gain in V/radian

K_V = VCO gain in rad/s/V.

Nmax = Max, synthesizer output frequency to reference frequency ratio.

$R = R_1$ (as shown in the circuit diagram)

$C = C_{14}$ (as shown in the circuit diagram)

ξ = is dimensionless damping factor.

$R' = R_2$ (as shown in the circuit diagram)

ξ should be about 0.8 and ω_n is estimated from the setting time requirement of the PLL (Vide Fig 3).

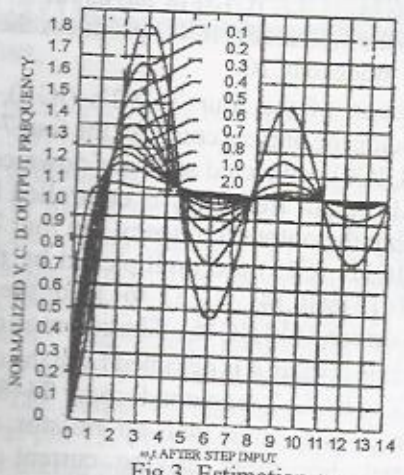


Fig 3. Estimation ω_n

The capacitor Cs in the circuit diagram is needed to minimize the side level due to pulsating nature of the phase-frequency computer at the reference frequency. However, it should not be more than 1/5th of C (i.e. C_{14}).

CONCLUSION

This design idea is based upon a simple micro controller and provides intelligent monitoring of the Load and Power - factor in Industry. It provides feasibility for altering the requirements by changing only the software and may be employed for other uses as stated in the Introduction. It provides a good insight into both microprocessor based hardware and software.

Any tunable coil can be used. For L1, I have used the normal can type coil, normally used for FM audio in TV with the accompanying pF capacitor removed !! It takes some selection and experimentation to get the tuning and range (4-7Mhz) right. As regards the filter coils L2-3, the same coil with a single turn winding removed will suffice. For C140, 1pF, I have used a 2 inch long piece of Parallel Ribbon Cable (2 wires) with one and of these wires stripped and soldered as legs of the now formed 0.1 pF capacitor. Experimenters will surely come up with their own variations and solutions.

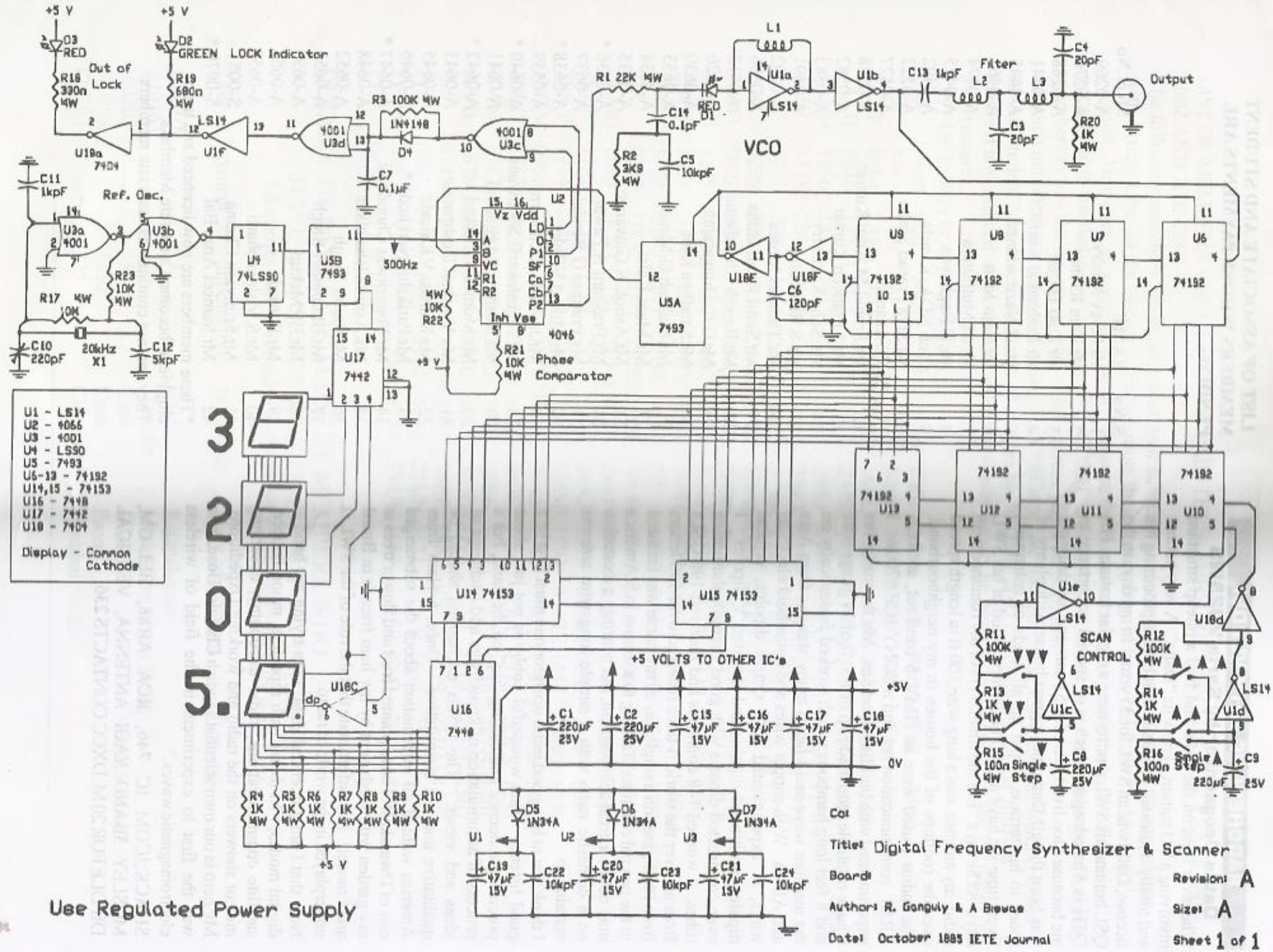
Reprinted from IETE Technical Review October 1985

