

BMPG - End of year report - 2020

To say this has been a lost year is an understatement. The plan had been to repaint the inside of the LCP cabin and complete the task in the spring, the repaint was desperately needed. The next task was to finish the external refurbishment of the Type 86 radar. Unfortunately, the various lockdowns and restrictions meant the LCP repaint was not completed until October, just before yet another lock down. At least the internal appearance of the LCP has improved considerably but the Type 86 still awaits attention.



LCP internals repainted (cockpit green)

The LCP cabin has two original light diffusers, two replacements but of a different style and the remaining diffusers are broken or missing, there are, or should be, seven diffusers in total.



Two original light diffusers

Replacement diffusers are not available, so work has started on manufacturing new diffusers. A task that entails the manufacture of an oven to heat acrylic sheet to 160 degrees and moulds to form the acrylic once heated. An ongoing task!

Following the LCP internal repaint the simulator was to be switched on and checked as it had not been powered on for more than a year. A staged switch on was required which involved the Argus being powered up initially and if all went well the I/O rack and display cabinets would then be switched on.

Switching the Argus on resulted in a power supply going up in smoke. Not a serious problem as it was obviously a RIFA metalised paper X2 capacitor. The concern was that all capacitors of this type were replaced during the initial refurbishment so why are they failing? An investigation revealed

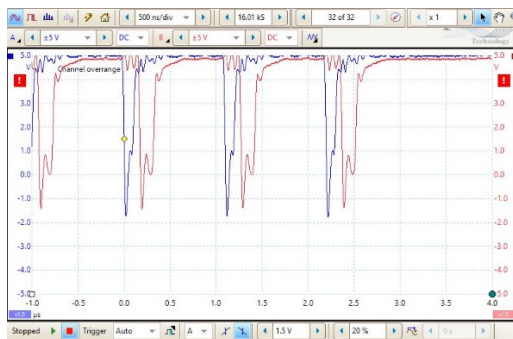
that metalised paper capacitors are not tolerant to damp, the dielectric absorbs moisture, and the hangar at Cosford is damp, very damp over the winter months. The only solution is to replace the metalised paper X2 capacitors with metalised polyester X2 capacitors (PEC), these are tolerant to damp conditions. A task which is now in progress.



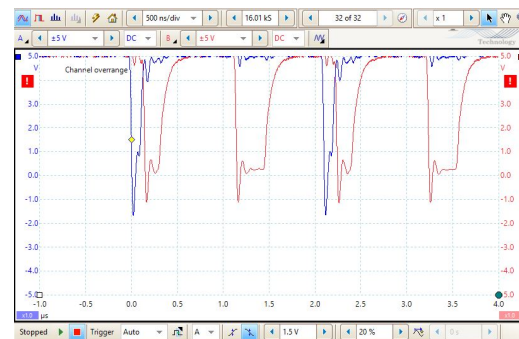
Blown metalised paper X2 capacitors

While access to Cosford has been restricted several spare Farnell power supplies in store have been checked and repaired. Besides replacing all metalised paper capacitors with metalised polyester capacitors several faults were found and fixed. The components prone to failure were the bead tantalum capacitors on the voltage controller and the power switching transistors. Repairs have been carried out, so a good supply of spare power supplies is now available.

During the year work started on a bench test rig for ME147 Store cards. Initial task was to emulate the STORE control logic on the ME183 backplane. Examples below (excuse the crosstalk).



ACC and DEM



ACC and BWF

A test set has been designed that emulates the logic to the ME147 and now the control logic on an ME147 can be checked. Next phase is to add data and addressing.

The Disk Utilities (test software) supplied for Bloodhound were out of date when supplied, e.g., the supplied ME147 utility only tests up to 256K words but the ME147 STORE card used in Bloodhound is 500K Words! The later version of the ME147 test utility issued by Ferranti can test up to 16M words and gives additional information on failures. Acquiring the final issue of the Ferranti test utilities is a priority.