Probably best if wire connect points are at West end of piggy back board.

Parts Required for full Upgrade:

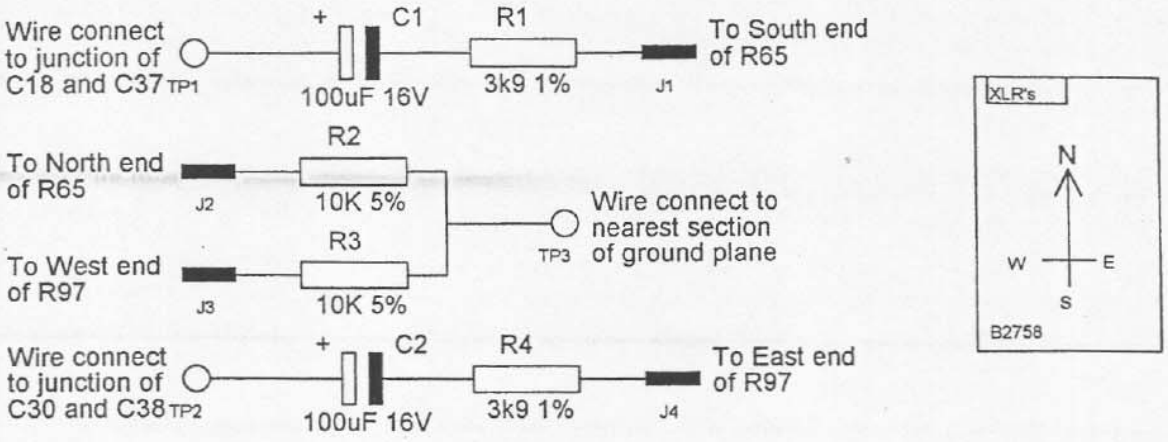
Description:	Part Number:	Amount
Input Output Piggy Back Board	DN3600-08	1
Midi Latch Board	DN3600-11	1
EPROM	Ver 3.00	1
BC337 Transistor	D1-CB337	1
1k 5%	A2-10100	1
8v2 Zener Diode	D1-A08V2	1
Heat Sink for Transistor	E8-HKK92	1
22nF	B1-20022	1
3R3 ½ Watt	A3-B1003	1
10nF	B1-60010	4
100nF	B1-90100	4
1nF	B6-11000	4
4.7nF	B6-14700	4
47nF	B6-90047	4
470pF	B6-10470	4
6k8 5%	A1-16800	4
4M7 5%	A1-34700	8

If you should wish to discuss these changes further, please do not hesitate to contact Karl Brant here at Klark Teknik.

These modifications must be carried out by qualified, authorised service personnel only. Klark Teknik accept no liability for damage arising from incorrect application of these modifications.

APPENDIX A

DN3600 More Eq Thump Removal Piggy Back Board



Components :

C1, C2	2	B4-DB311 - 100uF 16V micro-miniature radial electrolytic. (RS 116-824 or equivalent)
R1, R4	2	A4-13900 - 3k9 1% 0.125 W
R2, R3	2	A4-30010 - 10k 5% 0.125 W
J1, J2, J3, J4	4	Either (preferred part) Samtec DW-36-08-T-S-310 for connections. Note this is a 36 way part and will hence do 9 piggy back boards. Or Molex 70345 for connections J1, 2, 3 & 4. Single Row Straight Pin Breakaway Dual Body Header (for connections to R65 and R97). Critical dimensions : pins 2 - 40 available (buy size which makes job cheapest), dim C - 3.25 mm, dim D - 3.32 mm, dim E - 8.00 mm, dim F 14.57 mm. Molex catalogue No.930 page 119A. Or 4 ways from KT part E2-BP163. Note ends will require trimming once piggy back board fitted to main board
TP1, 2, 3	3	sections thin wire. Wire must be thin enough to pass two sections through a via to reach the connections to C18/37 and C30/38 which are on rear of board.

Board Design Notes :

PCB No B2836.
Piggy Back board to fit above area bounded by R65 and R97, may extend beyond R97.
Board to face DN3600 I/O board i.e. with components hanging down.
Avoid placing tall components (caps) above C72 (height 6.3 mm min).
Allow clearance around P2 trim hole to adjust pot.

