Mid Sussex Matters

Volume 5 Issue - May 2017

Chairwoman's Chatter

The last couple of months have been quite busy.

We had a several talks that were very interesting - starting with Fred who cam and gave us a talk about 'Oldlands Mill', the following one was given by a member Phil Godbold G4UDU about a computer programme called WSPR. This was very interesting.

Finally we had Richard Foot and his Guide Dog 'Annie'; this was a brilliant and very informative talk. The Gentleman gave us so much information that we did not know before and was ready to answer any question that was asked. It was such a shame that only about 7 people could be bothered to attend.

This leads on to last weekend, Mills weekend. The first of our outside events. It was a beautiful weekend even if it was rather windy but what does one expect on top of the hill! It was a shame though that we had so few helpers and if, as a club you are hoping that we are going to run other outside events you are very sadly misled.

I am afraid that we had far too few people to run just the one station— including the setting up; what small amount there was to be done. If we were to run other outside events we need commitment from you. What hours you can manage and what days you can manage.

Outside events are for the Club as a whole not just for the committee. Also are there any members who have a car with a tow hitch on their car and would be prepared to share the towing of our 'Mobile Shack' to events.

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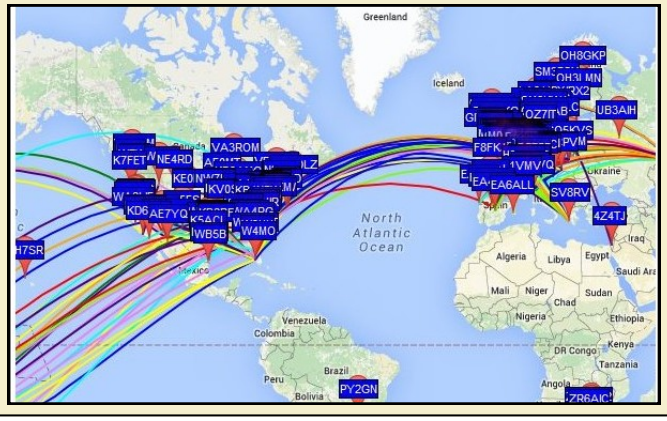
Richard and Annie from Guide Dogs for the Blind



Right a few moments of WSPR working

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(This will only work from a members email address registered with the society)

Mid Sussex ARS Net Times—all times local

Sunday	0800	3.740MHz$^{+}_{-}$QRM
Sunday	1100	145.350MHz
Weekdays	1330	21.330MHz$^{+}_{-}$QRM
Tuesday	2030	3.725MHz$^{+}_{-}$QRM (SCARF)
Wednesday	2000	145.350MHz

GB3HY is now working on the following frequency:

Listen 430.900Mhz, Transmit 438.500Mhz, CTCSS 88.5hz

From the President's Corner

Most of you will be aware of the effect that Sun Spot numbers and the regular 11 year cycle have on our ability to work DX stations and that we are now approaching the bottom of the current cycle. A study of the sunspot numbers over a longer period reveals another disturbing fact in that the peak numbers over the last 6 cycles has declined from 360 during the cycle peaking in 1956 to a maximum of 150 during the current cycle.

This means that even at the peak of the current cycle it isn't as easy to hear the DX because there is no path between you. It doesn't mean that the DX isn't there, they are and just as eager to work you but you can't hear them due to the poor propagation. Now that the cycle is in decline these conditions are getting worse and will not improve for a few more years.

That's all bad news so what can you do to improve the chance of you hearing more DX under today's conditions?

The recent interest in WSPR and other digital propagation monitors helps in that the use of these programmes will tell you if there is a path on a particular band at that time. If there is you have a chance to make a contact, if no path is found you're wasting your time on that particular band. but the one thing that all of you can do is to improve your antennas if you want to work DX under today's conditions and for the next few years.

A most interesting article in the May issue of RadCom deals with this point and shows how the set up of the G5RV antenna can be optimized by understanding how it radiates when used in a flat top horizontal manner as opposed to being used in an inverted Vee form. One of the illustrations in the article shows how the antenna directs most of its radiation straight up in the air in the inverted vee form whilst the main lobe is at an angle of around 20 degrees (on 15m) if the antenna is horizontal, a huge improvement in both reception and transmission to DX contacts

If you read nothing else this year you really should read this article and resolve to look at your own antennas and wonder if by simply rearranging them you might vastly improve your ability to hear more DX in the future.

