Keysight Technologies

Enhanced Log Records for the *Medalist* In-Circuit Test System

Application Note

KEYSIGHT TECHNOLOGIES

Introduction

Have you ever wanted to easily track changes made to your Keysight Technologies, Inc. *Medalist* i3070 test program?

Enhanced Log Records is a set of tools on the *Medalist* i3070 board test systems at software revision 7.10p that monitors and validates whether the board directory contents have been modified, including the testplan in memory. A report can be generated that includes the date and time that a file was changed. This can help to easily identify what changes have been made to your program.

Baselining

Baselining is part of a methodology that tracks when the programming changes occur and establishes markers when such changes have been approved. Baselining is especially important during board test production runs as it tracks and reports when and where files have been changed as boards are tested. Such tracking capabilities help assure test confidence and quality by validating that the tests released into production are continually monitored throughout the manufacturing life cycle.

All board test object files under a board test directory are baselined. Baselining records the filename, its CRC, and a timestamp in a custom database that resides in the board directory. As a function of board test runtime, object files are loaded as they are executed. At this time, the object files are cross-checked with their baselined CRCs in the database. If there is a mismatch, an alert record is generated. Also, the loaded testplan is cross-checked with its recorded CRC when the testplan is run. Furthermore, the loaded filename is checked with its recorded name and CRC when that program is run. This verifies that the loaded testplan was not edited in memory and then run.

The standard data log record format is used as the alert record that a change occurred. As part of the board start/board end log record, it reports general quality control health – *good and bad* state information. It provides a level of encryption within the data log content so that it is constantly changing and near impossible to compromise. This encrypted record describes the file indicted from the CRC mismatch.

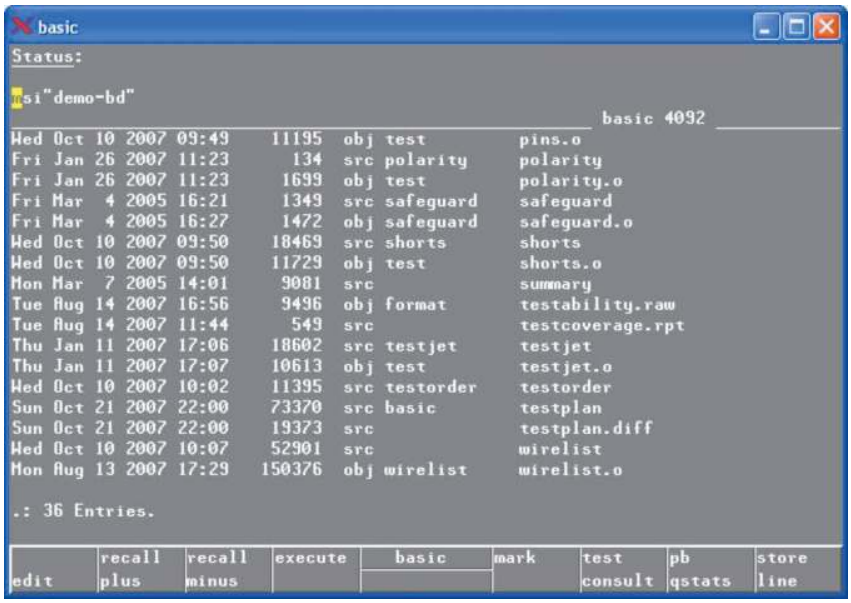
By default, baselining is disabled on a board test directory. The article describes how to enable and use the baseline feature.

