



Itchen Valley Amateur Radio Club

Annual Report

2007 / 2008

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Editorial

Welcome to the IVARC 2007 / 2008 Annual Report. My grateful thanks to all those Club members who have submitted photos and articles. Special thanks go to Quintin M1ENU and Brian G0UKB who have handled the printing. We hope this report makes an interesting and entertaining read. **Ted Stiles G0BHK**

We are the Champions ! The IVARC team scoops the Horndean Club Quiz Trophy for the 3rd consecutive year



The Itchen Valley Radio Club supports the educational work of the South African Radio League

The IVARC 2006 AGM agreed to support the educational work of the SARL by sponsoring a bursary to the value of £150.

Early in 2007 SARL published the following notice:

‘CALL FOR BURSARY APPLICATIONS

The Itchen Valley Radio Club has made three bursaries available for Students under the age of 25 to become radio amateurs. The bursaries are each valued at R650 and will assist students to enter the October 2007 Class A Radio Examination. The bursaries are known as the Itchen Valley Radio Club YARP 2007 Bursaries and cover the examination enrolment fee and one year's junior membership of the SARL upon passing the examination and R150 towards tuition costs levied by local clubs teaching the RAE. The tuition manual is available free of charge from the SARL web at www.sarl.org.za

"We decided that as part of our outreach we would make a contribution to the development of amateur radio in South Africa, particularly amongst the younger generation", Quintin Gee, the Itchen Valley Radio Club Secretary, told SARL News.

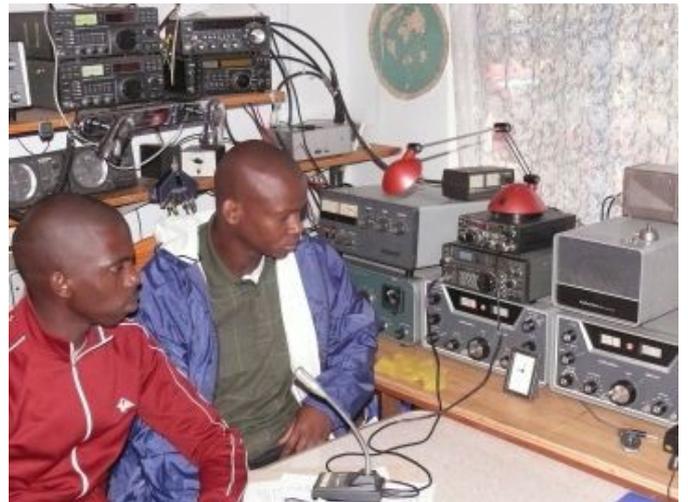
The SA Amateur Radio Development Trust administers the bursaries. The closing date for applications is extended until 30 June 2007. Applications forms are available on www.amateurradio.org.za.

Subsequently there were three successful applicants – Suzette van Wyk, Bongani Mondlana and Akim Khoza



Suzette van Wyk ZR6SVW

We know that 14-year-old Suzette, a learner at the Elandsport High School, was the youngest candidate to pass the examination. Suzette did not waste any time securing her licence, she already has the callsign ZR6SVW.



Bongani Mondlana and Akim Khoza

The other two successful applicants were Bongani Mondlana and Akim Khoza of the Escom Training College. We are still waiting to hear if they were able to enter the October 2007 Class A Radio Examination. If they have yet to take their exam we wish them every success with their studies.

SECRETARY'S REPORT

Our G5RV Antenna at the Scout Hut was knocked over twice during building operations, but has now been replaced with a new one.

The catering was ably performed by Jim M0FKG throughout the year, who managed to make us a handsome £40 profit. Well done Jim!

The Club has held 21 meetings over the last year, including 10 talks, 6 Natter Nights, the AGM, and the traditional Christmas Social. The club has also been involved in events away from our usual meeting venue, such as the visit to the Horndean ARC for their Annual Quiz, where our 4-man team lifted their trophy for the second year running, the Hobbies Festival at the Royal Victoria Country Park, Thinking Day on the Air, and the Eastleigh Youth Activities Day.

Malcolm G0LMD operated the special event station GB2HA for the 1-day HMS Hood anniversary. JOTA was held in October for Guides and Brownies, but no Scouts. However, from 28th July to 4th August we were at New Park near Brockenhurst for HamJam with 6000 Scouts, the second biggest gathering in the country to celebrate 100 years of Scouting. It was extremely muddy but we managed to demonstrate 4 stations driven by a generator. Members also attended a barbecue at the Itchen Valley Country Park sponsored by Eastleigh Council as thanks to Raynet for its ongoing work. (They were on standby for the flooding early in the year.) Some members visited Fort Widley and several went to the Open Day to celebrate the 40th anniversary of the Chilbolton observatory.

Finding suitable speakers for meetings is generally a challenge, but this year proved exceptional in our being overwhelmed with offers, which are still being scheduled. The following is a summary of the year's meetings.

Jan 12th Natter Night

Jan 26th Quiz Night Brian G0UKB

We were joined by representatives from Andover and Horndean clubs. The latter got their revenge by winning our trophy!

Feb 9th Natter Night - Radio & Computers

Brian G0UKB

Feb 23rd How well do our Radios Perform?

Peter Hart G3SJX

Peter is a reviewer of HF rigs for RadCom. He gave a most interesting talk on the technicalities of measurement, and how the results are compared.

Mar 23rd Wildlife of South Africa

Quintin M1ENU

Quintin provided a copiously-illustrated view of flora and fauna of the Cape Peninsula, from ostrich to wheat, from proteas to southern right whales.

Apr 13th Natter Night

Apr 27th Introduction to Microwaves

John M0XIG

For those not familiar with microwave working, John showed how straightforward it was, but needing especial care with connections. It appealed to those members particularly interested in plumbing, since several varieties were on display.

May 11th Telemetry Systems Jim Chick G4NWX

Jim described in detail the miniature transmitters used which are attached to birds of prey, to allow their movements to be followed and which is yet another fascinating use of radio. He also demonstrated the portable VHF (136 MHz) receiving kit and the YAGI aerials used for tracking a bird.

May 25th Natter Night

Jun 8th Hanson Radio Mike Adams G0AMO

This fascinating subject of school radio was an eye-opener. That the students have achieved so much, and very professionally, is a tribute to Mike's able leadership. The programmes are viewable on the school's web pages. A professional approach is attempted by all concerned, with the students undertaking the auditioning process, rehearsals, recording, and then editing the results with a freeware product called Audacity. This was demonstrated on the topic of jingles (programme connectors and station identification).

Jun 22nd Natter Night

Jul 13th Naval Communications Vic G3NVB

Vic inspired the audience with his tales of transmission and reception in a naval environment with signals being interfered with by the surrounding metal boat. The placing of antennas on the superstructure seemed to be part theoretical, part practical, and part magic.

