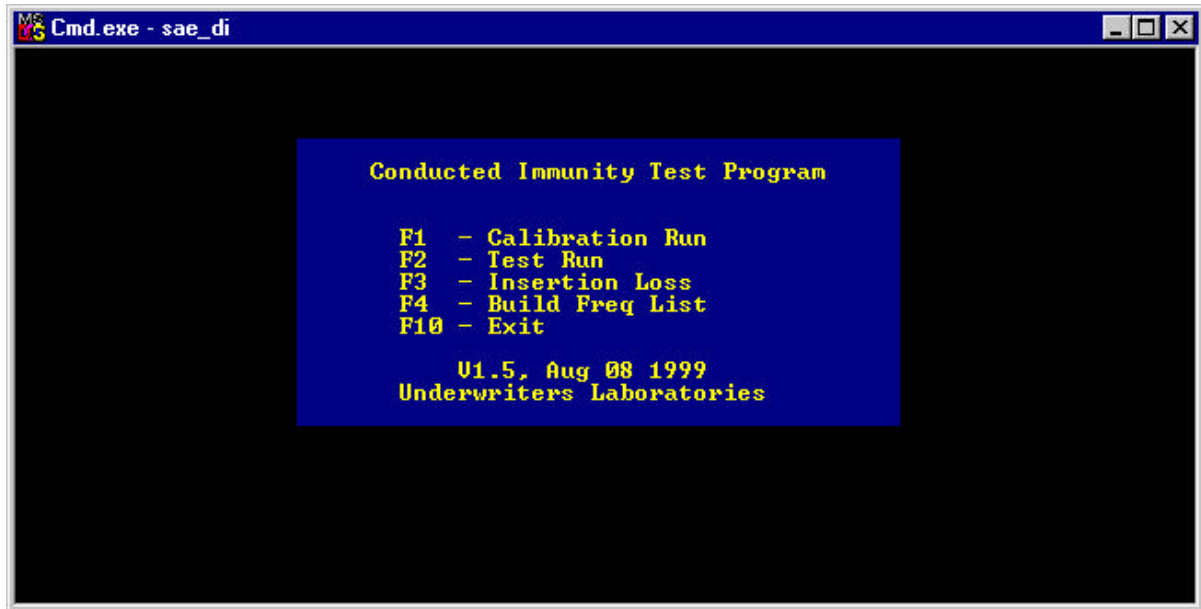


Conducted Immunity Test Program

Direct Injection

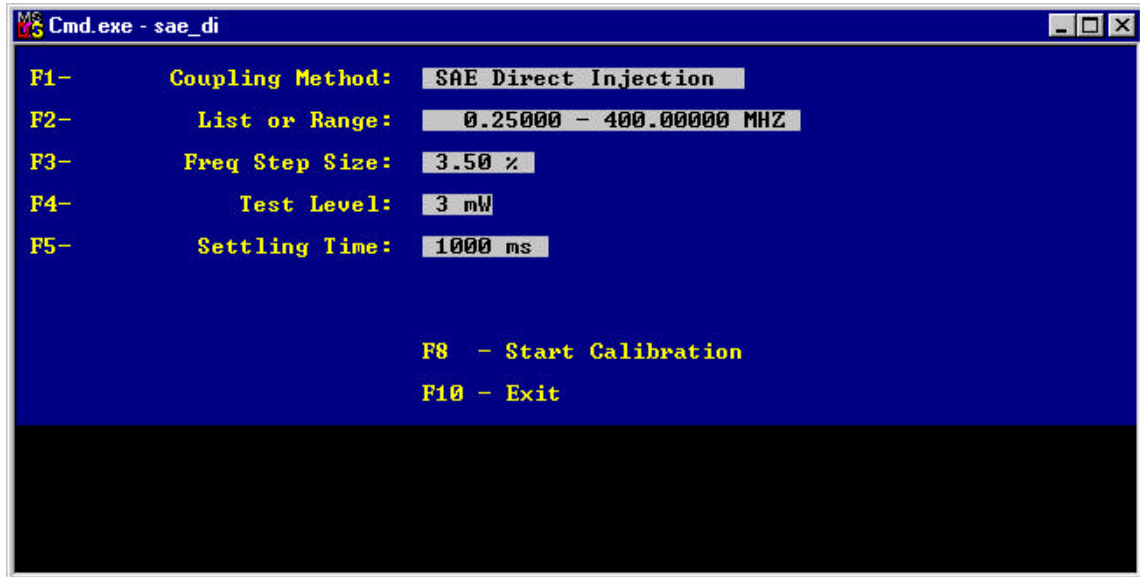
User Manual

Main Menu



- F1 Goes to Calibration menu. From this menu, the various parameters for calibrating a test setup can be entered and the calibration then performed.
- F2 Goes to Test Run menu. All the parameters for running a test can be entered, and the test performed.
- F3 Goes to Insertion Loss menu. Insertion Loss function can be used to characterize cables and attenuators.
- F4 Goes to Build Frequency List function. Use this to assemble a frequency list for testing the discrete frequencies of an EUT.
- F10 Exits program.

Calibration Menu



- F1 Selects coupling method. For the SAE Direct Injection program, this field can't be changed.
- F2 Selects frequency list or range. After pressing F2, you will be prompted "(L)ist or (R)ange?". Pressing "L" will allow you to select a frequency list file which contains the frequencies to be tested. Selecting "R" will allow you to specify the start and stop frequencies for a frequency sweep. **IMPORTANT:** The start/stop frequencies for the test must be selected **BEFORE** specifying a frequency list, otherwise the start/stop frequencies will override the first/last frequencies in the list file.