Procedure

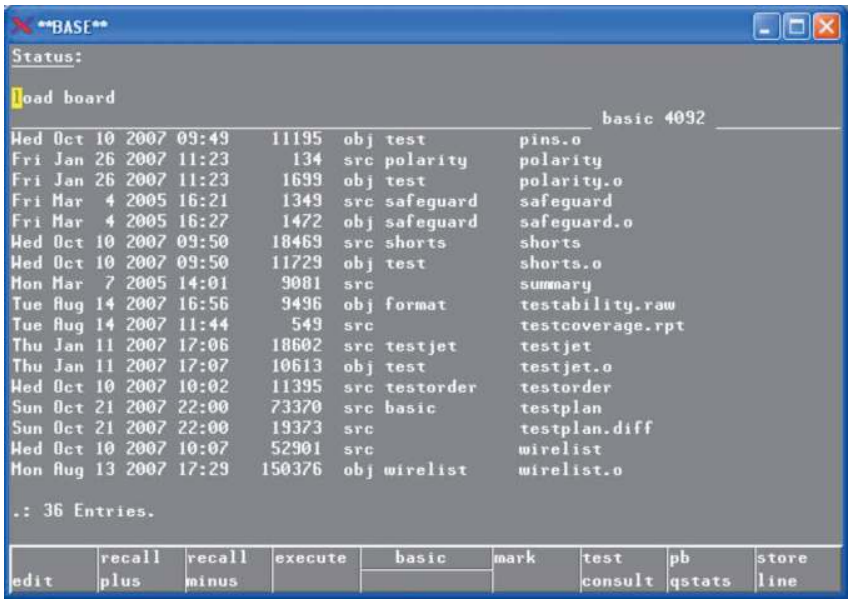
Step by step procedures to enable the enhanced log records in a board directory

In BT Basic type ‘msi to the target board directory that you want to enable the enhanced log records feature.

Example: ‘msi “demo-bd”



2. Load board.



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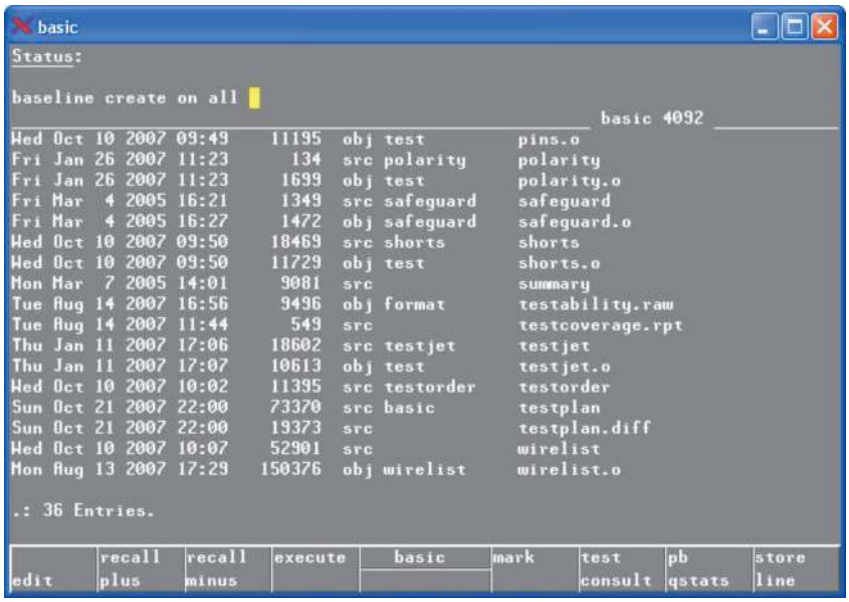
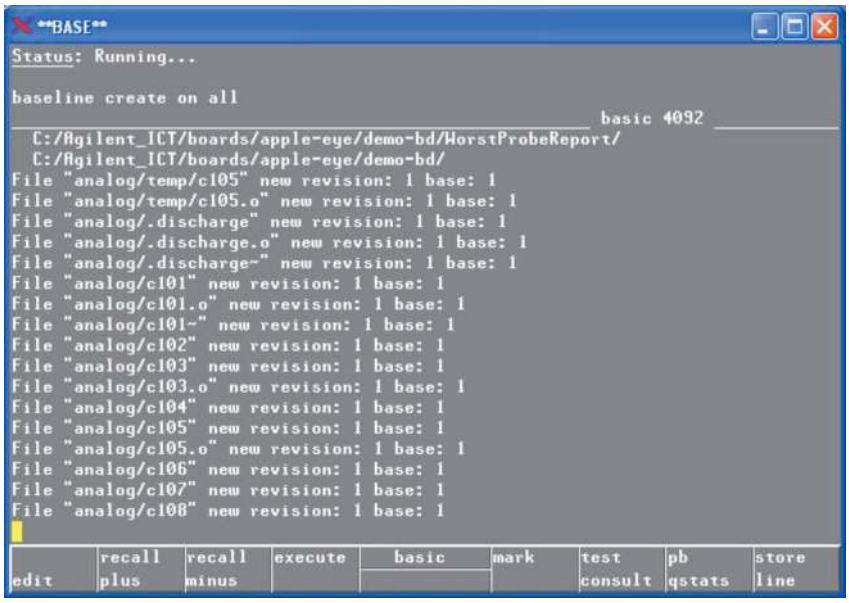
3. Generate a baseline record by typing “baseline create on all”.