Jul 27th Antenna Practical at the Guide Hut

Sep 14th PIC Microcontrollers Brian Jones G0UKB

Brian not only showed how easy it is to start off with PICs, but demonstrated with many projects which were passed around and investigated. He said that most software could be freely downloaded from the web, so one didn't even have to learn programming at all!

Sep 28th Ham Radio de Luxe & PSK31

John Noden G8IOK

John described this remarkable piece of versatile software which will carry out comprehensive logging and equipment control. The software is available on the CD that accompanies the current RSGB Year Book. Some club members are using it and joined in a lively debate.

Oct 12th Natter Night

Oct 26th Global Positioning System

Quintin M1ENU

Quintin produced a rather more technical talk than before which took us into the vagaries of Einstein corrections to clocks, fortunately without any equations. This was to endeavour to demonstrate how the constellation of GSP satellites supports hand-held and car SatNavs.

Nov 9th Natter Night - propagation software

John G8IOK

Nov 23rd Ships

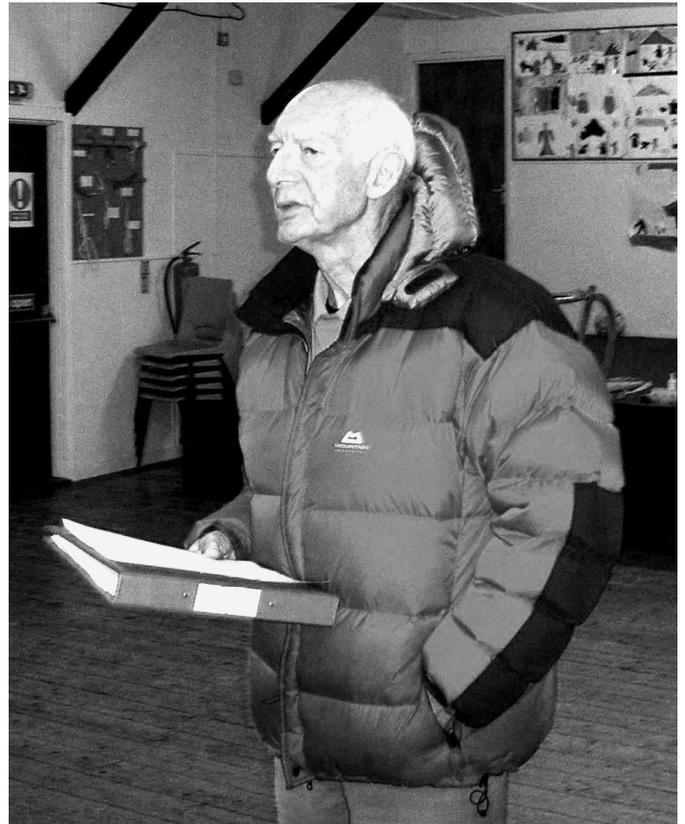
Vic G3NVB

A detailed view of the radio requirements of one warship ship was demonstrated, with the difficulties shown of getting signals from the antennas to the receivers, and also out through the superstructure.

Dec 14th Christmas Social

Vic acted as Master of Ceremonies while Brian G0UKB produced another of his unusual quizzes stretching our minds (and ears) to identify which

date each song topped the charts, with Liz M0ACL ably helping.



Vic addresses the members at the Christmas Social

The raffle was run by Bert G4XBZ which raised £34 for club funds and distributed a record 32 prizes, including 2 toboggans and a Communications Receiver.



Just a few of the 32 raffle prizes waiting to be won

Special thanks are due to Mike G0WIL and Sheila G0VNI for the provision of the refreshments.

Quintin M1ENU

Minutes of the Annual General Meeting of the Itchen Valley Amateur Radio Club, held at the Scout Hut, Brickfield Lane, Chandlers Ford on Friday 9th March 2007

The meeting opened at 20:04

1. Apologies

Attendance recorded in Register with 23 present, and two guests.

Apologies for absence were received from Brian M0WSR, Peter G4EOW, John G0XRN, and Frank G6XQR.

In the absence of the Chairman, the Secretary Bert G4XBZ was deputed to run the meeting, with Quintin M1ENU taking the minutes.

2. Minutes of AGM held on 10 March 2006

As the Annual Report had not been circulated prior to the AGM, time was allowed for reading the previous year's minutes, which were then agreed by the attending members.

Proposed Conrad M0HPC, Seconded Eric G3KXE

3. Matters Arising

AOB 2 Equipment trustees. The Committee was asked by the AGM to take advice and report back. They concluded that

- that the relevant part of the Constitution was as suggested by the RSGB
- that the two other Clubs contacted used the same Constitution and did not have any provision for special trustees

whilst appreciating the good intentions of the proposer, Mike G0WIL. The Committee resolved that no changes to the Constitution should be made.

AOB 3 South African Radio League. The last AGM agreed to support the educational work of the SARL by sponsoring a bursary to the value of £150 in the 2006 financial year. Quintin M1ENU reported that it had not been used, due to the bureaucracy within the relationship between the SA Government and the SARL. This has now been resolved, but nevertheless, the money had not been used. Discussion ensued on the two possible courses of action: to allow the bursary to lapse, since it is out of time (after Dec 2006), or extend the sponsorship for a further period.

A proposal was tabled to extend the sponsorship for a further period, provided that the money is drawn down by 31 December 2007, after which no further activities on this front will be entertained.

Proposed Quintin M1ENU, Seconded Malcolm G0LMD. The members agreed to this by 12 votes to 4.

AOB 5 Amendment to Constitution, Paragraph 11b. The Constitution has been amended in accordance with the AGM's wishes, and copies are available on request. The text may also be made available through the Club's web site.

4. Reports

Chairman's Report

The report by Brian M0WSR was submitted as part of the Annual Report. In addition, Brian wished to thank Larry G2DSY, our President, for his support; to thank Vic G3NVB for his generosity in funding the laptop and digital projector; to thank the Committee for their support and work during the year; to thank all Club members for their support and participation; and to thank Ted, Brian and Quintin for their production of the Annual Report.

He also expressed his thanks to Bert and acknowledged that Bert would be standing down at this AGM.

Proposed Conrad M0HPC, Seconded John G8IOK

Treasurer's Report

The report by Ted G0BHK was submitted as part of the Annual Report. He gave a summary of each item of note, and reminded members that these figures were as at 31 December 2006.

Ted read a letter from the Scout Group to the effect that the rent of the hall is being raised by 33% from 1 April.

In view of the acquisition of the laptop and projector, the Treasurer is required to review the Club's insurance policy, and increase it where necessary.

Ted G0BHK thanked auditors Shelia G0VNI and Steve Palmer M0GSP.

