

To: File \vertexdoc\cp581operation
From: Jon Hagen
Date: 1-31-02
Subject: CP581 operation

Attempting to prepare working spare 581 package (cpu, lan card, irig card, storage unit).

Findings:

CP581-No. 2 has been working in the lab w/o ethernet or irig or storage unit. "Working" means that with both running their lab test programs, the LCU screen shows no errors and the position displays advance (PLC lab test version uses "seconds since last reset" to simulate moving encoders).

I. naked No. 2 - starting problems when the crate is powered up

- a. FAILS to run when crate powered up if left to countdown and load LAN. Seems that the PLC times out before No. 2 gets up and running. Blue screen appears but system overwrites with messages "no communication ..."
- b. RUNS ok after crate power up if the keyboard is used to terminate the countdown, i.e. select LAN as soon as given the chance.
- c. But, terminating the countdown early doesn't work when the 581 is set for a 100 MHz clock rate instead of a 133 MHz clock rate (via SW2-1).
- d. The system can be started with the 581 clock set at 100 MHz if the RUN/STOP switch on the PLC is on STOP when the crate is powered up. Flip the switch to RUN when the 581 load procedure is loading the LAN software (as indicated by messages on the screen).

II. No. 2 plus disk unit plus IRIG plus Ethernet - complete package

This combo all running as of Feb 12, 2002. Last step was installation of Ethernet adapter (3COM 3C509B). Before using, the adapter must be configured. The config program uses 110H as its default address to make initial contact with the adapter. (Later a different address is chosen as the starting address for the i/o block that the card will actually use). The Siemens CP581 uses 101H internally, which caused the configuration program to fail. After some looking, we found how to give the configuration program an additional argument to override the default 110H. (We used 105H, an address that is not in conflict with either the CP581's internals or the IRIG card).

Maintenance Plan

Maintenance of the computer portion of the Vertex system requires that

- a. we stock working spares of the critical boards - PLC, LCU pack,
we keep these spares together in a specific area, together with a written inventory of these spares, including serial numbers and that we maintain a log book to record the operational and repair

history of the components.

b. that we have step-by-step instructions for diagnosing pointing computer failures and for replacing and powering up these boards on the platform.

c. that we maintain a lab test station to exercise and certify that boards are working

d. that we have step-by-step instructions for lab tests to test that the spares are working and ready to be used

e. That all the primary and secondary documentation be kept near the test station, together with an inventory of this documentation.