4. “Baseline create on all” executing.



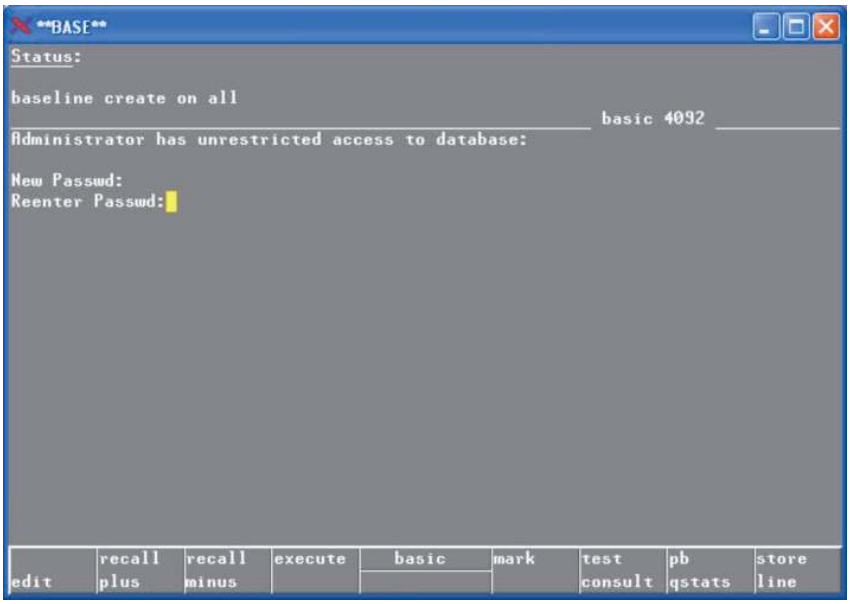
Procedure

Step by step procedures to enable the enhanced log records in a board directory

5. At the end of baseline creation, you will be asked for an administrator password.

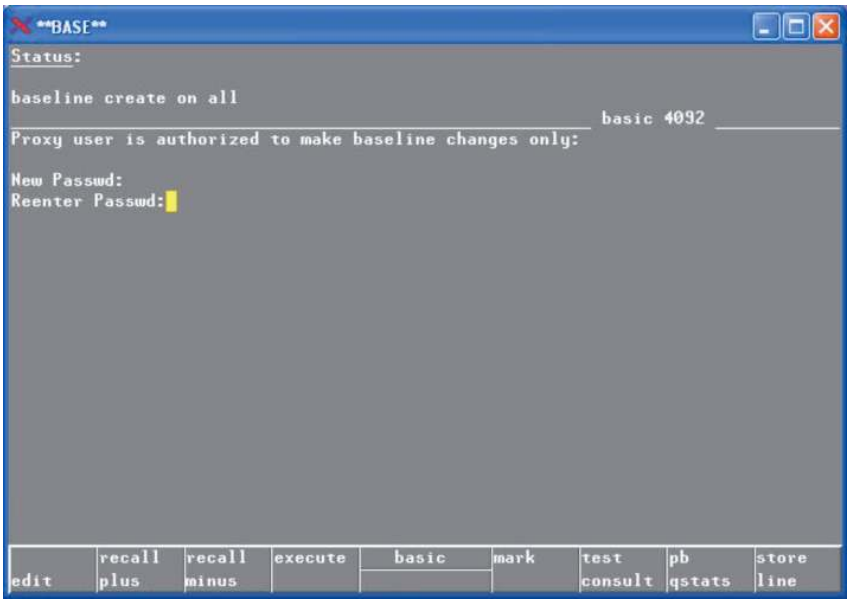
   Enter a password for administrator.

