

Ham



RADIO

News

Vol VI No.2

Apr/Jun 2000.

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

"AMATEUR RADIO- A NATIONAL RESOURCE"

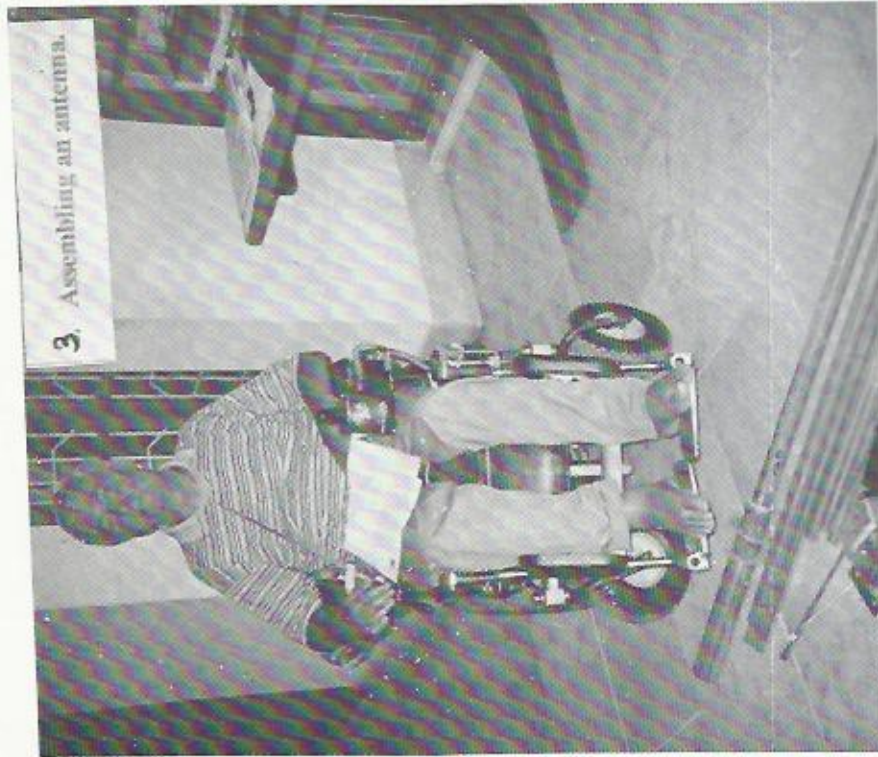


VU2MKP ROBERT KOHLI

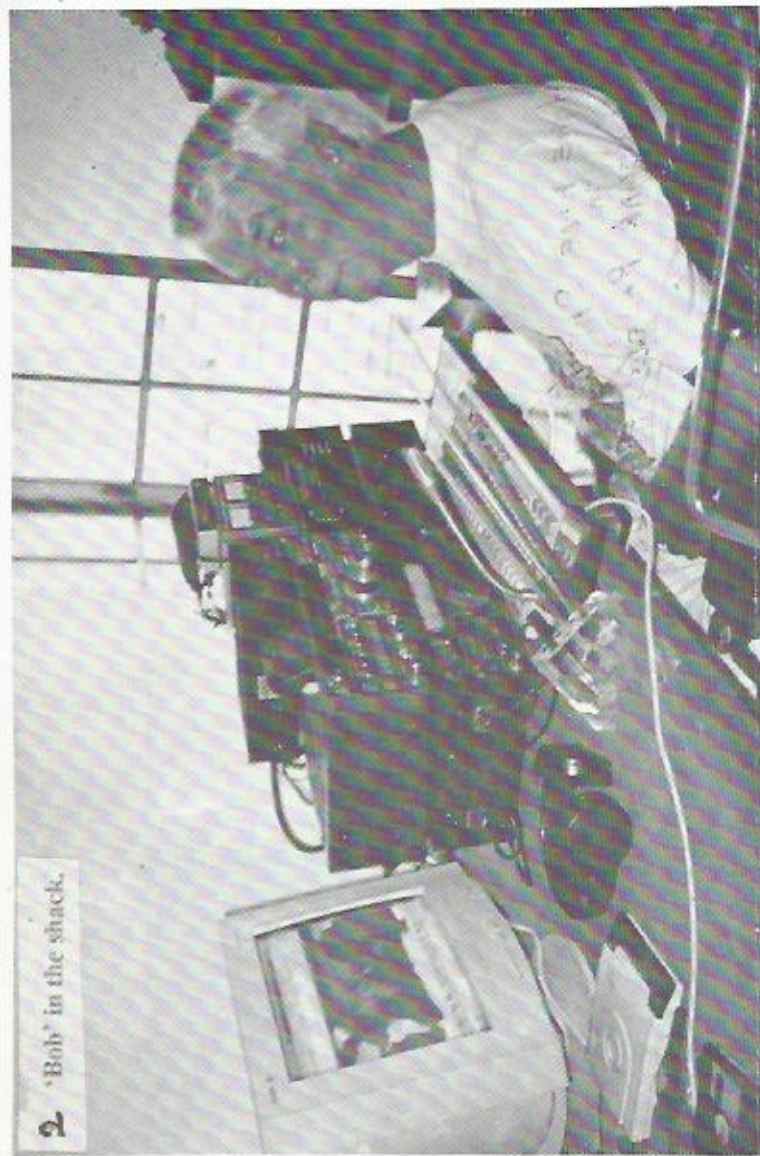
"BOB" Operating his ham station with a stick in his mouth." (See article inside)

Photo by - GOPI VU3RWH

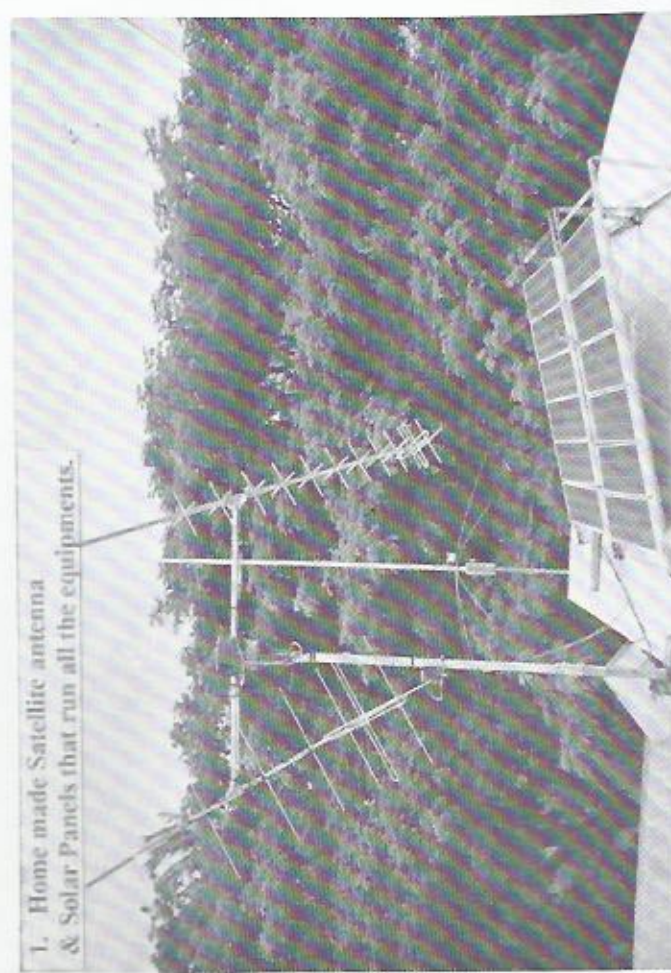
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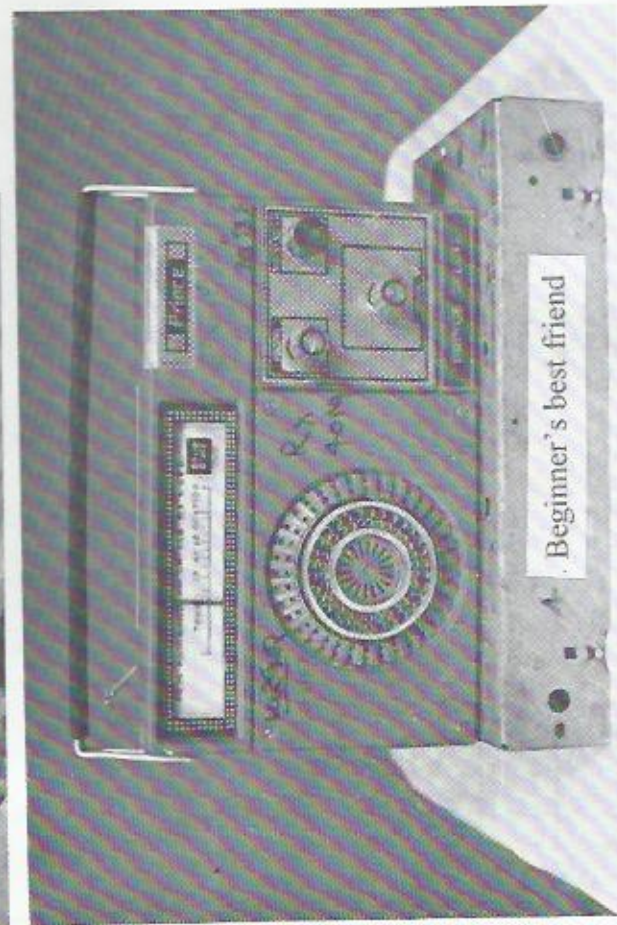
3. Assembling an antenna.



2. 'Bob' in the shack.



1. Home made Satellite antenna & Solar Panels that run all the equipments.



Beginner's best friend

EDITORIAL

This issue of HAM RADIO NEWS comes to you after the Annual General Meeting of the Society which was held on 19th March, 2000, in Mumbai. The attendance was not very encouraging. We did not expect many members from outside Mumbai but even locals did not come for various reasons of their own. The minutes of the Meeting appear elsewhere in the issue.

After the unfortunate experience at Bangalore and Mysore, we are hoping that the next AGM will be held during the HAMFEST at Hyderabad, with better attendance.

Twice during the last few years, we had imported HF and VHF sets from Yaesu Musen, Japan, at concessional rates. We have been receiving requests from various quarters for a similar venture. The process is quite complicated and time consuming. However, if there is adequate demand for both VHF and HF sets (the concession is available only for a large order), we may consider to go into the hassle once again. The models selected and their possible cost to the members can be decided after getting the response. So, do write to us what you want (only one type of HF/VHF will be procured, based on numerical majority) **LATEST BY THE END OF MAY, 2000.**

Last issue of HRN contained a list of members who were in arrears of subscription. It is hoped that they will come forward and pay their dues. Your reminder to the defaulting ones (i.e. those living in your vicinity or otherwise in contact) may help in recovering some of the outstandings. Obviously, the society cannot run with such huge backlog.

And finally, we once again request all members to contribute articles, interesting anecdotes, details of their experiences while eliminating problems encountered during installation and/or operations or any other feature- not necessarily related to amateur radio- so that the magazine can be made more interesting.

QSL BUREAU

It is once again brought to the notice of all that the QSL service is no longer available to non-members, including the defaulting members. Kindly note that outgoing QSL service is available at Chennai only. For incoming service, cards will be sent only to those who send stamps within a month after receiving intimation from the QSL Manager.

As far as possible, cards for VU2s and VU3s may be sent directly and not through the Bureau.

Sahrudin VU2SDN

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discontinued)

YAESU IMPORT

Members desirous of importing the HF FT 840 and the VHF FT 411E please book them immediately latest by 31st May 2000. The cost may be more since the exchange rate has changed drastically.

Members who have booked the optional/spares kindly bear with us. There is a communication gap with M/s Yaesu Musen. All will be informed individually.

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COVER STORY:**DISABLE DOES NOT MEAN UNABLE**

Here is a Ham extraordinary, his determination is exemplary, his perseverance is highly commendable. The innumerable antenna he has designed and constructed are perfect in finish and complete in all respects. The DX contacts he had made are plenty and numberless. He speaks to his friends in Switzerland almost daily. He has extensively toured Germany, Austria and Switzerland in the west and in Brunei, China and Singapore in Asia. He got his ticket some three decades ago while he was in Germany. His call sign is VU2MKP and his handle is Bob.

His name is Robert Kohli. All these things may not mean much to us. But when you meet him for an eye ball you will be wonder struck. He is physically handicapped. In the fragile frame the only moving parts are his neck and face. His hands and legs are paralyzed and are immovable. Nevertheless his achievements are amazing. He sits on a battery operated computerized wheel chair and operates the mini computer with his chin. He picks up a foot long plastic stick with his lips and operates the keyboard of his laptop and the controls of his Transceiver. It is worthwhile to listen to his DX contact experiences. Speaking of his constructional abilities mention must be made here of the different types of antennae particularly the 12 foot long beam antenna for 70 cms which gives a clean 16 Dbd gain. This and all other antenna are designed and constructed by him, his disability notwithstanding. They are free from unwanted noise and accurate to the last fraction of a millimeter. He has clear-cut ideas about home brewing. He feels that home brewing is a must for all hams. Just buying a ready made commercial equipment and indulging in a telephonic like conversation avoiding all technical points is no ham radio at all. For him ham radio means and includes home brewing to a lesser or greater extent, be it a simple J-Pole 2m VHF antenna or a FM 2m complicated Tx. It may not have the complicated sophisticated operating system like repeater shift or the memory scanning facility, nonetheless, the joy, the pride the inexpressible feeling of ownership are simply fathom less.

As far as the new gadgets like cell phone, the pager and the internet and so on, he is of the opinion that ham radio will withstand the onslaught of these new inventions. This is because basically they are two different identities, although there may be some overlapping. The scope and basic nature and purpose of these equipment are different from those of ham radio. Each system has its own purpose and limitations. One is hobby oriented and the other is utility oriented. There was a time when people thought that with the advent of TV the newspapers would vanish. But nothing of that kind has happened. Both are thriving indepen-

dently.

Hams are where ever they are, he says, as they are bound by common rules, regulations, conventions and practices. He does not see much of a difference between a ham in India and a ham in Germany or Switzerland. Speaking of physical disabilities he firmly believes that physical weakness or inability is not the deciding factor in making a perfect ham. In the final analysis what is more important is determination and tenacity. This swiss born Electrical Engineer had extensively toured in India from Delhi to Kanyakumari and from Mumbai to Calcutta and has finally chosen Bangalore as his home town. Decades ago when he was able bodied he had an assignment in Bangalore in one of the public sector undertakings. He likes the climate of Bangalore. He is enthusiasm personified. His tireless efforts and single minded devotion and sincerity have put many an able-bodied ham to shame. It is worthwhile taking a leaf from out of his biography.

