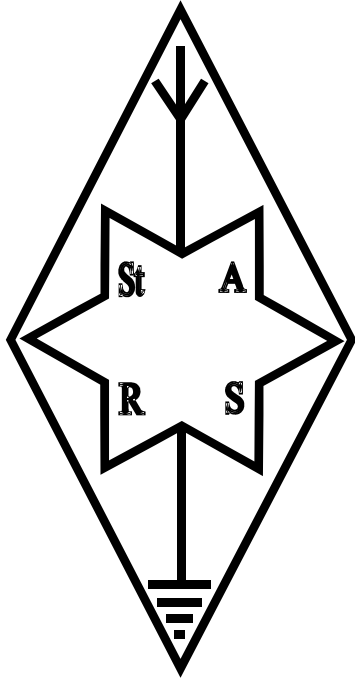


STARLITE

G6OI
1938

The Award Winning Newsletter for Members and Friends of
Stourbridge and District
Amateur Radio Society
incorporating
Old Swinford Hospital School Radio Club

G6SRS
1938



G4CVK

1969

ISSUE
02/2014



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MEETINGS

Visitors always welcome
The Society holds its full meetings on the
1st and 3rd Monday of each month at

**Old Swinford Hospital School
Heath Lane
Stourbridge
(8.00pm – 10.00pm)**

Additionally the shack is open during the same times on the
intermediate Mondays

Telephone Enquiries to :-
Hon Secretary
John Clarke M1EJG
(01562) 700513

Or by e-mail to :-
honsec@g6oi.org.uk

All correspondence/enquiries should be
addressed to the Hon. Secretary :-
STARS
c/o The Mill House
21 Mill Lane
Blakedown
Kidderminster
DY10 3ND

STARS Web Site URL :-
www.g6oi.org.uk



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NOTICES

75 Years Commemoration Mug

A unique opportunity has arisen to purchase special 75th anniversary mugs for StARS. Strictly limited edition - limited to those who actually order one!



Price is £4. Please tell either John (Hon Tres) or James if you would like one.

AGM

Again to remind you, March 17th is the AGM and to keep it free in your diary so you can attend this important event for the club.

BMW Rally Car Project

On Monday 29th January, ex club member Richard (M1DBC) and the driver and co-driver for the team gave us an interesting presentation on the BMW rally car they are preparing for competition. The talk included a background to rallying and included some of the rules, restrictions and penalties. We were introduced to Tulip Diagrams where the co-driver shouts out advanced warning on the route ahead to guide the driver. Richard and the driver took us through some of the problems that were encountered in rebuilding the car, which had been bought at a modest price on e-Bay. Safety and robustness of the vehicle were covered during the course of the talk. Richard told us that success can be bought by spending very large sums on rally cars, but predominantly it is an amateur sport and fellow competitors are invariably willing to help with advice. Several makes of car participate in rallies but a large proportion of cars are prepared Mark 2 Ford Escorts. Towards the end of the talk we were shown a Youtube video with a windscreen view of a rally car driving through a wooded section of a rally – not for the faint hearted. As a layman, it is tempting to think that the sport is all about the driver, but by the end of the talk one realises how much success depends on teamwork.

The talk was well received by all club members and for me it was an interesting insight into the sport. - Adrian Bryan (G0NLA) – Starlite Editor

continued overleaf



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Seen on the Internet

Don't think that this is for Morse Code fans only. There is a seven part Youtube talk given by Norman Kendrick (G3CSG) at Wyre Amateur Radio Club on Japanese Morse. You will need to get on to Youtube and search on "decoding japanese morse code part". The talk is broken into ten to fifteen minute sections and is a humorous and informative talk about Norman's WW2 experiences and interception Japanese Morse signals. The talk covers his training, on Morse and eventual deployment to a radio interception station in Ceylon (Sri Lanka), the stresses and challenges of the job and his eventual move to a warship. If anyone knows how to download and edit youtube videos, the topic would make an interesting club talk.

The following link was sent by Andrew Hill <http://www.bbc.co.uk/news/magazine-24917880> and is from the BBC Website and gives an interesting presentation to the layman of what amateur radio is about.

