

Ham



RADIO

News

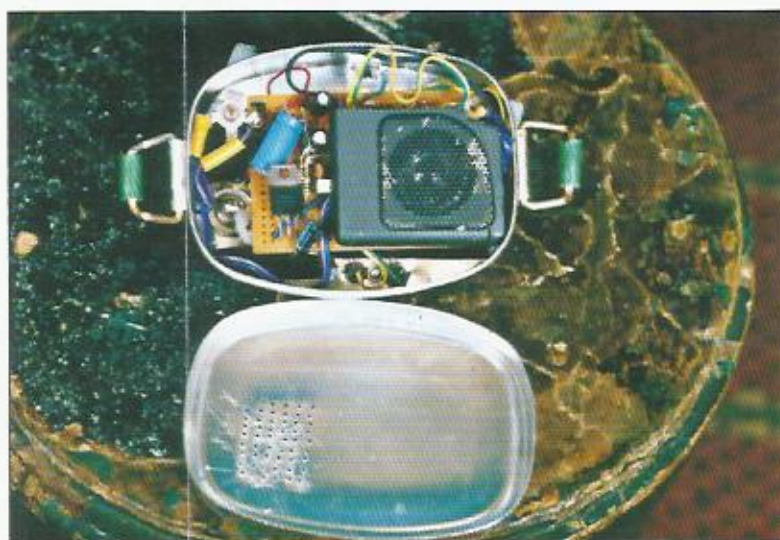
Vol V No.4

Oct/Dec 1999.

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

"AMATEUR RADIO- A NATIONAL RESOURCE"

*The Little "PIXIE".
BUILT IN AN
ALUMINIUM TIFFIN
BOX.*



*"NO ELECTION
SYMBOL OR
PALMISTRY"
COMPARATIVE
SIZE OF THE
"PIXIE" TO THE
PALM.*

Photos Courtesy- VU2GUR

Some rare QSL cards held by old timer ham VU2BK, retired General Rustom Kabraji, fondly known as 'KAB' on the air. Some interesting points to note from the QSL cards is the equipment used in those days, also the antennas! Please also look at the A.R.C.I. Bombay address on some of the QSLs.

Amateur Radio Station
FRENCH INDIA

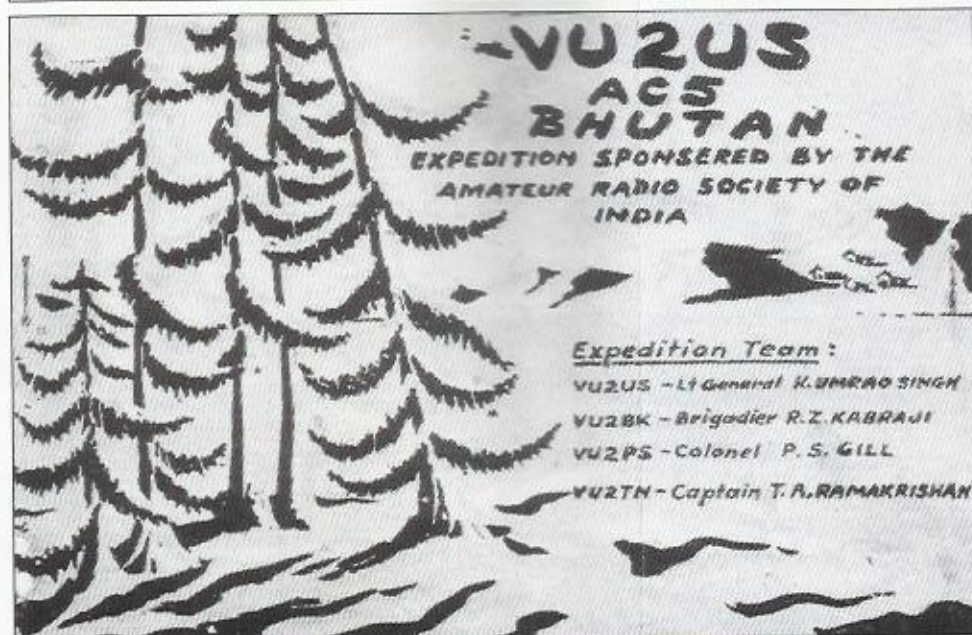
FN8-AD

To Radio **VU2BK** Confirming our QSO on **14.** Mc
 CW/Phone RST **539** at **1905** hrs I S T on **24-7-49**
 Tx **6V6 co, 6L6F** Rx **SX-28** Ant **42D.P.C.F**
 73. es Hpe to cnagn.
 Pse/Date QSL direct or
 Via P. O. Box 6666 Bombay, 20. D. S. Seal, OPR.
 Hatkhola, Chandernagore.

1. FN8AD- Another rare one from our land, in the old days!



2. BV1USB-self explanatory.



3. VU2US/AC5- One of the very first DX/EXpedition operations by a VU2 team of hams in April 1962, where KAB. VU2BK was himself one of the team.

EDITORIAL

Elsewhere in this issue, we are publishing the list of members of the new Governing Council. As will be noticed, there was no contest. In fact, some of the members were specifically requested to file their nominations.

This is not a happy trend. It shows inadequate interest of the ARSI members in running the Society. This leads to the inevitable: A group of people monopolize the activities, the group slowly disintegrates, finally leaving only one individual who runs the show in a dictatorial manner. This was the situation during the two decades prior to 1989. Let us not return to that stage by taking more interest in running the Organization on a collective basis.

As for the Ham Radio News, we need much more information on club activities, enrollment of new members by clubs and individuals, and technical and informative articles by amateurs about the problems (and the solutions) encountered by them in setting up their stations, tips on DX-ing, propagation characteristics and other useful data for the benefit of newcomers. Enough talent and knowledge is available on these subjects among our radio amateurs but they must be conveyed to the Editor for the benefit of others.

Since 1995, we made a routine of holding the Annual General Meeting of the Society during HAMFEST. This ensured a large attendance. Unfortunately, no AGM could be held during Bangalore (1998) and Mysore (1999) HAMFEST due to financial problems. A part of the blame goes to the members themselves because we do not receive the annual subscriptions in time, despite regular reminders. If members cooperate and HAMFEST organizers reciprocate, we may continue to hold AGM during future HAMFEST, thereby ensuring good attendance. The magic words are COOPERATION AND GOOD-WILL by all concerned.

The letter from Ministry of Defence conveying refusal to permit expedition to Andaman, Nicobar and Lakshadweep Islands could not be published in the last issue. It is being included in this issue. We intend to take up this matter again after the new Government has settled down to normal business.

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discontinued)

IMPORTANT

Your fees for 1999-2000 is due. Payment is to be made before 30th June after which a penalty of Rs.10/- is imposed. All members paying their fees for this year kindly include the penalty in the D.D.

***"KING OF HOBBIES"
ALL ARE KINGS
THERE ARE NO SOLDIERS.
de VU3NSH***

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HIGH CURRENT UNIVERSAL SUPPLY FOR RIGS

By N.S.Harishankar VU3NSH.

Features	Specifications
BFI (Blown Fuse Indicator) Aural & Visual	Output Voltage - 13.8V 1%
Input AC - 160 - 240V 50Hz	Output Current Limit - 24A 5%
RF Immune	Ripple Rejection - 86 dB
High Voltage DC Output Protected	Line Regulation - 0.3% Max.
Spike/Surge Protected	Load Regulation - 0.6% Max.
	Output Noise Voltage- 2.5 μ V RMS

Guys, this supply is intended for home use of mobile HAM radio transceivers. As many of today's combined 2m/70cm FM mobile rigs are capable of supplying more than 50 watts of RF power and HF RIGs upto 200W, a pretty heavy PSU is required if such a radio is not run off a vehicle battery. The PSU shown here has the answer because it is capable of delivering up to 25A at 13.8V in the configuration shown here. At the heart of this FR immune power supply is 723 voltage regulator IC, despite its age, the 723 is still popular among radio amateurs because it is reliable and widely available. The 723 comes in two flavors, a 14-pin DIL case or a 10-lead metal can. The type number may also be disguised: basically, look for LM723 or uA723. The pin number shown here refer to the 14-pin DIL case or a 10-lead metal can. The type number may also be disguised: basically, look for LM723 or uA723. The pin numbers shown here refer to the 14-pin DIL case.

The 723, IC1, is conventionally wired, driving a power transistor array and monitoring the supply output current by measuring the voltage drop across series resistor RSC. The nominal supply output voltage of 13.8V is set with preset P1. The raw input voltage of the supply is obtained from a 22V, 32A transformer, a 50A bridge rectifier and a 60,000 μ F smoothing capacitor. The transformer primary is protected against spike, surge by MOV. The current booster consists of a TIP 122 (or BD679) darlington transistor and 10 parallel connected 2N3773's with emitter current distributing resistors, RA to RJ. Ensures equalization of the current drawn by the individual power transistor. One can use 4 to 5 series pass transistors for the circuit, but the power dissipation on each transistor at 13.8V/25A is around 70W (5A each). Using more series pass transistors, the total load will be divided. Overloading bipolar transistors; it will produce large leakage current due to overheat. Using 10 numbers of transistors, the load on each transistor will be 40W approximately at 13.8V 25A (3A each). While using 4 or 5 transistor, you must use a cooling fan. Diode D4 acts as a safety diode and protects the IC against damage from stored energy at the moment of power switch-off.

The current sense resistor for the short-circuit protection, RSC, has a value of 0.025 ohms which results in a protection onset level of about $0.6V/0.025 = 24A$. See table

1. This resistor is made either from resistance wire or four parallel-connected 0.1/5W resistors. Current sensing resistor Rsc is wired in series with the output terminal. So that the voltage across Rsc is directly proportional to the output current, and the Base-emitter junction of the current limiter transistor is wired across this sensing resistor. Normally the current limiting transistor is cut off and has no effect on the current. When over current/short is placed across the output of the circuit the output current rises to such a level that the current limiting is driven closed to saturation by the Rsc voltage, and thus reduces the emitter-base drive voltage of the series output transistor and hence limits the output current heavy negative feed back is involved in this action, and the maximum output current is automatically limited to a value of V_{eb}/R_{sc} ($0.6/R_{sc}$). Current monitor meter can be wired into the output of the circuit at shunt rod (SR) point. Since this meter is also included negative feed back loop of the circuit. Digital Ammeter and Volt meter (DAM & DVM) are connected in this circuit are optional; instead of this digital meter one can use 0-25V DC meter for voltage monitoring and for current measuring make circuit fig.x.

A 25A or 30A fuse is inserted in the positive output rail as an additional protection against output short-circuits. If the fuse F2 blows, transistors T2 briefly actuates an active buzzer and a flashing LED. It can do so by draining the charge built up in C12. The supply is protected against reverse polarity being applied to the output terminals by D2. The 15-volt overvoltage protection at the output of the supply is a so-called crowbar circuit. Remove gate connection; then set the output voltage 13.8V. If the supply is set to an output voltage other than 13.8V, the zener diode, thyristor and associated resistor have to be emitted or disconnected by breaking the wire link (AB) indicated in the circuit diagram. If used, the thyristor should have a current rating of about 40A. Here, a type LST40PB is recommended. The darlington transistor T1 have to be mounted on a heat sink using insulating washers. Use a small 12V cooling fan to assist in the cooling of the 2N3773's. This fan is readily powered by the output supply; simply use two or three diodes in series to drop the operating voltage to about 12V. Capacitor C13 across the output serves the dual function of enhancing circuit stability and giving a

low high-frequency output impedance to the regulator C10 (Cref) is used for increasing ripple rejection 74 dB to 86 dB Max. 2N3773's (10 Nos.) mounted on a large heat sink. PCB is available with the author.

Parts List

Semi Conductors:

SCR	-	BTL40PB/40A600VPIV
Z_1	-	1N4744 (15V 1W)
BR_1	-	50A/400VPIV
D_1	-	1N4007
D_2, D_4	-	1N5408
T_1	-	TIP122/BD679
T_A to T_j	-	2N3773 Motorola
T_2	-	BC158C
LED_1	-	GREEN
LED_2	-	Flashing RED
IC_1	-	UA723C/LM723
MOV	-	V250 LA 20A-RCA/RDN
		250/20 ELPRO/PH-593
		250V Philips

Capacitors:

$C_1 - C_6$	-	10,000 μ F60V
$C_7 - C_8$	-	100 μ F50V
C_9	-	0.33 μ F100V
C_{10}	-	*10 μ F35V TANT
C_{11}	-	1K μ 50V
C_{12}	-	10 μ F50V
C_{13}	-	100 μ F63V

Miscellaneous:

F_1	-	30A
F_2	-	25A
AC F	-	3.5A

Xformer -240VAC INPUT

0-22V 32A Secondary,

Heat Sink for Transistors,

cooling fan, 3 1/2 digit V/A meter,

Kit, Buzzer, PCB, ON-OFF Switch,

30A Terminals etc.

