



Mid Sussex Amateur Radio Society
NEWSLETTER
September 2007

Mid Sussex Matters



In this issue

- **Emergency Planning Exercise**
- **HF Field Day!**
- **Powerpoles**
- **N4XAT**

FROM THE PRESIDENT'S CORNER.

I've been away, but from the latest Newsletter you all seemed to be coping very well.

The Emergency Tests went off well. I heard everyone on 2m on my home built J stick in the loft but nary a peep from Bob, GØBUX on 5Mhz, although I did work Martyn, GD3YUM on the Isle of Man who was using a dipole and getting 5/7 both ways. Moral, full size wire antennas beat shiny loaded sticks every time. Now Bob and I have to find something that fits on top of his car without 44' legs!

David, W1GN has now installed a 315' horizontal loop in a square configuration but still can't hear us on 15m He does keep listening and sends you all his regards.

Keep checking into the nets, remember, if you're not on no one can hear you!

Ken Gibson G3WYN.

HF Field Day QRT

HF Field Day is scheduled for the weekend of 1 - 2 September but at the club meeting on 17 August it was decided that MSARS will not participate this year. Not because of lack of interest or even the weather but because of the concern over foot and mouth disease. Our regular site at Lower Standen Farm is in the middle of agricultural land and even though the site itself is primarily used for arable farming, the track to get there passes several other farms engaged in raising livestock. Although this is some distance from the centre of the current outbreak in Surrey, farmers throughout the country are understandably anxious to keep their herds free of the virus.

Nationally the event will still take place (although other clubs may have a problem similar to ours) so you should plan to get on the air from your home QTH and work as many stations in the field as you can.

From the Chair

Oh, look, it's raining; I guess it must be October? No it's August and we've had a few days of sun, so now the heavens have opened! What with spending the last few days sitting on the M25 or M20 I guess I've lost a whole day's working hours. So why does it take a 10 hour closure of Europe's busiest motorway to move the wrecks? And what emergency procedures do they have for this? Would it not be possible to turn traffic round and have a rolling road block back to the next interchange? Oh, silly me, that's far too simple! So sit there for 10 bl**dy hours!

Well the last month seems to have flown by, with various activities. I was a little disappointed at the poor turn out for my Bar-B-Q. My cooking isn't that bad, honest! But I'm sure those who attended did enjoy themselves. I know that a few pints of Harvey's bitter went home with Kevin and Millie.

Roger G7VBR is looking into the cost of a coach trip to Friedrichshafen for next years Ham Fest. As soon as I get some idea of costs, I'll let you know.

G5RV/P should be on the air again soon, this time in the HF Field day. Any interested parties please speak to John G6XTW. [*see page 2...ed.*]

Just a gentle reminder from me that the AGM isn't that far away, so if you wish to stand for a post on the committee or you wish to "drop someone else in it" look out for the voting slips. These should be in the newsletter nearer the time.

That's all for now. Until next month – 73

Kim Newland G7AIE

On The Cover

G3XQM in the MSDC control room during the 27 August emergency communications test. Full story on page 5.

Editorial

Amateur radio is a great, multi-faceted hobby but in the final analysis there are only three justifications for our use of the radio frequency spectrum: technical innovation, training of technician/operators and service to the public, especially in time of emergency. Our Society has a well-established reputation in each of these areas. The theme of this issue of Mid Sussex Matters is emergency communication and this is a good time to assess our assets and to develop plans to expand our capabilities in this vital undertaking.

Our most conspicuous recent activity in emergency comms was the coverage test carried out for Mid Sussex District Council on 27 July. This was a success, not only from a technical perspective but also because it demonstrated – not least to District Council management – our ability to organise and execute such an event. There is a report on this exercise in this issue so here I will only say Well Done to those who made it happen.

