

MESSTECHNIK

**Technical
Documentation**

**Technische
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KONTRON
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INSTALLATION PROCEDURE
1M, 2M, 4M RAM EXPANSION
FOR EPP-80 AND MPP-80S
PROM/PLD PROGRAMMERS
S/N XXXXXXXX/3

11/87

KONTRON MESSTECHNIK GMBH, OSKAR-V.-MILLER-STR.1, D-8057 ECHING

INSTALLATION PROCEDURE

OPTION 1M, 2M, 4M Memory Expansion

FOR EPP-80 and MPP-80S PROM/PLD PROGRAMMERS
S/N XXXXXXXX/3

The optional 1 Mbit, 2 Mbit, and 4Mbit RAM expansions for the Kontron EPP-80 and MPP-80S programmers include the following items:

- 1M : 1 RAM decoder PAL R2MUX, 8 RAM chips adding 64K to the basic 64K memory.
- 2M : 1 RAM decoder PAL R1MUX, 1 chip 74LS590, 8 RAM chips at 256 kbit each, providing a total RAM of 256K x 8.
- 4M : 1 RAM decoder PAL R2MUX, 1 chip 74LS590, 2x8 RAM chips at 256kbit each, providing a total RAM of 512K x 8.

To install the memory expansion please perform the steps described below. For IC location, please refer to the attached EPP/MPP parts location diagrams.

Installing the 1M option:

1. Replace IC 80 on the programmer motherboard by the new RAM decoder PAL R2MUX.
2. Insert the 8 RAM chips into RAM bank 1 (IC 39 through 46).
3. Set switch 2 of DIP switch bank 1 (SW1) to ON. Set switch 1, 3, and 4 to OFF.

Installing the 2M and 4M option:

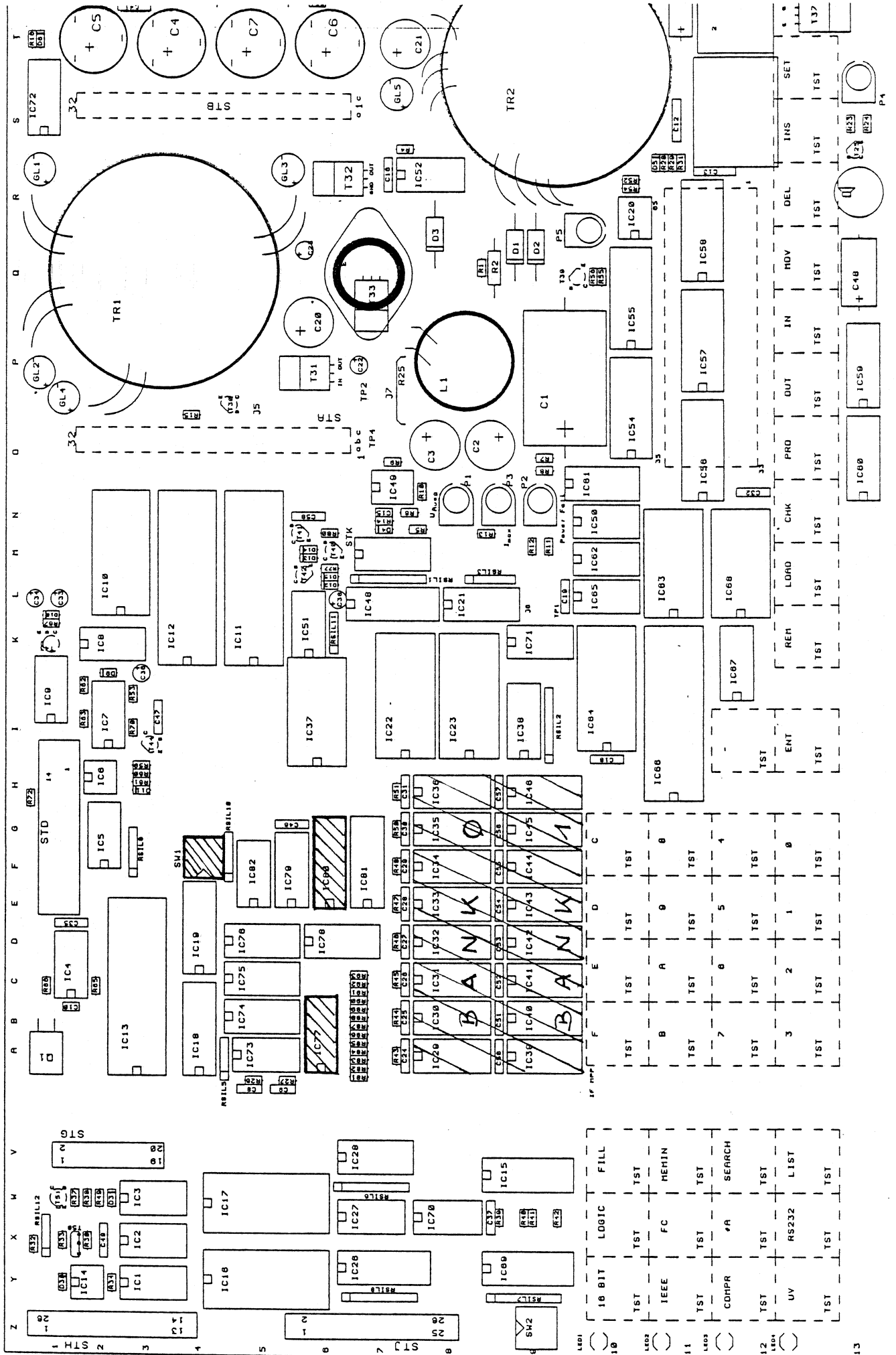
1. Replace IC 80 on the programmer motherboard by the new RAM decoder PAL R1MUX, or R2MUX respectively.
2. Plug the 8-bit refresh counter 74LS590 into position IC77.
3. Remove the old RAM ICs from RAM bank 0 and 1 (IC 29 to 36, and ICs 39 to 46) and insert the new RAM chips. Each RAM bank must be fully equipped. Take care not to mix 64K-chips with 256K-chips.
4. For option 2M set switch 3 of DIP switch bank 1 (SW1) to ON. For option 4M set switch 4 of DIP switch bank 1 (SW1) to ON. All other switches must be set to OFF.

