

Introduction

The data accumulated to date contains errors that will affect future analysis unless significantly reduced. Cleaning that up is quite a task, some of which will have to be done manually, with other parts by computer.

Initially I volunteered to assist with that job, by writing a validation program for the parts of the data amenable to such techniques. However, when Ofcom allowed 4 more years it became clear that to avoid an even bigger task in the future it was essential to try and avoid errors at source. The 5MHz Log project was born.

Description

The data is required to be in the same format as the existing, to avoid a data conversion process, which in itself could introduce further error.

The program provides input mechanisms for all required data, each as far as practicable validated from within the program.

Some data, for example sending station callsign is relatively static, and these are input only once. Each, apart from callsign, is fully validated for format and range.

One of the most difficult errors to handle is when a wrong locator is used. For the sending station it requires either an OS NGR or latitude and longitude to be entered too. The program then calculates a locator from this information and compares it to the one entered; preventing errors, as it's unlikely both would be wrong.

The static data once entered is stored in the computer registry for permanent use but can be altered as required to allow for portable operations etc.

For received locators we cannot ask for such justification, so validation just involves checking for correct format and range of characters. Similarly SOTA references are permitted in the same way.

Only allowing the correct range of values to be entered validates other QSO information.

Primary input screen

The screenshot shows the '5MHzLog - logging application for the UK 5MHz Experiment by G0TLK' window. The interface is divided into several sections:

- Log file details:** A text field for 'Current file' containing 'G0TLK-1317', with 'New log file' and 'Load existing file' buttons.
- Historic QSO data entry:** Fields for 'UTC Date' (24/10/2006), 'UTC Hour' (00), and 'UTC Minute' (00). A 'Beacon entry' checkbox is present. Fields for 'Mode', 'StnHrd OrWkd', 'StnHrd OrWkdQTH', 'Channel', 'SiNPO sent', 'SiNPO rec'd', 'Steps', and 'Power (W)'. A 'Secondary input data' button is at the bottom.
- Static Data:** Fields for 'StnReporting' (G0TLK), 'StnRepQTH' (IO91X1), 'AerialType' (Other), 'HeightAGL (m)' (10), 'AerialPolarisation' (Horizontal), and 'AerialAlignment' (Omni-directional). An 'Edit other static information' button and an 'ADIF On' checkbox are also present.
- QSO statistics and operating controls:** A 'Distance & bearing' field, a 'Map' button, and buttons for 'Save QSO', 'Clear QSO', 'Change to Live QSO', 'Help', and 'About'.

SiNPO is difficult to judge, so input is done graphically through a reminder table. There is an optional forecast of the Overall value.

SiNPO Input Screen

Level	Signal strength	Interference level	Noise level	Propagation problems	Overall rating
1	Barely audible	Extreme	Extreme	Extreme	Barely audible
2	Poor	Severe	Severe	Severe	Poor
3	Fair	Moderate	Moderate	Moderate	Fair
4	Good	Slight	Slight	Slight	Good
5	Excellent	Nil	Nil	Nil	Excellent

SiNPO

Log Tx report "O" forecast ON/OFF Cancel (but note Tx report is compulsory!)

Beacon reception reports are pre-loaded and are selected by keyboard or mouse clicks from the permitted range of values.

Beacon input screen

5MHzLog - Historic Beacon report

Set UTC date and hour
 UTC date: 24/10/2006 UTC hour: 00

Quick Entry
 On/Off Hour - 2 digits! Beacon - R, W or O Minutes past the hour Steps

Beacon Minutes past the hour Steps heard

GB3RAL 00 15 30 45

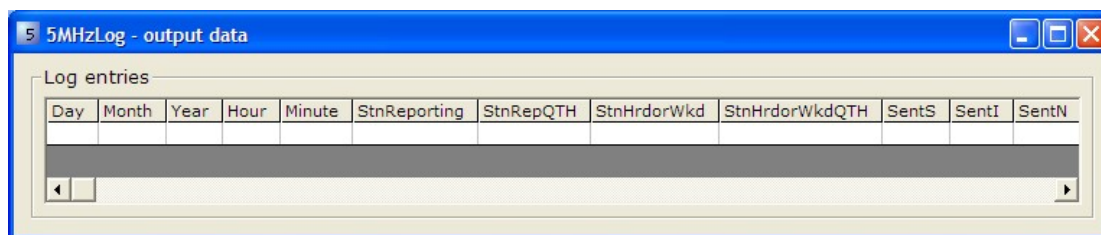
GB3WES 01 16 31 46

GB3ORK 02 17 32 47

Bandwidth (Optional)
 Hertz:

OK Cancel data or Exit quick entry mode

Output Screen



Data is output to this spreadsheet-like grid, one row at a time.

The program operates in two modes - for historic QSO's already logged elsewhere, and in live mode where time and date is generated by the computer. The latter is for both two-way QSO's and the beacons.

Log entries are saved immediately they are completed, to avoid the risk of data loss. Previous log files can be retrieved and edited too, all with the same validation applied.

Future enhancements include transceiver interfacing and export of selected data in ADIF format files.

The validation techniques developed for this program have been written in modular form, allowing their relatively simple use in the data clean-up program that is to follow.

The program is in Alpha testing (thanks to John G3WKL for his patience in that!) at the moment, but will go to Beta for a testing release shortly. It will initially only be available for testing to members of the 5MHz reflector group until I am confident any remaining bugs have been ironed out.

You will be pleased to know that it will be freeware too. All it needs at the moment is a better name than 5MHzLog - any ideas?