Proposed Peter Welch G3OFX, Seconded Eric G3KXE

A proposal was tabled to raise the annual subscriptions from £14 individual / £21 family / £7 junior to £16 / £24 / £8 respectively. Discussion covered whether it was needed, when the last raise took place (not during the last 10 years), and who would be lost to membership if it was accepted.

Proposed Ted G0BHK, Seconded Quintin M1ENU. The members accepted the proposal by 11 votes to 5.

Ted G0BHK requested information from the members as to which organisations they would like the Club to join or sponsor this year, and circulated a form for that purpose. The result of this poll was as follows.

- GB4FUN – 9 for, 7 against. Of the former one member suggested our donation should be £25.
- CDXC – 10 for, 6 against.
- No other organisations were proposed by the members.

Membership Secretary's Report

Malcolm G0LMD explained that there was no formal report, but announced that membership has dropped again from 55 last year, to 42 in the current year. He has followed up everyone on our mailing lists, but said that growth will have to come from new blood. He expects 3 young people to join shortly.

He reported that 29 of the 42 have e-mail addresses, and asked for the remainder who want to be reached in this manner, to give him their addresses after the meeting. This will enable the Committee to communicate faster to members, remind them in their busy lives, and reduce the cost of land postage.

Proposed Don G0PRZ, Seconded Eric G3KXE

Field Events

Brian G0UKB explained that there was no formal report, but pointed out that the events were listed in the Secretary's Report. Successful events had been held for HF Field Day and SSB Field Day, as well as support of stations at the Eastleigh Fireworks Festival, the Hobbies Fair at Royal Victoria Country Park, and a Treasure Hunt at IBM, Hursley Park.

Brian asked members to note the HamJam events on 28 July - 4 August, at New Park near Brockenhurst.

Proposed Ted G0BHK, Seconded Conrad M0HPC

Secretary's Report

The report by Bert G4XBZ was submitted as part of the Annual Report, but the main elements had been notified to all members by post on 6 February.

He reiterated his intention to stand down from the Committee and further stated his commitment to the Club offering assistance when possible.

Proposed John G8IOK, Seconded Rod G0EBK

5. Appointment of Auditors for 2007/8

It had been previously agreed that auditors should not be from the Committee, and that one would retire each year.

Auditors were agreed as Shelia G0VNI and Paul M1CNK.

6. Election of Committee for 2007/8

Larry G2DSY took the chair at this juncture. He listed those existing committee members who were prepared to stand again, namely:

Brian M0WSR
 Brian G0UKB
 Jim M0FKG
 Ted G0BHK
 Quintin M1ENU
 Malcolm G0LMD

Two nominations had been received: Vic Bryant G3NVB and John Noden G8IOK. There were no further nominations from the floor.

Proposed Peter Welch G3OFX, Seconded Shelia G0VNI. The members accepted this Committee *en bloc*.

Bert G4XBZ explained that Quintin M1ENU had agreed to be Club Secretary. Other positions will be decided at the first Committee meeting

7. Election of President

Bert G4XBZ thanked Larry G2DSY for the past year's Presidency, and announced that Larry G2DSY was prepared to continue as Club President.

Proposed Quintin M1ENU, Seconded Bert G4XBZ. A show of hands was taken and Larry G2DSY was unanimously accepted.

8. Any Other Business

No formal items had been proposed at the call for proposals.

1) Shelia G0VNI suggested that in the future the Programme Card be sent to all those on the email list, and posted to all other members. (Secretary)

2) Shelia G0VNI suggested that the Annual Report be mailed to all those members who were not on the attendance register for the AGM. (Secretary)

3) Larry G2DSY proposed that the Club send good wishes for a swift recovery to Brian M0WSR. This was agreed by acclamation.

The meeting closed at 21.00.

IVARC Membership 2007 / 2008

Callsign	Name	Surname
2E0HEA	John	Heagren
2E0MNR	Martin	Rees
2E0UKM	Marwen	Qassim
G0BHK	Ted	Stiles
G0EBK	Rod	Bickley
G0LMD	Malcolm	Butler
G0PRZ	Don	Symonds
G0TLG	Paul	Duell
G0UJP	John	Fleetwood
G0UKB	Brian	Jones
G0VNI	Sheila	Williams
G0WIL	Mike	Williams
G0XRN	John	Barrett
G1BEI	Roy	Donoghue
G2DSY	Lawrence	Dale
G3KXE	Eric	Bettles
G3LGA	Mike	Hayward
G3NVB	Vic	Bryant
G3OFX	Peter	Welch
G3OTK	Richard	Harris
G3XSD	Graham	King
G4BIZ	Alan	Paxton
G4EOW	Peter	Baxter
G4UEL	Geoffrey	Hollebon
G4XBZ	Bert	Roberts
G4YEP	Ted	Herwig
G4ZYJ	John	Spooner
G6DIA	Steve	Donoghue
G6TRW	Andy	Toas
G7RAB	David	Evans
G8IOK	John	Noden
G8TEC	Geoff	Cook
M0ACL	Liz	Jones
M0AIF	Jim	Stone
M0BKW	Alan	McColl
M0BZT	Dennis	Tasker
M0FKG	Jim	Bull
M0GSP	Steve	Palmer
M0HPC	Conrad	Hoe
M0NXP	Martin	Whitaker
M0SIM	Stuart	Matley
M0WSR	Brian	Harrison
M0WYM	Charlie	Ivermee
M1CNK	Paul	Wilton
M1ENU	Quintin	Gee
M3KCO	Kevin	Cornmell
M3VBM	Keith	Sloan
	Steve	Preston

Dave Wilson G3SZA



Larry, G2DSY, writes to ask if anyone remembers Dave Wilson G3SZA / AB6ZD / AA0RS who was one of the founder members of the IVARC. Our records show that he was a member when the Club was formed in 1982, but his membership lapsed at the end of 1983.

Dave, who lived at Stourvale Gardens, Chandlers Ford, worked in Storage Development at IBM Hursley. During his career the Company transferred him to the Havant Plant, and then at some point he was sent on assignment to an IBM location in the USA. His foreign assignment probably coincided with his lapsed membership of IVARC. He appears to have retired from IBM whilst in the USA, and then was involved with several different American amateur radio companies – ETO, Alpha/Power and Frontier Engineering.

Dave has always been a very enthusiastic amateur specialising in the 160 mtr band. As well as being a keen operator Dave is a very knowledgeable and enthusiastic constructor. I well remember being shown round his Shack and admiring his

magnificent home-built linear amplifier. He was fortunate in having waste land at the bottom of his garden (beyond a railway track) and he was able to erect large experimental Beverage antennas.

