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Kent Repeater Group



- * Repeater Updates
- * Men at Work
- * Meeting Minutes
- * AGM Agenda for
Friday 17th June at UKC
- * .. and much more!

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Kent Repeater Group - Newsletter - Issue 117 - Summer 2005

117

Edline

Dave Williams G8PUO

No sooner as one could blink, six months have simply flash by since the last newsletter!

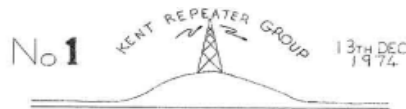
Great news on the Secretary front in that at the March KRG committee meeting, we were able to warmly welcome the wonderful talents of Fiona Godfrey M3BYZ as Secretary, with the support of Ken Godfrey 2E1HYN as an Ordinary Member. Both Fiona and Ken are well known in the area and very active members of our local Hilderstone Radio and Electronics Club. Pleased to see you on board.

Its also good to see that GB3KS has moved forwards and sporting its new aerial, together with Don and his teams magic wand (more on this later), is seeing new activity – keep it up!

With the temperatures threatening to rise during these summer months, I'm sure we will see and hear more of you at the various outside activities, BBQ's, fox hunts etc. Have a great summer and don't forget the AGM!

Regards
Dave

Early Newsletter Issues - Back in 1974!



You probably know I sometimes harp on about the lack of articles, well thanks to Paul G3VJF, we have managed to get a bundle of the original artwork from the

vintage days of 1974, through to 1977! So unless I have some offerings before the Winter issue, I may well subjecting you to some bygone scribbings! These interesting old newsletters will also be compiled in the next few weeks and PDF'd ready for download, so helping you pass those summer evenings.

Next Newsletter - Summer 2005

Next KRG Newsletter Issue Features: More members features, plus a lot more!

To guarantee your copy and continued valued support of the KRG team, please ensure your KRG subscriptions are up-to-date.

Copy Deadline for the **Winter 2005 issue** is **Nov (TBC)**. Please ensure all Editorials; Technical Reports, Pictures etc are emailed to krg@g8puo.co.uk by this time. Thank You.

Kent Repeater Group Directory

KRG Web Site: www.krg.org.uk
KRG Email (Member Details Update): members@krg.org.uk
GB3EK Margate Web Site: www.gb3ek.co.uk

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KRG Newsletters: www.krg.org.uk www.radio-ham.org
goto **DOCUMENTS** and text search for **KRG**

Bygone EK



Can you guess
the year?

Secondly, to improve the receiver sensitivity we need to get better isolation between the transmitter and receiver. Although the isolation is currently good, some additional isolation will enable us to make use of the sensitivity available at the receiver.

There is a maximum sensitivity available and this is governed by the noise floor.

Thirdly, although a new antenna has been fitted to the mast, on the day of installation it was unfortunately foggy. The rigger has positioned the antenna a tad too far north – which will be corrected once we are able to get him back to site.

Fourthly, to enable us to provide the best coverage available from the site, it relies on 'you', the users to use the repeater currently and take reference as to the signal levels received and coverage area, so that when the above are put into place, we can see the degree of improvement.



NOTICE - AGM Agenda - Friday 17th June 2005

The Annual General Meeting of the Kent Repeater Group will be held on Friday 17th June 2005 at 20.00 hrs in the Electronics Building, the University of Kent, Canterbury, Kent.

AGENDA (Originally for 2004)

1. To receive apologies for absence.
2. To approve the minutes of the previous AGM held on 28th June 2003 as published in the Newsletter.
3. To receive the Chairman's report, G4RVV.
4.
 - a) To receive the Treasurer's report, G6ZAA.
 - b) To agree the Subscription for 2004/2005
 - c) To appoint an Independent Examiner for 2004/2005
5. To receive Technical Reports from Repeater Managers.

GB3CK	M0ZAA
GB3EK	G4TKR
GB3KN	G3YCN
GB3KS	M1BKI
GB3NK	G4RVV
GB3RE	G4AKQ
GB3SK	G6DIK
6. To elect officers and confirm the appointment of Repeater Managers for 2004/2005

President [2002-2005]	
Chairman	
Secretary	
Treasurer	
Newsletter Editor	
Ordinary member (a)	
Ordinary member (b)	
GB3CK	M0ZAA
GB3EK	G4TKR
GB3KN	G3YCN
GB3KS	M1BKI
GB3NK	G4RVV
GB3RE	G4AKQ
GB3SK	G6DIK
7. To consider any other business.