Resistors:

R_1	-	3K9 10W
R_2	-	4.7 Ω 2W
R_3	-	1K5 1/4W
R_4, R_7	-	3K9 1/4W
R_5	-	2K7 1/4W
R_6	-	4K7 1/4W
R_8	-	10K 1/4W
R_9	-	33K 1/4W
R_{10}	-	150 Ω 1/4W
R_{11}	-	47K 1/4W
$R_{12,13}$	-	1K5 1/4W
R_{14}	-	0.22 Ω 2W
R_{15}	-	2K2 1/2W
R_{SC}	-	0.025 Ω 20 W
		(0.1 Ω 5Wx4)
P_1	-	2K2
R_A to R_j	-	0.1 Ω 5W

Table 1

Rsc	I limit
30 Ohms	20 ma
15 Ohms	40 ma
1.5 Ohms	400 ma
1 Ohms	600 ma
0.50 Ohms	1.2 A
0.30 Ohms	2 A
0.22 Ohms	2.7 A
0.12 Ohms	5 A
0.12 Ohms	6 A
0.10 Ohms	6 A
0.06 Ohms	10 A
0.05 Ohms	12 A
0.025 Ohms	24 A

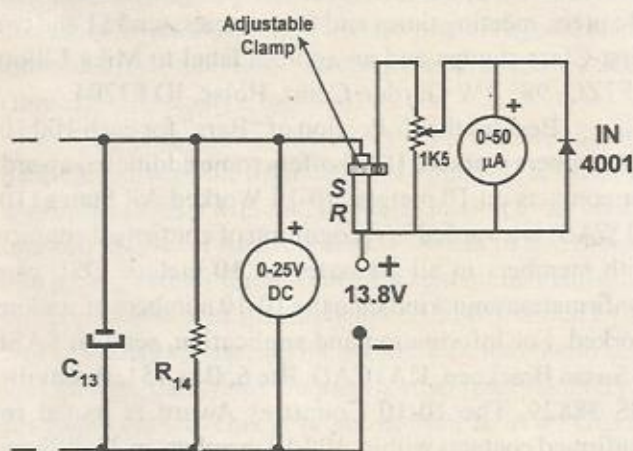
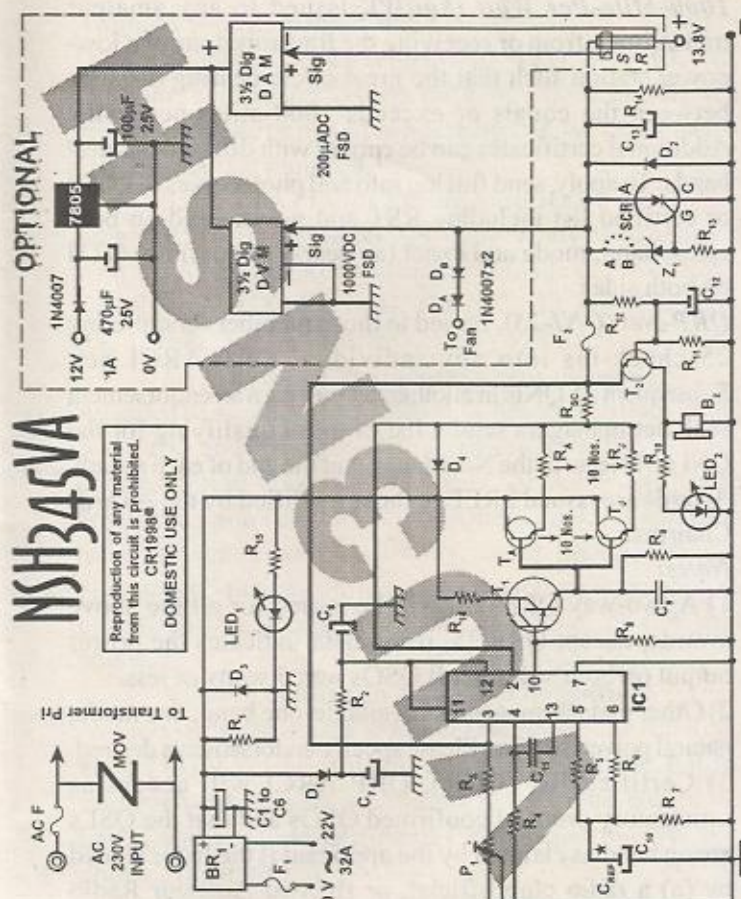


fig. x

SR (Shunt Rod), Earth Cable or Brass Rod 4mm - 6" length
0-50 μ A - make right side full scale deflection 0-30A



NSH345VA

Reproduction of any material
from this circuit is prohibited.
CR1998e
DOMESTIC USE ONLY

Operating Awards

(ARRL Handbook)

QRP AMATEUR RADIO CLUB
INTERNATIONAL (ARCI)

The objective of the QRP ARCI, Inc awards program is to demonstrate that power is no substitute for skill, encouraging full enjoyment of Amateur Radio while running the minimum power necessary to complete a QSO and reduce QRM on crowded amateur bands. Requirements for the following awards are set forth below:

QRP-25. Issued to any amateur for working 25 members of the QRP ARCI while those members were running a power output of 5 watts or less. Endorsements are offered for 50, 100 and every 100 thereafter. To apply, send full log info with the list of the member-number in order of the member-number.

WAC-QRP. Issued to any amateur for confirmed contacts with stations in all six continents. A power output of 5 watts or less must have been used by the applicant for all QSOs. To apply, send full log info with photocopies of QSLs or a confirmed list.

1000-Mile-Per Watt (km/W). Issued to any amateur transmitting from or receiving the transmissions of a low-power station such that the great circle bearing distance between the equals or exceeds 1000-miles-per-watts. Additional certificates can be earned with different modes/bands. To apply, send full log info and photocopies of QSLs or certified list including RST and power used on both sides, band, mode and exact (as nearly as possible) QTH on both sides.

QRP-Net (QNI-25). Issued to those members completing 25 check-ins into any individual QRP ARCI net. Subsequent 25 QNIs in another net will earn an endorsement seal. net managers send a list of those qualifying for the QNI certificate to the Net Manager at the end of each month. Awards are issued FREE to those qualified by the Awards Chairman.

Notes:

1) A two-way QRP seal will be issued for all the above awards, except QRP-25, if log data indicates the power output on both sides of all QSOs was 5 watts or less.

2) Other endorsement seals available-one band, one mode, natural power, Novice. Please specify endorsements desired.

3) Certified list (GCR). QRP ARCI will accept as satisfactory proof of confirmed QSOs and that the QSLs are on hand as claimed by the applicant if the list is signed by (a) a radio club official, or (b) two Amateur Radio operators of General class or higher, or (c) a notary public, or (d) a CPA (Certified Public Accountant). If you must send QSLs, be sure to include postage for their return.

4) QRP ARCI member-numbers are not published. The

Awards Manager will accept as satisfactory proof for any of the club awards a QSO with a club member giving his membership number and power output in the log data. If the QRP number and power level are not given, a QSL is required for confirmation.

5) Fee structure

(a) original certificate and seal-\$2 or 10 IRCs.

(b) subsequent endorsement seals-\$1 or 5 IRCs.

(c) return postage for QSLs or other application material to be returned.

6) Send applications and the required fee to QRP ARCI Awards Chairman, Bob Gaye, K2LGJ, 25 Hampton Parkway, Buffalo, NY 14216-1217.

TEN-TEN

Amateurs operating on 10 meters are often bewildered by requests for "10-10 numbers". 10-10 numbers are assigned by the 10-10 International Net Inc. A number is available to any amateur who works ten 10-10 Call Area Manager. Once the log data has been received and approved, the applicant will be issued his own 10-10 number, which can be used to exchange with others on 10 meters to obtain a "Bar" for each 100 numbers collected. 10-10 numbers are issued for life, and well over 70,000 10-10 numbers have been issued internationally.

The purpose of 10-10 is to promote interest and activity on the 10-meter band. 10-10 holds a net meeting each day, except Sunday, on 28,800 MHz at 1800Z. (An alternate net is held each Monday at 1800 UTC on 28,380 MHz.) All amateurs, 10-10 members or not, are invited to check in on the daily net. In addition to holding both CW and SSB contests twice each year, 10-10 has more than 220 chapters which hold net meetings at least once each week. Most 10-10 Chapters issued certificates for working members of that Chapter. If chasing certificates and awards is your "thing," obtaining a 10-10 number is highly recommended. For information on how to join 10-10, including an application form and the latest list of 10-10 Chapters, meeting times and frequencies, send \$1 and two First-Class stamps and an address label to Mike Elliott, KF7ZQ, 9832 W Gurdon Court, Boise, ID 83704.

Besides the Collection of "Bars" for each 100 10-10 members worked, 10-10 offers some additional awards for contacts on 10 meters. 10-10 Worked All States (10-10 WAS) is awarded in recognition of confirmed contacts with members in all 50 states on 10 meters. QSL card confirmations must indicate the 10-10 numbers of stations worked. For information and application, send an SASE to Susan Brackeen, KA1CAD, Rte 6, Box 151, Boonville, MS 38829. The 10-10 Countries Award is issued for confirmed contacts within 100,10 members in 25 different countries on the 10-meter band. Endorsements may also be earned for additional countries worked. For information on this award and an application form, send an SASE to Alan Sherman, K1AS, RR4, Box 422, Danielson, CT 06239.

WORLD ITU ZONE AWARD

This award will be issued to amateurs who work the prescribed number of ITU (International Telecommunication Union) zones of the world. There are 90 ITU zones. QSL cards are suggested, but not required. If QSLs are not submitted, a certified list of contacts (verified by a local club official or two licensed amateurs) shall be submitted.

The ITU Award is issued in the following classes:

- Class D- 40 zones
- Class C- 50 zones
- Class B- 65 zones
- Class A- 75 zones
- Class AA- 90 zones.

The official ITU zone list and map will be the criteria for determining zones.

Fees are \$2 US postpaid for the basic award, including endorsements requested at the same time, and 50 cents US postpaid for each future endorsement.

Applications should be sent to John Lee, K6YK, 3654 Three Oaks Rd, Stockton, CA 95205.

INTERNATIONAL AWARDS

The following awards information was obtained from International Amateur Radio Union (IARU) Societies around the world, who kindly provided the rules of the Amateur Radio awards they sponsor. [Not all of the IARU Societies are, of course, fortunate enough to have the resources necessary for awards sponsorship]. In addition to the HF awards described below, many IARU Societies also sponsor localized and/or VHF-only awards, or VHF endorsed versions of their HF awards. Further, shortwave listeners (SWLs) are eligible for many, if not most, of these awards as well. Since awards rules have been necessarily summarized for publication, further details can be secured by writing directly to the Awards Manager(s) of the particular Society or Societies concerned. When addressing correspondence to an Awards Manager, it is a good idea to enclose a self-addressed envelope and at least 2 IRCs (International Reply Coupons).

As a general principle, QSLs are not required to be included with the application. Ordinarily, a list of the appropriate QSLs with a signed certification by an official of a national-level Amateur Radio Society or two officers of a local Amateur Radio Club stating that the valid QSLs are in possession of the applicant will be honored by the IARU Society sponsoring the award. This list should show the call sign, date, time, frequency, mode and signal report for each contact. This is often referred to as a "GCCR" (General Certification Rules) list. Awards Managers may reserve the right to inspect QSL cards on rare occasions, and any decisions made by the Awards Managers as to the validity of applications are final.

When applying for a particular award, type or

neatly print your name, call sign and mailing address. State precisely what award and/or endorsement you are applying for, and enclose the appropriate application forms and the required fee (usually in IRCs) to defray postage and stationery costs. You should also state that you have complied with the rules of the particular award as well as the regulations established for Amateur Radio in your country.

ARGENTINA (LU)

Radio Club Argentino (RCA) awards will be issued to any recognized radio amateur holding an official license. Each request must be accompanied by a log-extract or list of the appropriate contacts for the award. The list must be accompanied by the corresponding QSL cards or by a statement from an officer of the national Amateur Radio Society stating that the necessary cards have been checked. All QSOs must be made November 20, 1945 or later, except where otherwise noted. Contacts with mobile stations will not be accepted (except for the CEMA and CEMARA awards). The fee for each certificate is 10 IRCs (or \$5 US). The fee for endorsements is 4 IRCs (\$2 US). Awards applications should be sent to: Radio Club Argentino, Awards Manager Sr. Ricardo Schroder, LU8AEJ, Casilla de Correo 97, (1000) Buenos Aires, Argentina.

101 (101 Países)

Awarded to all amateurs for QSOs, with 101 different DXCC countries. Endorsements for 121, 141, 161, etc. Different certificates issued for CW, Phone and Mixed modes-one band or mixed bands. Five bands-"laureated." One LU contact required.

TPA (Todos Países America)

Awarded to amateurs for QSOs made on any band or mode with 21 American Republics and Canada (22 contacts): CE, CO, CP, CX, HC, HH, HI, HK, HP, HR, LU, OA, PY, TG, TI, VE, W, XE, YN, YS, YV, ZP.

CCC (Cinco Continentes Comunicados)

Awarded to amateurs for QSOs with America, Africa, Asia, Australia and Europe (North American stations must contact South American stations for America; South Americans must contact North Americans). All contacts must be made on two bands, once on each band. "Laureated"-making the required contacts on three or more bands. Different certificates are available for CW and phone.

CAA (Certificado Antartico Argentino)

Awarded to amateurs for working at least one LU Antarctic base (LU-Z). LU stations must work three bases. Endorsement stickers are issued for working additional bases, and separate certificates are issued for CW and phone. All bands.

CEMA (Certificado Moviles Argentinas)

Awarded to amateurs for working 25 LU mobile stations, any band or mode.

CEMARA (Certificado Moviles Armada Argentina)

The Servicio de Radioaficionados de la Armada (SARA) and the Radio Club Argentino jointly issue this award to amateurs who work 25 Maritime Mobile stations, 10 of which must be LUs (including five from the Argentine Navy). The 15 other Maritime Mobiles stations can be from any country. Starting date: January 1, 1960. All bands. Separate awards issued for CW, AM or SSB. No mixed modes.