Last but not least

Many thanks to Phil Cadman G4JCP and Mike Caddick G8NWS for their generous donations to STARS for the surplus sale, it was greatly appreciated.

Please can I urge all Starlite readers to consider contributing to the magazine. If we do not get contributions to Starlite the magazine's content will end up being limited to the views of a small number of contributors only. The Starlite magazine is a window on the activities and interests of the club and is a way of attracting new members.

The articles do not need to be lengthy. A local event you have helped at is a good source for an article. Something you have seen on the Internet may be of interest to other club members. If possible, an article should try and touch on the subject of radio, although this is by no means essential. A good starting point for an article is a photograph and this need only be accompanied by a few lines of narrative – some event you have visited for example. Most of us have some 'project on the go' at some time during the year, consider sharing it with other club members.

Make it one of your new year resolutions to contribute a story to Starlite this year.

Adrian Bryan (G0NLA) Starlite Editor



STARLITE

WHAT ARE CONFLICT MINERALS?

What prompted me to write this article?

Each year the Consumer Electronics Show is held in Las Vegas. Leading companies present their new products and it is a good place to look for trends over the coming year and to guess in what direction the industry is heading. I was drawn to an announcement by the Intel CEO Brian Krzanich (pronounced Krah-ZAN-itch) at the CES that Intel would stop using conflict minerals in its new microprocessors from 2014. What follows should give you background knowledge of the subject of conflict minerals and why Intel have decided to take action.

So what are conflict minerals?

Presently conflict minerals are classified by G and the three Ts. That is to say Gold, Tungsten, Tantalum and Tin; henceforth G3T. In specific countries, these minerals are mined and the profits are used to finance conflict often to the detriment of the local population.

What does the electronics industry use conflict minerals for?

Gold is used to make electrical contacts and has a very low resistance and is non-tarnishing.

Tungsten – This has a high weight per cubic centimetre and is 19 times denser than water. Volume for volume, tungsten is roughly twice as heavy as lead. One application of tungsten (and there are many) is to make a mobile phone vibrate rather than ring. This is achieved by spinning a tungsten eccentric weight with an electric motor which causes the phone to vibrate.

Tantalum is used to make capacitors which have a high capacitance for a given weight and are important where size is at a premium such as mobile phones and other portable devices. Compared to electrolytic capacitors tantalum bead capacitors are much more reliable.

Tin is used in the solder and tracks that make up a printed circuit board.

Why Conflict?

The G3T minerals all require some sort of mining and extraction activity to recover the required metals. Some mining activity takes place on land held by warlords and militias where there is civil war or conflict. The armed groups may tax or in some cases control the mining activities and use the revenue to buy weapons or support their cause. In and of themselves G3T are not intrinsically bad, however income from the minerals is ruthlessly guarded by the armies and military groups which are dependant on them as a source of income. A particular area of concern is the human rights abuses that take place. People working in the mines may be subject to forced labour. The eastern part of the Democratic Republic of Congo is a particular cause for concern. Conflict minerals are moved to the outside world via neighbouring countries.

Background Information on The Democratic Republic of Congo

The DRC is the twelfth largest country by area in the world, with an estimated population of around 75 million people. Since its independence in 1960 through to the present day it has suffered periods of internal conflict. It is surrounded by Rwanda, South Sudan, Angola, Burundi, Central African Republic, Tanzania and Uganda which are used to transit conflict minerals to international markets. Most of these countries have similarly had their share of conflict.

Note in the following map. Camer = Cameroon, C.A.R. = Central African Republic, UG= Uganda, RW=Rwanda, Buru=Burundi and Tanz=Tanzania



