

OLDHAM AMATEUR RADIO CLUB



G1ORC

G4ORC

OLD HAMS NEWS

The Journal of the Oldham Amateur Radio Club
April 2009



RSGB Affiliated Society

PRESENTATION EVENING

On 22nd January 2009 the club held a special presentation ceremony. The evening was a surprise event as the proceedings had been cooked up by our Secretary Chris Cunliffe G7OOD and only he and our Chairman knew about it. Chris felt that members should be given some token of recognition of their efforts over the past few years for helping out at and/or organizing contests and special events etc.



So he had trawled through back issues of Old Hams News to find out ‘who had done what’ through the years. Then he designed individual certificates for each event. After that he created an illustrated talk to remind us of these events consisting of old and embarrassing photographs.



The evening was a great success as members joined in with their own individual stories of how they recalled each one.

The photographs of some of the recipients are seen above and on the front page and if you’re wondering why Chris Mackay M0TVL has a photo all to himself, it is because he took the others.

WHAT ELSE CAN BE USED?

For many years now the digital modes have been dominated by Digipan for PSK use and MMTTY for RTTY use. These are excellent programs and have proved themselves many times on the bands. I use both programs and have done for many years with great success in both normal QSO’s and in contesting. In November 2008 I started to look around for something else to use that would do the same job but still be free for download. The main reason for this is that in order to change mode of operation the program that was in use had to be shut down and another started up. There are some great programs out there but these have to be paid for.

After much searching of the web I came across Fldigi. This program has been around for some time but was only available for Linux users. Now it is also available for Windows users. It is a multimode program and works very well. Under tests I have found it not to be as hard on the soundcard as MMTTY and Digipan.

When using MMTTY and Digipan I found that if the soundcard was set up incorrectly under certain conditions a feedback could occur causing all sorts of problems, this could include the computer locking up. Most of the time it would happen part way through a

contact. The only cure would be to switch of the program and restart it. Then the signal had to be found again, an apology made and the contact continued. Hoping that lockup would not happen again. Some soundcards are better than others and there are fixes for the more prone card.

Fldigi did not have this feedback problem and hence a much cleaner signal was transmitted.

It covers many modes including.

