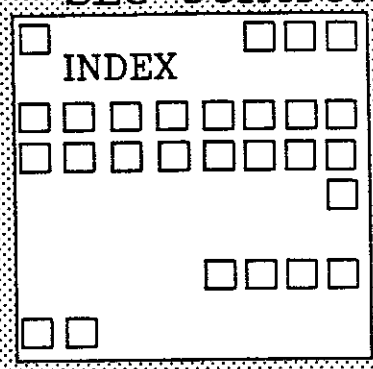
Index Panel

SLC Control program



SLAC's Software Engineering Newsletter

August 06,1992 | All that Fits is News to Print | Vol. 6, No. 9

CATER V4.4

August 5, 1992

Author: *Robert C. Sass* **Subsystem:** *CATER* **User Impact:** *Medium*
Panel Changes: *None* **Documents:** *No* **Help File:** *Yes*

This maintenance release of CATER makes a number of minor field and validation changes, fixes a few bugs, makes PF key changes for (hopefully) compatibility with all terminals and terminal emulators being used, and restructures the database indexes for better retrieval performance. The field changes are:

1. The PPS shop has disappeared and PPS problems are now handled by the CTL shop. All database records have been updated to reflect this.
2. The SLCnet subsystem name has been changed to CATV. All database records have been updated to reflect this.
3. "ROD" and "Downtime" are now valid entries for the Urgency field. The problem entry menus still show just the familiar "Immediate", "Scheduled" and "Later" with the intention that maintenance personnel can change these to "ROD" or "Downtime" as appropriate or necessary. The Compose-it-yourself menu will accept any logical combination of entries for the field so maintenance can easily get reports of problems scheduled to be fixed at the next ROD or Downtime.
4. End Station A (ESA) is now a valid Area.
5. Micros CB00, CB01, CB02, AB01, PL01, PL02 and LC00 have been added as legal entries for the appropriate areas. See the micro field help for details.

This release fixes the bug in the previous version which caused the solution to be sent to maintenance instead of the problem if you modified a problem that already had solutions. It also corrects an invalid report time on a multi-page line mode report.

In addition to the various control-key combinations, CATER now only uses logical keys PF1 through PF4 for all menus. These are the top 4 keys on the numeric keypad for the VTxxx and Mac keyboards and F1 through F4 on Ambassadors. The top line of function keys on the Mac are not used and are not even consistent between different terminal emulators.

In the previous version, some queries were slower than necessary because the optimizer in the underlying database would use the wrong index. Indexes have been combined for this release and frequently used queries should perform better. You should note that use of the OR "," and NOT "~ " operators in the Compose-it-yourself menus is sometimes slower than doing separate requests *e.g.* you will find it faster to ask for "Unsolved" & "Solved" problems as separate requests rather than single requests using "Unsolved,Solved" or "~ Closed".

Fast Feedback Actuators Updated before configuration Saves

August 5th, 1992

Author: *Van Olst, Grossberg* **Subsystem:** *SLC* **User Impact:** *Small*
Panel Changes: *None* **Documents:** *No* **Help File:** *No*

Fast feedback actuator DES values are now updated in the database prior to saving a configuration file. Hence, when the configuration is loaded, activated, and then trimmed, the actuators go back to their correct values.

Fast feedback actuators do not keep their DES values (either BDES or VDES) updated in the database, and the ACT values (either BACT or VACT) reflect their current settings. (The DES values are updated when the loop is cold-started, when a micro is IPLd, or when the loop is taken out of Feedback mode.) Previously, when saving a configuration, the DES values were saved and these had no relations to the current settings of the actuators. Subsequently, when the configuration was loaded, activated, and trimmed, the actuators would go to the erroneous DES values at the time of save rather than the correct ACT values.

Since in general the correct value for a fast feedback actuator is always the actual value, the configuration software has been modified to check for fast feedback actuators during saves. If a fast feedback actuator DES value is about to be saved, the configuration software will first copy the ACT value for the actuator into the DES value. Thus when the configuration is loaded, activated, and trimmed, the actuator goes back to the actual value it had at the time of the save.