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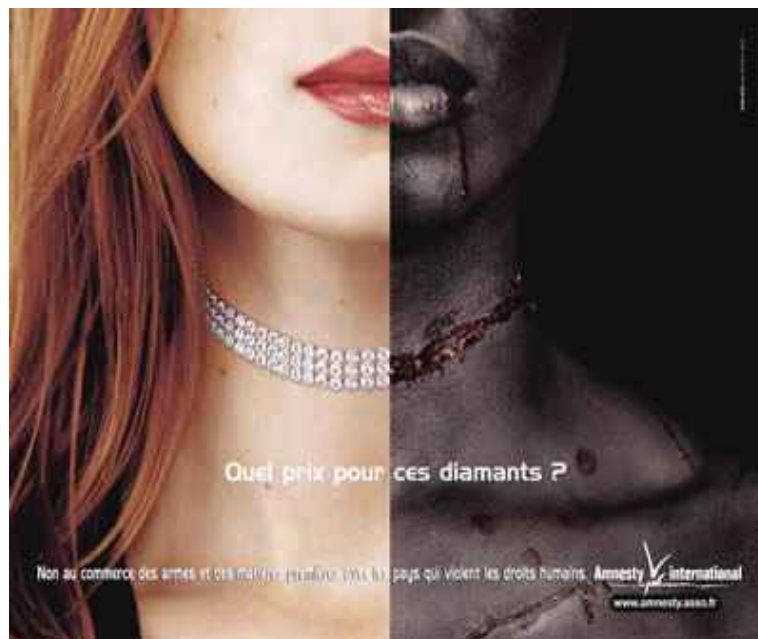
Illustration 1: Map courtesy of Wikipedia



Illustration 2: Map courtesy of the CIA World Fact Book/Wikipedia.

Have there been similar campaigns on conflict minerals before?

Yes, you may recall Blood Diamonds or conflict diamonds in connection with the war in Sierra Leone.



A campaign was run by Amnesty International to draw attention to conflict diamonds. It is alleged that President Charles Taylor, the then Liberian president, was supporting the conflict by selling uncut diamonds. The 'cause' of blood diamonds was relatively easy to 'sell' by comparing a non-essential fashion item to the suffering incurred by innocent civilians (see above). It is relatively easy to account for the provenance of uncut diamonds and the diamonds reach the open market via a few selected outlets in Antwerp, London, New York, Tel Aviv and Johannesburg. The G3T minerals are less easy to track and the issues for G3T are more complex as we shall see in the next topic.

Are there any initiatives to curb the use of G3T conflict minerals?

Yes, the USA have been active in this area for some years. In particular the Dodd-Frank Act sets out

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corporate responsibilities on companies which may be using conflict minerals from the DRC and all surrounding countries. The issue is far from simple. For example there is the problem of DRC conflict minerals which may be in the process of being sold or in transit on the present market. Reprocessed scrap may contain DRC conflict materials. The Dodd-Frank Act tries to regulate the problem by setting out rules for corporate governance and reporting. Complying with the Act looks to be a complex area. See the additional reading at the end of this article from Ernst & Young.

Conclusions?

The situation of the use of G3T conflict minerals is not a simple problem with a simple solution.

One way or another most if not all STARS members are buyers or users of electronic goods. Mobile phones are dependant to some extent on Gold, Tin, Tungsten and Tantalum. Unwittingly we may be purchasing goods which use conflict minerals. On a personal level, should we as consumers of electronic goods benefit from the wrongdoings of others?

The European Commission are considering the problem of conflict minerals originating from the DRC, but are still at the consultation stage. The UK Government is "Encouraging British companies trading in minerals from the Democratic Republic of Congo to be socially, economically and environmentally responsible." It is hard to know what the future is in the UK regarding the use of DRC conflict minerals. There is considerable opposition to having European Commission decisions passing into UK law without the consent of Parliament. Compliance with Dodd-Frank will increase the cost of doing business, but what is the point in sending foreign aid to affected countries when a better solution would be to stop the flow of money to those fuelling the conflict?

As usual any errors in this article are mine.

Adrian Bryan

Additional reading

<https://www.gov.uk/conflict-minerals>

https://en.wikipedia.org/wiki/Conflict_minerals

<http://www.euractiv.com/development-policy/eu-conflict-minerals-law-hangs-b-news-531698>

[http://www.ey.com/Publication/vwLUAssets/Conflict_minerals/\\$FILE/Conflict_Minerals_US.pdf](http://www.ey.com/Publication/vwLUAssets/Conflict_minerals/$FILE/Conflict_Minerals_US.pdf)

Amnesty International

<http://www.warchild.org.uk/issues/congo-conflict-minerals?gclid=CKO9gL7YqLwCFQ3ItAod5VwAuA>



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DIGITAL MODES – PART 3

We are again indebted to John Haddleton for giving us permission to use his article on Digital Modes. The article is full of practical hands-on information and is a very good start point for anyone interested in digital modes. I found the last part of the article on identifying what type of digital mode a signal could be very informative. This is the concluding part of John's article on Digital Modes.