Larry sends a copy of an article which he wrote in 1981 which was published in the IBM Hursley journal 'Developments' :-

“Radio Amateur, Dave Wilson, of Storage Development, whose call sign is G3SZA is a member of the Radio Club at Hursley and has an international reputation as the leading European 160 mtr station. To emphasise this reputation he has just received three contest awards. In January he won the World Wide Contest organised by the American magazine “CQ”. Dave’s score was 97,152 points, which was not approached by any other contestant.

In February, he won the American Radio Relay League 160 mtr phone contest with 18,800 points and in March he won the ARRL 160 mtr CW contest with 20,000 points.

These three awards represent a remarkable achievement. The 160 mtr band is the most difficult of any of the HF bands on which to make long-distance communication. It requires of the operator, first of all, stamina to operate nearly continuously for 48 hours. Secondly, it requires operating expertise on a band where weak signals have to be winkled out from among the local 10 kW ship-to-shore stations. It is essential to have a receiver with exceptional performance (Dave uses a much modified American Drake receiver) and an efficient aerial system with particular regard for the receiving aerials.

Today, when excellence is the word, this is a fine example in the world of amateur radio.”

Article contributed by G2DSY

It should be mentioned that Dave was very hopeful of being awarded the very first 160 mtr DXCC, but one of his vital QSL cards was a long time coming and he lost out to an American amateur who beat him to it by just 2 weeks.

Dave’s current abode appears to be at Platteville, Colorado and by all accounts he continues to be one of the ‘big guns’ on 160 mtrs. Hopefully his achievements will inspire some of our younger members to greater ambitions in the near future.

MEMBERSHIP REPORT

I am sorry that I am not able to be with you all at the AGM I am slumming it in Cornwall.

The membership for this year started slowly but by the end of 2007 it rallied and we ended up with 48 Members, which is an improvement on last year. I hope this goes from strength to strength.

John Spooner G4ZYJ went Silent Key during the year. I have known John since we were both members of the Winchester Radio Club and I am sure he will be missed by the membership.

I was pleased by those members that have turned on their e-mail. We have 37 Members on e-mail so far, and it saves the Club money when sending information to them if they have an e-mail address. If we do not have yours please send it to me at malcolm.butler@virgin.net.

I would like to thank all Members for their correspondence throughout the year. If the Membership would like me to stand for the coming Year, I will be pleased to do so.

Malcolm Butler G0LMD



But my car radio won't tune down that low !!!

Slpel Cekicnhg

Aoccdrnig to a rseerachr at Cmabrigde Uinervtisy, it deosn't mtttaer in waht oredr the ltteers in a wrod are, the olny iprmoatnt tihng is taht the frist and lsat ltteer be at the rghit pclae. The rset can be a total mses and you can sitll raed it wouthit porbelm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe.

Amzanig !

BBC ends shortwave service in Europe

The BBC has been reducing its shortwave transmissions over the past seven years, eliminating services to North America and Australia in 2001 and South America in 2005. Last March, the BBC started reducing European transmissions, finally cutting off a transmitter that reached parts of southern Europe on Monday."

A BBC spokesman said, "There comes a point where the shortwave audience in a given region becomes so small that spending money on it can no longer be justified. Modern modes of communication have been squeezing out shortwave services in developed countries, where programming is available on FM radio, on the Internet and on iPods with wireless connections."

A Little Piece of Radio History

by Vic Bryant G3NVB

What was it like to start?

Back in 1958, when I was first licensed, things were very different to now. The main modulation mode used was CW, the sunspot cycle was at its maximum and the bands were not full of noise or Italians! My rig was a single valve (an 807) homebrew with an AR88 surplus receiver. Whilst one of the finest receivers made, it weighed about 50lbs and of course in those days no one considered dynamic range, noise, reciprocal mixing or any of the topics that are so important today. I have to admit that my mechanical construction efforts would not have won any prize in a beauty competition.

It was my first experience into "System Design", because before I could get on the air there was the need for an Aerial tuner, into the ZL Special at 20ft., an arrangement for getting sidetone, netting the transmitter, a power supply and so on. There were even more things to consider when I ventured into speech.

However there was no substitute to the satisfaction felt when at 6.30 in the morning one heard your call sign coming back, scratchy and noisy, from a W6 in California before the band faded out at 7.00am. DX was the norm in those days, and one could work East Coast Americans at 5pm regularly together with VKs and ZLs all of whom would be very punctilious in sending QSL cards.

The advent of SSB

They were exciting days because the move into the use of SSB was gaining popularity, although it had been in use by commercial stations for some time. Standard AM was OK but involved either a separate audio modulator delivering some tens of Watts into the output RF stage (High Level modulation) or other forms of a low level modulation, which produced less power. The mathematicians produced lots of sums showing how efficient SSB was and how one should adopt this marvellous form of modulation.

Two methods of producing (and receiving) SSB were in use. Both used a balanced modulator to generate a double side-band signal. Then came the

problem of eliminating the unwanted sideband of which there were two methods - firstly a crystal filter to eliminate the opposite sideband by what can best be described as "Brute Force". Crystal filters were very expensive at that time and not easily obtained - the phrase "Eye-Wateringly expensive" springs to mind. The second and most popular at that time was the "Phasing" method, whereby the opposite side band is cancelled by the phase shift of a second signal path as shown in Fig.1.

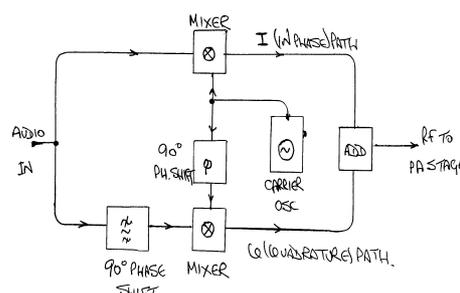


Fig 1. The Phasing method of SSB generation

Again there were performance limitations in unwanted sideband cancellation because of the accuracy of the various phase shift techniques. Also amplitude of the two signal paths had to be matched accurately and of course both phase and amplitude accuracy had to be maintained over time and for temperature variations. Accuracies of better than 0.1dB amplitude and 0.1 degree phase matching were considered good.

Nevertheless my first effort at a phasing rig worked although with no test gear I had no idea of its performance. The receiving demodulator was the receiver with the BFO turned on which needed constant and careful adjustment. The result was QSOs to e.g. VE land and all very exciting. The level of opposite sideband was of no worry as there were not a lot of stations and QRM was not a problem. The performance of opposite sideband suppression was probably about 20-30dB, which was not all that good (in fact it was pretty awful) but today with crowded bands and lots of strong signals it is just not at all satisfactory. One problem was the process of achieving a phase shift of exactly 90 degrees over the audio band 300-3000 Hz, a frequency range of 10-1. This led to a number of very complex audio circuits which if anything were "Component Hungry".