CA (Certificado Argentino)

Awarded to non-LU amateurs who work 100 LU stations. Any mode or band.

RA (Republica Argentina)

Awarded to all amateurs working 18 LU stations to form the words Republica Argentina with the first letter of each callsign suffix. Example: LU1RA, LU6EAM, LU2PB, LU5US, LU9BBA, LU3LA, LU2IO, LU9CAM, LU4AA, and so on. All modes/bands. Starting date: January 1, 1965.

TRA (Toda Republica Argentina)

Awarded to amateurs working all 25 Argentine districts:

LU1AA-LU9CZZ	Federal Capital
LU1DA-LU9EZZ	Buenos Aires
LU1FA-LU9FZZ	Santa Fe
LU1GA-LU9GOZ	Chaco
LU1GP-LU9GZZ	Formosa
LU1HA-LU9HZZ	Cordoba
LU1IA-LU9IZZ	Misiones
LU1JA-LU9JZZ	Entre Hios
LU1KA-LU9KZZ	Tucuman
LU1LA-LU9LZZ	Corrientes
LU1MA-LU9MZZ	Mendoza
LU1NA-LU9NZZ	Santiago del Estero
LU1OA-LU9OZZ	Salta
LU1PA-LU9PZZ	San Juan
LU1QA-LU9QZZ	San Luis
LU1RA-LU9RZZ	Catamarca
LU1SA-LU9SZZ	La Rioja
LU1TA-LU9TZZ	Jujuy
LU1UA-LU9UZZ	La Pampa
LU1VA-LU9VZZ	Rio Negro
LU1WA-LU9WZZ	Chubut
LU1XA-LU9XZZ	Santa Cruz
LU1XP-LU9XAA	Tiera del Fuego
LU1YA-LU9YZZ	Neuquen
LU1ZA-LU9ZZZ	Antartic Bases

LU10 DL (LU 10 doble letras)

Awarded to amateurs working 10 stations (at least one must be an LU) with double letter prefixes from 1 to 0 without repeating the pair of letters (such as PY1AA, CP2FF, LU5BB). Any band/mode. Starting date: January 1, 1965.

RCA (Radio Club Argentino)

Awarded to amateurs working stations (at least one must be an LU) to form the words Radio Club Argentino using only the first two letters after the call-sign suffix. Examples:

CT1RA, OK3DI, PY2OC, W8LU, LU3BAC. Any band/mode. Starting date: January 1, 1965.

AUSTRALIA (VK)

The *Worked All VK Call Areas (WAVKCA)* Award is offered by the Wireless Institute of Australia (WIA) for working and confirming contacts with the various call areas of the Commonwealth of Australia. All VK amateurs and all amateurs who are members of their IARU-affiliated National Society are eligible for the award. Twenty-two (22) QSOs are required (73 for VK amateurs) as follows:

Territory	Call Area	Req QSOs/QLs
Australian Antarctica		
Herald Island	VKØ	1
Macquaire Island		
Australian Capital Territory	VK1	1
State of New South Wales	VK2	3
State of Victoria	VK3	3
State of Queensland		
Thursday Island	VK4	3
St of South Australia	VK5	3
St of Western Aust	VK6	3
St of Tasmania		
King Island	VK7	3
Flinders Island		
Northern Territory	VK8	1
[All VK9 Territories]	VK9	1

Contacts must have been made from January 1, 1946 on.

Any band/mode, but crossband contacts not allowed. Maritime and aeronautical mobile contacts do not count, but land-mobile and-portable contacts are valid provided the QSL card shows the station location at time of contact. Send a certified log extract (in lieu of the actual QSLs), verified by an official of the applicant's IARU Society or two licensed amateurs, application and 8 IRCs to: The Federal Awards Manager, Wireless Institute of Australia, John Keller, VK3DP, PO Box 175, South Caulfield, Victoria 3161, Australia.

In addition, approximately 60 awards are issued by local clubs in Australia. Contact the Federal Awards Manager for further information.

AUSTRIA (OE)

Except where otherwise noted, applications for Austrian awards should be sent to the Austrian IARU Society (OVSV) as follows: OVSV HQ, International Awards Manager, Theresiengasse 11, A-1180 Vienna, Austria.

WAOE (Worked All Austria)

North American amateurs must work eight of the nine OE call areas on any band (different requirements apply to European applicants). Awards are issued as mixed and SSB. A separate 160-meter award, WAOE-160, is also available, for working four OE call areas on 160. Send verified list

of QSLs and 10 IRCs.

OE 100

This certificate is issued for working at least 100 different OE stations. Contacts must be made on any mode and band that OE stations can legally operate. All contacts must be made from the same country and must be made after April 1, 1954. Endorsement stickers are available for 200,300... different OE contacts. Send certified list and 10 IRCs (2 IRCs for each endorsement).

WLOE (Worked District Locators in Austria)

Each OE call district has its own three-digit "District Locator" (ADL). For the basic award, 30 different ADLs must be worked in at least six different OE call districts (OE1-OE9). ADLs in the block 001-099 count as a separate call district. Contacts from January 1, 1968 are valid.

The WLOE award is available for mixed HF and CW HF. Endorsement stickers are issued for each additional 10 ADLs and a special 160-meter sticker for working 10 ADLs on 160. QSLs are not required for contacts made during the WAOE 160-Meter International Contest.

To apply, send a certified list of QSLs and 10 IRCs (4 IRCs for each endorsement sticker). Note: Only OVSF members have an ADL number and only those stations count for the award.

WPXZ 15 (Worked Prefix Zone 15 Awards)

This award is offered for working stations in three classes:

Class 1-15 countries and 50 prefixes

Class 2-12 countries and 40 prefixes

Class 3-8 countries and 30 prefixes

Contacts must be made with the following countries (by prefix): HA, HV, I, IS, IT, OH, OK, T7, TK, UA2, UR, UP, UQ, YU, ZA, 1A0, 4U1VIC, 9H. Starting date: January 1, 1958. Send verified list of QSLs and 10 IRCs to OVSF-LV OE1. Eisvogelgasse 4, A-1060 Vienna, Austria. Endorsement stickers-2 IRCs.

WIEN Diplom (Vienna Award): This award requires contacting Vienna districts as follows: Class 1-all 23 districts, Class 2-15 districts. Vienna stations (OE1) should be asked to clearly mark their district on their QSL card. All bands/modes. Send certified list and 10 IRCs to OVSF-LV OE1, Eisvogelgasse 4, A-1060 Vienna, Austria.

WDRA (Worked Danube River): This award is issued for working countries adjoining the Danube River. To qualify, work 15 DL stations, seven OE stations (one of which must be an OE1), five HA stations, three YO stations, three YU stations, two OK stations, and one each from LZ and UO5. Send certified list & 10 IRCs to OVSF-LV OE1, Eisvogelgasse 4, A-1060 Vienna, Austria.

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EASY STEPS FOR "EASY SAT"

by Oar Udnib
(Courtesy Bindu, VU2IR)

(Continued from last issue)

Did you read Part I of "Easy Steps"? Then, may be you scanned the magazine from cover to cover without finding the "Time Table"? The reason, you did not find it is because it wasn't there. It was missing because of a real good Goof Up.

Seems, the topic of "Birds" turns things a bit Bird Brained! And the only thing to be said about that now is "Sorry, so very sorry". But to make up for that, here in "Part II" there is additional information on one more, may be two more satellites. DIL MANGE MORE? Then, please do write in. Your response and feedback to the Editor would surely result in a fat HRN full of all the things your DIL wants. Satellite schedules, Circuits, Designs, Features for all tastes and lots of interesting things.

There is some basic info for RS-12/13 in the "Box". It is not the idea here to provide a flood of Data, rather to pass on necessary info to GET YOU GOING, on the satellite. Increased interest amongst VU's in working through satellite is already in evidence of late more and more VUs have been heard on the Satellite. A few calls that come to mind are VU2KOC "Om", VU2BRJ "Joshi", VU2RRN "Raju", VU2OO "Guptaji", VU2USA "Sam", and VU2AVG "Avi". The regulars like VU2UR "Arasu", VU2LX "Laxman", VU2SL "Dalvir", VU2RMS "Ramesh", VU2DX "saif", VU2DPD "Dipu" and others are there on the satellite of course. Hopefully the veterans will come out of hibernation and QSO the new faces. It would be just wonderful to find every state and region of VU on the Satellite scene. The, "Worked All VU via Satellite". Award could be a reality.

Equipment: Costly, high power Transceivers are NOT a must. RS-13 satellite can be accessed and enjoyed with simple low powered (and low cost!), home brew rigs. A CW, QRP Tx, running a few watts will get lots of enjoyable QSOs. Even if the Tx VFO drifts a little, it is no problem at all. The Doppler effect moves signals around far more than a drift VFO would!

If a voice QSO's is what you want, a Double Side Band (DSB) rig is worth considering, (but keep the info to yourself if you do go DSB!)

A single band DSB Tx is low cost and fairly simple, and nobody on the satellite will ever know that you were not on SSB! DSB is ok also for regular HF QSO's, but be warned, a receiver without SSB filter will find the signal odd and critical to tune and you will be found out, but, do not worry, in this game- sab chalta hai!

Ah! I see the cold stare of Editor Sahib. He is not exactly

pleased! "No Mr. Editor Sir, I don't mean to encourage poor op standard on the band. Just being- Practical." The 10 meter band (Down Link) receiver deserves your best effort. The Rx must have its own separate antenna, and should not be desensed (overloaded) by the 15 meter Up Link Tx, if you want to hear yourself through the satellite. If a Ham Band Rx (with a BFO) is available in the station, a Converter is the best solution for the Down Link.

A Preselector / Preamplifier would do very well if the Rx covered the Down Link frequency band. The Rx should have good front End selectivity not only to keep the Image response down but also not to get blocked up by the UP Link.

Your views and feed back. This is the real issue! What keeps you from showing up on the satellite? Information on the Bird? You already have it. Don't possess a Ten meter receiver? What you do already possess could probably be modified to pull in the satellite. Your views and Feed back on your problems to the editor will prompt a whole lot of designs, ideas and solutions to flow from young home brewers and veterans. The same goes for the Fifteen Meter Up Link. Your Feed back will surely result in New designs, (or old ones in new bottles) or Mods to emerge from the fertile minds and hands of the Home Brewers. You have to start the ball rolling. All the best, good luck and see you on the satellite!

Other "Easy Sats"

The AO-27 Satellite looks like it is specially made to the order of FM operators. A VHF Hand held and a UHF Hand held, just these two (or a Dual bander) will let you work through this satellite. There are a few already working via the sat. A good omni or a small beam on each band is usable. One or two experimenters, VU2SL is one with VHF hand held only, have heard their own voice via the AO-27, relayed back to them on HF by others who copied them on UHF. An improvised UHF receiver will see them fully active two way on the satellite. Up Link is 145.850Mhz. FM. Down Link is (nominal) 436.800Mhz FM "STENSAT" is to be launched on 15th of October. This would be similar in use as AO-27. Up Link is 145.840Mhz FM. Down Link is (nominal) 436.652Mhz FM. For Schedule see pages 15 to 19.

RS-13 Satellite

Launched in late 1988.

Height: 990 Kms.

One Orbit: 104.79 minutes

Inclination: 82.9 degrees

(Polar Orbit)

Foot Print: 6400Kms

Beacon Power: 0.45 or 1.2 Watts

Transponder Power: 8 Watts PEP

Interesting URLs:

"Just Leave It There"

by O.Arudnib

(Courtesy Bindu, VU2IR)

Here is an Antenna story that will have the "Perfectionists" and "Purists" pulling a long wry face. As for the others, the happy go lucky, "Sab Chalta Hai yar" gang, this story would put Tendulkar sized grins on their faces!

This was the experience of old timer "SURI" VU2BR, now sadly, a silent key. Suri was a much admired ham for his sound technical savy, for his helping nature and his thoroughness. He would recount this story whenever he found an over careful, finicky kind of ham, worrying a little too much, about some antenna detail.

Around the time just after WW2 (World war 2), the communications network of the railways was mostly on HF and used mostly WW2 equipment. Old Man Suri was the 'Chief' in charge of setting up and running the network. Now, in the net, it happened that the link between Chennai and Gudur was an important one, but, there had been problems. And also grumbling and repeated complaints of "Weak signals from Chennai: by the operators at Gudur. Apparently things had gone chronic. Finally, Om Suri decided to do the Trouble Shooting himself.

Suri found the transmitters and receivers "A-OK". So, it was really the Antenna or "Aerial" (as it was called in those days) at Chennai, that needed looking into. But, the antenna too looked pretty much OK. The orientation was right. All the insulators were fine and the Line was OK too. The only thing left which called for attention was the Launch angle, which really meant, the antenna HEIGHT. It looked like "Fine Tuning" the height, would definitely do the trick.

So, Suri went about organizing the Fine Tuning exercise. For this he arranged a land line (telephone) connection at the receiving station and a connection at the antenna site also. The idea was that after every change in the antenna height the receiving station would report back the signal strength, and the best height could then be easily determined. The plan was simple straight forward and fool proof, and likely to go smooth as butter. Things in fact did run this way initially, if one ignored the fact that the landline link was a little less than perfect and weather wise, this was hot sweaty coastal area and not the cool Nilgiri Hills!

The work force of hired 'casuals' was split up into two groups, one each at the base of a mast, hand on the rope, ready to lower or haul up the antenna on command. The first command, just to get the men 'feel' of the job, was to lower the antenna right down to ground level. This was executed nicely and with enthusiasm though the antenna was heavy and wanted a good firm hand on the halyard, because the pulleys tended to stick a little, not having been in use for a long time. Next, the antenna was pulled up, back gain to its maximum height.