CW

DominoEX 4, 5, 8, 11, 16, 22

Hell Feld Hell

Feld Hell x5, x9

FSK Hell 105

Hell 80

MFSK 4, 8, 11, 16, 22, 31, 32, 64

MT63 500, 1000, 2000

Olivia 8/250, 8/500, 16/500, 32/1000, Custom

PSK 31, 63, 125, 25

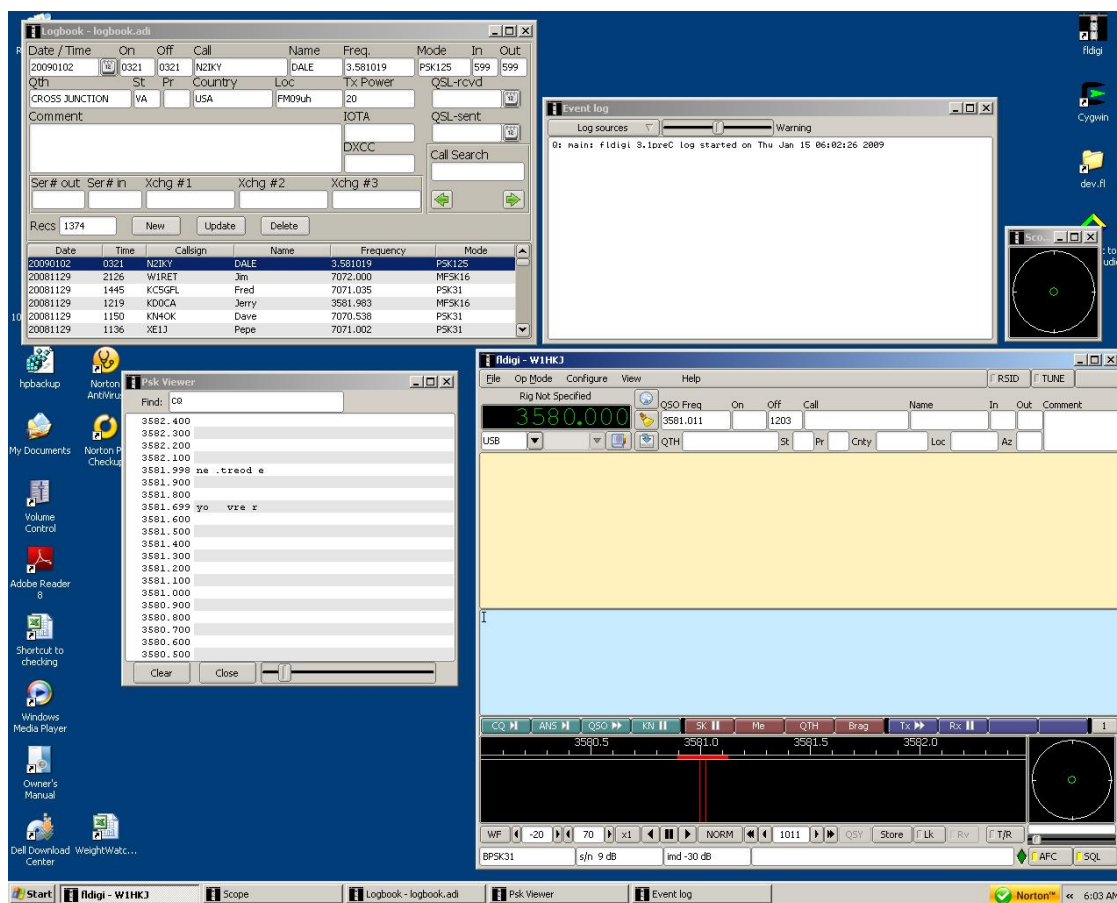
QPSK 31, 63, 125, 250

RTTY 45, 50, 75, Custom

Thor 4, 5, 8, 11, 16, 72

Throb 1, 2, 4, x1, x2, x4

As you can see all the main modes are covered in one program.

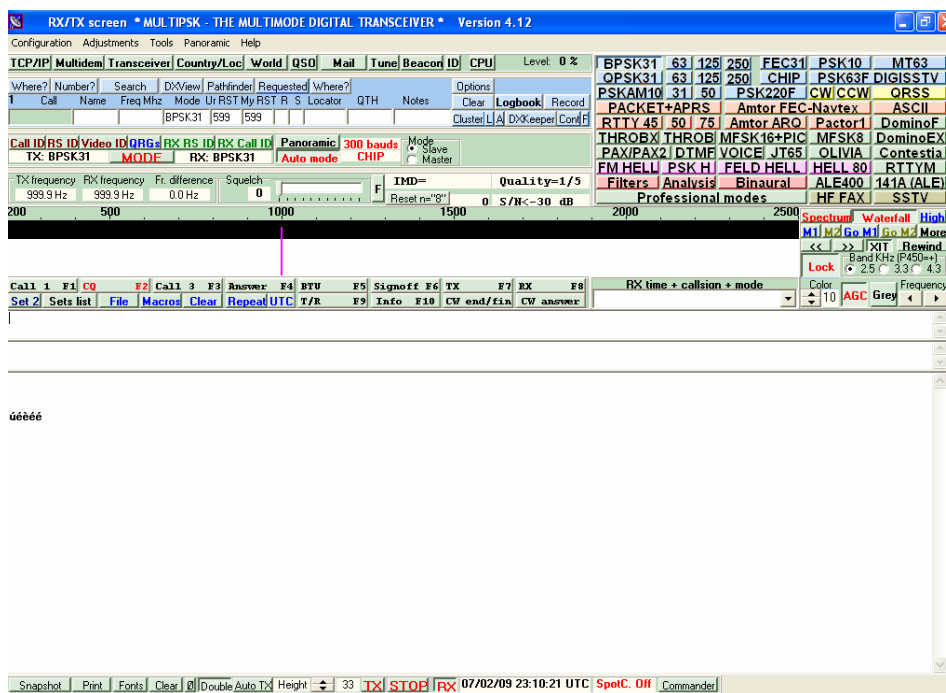


As can be seen from the above picture the program carries the multi PSK window viewer and also contains its own logging program. The current version is V3.10 and the file size is 4.5 Meg. Macros can be saved and loaded just as in Digipan giving you an endless supply of QSO possibilities. The one snag that I found was that when updating the versions the macros could not be transferred and had to be retyped. Hopefully this will be rectified in the next version.