Enter Weaver

Weaver was a man who was capable of "Lateral Thinking". He hit on the idea of splitting the audio band into two, and processing each sub band as two separate paths. His proposal was published in a classic paper in the Proceedings of the (US) IRE, December 1956 and involved the generation of a "Pilot Carrier" at about 1700 Hz. Using this pilot signal, the audio band was split into two, the lower section being modulated as a "Lower Sideband" and the upper part of the audio band being handled as an "Upper sideband. This meant that considering the pilot signal as an audio carrier, the resulting "lower sideband" would produce an unwanted sideband in the upper part of the audio band and the corresponding "Upper Sideband" would produce an unwanted sideband in the lower part of the audio band. This is shown in Fig 2.

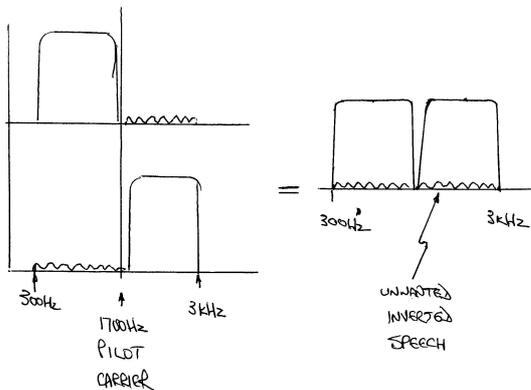


Fig 2. The Weaver (3rd method) scheme

The net effect was to produce two audio sidebands the opposite way round, with the "Unwanted Sideband" in the form of inverted speech under the wanted speech. However the modulation is totally contained within the audio band and there is no unwanted "Opposite Sideband" as we know it. The only shortcoming is the notch in the middle of the audio band, which in normal use is not noticeable. Very high levels of unwanted sideband (20dB suppression) can be tolerated before the resulting speech becomes "Funny" but even then the resulting signal is still quite intelligible. The scheme is shown in Fig 3 and the system diagram in Fig. 4

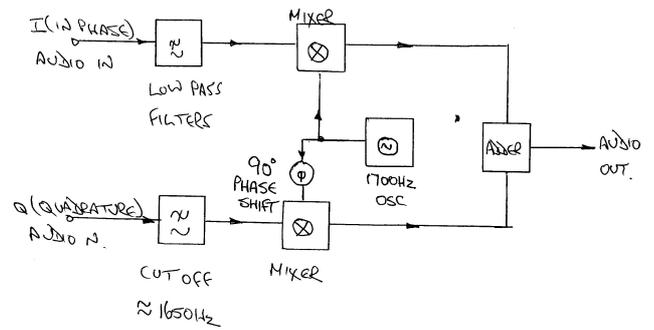


Fig 3. Elements of 3rd method demodulator

Redifon was a small radio company in Crawley that produced a modulator commercially in about 1962 but it never went into production. The modulator at that time required a couple of passive component low pass filters that were bulky and quite expensive. Also the notch in the middle of the band was not acceptable for other types of complex modulation schemes that were available commercially and which required access to the whole audio band.

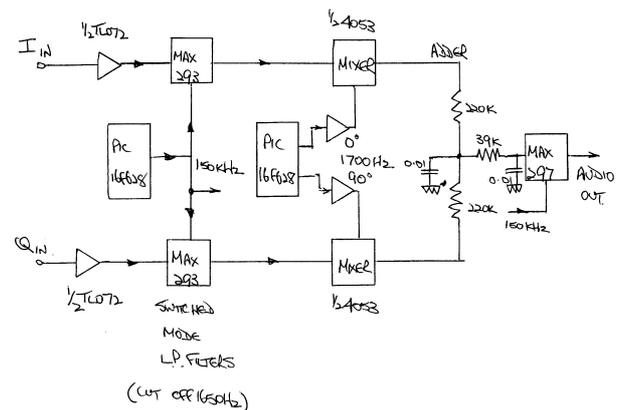


Fig 4. Practical 3rd method demodulator : Circuit Blocks

So now we move to the present time and such a modulator/demodulator was used by G3XJP in his design published in RADCOM in 1996 I have now at last built a receiving version using a PIC for each of the two oscillators, which I programmed following the excellent instruction given last year by G0UKB. It has all been a steep learning curve.

Fig 5 shows a picture of the current model. You will see it needs a bit of tidying up. I hope to put on a demonstration some time at the Club as part of my work on SDR

Fig 5. The current model

This article is very much a report of "Work in Progress" as I want to gradually introduce more software elements into the design. I believe that several software designs employ the 3rd method but require the PC for processing. My aim is to employ more PICs as far as possible so the project is really one of many of mine that are never finished. In time I hope to put it into an 80m receiver with a Soft rock front end suitably provided with a stabilised VFO. More of that anon.

Vic Bryant G3NVB



DOES YOUR CAR LOOK LIKE THIS ?



Mobile Nightmare !!

UK Amateur Radio Licences as at 31st January 2008

The UK regulator Ofcom has supplied the figures for the total number of Amateur Radio Licences issued as at 31st January 2008

Change since last year

Grade	31st Jan 08	31st Jan 07	Change
Foundation	9760	8058	+1702
Intermediate	4176	3505	+671
Full/Advanced	50605	49269	+1336
Club Stations	1303	1217	+86

The change in Advanced licences over the year should be treated with some caution. It appears to show that the number of Advanced licence holders increased by **1336**. There was, however, an unexpected drop of **2857** in December 2006 that may have been related to the introduction of a new online licensing system. It could be that the apparent large increase is caused by some of those that were dropped coming back into the licence figures.

THINKING DAY ON THE AIR 17/18th FEBRUARY 2007

Once again members of the club set-up and operated a special event station from the Girlguiding UK training centre called Foxlease in Lyndhurst. Here are reports from four of the stations taking part across the UK.

GB2FOX – Foxlease Training and Activity Centre, Hampshire

As in previous years Foxlease had a TDOTA station as part of their Thinking Day weekend. Brownies and Guides designed and made the stations QSL cards whilst waiting for their turn to pass greetings messages to one of the other Guiding stations contacted over the weekend. After talking on the radio each girl was given a participation certificate to use towards their communications badge. Unfortunately the station was unable to contact any of the Canadian stations, but did speak to the one in Holland PA6TD/J.



GB4SUN – South and Upper Norwood, Surrey

Nearly 120 Rainbows, Brownies and Guides visited this station during the two days it was on air. The station contacted six other UK TDOTA stations giving everyone a chance to exchange greetings messages. Both Brownies and Guides were able to work towards their World Guiding Badges, whilst the Guides also gained their Communicator Badge. Guide Maura Barber, who has the Amateur Radio call sign M3URA, was part of the team lead by her father Stuart, G6CJR, who enabled the girls to also experience Echolink. One of the many activities during the weekend was making earrings from resistors.

