

APPLICATION NOTE

SDRAM DIMM SPD Write Protection

GENERAL

SDRAM DIMMs and Rambus RIMM use a EEPROM in order to store SPD(Serial Presence Detect) data. There are two kinds of SPD write protection methods.

One method is “Software Data Protection”. Samsung supports this protection only by the customer request. In case of software write protection, 128Bytes (Byte0 ~ Byte127) of the EEPROM are permanently write protected.

The other method is “Hardware Data Protection”. The EEPROM contains a WP pin, and it is connected to both the DIMM/RIMM Pad and Vss through 47K ohm resistor(see figure 1). In other words, the EEPROM device is in the non-write protection state. If the system asserts HIGH to the WP pad in the DIMM, the entire EEPROM device is READ only, all WRITE commands are inhibited.

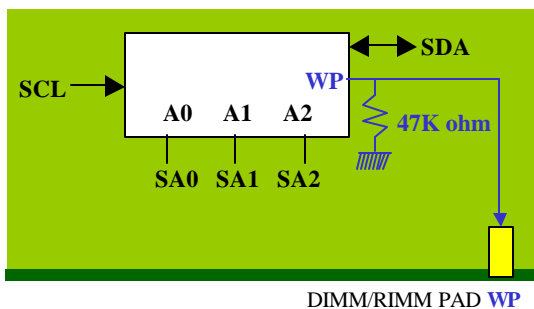


Figure 1 : Before 1st October, 2001

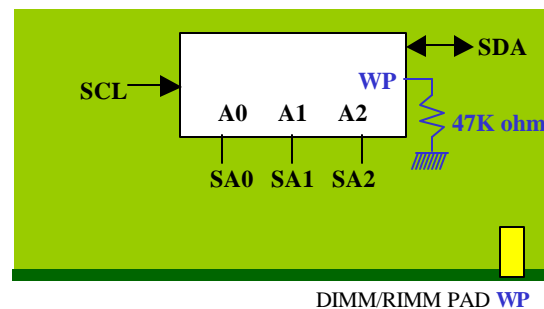


Figure 2 : From 1st October, 2001

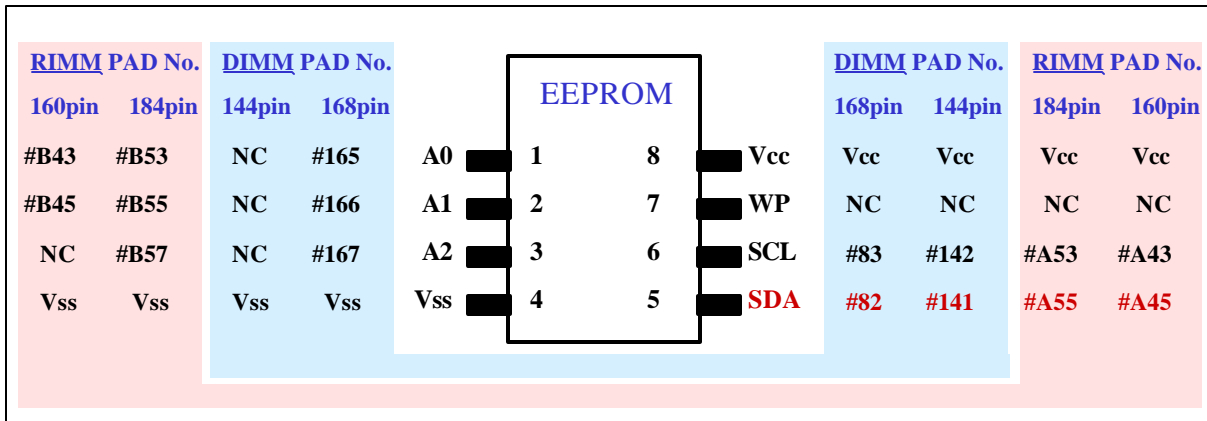
CHANGE

Samsung will disconnect the EEPROM(SPD) WP Pin from the DIMM pad(#81):

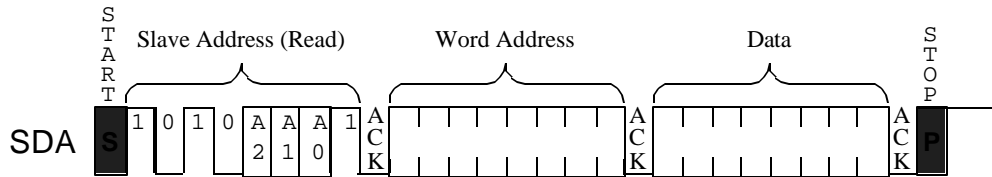
Samsung will disconnect the WP pin from the DIMM pad for all SDRAM DIMMs **from 1st October, 2001**. There is no issue because systems do not use this method, Hardware Data Protection through WP pin. Samsung still support the software data protection only by the customer request.

Software Write Protection

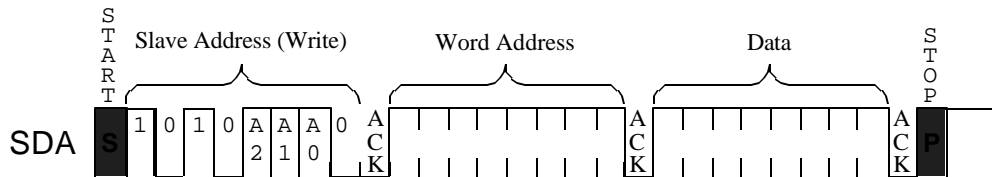
[EEPROM vs. DIMM/RIMM Pin Configuration]



[Byte Read Operation]



[Byte Write Operation]



[Write Protection Operation]