Minutes of Previous AGM 28th June 2003

Minutes of the Annual General Meeting of the Kent Repeater Group held on Friday 27th June 2003 at 20.00 hrs in the Electronics Building, the University of Kent, Canterbury, Kent.

G4RVV in the Chair and 15 members present.

1. Apologies for absence.

G4TKR, G1TVJ, G7MFW, G1OMH, G3GJW & G8HLE. Members then stood in silence in memory of G8JNZ.

2. Minutes of the previous AGM

The minutes of the AGM held on 28th June 2002 were proposed by G3YCN, seconded by 2E1HOJ and agreed as a correct record.

3. Chairman's report

The Chairman's report as published in the June issue of the Newsletter was received.

4. a) To receive the Treasurer's report.

The accounts, which had yet to be examined, for year ended 31st March 2003 were tabled. (copy attached to signed minutes). It was noted that the Group now had 174 members.

b) Subscription for 2003/2004

The Treasurer recommended that the existing subscription rates should be retained.

c) Auditor for 2003/2004

It was agreed to invite the existing independent examiner, G4NPM to continue.

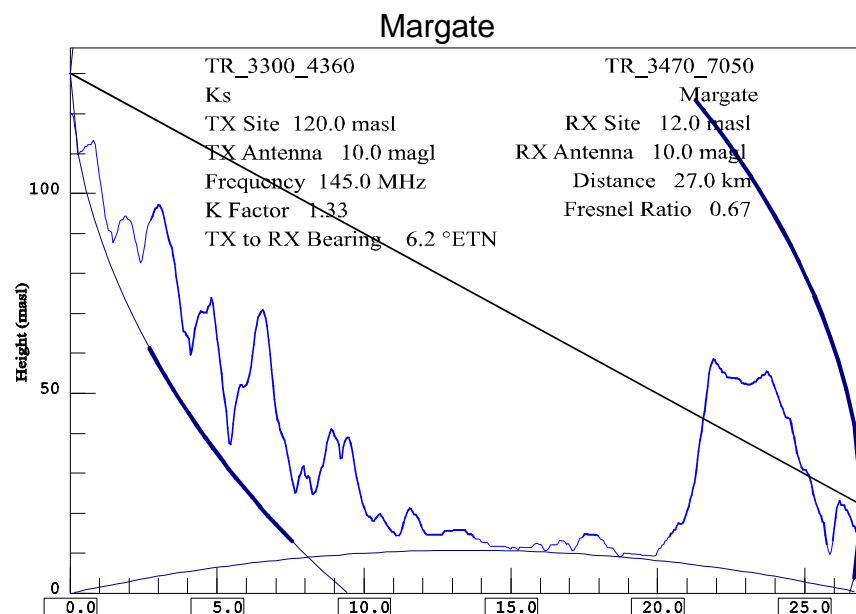
G1HQJ proposed that: the treasurers report be received, the accounts be published in the Newsletter on completion of their examination, the recommendation regarding subscriptions be accepted and that the independent examiner should be re-appointed. This was seconded by G6DIK and agreed.

5. To receive Technical Reports from Repeater Managers.

GB3CK – M0ZAA's reported that there was a crackle on the repeaters signal which was thought to be due to a problem with the aerial or its associated mast. A site visit to resolve the problem was planned.

GB3EK – G8PUO reported the repeater was working well although there had been problems with interference. The cavities had been tweaked to resolve this. The adjacent aerial dishes were also causing some problems. One of the sub audible tones in the logic had failed. This was not a problem as VOX operation was possible so there were no plans to fix the tone.

GB3KN - G3YCN advised that last year there was virtually no trouble with the repeater. This year it has been a different story. Several repairs had been made at different times to the Marconi PA and its spare including replacing dried out electrolytic smoothing capacitors. All the basic Pye & Marconi units are over 30 years old though much modified and repaired so components do wear out.



So why did the old repeater that was just up the road at Guston, work then?

The site at Guston is approx 120 ft to the aerials, which were higher than the present site.