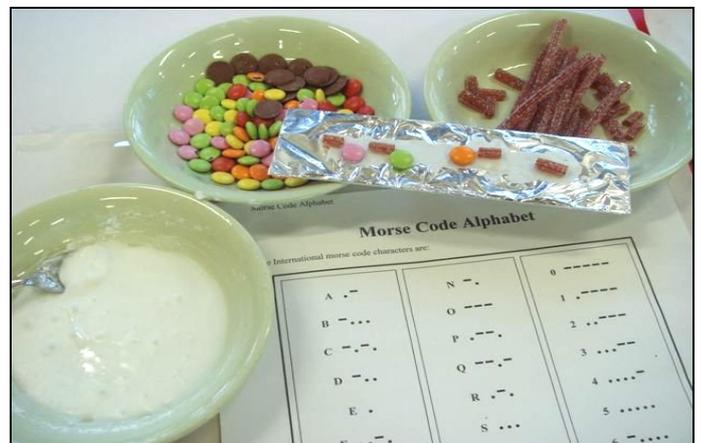
GB0VOM – Thirsk, North Yorkshire

The Vale of Mowbray District attracted nearly 100 visitors to their station which operated both on

Saturday and Sunday. Rainbows, Brownies and Guides had the opportunity to make mobile phone bookmarks, radio ritas and peace doves or to play phonetic alphabet games. Brownies gained their Communicator badge and everyone completed clauses of World Guiding badges. As well as a visit from their Division Commissioner the station had a visit from a Trefoil Guild member who used to be a radio operator during the war. The station worked eight of the UK TDOTA stations as well as radio amateurs across Europe. They were pleased with a contact into Slovenia using PSK31.

GX3CO – Colchester, Essex

Lexden Heath District were pleased that Colchester Radio Amateurs were able to provide a station which was visited by the Mayor and Mayoress of Colchester; the Mayor holds an Amateur Radio Licence and the Mayoress is a Guide Guider. The many girls visiting the station were able to make contact with stations in the UK, Netherlands and Canada. They also had time for craft activities whilst working towards Communicator Badge. Kevan Pugh from the radio club reported that the club would be keen to take part next year and 'seeing the girls faces light up when they chatted with other Guides about their hobbies and pets gave us all a real buzz'.



I should like to thank everybody for their help and support.

Liz Jones M0ACL

ORIGINS of the BBC

I have to confess I cannot resist visiting car boot sales – I guess the fascination is never knowing what I am going to find. Up until we moved house, just over a year ago, one of my favourite haunts was the Saturday Shootash Boot Sale which is just a mile or so outside Romsey. Brian, G0UKB, will confirm the fact, because we sometimes bumped into each other there.

One morning while I was rummaging through the boxes I came across what appeared to be a very early valve carton.

What was even more interesting was the valve specification list printed on the side (in the early days before the era of valve data books the specifications of the valve always came printed on the box)



But the best part was yet to come – inside I discovered a carefully packed 4 pin valve (presumably a triode), which appeared to be in gleaming ‘mint’ condition. There was a BBC logo stamped on the glass envelope, but no valve number. The writing around the brass-coloured base proclaimed ‘2 volts max, dull emitting.’ The outside of the carton stated the valve type was ‘ARDE’ which I later discovered stood for ‘Amateur Radio Dull Emitter.’

Further research suggests the ARDE was introduced in 1923 as a general purpose low temperature valve. Ediswan made three versions of the ARDE. It had a red stripe for RF and Detector use. A green stripe for Detector and AF use, and the general purpose version without any additional paint stripe. As my valve does not have a paint stripe I assume it is the general purpose version.

Perhaps the most interesting feature is the BBC logo etched into the glass envelope – there is an interesting story behind it: Just the previous year,

1922, the Marconi Company had persuaded the Post Office to grant them a licence allowing them to broadcast for an hour a day in London from the roof of Marconi House, using the call-sign ‘2LO’. The station, which was run by Arthur Burrows, opened in May 1922.

The following month, June 1922, ‘2LO’ was permitted to radiate its first concert. This was followed by occasional broadcasts which had an initial range of 30/40 miles, but later on the range was increased and the broadcasts reached an audience of 30,000.

Within a week of ‘2LO’s’ launch the Postmaster General had to intervene because he had been completely inundated with applications for licences to broadcast, and his advice was that manufacturers of wireless equipment should form a single consortium.



By mid-October agreement had been reached between the Post Office and the ‘big six’ manufacturers - The Marconi Co; The General Electric Co; The Radio Communications Co; Metropolitan Vickers Co; Western Electric Co and The British Thompson-Houston Company.

The consortium would be called the **British Broadcasting Company**, which would invite smaller businesses in the industry to become shareholding members, paying it a tariff on every receiver and component they sold. The BBC would also receive 50% of each listener’s annual licence fee of **10 shillings**.

On November 1st 1922 a scheme was introduced whereby all commercially manufactured crystal sets, valve receivers and valve amplifiers bought for use under the broadcast licence had to be of British manufacture, made by a member firm of the British Broadcasting Company and approved by the Post Master General. All such wireless equipment

had to bear the **BBC/PMG stamp** together with a GPO registration number (see left hand stamp below). Accessories such as valves, headphones and loudspeakers also had to be of British manufacture and be made by a member firm of the BBC, and while they were neither tested nor given GPO registration numbers, they did have to bear the BBC/PMG stamp.



BBC/PMG stamp used from 01/11/1922 to 09/1924



BBC/EBM stamp used from 09/1924 to 1927

On 1st October 1923 royalties on the BBC/PMG stamped equipment were reduced and they were abolished altogether on valves, headphones and loudspeakers.

	01/11/1922 to 30/09/1923	01/10/1923 to 01/07/1924
	Royalty	Royalty
Crystal Set	7s 6d	1s 0d
Microphone Amplifier	7s 6d	5s 0d
1-Valve/Crystal Set	£1 7s 6d	11s 0d
2-Valve/Crystal Set	£2 2s 6d	18s 6d
1-Valve Set	£1 0s 0d	10s 0d
2-Valve Set	£1 15s 6d	17s 6d
Multi-Valve Set (extra per valve)	10s 0d	5s 0d
Valve Amplifier (per valve)	10s 0d	5s 0d
Valve Itself	3d	Charge abolished
Headphones (per earpiece)	3d	Charge abolished
Loud-Speaker	3s 0d	Charge abolished

Finally on 1st July 1924 royalties on BBC/PMG-stamped equipment, together with the Post Office's testing and registration scheme, were abolished

completely. Under the new regulations it became possible for equipment to be bought from any British manufacturer, even if they were not a member of the BBC. However the equipment must still display the BBC/PMG stamp even if it had not been submitted for approval.