Now that you appreciate that conditions are not going to improve consider what the effect of this will be on the bands. Most of the DX and all of those seeking to work them will be on the lower HF bands for much of the time. All the big operators with their (very) big signals will be on 20, 30, 40 and 80m and it's not going to be easy for you to get to the DX through them. Band congestion on any open band will be immense so anything you can do to help yourself should be done now.

Vertical antennas have a lower angle of radiation than horizontal cloud warmers and it is for that reason that I have long advocated and use a delta loop fed in one corner and thus a vertical radiator. All of you have room for a vertical antenna although a quarter wave vertical for 80m might not be so easy. There are one or two good commercial trap verticals around that need extensive ground planes under them to really perform but there are no magic whips that will work all bands and get you through the pileups.

There are also a lot of commercial antennas being advertised that work like snake oil so be careful if you think that anything you purchase will work better than something you can build yourself at a much lower cost.

Remember also that a new transceiver whilst costing a lot of money will not produce the required results unless you connect it to a decent antenna with a low angle of radiation to get you out of Mid Sussex and among those who appreciate what this is all about.

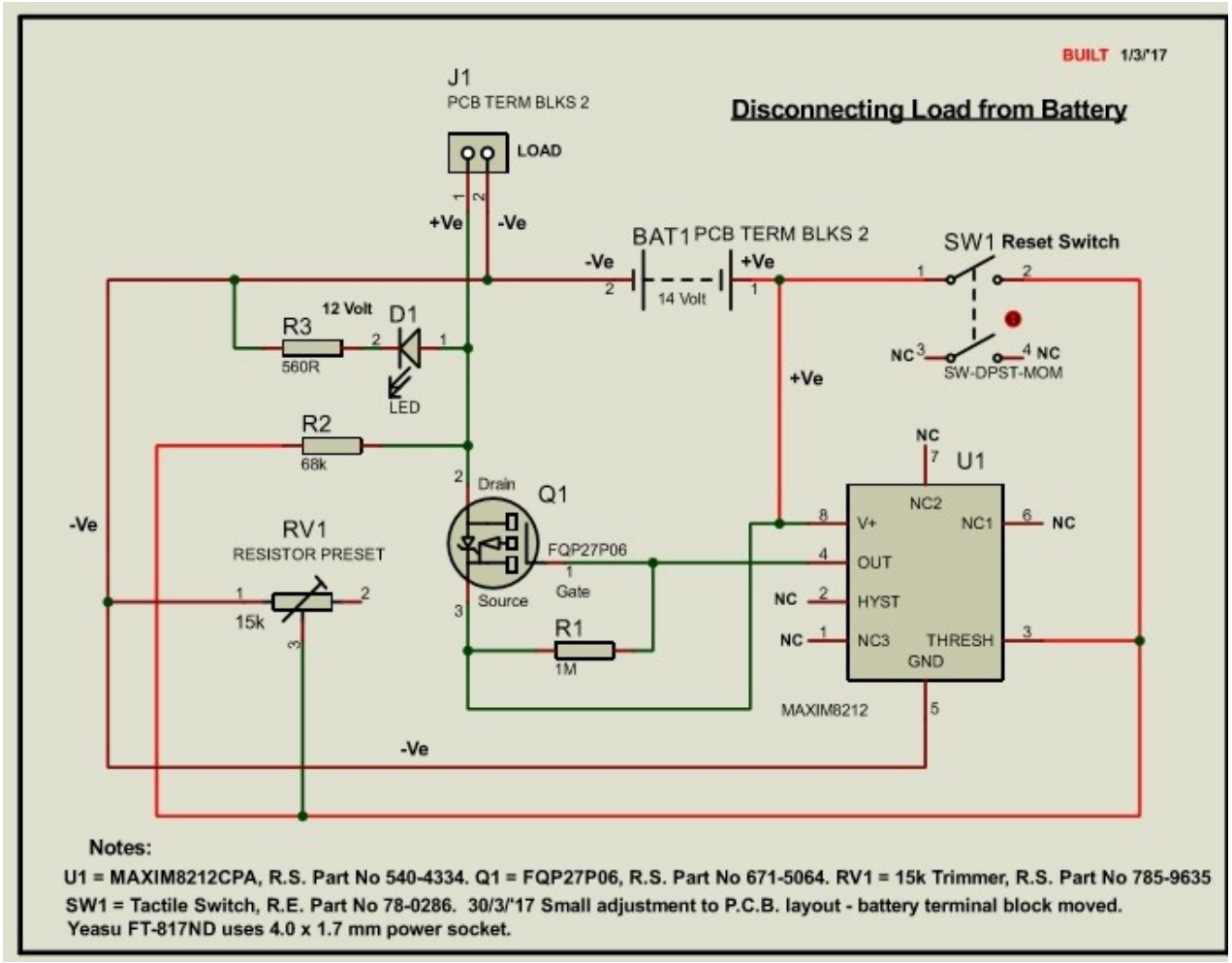
If in doubt ask someone at the Club, some of us are still managing to pull out a new wanted one now and then although it's not as easy now as it was in 1956 and a lot of the courtesy attached to operating seems to have long gone.

