Validating Legacy Secure Flight Recorders which do not have IGC-compliant DLLs

Target Audience.

This Document is intended for Official Observers reviewing Performance Claims by Legacy Flight Recorders where no IGC-Compliant DLL has been provided by the Manufacturer. Downloading of Flight Recorders is the Pilot's responsibility and is outside the scope of this document.

The Problem.

The older DOS programs provided by manufacturers are 16-bit programs, which will not run on modern 64-bit PC Operating Systems which are now becoming the norm. This problem does not affect 32-bit Operating Systems.

The Solution.

There is in fact more than one solution, but this is a solution that should resolve the problem in all cases.

The solution recommended by GFAC is to validate claims in the DOS environment provided by DOSBOX, an X86 emulator. DOSBOX can be downloaded from https://www.dosbox.com/ where you will also find Tutorials and a Manual. The installation is very simple and does not need further explanation here.

The Application.

Having Installed DOSBOX, there is a configuration file:
C:\Users*myusername*\AppData\Local\DOSBox\dosbox-0.74-2.conf

There is should be no need to alter the configuration, but you may find it useful to add actions to be taken every time the environment is created in the [autoexec] section.

For instance, you may find it useful to put all the DOS programs into a single folder and then edit the config file [autoexec] section as follows:

```
[autoexec]
# Lines in this section will be run at startup.
# You can put your MOUNT lines here.:
mount C: C:\Users\myusername\Documents\myfolder
mount D: C:\Users\myusername\Documents\LIB
C:
PATH=D:\;Z:\
```

Use a simple text editor for this (such as notepad) and not a Word Processor (such as Word) to edit the Windows file C:\Users\myusername\AppData\Local\DOSBox\dosbox-0.74-2.conf (or whatever it is called in your version of Windows) do not attempt to edit in DOSBOX.

In the above example, in DOSBOX; **C:** is your working folder and **D:** is your library folder. Note that when a drive is MOUNTed, it is in fact a windows folder. It is bad practice to mount a physical drive.

An alternative, simpler approach would be to put programs and data files in the same location.

> [autoexec]
> # Lines in this section will be run at startup.
> # You can put your MOUNT lines here.:
> mount C: C:\Users\myusername\Documents\myfolder
> C:

Where *myfolder* contains both.

For more information on the MOUNT command please refer to the manual.

That is all the basics; you are now ready to validate your first claim.

Validating an IGC file.

Proceed as follows:

1. Load DOSBOX.
2. Copy the IGC file to be validated to c:\Users\myusername\Documents\myfolder
3. In DOSBOX use the command RESCAN to update the drive contents lists.
   THIS IS MOST IMPORTANT.
4. Use the command VALI-xxx filename.igc where xxx is the three-letter-code of the manufacturer and filename.igc is the name of the file to be validated.

If you need to convert a Flight Recorder binary file (such as filename.ZAN) to an IGC file, this can be done in the DOSBOX environment using CONV-xxx instead of VALI-xxx.

And that is all there is to it. Good Luck!

Exceptions.

It has been found that it may be necessary to copy VALI-ZAN.EXE from D: to C: for correct operation. The reason for this is not clear.

Comments.

Any comments should be addressed to gfac@fai.org.