- by K.Ramaswamy VU2BRK

A little bitty more info on "BOB"

-by Bindu VU2IR

Bob has separate All Mode Kenwood rigs for 2 metres & 70 cms for satellite work. Also a Yaesu FT 736 satellite rig. There is a separate rig for HF. All satellite antennas are Home Brew. For 2 metres there is a 9+9 element crossed Yagi, and for 70 cms an 18+18 element crossed Yagi, switchable, but presently Right Hand Circular polarized. As can be seen in the pix (see no. 1), antenna can be controlled in Azimuth & Elevation. Bob says "A clean antenna Pattern is more important than just lots of gain" For HF there is an All Band Vertical.

Bob finds it easier to work with Rigs that have Push Buttons or small levers rather than knobs that need to be turned. This is because he operates the rigs with a short stick held in his mouth. Easier to push down a button- not so easy to apply torque to turn knob on shaft!

All electrical equipment in Bob's home, including the Rigs run on Solar Energy! The Solar panels deliver 900 watts of power, which charges the Battery, which runs the inverter.

Bob moves around, (quite a lot!) on his motorized electric wheel chair, which he controls expertly with his mouth operated "Joy Stick"!

He has designed the Van in which he has toured quite a lot of the country. The Van has a Ramp which can be let down to enable Bob to drive his Chair up into the Van. Even a short Eye Ball with Bob, leaves one amazed by achievements and his mastery over the circumstance.

LET THIS NOT HAPPEN TO YOU?

Date: 14th October 1999

Time: 1700 Hours IST

Place: Nerul, Navi Mumbai.

This day was like any other day at the fag end of the monsoon. In fact the monsoon was practically or officially closed. For the past couple of days there was a lot of thunder and lightening and sporadic rain in parts of Mumbai/New Mumbai. But for the two days proceeding there was no sign of thunder/lightening or rain. On the 14th the weather was bright and sunny till 1500 hours and there the skies opened up and started raining like nobody's business as they say. Then gradually started the fireworks not of much intensity. So off went all the rigs and the TV. So also off went the Computer. HF/VHF antenna were disconnected as usual and left on the table as used to be done always when not in the shack. XYL had just returned from school shouting her head off and cursing the bloody rain.

Since there was nothing else to do thought of enjoying some quite music in closed doors. On went the JVC Stereo. The CD was Enigma if anyone knows this piece of music. It takes us back to the creator and the beginning of the world. Just as I was enjoying the music there came a bolt of lightening so severe that the whole building which is a three story one got shaken up and the lights went out. Nobody knew what hit where and what happened. Gathered my wits together and first of all replaced the fuse.

The lights came on and then a burning smell from the shack. Investigated the shack and found the PL 259 that was used for the VHF 5/8 G.P. was nowhere to be found except a charred end of the co-axial where the PL was. Oh God! Never seen anything as such and the worst ever thunder and lightening I have ever seen in my whole life. Held my breath and expected the worst. Started inspection and check of each piece of electronic/electrical equipment. Went to the TV and found that it had gone kaput. Checked the Stereo ditto here. The socket that connected the TV from the converter was found in smithers. The fridge was switched off earlier. Found that piece of equipment ok. Thank God for small mercies.

In the shack checked the HF the TS 140 S, found the Rx working OK. Did not check the Tx till the next day and found the finals blown and fortunately could radiate 10 watts only. Switched on the computer. Blown here too along with the monitor, modem and printer. Fortunately the Monitor, modem and printer were on warranty and I did get them serviced with no hitch. The Dual Band VHF/UHF found the UHF final blown along with the 10 A PSU., plus a VHF boot and a VHF pre amp, and an SMPS 10 A PSU. My luck was the PSU of the Kenwood was saved.

Also included an extension telephone was destroyed. Haven't assessed the total damage in terms of money. But could be colossal. I have not got back my Stereo system yet since a couple of blown chips are not available.

This I am writing to warn and let people know what is written in the manuals should be strictly adhered to. That is, use a separate earth for all your equipment and do not connect it to the water pipe or the mains earth line. This will not help. Do make a separate heavy gauge earth and do earth all your equipment to this bus and see that it is earthed properly. The best way is to bury a plate preferably copper or galvanized sheet will do. To this attach either a copper strip of heavy gauge or multiple heavy gauge wires. Bury this in a pit dug deep at least 6 feet and layer this with salt and charcoal layer by layer. After two layers lay the plate and then continue the layering till done. You may require about a bag of charcoal and half a bag of salt. Do not take chances with the lightening and risk your equipment. These are costly and may cost you dear too. Lightening generates about 30 million volts and can be deadly if working in the shack.

It was reported in a news item from London that two YLs were charred to death because they were wearing bras lined with wire and they were struck by lightening. It could happen to anyone anytime. So be warned and take adequate precautions. Also a second precaution is to disconnect the antennae and leave them away from any chassis or ground and also as additional safety do disconnect all the equipment from the mains supply.

The most astonishing part of this whole episode was the 5/8 loading coil which made all this happen. As all know the loading coil has a tap which is earthed and it is through this earth that all the damaged occurred. The lightening struck the 5/8 and blew the radiating element out of its holder which was having a ferule and a nut to hold it down. The nut and the ferule were safe and still in place with the radiating element blown upwards and landed on the terrace. The loading coil with the plastic cover was charred and blown to smithers. The PL 259 was disconnected and kept about an inch away from the chassis. There the lightening jumped this one inch onto the chassis and then into the mains earth which did all the damage. The photo at No. 4 shows the damaged loading coil on the left compared to a good coil on the right. *What damage lightening can do, you can never imagine !!*

ADOLF B. SHEPHERD, VU2AF

FEEES 2000-2001

FEEES FOR THE YEAR 2000-2001 ARE DUE WEF 1st APRIL. PAY EARLY TO AVOID PENALTY.

MINUTES OF THE A.G.M. OF THE ARSI HELD ON 19th MARCH 2000

The Annual General Body Meeting of the Society for the year 1998-1999 was held on the 19th March 2000 at the Garware Club at 1615 Hours. 22 voting members attended including the President VU2SDN Saharuddin and the Vice President VU2GJR Dr. Gajapathy Rao. After the tea and snacks were served the meeting got off to a start with the General Secretary welcoming the office bearers and the members of the Society. G4YRU/VU3NSF Mr. Graham Reid was given a special mention as a new member of the society.

A minute's silence was observed for the members of the Ham fraternity who went silent key during the last one year among them the old timers like VU2WY Om Muthukrishnan from Coimbatore, VU2GV/A22 G.V.Sulu who was a very enterprising Ham and VU2TF Austin from Trivandrum.

The Minutes of the last AGM held on 13th December 1998 was read and passed.

The President in his address explained to the members all that the society is doing with the govt/wpc. (See report).

Next the General Secretary gave his report on the working of the society for the year 1998-99 (See report).

The balance sheet was taken up and after a couple of clarifications was passed by a voice vote.

VU2ST was confirmed as the Editor of the HRN while the President was again nominated as the IARU Liaison officer and also the Awards Manager. VU2VIT was retained as the QSL Manager for the Post Box at Chennai. The Mumbai Buro will be managed by the General Secretary since no volunteers could be found to run the buro.

Regarding the auditors, it was suggested that Vital Link be appointed as Auditors. But there was an objection that the treasurer is a part of Vital Link and hence could not be appointed as auditors. M/s K.C.Desai was appointed as Auditors for the year 1999-2000 with a remuneration of Rs.1000/-.

The next point was the amendment to the rules as published in the HRN of Jan/Mar 2000. They were taken up point by point and discussions were lively. One point discussed related to student members. After prolonged discussions it was agreed to maintain the status quo. All the amendments were passed by a voice vote.

Since there was no other point for discussion the meeting came to a close at 1830 hrs with a vote of thanks by the Vice President, Dr.Gajapathy Rao.

ADDRESS BY THE PRESIDENT

Let me first of all welcome the members of the society at this Annual General meeting. Originally, this meeting was scheduled to be held at Mysore during the Hamfest. Unfortunately, the financial conditions imposed by the Organizers of the Festival at the last minute made it difficult for the Society to hold the AGM at that venue.

Holding the AGM in Mumbai is not a very desirable exercise because members from other places are unable to come and participate in the proceedings. Hamfest is one such occasion when people try to come and meet the ham community from India and abroad. Let us hope that the problems we faced in Bangalore and Mysore do not find an echo in Hyderabad.

Since the last AGM, the Society had taken up several issues with the Government. One of the problems was to operate from Andaman Island. The Ministry of Home Affairs has categorically rejected the demand on security considerations. The other issues on which Government's decision is still not available are

- release of 50 kHz slot in 30 metre band and 200 kHz slot in 6 metre band for use by amateurs;
- permission to use 20 kHz from 3780 to 3800 kHz as DX window in 80 metre band;
- licences to be granted on provisional basis to radio amateurs pending receipt of report from Home Ministry;
- acceptance of demand draft from any scheduled bank, instead of State Bank of India draft only;
- amendment to Indian Wireless Telegraph (Amateur Service) Rules, 1978. Some of the highlight of the proposed amendments were indicated in the AGM at Cochin.

Since the WPC accords a very low priority to the problems of Indian Radio Amateurs, most of the above issues have remained unattended for long periods. Perhaps, one method of getting a higher priority would be to request all members to send individual letters to WPC regarding the above pending matters. members will be informed of this requirement through HRN.

As you are aware, we have been trying to increase the membership through various forums. One of these is to provide assistance in matters concerning WPC. The response has been good, but it has been noticed that after having obtained the benefit through ARSI membership, such members do not renew their subscription. Members may offer suggestions for solution for this problem.

The question of obtaining advertisements and or donations for the magazine is till unresolved. This being the only link between members and the Society, we have no option but to continue printing it, whatever be the cost. We once again request the members to use all their resources to get advertisements for the magazine.

The 11th Regional Conference of the IARU will be held at Darwin, Northern Territory, Australia, from 28th August to 1st September, 2000. The Society intends to participate in this Conference, as it had done in 1994 & 1997 at Singapore & Beijing, respectively.

20th March 2000

Adolf B. Shepherd, VU2AF
Hony. General Secretary.

REPORT OF THE GENERAL SECRETARY

The year 1998-99 was not a bad year for your society. In terms of the balance sheet it is a very balanced one. But as far as the membership is concerned it has not been very encouraging. As the years go by the members are dwindling. Firstly the members forget that they are members of the ARSI and do not pay their fees with the result that they are automatically removed from the list. This is also a vicious circle. When a member does not pay fees for a year the magazine is not mailed to him/her. The member thinks that when the magazine is not being received then why should I pay the fees and thus the state of dwindling membership. Secondly members join the society for a couple of reasons. Mainly for getting/renewing their licenses with no fee charged. Also to get equipment at a very low cost as in the past for the HF/VHF sets that were imported by the society for the members. After the equipment is received they forget that they are members. A very strange situation indeed.

It was expected the members of the Governing council and the individual members would rally and enroll new members. But the most regrettable thing that not one member has been enrolled by another member. It is a world wide phenomena that the membership of the societies is dwindling and this cannot be stopped. Is this due to the Internet or otherwise nobody can tell at this juncture. The secretary could not make a tour of the central part of the country this year due to pre-occupation but will try to do so in the coming months.

Your society has not faltered in bringing the Ham Radio News out in time. The contribution of the members with articles etc has been encouraging during the past year. There are still a few enthusiastic members who are still trying to instill a spirit of the awareness in the members, that it is they who run the magazine and not the Editor. The Editor is only a moderator or so and he looks after the rest. But the main contributor is the members article. All said and done it was a good year ^{but} then lot more is required to be done by way of advertisements. If all your fees goes into the printing of the Ham Radio News then what is left for the other activities of the society? It will be an ideal situation if the advertisements take care of the cost of printing the magazine. The magazine is not the only thing your society would like to do. There has to be more activity like propagation of the hobby, having seminars, meetings and demos. But then there is a restraint by way of shortage of funds and manpower. The society would like to have more volunteers as well. Whatever funds are accumulated cannot be spent for all these programmes.

Here I would like to mention, after your society

was registered in Mumbai it has got the tax exemption under 80G and the society is drawing up plans to raise funds. The target is that the society should boast of a Secretariat of its own. Plans were earlier drawn up but then the exemption was not there and the effort would have gone in vain and so was kept on hold. Hopefully these plans should go into effect by the year end. The aim of the society is to build up enough funds to boast of a permanent headquarters. Headquarters not as large or staffed as the ARRL but a modest one. Hope the members and the Ham community will endeavor and help to realize this dream for the future.

The Society runs two QSL buros, one in Chennai and the other in Mumbai. There has been a very heavy workload on both the buros but it is a sad story that there are no volunteers to work at the buro with the result there is a huge pile up of cards. This is also to be blamed on the members. When asked to re-imburse the postage they do not do so and hence the cards are lying with the buro which has no alternative than to route back the cards from where they came. The buro has been intimating members to send enough stamps for their cards but will no longer being do so.

Your society has submitted the proposed amendments to the Regulations to the Govt/WPC but as all know the response is slow or nil. Also as you must have read in the Ham Radio News that the Ministry of Defense has turned down the request for the Dx expeditions to the Andaman Nicobar Islands. However the society is doing its level best to convince the Ministries involved to allow this for a minimum period. How far will be the success time only can tell. There has been a lot of dis-information spread on the bands in this regard. I request the parties concerned to refrain from this sort of loose talk because it may send wrong signals to the outside world. The society is doing all its best to help the Dx expeditions from outside and our own as well.

The President has been flooded with requests from members and non-members as well, for liaison work with the WPC. Here members please note, do not send in requests from non-members since this may hamper/delay the work of the members. It is not humanly possible for the President to run to the WPC especially at this age and at his own expense. In future the society may contemplate charging the members a small fee to re-imburse the travel expenditure incurred. Also do not send in multiple requests like sending requests to the WPC then to the President and then again to the Office at Mumbai. This leads to confusion. Hope the next year turns out better for the Society.

FOR SALE

HF TRANSCEIVER

YAESU FT-757GX, YAESU FT-7B.

DRAKE TR-4C, BEL GE-524.