73 & 88, Ken G3WYN

Disconnecting Load from Battery

Introduction

This is a simply circuit (The circuit itself can be found on the I.C.'s data sheet) for disconnecting the load, i.e. radio, from a battery supply when the voltage drops to a chosen level. This level is set by the use of a variable resistor or trimmer, as part of the circuit itself. The idea being to preserve the long-term integrity of the battery, preventing it from being completely drained. The schematic is used, as an initial step, to set-out a practical layout using Veroboard/ Stripboard. An intermediate step is required between these two stages. This stage can either be done on specially ruled paper (Method No 1 at a Scale 1:4, both vertically and horizontally) or using a simple software (Method No 2) specifically designed to be used with Veroboard /Strip board. The end result will be the same.



Notes:
This circuit disconnects the load from the battery, at a level of battery voltage determined by R1 and R2, and remains latched in that state until reset by the push button switch.
Vtrip = 1.15(R1 + R2)/R1.
Decide on Vtrip, then choose a value for R1, say 10k Ohms, then R2 = R1(Vtrip - 1.15)/1.15

Fig. No 2 Schematic of circuit

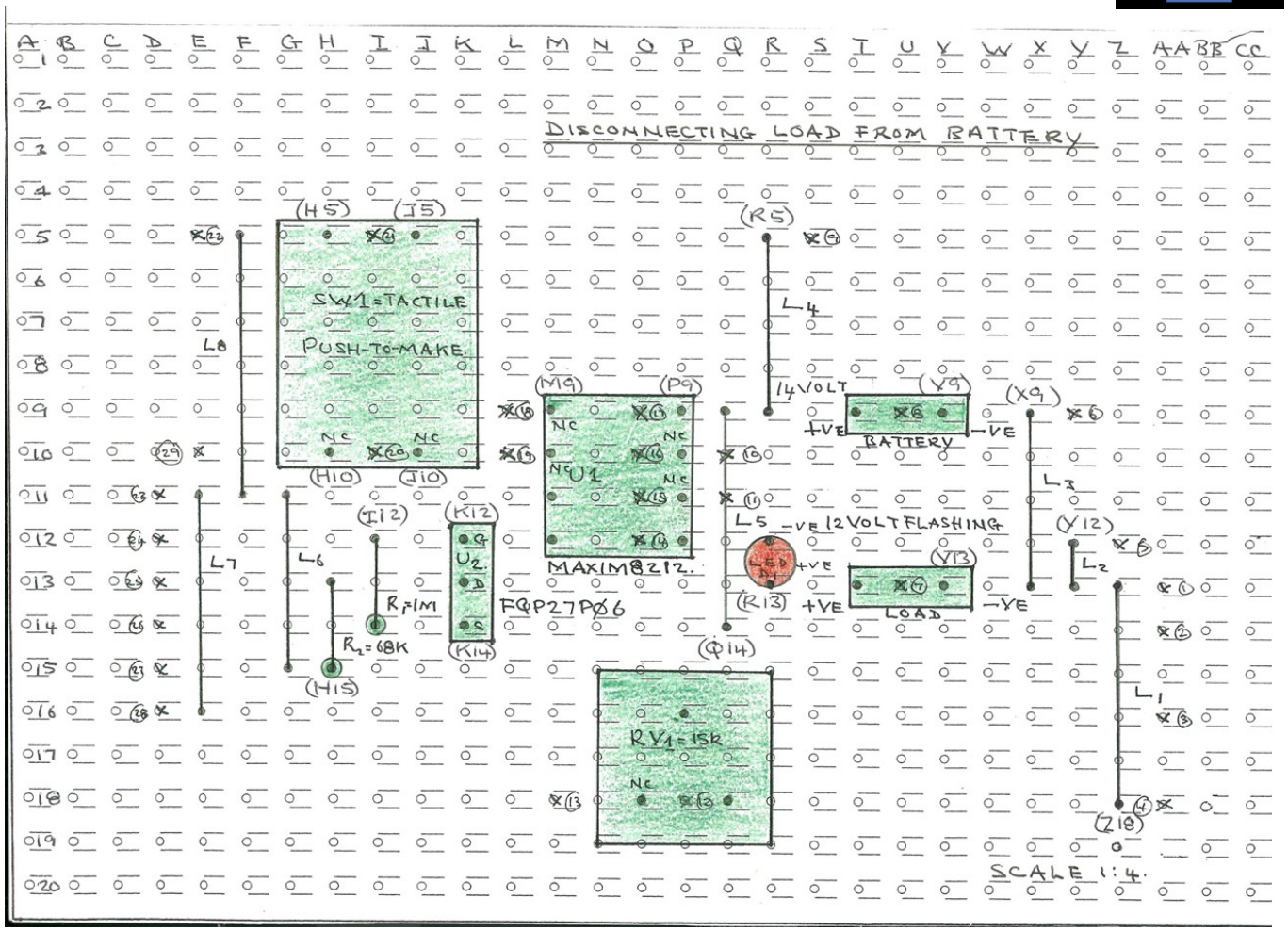
This drawing has all the information required to produce either a drawing or to use the software. There is also information which allows the calculation of the **Trip Voltage** (**VTrip).**

Disconnecting Load from Battery Continued

Fig. No 3 Schematic of Veroboard on Paper- Method No 1

This may look a bit like a child's dot -to-dot drawing, but actually it is a simple way of representing the actual layout on a piece of Veroboard. The horizontal dashed-parallel lines represent the horizontal parallel copper strips on the board. The circles are the 1.0 mm diameter holes on the board. The 'Xs' are where the copper strip has been removed to stop current flow at that point.

The components look distorted in size because of the scale of 1:4; this is necessary to allow small components to be drawn easily. The black vertical lines are links joining one part of the board to another. The alpha-numeric is to locate the component so that it is positioned correctly on the board.



Disconnecting Load from Battery Continued

Fig. No 4 'Populating' Veroboard software with components - Method No 2

This layout is computer generated, using relatively cheap software. It is easy to use and is based on a 'learn-as-you-go' style. The software allows one to create individual components that may not be in the library. Method No 1 and 2 can be used together.