However that exercise was not the only event this Summer that developed our emergency communications skills. It is sometimes overlooked that the real reason for field days is to practice our ability to operate away from home, on emergency power, with jury-rigged antennas. The VHF Field Day was a lot of fun and we compiled a respectable contest score, but we also demonstrated that we could take our equipment and skills out into the field – and our QTH certainly added to the challenge.

This issue also includes an appeal from Dick Jeffries G4KAR, Controller of the Eastbourne and Wealden Raynet Group, for additional volunteers to participate in public service events with the group, and I hope you will all give this serious consideration. I can testify from personal experience over the past year that the Eastbourne and Wealden group is a very agreeable bunch of hams which provides a set of interesting, satisfying and important activities each year. Participating with them does not conflict with our own exercises in Mid Sussex so, if you would like to help, get in touch with Dick.

Bob Clinton GØBUX

Emergency Planning Exercise

On Friday 27 July, the Mid-Sussex Amateur Radio Society held an exercise with Robin Penn, the Mid-Sussex Emergency Planning Officer to test out Amateur Radio links between various sites in his area. We arrived at the Council office at 18.30 and Robin met us at the car park. We carried our equipment to the "Control Room" and proceeded to set up for operation. The plan to run the stations on a backup generator had to be aborted due to



G8KMP, G3XQM and G3XTH in the Mid-Sussex District Council control room

an incorrect plug being supplied. By 18.50 we had the equipment connected to the new aerial installation fitted on the roof. The installation consisted of a Kenwood Dual band radio for the 145.350 MHz & 433.400 MHz stations, which was connected to a Maldol dual band aerial. (Aerial system installed by Mid Sussex Aerials). The HY transceiver was connected to the folded dipole. We also used the council's

own PMR equipment in order to test these out, as the portables did not seem to have any range. Perhaps a 25watt mobile would be worth a try. I took along my FT817 with an ATX portable whip aerial, with a counterpoise, to check out any 5 MHz activity. We then proceeded to test out the equipment and all checked out OK with reports from local members. Before the 19.30 start, Ken G3WYN could be heard calling on 5 MHz via the FT817 set-up. At 19.30 we began calling the stations from a list, coordinated and prepared by Sue G6YPY who was unfortunately not able to take part due to business commitments.

Tony G3XQM was the VHF & UHF controller. Gordon G3XTH was the HY & MSDC controller, while I logged the calls. The first call went out to Alan G8YKV and Stella at Balcombe. We then worked down the list until 21.00 with Russell G7TMR at the Triangle in Burgess Hill. All stations were contacted first on 145.350, then 433.400 followed by HY. Some of the stations

(Continued on page 6)

(Continued from page 5)

had the Council radios and these were tried last.

Most stations gave 5/7 or 5/9 reports from the Control Centre. In general 145.350 MHz was received at control without any problems. UHF did get weaker on the furthest stations, something we will work on. The evening was unfortunately very wet for the mobile stations, but they did their best to operate their equipment while working in the rain!

John G8JBJ had given us predictions of the various frequencies and power levels and the exercise seemed to confirm these. During the whole evening there were constant contacts with stations on the various frequencies.

At the Control Room we had a few problems of our own: blocking on 145.350 MHz from the HY transceiver, etc. and finger trouble was the problem both at mobile and Control. Also I could not use 145.350 MHz while Tony was using 433.400 MHz. Perhaps separate radios with a duplexer may be a better option.

Members taking part at various sites were, Tom M0ZSA & Alex M3TEU, John G6XTW & Roger G7VBR, Bob G0BUX & Gavin G6DGK, Kevin G4XBG & Milly 2E1CCI, Phil M5BTB & Ron G0WGP, Rob 2E0RJA, and William M3VRE at the Control Room.

Gordon and I would like to thank all the members taking part in this exercise. Also thanks to other members for sending in reports. These have been looked at and noted for reference. At the end of the evening Robin, the EPO, was very impressed with our exercise and he, too, wishes to thank all those taking part. It was a good evening of radio and I am sure we can improve the results next time. Maybe we could have an evening to discuss the exercise sometime in the future.