Control C for Wire Scans

August 5, 1992

Author: *T. Gromme* **Subsystem:** *Wire* **User Impact:** *Small*
Panel Changes: *No* **Documents:** *No* **Help File:** *No*

Control C handling during wire scans has been improved in response to operational problems. Previously, when control C was hit during a wire scan, the SCP would abort the wire scan process, but the wire scanner might still be moving. This is because, for FLY wires, the wire STEP hardware is programmed at the beginning of the scan. Aborting the scan does not cause the wire motion to stop, and conflicts could result in the wire scanner being left at a MID RANGE position which might be in the beam path. For final focus wires, this was particularly a problem since it could cause the SLD Central Drift Chamber to trip when the MPG stopped dumpering the beam.

The new software prevents control C from aborting a wire scan once it has been initiated. A control C which is hit during a wire scan is recognized after the scan completes, allowing users to abort multi-scan applications such as Correlation Plots or Wire Emittance.

Wire Position Correction using BPMs

August 4, 1992

Author: *P. Emma, L. Hendrickson* **Subsystem:** *WIRE* **User Impact:** *Small*
Panel Changes: *Few* **Documents:** *No* **Help File:** *No*

Wire scan software has been modified to subtract off the pulse to pulse beam position jitter for each data point of a wire scan. For many wire scanners, most notably sector-28 and the final focus, this significantly improves the scan quality. Up to 24 BPMs may be read out with each wire scan. The BPM readings for each scanned pulse are fitted to calculate the beam position at the wire scanner. The wire scan positions are adjusted accordingly. This feature may be disabled using the "Wire Posn Corrct" toggle button on the Scan Options Panel.

Recent software allows the BPMs to be in different micros. The WIRE secondaries NBPM, BPMU, and BPMM determine which BPMs are measured.

Selection of Fast Feedback Loops by Loop names

August 3, 1992

Author: *Phyllis Grossberg* **Subsystem:** *Fast Feedback* **User Impact:** *Small*
Panel Changes: *Few* **Documents:** *No* **Help File:** *Yes*

A new button has been added the the Fast Feedback Diagnostics panel to allow selecting a feedback loop by entering a loop name. Loop names consist of eight characters, and if you type an invalid name you will be given a list of valid names and a chance to re-enter. After entering a valid name, the new loop will be selected just as if you had pushed one of the dynamic buttons on the main feedback panel. Should you subsequently go to the main feedback panel, the button for your newly selected loop will be highlighted.

Note: it is recommended that you use this button instead of those on the feedback main panel when creating button macros. This will ensure the integrity of the button macros over time as the dynamic buttons on the FBCKMAIN panel change with respect to which loop name each contains.

BPM RMS Values Available from Correlation Plot

July 31, 1992

Author: *Lee Ann Yasukawa* **Subsystem:** *Correlation Plots* **User Impact:** *Small*
Panel Changes: *None* **Documents:** *No* **Help File:** *No*

The correlation plot package has been enhanced to provide RMS information for BPMs. From the Correlation Plot Acquisition Panel, after a primary of BPMS is selected, the XRMS, YRMS, TRMS pseudosecondaries may be requested. The new BPMS wildcard *RMS may be entered to obtain values for all three RMS values.

The meaning of the ALL* pseudosecondary for BPMs has not changed from the present definition of X, Y and TMIT.

Analog Status History Plots

July 28, 1992

Author: *Ralph Johnson* **Subsystem:** *Analog Status* **User Impact:** *Small*
Panel Changes: *None* **Documents:** *No* **Help File:** *No*

The analog status history plots have been modified so that the label for the vertical axis now includes the engineering units. This feature is available only on the analog status history plots accessed via the analog status selection panels.

History Plots Channel Selections

July 28, 1992

Author: *Ralph Johnson* **Subsystem:** *All* **User Impact:** *Small*
Panel Changes: *None* **Documents:** *No* **Help File:** *No*

Currently one may use a "#n" specification to select a channel from a list of available ones for a given secondary. This is used where there are no associated channel "names". You can now alternatively enter a number "n" without the "#" prefix. This applies only to selections made from a SCP.