   Note: Remember your administrator password.



6. After creating administrator password a proxy password is needed.

   Note: Remember your proxy password.

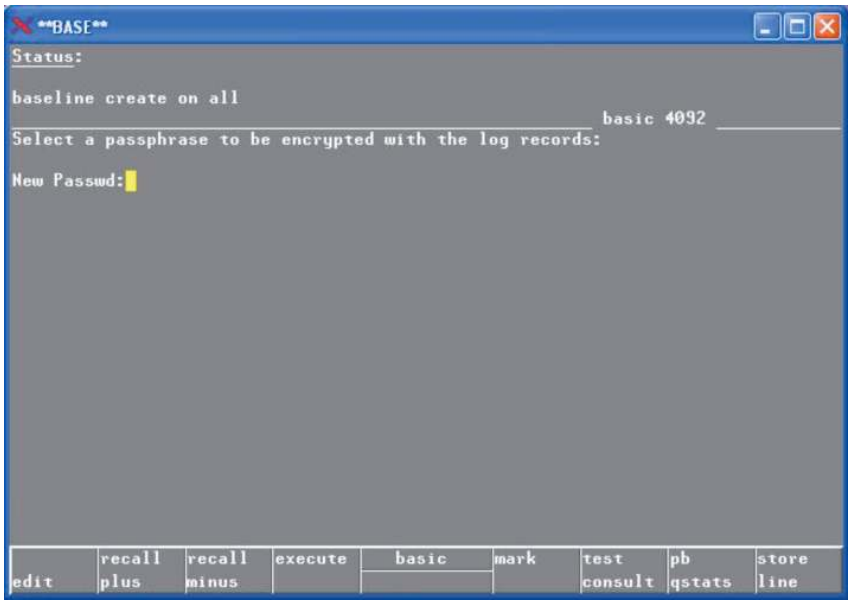


Procedure

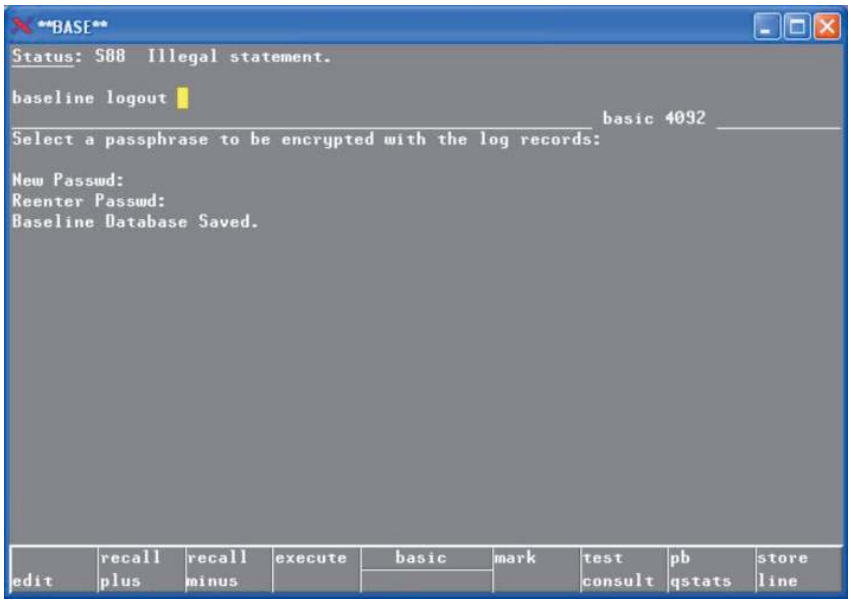
Step by step procedures to enable the enhanced log records in a board directory

7. Enter a passphrase which will be encrypted in the log records.

   Note: Remember the passphrase.