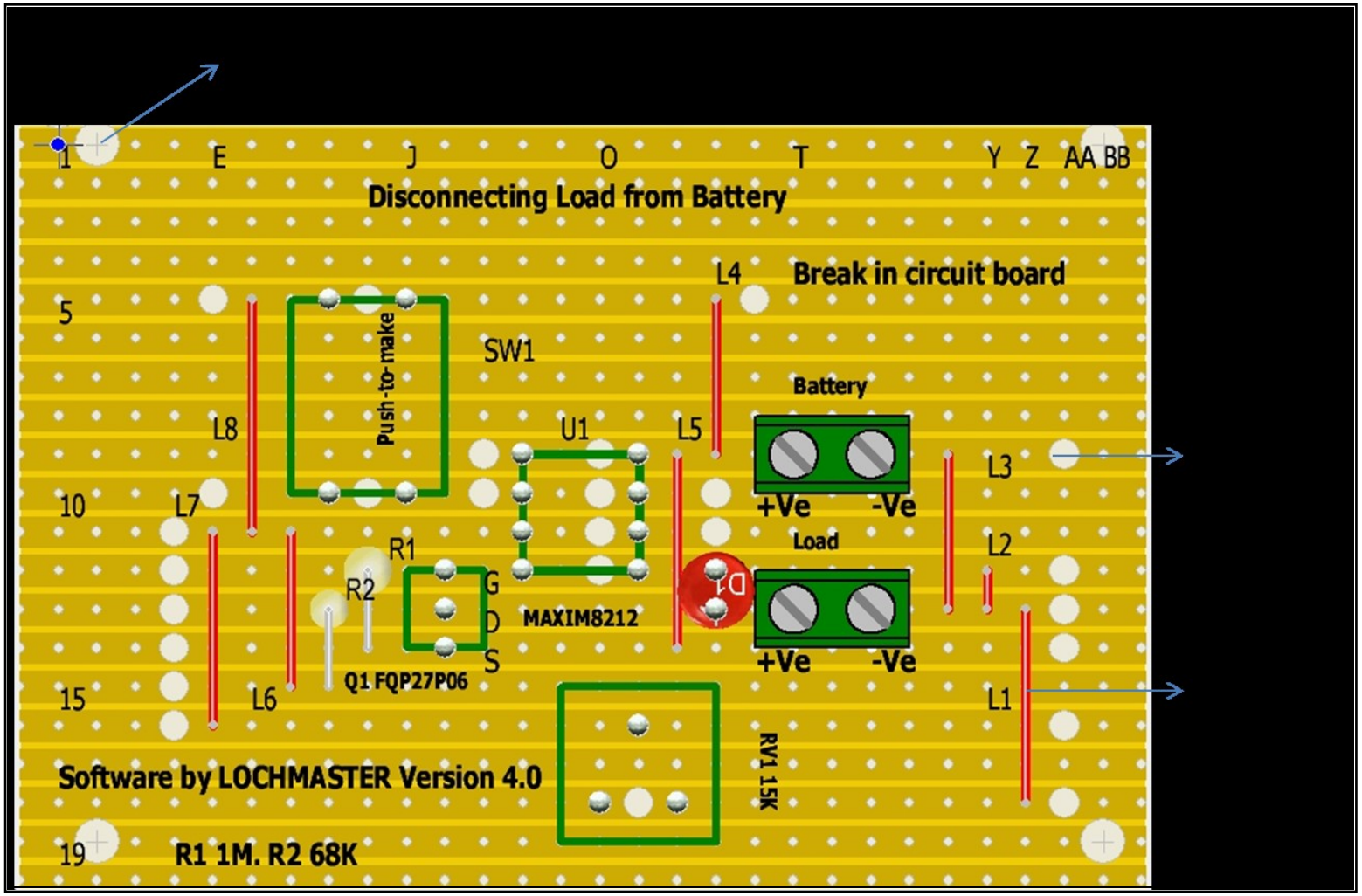


Fig No 4 Disconnecting Load from Battery on Veroboard

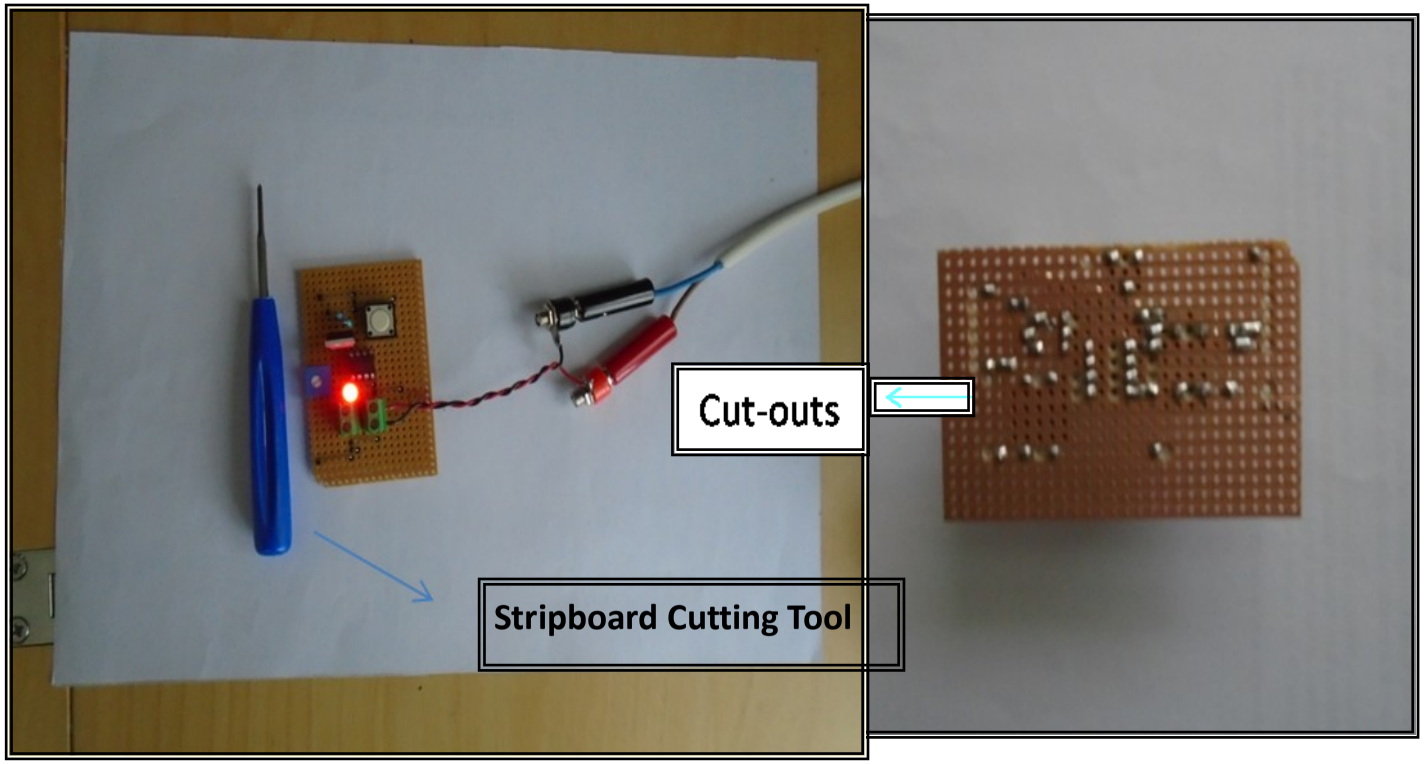
Notes: Check layout against manufacturer's schematic