Contest Calendar

CQWW WPX-CW by CQ Magazine- May 24th 0000UTC to May 25th 2400UTC.

JARL's 44th All Asian Dx Contest CW 21st June 0000UTC to 22nd June 2400UTC

IARU HF World Championship-12th July 1200UTC to 13th July 1200UTC


+5 V
D3 RED
Out of Lock
R18 330n 1/4W
D2 GREEN LOCK Indicator
R19 680n 1/4W
U18a 7404
LS14
U1f
4001 U3d
R3 100K 1/4W
1N4148 D4
4001 U3c
C7 0.1µF
Ref. Osc.
C11 1kpF
U3a 4001
U3b 4001
R23 10K 1/4W
R17 1/4W 10K
C10 220pF
20kHz X1
C12 5kpF
U4 74LS90
U5B 7493
500Hz
U2 Vz Vdd LD O P1 SF Ca Cb P2 Inh Vee 4046
1/4W 10K R22
+5 V
R21 10K 1/4W Phase Comparator
U5A 7493
R1 22K 1/4W
D1 RED
C14 0.1pF
R2 3K9 1/4W
C5 10kpF
VCO
L1
U1a LS14
U1b LS14
C13 1kpF
Filter
L2
L3
C4 20pF
C3 20pF
R20 1K 1/4W
Output
U18E
U18F
C6 120pF
U9 74192
U8 74192
U7 74192
U6 74192
U13 74192
U12 74192
U11 74192
U10 74192
U1 - LS14
U2 - 4066
U3 - 4001
U4 - LS90
U5 - 7493
U6-13 - 74192
U14,15 - 74153
U16 - 7448
U17 - 7442
U18 - 7404
Display - Common Cathode
U17 7442
3
2
0
5.
U14 74153
U15 74153
U16 7448
dp
U18c
U18e LS14
U18d
SCAN CONTROL
R11 100K 1/4W
R13 1K 1/4W
R15 100n 1/4W Single Step
C8 220µF 25V
R12 100K 1/4W
R14 1K 1/4W
R16 100n 1/4W Single Step
C9 220µF 25V
+5 VOLTS TO OTHER IC's
+5V
0V
C1 220µF 25V
C2 220µF 25V
C15 47µF 15V
C16 47µF 15V
C17 47µF 15V
C18 47µF 15V
R4 1K 1/4W
R5 1K 1/4W
R6 1K 1/4W
R7 1K 1/4W
R8 1K 1/4W
R9 1K 1/4W
R10 1K 1/4W
+5 V
D5 1N34A
D6 1N34A
D7 1N34A
U1
U2
U3
C19 47µF 15V
C22 10kpF
C20 47µF 15V
C23 10kpF
C21 47µF 15V
C24 10kpF
Uee Regulated Power Supply
Co:
Title: Digital Frequency Synthesizer & Scanner
Board:
Author: R. Ganguly & A Biswas
Date: October 1985 IETE Journal
Revision: A
Size: A
Sheet 1 of 1