September 1924 saw the BBC/PMG stamp replaced by the BBC/EBM stamp which was only used on receivers manufactured by member firms of the BBC.



Miss Olive Sturgess and Mr John Huntingdon performing a duet in the Marconi House studio for broadcast by the 2LO transmitter

The BBC stamp regulations were finally abolished on 1st January 1925 but many companies continued to use the BBC/EBM stamp on their receivers, perhaps for prestige purposes or maybe to show patriotism.

In summary, it would appear my boot sale 'find', which has a BBC/PMG stamp, was probably manufactured 1923/1924, and the original purchaser may possibly have paid an extra 3d royalty to the BBC as part of the retail price. At the Shootash boot sale my little piece of wireless history had cost me the 'princely' sum of 50 pence.

On checking recent antique radio auctions I discovered that Ediswan 'ARDE' valves are still in great demand. In '**used and working**' condition they fetch about £18, but one specimen in '**nos**' (new old stock) condition recently realised the unbelievable sum of £60. Not a bad return for a 50 pence outlay !

Ted Stiles G0BHK

Chairman's Report 2007

Another year passed and another successful year for Itchen Valley Amateur Radio Club. Everybody has put something into the Club and everybody has enjoyed all that has been contributed.

Unfortunately my contribution has been very minimal so I have the very pleasant task of thanking those who have helped me through the year.

A very big THANK YOU goes to Vic G3NVB who stood in for me as Chairman virtually for the whole year. He has been an inspiration to all. His enthusiasm for the Club and for trying new things out and sharing his results, good and not so good, with us all has, I think, encouraged most of us to have a go at something. Thank you Vic.

THANKS to all on the Committee who have steered us through the year.

Brian G0UKB ably assisted by Liz M0ACL for organising the Guide and Scout events and Brian for his presentations and trying to keep us up to date with computerisation.

Ted G0BHK our Treasurer for keeping us financially sound even though he now lives far away in another county but maintains his loyalty to IVARC, THANK YOU.

Quintin M1ENU has done a splendid job as Secretary. Although I have not been very active Quintin has kept me fully up to date with all the happenings within the Club. He has organised the calendar of events and made all the arrangements for our visiting speakers, THANK YOU.

Our Membership Secretary, Malcolm G0LMD has done a fantastic job in getting everybody's e-mail address for communication purposes and has been successful in maintaining and increasing our membership, THANK YOU.

What would we do if we did not have Jim, M0FKG quenching our thirsts. It might look a simple task but arranging to have fresh milk, tea, coffee and biscuits there for us is a responsible position and a thankless task when it comes to washing up and clearing away. THANK YOU Jim.

And the BIGGEST THANK YOU OF ALL goes to all from us all at the Club who chip in to help whenever it is needed and for their attendance which makes for very interesting meetings every time we get together.

The Club continues to have a solid base and has run a regular programme of talks, training and other activities. Congratulations were made to those who passed the licence exams, run by G0UKB, M0ACL, G0VNI and G0WIL.

Relations with other clubs have been maintained with exchange Quiz Nights.

We are fortunate in having a wealth of talent and experience within the Club and the range of topics presented in the talks both by members and outside speakers is impressively wide reflecting the range of subjects that occur in our hobby.

Members evenings have been noteworthy and modern technology has been employed to the full with, for example, when G8IOK demonstrates a live wireless connection to the Internet and down loads software "On the Fly".

An additional item worthy of note is the increased use of the Club's laptop and projector: this means that the speaker only has to provide a "Memory Stick" with his presentation. The days of the overhead projector with transparencies are long since gone.

Finally mention must be made of the new interactive Web Site introduced in January and managed by G0UKB and M0ACL. This has provided a vehicle for club members (and other radio enthusiasts) to exchange information, views, articles, reports on their activities and news. I believe this service is valuable in keeping members informed of what is going on. Special thanks must go to Brian and Liz for their efforts in generating and managing this facility. Club members are exhorted to make good use of the Web Site which is believed to be the envy of other clubs.

It is hoped to extend the topics and our activities next year which promises to be very interesting and exciting.

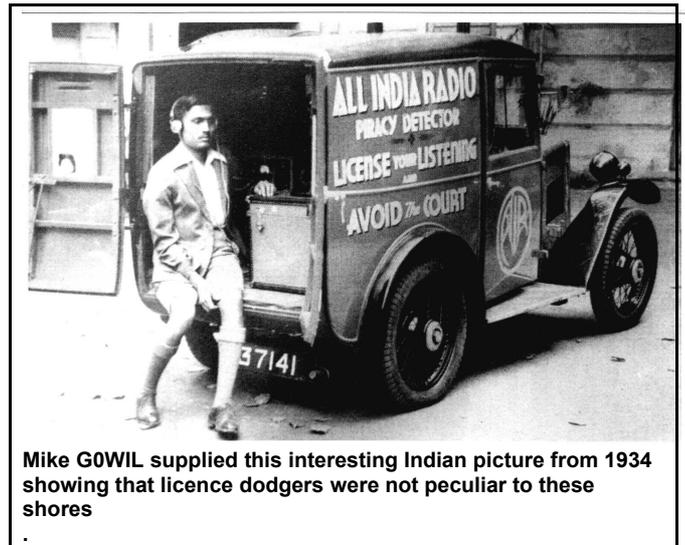
Brian Harrison M0WSR and Vic Bryant G3NVB

CW Forever and Ever

You must have at times,
Thought into the past,
Where some things go out
While others last
What comes to my mind is
The old Morse code,
That has weathered the storms
From any abode.
To talk with one's fingers
Is surely an art,
Of any info you
Care to impart,
In most conditions
The signals get through,
While the same about phone
Is simply not true.
Those dits and dahs
Cut through the trash,
Of nearby noise or
Lightning's crash.
To the sensitive ears
Of the ham's receiver,
Who records this data
With ardent fever.
He knows he's doing
Something unique,
(in such poor conditions,
That's quite a feat)
To roger the message
That came off the air,
These brass pounders
Sure do have that flair.
They say Morse ops
Are a dying breed,
But don't despair,
There's always that need,
That when conditions get rough
for the new automation,
Be rest assured,
There'll be need for your station.
CW is dying?
Believe it never,
This mode will be 'round
Forever and ever.
But one thing is sure ,
What we really need,
Is to relay our knowledge
To the younger breed.
To carry the torch,

Long after we're gone,
To send Morse code
Through the air like a song.
When at last,
Silent keys pull that lever,
We can rest in peace,
It's CW forever

by Jim Hatherley WA1TBY



Mike GOWIL supplied this interesting Indian picture from 1934 showing that licence dodgers were not peculiar to these shores

JUST LICENCED AND NO RIG YET ? GET ON THE AIR WITH ECHOLINK

So you have just received your new callsign and you can't wait to make amateur radio contacts You can't because you have no equipment as yet. Echolink can end your frustration within a few minutes. After reading this article you could be accessing any of the 2000 repeaters linked to the system and work some DX.