HOME BREW

RECEIVERS

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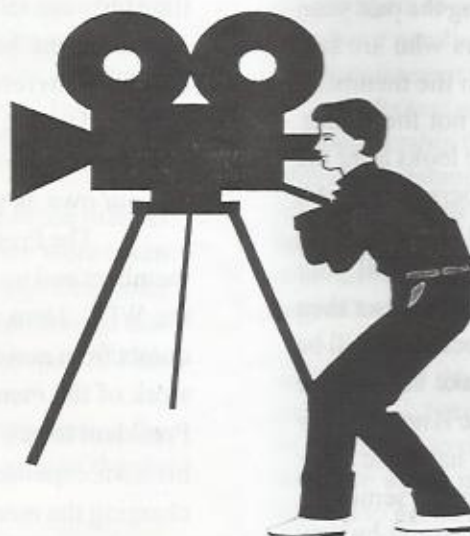
BARODA-390 020.

Telephone: 0625- 331 750/ 344 987.

ISMAIL EFFECT!

During a demo by a Kerala Ham for a few raw SWLs they were told about Call Signs, Op procedures and the Q code. The SWLs were quick to understand the meaning of QRX, QTH, QSY etc. The Kerala Ham was pleased. Later, a puzzled SWL, who had been scanning the band, asked for the meaning of QNY. He had been listening to *Ismail* VU2QNY!!

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A LOW COST FREQUENCY COUNTER FOR THE HAM SHACK

VU2SMO, SOMLAL

Introduction

A frequency counter is an indispensable measuring device in a ham shack. It is very useful in determining the frequency of your radiation and can be used in a variety of ways by a homebrewer. It is also mandatory to have a frequency-determining device in your ham station. The digital frequency counter was thought to be a complex and costly device unreachable by an average HAM. This article describes a solution to the problem. This design is based on a low cost microcontroller PIC16C84 manufactured by MICROCHIP Corporation, USA.

The PIC16C84 is a low-cost, high-performance, CMOS, fully static, 8-bit microcontroller. All PIC16/17 microcontroller employ an advanced RISC architecture. PIC16CXX devices have enhanced core features, eight-level deep stack, and multiple internal and external interrupts sources. The separate instruction and data buses of the Harvard architecture allow a 14-bit wide instruction word with a separate 8-bit wide data bus. The two stage instruction pipeline allows all instructions to execute in a single cycle, except for program branches (which require two cycles). A total of 35 instructions (reduced instruction set) are available. Additionally, a large register set is used to achieve a very high performance level. PIC16CXX microcontrollers typically achieve 2:1 code compression and up to a 2:1 speed improvement (at 10 MHz) over other 8-bit EEPROM memory, and 134 I/O pins. A timer/counter is also available.

The PIC16CXX family has special features to reduce external components, thus reducing cost, enhancing system reliability and reducing power consumption.

The PIC16C84 has one 8-bit timer (Timer0), which can be used with an 8-bit prescaler. The prescaler runs asynchronously, hence it can count a very high frequency. The minimum rise and fall times of the input frequency are specified to be 10 ns, so the fastest clock rate the TMR0 can count is 50 MHz. The prescaler must be used when measuring high frequency. Since the prescaler can be configured as a divide by 256 counter, the maximum resolution at which the input frequency can be measured is 16-bits. However, the prescaler cannot be directly read like a file register. This design depicts a unique method by which the user can "extract" the 8-bit value in the prescaler, whereby the resolution of the measurement is 16-bits with the high 8-bits in TMR0 and the low 8-bits in the prescaler. The design idea is received from the application note on frequency counter provided by MICROCHIP™.

TMR0 is configured to measure the input frequency, at T0CKI of the PIC16C84. The input frequency is "gated" for a precise duration of time. Before starting this precise "gate", TMR0 is cleared (which also clears

the prescaler), and the RA2 pin is configured as an input. Time out of TMR0 generates an interrupt and it is used to count up a register value, which is actually the higher byte of the counter value. The precise "gate" is implemented in software as an accurate delay (100 milli seconds). At the end of the delay, the RA2 pin is configured as an output going low. This will cause the input to TMR0 to be "halted" or "stopped". A 16-bit value for the input frequency is now saved in TMR0 and the 8-bit prescaler. The high 8 bits are in TMR0 and can be easily read. This is stored as the middle byte of the 3-byte counter value. The low 8 bits have to be "shifted out". The 8 bits in the prescaler are "shifted out" by toggling RA2 with a "BAF" and a "BCF" instruction. After every toggle, the value in TMR0 is checked to see if TMR0 has incremented. If the number of toggles required to cause TMR0 to increment by 1 is N, then the 8-bit value in the prescaler can be calculated to be $= (256 - N)$. This is taken as the lower byte of the 3-byte counter value.

This 24 bit binary value represents the number of cycles of the input frequency. This value is then converted to seven BCD digits. The BCD digits are then decoded into 7 segments to drive a multiplexed 7-digit LED display. Binary to BCD conversion, BCD to 7 segment decoding and the multiplexing are also done by the 16C84.

Construction

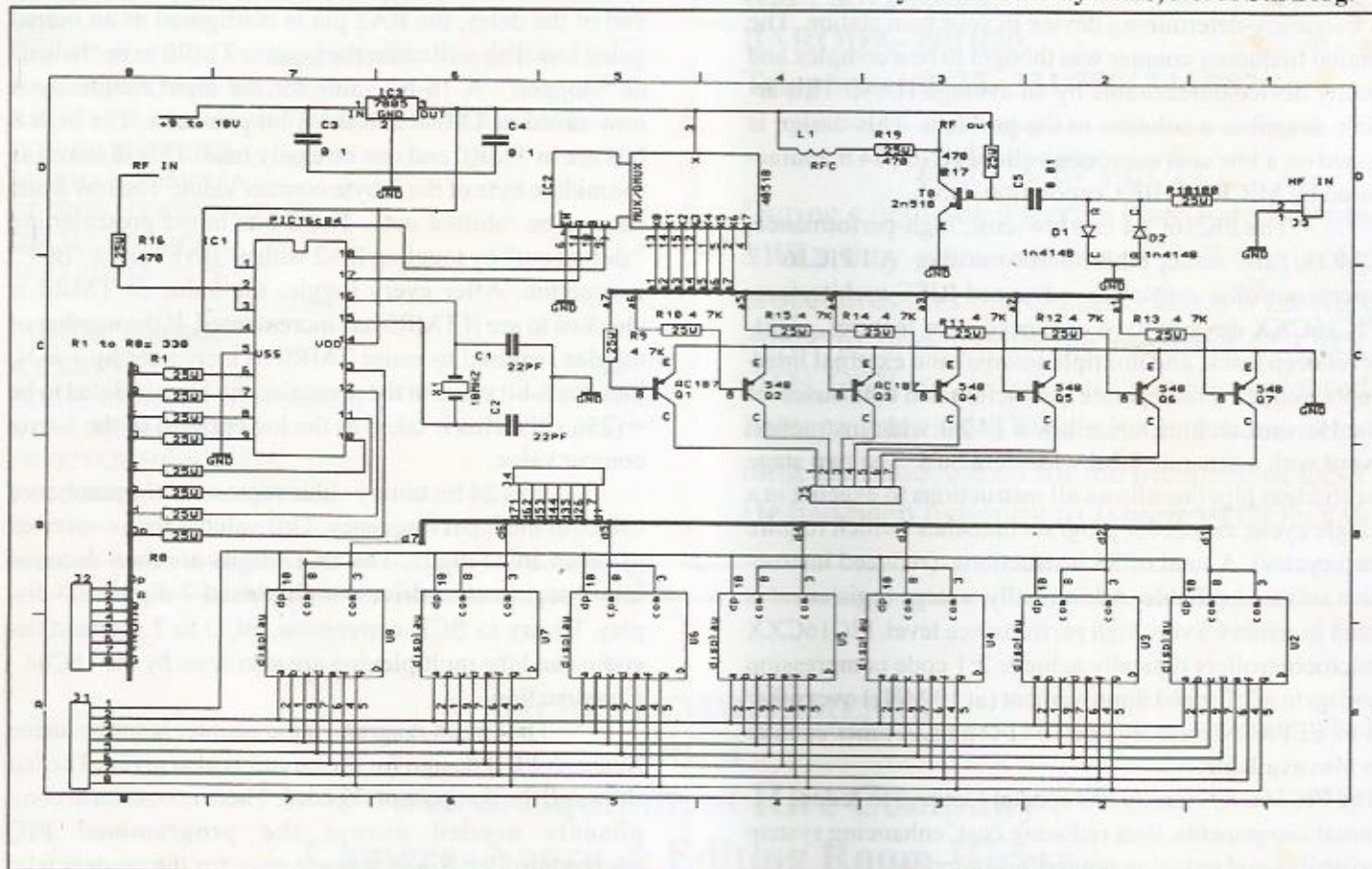
The circuit diagram of the counter is shown in the figure. A PCB design for the circuit is also given. The list shows all the components needed. There is no critical components needed except the programmed PIC microcontroller. Since it is not easy for the readers who are not familiar to the microcontrollers to program the chip and to make this article simple, the programming details are not given here. The accuracy of the counter depends on the stability of the crystal used. This design uses a cheap 4.194 MHz crystal that is available in all most all electronic shops.

Assembling is straightforward. Please take all the precautions of handling CMOS chips while handling the ICs. It is highly recommended to use IC bases for ICs. It is also recommended to use high bright LED displays made by HP for better display. The counter consumes only 25-30 am of current. Hence the counter can safely be operated from battery.

After assembling and cross verifying for any possible misplaced components, missing components and solder bridges, power the device. The display should then show a "0000000". If not recheck for errors. If the display seems to be OK, give a known input frequency and check with reading. If you do not have a frequency source then you can touch the input to pin No.15 of the PIC. The display then should show "04.19400."

The RF pre amplifier used here is well suitable for signal level of about hundred millivolts which is sufficient for the counter to work from the input of a VFOs. Frequency offset feature can be added to this counter easily. The opto-coupler and associated circuit can be added as shown in the figure for frequency offset. Offset frequency need to be programmed and hence offset frequency must be specified while ordering the kit. This feature is needed if you want to use this counter to display the received frequency of a radio receiver by connecting the Local Oscillator to the counter. This offset feature can be disabled/enabled by using the selection switch.

For details on PCB contact: **Somalal C.S. 621 Prabhudarsan, S.S.Nagar, Amboli, Andheri (w), Mumbai. Ph 624 2529**
Cost without PCB and cabinet Rs 1400/- Assembled PCB can be seen at **Akshay Controls & Systems, Nerul Stn Bldg.**



EMC

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NEIGHBOURS ON TV?

AS MENTIONED in the *News* section (p9) of *RadCom* for December 1999, the EMC Committee had been approached by a television company researcher who was preparing a programme about disputes between neighbours. We were very concerned that if the programme featured an RSGB member's EMC problems, it could be a public relations disaster for amateur radio in the U.K.

The researcher phoned me on several occasions, asking for information about interference in relation to amateur radio. The case had already been featured in a local newspaper, where the main story was about breakthrough on the sound system in a church. The newspaper had also reported that 34 neighbours had complained about

alleged interference.

We found out that a former neighbour of the radio amateur had delivered a circular letter to every house in several streets, asking residents to return a slip if they had any interference problems or if they were opposed to the amateur's aerial mast on planning grounds (the mast already had planning permission, however).

We also found out that, on many of the replies, it was not clear whether the reply related to planning or interference. Some replies mentioned specific problems, but the cause had not been established. One resident reported that a car alarm was triggered: someone else reported a house alarm that sounded. Both these incidents occurred late at night when the radio amateur was asleep in bed!

The researcher told me about various alleged problems including TVI, security lights and audio breakthrough on telephones and computer speakers. I said that the EMC Committee was not prepared to be interviewed or to make any comment on any specific case without full details of make, model and location of the affected equipment. We

would also need to observe tests to prove that the alleged problem actually occurs when the radio amateur transmits and would like to inspect the affected equipment or installation for any obvious defects.

The main complaint was a former neighbour who had not moved away, so it was clearly not possible to establish exactly what equipment was affected and what could have been done about it. Neither did we find out how many or the other interference reports were actually related to amateur radio.

I explained to the TV researcher about the UK EMC Regulations that require all electronic equipment made after 1996 to have a certain amount of immunity to signals from nearby radio transmitters. I also explained that security lights, telephones and PC speakers are all examples of products that can be tested to a very weak standard until newer standards become compulsory. It seemed difficult to convince him however.

The only problem where we obtained full details concerned the breakthrough in the nearby church, and we got this information by our own initiative. The problem occurred when the radio amateur's Sunday morning 80m 'sked' coincided with the church service. The congregation included two other radio amateur one of whom acted as a contact point between the EMC Committee and the church.

Only one microphone input on the sound system was affected and we managed to solve the problem by 'mail order' with a plug-in filter that I constructed on our member's behalf. This was supplied on loan to the church, as a gesture of goodwill, but not as an admission of liability.

The radio amateurs whose transmissions were causing breakthrough was elderly and was not prepared to appear on the TV programme. As we were not given details of any specific equipment that was affected in neighbour's houses, the EMC Committee was not prepared to comment on such cases on the programme. Representatives of the church did not wish to be involved either and in view of the name of the programme this was not surprising.

Hilary Claytonsmith, G4JKS then wrote to the television company in her capacity as 1999 RSGB President. She reminded the programme makers that any programme about this case should present a balanced view and that if it did not, we would refer the matter to the Broadcasting Standards Commission. The last we heard on this matter was that the television company had decided not to feature this case in their next series.

ADVICE TO MEMBERS

The case described above is rather complicated, so it is not possible to draw any specific conclusions, but it does show how important it is to keep on the right side of your neighbours if you possibly can.

Now that we have the new M5 licence, many amateurs will be trying HF for the first time. If this includes you, you would be well advised to look at the EMC Committee's advice on avoiding EMC problems such as the EMC pages in the *RSGB Yearbook 2000* or the *RSGB Guide to EMC*.

If you live in a typical suburban location with houses all round, then running high power on HF will probably mean that you need to assist neighbours to overcome breakthrough problems. The best approach to start with low power and gradually to increase it over a period of weeks. This will enable any problems to be dealt with diplomatically one at a time.

If you live in a location such as a block of flats, where your choice of transmitting aerials is very limited don't forget that there are other modes of transmissions that require much less power than SSB and which are also more EMC friendly. As well as CW there are new computer generated data modes. Some of the rival CW in their ability to get through on relatively low power.