before populating Veroboard.
Not shown: Cut-out between +Ve and –Ve connections of 'Battery' and 'Load'

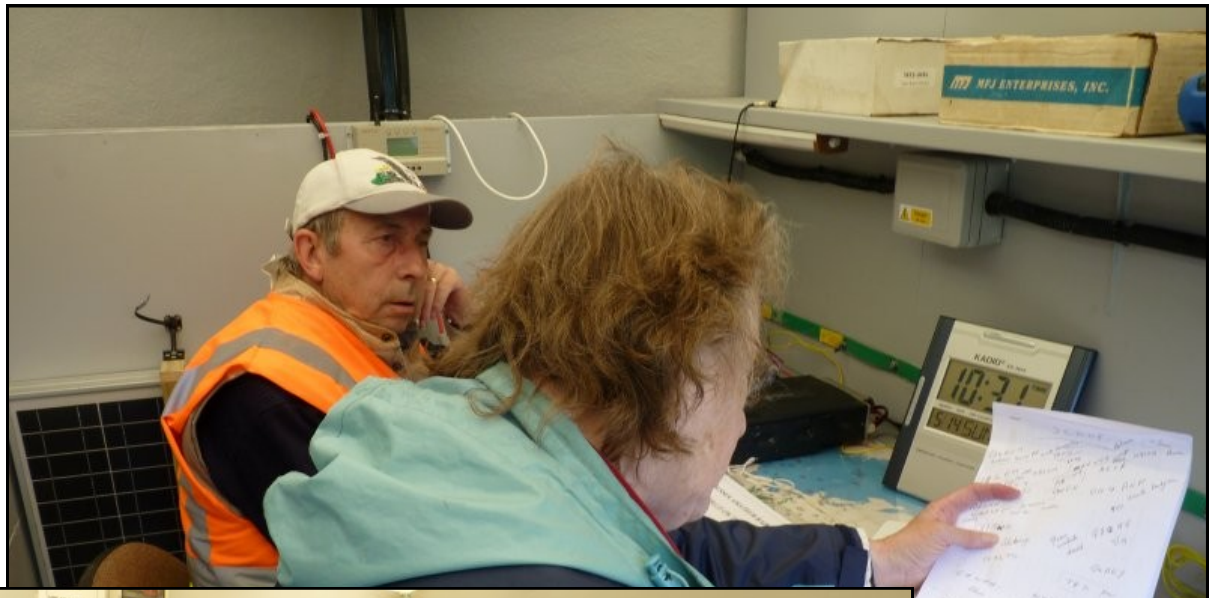
Disconnecting Load from Battery Continued

