

CTSPD Help

ctSPD was developed by "c't" computer magazine. ctSPD reads out the Serial Presence Detect EEPROMs of SDRAM modules and checks the data contained in the SPD-EEPROMs. These data, necessary for the correct functioning of the SDRAM module, are detailed in the PC66, PC100, and PC133 specifications.

The data are checked according to the current specifications by Intel (PC SDRAM Serial Presence Detect (SPD), Revision 1.2B) and the corresponding JEDEC specifications (JEDEC 21-C Page 4.1.2.5) respectively. Errors reported by the program are usually due to inconsistencies with those specifications.

For further details on how the SPD-EEPROMs work and on memory modules in general, please see the following articles in "c't":

- Georg Schnurer, Katzen im Sack, c't-Kauftest: PC133-Speicher von der Stange, Teil1, c't 17/2000, page 156ff.
- Georg Schnurer, Erbsen zählen, Der Einfluss des Speichertyps auf die Systemleistung, c't 17/2000, page 160ff.
- Christof Windeck, Speicherriegel enträtselt, Wie Mainboards Hauptspeicher-Zeitparameter einstellen (sollten), c't 17/2000, page 166ff.
- Georg Schnurer, Katzen im Sack, c't-Kauftest: PC133-Speicher von der Stange, Teil 2, c't 18/2000, page 148ff.
- Georg Schnurer, Katzen im Sack, c't-Kauftest PC133-Speicher Teil 3: Speicher-Praxis, c't 19/2000, page 180ff.

Advanced read-out: SPD-EEPROM details

This page displays the basic data contained in the SPD-EEPROMs. Most important is the SPD checksum. Should it contain errors, all subsequent data could be corrupt. The computer's BIOS may fail to set the DRAM timing correctly. Therefore, modules producing checksum errors should be returned to the retailer.

Advanced read-out: Manufacturer's details

The inclusion of manufacturer's details in registers 64 to 126 of the SPD-EEPROMs is not prescribed by the Intel and JEDEC specifications. So, missing or incomplete data are, strictly speaking, no reason to ask your money back.

Brand modules, though, usually do contain these data. In particular, registers 64 to 71 detail the manufacturer, whereas registers 73 to 90 give the module name. With these data, it should be possible to obtain detailed spec sheets for the particular module on the manufacturer's website.

Although quite helpful, including the manufacturer's web address in registers 99 to 125 does not seem to be the done thing yet. Usually, the URL is placed in the higher-number registers, starting with "www.". The lower numbers are mostly for manufacturers' internal use.

Advanced read-out: Basic module data

The basic module data show the basic module design. Most importantly, the module's capacity should be detected correctly.

Advanced read-out: Module and device attributes

Registers 21, 22, 126, and 127 contain module and device attributes. For Intel SPD specification-compliant modules, register 127 is the most relevant. In this register, the module's characteristics are detailed in abbreviated form. If these data do not read out correctly, many Intel mainboards may have problems working with the particular memory module.

Advanced read-out: Timing data

Data in this section should strictly follow SPD specifications. Otherwise, the correct functioning of the module cannot be guaranteed in the long run. That means that in this section there should be no errors or inconsistencies at all. Modules with incorrectly programmed SPD-EEPROMs violate SPD specifications as well as PC66, PC100, and PC133 specifications respectively.

Advanced read-out: ESDRAM parameters

These seldom-used registers contain special timing data of ESDRAM modules. Such modules are not commonly used in PCs, but some VIA and Intel chipsets can actually handle them.

language choice

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INFO

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c't - Magazin für Computertechnik
Verlag Heinz Heise GmbH & Co KG
Helstorfer Str. 7
D-30625 Hannover
Germany
<http://www.heise.de/ct/ftp/ctspd.shtml>

Developed by: Podien/c't

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