Mike Pollock G8KMP

Exam Success

The MSARS training/testing initiative scored another success in August when word was received that Nigel Roberts, an RF engineer of Crawley, had passed his exam and is now MØBJS.

Test Notes

Gordon King G3XTH made the following notes on communications performance during the 27 July test:

UHF GB3HY repeater 25 watts ERP full duplex

All stations achieved excellent signal reports both directions, with the added advantage that all stations could hear both sides of the conversations.

VHF S14 145.350MHz

Base aerial 6dB gain running 40 watts. Generally, mobiles used 3dB aerial gain, running 25 to 35 watts. All stations achieved excellent signal reports both directions, but as it's simplex, not all stations could hear all the traffic, hence would lead to doubling.

UHF SU16 433.400MHz

Base aerial 9dB gain running 35 watts. Generally, mobiles used 5db aerial gain, running 25 to 35 watts. Not all remote sites had UHF; the ones that did achieved excellent signal reports in both directions. (In general the UHF bands are very much quieter)

VHF PMR system High band repeater full duplex

Base aerial 0dB gain running 25 watts. Hand portables power output 2 watts helical aerial which could have a loss of -3dB. As the hand portable power is much lower than from the base repeater, range is some what limited. Perhaps a 25watt mobile could be tried at some time.

In general we used high power of 35 watts on all amateur bands, and in most cases dropping to 5 watts the signal was still workable.

Deadline

The deadline for items for the October issue of Mid Sussex Matters is

15 September 2007

The Poles are coming!

No, the title does not refer to an influx of plumbers or electricians from eastern Europe, but rather to Anderson Powerpole connectors. These connectors are not yet widely used here in the UK but in recent years have had increasing use in the USA, where they are now the standard for emergency communication. Since most ham radio developments migrate in one direction or the other across the Atlantic you can anticipate seeing more of them over here before too long.



What are Powerpoles? In simplest terms, they are genderless connectors designed for the connection of low-voltage DC power supplies to the equipment using the power. “Low voltage DC power” immediately suggests their usefulness in mobile and portable installations, but few shacks today are without a 12V power supply and several de-

vices powered by it. There are various types of connectors suitable for this voltage level and the accompanying current requirements, including the familiar T-connector, (currently the Raynet standard). The first way the Powerpole differs from nearly all the others is in its “genderless” property – i.e., there are no male or female connectors and any one can be joined to any other. (Other adjectives describing this property might occur to you but “genderless” is the most polite).

Physically a Powerpole connector pair consists of two plastic shells into which are inserted metal contacts. Because we are talking about DC power, polarity is important and the two shells are of different colours, almost invariably red and black for 12V applications, with different colours recommended for other voltage levels. The metal contacts are provided separately and they are connected to the power leads – either by soldering or crimping – before being inserted into the plastic shells. The two shells are then held together with a sort of tongue-and-groove arrangement and then locked in place, usually with a metal roll pin. Powerpoles are supplied in sets of these components and are available for 15, 30, 45 and 75 amp current levels. For most amateur applications only the 15 and 30 amp sizes are of interest, and these differ only in the size of the wire holes in the metal contacts (since higher currents need larger gauge wire). Therefore 15 amp

and 30 amp connectors can be easily mated when necessary.

It still may not be clear where Powerpoles are actually used. I have yet to see Powerpole connectors as an integral part of a mobile transceiver – even the latest Kenwood TM-V71 has a traditional T-connector on the pigtail leading into its body. But there are some very useful pieces of gear that do incorporate Powerpoles; these are the power distribution units supplied by West Mountain Radio, MFJ and a few others. Most of my Powerpoles are on the ends of mains adapter leads, battery charger leads and simple extensions.