The program can be found at www.w1hkJ.com/Fldigi.html

Over the January period I managed over 300 contacts using this program and all the time it performed without any problem. Anyone who is interested in data communications on the HF bands should give this program a try. They may be surprised.

While on my travels through the internet I had a look at the Multipsk website. This can be found at www.f6cte.free.fr/index_anglais.htm For a free program this must be one of the most versatile of them all. The modes that it covers just keeps growing. Not only are there the usual HF modes like RTTY and PSK but there also some modes like SSTV and DigiSSTV. DigiSSTV is something that is becoming more popular on the bands as the programs start to incorporate it.



The latest version is V4.12 and as you can see from the picture above. There are a lot of modes that this program covers. Maybe one day a talk will happen at the club on this program. This program is not for the faint hearted and if you do have a go using it do not let it put you off data as this is one of the more complex programs.

Have fun and see what other modes you can try. Not all operate like PSK and RTTY. Some are very tricky to setup and operate. This makes it more of a challenge and more rewarding when the contacts start to come.

Enjoy and see you on the bands. Chris Cunliffe G7OOD.

X-RAY ENGINEERING IN MALAWI

(and possibly some amateur radio)

By Keith Feay G1GZK

Those of you who know me will know that for most of my career I have been an X-ray engineer. Following my apprenticeship with an Oldham electrical contractor and a short time as a hospital electrician at Oldham Royal Infirmary I became an X-ray engineer in 1967. In that year I started work for Watson and Sons EM (Electro Medical) where I met



Keith & Geoff working together on an X-Ray Unit at Oldham & District General Hospital in 1970 ish

Geoff Oliver G0BJR. Geoff had started work for Watson's the previous year. Most people who become X-ray engineers either leave the industry after a short time or stay for ever (or so it seems) which is what both Geoff and I did. I have for the past 12 years worked as a self employed consultant and decided a couple of years ago that I would close my business and retire when I was 65 in 2009.

As with many things in life fate steps in and plans are changed. Early in 2007 I received a telephone call from a charity in Scotland (The Raven Trust) asking if I could help to repair an X-ray room in Malawi. The equipment was a basic X-ray machine designed for the WHO (World Health Organisation). Originally installed in Scotland it had been used by an oil company to X-ray their staff. It had been donated to the charity and then dismantled, transported and re-assembled in Malawi at Ekwendeni Hospital which is in the North of the country.

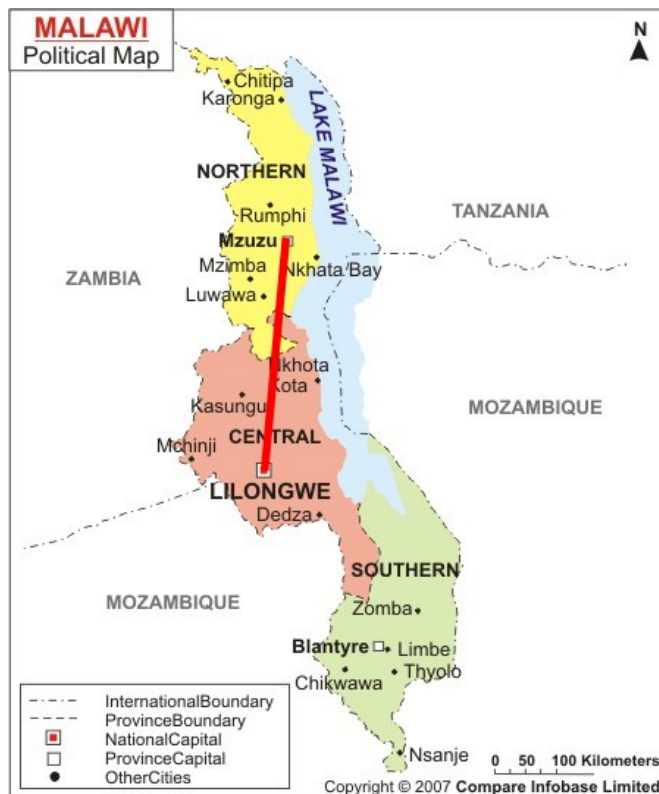
X-ray engineering by numbers worked and the equipment worked first time and continued working for several years' trouble free. The hospital then decided to move it to carry out some building works and following its re-installation it would not work. It was at this point that I was contacted. John Challis GM1USN from the Raven Trust had found my website and rang me to see if I could help. He sent me a printed circuit board which was thought to be defective but it was working. On John's next trip to Malawi the PCB was returned and John rang me by satellite phone to see if I could talk the local technician through the problem. As I soon found out it is almost impossible to do this with anything other than a simple fault especially when there are no circuit diagrams for the equipment.