5. SSTV

Poor when faced with weak signals or QRM.

There are several modes - usually Auto-detected in the program.

Quite common on HF usually 20M (14.230Mhz) and 40M. Digital SSTV programs like those within 'Easypal' or 'Multipsk' can perform better in weak signal conditions.

Exchanges of "pictures" like QSL cards and, annoyingly, bikini clad women.

Using Digital Master 780 Program for SSTV
(Exchanging Pictures with an American Radio Station)

6. Olivia

Quite common, especially in digital nets. Olivia 8/500 seems like the most common variant but some 8/100 and 32/1000.

Used frequently for digital messages transfers on HF and VHF point-to-point Emcomm work.

Some conversational QSOs to be had but you can go several hours without hearing any signals.

7. MT63

Moderate throughput under weak conditions but suffers badly when faced with QRN. Copes with QSB quite well. Most common variant on HF is MT63 1000 but some MT63 500 is used.

On VHF and UHF MT63 2000 is very effective. Used a lot by Emcomm groups on HF, exchanging bulletins, ICS forms, and much more. Rare to hear QSOs using this mode.

8. FSK441

Used mostly for meteor scatter on 6M, 2M and 70cm. Very efficient for detecting very quick signal bursts, good weak signal performance. Used only to exchange signal report, QTH. and callsign. Only in WSJT software

9. HELL

Moderate performance in terms of weak signal work. Requires good eyesight. Some conversational QSOs to be had but you can go several hours without hearing any signals.

10. MFSK

Moderate to good performance in terms of weak signal work.

Some conversational QSOs to be had but you can go several hours without hearing any signals.. Used with PSKmail as MFSK32 or MFSK 64 but MFSK16 is most common if used for general QSOs.

11. ALE 141



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Used by 100-200 stations regularly and they put out periodic "soundings" that can be heard throughout the day. Sophisticated communications system used by Govt agencies and the military but not widely adopted by hams (alas). Several messaging sub-systems with good through-put including ARQ methods. Limited by some OFCOM & FCC restrictions of speed and bandwidth. Only available in PC-ALE and Multipsk software and via firmware in some high-end commercial radios.

12. Thor

Moderate to good performance in terms of weak signal work. Some conversational QSOs to be had but you can go several hours without hearing any signals.. Used with PSKmail as THOR 22 is most common . May sometimes be used by Eccomm nets to pass point-point traffic. Not in all common software applications.

13. Lentus

Super slow callsign and signal report digital mode. Extremely good with weak signals and low power. Moderate activity. Only available via Multipsk software

14. Contestia

Similar to Olivia in terms of performance but not very common. Can go days without hearing signals.

15. Throb

Fair to moderate performance in terms of robustness. Can be used as conversational mode. Can go days without hearing a signal.

16. DominoEx

Similar to Olivia in terms of performance but not very common. Can go days without hearing signals except when used by PSKMAIL stations and some NBEMS emcomm stations.

17. PAX

Good weak signal performance but only available in Multipsk. Can go days without hearing signal.

18. ALE 400

Good weak signal performance but only available in Multipsk. Great ARQ performance with auto-resync. Can go days without hearing a signal. Can be used for conversation QSOs and can be configured to send email and files.

19. JT6M

Used mostly for meteor scatter on 6M, 2M and 70cm. Very efficient for detecting very quick signal bursts, good weak signal performance. Used only to exchange signal report, QTH and callsign. Only in WSJT software

20. Jason

Another super but slow mode. Very good under weak signal conditions.

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Modes used on VHF and UHF

For those with interests above 30Mhz, a useful web site belonging to Joe, K1JT Where the correct modes are listed to various bands also the EME (Earth-Moon-Earth) modes are there.

<http://physics.princeton.edu/pulsar/K1JT/wsjt.html>

FSK441 is rare on 6M, but a mix of FSK441 and JT6M, JT6M being replaced by ISCAT, on 4/6M. No JT6M on 2M, just FSK441.
70cms MS is a real challenge.

