S/3 Model 15D Project Denmark 2023

Henk was back for his fourth visit in August.
The objective was (again) to get the 3340 Disk working.

The theory was that the problem was with the vacuum which sucks the air from the data-module.
We were mailing about the filters. But an inspection before Henk arrived showed no serviceable parts except to exchange the whole filter-unit. The 3344 had a broken filter-box and we could see that the filter inside looked quite clean, so the filter was not suspicioned anymore.

When Henk arrived we start checking if the suction seemed to be ok, which it did.
Next step was to short-circuit the vacuum-sensor. And viola the ready-light came on! Succes on day one!

But at the same time the D2 data-module would not unload as it has done until now!
After a few attempts we decided to leave it and concentrate on getting D1 to work.

After the BUS/TAG-cables had been connected we tried to IPL from the disk.
But this time an unwanted light came on, the I/O ATTENTION.

First attempt to solve this was to carefully clean the plugs which has not been connected since 1989!
Unfortunately it didn't solve the issue.

We then decided to try the IBM diagnostic-diskettes.
The diagnostics would very much like to use the big 1403 printer – which was not attached!
This also happened even if we configured the diagnostic to use the 3277 console as alternate printer!

We did not have the MDP-manuals for the model 15D, but on bitsavers.org there was a version for the model 12, which is similar on the non-model 15 specific features.
We also had an image of the diagnostic-diskettes on a laptop.

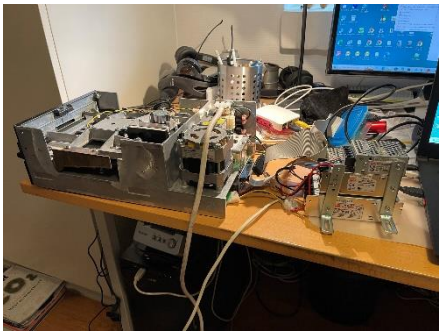
So the procedure was to find the code which needed to be patched in the pdf, then search it on the diskette-image, and finally modify the physical diskette on the 3741.
You have to be very careful as the hex representation on the 3741 is a H with four optional extra vertical lines on top and bottom to represent the bits 0-7. So we did pair-programming one byte at a time!

We did progress further and further on each iteration, but ran out of time this time again.

We decided to continue working with the diagnostic-diskettes, but using the IBM System/3 model 15D simulator which is based on SIMH and extended latest by Henk and me.

So, after Henks visit we had a number of conversations where I made a disassembly (by my home-brewed disassembler) of part of the diagnostic-code and Henk fixed the diagnostic-diskette image so it skipped all references to the printer.

I then copied the image to a real diskette 1, and run it on the hardware:



Copying an image to a real 8 inch diskette

Success – diagnostic loaded!

Drive not ready!

Diagnostic to work with!

The good news was that I managed to get the D2 data-module unloaded again by moving the read/write assembly back and forth with the “bobin” (an IBM tool to do this).

We then checked various manuals and found a couple of things to check:
Was the BUS/TAG cable connected correctly? “Gray away” (I learned) (ok)
Was the addressing jumpers set for S/3? (has been connected, but to be sure) (ok)
Was the four jumpers on one 3340 back-plane connected? (ok)

Then I took to Ballerup to check the above with Henk on the phone. Skype was not working due to a too slow internet connection.

When checking the BUS/TAG cables I discovered that the BUS-cable was loose and not connected!

The plug was broken and the nut was torn out☹

The reason was that these heavy cables was squeezed too much when the disk-drive was moved back last time. Henk has these plugs as spare-parts and has already preparing a service-kit.

But when I would try to run the diagnostics with the BUS-cable temporary in place, the 3277 console was dead! I checked the power-cable and the fuse. I also swapped the 3277 with a spare Henk has donated in 2022 but all with no luck.

So for now the project is on hold. Maybe I can make some simple diagnose on the 3277 when I power the system up once a month to keep it alive.

But next time we hope we can IPL the system from the 3340.
Then there is the 1403 printer, 3344 fixed disks, and the CCP with 3270-terminals and……