Fig 2 Issue 4 Micro-board Solder Side

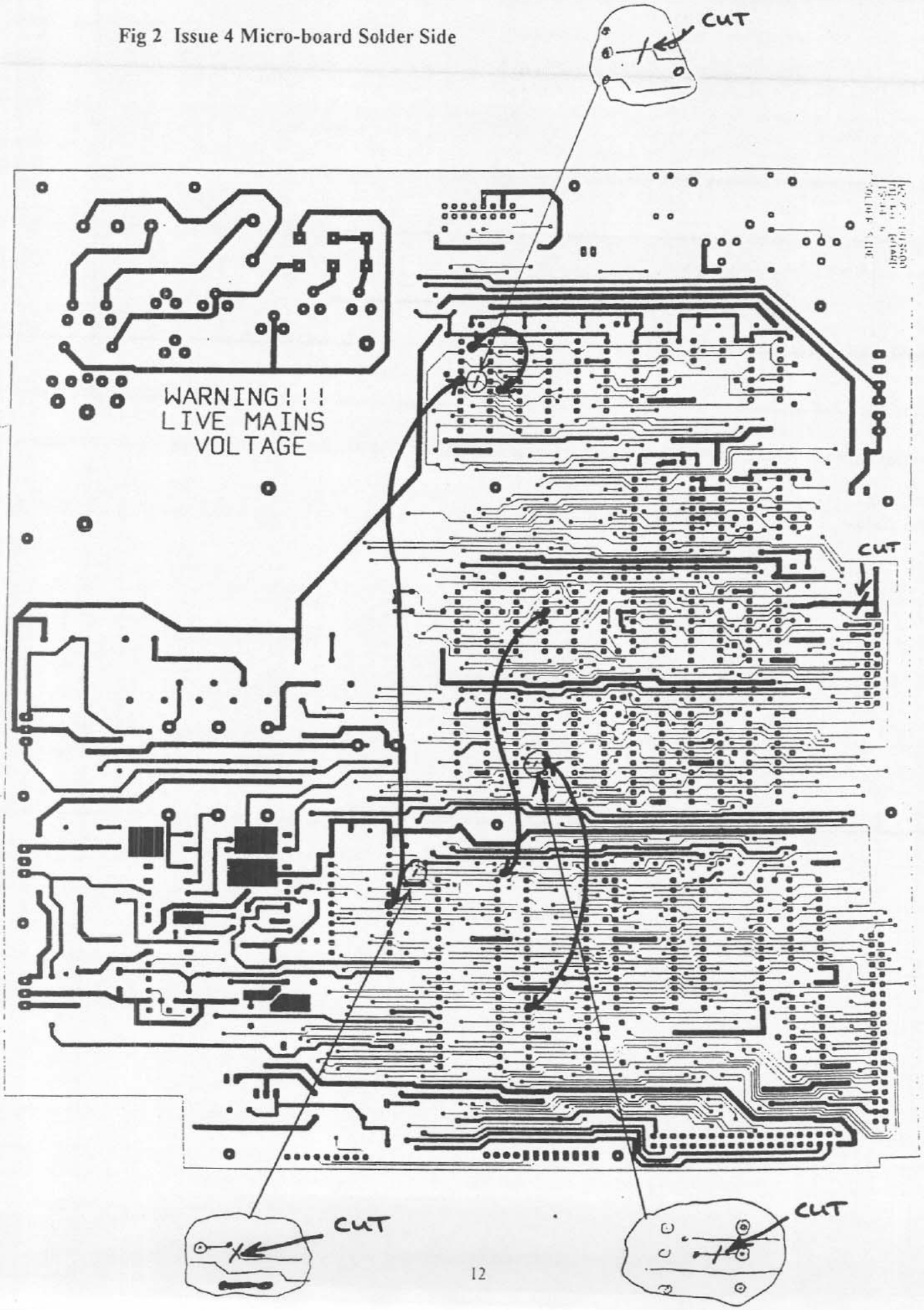
