

SDSU Controller Timing board EEPROM change for OWL

Background

The UltraDAS data acquisition computers are to be updated to 64 bit machines. The existing ARC supplied Engineering interface to the SDSU CCD controllers 'Voodoo' cannot be installed on these machines. The newer 'OWL' Engineering interface also supplied by ARC has been installed in its place.

The Problem

With OWL installed it is not possible to download the timing and utility .lod files to the SDSU CCD Controller. The 'STP' command that should be defined in the timing card is not. Voodoo would always complain about this problem but continue to function, for this reason it was never investigated. OWL is less tolerant.

The Solution

The boot source code can be found here

```
/home/dspdev/ccd/timIII/boot/timboot.asm
```

The 'STP' command was included at the end of the command table starting at address #COM_TBL , unfortunately the loop counter #NUM_COM that defines the length of the table was set to 7. 'STP' is the 8th entry in the table and was never seen.

Those controllers that have been fitted with modified EEPROMs have been marked both on the EEPROM itself and on the outside of the controller.

The Workaround

If you encounter a controller that has not been modified, it can be made to run manually. Open OWL, then under the 'options' drop down menu open the 'debug' window, on this window select the 'RDM/WRM' tab.

Write to timing board Y memory, Address 100084 Value 060880 all HEX.

Before downloading the code using the 'setup' window un-tick the 'reset controller' option or the change will be lost as the controller reboots from EEPROM.

Voodoo, UltraDAS or OWL

Both Voodoo and UltraDAS will run with or without this change.

OWL will only run with this change.