If you do get a report of breakthrough the first thing to establish is whether it is actually related to your transmissions. Best is, try to see the neighbour's point of view, which is usually that if you didn't transmit there would be a problem. The EMC Committee's advice is to be polite and helpful. Advise the neighbours now to solve the problem and offer to help, even if some neighbours may not be polite and may reject our offer. If you carry on regardless at maximum power, you could attract unwanted publicity.

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AWARDS

The Introduction of "KARL NEW MILLENNIUM AWARD".

1. Name of Award- KNMA-Karl New Millennium Award.
2. Issuer- Korea Amateur Radio League.
3. Conditions- (i) **Class A**:- Complete the 17 letters of "Karl New Millennium" by the last letter of suffix in the world (must be included each 1 QSL of 6 continents & over 5 QSLs among the 6 call areas of Korea). (ii) **Class B**:- Complete the 17 letters of "Karl New Millennium" by the last letter of Korean suffix (each QSL must be different KDN (Korea District Number)). (iii) **Class C**:- Complete the 17 letter of "Karl New Millennium" by the last letter of suffix in the world.
4. If you have a QSO with the same station on different band or mode it would be considered that you contacted with different stations (repetition of the letter with the same card is not permitted).
5. Only the QSO within 1st Jan 2000 to 31st Dec 2000 will be acceptable.
6. The application will be accepted from 1st Jan 2000.
7. Application together with 2 GCR will be required.
8. Fees: 10 IRCs (USD 5.00, W3, 000).
9. Application should be sent to: KOREA AMATEUR RADIO LEAGUE- AWARD MANAGER
CPO BOX 162, SEOUL KOREA. 275-7KEC 6F, YANGJAE-DONG, SEOCHO-KU, SEOUL, KOREA. 137-130.

SCHEDULE FOR SATELLITE RS-12/13 FOR CENTRAL INDIA

| Date | AOS | LOS | Dur | EL | AZ | Date | AOS | LOS | Dur | EL | AZ |
|----------|-------|-------|-----|----|---------|----------|-------|-------|-----|----|---------|
| 01.04.00 | 08:43 | 08:58 | 15 | 18 | 019-142 | 11.04.00 | 23:19 | 23:22 | 03 | 01 | 275-301 |
| 01.04.00 | 10:28 | 10:44 | 16 | 42 | 344-193 | 12.04.00 | 06:53 | 07:02 | 09 | 06 | 042-116 |
| 01.04.00 | 20:22 | 20:29 | 07 | 03 | 106-053 | 12.04.00 | 08:35 | 08:52 | 17 | 82 | 356-175 |
| 01.04.00 | 22:02 | 22:18 | 16 | 70 | 177-008 | 12.04.00 | 10:23 | 10:33 | 10 | 07 | 314-233 |
| 01.04.00 | 23:50 | 00:01 | 11 | 09 | 239-331 | 12.04.00 | 20:10 | 20:25 | 15 | 30 | 156-019 |
| 02.04.00 | 09:11 | 09:27 | 16 | 40 | 008-159 | 12.04.00 | 21:55 | 22:10 | 15 | 25 | 214-347 |
| 02.04.00 | 10:57 | 11:11 | 14 | 19 | 330-211 | 13.04.00 | 07:19 | 07:33 | 14 | 17 | 023-140 |
| 02.04.00 | 20:47 | 20:59 | 12 | 13 | 135-032 | 13.04.00 | 09:03 | 09:20 | 17 | 45 | 345-191 |
| 02.04.00 | 22:30 | 22:46 | 16 | 52 | 196-358 | 13.04.00 | 18:58 | 19:04 | 06 | 02 | 101-055 |
| 03.04.00 | 00:24 | 00:25 | 01 | 00 | 285-299 | 13.04.00 | 20:37 | 20:53 | 16 | 65 | 176-009 |
| 03.04.00 | 07:56 | 08:06 | 10 | 06 | 039-115 | 13.04.00 | 22:25 | 22:37 | 12 | 10 | 237-334 |
| 03.04.00 | 09:39 | 09:56 | 17 | 80 | 356-176 | 14.04.00 | 07:46 | 08:02 | 16 | 38 | 008-158 |
| 03.04.00 | 11:27 | 11:36 | 09 | 07 | 311-236 | 14.04.00 | 09:32 | 09:46 | 14 | 20 | 332-211 |
| 03.04.00 | 21:13 | 21:28 | 15 | 31 | 159-020 | 14.04.00 | 19:22 | 19:34 | 12 | 13 | 135-034 |
| 03.04.00 | 22:59 | 23:14 | 15 | 24 | 216-348 | 14.04.00 | 21:05 | 21:22 | 17 | 55 | 195-359 |
| 04.04.00 | 08:22 | 08:36 | 14 | 18 | 020-139 | 14.04.00 | 22:58 | 23:01 | 03 | 00 | 277-303 |
| 04.04.00 | 10:07 | 10:23 | 16 | 43 | 344-193 | 15.04.00 | 06:32 | 06:41 | 09 | 05 | 044-112 |
| 04.04.00 | 20:01 | 20:07 | 06 | 02 | 105-057 | 15.04.00 | 08:14 | 08:31 | 17 | 83 | 357-175 |
| 04.04.00 | 21:41 | 21:57 | 16 | 70 | 177-008 | 15.04.00 | 10:02 | 10:12 | 10 | 07 | 313-232 |
| 04.04.00 | 23:29 | 23:40 | 11 | 09 | 240-332 | 15.04.00 | 19:48 | 20:04 | 16 | 30 | 158-019 |
| 05.04.00 | 08:50 | 09:06 | 16 | 39 | 009-159 | 15.04.00 | 21:34 | 21:49 | 15 | 25 | 215-348 |
| 05.04.00 | 10:36 | 10:50 | 14 | 20 | 330-210 | 16.04.00 | 06:58 | 07:12 | 14 | 17 | 023-140 |
| 05.04.00 | 20:26 | 20:38 | 12 | 13 | 134-031 | 16.04.00 | 08:42 | 08:59 | 17 | 45 | 345-191 |
| 05.04.00 | 22:09 | 22:25 | 16 | 53 | 196-358 | 16.04.00 | 18:37 | 18:42 | 05 | 02 | 100-059 |
| 06.04.00 | 07:35 | 07:44 | 09 | 06 | 040-114 | 16.04.00 | 20:16 | 20:32 | 16 | 67 | 176-009 |
| 06.04.00 | 09:17 | 09:34 | 17 | 81 | 356-176 | 16.04.00 | 22:04 | 22:16 | 12 | 10 | 238-336 |
| 06.04.00 | 11:06 | 11:16 | 10 | 07 | 310-234 | 17.04.00 | 07:25 | 07:41 | 16 | 37 | 009-157 |
| 06.04.00 | 20:52 | 21:07 | 15 | 31 | 158-019 | 17.04.00 | 09:11 | 09:25 | 14 | 20 | 331-210 |
| 06.04.00 | 22:38 | 22:52 | 14 | 24 | 217-346 | 17.04.00 | 19:01 | 19:13 | 12 | 13 | 134-033 |
| 07.04.00 | 08:01 | 08:15 | 14 | 18 | 021-140 | 17.04.00 | 20:44 | 21:00 | 16 | 55 | 195-358 |
| 07.04.00 | 09:46 | 10:02 | 16 | 44 | 344-192 | 17.04.00 | 22:37 | 22:40 | 03 | 00 | 278-305 |
| 07.04.00 | 19:40 | 19:46 | 06 | 03 | 104-058 | 18.04.00 | 06:10 | 06:19 | 09 | 05 | 039-111 |
| 07.04.00 | 21:19 | 21:36 | 17 | 69 | 177-008 | 18.04.00 | 07:53 | 08:10 | 17 | 80 | 357-175 |
| 07.04.00 | 23:08 | 23:19 | 11 | 10 | 241-333 | 18.04.00 | 09:41 | 09:51 | 10 | 07 | 313-230 |
| 08.04.00 | 08:28 | 08:45 | 17 | 39 | 007-159 | 18.04.00 | 19:27 | 19:42 | 15 | 30 | 157-021 |
| 08.04.00 | 10:15 | 10:29 | 14 | 20 | 329-210 | 18.04.00 | 21:13 | 21:28 | 15 | 25 | 215-349 |
| 08.04.00 | 20:04 | 20:17 | 13 | 13 | 137-032 | 19.04.00 | 06:37 | 06:50 | 13 | 17 | 024-138 |
| 08.04.00 | 21:47 | 22:04 | 17 | 54 | 195-359 | 19.04.00 | 08:21 | 08:37 | 16 | 45 | 345-192 |
| 09.04.00 | 07:14 | 07:23 | 09 | 06 | 041-115 | 19.04.00 | 18:15 | 18:21 | 06 | 02 | 105-054 |
| 09.04.00 | 08:56 | 09:13 | 17 | 85 | 356-175 | 19.04.00 | 19:55 | 20:11 | 16 | 65 | 175-009 |
| 09.04.00 | 10:44 | 10:54 | 10 | 07 | 315-235 | 19.04.00 | 21:43 | 21:54 | 11 | 11 | 239-333 |
| 09.04.00 | 20:31 | 20:46 | 15 | 30 | 157-019 | 20.04.00 | 07:04 | 07:20 | 16 | 37 | 009-158 |
| 09.04.00 | 22:16 | 22:31 | 15 | 24 | 214-347 | 20.04.00 | 08:50 | 09:04 | 14 | 21 | 331-210 |
| 10.04.00 | 07:40 | 07:54 | 14 | 18 | 022-139 | 20.04.00 | 18:40 | 18:52 | 12 | 12 | 133-033 |
| 10.04.00 | 09:25 | 09:41 | 16 | 44 | 343-192 | 20.04.00 | 20:23 | 20:39 | 16 | 57 | 195-359 |
| 10.04.00 | 19:19 | 19:25 | 06 | 02 | 102-056 | 20.04.00 | 22:15 | 22:20 | 05 | 01 | 272-310 |
| 10.04.00 | 20:58 | 21:15 | 17 | 68 | 177-008 | 21.04.00 | 05:49 | 05:58 | 09 | 05 | 040-113 |
| 10.04.00 | 22:46 | 22:58 | 12 | 10 | 236-335 | 21.04.00 | 07:32 | 07:48 | 16 | 77 | 357-174 |
| 11.04.00 | 08:07 | 08:24 | 17 | 39 | 008-159 | 21.04.00 | 09:20 | 09:30 | 10 | 07 | 312-231 |
| 11.04.00 | 09:53 | 10:08 | 15 | 20 | 332-209 | 21.04.00 | 19:06 | 19:21 | 15 | 29 | 157-020 |
| 11.04.00 | 19:43 | 19:55 | 12 | 13 | 136-035 | 21.04.00 | 20:52 | 21:07 | 15 | 26 | 215-349 |
| 11.04.00 | 21:26 | 21:43 | 17 | 54 | 195-359 | 22.04.00 | 06:15 | 06:29 | 14 | 17 | 021-137 |