West Mountain Radio
4012

Now, let's turn to the practicalities of using Powerpoles. Some have suggested that genderless connectors might lead to problems of mistaken cross connection of sources. But the low voltages involved mean that this is unlikely to cause a disaster and in practice I have not found it to be a problem. A greater area of concern is with putting the connectors on the power leads. There are two schools of thought: soldering vs crimping. In fact there is a third school: solder *and* crimp. I started out in the soldering camp but found soldering the small contacts to be quite fiddly, and it also often required removing excess solder in order to



allow insertion of the contacts into the shells. I then defected to the crimping camp which is where I still am, though not without occasional doubts. The problem with crimping is that it is not 100% certain that a crimped contact

will remain on the wire. One of the issues is what crimping tool to use. If you look at the Waters & Stanton 2007 Equipment Guide you will find, on page 206, a crimping tool for Powerpoles, attractively priced at £14.95. Unfortunately, the price is the only thing attractive about this tool. I owned one for a time, wasted a lot of Powerpole contacts without ever getting a successful crimp, and finally gave it away. Others of my acquaintance had a similar experience, so this was not simply a demonstration of my indexterity. If you move on to page 302 of the Guide you will find another crimper at the higher price of £44.95. I now own one of these and it has proved to be worth the additional £30. Not every crimp has held but most have and with experience the success rate increases. There is also an Official Anderson crimping tool available but for about the same money I decided I would



(Continued on page 10)

(Continued from page 9)

rather have a new linear amp. A corollary to this lesson is to buy more contacts than you think you will need as you will inevitably spoil some.

Another point on which opinions vary is how to join the two plastic shells to make a pair. The tongue-and-groove arrangement will keep the two pieces together laterally but something is needed to keep them from slipping longitudinally. The official method is to use the roll pin supplied with the connector sets, and this is what I usually do. However I have read reports of these pins slipping out at inconvenient times and falling into equipment interiors. An alternative method is to super-glue the two shells together and forget about the roll pin. For applications where you must be absolutely sure that mating pairs of connectors do not come unplugged there is available a plastic clip called a BlokLok that both holds the pairs of shells together and also clamps the mating pairs together.

If the foregoing has not put you off the idea of using Powerpoles then you may be wondering where to get the necessary bits. The definitive source of Powerpole items is Powerwerx in the USA. (www.powerwerx.com). Here you will find virtually everything – connectors, tools, West Mountain devices and wire. Fortunately there are sources closer to home. W&S lists some items but a greater variety may be found at www.torberry.co.uk or at www.connex-electronics.com. The latter site contains an informative guide to soldering and crimping.

I have been using Powerpoles for nearly five years. From the start I thought they were a great idea but I had some doubts about their reliability, particularly for emergency communication applications. As I have gained more experience with them I have concluded that the advantages outweigh the drawbacks. All of my 12V wiring uses these connectors and I now give them a cautious endorsement. Just be prepared for a few failed crimps until you develop the knack.

Bob Clinton GØBUX

A Call for Volunteers

Like any volunteer organisation RAYNET, The Radio Amateurs' Emergency Network, relies on its members to help staff events and turn out at emergencies, but given the pressures of modern daily life it is hard for members to regularly commit such time – particularly for pre-planned events – and it is for this reason that the Eastbourne and Wealden RAYNET Group is setting out to get more fresh faces to sign up. It has one of the busiest event calendars in the country, combined with an active engineering committee investigating various operating modes and automatic position reporting systems.

The group itself has been established for many years and accordingly many members have moved on or are retired from 'active service', so there is an acute need for new members of any age - preferably licensed, although SWLs are also needed to assist in logging and other duties. If we can build up the strength of the membership then it will make it easier for everyone. At the moment we have a small band of regulars that always turns out for the events, so if we have more people doing a couple of events a year then we will be able to provide a far better and more effective cover while reducing the amount of commitment members would have to give. Plus it also builds our strength for when we get called out in our primary role of providing emergency communications.

While the group covers events including bike rides, marathons and shows it has also been put on standby by the regional Emergency Planning Officer and called out on several occasions for a range of reasons including missing persons and flooding, as well as for inter-emergency service training exercises.