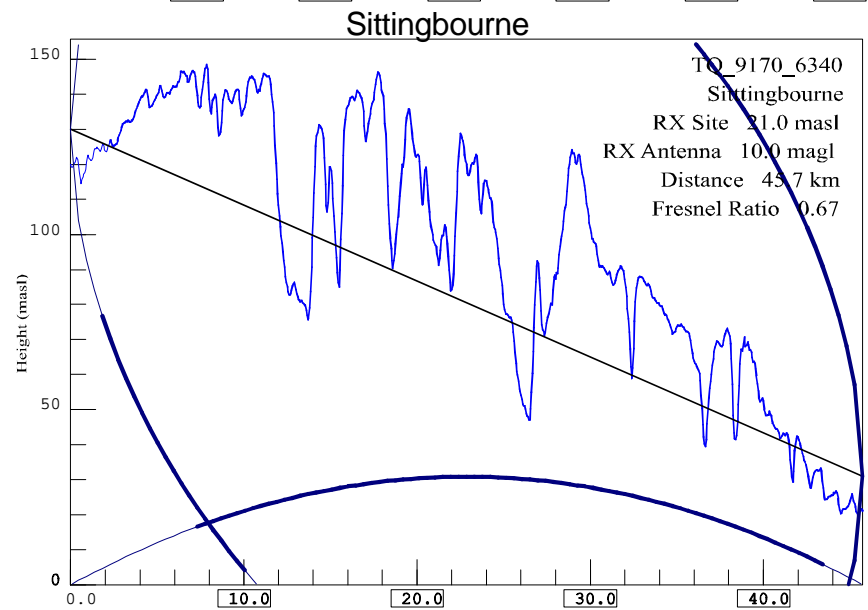
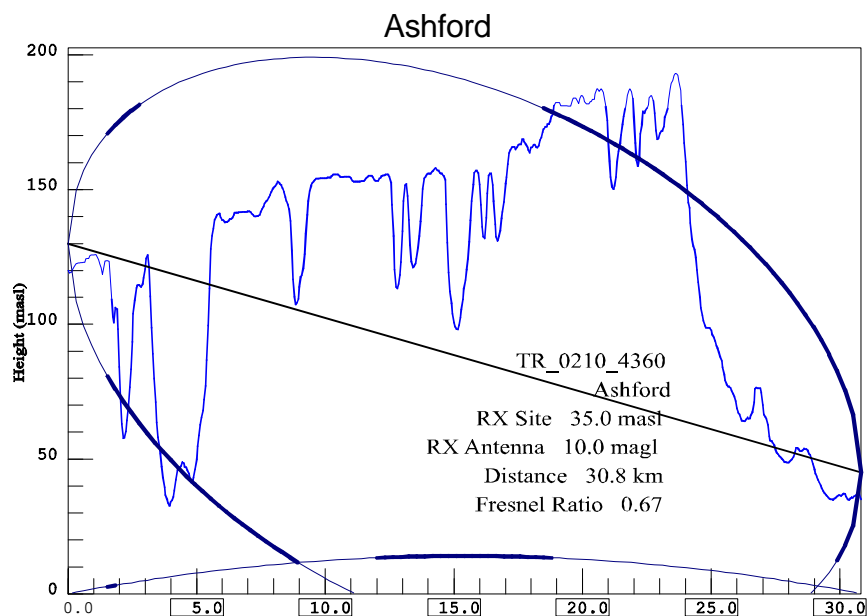
If you look at the plots current height is 120 metres ASL. If you were add the additional height, the old site provided majority of the hills are missed.

So what can we do?

First we need to remove the interference that is being generated on site. This is being produced by a dirty data transmitter, some 25 MHz away and produces the burst noise heard on weak signals.

Because the transmitter is dirty, it is radiating RF on our input frequency – therefore it is not possible for us to cure the interference using filters. You must rely on the maintenance service used by the site provider to fix the transmitter.

The other plots below, show paths from KS to Ashford, Sittingbourne and Margate. Again there are large hills in the way.



The duplexer had been retuned twice, the last time as recently as this week and there is a considerable improvement due to the absence of desense which had been as much as 10dB. The delay in dealing with this is regretted but was due to the work commitments of G1 OMH who has the test gear for this tedious job. He gave up over two hours of the working day on Tuesday to do this for us and G3YCN was very grateful to him.