| Date | AOS | LOS | Dur | EL | AZ | Date | AOS | LOS | Dur | EL | AZ |
|----------|-------|-------|-----|----|---------|----------|-------|-------|-----|----|---------|
| 22.04.00 | 08:00 | 08:16 | 16 | 46 | 345-192 | 02.05.00 | 20:50 | 20:55 | 05 | 02 | 270-309 |
| 22.04.00 | 17:54 | 18:00 | 06 | 02 | 104-058 | 03.05.00 | 04:25 | 04:33 | 08 | 04 | 044-111 |
| 22.04.00 | 19:33 | 19:50 | 17 | 66 | 176-009 | 03.05.00 | 06:07 | 06:24 | 17 | 76 | 358-174 |
| 22.04.00 | 21:21 | 21:33 | 12 | 11 | 234-334 | 03.05.00 | 07:55 | 08:05 | 10 | 08 | 314-231 |
| 23.04.00 | 06:43 | 06:59 | 16 | 37 | 010-158 | 03.05.00 | 17:41 | 17:56 | 15 | 28 | 156-022 |
| 23.04.00 | 08:29 | 08:43 | 14 | 21 | 330-209 | 03.05.00 | 19:27 | 19:42 | 15 | 27 | 214-349 |
| 23.04.00 | 18:19 | 18:31 | 12 | 12 | 132-032 | 04.05.00 | 04:51 | 05:04 | 13 | 15 | 025-137 |
| 23.04.00 | 20:01 | 20:18 | 17 | 58 | 193-359 | 04.05.00 | 06:35 | 06:52 | 17 | 48 | 346-190 |
| 23.04.00 | 21:54 | 21:58 | 04 | 01 | 273-306 | 04.05.00 | 16:30 | 16:35 | 05 | 02 | 099-060 |
| 24.04.00 | 05:28 | 05:37 | 09 | 05 | 041-114 | 04.05.00 | 18:09 | 18:25 | 16 | 62 | 174-010 |
| 24.04.00 | 07:10 | 07:27 | 17 | 76 | 357-174 | 04.05.00 | 19:56 | 20:09 | 13 | 12 | 232-337 |
| 24.04.00 | 08:58 | 09:08 | 10 | 08 | 316-234 | 05.05.00 | 05:18 | 05:34 | 16 | 34 | 010-157 |
| 24.04.00 | 18:45 | 19:00 | 15 | 29 | 156-021 | 05.05.00 | 07:04 | 07:18 | 14 | 21 | 332-209 |
| 24.04.00 | 20:30 | 20:46 | 16 | 26 | 212-349 | 05.05.00 | 16:54 | 17:06 | 12 | 12 | 132-034 |
| 25.04.00 | 05:54 | 06:08 | 14 | 16 | 022-138 | 05.05.00 | 18:37 | 18:53 | 16 | 60 | 193-359 |
| 25.04.00 | 07:39 | 07:55 | 16 | 46 | 345-191 | 05.05.00 | 20:28 | 20:34 | 06 | 02 | 265-310 |
| 25.04.00 | 17:33 | 17:39 | 06 | 02 | 102-057 | 06.05.00 | 04:04 | 04:12 | 08 | 04 | 046-112 |
| 25.04.00 | 19:12 | 19:29 | 17 | 64 | 175-009 | 06.05.00 | 05:46 | 06:02 | 16 | 74 | 358-173 |
| 25.04.00 | 21:00 | 21:12 | 12 | 11 | 235-333 | 06.05.00 | 07:34 | 07:44 | 10 | 08 | 313-230 |
| 26.04.00 | 06:22 | 06:37 | 15 | 36 | 011-156 | 06.05.00 | 17:20 | 17:36 | 16 | 28 | 156-020 |
| 26.04.00 | 08:08 | 08:22 | 14 | 21 | 330-208 | 06.05.00 | 19:05 | 19:21 | 16 | 28 | 211-349 |
| 26.04.00 | 17:57 | 18:09 | 12 | 12 | 136-035 | 07.05.00 | 04:30 | 04:43 | 13 | 15 | 026-136 |
| 26.04.00 | 19:40 | 19:57 | 17 | 59 | 193-359 | 07.05.00 | 06:14 | 06:30 | 16 | 48 | 346-190 |
| 26.04.00 | 21:32 | 21:37 | 05 | 01 | 268-308 | 07.05.00 | 16:09 | 16:14 | 05 | 02 | 097-059 |
| 27.04.00 | 05:07 | 05:16 | 09 | 05 | 042-110 | 07.05.00 | 17:47 | 18:04 | 17 | 62 | 175-010 |
| 27.04.00 | 06:49 | 07:06 | 17 | 78 | 357-174 | 07.05.00 | 19:35 | 19:48 | 13 | 12 | 233-337 |
| 27.04.00 | 08:37 | 08:47 | 10 | 08 | 316-233 | 08.05.00 | 04:57 | 05:13 | 16 | 34 | 011-157 |
| 27.04.00 | 18:24 | 18:39 | 15 | 29 | 155-020 | 08.05.00 | 06:43 | 06:57 | 14 | 22 | 332-208 |
| 27.04.00 | 20:09 | 20:24 | 15 | 27 | 213-347 | 08.05.00 | 16:33 | 16:45 | 12 | 12 | 131-033 |
| 28.04.00 | 05:33 | 05:47 | 14 | 16 | 023-139 | 08.05.00 | 18:15 | 18:32 | 17 | 61 | 192-359 |
| 28.04.00 | 07:18 | 07:34 | 16 | 47 | 344-190 | 08.05.00 | 20:07 | 20:13 | 06 | 02 | 266-312 |
| 28.04.00 | 17:12 | 17:18 | 06 | 02 | 101-055 | 09.05.00 | 03:43 | 03:51 | 08 | 04 | 047-108 |
| 28.04.00 | 18:51 | 19:07 | 16 | 62 | 175-010 | 09.05.00 | 05:25 | 05:41 | 16 | 72 | 358-173 |
| 28.04.00 | 20:39 | 20:51 | 12 | 11 | 236-335 | 09.05.00 | 07:12 | 07:23 | 11 | 08 | 317-228 |
| 29.04.00 | 06:00 | 06:16 | 16 | 36 | 009-156 | 09.05.00 | 16:59 | 17:14 | 15 | 28 | 155-022 |
| 29.04.00 | 07:46 | 08:01 | 15 | 21 | 333-207 | 09.05.00 | 18:44 | 19:00 | 16 | 28 | 211-350 |
| 29.04.00 | 17:36 | 17:48 | 12 | 12 | 135-034 | 10.05.00 | 04:09 | 04:22 | 13 | 15 | 027-137 |
| 29.04.00 | 19:19 | 19:36 | 17 | 59 | 193-360 | 10.05.00 | 05:53 | 06:09 | 16 | 48 | 346-190 |
| 29.04.00 | 21:11 | 21:16 | 05 | 01 | 269-309 | 10.05.00 | 15:48 | 15:53 | 05 | 01 | 096-057 |
| 30.04.00 | 04:46 | 04:55 | 09 | 05 | 043-111 | 10.05.00 | 17:26 | 17:43 | 17 | 61 | 174-010 |
| 30.04.00 | 06:28 | 06:45 | 17 | 79 | 357-174 | 10.05.00 | 19:14 | 19:27 | 13 | 12 | 234-338 |
| 30.04.00 | 08:16 | 08:26 | 10 | 08 | 315-231 | 11.05.00 | 04:36 | 04:51 | 15 | 34 | 011-155 |
| 30.04.00 | 18:02 | 18:18 | 16 | 28 | 157-020 | 11.05.00 | 06:22 | 06:36 | 14 | 22 | 331-207 |
| 30.04.00 | 19:48 | 20:03 | 15 | 27 | 213-348 | 11.05.00 | 16:12 | 16:23 | 11 | 12 | 130-036 |
| 01.05.00 | 05:12 | 05:25 | 13 | 16 | 024-136 | 11.05.00 | 17:54 | 18:11 | 17 | 62 | 192-360 |
| 01.05.00 | 06:56 | 07:12 | 16 | 47 | 346-191 | 11.05.00 | 19:46 | 19:52 | 06 | 01 | 267-314 |
| 01.05.00 | 16:51 | 16:56 | 05 | 01 | 100-059 | 12.05.00 | 03:22 | 03:30 | 08 | 04 | 048-110 |
| 01.05.00 | 18:30 | 18:47 | 17 | 62 | 174-009 | 12.05.00 | 05:03 | 05:20 | 17 | 75 | 358-173 |
| 01.05.00 | 20:18 | 20:30 | 12 | 11 | 237-336 | 12.05.00 | 06:51 | 07:01 | 10 | 08 | 316-231 |
| 02.05.00 | 05:39 | 05:55 | 16 | 35 | 009-156 | 12.05.00 | 16:38 | 16:53 | 15 | 28 | 154-021 |
| 02.05.00 | 07:25 | 07:40 | 15 | 21 | 333-207 | 12.05.00 | 18:23 | 18:39 | 16 | 28 | 211-350 |
| 02.05.00 | 17:15 | 17:27 | 12 | 12 | 133-035 | 13.05.00 | 03:47 | 04:00 | 13 | 15 | 023-134 |
| 02.05.00 | 18:58 | 19:15 | 17 | 59 | 193-000 | 13.05.00 | 05:32 | 05:48 | 16 | 50 | 345-189 |

| Date | AOS | LOS | Dur | EL | AZ | Date | AOS | LOS | Dur | EL | AZ |
|----------|-------|--------|-----|----|---------|----------|-------|-------|-----|----|---------|
| 13.05.00 | 15:27 | 15:31 | 04 | 01 | 095-061 | 24.05.00 | 01:57 | 02:05 | 08 | 03 | 048-108 |
| 13.05.00 | 17:05 | 17:22 | 17 | 61 | 174-010 | 24.05.00 | 03:39 | 03:55 | 16 | 70 | 359-172 |
| 13.05.00 | 18:53 | 19:05 | 12 | 12 | 235-335 | 24.05.00 | 05:26 | 05:37 | 11 | 09 | 318-227 |
| 14.05.00 | 04:15 | 04:30 | 15 | 33 | 012-155 | 24.05.00 | 15:13 | 15:28 | 15 | 26 | 154-022 |
| 14.05.00 | 06:00 | 06:15 | 15 | 22 | 334-207 | 24.05.00 | 16:58 | 17:14 | 16 | 30 | 210-350 |
| 14.05.00 | 15:50 | 16:02 | 12 | 11 | 134-037 | 25.05.00 | 02:23 | 02:35 | 12 | 14 | 027-133 |
| 14.05.00 | 17:33 | 17:50 | 17 | 63 | 192-000 | 25.05.00 | 04:07 | 04:23 | 16 | 51 | 347-188 |
| 14.05.00 | 19:25 | 19:31 | 06 | 02 | 268-313 | 25.05.00 | 14:02 | 14:06 | 04 | 00 | 096-063 |
| 15.05.00 | 03:00 | 03:08 | 08 | 04 | 043-109 | 25.05.00 | 15:40 | 15:57 | 17 | 58 | 173-011 |
| 15.05.00 | 04:42 | 04:59 | 17 | 74 | 358-173 | 25.05.00 | 17:28 | 17:41 | 13 | 13 | 233-339 |
| 15.05.00 | 06:30 | 06:40 | 10 | 08 | 316-232 | 26.05.00 | 02:50 | 03:05 | 15 | 31 | 012-153 |
| 15.05.00 | 16:17 | 16:32 | 15 | 27 | 153-021 | 26.05.00 | 04:36 | 04:50 | 14 | 33 | 332-206 |
| 15.05.00 | 18:02 | 18:17 | 15 | 29 | 212-349 | 26.05.00 | 14:26 | 14:37 | 11 | 11 | 130-037 |
| 16.05.00 | 03:26 | 03:39 | 13 | 14 | 024-135 | 26.05.00 | 16:08 | 16:25 | 17 | 66 | 191-001 |
| 16.05.00 | 05:10 | 05:27 | 17 | 50 | 347-189 | 26.05.00 | 17:59 | 18:06 | 07 | 03 | 260-317 |
| 16.05.00 | 15:05 | 15:10 | 05 | 01 | 100-062 | 27.05.00 | 01:36 | 01:43 | 07 | 03 | 049-104 |
| 16.05.00 | 16:44 | 17:01 | 17 | 59 | 173-010 | 27.05.00 | 03:17 | 03:34 | 17 | 71 | 359-172 |
| 16.05.00 | 18:31 | 18:44 | 13 | 12 | 230-336 | 27.05.00 | 05:05 | 05:16 | 11 | 09 | 317-227 |
| 17.05.00 | 03:53 | 04:09 | 16 | 33 | 010-155 | 27.05.00 | 14:52 | 15:07 | 15 | 26 | 153-022 |
| 17.05.00 | 05:39 | 05:54 | 15 | 22 | 334-206 | 27.05.00 | 16:37 | 16:53 | 16 | 30 | 210-351 |
| 17.05.00 | 15:29 | 15:41 | 12 | 11 | 133-036 | 28.05.00 | 02:02 | 02:14 | 12 | 13 | 029-134 |
| 17.05.00 | 17:12 | 17:29 | 17 | 62 | 192-001 | 28.05.00 | 03:46 | 04:02 | 16 | 52 | 346-188 |
| 17.05.00 | 19:03 | 19:10 | 07 | 02 | 263-315 | 28.05.00 | 13:41 | 13:45 | 04 | 00 | 095-062 |
| 18.05.00 | 02:39 | 02:46 | 07 | 04 | 045-105 | 28.05.00 | 15:19 | 15:36 | 17 | 57 | 172-011 |
| 18.05.00 | 04:21 | 04:37 | 16 | 72 | 358-172 | 28.05.00 | 17:07 | 17:19 | 12 | 13 | 233-336 |
| 18.05.00 | 06:09 | 06:19 | 10 | 08 | 314-230 | 29.05.00 | 02:29 | 02:44 | 15 | 31 | 013-154 |
| 18.05.00 | 15:55 | 16:11 | 16 | 27 | 155-021 | 29.05.00 | 04:14 | 04:29 | 15 | 23 | 335-205 |
| 18.05.00 | 17:41 | 17:56 | 15 | 29 | 212-350 | 29.05.00 | 14:05 | 14:16 | 11 | 11 | 128-037 |
| 19.05.00 | 03:05 | 03:18 | 13 | 14 | 025-135 | 29.05.00 | 15:47 | 16:04 | 17 | 66 | 191-001 |
| 19.05.00 | 04:49 | 05:05 | 16 | 51 | 347-190 | 29.05.00 | 17:38 | 17:45 | 07 | 03 | 261-313 |
| 19.05.00 | 14:44 | 14:49 | 05 | 01 | 099-061 | 30.05.00 | 01:15 | 01:21 | 06 | 03 | 050-104 |
| 19.05.00 | 16:23 | 16:39 | 16 | 59 | 173-011 | 30.05.00 | 02:56 | 03:13 | 17 | 69 | 359-171 |
| 19.05.00 | 18:10 | 18:23 | 13 | 13 | 231-336 | 30.05.00 | 04:44 | 04:55 | 11 | 09 | 316-226 |
| 20.05.00 | 03:32 | 03:48 | 16 | 32 | 011-156 | 30.05.00 | 14:31 | 14:46 | 15 | 26 | 152-021 |
| 20.05.00 | 05:18 | 05:32 | 14 | 22 | 333-208 | 30.05.00 | 16:16 | 16:31 | 15 | 30 | 210-350 |
| 20.05.00 | 15:08 | 15:20 | 12 | 11 | 132-035 | 31.05.00 | 01:40 | 01:53 | 13 | 13 | 025-133 |
| 20.05.00 | 16:51 | 17:07 | 16 | 64 | 192-000 | 31.05.00 | 03:24 | 03:41 | 17 | 53 | 348-187 |
| 20.05.00 | 18:42 | 18:49 | 07 | 02 | 264-316 | 31.05.00 | 13:20 | 13:23 | 03 | 01 | 094-068 |
| 21.05.00 | 02:18 | 02:26 | 08 | 03 | 046-107 | 31.05.00 | 14:58 | 15:15 | 17 | 56 | 172-011 |
| 21.05.00 | 04:00 | 04:16 | 16 | 71 | 359-172 | 31.05.00 | 16:45 | 16:58 | 13 | 13 | 229-336 |
| 21.05.00 | 05:48 | 05:58 | 10 | 09 | 313-229 | 01.06.00 | 02:07 | 02:23 | 16 | 30 | 011-154 |
| 21.05.00 | 15:34 | 15:50 | 16 | 27 | 155-020 | 01.06.00 | 03:53 | 04:08 | 15 | 24 | 334-204 |
| 21.05.00 | 17:19 | 17:35 | 16 | 29 | 209-349 | 01.06.00 | 13:43 | 13:55 | 12 | 10 | 132-036 |
| 22.05.00 | 02:44 | 02:57 | 13 | 14 | 026-136 | 01.06.00 | 15:26 | 15:43 | 17 | 65 | 190-001 |
| 22.05.00 | 04:28 | 04:44 | 16 | 50 | 347-189 | 01.06.00 | 17:17 | 17:24 | 07 | 03 | 262-315 |
| 22.05.00 | 14:23 | 14:27 | 04 | 01 | 098-065 | 02.06.00 | 00:54 | 01:01 | 07 | 03 | 052-105 |
| 22.05.00 | 16:01 | 16:18 | 17 | 59 | 173-011 | 02.06.00 | 02:35 | 02:52 | 17 | 69 | 359-171 |
| 22.05.00 | 17:49 | 148:02 | 13 | 13 | 232-337 | 02.06.00 | 04:23 | 04:33 | 10 | 09 | 315-228 |
| 23.05.00 | 03:11 | 03:26 | 15 | 32 | 011-154 | 02.06.00 | 14:10 | 14:25 | 15 | 25 | 151-022 |
| 23.05.00 | 04:57 | 05:11 | 14 | 23 | 332-207 | 02.06.00 | 15:55 | 16:10 | 15 | 31 | 211-349 |
| 23.05.00 | 14:47 | 14:59 | 12 | 11 | 131-034 | 03.06.00 | 01:19 | 01:32 | 13 | 13 | 026-134 |
| 23.05.00 | 16:29 | 16:46 | 17 | 64 | 191-000 | 03.06.00 | 03:03 | 03:19 | 16 | 53 | 348-188 |
| 23.05.00 | 18:21 | 18:28 | 07 | 02 | 265-318 | 03.06.00 | 12:59 | 13:02 | 03 | 01 | 092-067 |