Now the operation began in right earnest. The crew

were told to bring the antenna down a couple of feet at a time and hold it steady at each level while a test signal was transmitted. Then, the telephone was anxiously grabbed to hear the report from the receiving station. It was expected, more than hoped, that as the antenna was lowered, at some stage the receiving station would come out with a solid report of "Good Signals". But, no such report was heard even though the antenna had been lowered to a ridiculous low height. However, nobody was perturbed at this stage as the first effort was considered something in the nature of a "Dummy Run". Up went the antenna again and the Test Calls were resumed as the crew lowered the antenna. The reports were the same, "Poor Signals", right down to the lowest height. This time the Antenna was hauled up in stages and test calls put out as done earlier. The report too was as earlier, "Poor Signal". At this stage it occurred to some one to recheck the Feeder connections, just in case there was a problem there. Since the antenna had to be lowered to do that, it was thought "As Usual", test calls might just as well be sent out. Frustratingly, the reports too were "As Usual"! As for the Feeder connections, - they were perfect.

As the sun rose the "Drinks Break" of the sweaty crew became more frequent and longer. Mutterings and Comments like "is this really the way" were heard. Frustration was fuelling irritation as the antenna did its familiar Up and Down trip, while the reports were always the same- "Poor Signals". Tempers were getting frayed as were the antenna ropes. Funny remarks from the receiving station were only adding to the misery. Having exhausted all good reasons for taking up the antenna once again it was decided to just do it- "For one last time". The receiving station operator was told sternly to "Listen very carefully", which he had been doing all along in any case. The antenna began its trip once more. But, it was one trip too many! As the crew strained on the rope, it parted. With a fierce screech of the pulleys, the antenna came whistling down and hit the ground with a whiplash crack, and it lay there in the mud, in a great untidy tangled heap. As the dust settled there was a stunned silence all around. Men stood frozen like statues. And then suddenly, the eerie silence was shattered by a high pitched voice coming out of the telephone. The telephone was now the centre of attention. Om Suri picked it up and there was the excited receiver operator, frantically yelling into the mouthpiece "Fantastic signal. What have you done? Never heard you better. For God's sake, make no more adjustments to the antenna. JUST LEAVE IT THERE!

NOTE: The A.G.M is scheduled sometime in February-March 2000. In the next issue of H.R.N a few amendments to the constitution rules will be published. Look out for the notice of the A.G.M in the next issue.

News Items

By Bindu V U2IR.

Stensat

Good news for satellite enthusiasts! "Stensat" will be flying on 15th of October. Stensat is similar to AO-27, but much smaller in size. Stensat is only about 12 cubic inches and 8.2 ounces. Smaller than a Micro sat, it is labeled a "Pico" sat. Like AO-27, it is an FM sat. Up link is on VHF 145.840 Mhz FM. A Hand held vhf should do nicely for the uplink, specially with a small beam. Downlink is on UHF around 436.625 Mhz. Stensat power output is around 250 Milliwatts. A Dual bander or separates with a beam antenna should do very nicely to work through the Stensat. There would also be periodic 1200 baud AX.25 transmissions. Stensat orbit is at 750 Kms and period is 99 minutes. There are a few VU's already working through the old AO-27 satellite. For the AO-27 uplink is on 145.850Mhz. FM and down link is around 436.800 "Around ?" - Doppler shift makes the frequency go up and down a little.

P3D Satellite

P3D has passed the vibration tests and is now back 'Home'. So far so good! One can hardly say any more. This satellite is designed to provide hours of DX QSO's with reasonably simple set up. Lets you Rag Chew via satellite!

RS-13 Satellite

The list of VU users is growing! Soon they will bag via satellite 4x4 (Israel), 5Z4 (Kenya), 4s7 (Sri Lanka) and S21 (Bangladesh). Other DX too for sure.

Congratulations!! ARASU VU2UR

Congratulations to Arasu! International Amateur Radio Union (IARU) has appointed Arasu the official "Monitoring Co-ordinator" for Region-3. Arasu is absolutely 'The' man for the job. The job and he are made for each other.

Now lets do one thing, and here is how-to get it rolling. Attention! Attention All SWLs and Amateurs. Please note down, all things, any thing and everything of "interest" that you might have monitored on the bands, (and certainly there are lots of 'interesting' things happening). These may now be reported for further action to our own VU2UR, Om Arasu, the Monitoring Co-ordinator for our region. And what exactly are "Interesting" things?? Well, like spotting non amateur stations, ("intruders"), on our bands, Spurious emissions from broadcast and commercial stations spilling on to our frequencies, Propaganda stations and their Jammers fouling up amateur activities, etc.

You may also report any "Odd" happenings on the Broadcast bands. Be a Monitoring station. Ask Arasu as to how one can go about this all important work. This is a positive way to clean up and improve the Ham Bands.

Get "Personal" at your own risk!

Heard on the 20 meter band.

Ham A: "What was all that about? You sound like you have been QRMed?"

Ham B: "Yes Yar, this chap, I met him for the first time and straight away he asks all kinds of Personal questions. So I told him I had 13 harmonics and I was a Bachelor" Get "Personal" if you must, but at your own risk! !

Letters to Editor

From: N.Gururaj, VU2GUR
181 (21), S.B. Road, V.V.Puram,
BANGALORE: 560 004

Dear Sir,

Regarding "Pixie II", I have also used "Pixie" and made many QSO's. The longest distances for me has been a QSO with VU2EN on 10/12/98 both ends with good reports. VU2EN, 'Kelkar' is in Poona and my location is in Bangalore. My first QSO with Pixie was with VU2DUC "Durai" in Bangalore. I also had QSO with these stations VU2RRN Raju, VU2PNS Sharma (Kerala), VU2RJN Rajan (CW net control) and VU2IR Bindu. The only problem I had with Pixie was from phone stations working on 40 meter CW portion of the band.

I have a photograph of the Pixie transceiver and I will send it to you as soon as possible. I would like to see more CW activity on bands. Also I hope the phone operators will honour the gentlemen's agreement of keeping away from lower side, that is, CW portion of the band. I earnestly hope all operators will contact and encourage QRP operators. Regarding the article on SWR Bridge published earlier. I found the article very interesting, but you have left out the name and call of the author.

I like Ham Radio News very much and I would like to see more constructional articles for Home Brewing also reprints from DX magazines like QST, 73, RSGB, Practical Wireless etc.
Best of 73.

From: Bindu VU2IR, Bangalore.

Dear Sir,

I was delighted to see "Pixie" in HRN (July/Sept 99). The little rig deserves wider publicity and I am sure more number of VUs will learn about Pixie via HRN.

I had very enjoyable contacts with two Amateurs who were on Pixies, VU3CRJ "Jay" and VU2GUR "Gururaj". The contacts were on the 40 meters band. Both stations are located in Bangalore. It was no surprise that VU2GUR was 20 DB's over S9 with me, as he is only about 3 kms away. But, VU3CRJ, who is much farther away, was also quite strong, running S8/9. To the credit of the Pixie receiver it must be said that both stations copied my CW & SSB quite well. Surprisingly good. With the Pixie Gururaj has worked into Kerala and best of all, he had QSOed VU2EN in Pune!

It would be nice to work more QRP stations and to hear of their achievements. Hope QRP fans will write in All the best and 73.

de Bindu VU2IR.

QRZ? A NEW BREED !!!

"QRZ?" seems to have acquired a fairly flexible and new meaning these days. Current usage seems to indicate "QRZ?" now means "CQ" also "QRL?" One often hears, Ops on voice mode (!), calling out "QRZ?" "QRZ?" "QRZ?", when there was not a chance, possibility or hope of anyone having called them earlier. "Break" "Break" "Break"... Time was when, if any op wanted to join an on going QSO, he would wait patiently till it was appropriate and opportune, like when the over was just being passed on, to indicate his presence, (usually) by saying - "VU2** on frequency". The Op would attempt to join a QSO only if he thought it was prudent and not ill mannered to do so. Nor would he join if it meant he was intruding or likely to disrupt the QSO or Experiment.

Present day practice seems to be a little different. On the 40 meter amateur band one finds what must have originated on the CB band. Ops join a QSO saying "Break, Break Break....." without giving their Call, or simply announcing "Breaker" again without mentioning one's call. All QSO's are fair game, and it seems to be quite OK to simply butt in unceremoniously into any ongoing activity. Ops are strangely reluctant to mention their Calls. Overs are passed back and forth, telephone fashion, never mentioning the Call. Even long transmission of "Haaaalloooo.....Haaaalloooo....." are made without any attempt to identify. The present day operating procedures are obviously in tune with the need of the times. There are no complaints.

(Courtesy BARC Newsletter)

Ham Society challenges licence denial

The Madras High Court has ordered notice on a writ petition praying for a direction to the authorities concerned to grant licence to establish and maintain an Amateur Wireless Telegraph Station as provided under the Indian Wireless Telegraphs (Amateur Service) Rules, 1979.

Justice P.D.Dinakran ordered notice to the Telecommunications Department on a writ petition from K.R.Ahamed Mohideen, assistant secretary of Kayalpattinam Ham Radio Society, Tuticorin district, challenging the rejection of amateur radio licence.

The petitioner contended he had successfully completed the Amateur Station Operations Certificate Examinations in February 1992. But, he was not given the licence to operate an amateur wireless set. He made several

representations to the authorities concerned. But his request was rejected.

(Courtesy: Chennai Edition of The New Indian Express, dated August 10, 1999).

Special Events

Following the initiative of the Brion Bott, Secretary of the Tauranga Diabetes Society, New Zealand and also Secretary of the Puke Amateur Radio Club, who licenced Special Events Amateur Radio Station ZL6DNZ to celebrate World Diabetes Day November 14, 1999 and will be transmitting around world wide on 14.2 Mhz and 7.1 Mhz SSB and CW through out the day.

Slovenian Diabetes Association, the full Member of the International Diabetes Federation (IDF) and its regional organization for Europe (IDF/Europe), together with Slovenian Radio Club announces the first Special Events Amateur Radio Station S55T on a country basis to celebrate World Diabetes Day and to arise public awareness of diabetes.

S55T will be transmitting worldwide on November 14, 1999 through out the day.

10 m:	28.480 SSB	28.015 CW	28.085 RTTY
15 m:	21.220 SSB	21.020 CW	21.085 RTTY
20 m:	14.220 SSB	14.020 CW	14.084 RTTY
40 m:	7.050 SSB	7.015 CW	7.035 RTTY

Any licensed radio ham who makes contact with us will receive a special QSL card via QSL Office to confirm celebration of the World Diabetes Day and communication.

Regards,

Joze Snoj, S52ZG, President of the Slovenian Diabetes Association, member of the Slovenian Radio Amateurs Association.

Ivo Jereb, S57AL, Robert Bajuk S57AW, Vito Kregar S56M-Radio Club Radomlje S55T.

REF Contest (Championnat de France)

The Reseau des Emetteurs Francais (REF) invites the radio amateurs worldwide to participate in the REF Contest, the Championnat de France. Bohect of this contest is to establish as many contacts as possible between radio amateurs around the world and French radio amateurs.

Date: CW: each year on the last full weekend of January (2000: Jan 29 and 30)

SSB: each year on the last full weekend of February (2000: Feb 26 and 27)

From Saturday 0600 UTC to Sunday 1800 UTC

Object: Foreign stations work as many French stations as possible once per band French stations are: Stations in France (mainland) or Corsika (F, TM, TK)

Classes: Single operator-Multi Operator one TX-SWL.

Bands: 80, 40, 20, 15, 10 (IARU Contest sub-bands).

A Night With the Radio at Talapadi

by VU2RDO-Mangalore Amateur Radio Club,
Oct 1-2

Hams are strange people. While travelling, they would rather look at roof-tops of other peoples homes than what's below them! Mangalore Hams are a lot more stranger. Any new place visited which has good surroundings, elevation and isolation look like field-day sites to them!

So, when Chandra-VU2RCT strayed away curiously from a hotel on the NH-17 highway after a tea-break during a car trip, little did he know that he would discover the perfect site for the next field trip - *A night with the radio.*

After he returned home, a couple of landline calls later, a field day was arranged. TALAPADI, 17 km south of Mangalore was the location, Arabian sea on the horizon, NH-17 on the other side, and a slight elevation made a perfect site. Although just about 20 feet off the highway, this site, fully covered with tall trees making it invisible on the highway.

11 Hams + 2 SWLs make a fine-business 'field-night'. This was an 'evening-to-daybreak' operation, not a minute to be wasted, full 12 hour operation. We took off from our workplaces around 5.00 pm. It was a 20 minute drive from Mangalore. By 7.00 pm all equipment was wired and antennas went up. Had some snacks/dinner and adjusted to our operating positions.

Station Setup: Two cars were converted into shacks and equipment wired up in the boot with chairs for 2 ops each. Two truck batteries powered the radios and stations lighting. The antennas were a 3-band GP and a G5RV. One of the stations was equipped for all digital modes, with a laptop computer and TNCs. The initial problem was to connect the laptop to a 12V battery. Laptop batteries don't last very long, moreover they don't work on 12V. Murthy-VU2MTT had to undergo a 45 minute back-breaking ordeal after which he succeeded booting up the computer through a homebrew DC/DC converter and a cooling fan. This was then hooked up to the TNCs and a FT-840. Finally the digital station was up.

By this time the station in another car (FT-757gx) had already taken the log to page-2. We worked digital modes one by one-RTTY, Pactor, SSTV, CW. The other station was exclusively SSB phone.

