

H8/300 memory map assignment using E3000

Within the H8/300 family, there are a large variety of CPUs and each of them has a specific memory map corresponding to the 3 possible modes of operation. Normally, 2 ways of correctly setting the memory map for each CPU configuration are possible. Two ways to do this are using the E3000 CLM (command-line monitor) or the E3000W (windows application program). Appendix A in either the Command Line Monitor User's Manual or the Windows Application User's manual show the memory maps for each CPU and mode configuration.

A detailed step-by-step procedure on how to set the maps is shown below for both the CLM and Windows emulator platforms. We assume that a target system is attached, and therefore the E3000 emulator defaults to Mode 1 map (external ROM, on-chip ROM disabled). Also, all CLM commands and E3000W options below are shown in bold letters.

CLM Procedure

1. Type **e3000 1** or **e3000 2** to invoke the E3000 CLM application. The parameters 1 and 2 refer to the PC COM Port used by the emulator.
2. Type **cpu** to verify the CPU installed.
3. Type **mode** to determine the current (default) mode of operation.
4. Type **map** to determine the current (default) memory map.
5. Type **mode X map** (where X=modes 1-3) in order to change the mode. Refer to Appendix A in the User's manual for modes information.
6. Type **map** again to double check the map settings.
7. Type **clock** to determine the clock setting (default is 20MHz).
8. Type **clock slow** to change the clock to 1.25MHz.
9. Type **map [start] [end] = [e/t] [mode]** to select memory address ranges and proper system configuration.
 - start = start address to display or modify in the map.
 - end = end address to display or modify in the map.
 - e/t = emulator or target
 - mode = RO (read-only), RW (read-write), or NO (no access)
10. Type **map** to verify the map settings once more.
11. Type **quit** to leave the CLM application.
12. Leave the power on the E3000 emulator and the target system (if used), and invoke the XRAY application. Use the commands **rom** to verify the map settings and **status ice** to check the mode and the clock.

Windows Procedure

1. Start up the E3000W application.
2. Click on the **File** menu.
3. Select the **CPU Configuration** sub-menu.
4. Use the CPU Configuration dialog box to select the CPU and the CPU mode from the list selection menu, and the clock, crystal, or target oscillator from the clock list selection menu. Leave the **Load default memory map** selection checked. Press **OK** to leave the dialog box.
5. Click on the **Map** menu.
6. Select the **Edit memory map** option.
7. Use the Edit memory map dialog box to select memory address ranges, emulator or target, and the R/W, RO, or NO options as described in the CLM section. Save the settings by clicking on the **Set** button, and press **Done** to leave the dialog box.
8. Leave power on the E3000 emulator box and target system, if used.
9. Quit the E3000W windows application and invoke the XRAY application.
10. Use the **rom** command to verify the memory map settings, and the **status ice** command to read the mode and clock settings.

Note: Upon power up, the E3000 emulator defaults to Mode 1 map if a target system is attached. Without a target system attached, the E3000 will default to Mode 3 (single-chip mode).

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