On several occasions the receiver noise squelch has required readjustment presumably due to changes in the ambient temperature. Though the noise squelch setting affects those that do not use CTCSS those that do, will find that the system will respond to the detection of CTCSS which will open the squelch regardless of the squelch control setting. What this means is that there is a definite advantage in using CTCSS which is not present when using 1750 Hz toneburst. The CTCSS sensitivity has been increased in the last few months as it did seem that 250Hz. deviation of CTCSS was not sufficient for access. The receivers should now respond to 250 Hz CTCSS deviation.

GB3KS – M1BKI reported that the repeater has been working well except that I have had reports of it going deaf to the Folkestone and the Marsh areas. Also a couple of reports from else ware. G1OMH has been informed of this and will be taking a look as soon as is work permits. The repeater experienced a complete loss of power to the site on the afternoon of the 19th June. The power came back on sometime during the night. Times of going off air and back on air not known.

GB3NK - G4RVV advised that repeater has performed OK over the last year without any technical failures since it's relocation to Erith. Over the last year the working group have evaluated the coverage of the repeater and concluded that the 3 ele beam pointing south from the site was not providing sufficient coverage of the intended area. It was decided that a change to omni directional working would greatly improve the coverage area without compromising the existing coverage. After the application to the RMG was approved the antenna was changed to a Diamond X50. Immediately the improved coverage proved beneficial without unduly overlapping adjacent repeater coverage areas in Essex. At the same time that the application was submitted for the antenna change, consideration was given to improving usage by linking the repeater to the Internet. GB3EK already had this facility using Echolink and it was decided to link GB3NK using the same. This would provide a chance at a later date to link to other Kent repeaters if they choose to do the same.

Luckily at the repeater site there was already an ADSL connection to the Internet available for our use if required. The application to the RMG and ultimately to the RA proved uneventful in that they stated that no NOV for linking as no radio linking or control would be involved. The Internet linking was achieved by having the computer running Echolink adjacent to the repeater, and the computer is connected to the Internet via a network connection to the ADSL line, and using an ADSL router thus sharing the bandwidth of the ADSL line with the site owner.

Some considerable modifications were carried out on the repeater to enable this direct Internet connection, and to ensure that if any part of the Internet side such as the computer fail, simple disconnection of the cables from the repeater to the computer would enable the repeater to work normally again without linking. In addition, a control facility to enable or disable Internet linking remotely had to be provided. This has been achieved by using the Internet to provide remote control of linking by the control operators. All this was achieved in only a

short period of time by the efforts of Phil G4EGU, Dan G6RMA and Chris G0FDZ. Certainly, since providing Internet linking, activity on the repeater has increased noticeably and has been considered a great success by users.

GB3RE –G3YCN reported on behalf of G3AKQ that the repeater continuing to work well.

GB3SK – G6DIK that the repeater is operating satisfactorily. It had drifted off frequency but this had been fixed.

Newsletter – the receipt of an email from G7MFW who advised that he was standing down from the post of newsletter editor on grounds of ill health. He wished his successor as much enjoyment as he had had over the past four years and gave his special thanks to G0AMZ who has printed all his editions without complaint and done a first-class job for the group.

6. **To elect the committee members and confirm the appointment of Repeater Managers for 2003-2004.**

	Proposed by	Seconded by	
President [2002 – 2005]	G3PAG		
Chairman	G4RVV	G3YCN	G6RMA
Secretary	no nominations		
Treasurer	MOZAA	G4RVV	G6DIK
Newsletter Editor	G8PUO	G4RVV	MOZAA
Ordinary member (a)	G8HLE	G3YCN	G6RMA
Ordinary member (b)	G1TVJ	G3YCN	G6RMA
Repeater managers:			
GB3CK	MOZAA		
GB3EK	G4TKR		
GB3KN	G3YCN		
GB3KS	M1BKI		
GB3NK	G4EGU [G4RVV on Cttee]		
GB3RE	G4AKQ		
GB3SK	G6 DIK		

There being no other nominations the committee members were declared elected and the appointment of the repeater managers was confirmed.

7. **Other business.**

A: Letter – The receipt of a letter from G3GJW was noted. It was agreed that further information on Internet linking, which was only available on EK and NK in Kent, would be provided in the next issue of the newsletter.