Midnight:..... is the time when weak souls retire. Big boys operate in the night! We hooked up with OE4XBU, an Austrian BBS/e-mail gateway and sent radio e-mails to some VU and DX friends. Then we went on SSTV mode and captured some DX sstv pictures from thin air! The SWLs jaws dropped when they had the look of the things to come. The night is young! Only sissies go to bed!

1.30 am: We went on RTTY. This being a weekday, there weren't many stations on this mode except for a few strong

ones. Logged them.

The bands were going down! Nobody understands the night bands better than VU3NAX-Abdul, the nocturnal DXer. He was summoned to take over the mic while Chetan-VU3DMP manned the other station. They pounced on any station that surfaced on the bands and logged them. Surprisingly not a single curious onlooker appeared at our site, except for a few stray dogs who apparently came to inspect their scent-marked territories. We ignored them, they ignored us. No harm done.

3.00 am: Which sane persons would discuss technical problems at this unholy hour? Hams of course! While some worked DX, others sat on the ground on different poses for some technical discussions. The logs were slowing down. It was time to call Murthy for some wholesale CW fisting. But it looked like his back was hurting bad. He had gone horizontal on the back-seat of one of the cars. Guru-VU2GPM then made some QSOs on CW on the dead-band.

3.30 am: Droppy eyelids! But the radio had to keep glowing. Rohit-VU2RDQ made some piping hot 'chai'. The brew shot up the eyelids and the eyeballs popped out again. The 'threshold of sleep' had passed. Abdul and Chetan picked up the microphone again.

5.00 am: We heard two VU stations on 40m- one on CW and another on SSB calling CQ-DX. Our assumptions were wrong. Only now we knew that there ARE other VUs who are DX fanatics!

6.30 am: The clock in the shack had done a full circle. Chandra-VU2RCT called for closing station by 7.00am. Since it is a working day (for most of us), we have to report to our respective MQTHs. But the boys insist that we check into the MARC VHF net, Charminar Net and Belgaum Net before winding up. And so we did- one by one, while another station was being unplugged.

7.30 am: Packed and loaded, we re-fueled with some hot tea for the road followed by leftovers and a group photo. We started our engines. Rohit/Sukanya both eco-fanatics insisted that we don't leave behind even a square inch of paper/plastic, bio-degradable or not! A habit for everyone to endorse. So, leaving no trace we hit the road after making a point that we would return again to another place, another time within next two months to spend another '*Night With the Radio*'!

Lessons learnt

- * On a field-day, don't rely on a single antenna. Have a backup.
- * Carry a spare HF radio. Don't use them simultaneously if one of them is on digital mode.
- * Bands can go dead anytime. Call CW on dead bands.

Participants: VU2RCT- Chandra VU2RDQ-Rohit VU2MTT-Murthy VU2PAI- Pai VU2GPM- Guru VU2RDJ-Sukanya VU3THK- Ravi VU3DMP- Chetan VU3NAX- Abdul VU3FEN- Sukumar VU3FEK- Laxminarayana SWL- Anil SWL- Sundeep

Letter from the Ministry of Defence

No.2880/US (MP)/N-II/98

Government of India, Ministry of Defence

To,
The President
Amateur Radio Society of India
4, Kurla Industrial Estate, Ghatkopar,
MUMBAI

Subject: Expedition to Andaman, Nicobar & Lakshadweep Islands by Amateur Radio Operators.

Sir,

I am directed to refer to your letter No.ARSI/MOD/EXP/97 dated May 22, 1998 and Oct 16, 1998 to RM on the above subject and to say that the request of your Society cannot be acceded to due to the Security implications.

Yours faithfully,
(S.L.Bunker)
Director (CG)

D.N.PAYMASTER

Court View, 126,
M.Karve Road,
Churchgate,
Mumbai-400020

August 19, 1999

Elections to the Governing Council 1999-2001

As per the notification for the elections to the Governing Council of the A.R.S.I. issued by me on the 31st May, 1999, the following nominations have been received by the stipulated date viz. 5th August, 1999:

1.	VU2SDN	Saharuddin	President
2.	VU2GJR	Dr.M.Gajapathy Rao	Vice-President
3.	VU2AF	A.B.Shepherd	General Secretary
4.	VU3PVN	P.Venkataraman	Hon.Treasurer
5.	VU2SWS	Sarla Sharma	G.C.Member
6.	VU2DPD	D.P.De	G.C.Member
7.	VU2DCT	D.C.Sharma	G.C.Member

The nominations were scrutinized and found to be in order. Since there exists a vacancy for a Governing Council member the same can be filled up, if needs be, by co-opting a member.

Since there are no contests for the above posts, I declare the nominees as elected for the nominated posts.

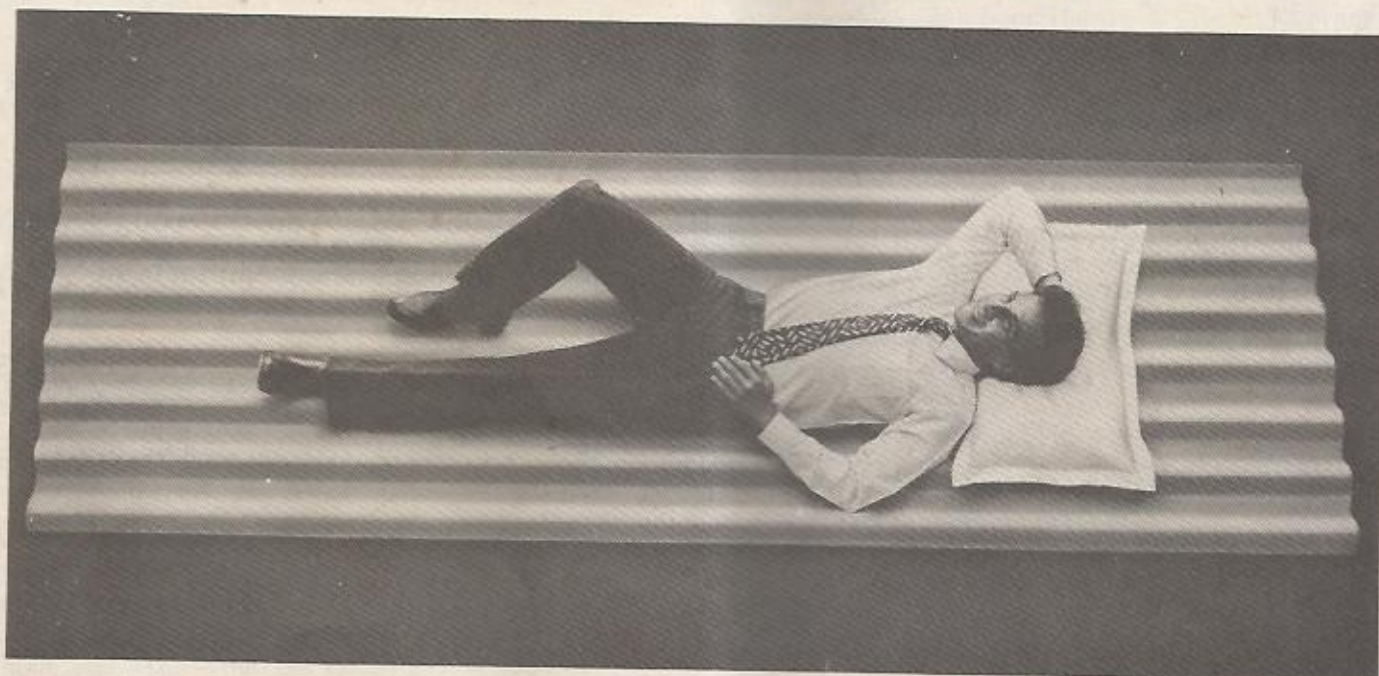
D.N.PAYMASTER
RETURNING OFFICER

NOTE:

1. VU2ST has been retained as Editor for "HAM RADIO NEWS."
2. The Managers for the QSL Buro remain unchanged. 13


Eternit Everest Ltd.
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For discussions, please contact: Customer Service Cell, Eternit Everest Limited, "Ashok Bhawan", 93, Nehru Place, New Delhi - 110 019.
 Tel.: 643 2568, 643 2569. Fax: 646 4006. E-mail: info@eterniteverest.com
www.eterniteverest.com

SCHEDULE FOR SATELLITE RS-12/13 FOR CENTRAL INDIA

DATE/ORBIT	AOS	MAX	LOS	EPOCH	EL	AZ	DATE/ORBIT	AOS	MAX	LOS	EPOCH	EL	AZ
03NOV-43851	052715	052945	053216	03NOV	1	279	16NOV-44028	024048	024856	025704	16NOV	28	271
03NOV-43856	151120	151948	152816	03NOV	51	90	16NOV-44034	123241	123828	124415	16NOV	8	84
03NOV-43857	165832	170530	171229	03NOV	14	282	16NOV-44035	141441	142317	143154	16NOV	76	282
04NOV-43863	021947	022804	023620	04NOV	30	82	16NOV-44036	160447	160922	161358	16NOV	4	286
04NOV-43864	040523	041326	042129	04NOV	27	270	16NOV-44040	234149	234532	234914	16NOV	2	73
04NOV-43869	135704	140300	140856	04NOV	9	85	17NOV-44041	012249	013142	014035	17NOV	62	81
04NOV-43870	153906	154747	155629	04NOV	73	274	17NOV-44042	031002	031644	032327	17NOV	12	274
04NOV-43871	172955	173404	173812	04NOV	4	287	17NOV-44048	125834	130613	131352	17NOV	22	87
05NOV-43876	010610	011002	011353	05NOV	3	74	17NOV-44049	144315	145129	145943	17NOV	34	280
05NOV-43877	024721	025613	030506	05NOV	65	83	18NOV-44054	000706	001358	002049	18NOV	12	76
05NOV-43878	043440	044108	044737	05NOV	11	275	18NOV-44055	015056	015949	020842	18NOV	62	269
05NOV-43883	142307	143046	143825	05NOV	23	88	18NOV-44056	034108	034415	034722	18NOV	2	279
05NOV-43884	160752	161602	162412	05NOV	33	279	18NOV-44062	132541	133409	134237	18NOV	48	88
06NOV-43890	013135	013835	014535	06NOV	13	78	18NOV-44063	151240	151947	152655	18NOV	15	283
06NOV-43891	031529	032417	033305	06NOV	59	269	19NOV-44068	003409	004226	005043	19NOV	28	81
06NOV-43892	050601	050850	051139	06NOV	1	278	19NOV-44069	021939	022747	023555	19NOV	28	271
06NOV-43897	145013	145841	150709	06NOV	51	90	19NOV-44075	121135	121722	122309	19NOV	8	84
06NOV-43898	163722	164421	165119	06NOV	14	282	19NOV-44076	135323	140205	141046	19NOV	77	276
07NOV-43904	015840	020656	021513	07NOV	30	81	19NOV-44077	154350	154825	155301	19NOV	4	287
07NOV-43905	034414	035217	040020	07NOV	27	271	19NOV-44081	232044	232418	232752	19NOV	2	73
07NOV-43910	133557	134153	134749	07NOV	9	84	20NOV-44082	0101471	011034	011927	20NOV	62	81
07NOV-43911	151758	152639	153520	07NOV	74	274	20NOV-44083	024852	025535	030217	20NOV	12	274
07NOV-43913	170840	171257	171715	07NOV	4	287	20NOV-44089	123726	124500	125235	20NOV	22	88
08NOV-43917	004504	004847	005230	08NOV	3	73	20NOV-44090	142157	143016	143836	20NOV	35	280
08NOV-43918	022613	023505	024358	08NOV	64	83	20NOV-44095	234600	235251	235943	20NOV	12	77
08NOV-43919	041330	042003	042637	08NOV	11	274	21NOV-44096	012948	013841	014734	21NOV	63	270
08NOV-43925	140200	140938	141717	08NOV	23	88	21NOV-44097	031956	032312	032628	21NOV	2	278
08NOV-43926	154644	155453	160303	08NOV	33	279	21NOV-44103	130431	131259	132127	21NOV	48	88
09NOV-43931	011027	011723	012419	09NOV	13	77	21NOV-44104	145131	145838	150546	21NOV	16	283
09NOV-43932	025421	030309	031157	09NOV	60	270	22NOV-44109	001302	002119	002935	22NOV	28	81
09NOV-43933	044447	044736	045025	09NOV	1	279	22NOV-44110	015831	020639	021447	22NOV	29	271
09NOV-43939	142905	143733	144601	09NOV	50	89	22NOV-44116	115029	115612	120155	22NOV	8	84
09NOV-43940	161611	162314	163016	09NOV	15	283	22NOV-44117	133214	134100	134946	22NOV	78	284
10NOV-43945	013732	014548	015405	10NOV	29	81	22NOV-44118	152219	152703	153148	22NOV	5	286
10NOV-43946	032305	033108	033912	10NOV	27	271	22NOV-44122	225939	230304	230629	22NOV	2	72
10NOV-43952	131454	132040	132627	10NOV	8	85	23NOV-44123	004033	004926	005819	23NOV	61	81
10NOV-43953	145654	150535	151416	10NOV	75	281	23NOV-44124	022743	023426	024108	23NOV	12	275
10NOV-43954	164727	165145	165603	10NOV	4	287	23NOV-44130	121618	122357	123136	23NOV	21	87
11NOV-43958	002359	002742	003125	11NOV	3	73	23NOV-44131	140049	140908	141728	23NOV	35	279
11NOV-43959	020505	021358	022250	11NOV	64	82	23NOV-44136	232453	233144	233836	23NOV	12	77
11NOV-43960	035220	035854	040527	11NOV	12	275	24NOV-44137	0140840	011733	012625	24NOV	63	270
11NOV-43966	134054	134832	135611	11NOV	22	87	24NOV-44138	025844	030209	030534	24NOV	2	277
11NOV-43967	152534	153349	154203	11NOV	33	281	24NOV-44144	124322	125150	130018	24NOV	47	89
12NOV-43972	004920	005616	010312	12NOV	13	77	24NOV-44145	143022	143729	144437	24NOV	16	283
12NOV-43973	023313	024201	025049	12NOV	61	271	24NOV-44150	235154	000007	000819	25NOV	28	80
12NOV-43974	042332	042629	042927	12NOV	2	279	25NOV-44151	013722	014534	015347	25NOV	29	270
12NOV-43980	140757	141625	142453	12NOV	50	89	25NOV-44157	112922	113501	114039	25NOV	8	84
12NOV-43981	155501	160208	160915	12NOV	15	283	25NOV-44158	131105	131951	132837	25NOV	79	284
13NOV-43986	011624	012441	013258	13NOV	29	81	25NOV-44159	150106	150559	151053	25NOV	5	286
13NOV-43987	030157	031004	031812	13NOV	28	270	25NOV-44163	223835	224200	224524	25NOV	2	72
13NOV-43993	125347	125934	130521	13NOV	8	85	26NOV-4164	001925	002818	003711	26NOV	60	80
13NOV-43994	143545	144426	145307	13NOV	75	282	26NOV-44165	020634	021316	021959	26NOV	13	275
13NOV-43995	162611	163038	163504	13NOV	4	287	26NOV-44171	115509	120244	121019	26NOV	21	88
14NOV-43999	000252	000634	001017	14NOV	3	73	26NOV-44172	133940	134759	135619	26NOV	36	279
14NOV-44000	014357	015250	020142	14NOV	63	82	26NOV-44177	230346	231038	231729	26NOV	12	77
14NOV-44001	033111	033749	034427	14NOV	12	274	27NOV-44178	004732	005624	010517	27NOV	64	271
14NOV-44007	131946	132720	133455	14NOV	22	88	27NOV-44179	023733	024058	024423	27NOV	2	278
14NOV-44008	150416	151235	152054	14NOV	34	279	27NOV-44185	122213	123042	123910	27NOV	47	89
15NOV-44013	002813	003509	004205	15NOV	13	77	27NOV-44186	140904	141621	142338	27NOV	16	283
15NOV-44014	021204	022057	022950	15NOV	61	268	27NOV-44191	233047	233859	234712	27NOV	28	80
15NOV-44015	040220	040526	040833	15NOV	2	278	28NOV-44192	011605	012421	013238	28NOV	29	272
15NOV-44021	134649	135517	140345	15NOV	49	89	28NOV-44198	110815	111354	111932	28NOV	8	84
15NOV-44022	153350	154058	154805	15NOV	15	283	28NOV-44199	124955	125841	130728	28NOV	80	284
16NOV-44027	005517	010333	011150	16NOV	29	81	28NOV-44200	143952	144446	144940	28NOV	5	286