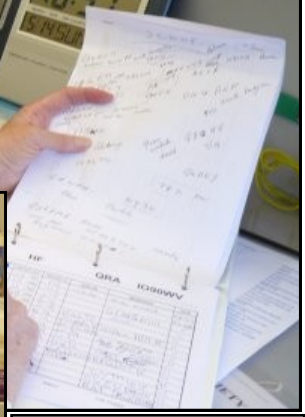
Photo. No 4 Top and Bottom Face of Veroboard

A 3.0mm dia. drill bit can be used instead of the special Stripboard Cutting Tool. An ordinary push-button switch can be used instead of the tactile switch soldered onto the board. The whole process looks a little bit ‘clunky’ but is simple, cheap and effective. If there is any doubt as to whether the circuit will work, then the schematic can be laid-out on prototype board and tested.

M0TOT







Mills Weekend 2017

Lovely skies but rather windy & chilly. Photos Top Russell G7TMR & Sue G6YPY
Left & Below Sue G6YPY & Adrian M0TCD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G1ZMS
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G3ZMS

Diary Dates May 2017 and July 2017

26 May Friday Millfield Logging Evening

02 June Friday Millfield Construction Contest

09 June Friday Millfield Open Evening for Burgess Hill Town Festival

11 June Sunday Out - St Johns Park, Burgess Hill Town Day

16 June Friday Millfield Radio Night & Table Top Sale

23 June Friday Out - Windmills Evening 'Our Anniversary'

30 June Friday Millfield NFD PREPARATION

01 / 02 July Saturday overnight to Sunday Out - NFD

07 July Friday Out - Chairman's Barbeque

14 July Friday Millfield Radio Night

21 July Friday Millfield Radio Night & Table Top Sale

28 July Friday Millfield Walking Fox Hunt

Copy

I am hoping to go to print each month. For this I need copy from any one of you however small and it **may or may not be** radio related.

All articles and photographs are the copyright of the authors. Contributions are invited from Society members and should be sent to newsletter@msars.org.uk

If you have some great old pics that need to be aired I can share them with the rest of the club. Otherwise you can use Snail mail to my address at: 28 Damian Way, Keymer, Hassocks, West Sussex, BN6 8BJ.

Request for copy around 6th—10th with copy to me nominally by the 15th of each month.

If I get no copy there will be no MSM, it is as simple as that.

73

Stella, Editor of MSM

Amateur Radio Insurance
General Information
South West Broking Ltd Insurance Brokers

South West Broking Ltd is pleased to offer insurance for radio amateurs.

Cover

Insurance is available to individuals, clubs and Raynet Groups

Cover is provided for "All Risks" of loss or damage to your amateur radio equipment including masts, aerials and ancillary equipment by theft, water damage, lightning strike and other accidental damage.

- Cover at your home or club house.
- Anywhere in the United Kingdom.
- Anywhere in the world.

Basis of Claims Settlement

- New for Old

Significant Exceptions and Limitations

- Wear and tear, gradual deterioration, frost, faulty or defective design or materials or workmanship.
- Mechanical or electrical breakdown or derangement.
- Losses from unattended vehicles unless certain conditions are met.
- An excess of £50 applies if you have cover restricted to your premises only but this is increased to £75 if you have selected cover for anywhere in Great Britain or worldwide. In respect of outdoor antennae and masts, you will be responsible for the first £250 each and every loss.

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Personal Liability providing cover against injury to third parties or damage to their property arising from your negligence is included as standard whilst you are engaged in any amateur radio activities.

For further information, please contact Julian Dent
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Scan here for more information

Mid Sussex Amateur Radio Society

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