For licenced hams, EchoLink® software opens up new possibilities for communicating around the world with other amateurs. Your PC links you to any of thousands of other stations over the Internet. There are more than 170,000 registered users in 158 nations worldwide ! As a newcomer to amateur radio all you need is a PC, a microphone, speakers and an Internet connection. A dial-up will work but a broadband connection will deliver better quality.

How to get connected ?

First you need to download the Echolink software. EchoLink® software is offered free of charge to licenced Amateur Radio operators worldwide, for Amateur Radio use only. Please note that you must hold a valid Amateur Radio licence in order to use EchoLink. After installing the program, you must provide proof of licence if you wish to use it.

Jonathan Taylor, K1RFD, developed EchoLink in early 2002. In an astonishingly short period of time, EchoLink has become one of the dominant Amateur Radio VoIP systems. The free EchoLink software for *Windows* can be downloaded at www.echolink.org.

When you start the EchoLink software, your computer taps the Internet to connect to an EchoLink server. Before you can make your first connection to the network, your call sign must be verified. . This can take minutes or hours, depending on the state of the system, but it helps reduce the chances of non-hams entering the EchoLink network.

Once you're validated (you only do this once), the rest is easy. The EchoLink server acts like a telephone switchboard in cyberspace. It maintains a directory of everyone who is connected at any moment. After browsing the directory, you can request a connection between your computer and that of another amateur. Here's where it becomes interesting. The amateur on the EchoLink receiving end may be

sitting in front of his computer with a headset and microphone. Or he may have his computer connected to a base radio at his station that is acting as an RF relay to a handheld transceiver or mobile rig. Or the destination station may be part of a repeater system. In any case, once the connection is established, anything you say will wind up being heard in the other amateur's headset, or transmitted over the air. At your end of the EchoLink connection, you may be the one wearing the headset, or using a simplex connection to your base radio, or using a repeater. When you connect to an individual station, the custom is to call in the same fashion as you would during a traditional on-air conversation: "G3FZJ from M0JUT."

The EchoLink servers also support *conferencing* where several amateurs can converse in a roundtable fashion. There are even EchoLink nets that meet within these conference areas on a scheduled basis.

EchoLink Setup

To run EchoLink you'll need a PC with *Windows 98/2000/XP* and a sound card. The software is easy to set up. A "wizard" function guides you through each step. If you want to enjoy EchoLink conversations while sitting at your computer, you will need a microphone headset. The microphone plug attaches to the microphone input jack of your sound card and the headphone plug typically attaches to the SPEAKER OUT jack. In addition to setting up the EchoLink software, you may also need to adjust your sound card VOLUME and RECORDING control settings in *Windows*. If you are using a wireless router you may not be able to connect to Echolink without changing some of the settings. EchoLink requires that your router or firewall allow inbound and outbound UDP to destination ports 5198 and 5199, and outbound TCP to port 5200. Source ports are dynamically assigned. If you are using a home-network router, you will also need to configure the router to "forward" UDP ports 5198 and 5199 to the PC on which EchoLink is running.

The EchoLink website, www.echolink.org includes many help files and a FAQ that will assist you in setting up.

Ham Radio Operator passes on sad news of the death of King George VI

Mike G0WIL pointed out an interesting article from The Sunday Express which reports it was an African Amateur Radio Operator who was responsible for relaying on to our Queen the news that her father King George VI had died.

Princess Elizabeth, as she then was, and Prince Philip were on a tour of Africa and staying at the famous Treetops Hotel, but a telegram giving them the news that the King had died of cancer on February 6th 1952 somehow got lost.

Major Douglas Riley, who was in charge of the royal couple's protection, recalls how he heard the news from a local farmer.

He was on patrol when he was approached by the farmer who asked how he was getting on with the Royal Family? He said everything was fine, but the farmer corrected him saying 'No, it's not, the King is dead.' He was a radio ham and had just heard the news.

The news was then relayed to Prince Philip, who broke it to his 25 year old wife.

Major Riley then had the task of safely escorting the royal party across the Aberdare mountains on their way out of Kenya and back to London. It was a particularly precarious mission because of the ever-present threat of Mau Mau terrorists.

OX3XR keen to work UK stations on 5MHz

Peter Thulesen, OX3XR, is looking for contacts on 5MHz which is newly available in Greenland.

He is licensed to use the same seven spot frequencies used in the UK - 5260, 5280, 5290, 5368, 5373, 5400, 5405 kHz. He has listened daily on 5MHz but has not yet heard any UK activity.

Stations in the North of the UK might just manage contacts with him using CW during daylight, but contacts are likely to be more successful in the evening once both the UK and Greenland are in darkness.

He is keen to work UK stations on 5MHz and if you wish to make a schedule with him, Peter can be emailed at ox3xr@greenet.gl

Lesotho DXpedition

Belgian operators and members of the Radio Club Secunda from South Africa will be active from Katse Dam in Lesotho from March 27th to April 3rd.

The team consists of: Filip/ON4AEO (previously operated 3DA0FC), Kath/ON7BK (previously operated 3DA0FC), Gert/ZS6GC (previously operated 3DA0FC), Sid/ZS5AYC, Lucas/ZS6ACT, Tom/ZS6TMO, Adele/ZR6APT, Edwin/ZS5BBO, Janet/ZS5JAN, Steffi and Elna.

The following are the suggested frequencies and modes:

BANDS	SSB	RTTY	PSK
160m	1845	-	-
80m	3780	3590	-
40m	7063	7040	7038
20m	14185	14084	14072
17m	18136	18104	18102
15m	21290	21084	21072
12m	24930	24924	24922
10m	28490	28084	28122 kHz

The TEAM will be using the following radios: Two Icom IC706's, one TS50, two FT857's, one FT707, one Icom IC720A, one TS120S and a HA 14 Heathkit with HA24 power supply. The TEAM will use the following antennas: A 40m 1/4 wave vertical from GB Tower, a 80m 1/4 wave vertical Spider Beam, on 10-15m a Spider Beam and on 10/12/15/17/20m a Hexbeam. They will also be using a 3 element STEPPIR antenna with an add for 40-30m. Listening antenna on 80m will be a K9AY loop, and for listening on 40m they will use a dipole antenna. If antenna can be repaired in time, they will have a Battle Creek Special for 160m and 80m.

The QSL Manager is ON4CJK.

The direct address is:

Jose Duyck, Molenakker 56, 8740 Egem, Belgium.

Further information on this expedition can be obtained by visiting their Web site at:

<http://www.7p8fc.be/index.htm>