DATE/ORBIT	AOS	MAX	LOS	EPOCH	EL	AZ	DATE/ORBIT	AOS	MAX	LOS	EPOCH	EL	AZ
28NOV-44204	221730	222055	222420	28NOV	2	73	11DEC-44383	230151	231043	231935	11DEC	68	273
28NOV-44205	235818	000710	001603	29NOV	60	80	12DEC-44384	005136	005518	005901	12DEC	3	278
29NOV-44206	014524	015212	015859	29NOV	13	274	12DEC-44390	103620	104454	105328	12DEC	45	90
29NOV-44212	113401	114136	114910	29NOV	21	88	12DEC-44391	122308	123034	123801	12DEC	17	283
29NOV-44213	131831	132651	133510	29NOV	36	279	12DEC-44396	214510	215317	220125	12DEC	26	80
29NOV-44218	224239	224926	225613	29NOV	12	76	12DEC-44397	233030	233842	234654	12DEC	31	271
30NOV-44219	002623	003516	004409	30NOV	65	272	13DEC-44403	092238	092808	093338	13DEC	7	84
30NOV-44220	021621	021946	022311	30NOV	2	278	13DEC-44404	110405	111256	112148	13DEC	84	294
30NOV-44226	120105	120933	121801	30NOV	46	88	13DEC-44405	125344	125905	130426	13DEC	6	286
30NOV-44227	134755	135512	140229	30NOV	16	283	13DEC-44409	203217	203506	203755	13DEC	1	72
30NOV-44232	230939	231752	232604	30NOV	27	80	13DEC-44410	221238	222126	223014	13DEC	56	79
01DEC-44233	005456	010313	011130	01DEC	30	272	13DEC-44411	235938	000629	001320	14DEC	13	275
01DEC-44239	104708	105247	105825	01DEC	8	84	14DEC-44417	094822	095558	100333	14DEC	20	86
01DEC-44240	122845	123732	124618	01DEC	81	284	14DEC-44418	113232	114106	114940	14DEC	39	279
01DEC-44241	141839	142341	142844	01DEC	5	286	14DEC-44423	205707	210340	211013	14DEC	11	75
01DEC-44245	215626	215942	220258	01DEC	2	72	14DEC-44424	224042	224934	225827	14DEC	68	273
01DEC-44246	233710	234603	235455	01DEC	59	80	15DEC-44425	003024	003407	003750	15DEC	3	278
02DEC-44247	012415	013102	013749	02DEC	13	275	15DEC-44431	101519	102348	103217	15DEC	44	88
02DEC-44253	111252	112027	112802	02DEC	21	87	15DEC-44432	120157	120924	121650	15DEC	18	282
02DEC-44254	125722	130546	131410	02DEC	37	281	15DEC-44437	212402	213205	214008	15DEC	26	79
02DEC-44259	222133	222815	223458	02DEC	12	76	15DEC-44438	230922	231733	232545	15DEC	31	271
03DEC-44260	000515	001408	002301	03DEC	66	272	16DEC-44444	090130	090701	091231	16DEC	7	84
03DEC-44261	015510	015844	020218	03DEC	3	278	16DEC-44445	104254	105146	110038	16DEC	85	292
03DEC-44267	113956	114824	115653	03DEC	46	88	16DEC-44446	123230	123751	124312	16DEC	6	286
03DEC-44268	132638	133359	134121	03DEC	17	282	16DEC-44450	201116	201347	201617	16DEC	1	70
03DEC-44273	224832	225644	230457	03DEC	27	80	16DEC-44451	215130	220018	220906	16DEC	55	79
04DEC-44274	003347	004204	005021	04DEC	30	272	16DEC-44452	233829	234519	235210	16DEC	14	275
04DEC-44280	102601	103139	103718	04DEC	7	83	17DEC-44458	092713	093449	094225	17DEC	20	86
04DEC-44281	120735	121622	122508	04DEC	82	282	17DEC-44459	111121	111955	112829	17DEC	39	279
04DEC-44282	135725	140228	140731	04DEC	5	286	17DEC-44464	203600	204233	204906	17DEC	11	76
04DEC-44286	213522	213829	214136	04DEC	2	71	17DEC-44465	221934	222824	223713	17DEC	69	275
04DEC-44287	231602	232455	233347	04DEC	58	81	18DEC-44466	000913	001304	001656	18DEC	3	277
05DEC-44288	010306	010957	011649	05DEC	13	274	18DEC-44472	095409	100239	101108	18DEC	44	89
05DEC-44294	105144	105919	110654	05DEC	21	87	18DEC-44473	114045	114816	115548	18DEC	18	283
05DEC-44295	123605	124433	125302	05DEC	37	280	18DEC-44478	210255	211058	211900	18DEC	25	79
05DEC-44300	220026	220709	221351	05DEC	11	76	18DEC-44479	224813	225624	230436	18DEC	31	271
05DEC-44301	234407	235300	000152	06DEC	66	272	19DEC-44485	084023	084553	085123	19DEC	7	84
06DEC-44302	013359	013732	014106	06DEC	3	278	19DEC-44486	102144	103036	103928	19DEC	86	291
06DEC-44308	111847	112716	113544	06DEC	45	88	19DEC-44487	121116	121462	122208	19DEC	6	286
06DEC-44309	130529	131255	132021	06DEC	17	283	19DEC-44491	195015	195245	195516	19DEC	1	71
06DEC-44314	222725	223537	222349	06DEC	27	80	19DEC-44492	213025	213910	214757	19DEC	55	80
07DEC-44315	001239	002055	002912	07DEC	30	272	19DEC-44493	231719	232410	233101	19DEC	14	275
07DEC-44321	100453	101032	101611	07DEC	7	83	20DEC-44499	090605	091340	092116	20DEC	20	86
07DEC-44322	114625	115512	120359	07DEC	83	281	20DEC-44500	105010	105844	110718	20DEC	40	278
07DEC-44323	133611	134123	134635	07DEC	5	286	20DEC-44505	201453	202122	202750	20DEC	10	75
07DEC-44327	211418	211725	212032	07DEC	2	72	20DEC-44506	215825	220713	221600	20DEC	70	277
07DEC-44328	225454	230347	231239	07DEC	58	81	20DEC-44507	234802	235153	235440	20DEC	3	278
08DEC-44329	004157	004848	005539	08DEC	13	274	21DEC-44513	093259	094129	094959	21DEC	43	89
08DEC-44335	103035	103810	104544	08DEC	20	87	21DEC-44514	111933	112709	113445	21DEC	18	283
08DEC-44336	121456	122325	123153	08DEC	38	280	21DEC-44519	204147	204950	205752	21DEC	25	80
08DEC-44341	213920	214602	215244	08DEC	11	76	21DEC-44520	222704	223515	224326	21DEC	32	271
08DEC-44342	232259	233151	234044	08DEC	67	273	22DEC-44526	081915	082446	083016	22DEC	7	83
09DEC-44343	011247	011630	012013	09DEC	3	277	22DEC-44527	100034	100926	101818	22DEC	87	288
09DEC-443349	105738	110607	111436	09DEC	45	88	22DEC-44528	115003	115533	120104	22DEC	6	286
09DEC-44350	124419	125146	125912	09DEC	17	283	22DEC-44532	192914	193127	193339	22DEC	1	70
09DEC-44355	220617	221425	222232	09DEC	26	79	22DEC-44533	210914	211757	212640	22DEC	54	78
09DEC-44356	235139	235951	000803	10DEC	31	271	22DEC-44534	225609	230300	230951	22DEC	14	275
10DEC-44362	094346	094920	095454	10DEC	7	84	23DEC-44540	084456	085232	090008	23DEC	19	86
10DEC-44363	112515	113406	114258	10DEC	83	294	23DEC-44541	102859	103738	104617	23DEC	40	279
10DEC-44364	131457	132009	132521	10DEC	6	286	23DEC-44546	195347	200010	200634	23DEC	10	75
10DEC-44368	205320	205609	205857	10DEC	1	71	23DEC-44547	213717	214604	215451	23DEC	70	277
10DEC-44369	223346	224234	225122	10DEC	57	78	23DEC-44548	232650	233042	233433	23DEC	3	278
11DEC-44370	002047	002739	003430	11DEC	13	275	24DEC-44554	091150	092020	092849	24DEC	43	89
11DEC-44376	100926	101701	102437	11DEC	20	87	24DEC-44555	105822	110558	111334	24DEC	19	282
11DEC-44377	115346	120216	121045	11DEC	38	280	24DEC-44560	202039	202837	203635	24DEC	24	79
11DEC-44382	211813	212451	213129	11DEC	11	76	24DEC-44561	220555	221406	222217	24DEC	32	271