| Date | AOS | LOS | Dur | EL | AZ | Date | AOS | LOS | Dur | EL | AZ |
|----------|-------|-------|-----|----|---------|----------|-------|-------|-----|----|---------|
| 03.06.00 | 14:37 | 14:53 | 16 | 55 | 171-011 | 14.06.00 | 12:45 | 13:00 | 15 | 24 | 151-023 |
| 03.06.00 | 16:24 | 16:37 | 13 | 13 | 230-337 | 14.06.00 | 14:30 | 14:46 | 16 | 32 | 209-352 |
| 04.06.00 | 01:46 | 02:01 | 15 | 30 | 012-153 | 14.06.00 | 23:54 | 00:07 | 13 | 12 | 026-133 |
| 04.06.00 | 03:32 | 03:46 | 14 | 24 | 334-206 | 15.06.00 | 01:38 | 01:55 | 17 | 57 | 348-186 |
| 04.06.00 | 13:22 | 13:34 | 12 | 10 | 131-035 | 15.06.00 | 03:30 | 03:32 | 02 | 00 | 284-264 |
| 04.06.00 | 15:05 | 15:22 | 17 | 67 | 190-001 | 15.06.00 | 13:12 | 13:28 | 16 | 52 | 171-012 |
| 04.06.00 | 16:56 | 17:03 | 07 | 02 | 263-317 | 15.06.00 | 14:59 | 15:12 | 13 | 14 | 228-337 |
| 05.06.00 | 00:33 | 00:39 | 06 | 03 | 054-101 | 16.06.00 | 00:21 | 00:36 | 15 | 29 | 012-151 |
| 05.06.00 | 02:14 | 02:30 | 16 | 66 | 360-170 | 16.06.00 | 02:07 | 02:22 | 15 | 25 | 335-203 |
| 05.06.00 | 04:01 | 04:12 | 11 | 09 | 319-227 | 16.06.00 | 11:58 | 12:09 | 11 | 09 | 126-037 |
| 05.06.00 | 13:48 | 14:03 | 15 | 25 | 154-024 | 16.06.00 | 13:40 | 13:57 | 17 | 71 | 189-002 |
| 05.06.00 | 15:33 | 15:49 | 16 | 31 | 208-350 | 16.06.00 | 15:31 | 15:38 | 07 | 03 | 261-316 |
| 06.06.00 | 00:58 | 01:10 | 12 | 13 | 027-131 | 16.06.00 | 23:08 | 23:14 | 06 | 02 | 053-100 |
| 06.06.00 | 02:42 | 02:58 | 16 | 54 | 347-187 | 17.06.00 | 00:49 | 01:05 | 16 | 64 | 000-169 |
| 06.06.00 | 12:38 | 12:40 | 02 | 00 | 091-071 | 17.06.00 | 02:36 | 02:47 | 11 | 10 | 320-227 |
| 06.06.00 | 14:16 | 14:32 | 16 | 55 | 171-011 | 17.06.00 | 12:24 | 12:38 | 14 | 23 | 150-025 |
| 06.06.00 | 16:03 | 16:16 | 13 | 14 | 231-338 | 17.06.00 | 14:09 | 14:24 | 15 | 32 | 209-350 |
| 07.06.00 | 01:25 | 01:40 | 15 | 30 | 012-152 | 17.06.00 | 23:33 | 23:45 | 12 | 12 | 027-130 |
| 07.06.00 | 03:11 | 03:25 | 14 | 24 | 333-205 | 18.06.00 | 01:17 | 01:33 | 16 | 56 | 348-187 |
| 07.06.00 | 13:01 | 13:12 | 11 | 10 | 130-038 | 18.06.00 | 03:09 | 03:11 | 02 | 00 | 282-262 |
| 07.06.00 | 14:43 | 15:00 | 17 | 68 | 189-001 | 18.06.00 | 12:51 | 13:07 | 16 | 52 | 170-012 |
| 07.06.00 | 16:34 | 16:41 | 07 | 03 | 258-316 | 18.06.00 | 14:38 | 14:51 | 13 | 14 | 229-338 |
| 08.06.00 | 00:11 | 00:18 | 07 | 02 | 048-103 | 19.06.00 | 00:00 | 0:16 | 16 | 28 | 013-153 |
| 08.06.00 | 01:53 | 02:09 | 16 | 67 | 000-170 | 19.06.00 | 01:46 | 02:00 | 14 | 25 | 334-204 |
| 08.06.00 | 03:40 | 03:51 | 11 | 09 | 318-227 | 19.06.00 | 11:37 | 11:47 | 10 | 09 | 125-040 |
| 08.06.00 | 13:27 | 13:42 | 15 | 25 | 153-023 | 19.06.00 | 13:19 | 13:35 | 16 | 69 | 189-002 |
| 08.06.00 | 15:12 | 15:28 | 16 | 31 | 208-351 | 19.06.00 | 15:09 | 15:16 | 07 | 03 | 256-316 |
| 09.06.00 | 00:37 | 00:49 | 12 | 13 | 029-132 | 19.06.00 | 22:47 | 22:53 | 06 | 02 | 055-102 |
| 09.06.00 | 02:21 | 02:37 | 16 | 55 | 347-187 | 20.06.00 | 00:28 | 00:44 | 16 | 63 | 001-169 |
| 09.06.00 | 13:54 | 14:11 | 17 | 54 | 172-012 | 20.06.00 | 02:15 | 02:26 | 11 | 10 | 319-227 |
| 09.06.00 | 15:42 | 15:55 | 13 | 14 | 231-339 | 20.06.00 | 12:03 | 12:17 | 14 | 23 | 149-024 |
| 10.06.00 | 01:04 | 01:19 | 15 | 30 | 013-153 | 20.06.00 | 13:47 | 14:03 | 16 | 32 | 207-351 |
| 10.06.00 | 02:49 | 03:04 | 15 | 24 | 336-205 | 20.06.00 | 23:12 | 23:24 | 12 | 12 | 029-131 |
| 10.06.00 | 12:40 | 12:51 | 11 | 10 | 129-039 | 21.06.00 | 00:56 | 01:12 | 16 | 58 | 348-186 |
| 10.06.00 | 14:22 | 14:39 | 17 | 70 | 189-001 | 21.06.00 | 02:47 | 02:50 | 03 | 00 | 288-260 |
| 10.06.00 | 16:13 | 16:21 | 08 | 03 | 259-318 | 21.06.00 | 12:30 | 12:46 | 16 | 51 | 170-012 |
| 10.06.00 | 23:50 | 23:56 | 06 | 02 | 050-102 | 21.06.00 | 14:17 | 14:30 | 13 | 14 | 230-339 |
| 11.06.00 | 01:31 | 01:48 | 17 | 67 | 360-170 | 21.06.00 | 23:39 | 23:54 | 15 | 28 | 014-151 |
| 11.06.00 | 03:19 | 03:30 | 11 | 10 | 317-225 | 22.06.00 | 01:24 | 01:39 | 15 | 26 | 337-204 |
| 11.06.00 | 13:06 | 13:21 | 15 | 24 | 152-022 | 22.06.00 | 11:15 | 11:26 | 11 | 09 | 129-040 |
| 11.06.00 | 14:51 | 15:07 | 16 | 32 | 209-352 | 22.06.00 | 12:57 | 13:14 | 17 | 72 | 188-002 |
| 12.06.00 | 00:16 | 00:28 | 12 | 12 | 030-133 | 22.06.00 | 14:48 | 14:56 | 08 | 04 | 257-318 |
| 12.06.00 | 02:00 | 02:16 | 16 | 56 | 347-187 | 22.06.00 | 22:26 | 22:31 | 05 | 01 | 056-098 |
| 12.06.00 | 13:33 | 13:50 | 17 | 54 | 171-011 | 23.06.00 | 00:07 | 00:23 | 16 | 63 | 001-169 |
| 12.06.00 | 15:21 | 15:33 | 12 | 14 | 232-337 | 23.06.00 | 01:54 | 02:05 | 11 | 11 | 318-225 |
| 13.06.00 | 00:43 | 00:58 | 15 | 29 | 014-153 | 23.06.00 | 11:41 | 11:56 | 15 | 23 | 152-023 |
| 13.06.00 | 02:28 | 02:43 | 15 | 25 | 335-204 | 23.06.00 | 13:26 | 13:42 | 16 | 33 | 207-352 |
| 13.06.00 | 12:19 | 12:30 | 11 | 09 | 128-038 | 23.06.00 | 22:51 | 23:03 | 12 | 12 | 030-132 |
| 13.06.00 | 14:01 | 14:18 | 17 | 70 | 189-002 | 24.06.00 | 00:35 | 00:51 | 16 | 58 | 348-186 |
| 13.06.00 | 15:52 | 16:00 | 08 | 03 | 260-320 | 24.06.00 | 12:08 | 12:25 | 17 | 51 | 171-012 |
| 13.06.00 | 23:29 | 23:35 | 06 | 02 | 052-098 | 24.06.00 | 13:56 | 14:08 | 12 | 14 | 230-337 |
| 14.06.00 | 01:10 | 01:27 | 17 | 66 | 360-170 | 24.06.00 | 23:18 | 23:33 | 15 | 28 | 015-152 |
| 14.06.00 | 02:58 | 03:09 | 11 | 10 | 316-224 | 25.06.00 | 01:03 | 01:18 | 15 | 26 | 336-203 |

| Date | AOS | LOS | Dur | EL | AZ |
|----------|-------|-------|-----|----|---------|
| 25.06.00 | 10:54 | 11:05 | 11 | 09 | 128-039 |
| 25.06.00 | 12:36 | 12:53 | 17 | 74 | 188-002 |
| 25.06.00 | 14:27 | 14:35 | 08 | 04 | 258-319 |
| 25.06.00 | 22:05 | 22:10 | 05 | 02 | 058-097 |
| 25.06.00 | 23:45 | 00:02 | 17 | 63 | 001-169 |
| 26.06.00 | 01:33 | 01:44 | 11 | 11 | 317-224 |
| 26.06.00 | 11:20 | 11:35 | 15 | 23 | 151-024 |
| 26.06.00 | 13:05 | 13:21 | 16 | 33 | 207-352 |
| 26.06.00 | 22:30 | 22:42 | 12 | 12 | 031-132 |
| 27.06.00 | 00:13 | 00:30 | 17 | 60 | 349-185 |
| 27.06.00 | 02:04 | 02:08 | 04 | 01 | 292-259 |
| 27.06.00 | 11:47 | 12:03 | 16 | 50 | 170-013 |
| 27.06.00 | 13:34 | 13:48 | 14 | 14 | 226-341 |
| 27.06.00 | 22:57 | 23:12 | 15 | 28 | 016-152 |
| 28.06.00 | 00:42 | 00:57 | 15 | 27 | 336-202 |
| 28.06.00 | 10:33 | 10:44 | 11 | 08 | 127-038 |

| Date | AOS | LOS | Dur | EL | AZ |
|----------|-------|-------|-----|----|---------|
| 28.06.00 | 12:15 | 12:32 | 17 | 75 | 188-002 |
| 28.06.00 | 14:06 | 14:14 | 08 | 03 | 260-321 |
| 28.06.00 | 21:43 | 21:49 | 06 | 02 | 053-099 |
| 28.06.00 | 23:24 | 23:41 | 17 | 62 | 001-169 |
| 29.06.00 | 01:11 | 01:23 | 12 | 11 | 321-222 |
| 29.06.00 | 10:59 | 11:13 | 14 | 22 | 150-026 |
| 29.06.00 | 12:44 | 12:59 | 15 | 33 | 208-351 |
| 29.06.00 | 22:08 | 22:21 | 13 | 12 | 027-133 |
| 29.06.00 | 23:52 | 00:09 | 17 | 60 | 349-185 |
| 29.06.00 | 23:55 | 00:08 | 13 | 57 | 280-185 |
| 30.06.00 | 01:43 | 01:47 | 04 | 01 | 290-257 |
| 30.06.00 | 11:26 | 11:42 | 16 | 49 | 169-013 |
| 30.06.00 | 13:13 | 13:26 | 13 | 15 | 227-338 |
| 30.06.00 | 22:35 | 22:51 | 16 | 27 | 013-152 |

Satellite: RS-12/13 Data are calculated for central India, 79° E, 21°N (Nagpur) Time in UTC. Dur is time of visibility of the Satellite in minutes. EL indicates maximum Elevation for the pass AZ gives Azimuth at beginning and end of the pass.

Courtesy- Bob VU2MKP

CLUB NEWS

While VU2DX was DXing.

OM Saifuddin - VU2DX of Dindigul was DXing at ZL-land after writing letters to Monitoring Station, Chennai and AIR authorities about the cable TV QRM which was so much that even the Madurai & Trichy local AIR station was not to be heard even with so much power meant to reach people on medium wave frequencies.

Reply came that they cannot do anything more unless there is evidence that they (Cable TV Ops) are transmitting with an antenna! Not being disappointed with this answer Saif found out if the AIR people complained about this, maybe WPC would wake up. Balan VN, Engineer and OIC wrote a letter to render necessary assistance to the monitoring team who are visiting Dindigul on 25th Nov 99 and requesting for VU2DX's Landline number. This letter could not reach VU2DX as he was enjoying himself at New Zealand after packing and keeping all his wireless equipment in safe custody displaying a copy of licence in his shack (connected or disconnected) to all his antennas which were not removed.