Newcomers aren't expected to be proficient in radio and all levels of skill and licence class are welcome. Training events are carried out regularly and there is also a social aspect, with radio treasure hunts, barbeques and similar activities dotted throughout the year.

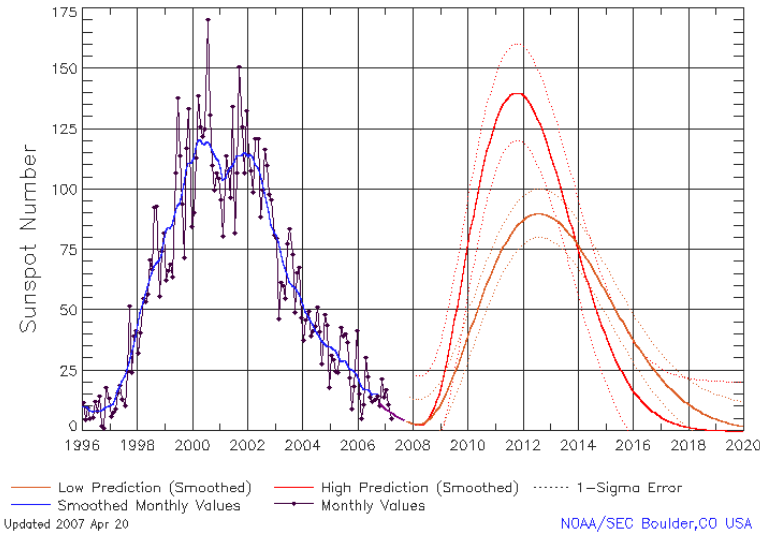
If you live in East or West Sussex borders and would like to join, the group would be pleased to hear from you. The Eastbourne and Wealden Group can be contacted via dick.jeffries@raynet-uk.net or on 01323 845418. If you'd like to learn more about RAYNET in general visit www.raynet-uk.net.

Dick Jeffries G4KAR

A Glimmer of Hope

Don't put your HF gear in the bin just yet. Chris Saunders G4ZCS found the following plot on the NOAA web site. Conditions should improve dramatically as Cycle 24 gets underway around the middle of next year.

Solar Cycle 24 Sunspot Number Prediction
Data Through 31 Mar 07



CLUB NET TIMES

Join in if you can. All times are UK CLOCK times.

Sunday	08:00	3.74MHz \pm QRM
Sunday	11:00	S14 (145.350MHz)
Sunday	20.00	HY Net 433.125Mhz
Wednesday	20:00	S14 (145.350MHz)
Weekdays	13:30	21.330MHz. Work the USA
Tuesday	20:30	3.725 MHz \pm QRM SCARF

N4XAT- Better News

In the June issue we reported that Bob D'Imperio N4XAT had suffered a heart attack but was recovering at home. We are now happy to tell you that Bob's recovery has been sufficient to allow him to schedule a trip to the UK. His current plan is to attend our meeting on 5 October, so if you would like to put a face to the voice regularly heard on our 15M net, put this meeting on your calendar.



Bob with his sister Kathy.
(Photo courtesy of G6DGK)

A new Yahoo! Group has been formed for users of digital modes and data communications techniques. Check out <http://groups.yahoo.com/group/illinoisdigitalham> for more information on this fast-growing segment of ham radio and radiosport operating. (thanks to the ARRL Contester's Rate Sheet)



If you would like to have a badge like this (with your own name and call), then contact Gavin. They come with a pin on the back and cost £3.00 each.