How to identify the modes.

There are three things you can do to easily narrow down the list of possible modes and quickly identify them.

1. What frequency is it on?

If it is on 7035, 10.100, 14070, 18.100, 21.070, 24.920, 28120, or within 2 Khz of those frequencies, it is almost certainly PSK31 or PSK63.

If it is on 7076, 14076, 21076, 28076, it is almost certainly JT65A.

PSK31 and JT65A will be at least 75% of what you will hear on the entire HF band, so by learning their frequencies quickly you will be able to discern 75% of all signals.

2. By Sight.

Observing the width of a digital signal will also enable you to quickly narrow in on the possible signals. PSK31 should be around 31 Hz wide in your waterfall. To some its like a 31 hz wide single vertical trace, it may look like two traces, or tram lines, 31 Hz apart. RTTY (in ham bands) is 170 Hz wide and be seen more clearly as two vertical traces on your waterfall.

On a busy weekend, if you can easily tell a PSK31 signal and a RTTY signal, you will recognize 85% of the signals on the band. If you know that RTTY is very rarely within 2-3 Khz of 14070, 21070, 28120,, you will have extra info to make your decision (RTTY typically shows up above 14080, 21080, and 28080 for a 10 to 15 Khz swath during a busy contest).

You can also begin to recognize the narrow "zig-zag" of a WSPR signal or the almost domino dots-like pattern of a strong JT65A signal.

A little practice and you will get most of the common modes instantly recognizable.

YouTube has many examples of these modes that you can view.

3. Hearing.

Your ears can be quite valuable in this regard. The sounds are not easy to describe in writing BUT if you have the software installed, all you need to do is press TRANSMIT (with a dummy load or no radio connected) and you can easily hear what the modes sound like. Some have a different sound if they are just idling, so activate each mode and execute a macro with a CQ in it. Eventually you will easily recognize Hell (a sick CW-like sound), the shrill RTTY sound, or the low roaring noise of MT63 signal. Some modes like Olivia, Contestia, Thor, MFSK16, and Domino sound quite alike. Those you really have to practice. These mode have so many variations of settings that only sound SLIGHTLY different, so it gets hard for people who do NOT use RSID.



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RSID.

An interesting and useful program used to identify digital modes, but is dependent on people using it, it also does not ID every common mode.

Often RSID is required to identify modes, but your ears can tell Olivia from MFSK16 and Thor from Olivia... with practice. Remember that if you take the frequency on the band and the width of the signal in the water fall, in to account... you should narrow it down to just 2-3 modes. If you are in a section of the band where Olivia, Contestia, Thor, MFSK, and Domino is being considered... remember thant Olivia is the most common of these modes followed by MFSK, So give those two a try first.

If you are on frequencies commonly used by PSKMAIL servers (e.g. 10147) PSK250, PSk500, THOR 22 and MFSK32 are the modes to try. PACTOR and WINMOR signals are present throughout every band, carrying email and file traffic.

You will likely not care about these signals unless you have traffic to pass, you can't eavesdrop on message content. So learn how these signals sound and appear, that way you will not waste time thinking it is an exciting QSO mode.

Some modes like JT65A give another clue.... they ALWAYS start a transmission at the top of the minute (give or take 1-2 seconds) and end after 48 seconds. WSPR does essentially the same but transmits for about 2 minutes. Opera has differing lengths, like LENTUS, they can last up to 10 minutes!

Reprinted with kind permission of John Haddleton (M00BU)



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ROVING REPORTER

February 2014

The first committee meeting of 2014 was held on Monday 13th January. Events are discussed and plans for the year time-tabled for the forthcoming 76th year. I have even decided to give a presentation myself about memories of The Robin Woods Centre, the previous venue where our meetings used to be held.



Illustration 3: The Robin Woods Centre - previous Stars Club Meeting Place

This will be on DVD as the centre is no longer there.

There are two new prospective members who have expressed an interest in joining Stars at the Monday 13th meeting. They have an interest in the military side of radio, after the meeting I was in conversation with a new member Darren Jones from Stourbridge. Over the past 12 months, he is the second Darren Jones I have come in contact with, the other being on the committee of The Shropshire Theatre Organ Trust [STOT].