One of my contacts in the industry helped me find the circuit diagrams for the generator and we sent them out to Malawi. We tried again several times over the next twelve months to repair the equipment using satellite phone and email but with no success. During this time another piece of equipment had been shipped and installed in the hospital at Livingstonia in Northern Malawi. This equipment had been installed using the X-ray engineering by number technique. Unfortunately this time due to the complexity of the equipment it hadn't

worked. At this point the Raven Trust asked if I was prepared to travel to Malawi and try to resolve the problems.

I agreed and a ten day visit was arranged. I was to travel to Malawi on the 18th May 2008 and return on the 28th. A visit to the local GP's surgery for the relevant injections and I was ready for my journey. Malawi is in Eastern sub Saharan Africa and is landlocked. It has a population of approximately 14 million, most of whom are subsistence farmers. The country is the eighth poorest in the world. There are some natural resources including coal.

HIV/AIDS is a serious problem and retroviral drugs are provided by the government. Health services are provided by the government but approximately 37% are provided by charities through their charity hospitals and health centres.



I had made a copy of the circuit diagram for one of the machines and had been given some help with the other by Geoff GOBJR. Some small tools and test gear were packed among my luggage. My journey began at Manchester airport. I flew to Amsterdam where I met up with John Challis. Our next flight was to Nairobi in Kenya and then after a 7 hour wait we flew on to Malawi via Zambia. We arrived in the capital Lilongwe where we were met by the technician and a driver. We drove north arriving in the Northern capital Mzuzu some 28 hours after leaving home. The next day we set off again to go to the hospital at Livingstonia. We arrived at lunchtime and following a very warm welcome and lunch we headed for the X-ray department.

The David Gordon Memorial Hospital, Livingstonia is a 100 bed mission hospital situated on a plateau 3000 feet above Lake Malawi and with panoramic views across the lake to the Tanzanian mountains 60 miles away. The Hospital was established by Scottish Presbyterian missionaries in 1910, and came under the control of the Synod of Livingstonia of the Church of Central Africa Presbyterian about forty years ago. The Mission at Livingstonia had been established in 1894 by the Scottish doctor, clergyman, educationalist and explorer Dr. Robert Laws.

The X-ray department is in a new building erected in 2006/2007 and project managed by the Raven Trust. The building houses various facilities including laboratories and the X-ray room. The equipment is a Siemens unit. The equipment was originally installed in a UK hospital and dates from around 1993. Considering it had travelled a considerable distance by sea and road including some 20km of dirt mountain road it was in excellent condition. As I mentioned earlier it had also been re installed by numbers but at least this time the

manuals were available. The local technician and I set about trying to find the reason for the fault. We checked all the cables and found that one had not been connected. This was connected and the unit switched on. All went well and the system sprung into life with no error codes. We spent the remainder of the day making minor alterations and tidying the installation. The following day we finished off the last few jobs and made the first exposures since the unit had been installed. The darkroom facilities are very basic and processing is still manual. We had collected a goat's leg from the local butcher in order to test the equipment and we used it for our first film.