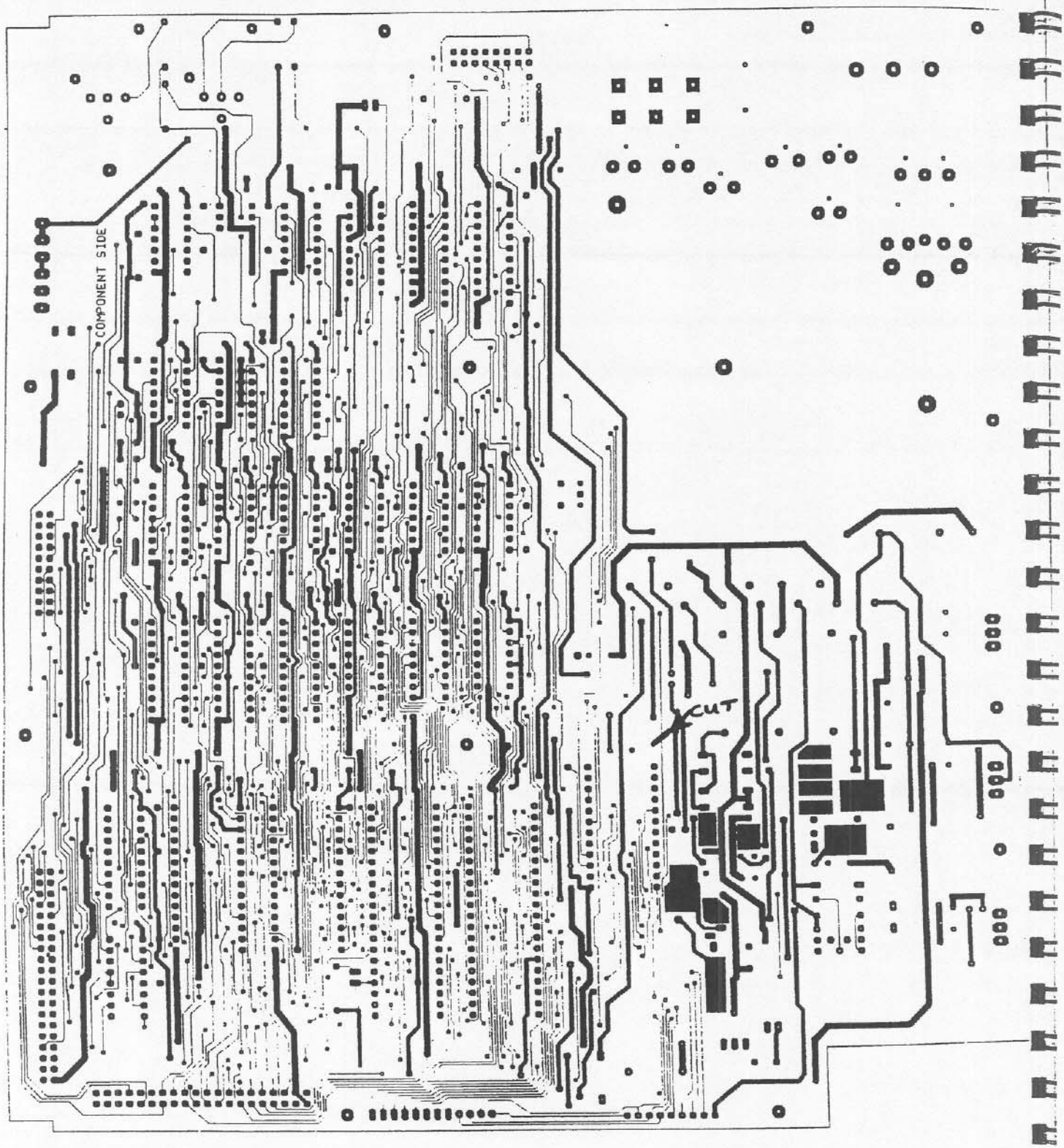