RAGCHEWING WITH VU2DSI,

Datta Deogaonkar by Sarla VU2SWS

Whenever I get on the radio and find a pileup situation involving a VU station,I know its "Datta". A very patient and totally dedicated operator. But before procuring his licence, Datta was an SWL for 35 years! In my days in the QSL bureau his SWL reports were a regular feature. His QTH is Ahmednagar, which is of special importance to me because I too lived there for 5 years and my daughter was born there!! Datta has a great house with plenty of space in his terrace to put up all kinds of antennas!! Everytime we have a QSO he is very proud of his SWL days. As he says " For the first 20 yrs of my romance with radio, my antenna was a long wire,100 ft in length spread over the rooftops of the houses in my neighbourhood. The radios I used were an HMV, 5 band set, an RCA AR88 communication set and a SONY ICF 6700w. I experimented with building antennas. My favourite was a huge rotatable loop made up of 100 ft of 14 guage wire and 8 feet long bamboos,which worked fantastically on the medium wave and I heard many stations from Asia and Africa. With copper wires and household electrical wires, I experimented with simple dipoles, vertical dipoles, multiband dipoles and inverted V dipoles. I even constructed dipoles with good strength aluminium tubes. I worked 148 countries and received 196 QSLs from all over the world. I once received over 100 letters from Phillipines on a single day as my name was featured in the pen pal columns! Talking to a station in S.America may not be a great achievement, but hearing a dx station on a domestic radio with a simple long wire antenna certainly is.

I think that to be a good radio operator one must first be a good listener. This wonderful hobby is not just about procuring a licence and calling "cq" on the band, but a process of accumulation of knowledge and exchange of ideas and views. The QSOs exchanged should be qualitative and not quantitative. Once, a Ham from America wanted all information about the submerged city of Dwaraka!!! I have planted fruit and flower trees in my garden with seeds sent by my ham friends in Brazil and France!! It is unfortunate that the role of the SWL is underplayed in the world of radio.

Now that I am a licenced Ham, I am trying my hand at digital modes, FM dxing with repeaters, moon bounce, satellite communications, radio astronomy, observing meteor showers on the radio and working Dxpeditions. My hero is our own scientist Jagdish Chandra Bose, who was the first to experiment in the field of wireless electromagnetic waves."

SHACK;ICOM IC 746, RCA AR88, BEL-GM, MOSLEY 3BAND YAGI ANTENNA, VERTICAL DIPOLE FOR 20 M. DXCC CONTACTS 236.

LIST OF ASSOCIATE AND STUDENT MEMBERS WHOSE PAYMENTS ARE PENDING

S.No	NAME	Mem.No
1.	Mr.Percy Mistry	A-0269
2.	Mr.Ram Kumar	A-0276
3.	Mr.Zaki Ishrati	A-0288
4.	Mr.Prabhakar Kutty	A-0341
5.	Mr.H.Nazir Ahmed	A-0445
6.	Mr.Rajo John	A-0462
7.	Mr.M.Muthuraja	A-0474
8.	Mr.N.Raghavan	A-0475
9.	Club NDA, Kvasla	A-0492
10.	Mr.Siva Prasad Sinha	A-0522
11.	Mr.Ananda	A-0527
12.	Mr.Frahul M.Arun Kumar	A-0528
13.	Mr.J.Pradeep Kumar	A-0582
14	Ms.Soha Kuriserry	A-0583
15.	Mr.S.Rajendran	A-0591
16	Mr.Thomas Moses	A-0592
17.	Mr.Sunil Kanti Guha	A-0606
18	Mr.Rajesh Chandwani	A-0612
19	Mr.G.C.Thiagarajan	A-0626
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36	Mr.Rajbir Singh	A-0652
37	Mr.Bhupinder Singh	A-0653
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39.	Mr.K.Arul	A-0657
40	Mr.S.Vishwabharti	A-0658
41	Mr.Srinivasa Chama	S-0051
42	Mr.Sumeet Arun Bal	S-0070 *

*These members are now licenced and hence eligible to become Corporate Members.
They can not continue as associate members.