DATE/ORBIT	AOS	MAX	LOS	EPOCH	EL	AZ	DATE/ORBIT	AOS	MAX	LOS	EPOCH	EL	AZ
25DEC-44567	075808	080338	080909	25DEC	7	83	07JAN-44753	214052	214452	214852	07JAN	4	278
25DEC-44568	093924	094820	095717	25DEC	87	322	08JAN-44759	072602	073432	074303	08JAN	41	89
25DEC-44569	112849	113420	113950	25DEC	7	285	08JAN-44760	091223	092009	092754	08JAN	20	282
25DEC-44573	190849	191044	191239	25DEC	1	73	08JAN-44765	183458	184246	185034	08JAN	23	79
25DEC-44574	204806	205648	210531	25DEC	53	79	08JAN-44766	202006	202816	203627	08JAN	34	271
25DEC-44575	223459	224154	224849	25DEC	14	274	09JAN-44772	061232	061749	062306	09JAN	6	83
26DEC-44581	082347	083118	083850	26DEC	19	87	09JAN-44773	075333	002300	081127	09JAN	87	83
26DEC-44582	100748	101627	101506	26DEC	41	279	09JAN-44774	094244	094833	095421	09JAN	7	285
26DEC-44587	193240	193903	194527	26DEC	10	76	09JAN-44779	190229	191102	191934	09JAN	50	82
26DEC-44588	211608	212455	213342	26DEC	71	277	09JAN-44780	204908	205607	210305	09JAN	15	274
26DEC-44589	230539	230939	231339	26DEC	3	277	10JAN-44786	063803	064531	065258	10JAN	18	87
27DEC-44595	085040	085915	090749	27DEC	42	87	10JAN-44787	082154	083038	083922	10JAN	44	278
27DEC-44596	103710	104460	105222	27DEC	19	282	10JAN-44792	174703	175308	175913	10JAN	9	75
27DEC-44601	195932	200729	201527	27DEC	24	79	10JAN-44793	193021	193902	194744	10JAN	75	280
27DEC-44602	214445	215526	220107	27DEC	32	271	10JAN-44794	211922	212340	212758	10JAN	4	278
28DEC-44608	073700	074226	074753	28DEC	7	83	11JAN-44800	070453	071323	072153	11JAN	40	89
28DEC-44609	091813	092710	093607	28DEC	88	334	11JAN-44801	085112	085857	090643	11JAN	20	282
28DEC-44610	110736	111316	111855	28DEC	7	286	11JAN-44806	181349	182137	182925	11JAN	22	79
28DEC-44615	202705	203543	204421	28DEC	53	81	11JAN-44807	195847	200701	201516	11JAN	34	272
28DEC-44616	221350	222044	222739	28DEC	14	274	12JAN-44813	055125	055638	060151	12JAN	6	84
29DEC-44622	080238	081010	081742	29DEC	19	87	12JAN-44814	073223	074120	075017	12JAN	87	89
29DEC-44623	094637	095516	100355	29DEC	41	278	12JAN-44815	092131	092720	093309	12JAN	8	285
29DEC-44628	191133	191752	192411	29DEC	10	75	12JAN-44820	184119	184952	185824	12JAN	49	82
29DEC-44629	205459	210345	211232	29DEC	72	276	12JAN-44821	202757	203455	204154	12JAN	15	274
29DEC-44630	224427	224827	225228	29DEC	3	277	13JAN-44827	061655	062422	063150	13JAN	18	87
30DEC-44636	082930	083805	084640	30DEC	42	88	13JAN-44828	080043	080927	081811	13JAN	44	277
30DEC-44637	101558	102339	103120	30DEC	19	282	13JAN-44833	172555	173156	173756	13JAN	9	75
30DEC-44642	193823	194616	195409	30DEC	24	79	13JAN-44834	190910	191752	192633	13JAN	76	280
30DEC-44643	212336	213147	213957	30DEC	33	271	13JAN-44835	205809	210227	210645	13JAN	4	278
31DEC-44649	071553	072115	072636	31DEC	7	84	14JAN-44841	064343	065214	070044	14JAN	40	89
31DEC-44650	085703	090600	091457	31DEC	89	358	14JAN-44842	083000	083746	084531	14JAN	20	281
31DEC-44651	104623	105203	105742	31DEC	7	285	14JAN-44847	175240	180023	180806	14JAN	22	79
31DEC-44656	200556	201434	202312	31DEC	52	82	14JAN-44848	193736	194551	195405	14JAN	34	272
31DEC-44657	215239	215934	220629	31DEC	14	274	15JAN-44854	053018	053531	054044	15JAN	6	83
01JAN2000-44663	074129	074901	075633	01JAN2000	19	86	15JAN-44855	071113	072010	072907	15JAN	86	92
01JAN-44664	092526	093406	094245	01JAN	42	277	15JAN-44856	090019	090612	091205	15JAN	8	285
01JAN-44669	185026	185640	190255	01JAN	9	75	15JAN-44861	182009	182842	183714	15JAN	48	83
01JAN-44670	203350	204236	205123	01JAN	73	276	15JAN-44862	200645	201344	202042	15JAN	15	274
01JAN-44671	222316	222716	223116	01JAN	3	277	16JAN-44868	055546	060314	061041	16JAN	18	86
02JAN-44677	080821	081651	082521	02JAN	41	89	16JAN-44869	073933	074816	075700	16JAN	45	277
02JAN-44678	095446	010227	010108	02JAN	19	282	16JAN-44874	170447	171043	171639	16JAN	8	75
02JAN-44683	191716	192509	193302	02JAN	23	79	16JAN-44875	184800	185641	190523	16JAN	77	279
02JAN-44684	210226	211037	211847	02JAN	33	271	16JAN-44876	203657	204114	204532	16JAN	4	278
03JAN-44690	065446	070008	070529	03JAN	6	84	17JAN-44882	062234	063104	063934	17JAN	39	89
03JAN-44691	083553	084450	085347	03JAN	89	40	17JAN-44883	080849	081634	082420	17JAN	21	281
03JAN-44692	102510	103050	103629	03JAN	7	285	17JAN-44888	173131	173914	174658	17JAN	22	79
03JAN-44697	194447	195320	200153	03JAN	51	80	17JAN-44889	191633	192443	193253	17JAN	35	271
03JAN-44698	213129	213824	214518	03JAN	14	274	18JAN-44895	050912	051416	051919	18JAN	6	84
04JAN-44704	072021	072753	073524	04JAN	19	86	18JAN-44896	065003	065900	070757	18JAN	85	93
04JAN-44705	090415	091259	092143	04JAN	42	279	18JAN-44897	083906	084503	085101	18JAN	8	285
04JAN-44710	182918	183533	184147	04JAN	9	75	18JAN-44902	175859	180727	181555	18JAN	48	81
04JAN-44711	201240	202126	203013	04JAN	74	275	18JAN-44903	194532	195230	195928	18JAN	15	274
04JAN-44712	220204	220604	221004	04JAN	4	278	19JAN-44909	053438	054201	054924	19JAN	18	87
05JAN-44718	074711	075542	080412	05JAN	41	89	19JAN-44910	071822	072706	073550	19JAN	45	277
05JAN-44719	093335	094120	094906	05JAN	20	282	19JAN-44915	164340	164936	165531	19JAN	8	75
05JAN-44724	185070	190359	191152	05JAN	23	79	19JAN-44916	182649	183530	184411	19JAN	78	281
05JAN-44725	204116	204927	205737	05JAN	33	271	19JAN-44917	201556	202014	202431	19JAN	4	277
06JAN-44731	063339	063901	064422	06JAN	6	83	20JAN-44923	060117	060951	061826	20JAN	39	90
06JAN-44732	081443	082340	083237	06JAN	88	70	20JAN-44924	074738	075527	080317	20JAN	21	282
06JAN-44733	100357	100946	101534	06JAN	7	285	20JAN-44929	171021	171804	172547	20JAN	21	80
06JAN-44738	192338	193211	194044	06JAN	50	81	20JAN-44930	185514	190328	191143	20JAN	35	272
06JAN-44739	211019	211713	212407	06JAN	15	274	21JAN-44936	044806	045309	045813	21JAN	6	84
07JAN-44745	065912	070644	071416	07JAN	18	86	21JAN-44937	062853	063750	064647	21JAN	84	93
07JAN-44746	084305	085149	090032	07JAN	43	278	21JAN-44938	081753	082351	082948	21JAN	8	285
07JAN-44751	180811	181416	182021	07JAN	9	75	21JAN-44943	173347	174615	175443	21JAN	47	81
07JAN-44752	195131	200012	200854	07JAN	74	281	21JAN-44944	192422	193120	193818	21JAN	15	274

DATE/ORBIT	AOS	MAX	LOS	EPOCH	EL	AZ	DATE/ORBIT	AOS	MAX	LOS	EPOCH	EL	AZ
22JAN-44950	051331	052054	052817	22JAN	17	86	05FEB-45142	044302	045154	050046	05FEB	79	99
22JAN-44951	065711	070555	071439	22JAN	46	276	05FEB-45143	063149	063755	064401	05FEB	9	284
22JAN-44956	162231	162822	163414	22JAN	8	75	05FEB-45149	155152	160020	160848	05FEB	44	84
22JAN-44957	180538	181419	182301	22JAN	79	279	05FEB-45150	173814	174521	175229	05FEB	17	273
22JAN-44958	195429	195856	200322	22JAN	4	278	06FEB-45155	032748	033457	034205	06FEB	16	87
23JAN-44964	054007	054837	055708	23JAN	38	92	06FEB-45156	051117	052000	052843	06FEB	48	276
23JAN-44965	072626	073416	074206	23JAN	21	281	06FEB-45162	143641	144219	144757	06FEB	7	75
23JAN-44970	164911	165650	170428	23JAN	21	79	06FEB-45163	161946	162827	163709	06FEB	84	252
23JAN-44971	183402	184217	185031	23JAN	35	272	06FEB-45164	180818	181303	181747	06FEB	5	277
24JAN-44977	042658	043202	043705	24JAN	5	83	07FEB-45169	035428	047249	041109	07FEB	36	90
24JAN-44978	060743	061640	062537	24JAN	83	93	07FEB-45170	054028	054817	055606	07FEB	22	280
24JAN-44979	075640	080238	080835	24JAN	8	284	07FEB-45176	150311	151045	151820	07FEB	20	79
24JAN-44984	171637	172505	173333	24JAN	46	82	07FEB-45177	164759	165618	170437	07FEB	38	270
24JAN-44985	190309	191012	191715	24JAN	16	273	08FEB-45182	024128	024604	025040	08FEB	4	84
25JAN-44991	045222	045941	050659	25JAN	17	87	08FEB-45183	042152	043043	043935	08FEB	78	97
25JAN-44992	063601	064444	065328	25JAN	46	276	08FEB-45184	061036	061642	062248	08FEB	9	284
25JAN-44997	160121	160708	161255	25JAN	8	75	08FEB-45190	153038	153906	154734	08FEB	43	84
25JAN-44998	174427	175308	180149	25JAN	80	279	08FEB-45191	171656	172408	173120	08FEB	17	273
25JAN-44999	193315	193742	194208	25JAN	4	278	09FEB-45196	030639	031348	032056	09FEB	16	87
26JAN-45005	051858	052728	053558	26JAN	38	91	09FEB-45197	045006	045849	050732	09FEB	49	276
26JAN-45006	070515	071304	072054	26JAN	21	281	09FEB-45203	141533	142111	142649	09FEB	7	75
26JAN-45011	162801	163539	164318	26JAN	21	79	09FEB-45204	155826	160707	161549	09FEB	85	288
26JAN-45012	181250	182105	182919	26JAN	36	272	09FEB-45205	174658	175151	175645	09FEB	5	277
27JAN-45018	040552	041047	041541	27JAN	5	84	10FEB-45210	033320	034135	034951	10FEB	35	90
27JAN-45019	054632	055525	060417	27JAN	82	106	10FEB-45211	051916	052705	053454	10FEB	22	280
27JAN-45020	073528	074125	074722	27JAN	8	284	10FEB-45217	144206	144940	145714	10FEB	20	80
27JAN-45025	165526	170354	171222	27JAN	46	83	10FEB-45218	162654	163513	164332	10FEB	39	268
27JAN-45027	184155	184858	185601	27JAN	16	273	11FEB-45223	022022	022449	022916	11FEB	4	84
28JAN-45032	043114	043832	044550	28JAN	17	87	11FEB-45224	040041	040928	041815	11FEB	77	103
28JAN-45033	061450	062333	063217	28JAN	47	276	11FEB-45225	054923	055529	060134	11FEB	9	284
28JAN-45038	154011	154558	155145	28JAN	8	75	11FEB-45231	150925	151753	152621	11FEB	43	83
28JAN-45040	172315	173156	174037	28JAN	81	280	11FEB-45232	165543	170259	171016	11FEB	17	273
28JAN-45041	191158	191633	192109	28JAN	4	278	12FEB-45237	024753	025234	025938	12FEB	15	87
29JAN-45046	045749	050619	051448	29JAN	37	91	12FEB-45238	042855	043738	044620	12FEB	49	276
29JAN-45047	064403	065153	065942	29JAN	21	281	12FEB-45244	135422	135956	140530	12FEB	7	75
29JAN-45053	160648	161427	162206	29JAN	250	79	12FEB-45245	153713	154559	155445	12FEB	86	266
29JAN-45054	175146	180000	180814	29JAN	36	269	12FEB-45246	172541	173035	173529	12FEB	5	277
30JAN-45059	034446	034940	035435	30JAN	5	83	13FEB-45251	031210	032025	032841	13FEB	35	90
30JAN-45060	052522	053415	054307	30JAN	81	103	13FEB-45252	045804	050553	051342	13FEB	23	280
30JAN-45061	071415	072017	072618	30JAN	8	284	13FEB-45258	142052	142826	143601	13FEB	19	80
30JAN-45067	163416	164244	165111	30JAN	45	84	13FEB-45259	160539	161359	162218	13FEB	39	269
30JAN-45068	182042	182750	183457	30JAN	16	273	14FEB-45264	015932	020350	020809	14FEB	4	82
31JAN-45073	041006	041719	042433	31JAN	16	87	14FEB-45262	033931	034818	035704	14FEB	76	101
31JAN-45074	055339	060222	061106	31JAN	47	276	14FEB-45266	052810	053415	054021	14FEB	9	284
31JAN-45080	151901	152448	153035	31JAN	7	75	14FEB-45272	144811	145639	150507	14FEB	43	83
31JAN-45081	170203	171044	171925	31JAN	82	280	14FEB-45273	163429	164145	164902	14FEB	18	273
31JAN-45082	185043	185523	190003	31JAN	5	277	15FEB-45278	022422	023125	023829	15FEB	15	86
01FEB-45087	043639	044509	045339	01FEB	37	90	15FEB-45279	040744	041626	042508	15FEB	50	276
01FEB-45088	062252	063041	063830	01FEB	22	281	15FEB-45285	133311	133841	134410	15FEB	7	75
01FEB-45094	154539	155313	160047	01FEB	20	79	15FEB-45286	151600	152446	153332	15FEB	87	270
01FEB-45095	173026	173844	174703	01FEB	37	270	15FEB-45287	170425	170928	171430	15FEB	6	276
02FEB-45100	032340	032825	033311	02FEB	5	84	16FEB-45292	025100	025915	030731	16FEB	34	89
02FEB-45101	050412	051304	052157	02FEB	80	101	16FEB-45293	043652	044441	045229	16FEB	23	280
02FEB-45102	065302	065908	070514	02FEB	8	285	16FEB-45300	154425	155244	160104	16FEB	40	270
02FEB-45108	161303	162130	162958	02FEB	45	83	17FEB-45305	013826	014235	014644	17FEB	4	83
02FEB-45109	175929	180636	181344	02FEB	16	273	17FEB-45306	031820	032707	033553	17FEB	75	98
03FEB-45114	034857	035611	040324	03FEB	16	87	17FEB-45307	050656	051301	051907	17FEB	9	283
03FEB-45115	053228	054111	054955	03FEB	48	276	17FEB-45313	142657	147352	144354	17FEB	42	82
03FEB-45121	145752	150330	150908	03FEB	7	74	17FEB-45314	161315	162036	162757	17FEB	18	272
03FEB-45122	164051	164932	165813	03FEB	83	282	18FEB-45319	020313	021012	021711	18FEB	15	87
03FEB-45123	182941	183417	183852	03FEB	5	276	18FEB-45320	034632	035510	040348	18FEB	50	274
04FEB-45128	041538	042358	043219	04FEB	36	90	18FEB-45326	131200	131730	132259	18FEB	7	75
04FEB-45129	060140	060929	061718	04FEB	22	280	18FEB-45327	145447	150333	151219	18FEB	88	281
04FEB-45135	152427	153201	153935	04FEB	20	79	18FEB-45328	164309	164811	165314	18FEB	6	277
04FEB-45136	170913	171732	172550	04FEB	37	271	19FEB-45333	022950	023800	024611	19FEB	34	90
05FEB-45141	030234	030719	031204	05FEB	5	83	19FEB-45334	041540	042328	043116	19FEB	23	280