Local & visiting Radiographer using the unit at Livingstonia



Ekwendeni X-Ray Control

We travelled back to Mzuzu in the late afternoon so that we would be able to start on the equipment at Ekwendeni the following day. Ekwendeni hospital is also a church run hospital and provides similar facilities to Livingstonia. The X-ray department at Ekwendeni is one room and a darkroom. The equipment is as mentioned earlier, a single phase generator with a WHO tubestand/table. This is the equipment I had been trying to help repair for some time. The equipment blew a fuse as soon as it was switched on. Having looked at the circuit back at home I suspected that the fault was probably in the WHO unit and not the generator. The local technician disconnected all the external wiring and replaced the fuse, we switched on. The fuse remained intact but the control panel remained dead. Further investigation

showed that all the PCB's had been pulled forward in an attempt to trace the fault. We pushed them all back into place and tried again. This time the unit switched on and displays lit (much to my relief). It's a long way to travel if you cannot fix something. After about an hours work we had managed to get the equipment to expose.

Whilst in the UK I had tried to get the circuit diagram for the WHO unit with no success so I decided to rewire it and at the same time draw out my own diagrams and manuals. This took me, with a lot of help from the local technician and electrician, the next three days. Fortunately all went well and we finally fixed everything.



WHO unit at Ekwendeni



Happy Local Technicians with donated test equipment

Tools and test equipment are very hard to find and we sometimes struggled for the want of a tool that would be commonplace in the UK. Allen keys, hacksaw and even a hammer were hard to find. Malawi deserves its reputation as the “Warm Heart of Africa” as hard work and a smile are there in abundance. I left Malawi after my trip feeling tired but it is many years since I enjoyed X-ray engineering so much.

Since my return I have been collecting X-ray related items and books to be sent out in the Raven Trusts containers. A whole basic X-ray room, a mobile X-ray machine, a domiciliary X-ray machine (in a suitcase), two desk top film processors and a lot of cassettes and other smaller items will be going to Malawi within the next few months.

I am currently planning my next visit in June this year and if all goes well my wife Judith G1KFG (a retired radiographer) will be travelling with me. We are hoping to complete some outstanding work and I am planning an X-ray engineering training course for the local technicians.

As I mentioned at the beginning I thought there may be a possibility of playing radio whilst I was there. Unfortunately time and work did not give me the opportunity. However I did find out what the procedure is to get a licence. It seems to be a simple matter of writing to the Malawian licensing authorities and sending them a copy of your UK licence plus your fee. You can ask for any two letter combination following the 7Q7 and providing it has not been issued before that will be your callsign. Callsigns are issued for life but a licence is for twelve months. /M and /P are not allowed so you have to have a fixed station address. The hospitals all have an HF radio link on 7.777Mhz USB as well as various VHF radio systems. One of the hospitals I am hoping to visit on my next trip is at Embangweni which is part way between Lilongwe and Mzuzu and near to the Zambian border. The IT technician at the hospital is Junior who holds the callsign 7Q7JN and runs an HF /VHF station with email via Winlink. If all goes well I hope to apply for a licence and take my FT817 with me on my next trip.

- www.theraventrust.org
- www.embangweni.com/david.htm
- www.keithfeay.co.uk
- www.winlink.org/

by Keith Feay G1GZK

OLD HAMS NEWS

The editor would like to thank all contributors to this edition of Old Hams News. The next edition is due to be issued in July 2009. Any contributions for this edition should be forwarded to the editor, Geoff Oliver G0BJR on or before Thursday 25th June 2009 to ensure inclusion.

Articles will be accepted on many formats, by email to "news@oarc.org.uk", by word of mouth, hand or type written notes, or as a .txt file on a CD ROM or 3½-inch floppy disc. Photographs, drawings, circuit diagrams and other graphics to enhance your article will also be most welcome.

An edited version of Old Hams News is available on the Internet at the following URL
www.oarc.org.uk
then click on the "Club Journal" hyperlink.

If you submit an article for inclusion in Old Hams News and you do not wish it to be included in the Internet edition you must state your wishes at the time of submission. Otherwise the editor reserves the right to include/exclude your article as he sees fit.

For reference the officers and committee members are listed below and will be happy to help with any enquiries you may have.

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Written, edited and produced by Geoff Oliver G0BJR

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