Fig 1 Issue 4 Micro-board Component Side.



I/O Piggy Back Board Modification.

This mod reduces the level of the More Eq In/Out switching thump. Details based on modification being made B2758 issue 3.

1. Remove R65 and R97 and clear holes.
2. Fit piggy back board (appendix A) in place of R65 and R97 with components facing main board. (R65 and R97 are now on the piggy back board). Push board down until nearly touching C72 or P2 (which ever is the closer) and crop excess pin length once soldered to main board.
3. Feed blue single core wire from TP1 through via by R65 and connect to junction of C18 and C37.
4. Feed green single core wire from TP2 through via by R65 and connect to junction of C30 and C38.
5. Connect green stranded wire from TP3 to ground plane at D44 cathode.
6. Power up the unit and check that the correct channels are connected (i.e. A i/p to A o/p and B i/p to B o/p) with the More EQ switched both in and out.

Micro-Board Modifications For B Version

There are a number of modifications that are to be carried out on the microprocessor board to ensure all the improvements of the version 3 software are seen.

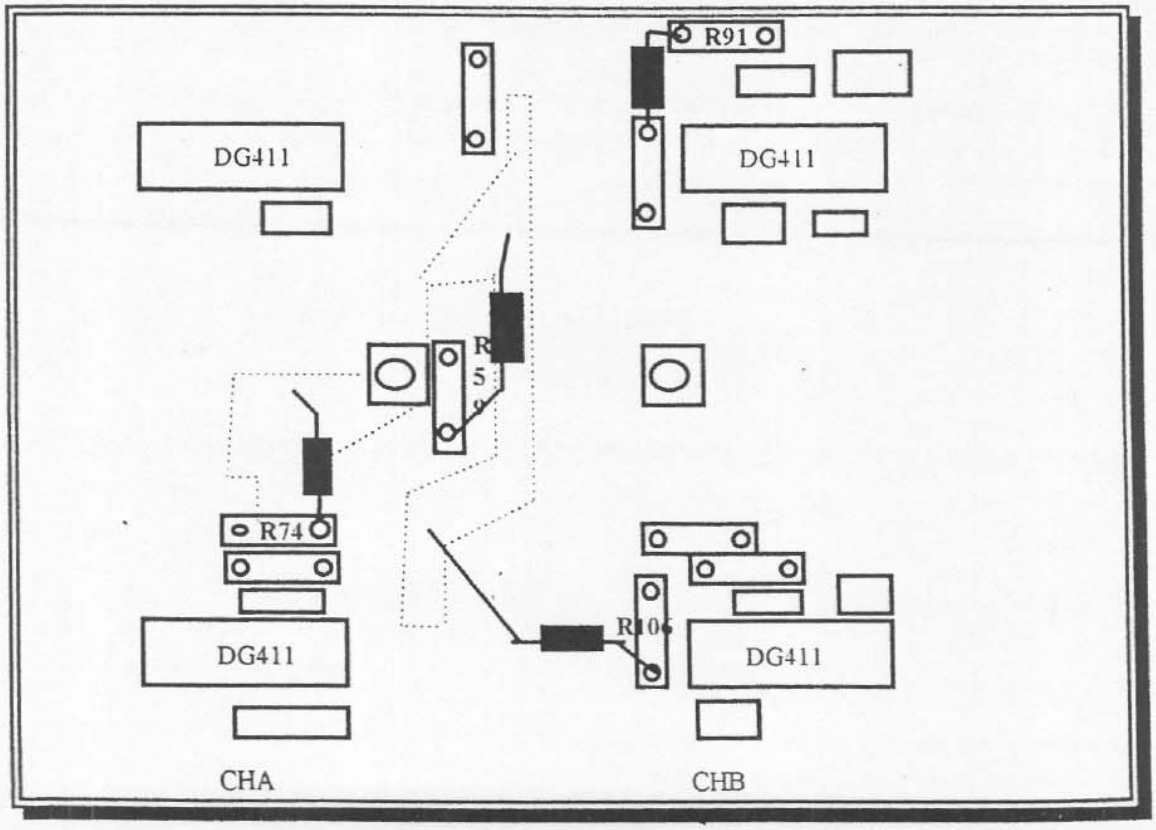
1. The track indicated in figure 1 must be cut.
2. The 4 track cuts and 4 links indicated in figure 2 must be carried out.

INPUT OUTPUT BOARD MODIFICATION

This modification improves the noise specification of the unit and decreases the amount of induced interference from the LCD inverter for issue 3 boards (This modification will only work with software V1.4 and above).

Change	From	To
C65, C77, C108,C119	33pF B2-10033	Remove
C66,C78,C109, C120	47nF B1-90047	10nF B1-60100
C67,C79,C110,C121	470nF B1-90470	100nF B1-90100
C68,C80,C111,C122	4.7nF B6-14700	1nF B6-11000
C69,C81,C112,C123	1nF B6-11000	4.7nF B6-14700
C70,C82,C113,C124	10nF B6-60010	47nF B1-90047
C71,C114,C125,C222	100pF B2-1A100	470pF B6-10470
R134,R1235,R136,R137	1M 5% A1-31000	Remove
R63,R78,R95,R110	1k2 5% A1-11200	6k8 5% A1-16800
R59,R74,R91,R106	2M2 5% A1-32200	4M7 5% A1-34700
R61,R77,R92,R109	2M2 5% A1-32200	4M7 5% A1-34700

R59, R74, R91 and R106 are connected to ground see figure below.

