

Index Panel

SLAC's Software Engineering Newsletter

SLC Control

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Program

August 2, 1990

All that Fits is News to Print

Vol 4, No. 22

DIGITAL STATUS

July 25, 1990

Author: Ken Underwood
Panel Changes: Many

Subsystem: Touch Panel Displays
Documents: No
User Impact: Small
Help File: None

The functionality of the

UPDATE
PANEL

button located on all updating digital status touch panels has

been enhanced to force the micro(s) to update the database. Previously, pressing this button caused the touch panel to be updated immediately with data from the database that could have been several seconds old. Now, pressing this button will send a request to the micro(s) associated with that touch panel to immediately update the database. The touch panel is then updated with the current digital status. This should greatly improve the real-time response of such activities as monitoring doors and "emergency off buttons" while searching areas of the SLC.

When operating in *unforced* mode, it takes about 6 seconds for a change in digital hardware status to be reflected on the touch panels. The "forced" response time when using the new button should be about 1 second. This improvement, however, comes at a cost. Every 6 seconds, the micro independently checks all digital input and output bits. Only if a bit has changed state, does the micro go through the considerable effort of determining the current status of all digital devices and then updating the database. Pressing this new button forces the micro to update the current status of the digital system regardless of whether any bits have changed state. The frequent pressing of this button can have a significant impact on other jobs in the micro as well as SLCNET traffic.

Slow Feedback Bug Squashed

July 27, 1990

Author: Ed Miller
Panel Changes: None

Subsystem: SLC
Documents: No

User Impact: Small
Help File: No

Certain rather unpleasant behavior of Slow Feedback was recently observed and reported; fortunately there was sufficient evidence of the crime still around to identify the problem and correct it. Perhaps you have seen other evidence of the same problem, which has been lurking in the code for about 2 years. What was seen in this case: a group single shot ('SCO') resulted in magnet changes (big ones) in the launch loops for the group even though the GAIN for these loops were set equal to zero

which should have ensured no changes in the control devices. What happened? Well, it turns out the code mistakenly ignored a failure in the 'C' (calculate command) stage, and proceeded anyway to the 'O' (output to control device) stage-with the unfortunate consequence that unrelated BDES values (from a previous loop) were written to the control magnets of the current loops.

New Configuration Display

July 24, 1990

Author: *Daniel Van Olst*

Subsystem: *Configurations*

User Impact: *Small*

Panel Changes: *Few*

Documents: *None*

Help File: *Yes*

A new 'DISPLAY CONFIG' button has been provided on the configuration index. This button which has an additional designation '(RED)' will only display items in the selected region whose setpoints are different from the configuration values i.e. only those item which would normally show up in red or yellow text.

The existing 'DISPLAY CONFIG' button has been modified with the designation '(ALL)' since it displays the entire configuration.

Similar changes have been made to the gold configuration panel, so it is easily possible to display all the red or yellow items against the gold configuration for the selected region.

There have been many questions regarding the color-coding of the configuration displays. Online help files have been enhanced to clarify how this color-coding is determined.

Wire History Plots

July 30, 1990

Author: *Ralph Johnson*

Subsystem: *All*

User Impact: *Some*

Panel Changes: *Few*

Documents: *NO*

Help File: *None*

Buttons have been added to the wire scanner panels to select a wire history plot panel. There are several choices of predefined plots on this panel including plots of Emittance, Skew, Alpha-Beta, Size, and Position. There are also buttons to select and plot parameters as specified by micro, unit, and secondary. The predefined plots are all auto scaled although one may specify the Y scaling for a specific plot.

Data is saved for all occurrences of the following secondaries: SZEX, SZEY, SZEU, SZPX, SZPY, SZPU, SKAE, SKAP, SKPE, SKPP, PSEX, PSEY, PSEU, PSPX, PSPY, PSPU. Data is saved for the first unit in LI02 and LI29 for the following secondaries: EMEX, EMEY, BTEX, BTEY, ALEX, ALEY, EMPX, EMPY, BTPX, BTPY, ALPX, and ALPY.