With the AGM approaching in March it is time to consider who will be on the new committee for the next 12 months or longer. Since losing my XYL in 2013, life has not been easy and as I am approaching the age of 80, I am thinking of standing down from committee work which I have enjoyed. I do not like going out too much in the winter and being on medication for Polymyalgia Rheumatica does not help. In addition to other tablets I take there is no fun in getting old. Where have I heard that before? It is the warmth of the house in winter that I like. There is time between now and March so I may change my mind.

I read in the Express & Star that one of the presenters on Beacon Radio and other commercial radio stations Mike Baker had died. I read somewhere that Mike was very much into Amateur Radio and I believe he had a transmitting licence. I had a hour and a half session on 2m with Ian G4IKP on December 30th which was just like going back to the days when I did not have too many interests, like Dudley Hippodrome. On this subject there could at last there could be some good news. The son of a previous owner from the 1960s, Vic Kendrick, has made an offer to Dudley Council to purchase the building and, based on our business case and plan, turn it into a theatre once more. If accepted it will be a good thing for Dudley and the surrounding area.



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I could not attend the Stars meeting on the 20th January due to events over the weekend and Monday morning and afternoon eventually caught up with me. I was out the following night 21st January at the Stourbridge Branch of The George Formby Society at which there was a visitor from



Illustration 6: Ex Stars member Graham Burnett at Rugby Club Car Boot



Illustration 4: My XYL Glennys at the same Car Boot



Illustration 5: Derek Pearce (G6WMU), John Cattermole G8NPK and Malcolm Palmer (G8BOP)

STARS Andrew Hill. By leaving early, Andrew, you missed some good acts. You must try and have a return visit. Your visit prompted me to look through some old photos I have on the computer. One photograph that is with this report goes back to 2004 George Formby's Centenary. There were three licensed radio amateurs at the meeting from left to right Derek Pearce G6WMU, myself and John Cattermole G8NPK who used engrave the badges for RSGB. There was another one there Geoff Osborne but I could not find him when the picture was taken. I also came across a picture of the Robin Woods Centre and a photo of a ex STARS member Graham Burnett which was taken some years ago at a car boot sale at Stourbridge Rugby Club. The extra photo is of Glenys who was there with me at the car boot sale.

Best 73s from Your Roving Reporter

Malcolm G8BOP

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YOUR COMMITTEE

Hon. President	JAMES	G7HEZ	
Vice President	NICK	G6DQN	
Hon. Secretary	JOHN	M1EJG	(01562) 700513
Hon. Treasurer	JOHN	G8UAE	
Committee Members	MARK	G7EDZ	
	MALCOLM	G8BOP	
	KELVIN	M6KTR	
	ANDREW	M6APJ	
	ADRIAN Sims	2E0HBA	
	ADRIAN Bryan	G0NLA	

CALENDAR OF EVENTS

It should be noted that the Shack will be open every Monday evening unless shown otherwise in the Calendar

February	Mon 3rd	Open Shack Night - Or on air natter
	Mon 10th	Open Shack Night - Or on air natter
	Mon 17th	Constructors Competition
	Mon 24th	Open Shack Night - Or on air natter
March	Mon 3rd	Open Shack Night - Or on air natter
	Mon 10th	Committee Meeting & Foundation Course Exam
	Mon 17th	A.G.M.
	Mon 24th	Open Shack Night - Or on air natter
	Mon 31st	Open Shack Night - Or on air natter
April	Mon 7th	Open Shack Night - Or on air natter
	Mon 14th	Open Shack Night - Or on air natter
	Mon 21st	No Meeting - Easter Monday
	Mon 28th	G4SPZ - Phil - Valve Testers
May	Mon 5th	No Meeting _ Early Spring Bank Holiday
	Mon 12th	Open Shack Night - Or on air natter
	Mon 19th	Early Computing - John Tracey
	Mon 26th	No Meeting - Spring Bank Holiday
June	Mon 2nd	Open Shack Night - Or on air natter
	Mon 9th	Open Shack Night - Or on air natter
	Mon 16th	BBQ at Sheepwalks
	Mon 23rd	Open Shack Night - Or on air natter
	Mon 30th	Open Shack Night - Or on air natter