- F3 Selects the step size (log) of the frequency sweep, in percent.
- F4 Selects the test level for the calibration.
- F5 Sets the instrument settling time. This takes into account the time needed for the instrumentation to settle after stepping in frequency and/or level before a measurement can be made.
- F8 Once the parameters above have been set, pressing F8 will cause the calibration run to start. The calibration run data will be displayed at the bottom of this screen.
- F10 Exits the Calibration Menu.

Test Run Menu



- F1 Selects coupling method. For the Direct Injection program, this field can't be changed.
- F2 Same as the calibration menu. Selects frequency list or range.
- F3 Same as the calibration menu. Selects step size if a frequency-range was selected with F2.
- F4 Selects test level. Note: A calibration file for a given test level must have been previously performed.
- F5 Sets the time the test will pause at each step. Selecting a dwell time of 0 will cause the program to wait for a keypress before executing the next step.

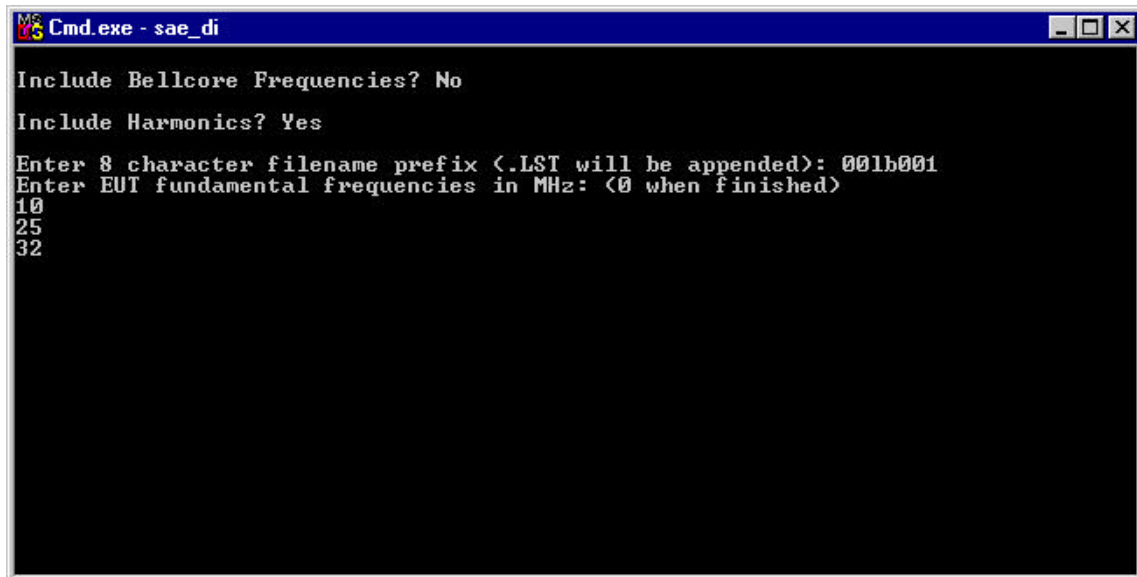
At each frequency, the program will level to the required power and dwell without modulation, then turn on 80% AM and dwell again, before stepping to the next frequency.

