**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

FILE: \_\_\_\_\_\_\_\_\_\_ (xxx)

GROUP: \_\_\_\_\_\_\_\_\_\_ (xxx-xx)

Auto-calc [on/off]

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Set1 Value | Parameter | [units] | Reference Value |  | Variance | Tolerance | Fault |
|  | 1 |  |  |  |  |  |  |
|  | 2 |  |  |  |  |  |  |
|  | 3 |  |  |  |  |  |  |
|  | 4 |  |  |  |  |  |  |
|  | 5 |  |  |  |  |  |  |
|  | 6 |  |  |  |  |  |  |
|  | 7 |  |  |  |  |  |  |
|  | 8 |  |  |  |  |  |  |
|  | 9 |  |  |  |  |  |  |
|  | 10 |  |  |  |  |  |  |
|  | 11 |  |  |  |  |  |  |
|  | 12 |  |  |  |  |  |  |

SHOW MENU [RET]

[#] – Edit Parameter

[n] – Name File

[g] – Assign To Group

[s] – Save File

[o] – Open File

[r] – Open Reference

[t] – Load Tolerance

[v] – Variance Group/Target

[m] – Make Target

[q] – Quit

[a] – Toggle Auto-calc

[RET] – Hide Menu

selection: |

### ***Definitions***

* FILE
  + Name (string)
  + Number (int)
* GROUP
  + Name (string)
  + Number (int-int)
    - ID #
    - Members #
* Set1 Value
  + Displays current file, group mean
  + \*\*\* if unnamed
* Parameter
  + Displays parameter name
* [units]
  + Display mks unit
* Reference Value
  + Displays second file, group mean, or target
  + \*\*\* if unnamed
  + /// if not used
* Variance
  + Displays variance from group mean or variance from target
* Tolerance
  + Displays loaded tolerance file
* Fault
  + Indicates \* for tolerance fault on this parameter
* Auto-calc [on/off]
  + Indicates state of auto-calculation, on or off

***Display implementation***

1. Elements
   1. Header
      1. File name
      2. Group id
      3. Auto-calc [on/off]
   2. Table
   3. Footer
      1. [m] show menu
         1. expands to show numbered menu items
      2. input prompt
2. Implementation
   1. Header
      1. Display file name from file\_name variable
      2. Display group id from group\_id variable
      3. Display auto-calc state from auto\_calc\_state variable
   2. Table
      1. Table constructed before each display write
      2. Table data structure
         1. Table -> array of size (MxN) each element holds field\_width characters
         2. Table array elements hold one table cells data
            1. Element format “data |” where number of elements is field\_width

Trailing “|” defines right edged of table column.

* + - * 1. Data elements should be checked to be less than field\_width in size before trying to construct table
    1. Table built
    2. Write table
       1. Assemble line to print into a string consisting of all data arrays of same element index
       2. Loop through all lines, number of lines held in parameter enum in value of “last.”
       3. Each line of print out begins with “|” to establish left table edge
       4. After every line written a horizontal delimiter line is written
  1. Footer
     1. Sate of show\_menu flag determines output
        1. Show\_menu=0 -> “[m] show menu” and input prompt
        2. Show\_menu=1 -> numbered menu is appended before input prompt
     2. Input prompt: “Selection: “

External variables

|  |  |
| --- | --- |
| Variable | Source |
| \*char[] File\_name | Main |
| \*char[] Group\_id | Main |
| Int auto\_calc\_flag | Main |
| CONST FIELD\_WIDTH | Main.h |
| Enum last | Main.h |
| Int show\_menu\_flag | Main |

Internal variables

|  |
| --- |
| Variable |
| \*char[][] Table[M][N] |
|  |
|  |
|  |
|  |