2 MB PC-SIMM in NMS 8250/55

Update your NMS8250/55 to 2 Mb memory

Hans Oranje, 2002
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Upgrade 2 x 1 MB PC-SIMM in NMS 8250/55

Required parts

1 x 74LS670
1 x 74LS125
1 x 74LS08
1 x 74LS00
1 x 74LS157
1 x 74LS139
2 x 1 MB 30 pin 3 chip PC-SIMM

Preparations

Take the motherboard carefully out of the housing

Remove IC 133 - IC 136 (41464) near the VDP. Best is to cut the pins and remove the remains
Remove R 127 and R 128 (both 100 ohm) in the neighbourhood IC 131 (74LS125).

Prepare the following IC's:

74LS670   : cut the pins 1, 2, 3, 6, 7, 9, 10 and 15 half.
74LS125   : cut the pins 2, 3, 5, 6, 8, 9, 11 t/m 13 half
74LS08   : cut the pins 1 t/m 6 and 8 t/m 13 half
74LS00   : cut the pins 1 t/m 6 and 8 t/m 13 half.
74LS157   : cut the pins 2 t/m 7 and 9 t/m 14 half.
74LS139   : cut the pins 1 t/m 7 and 9 t/m 15 half

Insert IC's

Insert the 74LS670   on top of IC 149 (74LS670)   and is now called IC 149B.
Insert the 74LS125   on top of IC 131 (74LS125)   and is now called IC 131B.
Insert the 74LS08   on top of IC 157 (74LS00)   and is now called IC 157B.
Insert the 74LS00   on top of IC 180 (74LS32)   and is now called IC 180B.
Insert the 74LS157   on top of IC 147 (74LS157)   and is now called IC 147B.
Insert the 74LS139   on top of IC 146 (74LS157)   and is now called IC 146B.

Solder all remaining whole pins to the IC pins underneath.

Attach a wire to IC 131B (74LS125) between pin 13 and pin 1.

Attach a wire to IC 157B (74LS08) between pin 14, pin 13 and pin 12.
Attach a wire to IC 157B (74LS08) between pin 11, pin 10 and pin 9.

Attach a wire to IC 180B (74LS00) between pin 14, pin 13 and pin 12.
Attach a wire to IC 180B (74LS00) between pin 11, pin 10 and pin 9.
Attach a wire to IC 180B (74LS00) between pin 3 and pin 4.

Attach a wire aan between pin 15 and pin 16 of IC 146B (74LS139).

Attach a wire between pin 12 IC 180 (74LS32) and pin 1 and 2 of IC 180B (74LS00) (RFSH).
Attach a wire between R 130 (100 ohm, side of Video RAM) and pin 5 of IC 180B (74LS00) (WE).

Attach a wire between printspot R 128 (zijde RAM) and pin 3 of IC 157B (74LS08) (CAS 0).
Attach a wire between printspot R 127 (zijde RAM) and pin 6 of IC 157B (74LS08) (CAS1).
Attach a wire between pin 2 IC 111 (74LS32) to pin 1 of IC146B (74LS139) (CAS2/E)
Attach a wire between pin 1 of IC 157B (74LS08) to pin 4 IC 146B (74LS139) (CAS0).
Attach a wire between pin 4 of IC 157B (74LS08) to pin 7 IC 146B (74LS139) (CAS1).
Attach a wire between pin 2 and 5 of IC 157B (74LS08) to pin 6 IC 180B (74LS00).

Attach a wire between pin 7 IC 149 (74LS670) and pin 2 IC 147B (74LS157) (MA16)

Attach a wire between pin 11 of IC 161 (74LS243) and pin 3 of IC 131B (74LS125) and pin 3 of IC 149 (74LS670) (D3).

Attach a wire between pin 2 of IC 131B (74LS125) and pin 6 of IC 149 (74LS670) and pin 3 of IC 147B (74LS157) (MA17).

Attach a wire between pin 15 of IC 149B (74LS670) and pin 6 of IC 131B (74LS125) and printspot pin 11 of IC 176 (74LS367) (D4).

Attach a wire between pin 5 of IC 131B (74LS125) and pin 10 of IC 149B (74LS670) and pin 5 of IC 147B (74LS157) (MA18).

Attach a wire between pin 1 of IC 149B (74LS670) and pin 8 of IC 131B (74LS125) and printspot pin 13 of IC 176 (74LS367) (D5).

Attach a wire between pin 9 of IC 131B (74LS125) and pin 9 of IC 149B (74LS670) and pin 6 of IC 147B (74LS157) (MA19).

Attach a wire between pin 2 of IC 149B (74LS670) and pin 11 of IC 131B (74LS125) and printspot pin 5 of IC 178 (74LS367) (D6).

Attach a wire between pin 12 of IC 131B (74LS125) and pin 7 of IC 149B (74LS670) and pin 2 and pin 3 of IC 146B (74LS139) (MA20).

Placement of the PC SIMM to the bottom of the motherbord

Reverse the motherboard

Cut all IC pins on the bottom between IC 147 and IC 176
Cut all IC pins on the bottom between IC 150 and IC 180 .
Attach with double sided sticky paper the first PC-SIMM on the first row
Attach with double sided sticky paper the second PC-SIMM on the second row

In the next description the wires are soldered directly to the PC SIMMs
The 2 wires to IC 147B (74LS157) are lead to a empty IC hole.

pin	Description	location SIMM 1	Location SIMM 2
30	Vcc + 5 Volt	IC 133 pin 9	All connections both
29	Din(9)		to SIMM 1 and
28	CAS(9)		SIMM 2
27	RAS	IC 133 pin 5	Except 02
26	Dout(9)		
25	D7	IC 133 pin 17	
24	NC		
23	D6	IC 133 pin 15	
22	Gnd	IC 133 pin 18	
21	WE	IC 133 pin 4	
20	D5	IC 133 pin 3	
19	NC		
18	L9	IC 147B pin 7 (74LS157)	
17	L8	IC 147B pin 4 (74LS157)	
16	D4	IC 133 pin 2	
15	L7	IC 136 pin 10	
14	L6	IC 136 pin 6	
13	D3	IC 134 pin 17	
12	L5	IC 136 pin 7	
11	L4	IC 136 pin 8	
10	D2	IC 134 pin 15	
09	Gnd	IC 134 pin 18	
08	L3	IC 134 pin 11	
07	L2	IC 134 pin 12	
06	D1	IC 134 pin 3	
05	L1	IC 134 pin 13	
04	L0	IC 134 pin 14	
03	D0	IC 134 pin 2	
02	CAS	IC 134 pin 16	IC 136 pin 16
01	Vcc + 5 Vol	IC 134 pin 9	