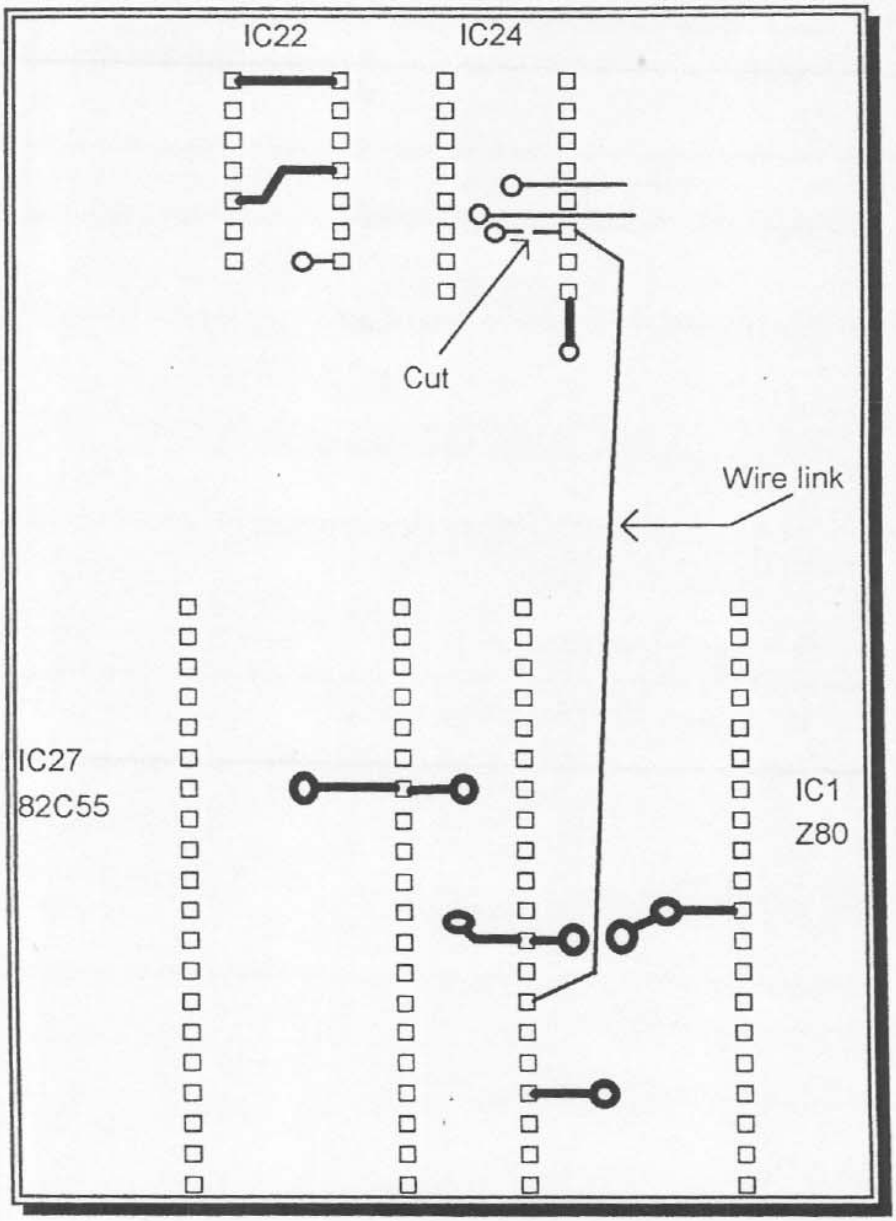


MIDI Interface.

For reliable operation of the Pro MIDI interface, the following modification should be carried out:

1. Cut the track that leads to pin 6 of IC 24 on the underside (solder side) of the PCB.
2. Link pin 6 of IC24 to pin 27 of IC 1 using white wire supplied.