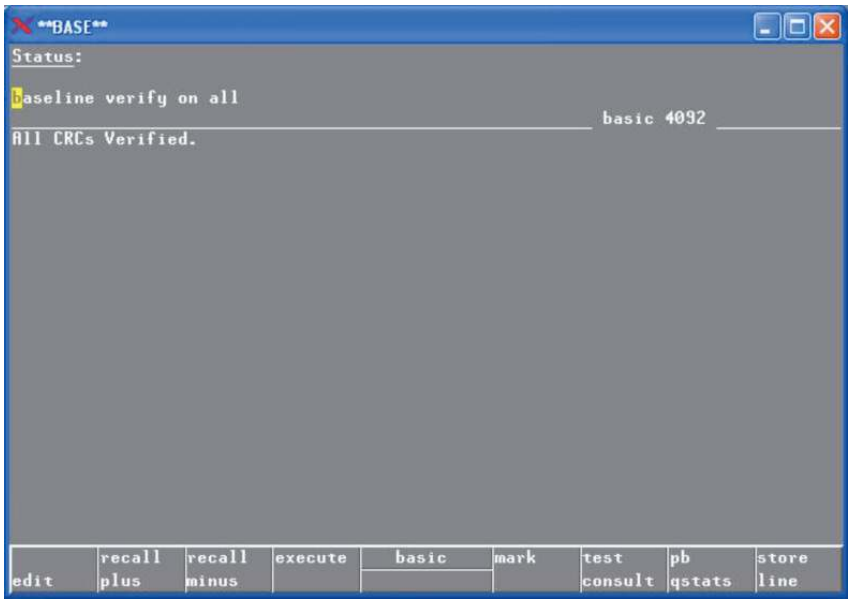
8. Logout and the baseline will be saved.



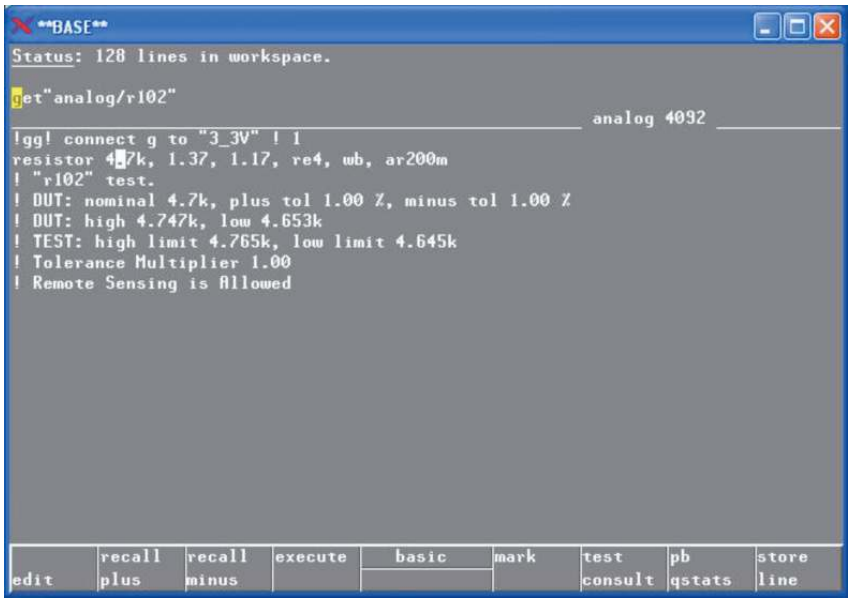
Procedure

Step by step procedures to enable the enhanced log records in a board directory

9. Execute “baseline verify on all” and it shows “all CRCs Verified which indicates that there are no changes in the board directory at this time.