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19FEB-45340	133823	134558	135333	19FEB	19	79
19FEB-45341	152310	153134	153958	19FEB	40	269
20FEB-45346	011720	012129	012538	20FEB	4	82
20FEB-45347	025709	030555	031442	20FEB	74	96
20FEB-45348	044542	045152	045802	20FEB	9	284
20FEB-45354	140544	141412	142241	20FEB	42	82
20FEB-45355	155201	155922	160643	20FEB	18	273
21FEB-45360	014204	014903	015602	21FEB	14	86
21FEB-45361	032520	033358	034235	21FEB	51	274
21FEB-45362	052039	052046	052054	21FEB	0	290
21FEB-45367	125050	125620	130149	21FEB	7	75
21FEB-45368	143333	144220	145106	21FEB	89	318
21FEB-45369	162152	162704	163215	21FEB	6	276
22FEB-45374	020839	021650	022500	22FEB	33	89
22FEB-45375	035427	040220	041012	22FEB	23	281
22FEB-45381	131709	132444	133219	22FEB	19	79
22FEB-45382	150156	151020	151844	22FEB	41	269
23FEB-45387	005614	010014	010414	23FEB	3	82
23FEB-45388	023558	024444	025330	23FEB	73	94
23FEB-45389	042428	043038	043648	23FEB	9	284
23FEB-45395	134430	135303	140136	23FEB	41	83
23FEB-45396	153047	153813	154539	23FEB	18	272
24FEB-45401	012054	012749	013443	24FEB	14	86
24FEB-45408	122939	123508	124038	24FEB	6	75
24FEB-45409	141220	142106	142953	24FEB	89	22
24FEB-45410	160036	160547	161059	24FEB	6	277
25FEB-45415	014729	015539	020349	25FEB	32	89
25FEB-45416	033314	034106	034859	25FEB	23	281
25FEB-45422	125603	130334	131104	25FEB	18	79
25FEB-45423	144040	144909	145738	25FEB	42	268
26FEB-45428	003507	003858	004249	26FEB	3	83
26FEB-45429	021446	022328	023209	26FEB	72	98
26FEB-45430	040314	040928	041542	26FEB	9	284
26FEB-45436	132316	133149	134022	26FEB	41	83
26FEB-45437	150933	151659	152425	26FEB	19	272
27FEB-45442	005945	010634	011324	27FEB	14	87
27FEB-45443	024256	025133	030010	27FEB	52	275
27FEB-45444	043722	043823	043924	27FEB	0	291
27FEB-45449	120827	121352	121918	27FEB	6	75
27FEB-45450	135106	135957	140849	27FEB	88	107
27FEB-45451	153919	154440	155001	27FEB	6	276
28FEB-45456	012618	013424	014229	28FEB	32	89
28FEB-45457	031201	031953	032745	28FEB	24	281
28FEB-45463	123448	124219	124950	28FEB	18	79
28FEB-45464	141925	142754	143623	28FEB	42	269
29FEB-45469	001041	001751	002142	29FEB	3	82
29FEB-45470	015334	02 216	021057	29FEB	71	97
29FEB-45471	034159	034813	035427	29FEB	10	284
29FEB-45477	130202	131035	131909	29FEB	40	82
29FEB-45478	144819	145546	150312	29FEB	19	272
01MAR-45483	003835	04524	005214	01MAR	14	86
01MAR-45484	022144	023021	023858	01MAR	53	275
01MAR-45485	041527	041704	041841	01MAR	0	290
01MAR-45490	114716	115236	115757	01MAR	6	74
01MAR-45491	132952	133844	134736	01MAR	88	90
01MAR-45492	151803	152324	152844	01MAR	7	277
02MAR-45497	010507	011312	012118	02MAR	32	89
02MAR-45498	025047	025840	030632	02MAR	24	281
02MAR-45504	121337	122108	122839	02MAR	18	79
02MAR-45505	135809	140643	141517	02MAR	43	269
02MAR-45510	235254	235636	000018	03MAR	3	82
03MAR-45511	013222	014104	014945	03MAR	70	95
03MAR-45512	032045	032658	033312	03MAR	10	284
03MAR-45518	124056	124925	125755	03MAR	40	83
03MAR-45519	142706	143437	144208	03MAR	19	272
04MAR-45524	001725	002410	003055	04MAR	13	86

DATE/ORBIT	AOS	MAX	LOS	EPOCH	EL	AZ
04MAR-45525	020031	020908	021745	04MAR	54	275
04MAR-45526	035407	035544	035721	04MAR	0	289
04MAR-45531	112604	113125	113646	04MAR	6	75
04MAR-45532	130839	131730	132622	04MAR	87	82
04MAR-45533	145646	150216	150746	04MAR	7	276

NOTES:

1. "Elevation" is in Degrees. 90 Deg = Overhead, 0 Deg = Horizon.
2. "Azimuth" is in Degrees. 0 & 360 Deg = North, 90 Deg = East, 180 Deg = South and 270 Deg = West.
3. "Max" is the Time of maximum Range, "Az" is the Azimuth of the satellite at that time.
4. Date & Time is in UTC. UTC + 5 1/2 hours = IST.
5. Presently morning passes are from South to North. Evening passes North to South.
6. Avoid long "Overs". Fast, 'Contest Style' exchanges are best (Call, Report, Name, QTH, 73).
7. Do not try to form a Round Table with other stations.
8. Since the receive frequency is changing all the time, learn to Track the station.
9. Learn to differentiate between genuine satellite operators and 15 metre DX operators, who are heard through the satellite because they happen to be on the uplink pass band during a satellite pass.
10. At low elevation passes, say, El of 0 to 20 Deg, greater distances can be covered, but signals are weaker.
11. Over head passes, say, El of 60 to 90 Degr., generally give strong signals and are good for contacts with nearby countries.
12. Propagation conditions good for terrestrial Dxing is sometimes troublesome to HF satellite communications.
13. AOS Acquisition of Signal. Time, start of hearing satellite.
14. LOS Loss of Signal. Time, end of hearing satellite.

SILENT KEY

VU2AJE Om Abhijet Sen Ex. Wing Commander went Silent Key on 26th August 1999. HEART FELT CONDOLENCES to the bereaved family.

"HE WHO DARES WINS". Your Editor VU2ST Om Saad Ali who never gives up had a fall in his office and has been operated upon for fracture of his left firmur. He has won for himself a rest for atleast 6 weeks. We wish him a speedy recovery and back to his fit self.

CORRECTION

Reference H.R.N Jul-Sept'99 Page 4. Amend to read BEL 9MHZ SSB Filter with USB and LSB Carrier Crystals to read as Rs.850/- including postage and packing. Contact VU2RNC.

FROM THE SECRETARY'S DESK

VU2AF-ADOLF SHEPHERD

HAM RADIO NEWS: This is the last issue of the HRN for the millenium. It was the endeavour of your society to bring to you the best possible magazine it could with the limited resources at its disposal. It can be said that your society has done well in bringing out the issues regularly and in time. A magazine besides articles needs contribution by its own members; it needs the support of the ad agencies as well. There is many a member of the society that can help in this matter but for some reason or rather do not come forward readily. Some have volunteered help in many ways including financial., but to a very less extent. A few have been contributing articles on various topics including homebrew, Internet and satellite data. The society would like to put on record its appreciation and is very thankful to those few who have done their might. But this not enough to fill up a magazine of limited volume and four issues year after year. The society expects much more than this from you members. Your society hopes that in the new millenium it can expect much more and I am sure there will be much more to write about in the coming months and years. But do not forget the advertisements that runs any magazine these days though they say the money market is drying up ???

MEMBERSHIP FEES: Members are not aware that the fees for the financial year April-March falls due on the 1st April each year. Letters & Emails are being received from members as what are the fees and how much do I have to pay. Replies are being sent to them and then there is a silence from their end with the result they forget to pay the fees and then are in arrears. Kindly note the fees if not paid for the current year by the 30th June a late fee fo Rs.10/- is imposed which has been stressed again and again. In spite of reminders being sent individually no fees are being paid with the result there is a backlog of arrears that amounts to about Rs.75 K. How can the society run the day to day affairs if this is going to be the case. **For the information all the members the fee structure has been published in the membership form in the HRN. Yearly fees for Students is Rs.30/- for Associate is Rs.75/- and Corporate is Rs.150/- . But do add Rs.10/- as late payment if not paid by 30th June.**

QSL BUROS: As published earlier the two buros run by the society has stopped handling incoming and outgoing cards for non-members. Out going cards for the members are handled only by the Chennai buro with the remittance of the requisite postage enclosed. It is the practice of the QSL manager to send out postcards to its members to remit postage stamps for their incoming cards and still the members do not respond with the result there is a huge pile up of cards at the buros. In future no intimation will be

sent to members to remit stamps for their incoming cards. Members who receive cards on a regular basis do kindly make a deposit of stamps with the QSL manager of the respective buros. If the stamps are not received in a month's time, the cards will be returned to the respective buro stamped as REJECTED BY RECEIPT. Do not worry every stamp used and amount is accounted for and you will be intimated to replenish when due. Hope the members will co-operate and also tell your fellow hams to enroll as members if they wish to be serviced by the QSL buros. **NON RECEIPT OF HRN:** Many complaints are being received from members about non-receipt of the magazine. There are cases of a second magazine being sent after confirmation of the QSL info and still the magazine does not reach. What happened and where is the QRM it is very difficult to pinpoint. The postage per magazine has gone up from 50 paise to Rs.2/- recently. It is suggested that members who live in metro cities and wish to be sure of their copy to give their consent to have their copy sent by courier to a person who takes the responsibility to receive and distribute magazines in that city. This can be done in other smaller cities where there is a large concentration of members of the society. It is entirely upto the members and the individual to work out the modalities and intimate the society about their choice. This may have to have individual signatures too. Once the society receives the choice it will be examined cost wise. It is only a suggestion and if works will be the best way to ensure your copy. This will be entirely at the society's cost.

ISSUE OF MEMBERSHIP/ID CARDS: If was repeatedly published in the HRN regarding the issue of Membership/ID cards to Patron and Life members. But upto date only three members have sent in their photographs. It is regrettable to mention here that even the President, V.President and members of the Governing Council other than the Secretary have sent in their photographs. It is either nobody reads the magazine or the requests are taken very lightly and forgotten. The same fate of the requests for the photographs and bio-data of the Ham families and the Award/citation winners. None of the ham families has responded except VU2DCT from Lucknow and VU2RNC from Agra. Thank you very much Panditji and Raman. If this is going to be the case then why publish a magazine at all. Why put insertions in the magazine calling for information/data. It seems very ridiculous to spend so much money to bring out a magazine. At least take pity on the work that is being done by a few to keep the flame of Amateur Radio and the spirit of the society burning. Do not let them down at least. Issue of ID/Membership cards stands cancelled as of now due to negative response.

HAMFEST: Hamfest India 99 has concluded & surely all the delegates who visited Mysore had a good time eyeballing each other. The next venue is going to be Hyderabad and the promise of G.C is that it is going to be a memorable one. It is going to be HamfestY2K. Let's keep our fingers crossed and await the big day. The dates are tentatively fixed as 30th Sept to 2nd Oct 2000. Lets wish them happy sailing and all the best with support all round.



Photographs taken at HFI '99 Mysore. Seen in the photos are most of the delegates from Rajapalayam. Prominent among them are VU2RPQ, VU2YFS, VU2PAJ, VU2MVE, VU2SIW, VU2MTK, VU2ITT and VU2PLR. Also seen is the veteran grand old man VU2GX Girimaji, the oldest of the Hams today and still going strong.

With Compliments from :



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