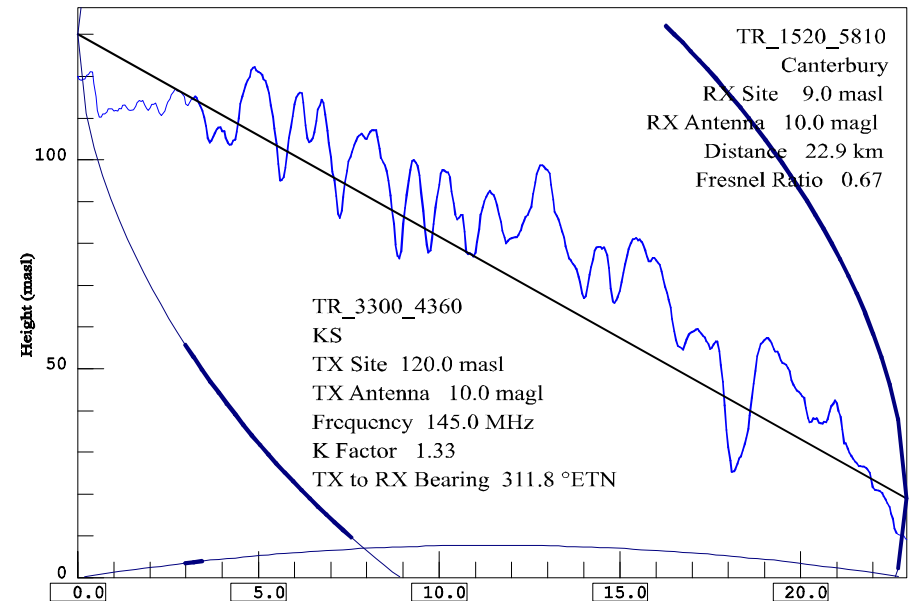
B: Newsletter – It was agreed that another attempt would be made to encourage members to take the Newsletter by email as a pdf. The renewal letter would be amended to try and collect email addresses on renewal and the Newsletter would also refer to this.

C: Internet linking NK – It was noted that there had been a problem with abuse on the NK link. Steps were being taken to ensure that it would be cut off more quickly in future.

So why does GB3KS not cover the hole of Kent then?

Below you will see some plots of the paths between KS and various locations

The first plot is the path from KS to Canterbury. The squiggles are the hills between Dover and Canterbury. As you can see, it is very difficult to expect any signal at all to get their!



TR_3300_4360	Distance (km)	TR_1520_5810
KS		Canterbury
TX Site 120.0 masl		RX Site 9.0 masl
TX Antenna 10.0 magl		RX Antenna 10.0 magl
Frequency 145.0 MHz		Distance 22.9 km
K Factor 1.33		Fresnel Ratio 0.67
TX to RX Bearing 311.8 °ETN		

Analysis for transmission from KS to Canterbury

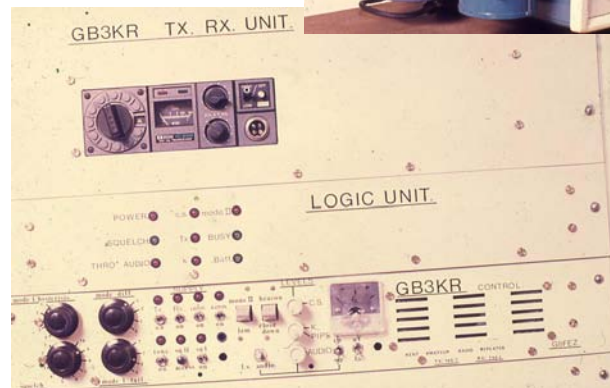
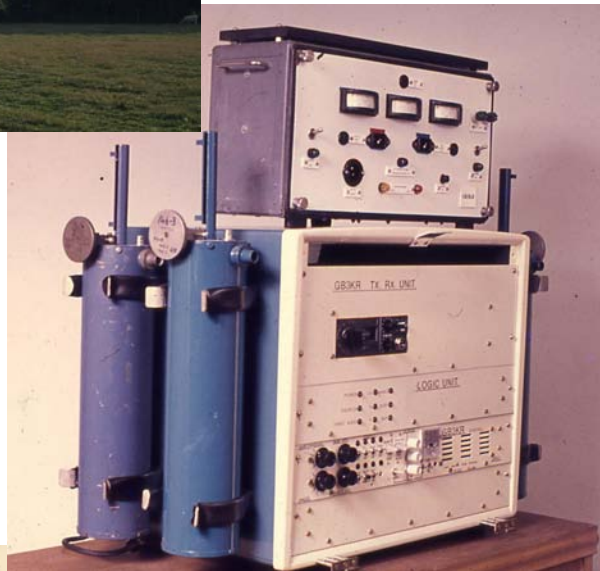
Transmitter Power	= 12.0 dBW
Transmitter Antenna Gain	= 3.0 dB
Transmitter Feeder Loss	= 1.0 dB
Transmitter ERP	= 14.0 dBW
Receiver Antenna Gain	= 0.0 dB
Receiver Feeder Loss	= 0.0 dB
Total Diffraction Loss	= 44.9 dB
Total Path Loss	= 143.5 dB
Field Strength	= 18.8 dBµV/m
Power Received	= -99.5 dBm
Voltage Received	= 4.7 uV emf