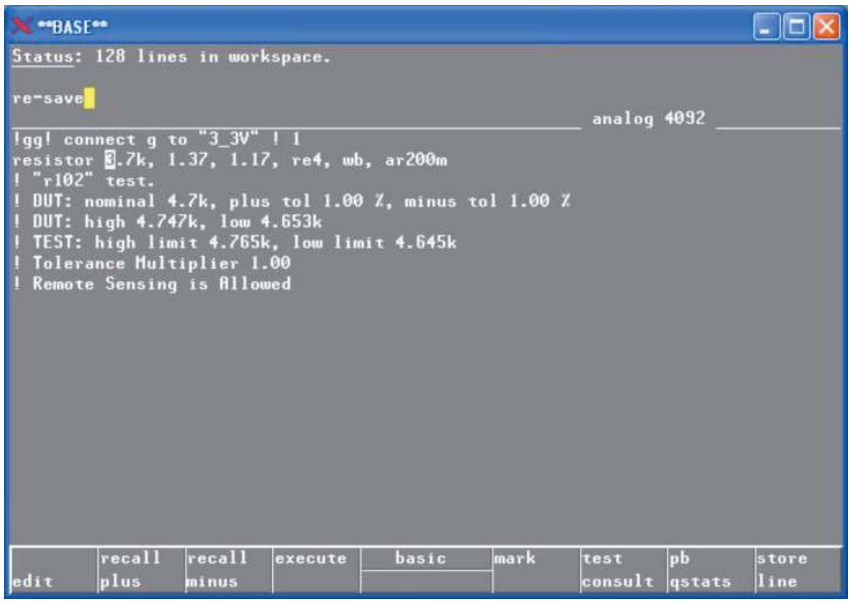
10. Open an analog test.