On the given date, two vehicles arrived at Saif's QTH to be received by VU2DX's brother and niece, setup their antennas inside the compound and Saif's drawing room with the assistance of VU2RDW (Om Ramdas) did call upon (not summoned) the Cable TV Distributor and scared him that they would seal his Dish (Pun!) until he finds the bug! So the search to find the "S6 Band" QRM causing defective booster/modulator by changing one after another until the defective one was detected which required a whole day. The officials were not carrying guns or wearing black Rayban, and there was no 007 or "James Bond" marking on any of their stuff and were friendly with VU2RDW and

VU2DX's relatives, after warning the Cable TV Operator that they would come again if there is any QRM complaint.

On their return, VU2DX received a copy of letter written by Shri.T.P.Narayanan, Dy. Director, WPC, Wireless Monitoring Organization, Pushpa Bhavan, New Delhi that his complaint has been investigated by the Monitoring Station, Trivandrum that it was observed that RF radiation, emanating from high power boosters, installed by local cable TV Operator, was causing the interference.

The concerned cable TV Operator was advised to stop the excessive RF Radiation by using very low power booster. The cable TV Operator complied with the advice. Thereafter, re-monitoring was carried out. This confirmed the absence of any RF radiation. The case, is thus treated as closed.

Our friend VU2POP who has been talking about this "Cable TV QRM" is the happiest and he has been in "high spirits" that such action would be taken on our Bangalore Cable TV operators and the Pagers so that the QRM on our ham band is cleaned of the "Dinosaurs & Jurassic Park howls" these words are from Babji (VU2RKC) used without copyleft.

Please fill in the "Harmful Interference reporting form" and report to your monitoring station if your location is interfered with QRM caused by either Cable TV, Pager, Rural Radio Telephone Exchange, CellPhone, Faulty COP repeater or a Computer. Sure the radio telescopes either on SETI mission or just a star watcher would be happy with this start of cleanup of Radio Spectrum.

Hams & Hijacking

In letters column of Deccan herald dated 18th Jan 2000 one of the Bangalore citizen had written "Sir, The recent

hijack episode is the darkest hour in the history of India after Somanth Temple! Just six 'hams' holding 150 hostages twisted and twirled the so-called 'world's largest democracy' round their fingers for eight days, at will...." the word "hams" being used did concern quite a few, while explaining the correct meaning VU2COC, Om Venkatesh on the net did explain whatever not professional is called "amateur" or "ham", so we cannot just be called ham or amateurs but full Amateur (Ham) Radio operators. Here it may also be noted that Amateurs (Ham) operator can never become Professional Wireless Operator- Hi!!

First ARC of India

It was Amateur Radio Club of India in the school of Signals, Mhow, India under leadership of OM Chaki (Late Brgi.B.M.Chakravarthy- VU2BU) of LRDE who started after WW-II in early fifties. The magazine was titled QRZ (first issue had blueprint cover, following ones were in Print) before this India had RADIO magazine edited by Asa Briggs in 1925 in Calcutta where the 1926 issue had a single page callbook and next one was from Bombay in 1930.

...and the oldest

It was early 1960- Bangalore Amateur Radio Club- VU2ARC (then it was VU2TT) was started by VU2GV (Sulu), VU2SE (Subramanyamani), VU2YZ (Sampath), SWL Sharma (OM Fundamental of VU2NRS), VU2SO- Sibal Gosh (VU2SO), VU2BZ (Shama Rao). Used to meet near High Court Building- Cubbon Park- The first Newsletter was SIARAN- South India Amateur Radio News Reel. One Special ATV issue was in multi colour printed. First YL group of India and the First Amateur TV Group were all from Bangalore.

International Telecommunication Union

ITU was founded in Paris in 1865 as International Telegraph Union and in 1934 took "telecommunication" name, became specialized agency of UN in 1947. ITU is inter-governmental organization within which the public and private sectors co-operate for the development of telecommunications WW. The ITU adopts international regulations and treaties governing all terrestrial and space uses of the frequency spectrum as well as the use of the geostationary-satellite orbit, within which countries adopt their national legislation. It also develops standards to facilitate the interconnection of telecommunication systems on WW scale regardless of the type of technology used.

The ITU fosters the development of telecommunications in developing countries by establishing medium-term development policies and strategies in consultation with other partners in the sector, and by providing specialized technical assistance in the areas of telecommunication policies, the choice of transfer of technologies, management, financing of investment projects and mobilization of resources,

the installation and maintenance of networks, the management of human resources as well as research and development. In essence, the Union's mission covers the following domains:; technical, development, policy.

As on 1st April 1999, ITU comprised 188 Member States and 552 Sector members (scientific and industrial companies, public and private operators, broadcasters, regional/international organizations) to the three sectors. Under Radiocommunication sector the role is to ensure the rational, equitable, efficient and economical use of the radio frequency spectrum by all radio communication services, including those using the geostationary-satellite orbit, and to carry out studies without limit of frequency range on the basis of which recommendations are adopted. The legislative and policy functions of the Radio Communication Sector are performed by World and Regional Radio Communication Conferences and Assemblies supported by study groups. (Visit www.itu.int on internet for more details).

Courtesy- BARC Newsletter.

BANGALORE AMATEUR RADIO CLUB:

The General Body of Bangalore Amateur Radio Club- VU2ARC took place on the 13th February 2000 and the Y2K Nominated and Elected Team is as follows:-

| | | |
|-------------------|---------------------------|---------------|
| President | Lion Ajoy | VU2JHM |
| Vice Pres. | Dr.Kukillaya S.V | VU2VK |
| Secretary | Nataraj Venkatadri | VU2NTA |
| Joint Sec. | Suresh | VU3NOI |
| Treasurer | Govind Girimaji | VU2GGM |
| Custodian | Bindu Madhavarao | VU2IR |

Editorial Committee: VU2NTA (Nat), VU3ICC (Venkatesh K), VU3SXE (Sandeep) & VU3SJX (Kishore).

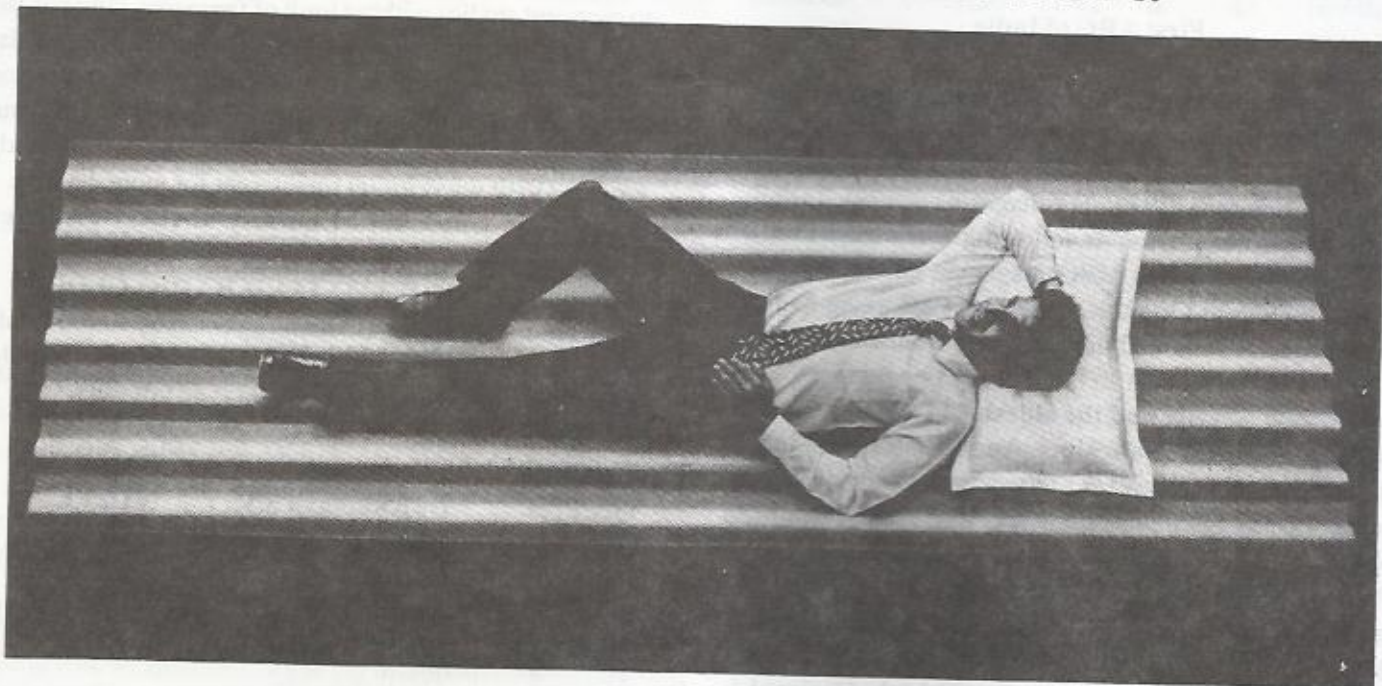
Special thanks to Challam (VU2CLM) and Bobjee (VU2RKC) who were Returning Officers who conducted this Elections.

HAMEX '99:

The Adur Amateur Radio Society has received the call sign VU2MFB. HAMEX '99 was conducted on 12th December '99 at the local school. About 200 delegates from Kerala, TamilNad & Karnataka attended the function. Five radio clubs exhibited their equipments. One of the most notable exhibit was a frequency counter (programmable) using only two I.C.'s produced by the Moothakunnam club. Kollam Amateur Radio Society and the Quilon Amateur Radio League exhibited many items. A souvenir was released by Om K.G.Nadarajan, VU2KGN. A lot of junk items and spare parts were offered for sale. Copies of the souvenir can be obtained by sending Rs.20/- by M.O. to L.V.Sharma, VU2LV, Mukaletu Matom, Adur, Kerala- 691523.



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www.eterniteverest.com

LETTERS TO EDITOR

From: Lion Ajoy VU2JHM
Lions Club of Bangalore North, District 324 D1,
Club#026596

February 16th, 2000.

Dear Sir,

We are very happy to see the Vol VI No.1, Jan/Mar 2000 issue of Ham Radio News and the detailed article of VU2GUR regarding Action Aid India's - Orissa Disaster Mitigation Mission.

Well each one of the team has different experience both good and bad, the confusion and need of Disaster Management Training not only to handle the Search & Rescue situation and preparedness for any such future events is very much needed.

I am sure we Hams should think of undergoing First Aid, Civil Defence, Fire Fighting and such courses which are conducted by State Governments free of cost. We at VU2ARC have been publishing those which is available at Bangalore.

I am herewith enclosing few photographs taken during January 2000 monthly meeting with the DX visitors- Peter E Chadwick- G3RZP (Council Member and Past President of RSGB), Paul L Rinaldo - W4RI (Manager, Technical Relations, ARRL) and others who were with us. (See inside back cover)
73's de VU2JHM- Ajoy.

From: The Editor
Radio Magazine.

19th February, 2000.

Dear Om Saad Ali,

Fine and wish you the same.

Thanks for the latest issue of "Radio Magazine". We are glad that you have reproduced three news items from our news letter "The Ground Wave." Copies of the relevant pages along with a copy of the news letter have already been sent to you by snail mail.

Since you are depending on various sources for material to print, we suggest you to include a credit line to the original (print) source to each matter you reprint. Won't you agree that it is the right manner?

Unfortunately, this time no credit line was given to the items copied from our news letter. We have come across a mention of the source somewhere else in the "Radio Magazine", anyway.

The apparent danger in blind copying is that it may lead to possible interpretations as to the origin of the comments made and/or views expressed. Without a disclaimer or credit line, do not blame a reader who takes it

for granted that the view belongs to the "Radio Magazine" published by the All India Umbrella Organization. Please see the news about "Hamfest India 2000" and assess yourself.

Keep up the good work.

73's

Mukundan VU2DRL-Publisher

Suresh S VU2SUO- Editor

"THE GROUND WAVE"

Ham Radio Guild VU2HRG.

P.S. It is regretted that no credit line was assigned to the article. This will not happen the next time. Ed.

DX News

NEWINGTON, CT, Dec 30, 1999- Amateur Radio will get a new look in the new millennium. The FCC today issued its long awaited Report and Order in the 1998 Biennial Regulatory Review of Part 97- more commonly known as "license restructuring." The bottom line is that starting April 15, 2000, there will be three license classes- Technician, General and Amateur Extra- and a single Morse code requirement- 5 WPM. "We believe that an individual's ability to demonstrate increased Morse code proficiency is not necessarily indicative of that individual's ability to contribute to the advancement of the radio art," the FCC said.

Besides drastically streamlining the Amateur Radio licensing process, the FCC said its actions would "eliminate unnecessary requirements that may discourage or limit individuals from becoming trained operators, technicians, and electronic experts."

Although no new Novice and Advanced licenses will be issued after the effective date of the Report and Order, the FCC does not plan to automatically upgrade any existing license privileges. The ARRL had proposed a one-time across-the-board upgrading of current Novice and Tech Plus licensees to General class, but the FCC declined to adopt the idea. This means that current licensees will retain their current operating privileges, including access to various modes and subbands, and will be able to renew their licenses indefinitely.

Starting April 15, 2000, individuals who qualified for the Technician class license prior to March 21, 1987, will be able to upgrade to General class by providing documentary proof to a Volunteer Examiner Coordinator, paying an application fee, and completing FCC Form 605.

The FCC's decision not to automatically upgrade Novice and Tech Plus licensees means the current Novice/Tech Plus HF subbands will remain and not be "reframed" to higher class licensees as the ARRL had proposed. The

FCC said it did not reform these subbands because there was "no consensus" within the amateur community as to what to do with them.

As it had proposed earlier, the FCC decided to lump Technician and Tech Plus licensees into a single licensee database, all designated as "Technician" licensees. Those who can document having passed the 5 WPM Morse code examination will continue to have the current Tech Plus HF privileges. "If documentation is needed to verify whether a licensee has passed a telegraphy examination, we may request the documentation from that licensee or the VECs" the FCC said.

In addition to reducing the number of license classes from six to three and eliminating the 20 and 13 WPM code tests, the FCC also will reduce the number of written examination elements from five to three, authorize Advanced Class hams to prepare and administer General class examinations, and eliminate Radio Amateur Civil Emergency Service (RACES) station licenses. RACES will remain, however. "After review of the record, we conclude that we should eliminate RACES station licenses because RACES station licenses are unnecessary for amateur stations and amateur service licenses to provide emergency communications," the FCC said.