The diagram below shows you which components must be present on the programmer motherboard after you have installed the memory expansion:

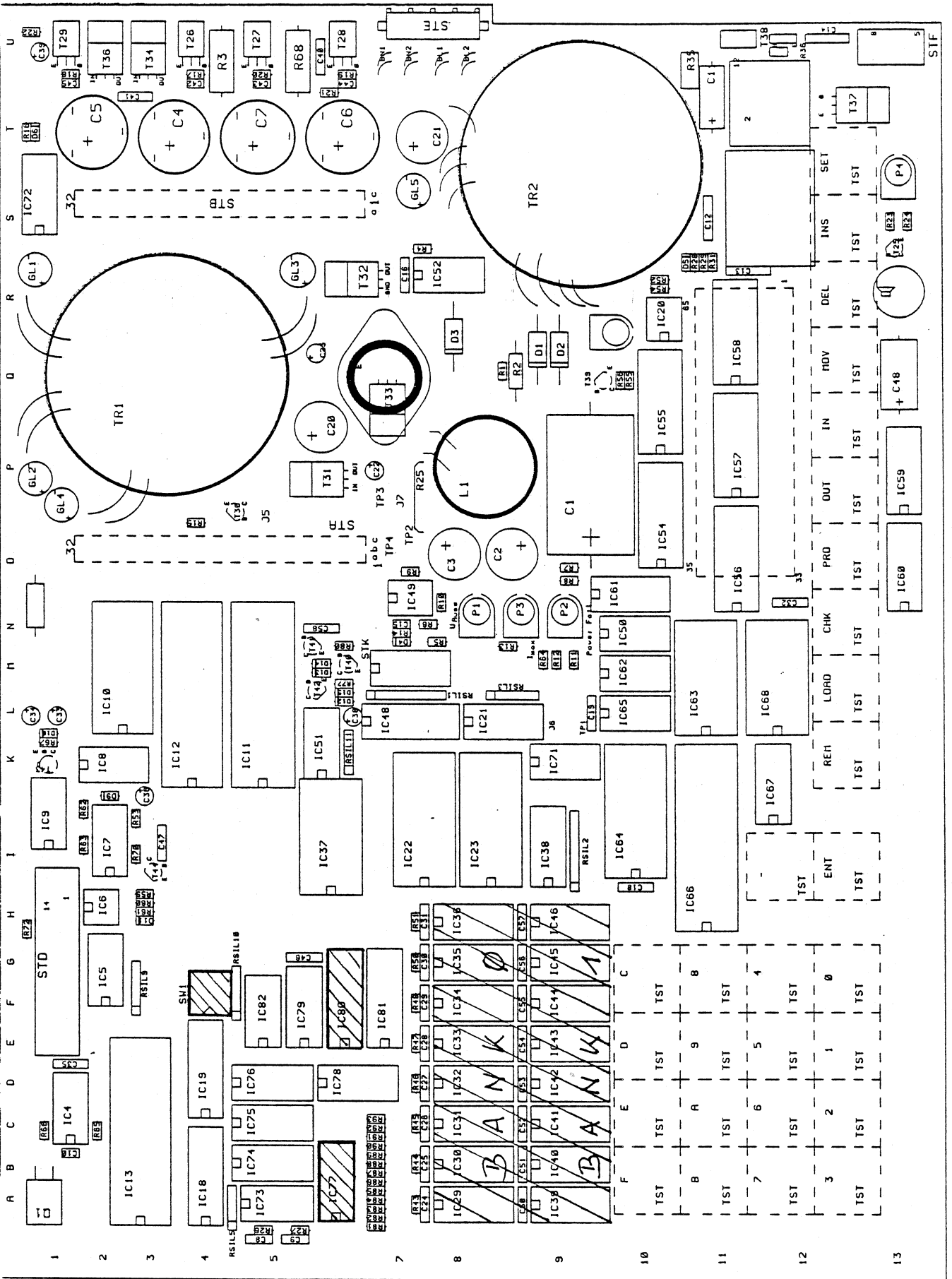
OPTION	TOTAL RAM	IC80	IC77	DIP SW1 ON	BANK 0	BANK 1
	64K	R1MUX	-	1	64K	-
1M	128K	R2MUX	-	2	64K	64K
2M	256K	R1MUX	74LS590	3	256K	-
4M	512K	R2MUX	74LS590	4	256K	256K

Use programmer function FC 10 to see whether the RAM expansion is installed properly. The programmer display must show

10000	hex	with 64K RAM installed
20000	hex	with 128K RAM installed
40000	hex	with 256K RAM installed
80000	hex	with 512K RAM installed



10	18 BIT	LOGIC	FILL
11	TST	TST	TST
12	TST	IEEE	FC
13	TST	TST	MEMIN
14	TST	TST	TST
15	TST	COMPR	*A
16	TST	TST	TST
17	TST	UV	RS232
18	TST	TST	TST



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