Its good to see a revival in interest for GB3KS and thought these pictures of the old GB3KR (as it was then), may bring back some memories.



GB3KR Mast, complete with resident four legged security!

As you can see, the GB3KR repeater was compact even in those good old days, with its side cavities and trusty Icom IC240



Close up of the futuristic logic control panel (when 'PICs' were only known for digging holes).

Minutes of a meeting of the Kent Repeater Group Committee held on Friday 18 March 2005 at the QTH of G3YCN

Martin Stoneham G4RVV in the Chair

1. **Present:** G3YCN, G8HLE (first half of meeting only), M0ZAA, G4TKR, G8PUO, G6DIK, 2E1HYN and M3BYZ.
2. **Apologies for absence:** G1TVJ, G4AKQ, G3PAG.
3. **Minutes:** the minutes of the meeting held on 8th October were agreed as a correct record.
4. **Chairman's report:** G4RVV welcomed Fiona M3BYZ who has been nominated as Secretary. He would ask G3PAG if he would be happy to accept re-election as Chairman this year. G1TVJ will be stepping down as ordinary member at the AGM in June – the Committee would propose that Ken 2E1HYN take over from him.
5. **Treasurer's report:** M0ZAA reported that £200.50 were taken at the Rainham Rally – 2 old members were regained, and 2 new members gained. John reported for the year ending 31.3.05: total income £811.35; Total expenses £1,334.27, hence a deficit of £522.92. However, monies were expected in the near future, particularly when members are reminded of subscriptions in the newsletter. The RSGB has been very prompt in collecting the insurance premium this year, and therefore two insurance payments have fallen within this financial year. Large expenses this year were £375 for GB3EK and £596.50 for GB3KS (these would not be repeated next year). There are 161 members, and income is fairly steady. G4RVV expressed his thanks, on behalf of the Committee, to M0ZAA and G3YCN for their support at the Rainham Rally.
6. **Technical reports**

GB3CK – M0ZAA reported that there had been very little activity. The repeater locked up once, but is now fine. There are still crackles and the squelch is a bit tight. A working group is due to visit on 19.3.05, the report of which will be sent to G8PUO for the newsletter. It was felt that the noise may be keeping people from using the repeater.

GB3EK – G4TKR reported that a visit was made on 13.3.05 to investigate a "drain pipe type" noise, believed to be frequency mixing. A notch filter was put in, and the noise disappeared, but came back. A working party is due to visit on 19.3.05 to investigate further. The noise has been on the repeater for some years now, it is on frequency (comes down the aerial). Activity was reported as good; Echolink activity has settled and has become part of the operation, rather than a novelty.

GB3KN – G3YCN reported that the repeater continues to work well, but there are too few users. No problems experienced in the last six months.