Under the new licensing scheme, there will be four examination elements. Element 1 will be the 5 WPM Morse code exam. Element 2 will be a 35-question written test to obtain a Technician license; Element 3 will be a 35-question written test to obtain a General license, and Element 4 will be a 50-question written test for the Amateur Extra license. The FCC has left it in the hands of the National Conference of VECs Question Pool Committee to determine the specific mix and makeup of written examination questions. Current Amateur Radio study materials remain valid at least until the new rules become effective in April.

The FCC's new licensing plan means someone will be able to become a ham by passing a single 35-question written examination. The plan also simplifies and shortens the upgrade path from the ground floor through Amateur Extra—especially since amateurs will only have to pass one Morse code test.

Elimination of the 13 and 20 WPM Morse requirements also means an end to physician certification waivers for applicants claiming an inability to pass the Morse code examination due to physical handicap.

The effective date provides a window of upgrade opportunity for current Advanced licensees. Between now and April 15, current Advanced holders may take the existing Element 4B, a 40-question test, giving them credit for having passed the current Extra written examination. Likewise, holders of a Certificate of Successful Completion of Examination (CSCE) for Elements 3B or 4B dated on or after April 17, 1999, will be able to qualify for General or Amateur Extra respectively when the new rules go

into effect on April 15, 2000.

The FCC disagreed with the League's suggestion that it undertake a restructuring of operating privileges along with licensing restructuring. "We believe that in light of ongoing discussions concerning implementation of new and more modern communications technologies within the amateur service community, we should accord the amateur service community an opportunity to complete such discussions and possibly reach a consensus regarding implementation of new technologies before we undertake a comprehensive restructuring of the amateur service operating privileges and frequencies," the FCC said in its Report and Order.

In its amendments to Part 97, the FCC's Report and Order refers to a "Club Station Call Sign Administrator," something that does not exist under the current rules and which was not explained in the R&O itself. An FCC spokesperson said the Commission plans to issue a Public Notice soon to explain the program and to solicit qualified entities to serve as call sign administrator for club station applications.

A copy of the entire Report and Order (FCC 99-412) is available on the ARRL Website in Adobe PDF format or from the FCC Web site in plain text.

<http://www.arrl.org>.

News from Arasu

Dx News: V44YJ St.Kitts, CU2HI Azores, VPN BO Bermuda, 5X1P Uganda, FY5HE French Guiana, CP6EB Bolivia, HK7/CM5 KW Colombia, P40 MH Aruba, HC5A1 Ecuador and V31JP Belize were some of the stations heard on 14 Mhz CW.

Luis Meiras Aranega, Spanish Scout Leader from Canary Island writes to our mailbox for QSO with other Scouts/Guides counterpart for exchange of National scout Badge/Flag. Those interested to help may write to BARC's Post Box i.e.5053, GPO, Bangalore-560 001.

Courtesy- BARC

SPECIAL EVENTS

INTERNATIONAL MARCONI DAY- "IMD"

April 29, 2000

Over 40 International Marconi Day Special Event stations will be participating world wide. These Marconi Day Stations will represent historic Guglielmo Marconi transmitting and receiving stations and will commemorate milestones in the development of worldwide wireless communications.

The Marconi Radio Club, W1AA/IMD of Massachusetts will represent the Marconi Transatlantic Station where Marconi completed his first spark gap radio transmission between the United States and Europe on Jan 18, 1903.

The Marconi Radio Club will have several stations on the bands of the event.

Marconi Radio Club W1AA....

<http://personal.tmlp.com/k1vv/w1aa/>

Additional International Marconi Day links:

<http://www.users.globalnet.co.uk/~straff/>

Newfoundland Radio Club.....

<http://webhost.avint.net/sonra/marc100.htm>

Glace Bay Nova Scotia.....

<http://www.users.globalnet.co.uk/~straff/glacebay.htm>

Twin Lights, Highlands, N.J.....

<http://www.users.globalnet.co.uk/~straff/twinlights.htm>

Rochester, Kent

<http://www.users.globalnet.co.uk/~straff/rocheste.htm>

Dorchester Wireless Station.....

<http://www.users.globalnet.co.uk/~straff/dorchester.htm>

Wall, N.J.

<http://www.users.globalnet.co.uk/~straff/wall.htm>

Coltano, Pisa

<http://www.users.globalnet.co.uk/~straff/coltano.htm>

73 Bob "Whitey" Doherty K1VV

President- Marconi Radio Club W1AA

BEGINNERS BEST FRIEND- The Tricky Transistor

by- "Short Longwire"

A "Thing" landed in the shack of an Old Timer. A note read- "See what you can do with this." "This" was a beat up old "Transistor." It seemed to have had an encounter with a Double Decker Bus. The back cover was smashed and half of it missing. The "Inside" was clearly hit by a cyclone. The whole thing was a mess. The Old Timer could have rightly 'donated' the mess to the Kabadiwala, but, the Amateurs "I Can Fix It" urge got the better of him. So, - the "Thing", was given a place in the shack.

Perhaps a little background is in order. In its first incarnation, the Transistor was a "Free Gift", given away on purchase of some garment. The "Free Gift" transistor, was 'Bazaar assembled,' and boasted 3 Bands, and to surprisingly it had never been a great performer. Like most Free Gifts it had not been well cared for either, and its last crisis had brought it to the Old Timer who decided to give the poor thing another chance in life, - as a Ham Band Receiver!

The Transistor was put in the ICU. Clearly a survivor, it came out with a big smile.

The entire Audio section had to be rebuilt. A few components needed replacement in the IF section. It would of course have been easier to simply replace the "L-Board", but that is not the Home Brewers way. A bit of work on the dial cord and drive drum assembly and the 3 Bander was soon singing nicely on MW, SW1 & SW2! Next, the Ferrite rod, the loop antenna and the MW oscillator coil, was disconnected and a small series capacitor inserted in the oscillator section of the 2J. A bit of work on the SW coils and the Band Switch, plus addition of a simple BFO, and the job was complete. The reworked Transistor was now a Ham Band RX, for the 40, 20 & 15 metre Ham bands! But in sad reality, Forty was only- OK. Twenty was- nearly OK. As for Fifteen, to put it kindly, it was- 'Marginal'. The thing was no doubt a Ham Band Rx, it did pick up Hams, but, sadly, it was no fun to use!

The Old Timer went to work again and the Tran-

sistor had its new incarnation. It was now an excellent AM/CW/SSB 40 metre only RX, plus a "CPO" (Code Practice Oscillator). The original band switch was now the "Mode" switch. Position 1, was for AM. Position 2 for CW & SSB. Position 3 for CPO function (Key jack provided).

Now, it was fun to use!

In this incarnation the Transistor was a very useful thing for a Beginner or a Wannabe Radio Amateur. All the veteran Hams are firm believers in "Learning from monitoring the Bands." They emphasize that there was no better way than monitoring the band to -

1. Learn Operating Procedure,
2. Improve CW receiving speed.

In addition,

The CPO function would improve CW "Sending."

What more could a beginner want?

The Free Gift had at last found its true place in life. It is still homely, (in charming sort of way), but, now, it is important, respected & loved. After all, it is now,

The Beginners best Friend !!

(See photo in front inside cover)

WHY RADIO AMATEURS ARE CALLED HAMS

From Florida Skip Magazine- 1959

Have you ever wondered why radio amateurs are called "HAMS"? Well, it goes like this:

The word "HAM" as applied to 1908 was the station CALL of the first amateur wireless station operated by some amateurs of the Harvard Radio Club. They were ALBERT S. HYMAN, BOB ALMY and POOGIE MURRAY. At first they called their station "HYMAN-ALMY-MURRAY". Tapping out such a long name in code soon became tiresome and called for a revision. They changed it to "HY-AL-MY", using the first two letters of each of their names. Early in 1901 some confusion resulted between signal from amateur wireless station "HY-ALMU" and a Mexican ship

named "HYALMO". They then decided to use only the first letter of each name and the station CALL became "HAM".

In the early pioneer days of unregulated radio amateur operators picked their own frequency and call letters. Then as now, some amateurs had better signals than commercial stations. The resulting interference came to the attention of congressional committee in Washington and Congress gave much time to proposed legislation designed to critically limit amateur radio activity.

In 1911, ALBERT HYMAN chose the controversial WIRELESS REGULATION BILL as the topic for the Thesis at Harvard. His instructor insisted that a copy be sent to Senator DAVID L. WALSH, a member of one of the committee hearing the Bill. The Senator was so impressed with the Thesis that he asked HYMAN to appear before the committee. ALBERT HYMAN took the stand described how the little station was built and almost cried when he told the crowded committee room that if the BILL

went through they would have to close down the station because they could not afford the license fee and all the other requirements which the BILL imposed on amateur stations.

Congressional debate began on the WIRELESS REGULATION BILL and little station "HAM" became the symbol for all the little amateur stations in the country crying to be saved from the menace and greed of the big commercial stations who didn't want them around. The BILL finally got to the floor of Congress and every speaker talked about the ".....poor little station HAM." That's how it all started. You can find the whole story in the congressional Record. Nation-wide publicity associated station "HAM" with amateur radio operators. From that day to this, and probably until the end of time in radio; and amateur is a "HAM."

I A R U 75th Anniversary, 18 April 2000

The first two-way transoceanic amateur radio communication took place in November 1923. Almost overnight, such contacts became almost commonplace as amateurs throughout the world discovered the remarkable potential of the "short waves." Just as quickly came the realization that radio was by its very nature an international medium, and that there was a need for an international organization to represent radio amateurs.

ARRL President Hiram Percy Maxim, W1AW, had already scheduled a business trip to Europe for 1924. Such an excursion was quite an undertaking in those days, involving as many days on an ocean liner as overseas trips today require hours on a jet plane. The ARRL Board of Directors asked Mr. Maxim to represent the league in fostering international relations between amateurs while he was abroad. This, of course, he was delighted to do.

An informal meeting was called for March 12, 1924, in Paris, to discuss the formation of an international organization. Representatives from France, Great Britain, Belgium, Switzerland, Italy, Spain, Luxembourg, Canada, and the United States attended. There was considerable enthusiasm for the idea of such an organization, and agreement was quickly reached on the name and on the calling of an International Amateur Congress the following year for the purpose of creating the IARU.

During the Easter holidays of April 1925, radio amateurs from 23 countries in Europe, North and South America, and Japan met again in Paris to create the IARU and to adopt a constitution. The original IARU was organized quite differently from today, but the goals were much the same: to promote and coordinate amateur radio worldwide, to encourage fraternalism and to represent amateur radio at international conferences.

On April 17, 1925, the constitution of the IARU was unanimously adopted by the organizing Congress. At a closing assembly on the following day, officers were elected and the actions of the Congress ratified by repre-

sentatives from 25 countries. Thus, April 18 became the official "birthday" of the IARU and is now designated World Amateur Radio Day.

In its early years the IARU devoted itself to encouraging the development of national societies in as many countries as possible, coordinating international Amateur Radio communication, and representing the interests of radio amateurs at international telecommunications conferences and meetings. The pattern thus established has continued to the present day.

Revisions to the IARU Constitution have kept pace with Amateur Radio's increasingly international flavor. For example, following World War II several European societies concluded that the peculiar need of Europe that then existed required special measures, and invited the Radio Society of Great Britain to establish a Region 1 bureau of the IARU. This became the IARU Region 1 Division, corresponding to the IARU radio region. IARU Region 1 is celebrating its 50th anniversary this year. Similar organizations came into being somewhat later in Regions 2 & 3. The regional organizations were formally recognized by constitutional revision in 1975. Today the regional organizations cooperate through the mechanism of the IARU Administrative Council, established in 1982, which meets at least annually.

Most important, the IARU is the recognized spokesman for the Amateur & Amateur-Satellite Services at the International Telecommunication Union & the regional telecommunications organizations: CEPT, PATU, CITEL, & APT. In May a four-member team is slated to represent the IARU at the World Radiocommunication Conference, WRC-200, in Istanbul. Other amateurs will be present as members of their national delegations, having earned their position by virtue of the respect that is held by their countries's telecommunications administrations for their IARU member societies.



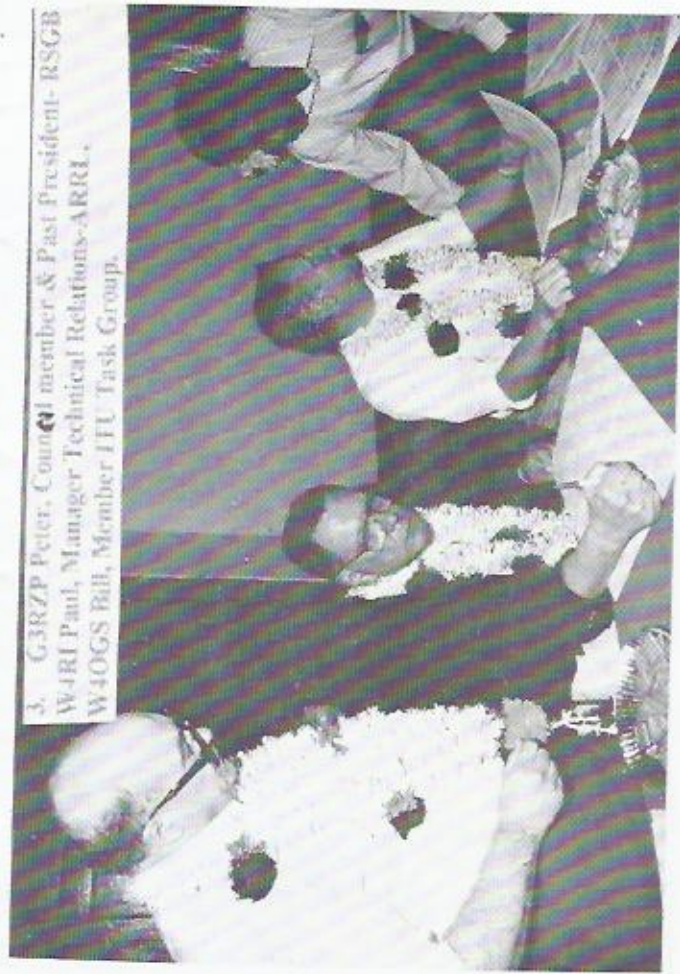
1. VU2ARC meeting with guests.



2. G3RZP Peter, VU2SCZ, VU2POP, VU2QNY.



4. 5/8 G.P in comparison.



3. G3RZP Peter, Council member & Past President-RSGB
W4RI Paul, Manager Technical Relations-ARRL,
W4OGS Bill, Member ITU Task Group.

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