LIST OF MEMBERS WHO HAVE NOT PAID THEIR SUBSCRIPTION FOR THE YEARS 2001-2002 AND 2002-2003

The following members are in arrears of their subscription for more than two years. In accordance with Article 19(e) of the Society's Constitution, their names may be removed from the Members' Register. However, as a special case and because the Society itself was going through a difficult period due to the demise of Mr. Saad Ali, VU2ST, it is felt that a further grace period be given to such members to pay the arrears as well as the current year's subscription.

All such members are requested to pay Rs.470(Corporate members),Rs245(Associate Members) and Rs110(Student Members), inclusive of late fee by 30th June 2003 covering the period 2001-04.

Errors if any, noticed in the compilation below may kindly be brought to the notice of the President or the Treasurer.

LIST OF CORPORATE MEMBERS

Call Sign	Mem No	Call Sign	Mem No	Call Sign	Mem No	Call Sign	Mem No	Call Sign	Mem No	Call Sign	Mem No
2AAP	0564	2ABK	1646	3ADG	1641	ADO	1065	2ADW	1024	2AIE	1568
2AKB	0046	3ANH	1711	2APS	0814	2APZ	1088	2ARG	1419	2ASH	1121
2AUO	1266	2ATB	1517	3ATK	1761	2BEJ	0316	3BEO	1760	2BGJ	1150
3BHI	1418	2BI	0618	3BRC	1485	2BRK	1350	3BVM	1452	3BWA	1718
2CJV	1751	2CKH	1655	2CLN	1661	2CSB	1782	2DEX	1381	2DFM	1639
2DG	0298	2DKK	1753	2DMS	1773	2DNL	0086	2DOO	1777	2DRD	1772
2DSD	0922	2ELR	1758	3FAM	1426	3FDH	1656	2FPK	1453	2FTF	1676
3GAO	1245	2GGG	1439	3GKN	0930	2GLJ	1410	3GOG	1339	2GWL	1042
2HCB	1664	2HIY	1783	3HJN	1781	3HST	1723	2IVG	1491	2IXY	1695
2JAC	1779	2JAU	1194	3JBR	1769	2JF	1476	2JHN	1562	2JJJ	1751
2JK	0383	2JKK	0186	2JME	1671	3JOH	1776	3KAI	1744	3KDL	1791
2KMG	1610	3KNT	1784	3KNY	1255	2KOV	0944	2KQY	1780	2LAU	1768
2LDF	1792	2LDH	1748	2LK	0312	2LKJ	1515	2MAL	0633	2MB	1217
2MCP	1714	2MDA	1771	2MJY	1587	2MML	1593	3MRE	1454	2MRP	1756
2MTM	0960	2MUL	1682	3MWH	1740	NAS	1340	3NGF	1787	2NGS	1660
3NLO	1767	3NSF	1741	2NTA	1457	3NWZ	1095	3OLG	1713	2OPX	1254
3PAN	1747	3PBM	1725	3PCE	1770	2PEP	1493	2PKV	1356	2PTN	1701
2PVB	1678	2RCH	0976	2RIO	0970	2RNW	1338	2SHL	1119	2SHT	1563
2SJ	0740	3SND	1293	2SNW	1053	3SRE	1731	3SUA	1679	2TBM	1759
2TE	0501	2TRA	1057	2TRF	1298	2TUN	0571	2UKR	1650	2VA	1359
3VDA	1597	3VDB	1598	2VQL	1120	3VUK	1689	2WPR	0792	2XX	0137
2YJ	0414	2YKN	1362								

DETAILS OF PAYMENTS MADE BY MEMBERS WHO HAVE NOT SENT THE ICICI BANK'S COUNTERFOIL

(Receipts can be issued to such members after their identity is known)

Date of Payment	Amount(Rs)	How paid	Place of payment	Remarks
021102	125	Cash	Rajapalayam	
220103	350	Transfer	Model Town,New Delhi	
100203	75	Cash	---------	NeerajSharma?
190203	2450	Cash	Panaji	
120303	225	Clearing	Mumbai	

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I.T.U. ZONES AND REGIONS

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