- F8 Starts the test run.
- F10 Exits this menu.

Once the test has started, pressing the "Esc" key will prompt you for one of two responses. Pressing "Esc" again will halt the test run, while pressing any other key will cause the program to go into manual mode.

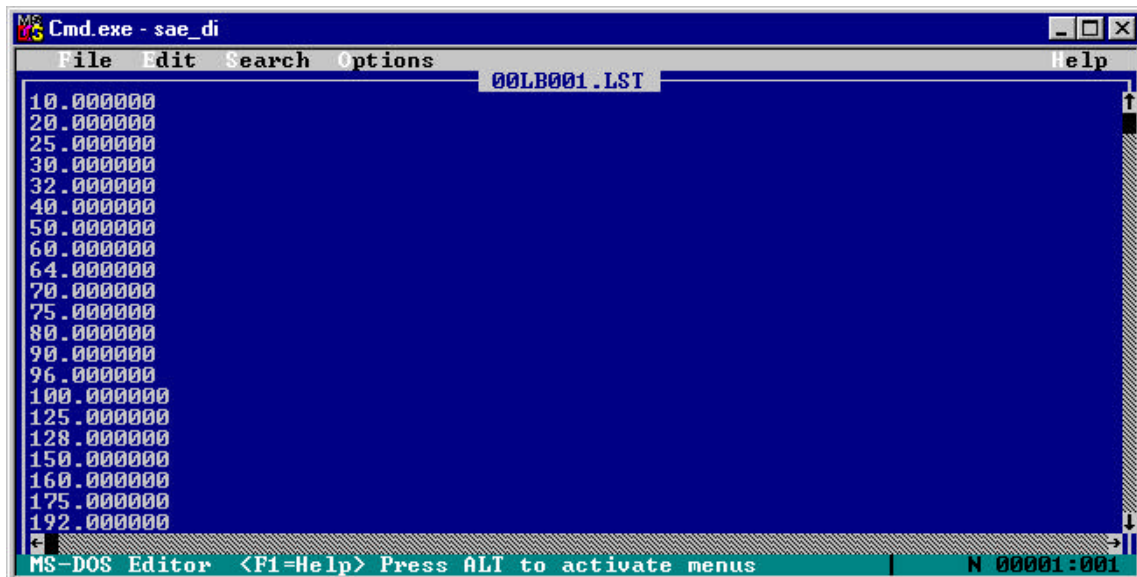
In the manual mode, pressing the left/right arrow keys will cause the program to move up/down in frequency. Pressing the up/down keys will cause the output level to go up or down, but never higher than the calibration level. Pressing the "Ins" or "Del" keys will cause the RF output of the signal generator to switch on or off, respectively. The manual mode can be used for determining failure threshold of the EUT.

Build Frequency List



```
Cmd.exe - sae_di
Include Bellcore Frequencies? No
Include Harmonics? Yes
Enter 8 character filename prefix (<.LST will be appended>): 001b001
Enter EUT fundamental frequencies in MHz: (<0 when finished>)
10
25
32
```

This function allows the construction of a discrete frequency list for testing EUT sensitive frequencies for those tests that require discrete frequencies to be tested. (See test specification or data sheets). Answer the questions appropriately. If you answer "Y" for "Include Bellcore Frequencies?" then the frequencies specified in the Bellcore 1089 standard will be added to the list. "Include Harmonics" will take the frequencies you enter and calculate the harmonics (up to the 10th) to be included in the final list. You must enter an 8 character filename prefix (Dos file naming restrictions apply). Now you can enter the frequencies, pressing return between each one. When finished, enter a 0 (zero) as a frequency. If the dos "Edit" program is on the computer, it will run and load the file created to allow any changes to be made, as shown below.



```
Cmd.exe - sae_di
File Edit Search Options Help
00LB001.LST
10.000000
20.000000
25.000000
30.000000
32.000000
40.000000
50.000000
60.000000
64.000000
70.000000
75.000000
80.000000
90.000000
96.000000
100.000000
125.000000
128.000000
150.000000
160.000000
175.000000
192.000000
MS-DOS Editor <F1=Help> Press ALT to activate menus | N 00001:001
```