Mid Sussex Happenings

Sept 7	Talk (U)
Sept 14	Radio Night (D)
Sept 21	Radio Night and Table Top Sale (D)
Sept 28	Skittles Evening Royal Oak Barcombe
Oct 5	Talk (U)
Oct 12	Radio Night (D)
Oct 19	AGM & Wine and Cheese (D)
Oct 26	Surplus Equipment Sale (U)
Nov 2	Talk (U)
Nov 9	Radio Night (D)
Nov 10	St Wilfreds School Fireworks ?
Nov 16	Radio Night and Table Top Sale (D)
Nov 23	Talk (U)
Nov 30	Radio Night (D)
Dec 7	Christmas Dinner
Dec 14	Christmas Quiz and Mince Pie Night (D)
Dec 21	Radio Night and Table Top Sale (D)
Dec 28	Meeting at a Pub
Jan 4	Meet the Committee and Round Table Evening (U)
Jan 11	Radio Night (D)
Jan 18	Radio Night and Table Top Sale (D)
Jan 25	Battery Operations (U)

Meetings are held on Friday evenings starting 7:45 at
Cyprus Hall, Cyprus Road, Burgess Hill. West Sussex, unless other-
wise noted. U=upstairs, D=Downstairs

Visitors are always Welcome

Club membership pin

Featuring the club windmill logo, in ruby to celebrate
our 40 years.

Available from Chris G4ZCS.

Price £2.00 each. Plenty of stock!



Gatwick Vintage Radio, Vehicle and Family weekend

Location: Hunter's Moon, Reigate Road, Hookwood, Surrey RH6 0HU
TQ262438 (A217 near Gatwick)

Any time Friday afternoon to Sunday lunchtime 8/9 September
2007: BBQ and social 7pm on Saturday, radio activity all weekend.

Ring Mike or Les 02086542582 or 01293773997 if you would like more
details

3B7C DXpedition

Have you read about the DXpedition to St Brandon – 3B7C – in the September RadCom? If you are at all interested in chasing DX, then you should know about this expedition. It will be on the air from 7 to 24 September and will be operating at high power on all bands 1.8 through 50 MHz. Even though big pile-ups can be expected, the station will be on the air long enough for nearly everyone to have a chance to work them. There is an informative web site at www.3b7c.com

MLS martin lynch & sons
Suppliers of Communications Equipment



Outline House,
73 Guildford Street,
Chertsey, Surrey KT16 9AS

Web: www.hamradio.co.uk

Tel: **0845 2300 599**
(Local Call Number)

Tel: 01932 567 333 (Direct Dial Number)

E-mail: sales@hamradio.co.uk

Mid Sussex Amateur Radio Society

President	Ken Gibson	G3WYN	01444 412420
Vice President	Mike Pollock	G8KMP	01444 244953
Chairman	Kim Newland	G7AIE	01444 233040
Vice Chairman	Chris Saunders	G4ZCS	01444 247177
Secretary	Gavin Keegan	G6DGK	01825 722045
Treasurer	Stella Rogers	SWL	01273 844511
Programme Secretary	Sue Davis	G6YPY	01273 845103
Shack Manager	Alan Cragg	G8YKV	01273 844511
Committee	John Humphrey	G6XTW	01273 588556
Committee	Russell Nelson	G7TMR	01444 236795
Committee	Rob Ashman	2E0RJA	01444 232129
Licence Holders	Chris Cook (G1ZMS, G3ZMS)	Gavin Keegan (G5RV)	
Auditors	Geoff Davis G6MJW, Hugh Wright 2E0HMW		
Reserve Auditors	Roger Ferrand G7VBR, Tony Finch G3XQM		

Club Web Site: www.msars.co.uk Email address: info@msars.co.uk

Newsletter

Contributions are invited from all club members. The cut off date is the 15th of the month prior to publication.

Address all contributions to the editor:-

Bob Clinton GØBUX

Appletrees, Alexandra Road, Mayfield, E Sussex TN20 6UD

Home Tel: 01435 873279 Email: m.s.matters@btinternet.com

(Note: All articles and pictures are copyright of their authors)

Sponsored and printed by :-

THE PRINTED WORD, Business and Promotional Print Ltd.

7-9 Newhouse Business Centre

Old Crawley Road, Horsham, West Sussex RH12 4RU.

Tel: 01293 851053

Email: mike.webb@printedword.co.uk

FAX: 01293 851900