GB3KS – M3BKI advised by email that a new antenna had been installed on 29.12.04 to increase cover, but unfortunately it had not been possible to position it at the top of the mast. The following day a splitter was installed as it was thought the audio could be better. GB3KS is currently experimentally working off 2 antennas and at a later date it is hoped to install a small beam antenna at the top of the mast. A power failure was experienced on 21.1.05 that lasted for just about an hour. Otherwise no problems to report, although activity has not been good. G4TKR added that the suggestion for the new beam was a 3 element at 240 degrees to swing the pattern towards Thanet slightly and cover a better catchment area. G4TKR will investigate the cost of hiring riggers for installation. G4TKR also mentioned that the Ambulance Service have another site at Hawkinge which could be very good, perhaps for a 70cm repeater.

GB3NK – G4RVV reported that Echolink has been re-enabled, without connection to other UK repeaters unless requested. It has been decided to move to a “wide split” from (currently) 433.100/434.700 to 430.825/438.425. In response to an enquiry from G6RMA made to M0ZAA, G4RVV mentioned that the donated item was not required back.

GB3RE – G3YCN reported on behalf of G4AKQ that the repeater was working well and that there had been no problem from Vodafone despite the change that has occurred. G4AKQ also asked that members be reminded that GB6OP and GB6OV would be running at the RE museum from 21st to 27th March to commemorate the crossing of the Rhine, and GB60VED would run from 6th to 9th May at the same place.

GB3SK – G6DIK reported no problems, apart from lost power.

7. **Newsletter** : G8PUO reported a shortage of articles. The next newsletter is due to be posted in May (in time for the AGM). Pictures of GB3EK would be included, and G4RVV will send Dave some older newsletters. Dave has received a few positive comments. No contact has been received from Kelvin.

8. **Any Other Business**

A. **70cm & MoD** – G4TKR reported that a review has been instigated by OFCOM and the RSGB in order to ask the MoD to review the situation on 70cm. G4RVV mentioned that he had received further information on this issue: the first of a series of meetings had been held on 25th February between the RSGB and the MoD; the aim of these meetings is to work towards lifting the restrictions imposed by MoD in February 2002; the MoD put it on record that they wished to work with the RSGB as the representatives of the UK amateur service on a partnership basis. Tests will be carried out from April to October by the RAF to establish if any mutual harmful interference is likely, and if so, how to resolve it. 35 applications for repeaters have been blocked for the last 15 months, and at present applications are being encouraged in the light of the above review.

all directions, Fraser was inside having a ferrite (probably looking equally as strange to the inhabitants).

All of a sudden, the interfering signal disappeared and there was a deathly silence... Was it due to the Martians falling prey to Earth's defences that I was left trying to re-establish where it had gone, only to find that it just as suddenly re-appeared!

All was revealed as from around the corner a voice appeared saying 'Argh! I forgot about you!'. Well fortunately it was not another attack of War of the Worlds, Yes you guessed it, Fez had found the source.

The Final Chapter

For those of you that are still awake, or skipped the above, the interference actually emanated from nothing more than an infrared remote control unit!

This small device enabled you to extend the coverage of your remote control and it has a receiver and transmitter. The transmitter frequency is in the 430 MHz band and in fact, there are frequencies allocated for low power devices that are directly on the input of repeaters.

These devices should only radiate a signal when they receive an instruction from the infrared remote control. Unfortunately, this unit had gone faulty and continually radiated.

The reason it was only present occasionally, was that it drifted up and down the band, subject to temperature. SO when it warmed up through the day, it drifted through our input frequency and cooled at night, it drifted through it again...

This device was being received full quieting on the repeater input, three miles away!. Fortunately, the garage owner was sympathetic and kindly arranged for a new unit to be purchased.

One would never have thought that a device like this could cause so much interference and frustration as to its location.

For those of you that like to play, on one sunny or rainy day, just take your radio and turn it on, and look for signal weak or strong. We are sure you will find, where ever you go, there is always something there to show. So back the squelch so you can hear a cacophony of signals, that should not be here!. Or should it be 'hear'?

As Dick (G4HHX or G4, ((2 x H) + 1 x X)) would say, 'can you please get rid of that bloody noise!'.
For some time now, we have plagued with an interfering signal on the input of EK. Whenever it was their, and we visited site, it seemed to vanish – with some frustration left behind!

Stage 1

Eventually, one warm evening, we managed to get to site and take some bearings as to the direction of the interference.

Armed with our beam antennas, flasks, biscuits, rucksacks and Chris (I cannot cope with this), G0VUT and Alan (my transmitter does not whine), G7IUV , together with Alan's Son Ross (Oh I have got my callsign back then!), we set off in the direction of the interference.

