5.13.6 "H" Thermal Batch Queue (Auto-Execution)

This is one of the powerful features of the ITAS code. At the end of each thermal analysis, and upon return to the Main Menu, you have an option of saving a complete stand-alone copy of an ITAS-specific THeRmal math model (THR). This model, which is discussed in more detail in Chapter 10, contains the Node, Conductance (COND/RAD), and the POWeR profiles (and orbit-averaged).

The purpose of the ITAS Thermal Batch Queue is to allow unattended execution of these THR files in tandem. These ASCII THR files may be modified (inside or outside of ITAS) and they may be prepared for various parametric runs. For example, when designing radiator patterns for a spacecraft, the MLI-to-Honeycomb conductances may be changed from RADiation to CONDuction for optimum temperature determinations. Another application could be for heater power determination. Modifications that involve the linear CONDuctances, RADiative conductances, POWeR (averaged or profile) are permitted.

Figure below shows the ITAS Thermal Batch Queue with five (5) THR files loaded for execution. To load a THR file, move the cursor to the very first column under the "TMM FileName", press F3 to list the THR files and select the file. Once a file name is entered, press <CR>; ITAS will automatically fill-in the rest of the fields of the same line with the appropriate file type names, such as ".REZ" and ".TMP"; in addition to these two files, ITAS will also save a ".SST" file for each line. You must then choose the solution method and press Shift-F1 to start the execution. You may also access the regular Thermal SetUp menu from here for setting the number of the loops (NLOOP), etc.

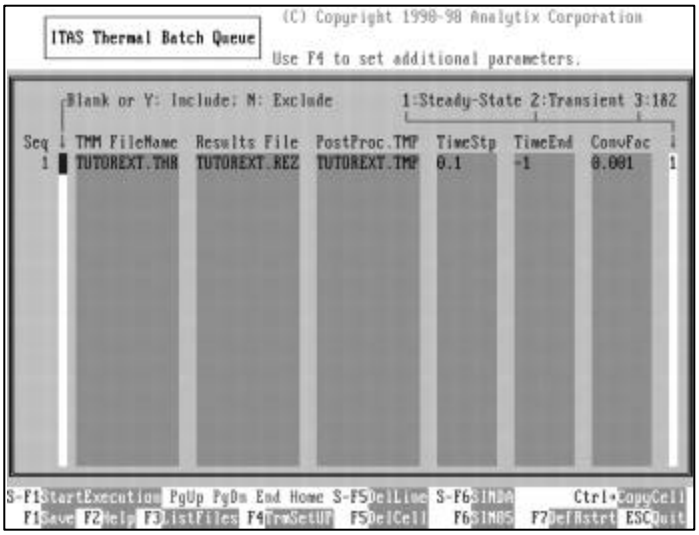

Figure 5-133. PC-ITAS/plus Thermal Batch Queue