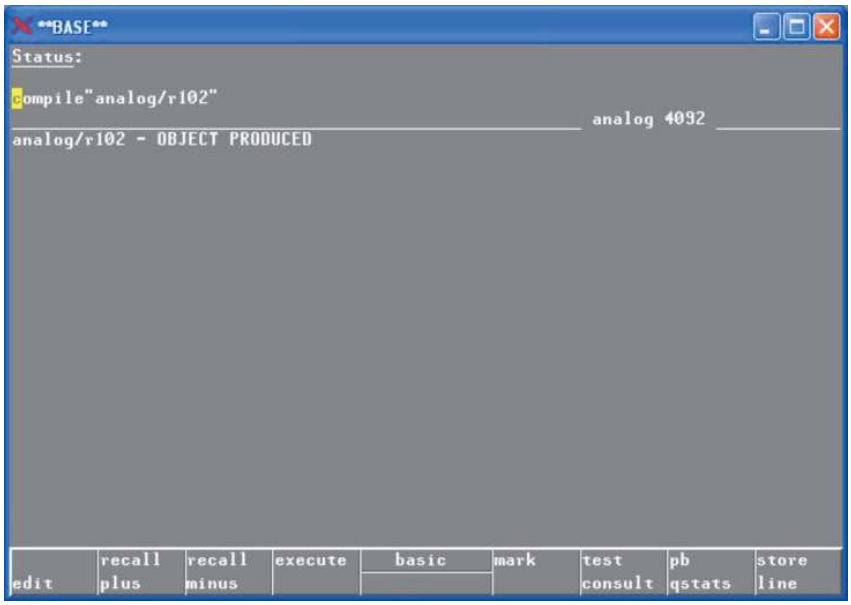
Procedure

Step by step procedures to enable the enhanced log records in a board directory

11. Change the value of the resistor from 4.7 k to 3.7 k.



12. Re-save and compile "analog/r102".

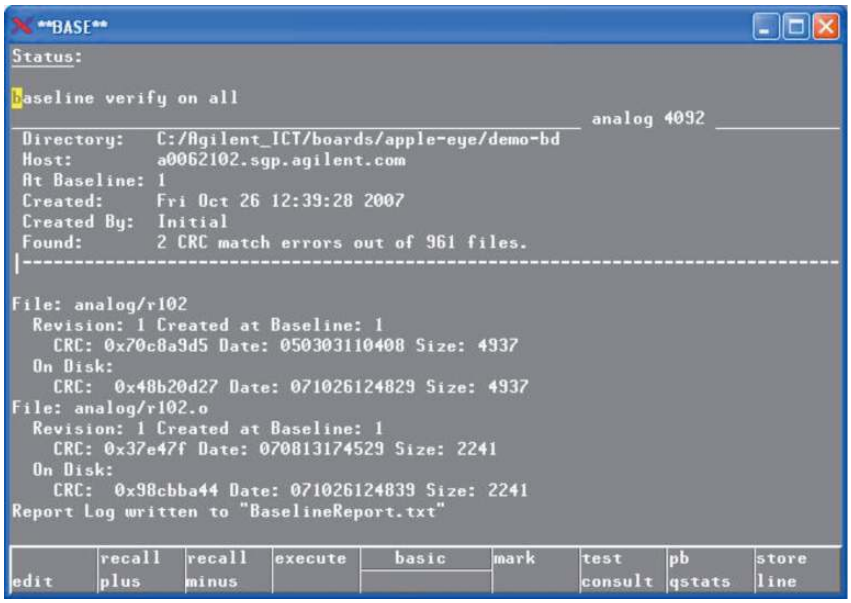


Procedure

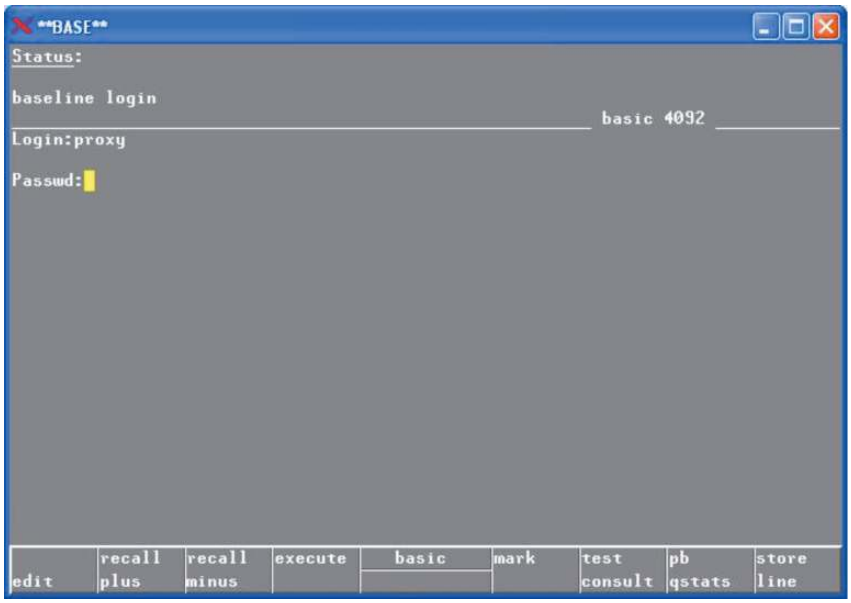
Step by step procedures to enable the enhanced log records in a board directory

13. Check if the changes are captured by typing “baseline verify on all”. The changes are captured showing changes on two files:
    - “analog/R102”
    - “analog/R102.o”

    The date/time they were changed was also captured.



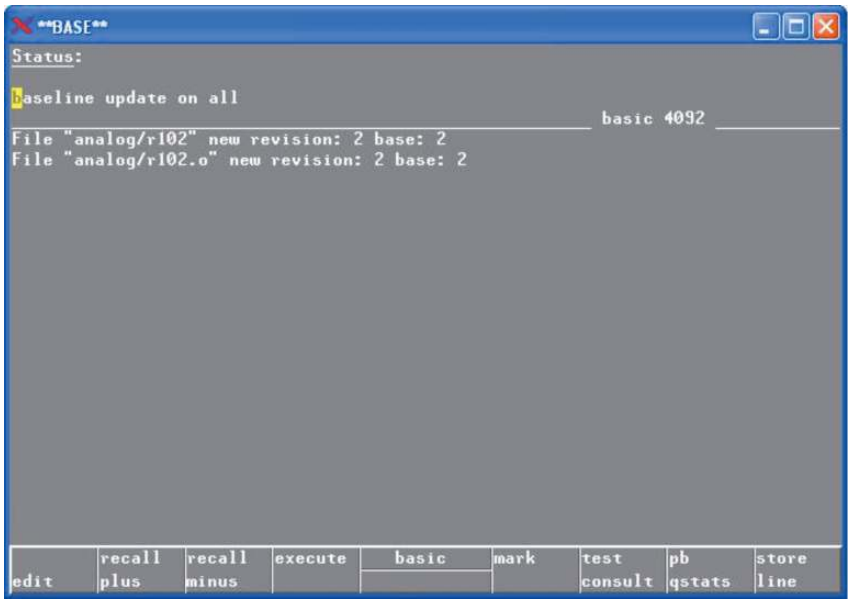
14. To update the baseline, type a baseline login and login as administrator or proxy.