From the top of EKs site, it appeared that the interference was originating from the direction left of Manston and the reference point we took was two nice orange sodium lights.

We stopped at various points (for the coffee and biscuits of course), DF'ing the signal (and getting some strange looks as you do). We must have looked proper 'anoraks', standing outside of the cemetery gates pointing this aerial in all directions!. But eventually we arrived at the two orange lights and this was indeed where the signal emanated from.

It was now getting late and although young Chris, G0VUT did not mind the thought of being arrested, we decided that this was best continued another day.

Stage2

Frazer aka G8FEZ, the following day, drove past the area and confirmed our findings. The signal was emanating from a garage! Close to the reservoir at Manston.

Arrangements were made to discuss the problem with the owner of the garage and an appointment made.

G8FEZ and G4TKR, visited the site again and while I (G4TKR), was looking the proper anorak again (wandering around with this large antenna), pointing in

B. **Aerial for GB3CK** – M0ZAA is thinking of purchasing a vertical aerial for GB3CK (cost about £200). He is reluctant to spend this money but G4TKR commented on the superior quality of the aerial suggested. Two specs were circulated and discussed. Purchase approved by the Committee if it proves necessary (installation to be done in summer).

9. Future meetings

Friday 17 June 2005 – AGM @ Canterbury – to be followed by Committee meeting

Friday 7 October 2005 @ ICOM.

Fiona Godfrey, M3BYZ

This space is intentionally left blank.

So if you have any interesting pics or articles,
Please feel free to email them
to the newsletter editor krq@g8puo.co.uk

Support your local Radio and Electronics Club!

Don't forget that as much as the KRG appreciates your support, local Radio and Electronics Clubs value your membership and attendance.

Why not check out some of the interesting indoor and outdoor events - you may even get to visit the summer BBQ's and Radio FoxHunts!

[Ashford - Ashford Radio Club - www.g4aar.fsnet.co.uk](http://www.g4aar.fsnet.co.uk)

[Ashford - Kent Weald Radio Club - mysite.wanadoo-members.co.uk/kwrc](http://mysite.wanadoo-members.co.uk/kwrc)

[Broadstairs - Hilderstone Radio and Electronics Club - www.g0hrs.org.uk](http://www.g0hrs.org.uk)

[Dover - Dover Amateur Radio Club - www.darc.org.uk](http://www.darc.org.uk)

[Herne Bay - East Kent Radio Society - www.paulnic.com](http://www.paulnic.com)

[Gillingham - BRATS - www.the-brats.net](http://www.the-brats.net)

[Maidstone - Maidstone Amateur Radio Society - www.g3trf.org](http://www.g3trf.org)

[Crawley - Crawley Amateur Radio Club - www.carc.org.uk](http://www.carc.org.uk)

(If your not listed above, please let me know! Ed)

Men at Work!

Don Turner G4TKR

As you will read about further on, we have now changed the aerial on KS and tweaked EK- below is a few pics from our family album.

Aerial Rigger erecting KS's new aerial (in the mist!)



Other Comms on EK's Site



KS's Aerial Tower



Trusty TestBox going through the paces



EK's Site on a clear day!



Don G4TKR, John G3YCV and Tom N4NW on route to breakfast.



GB3CK Technical Update

John Wellard M0ZAA

The repeater is now back it's former state with the crackle gone.

Declan M0TMX and myself visited the site in March on a wind free day and dropped the top part of the mast down to gain access to the antenna and yes it was a loose grub screw, tightened and put back up. We also removed two old poles that had previously been used and some other surplus metal from the main mast. It had been recommended by Don G4TKR to back of the squelch this done and a few checks made we departed the site after about 2.5 hours, repeater working well.

There is still plenty of spare space on the repeater for people to use it. So instead of just keying it up, do the next step and say something. Someone might then talk to you. This is after all what it's there for.

During the summer we might put up a new antenna and feeder, we also need to get the main repeater back on site but at the moment wonder if it's worth it, due to lack of use.

There are some thoughts of adding an echolink link to try and encourage some use. This would not be on all of the time and might be restricted to just linking with other local repeaters. It would be interesting to get your views on this, so come up on the repeater and have your say.