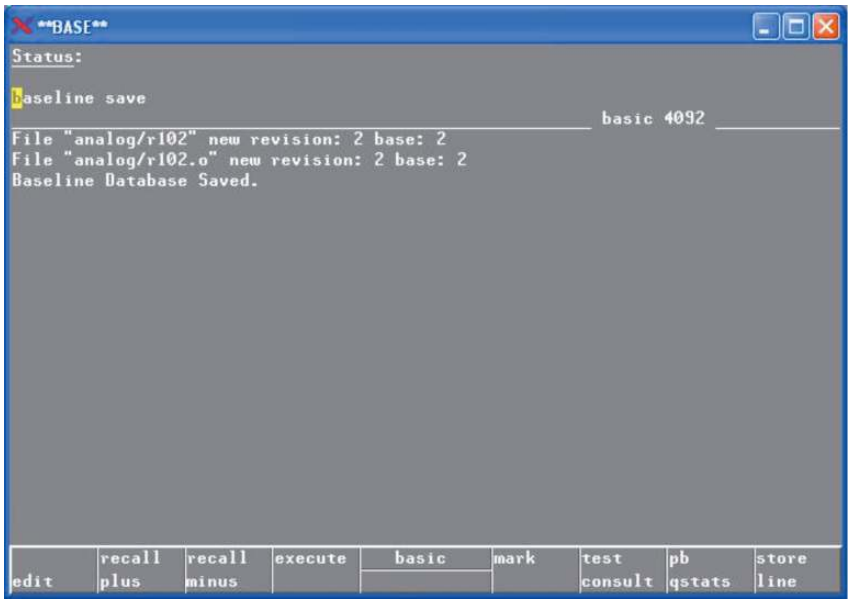
Procedure

Step by step procedures to enable the enhanced log records in a board directory

15. Do a “baseline update”. This will update the baseline on all the files that have changed.



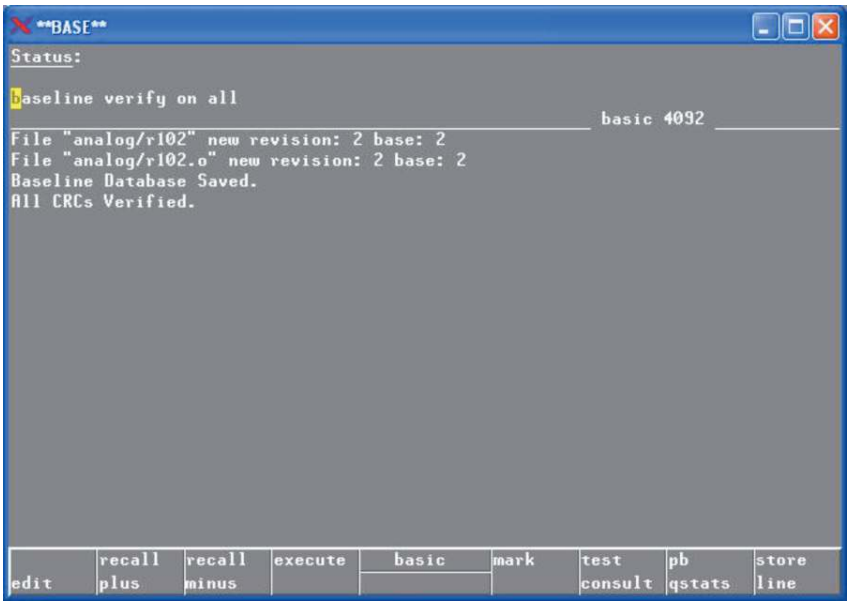
16. Save the baseline updating.



Procedure

Step by step procedures to enable the enhanced log records in a board directory

17. Baseline verify on all confirms the update on baseline and there are no files reported.



Conclusion

Now, when a test program change is detected during production, a log record is generated detailing this change event so that the change can be properly reviewed. Using a change control process, such an event may either be accepted or corrective action may be taken.

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