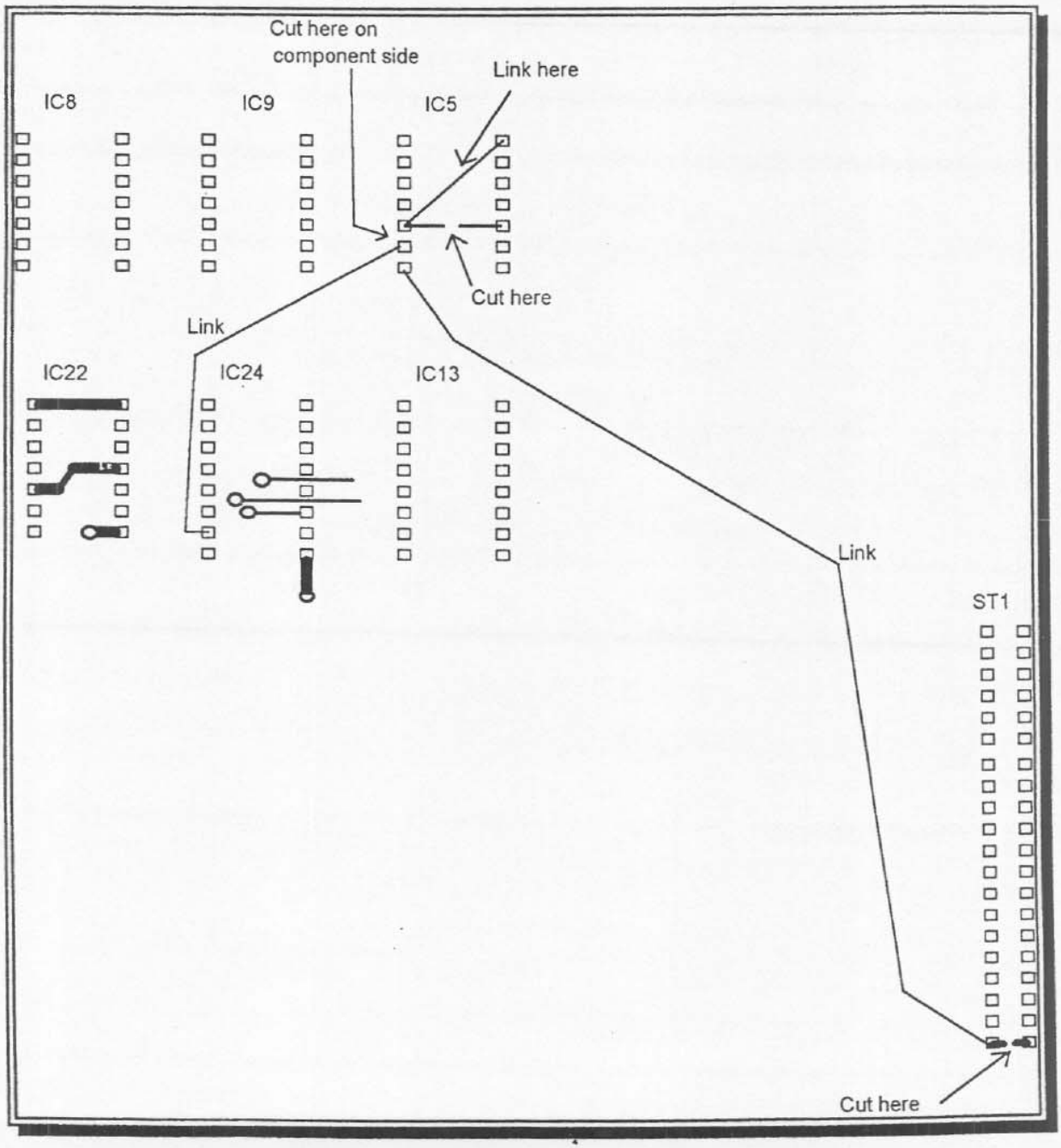
Microprocessor Board, solder side.



Unfortunately, the following changes are also required on the small number of units that have
Issue 3 Microprocessor boards and do not already have latch boards fitted in position ST1:

1. Cut track between pins 1 and 2 of ST1 – solder side.
2. Cut track between pins 9 and 10 of IC5 – component side.
3. Cut track between pins 5 and 10 of IC5 - solder side.
4. Connect pin 8 of IC5 to pin 1 of ST1 using violet wire supplied.
5. Connect pin 1 of IC5 to pin 10 of IC5 using orange wire supplied.
6. Connect pin 9 of IC5 to pin 10 of IC24 using yellow wire supplied.

Microprocessor Board, solder side.



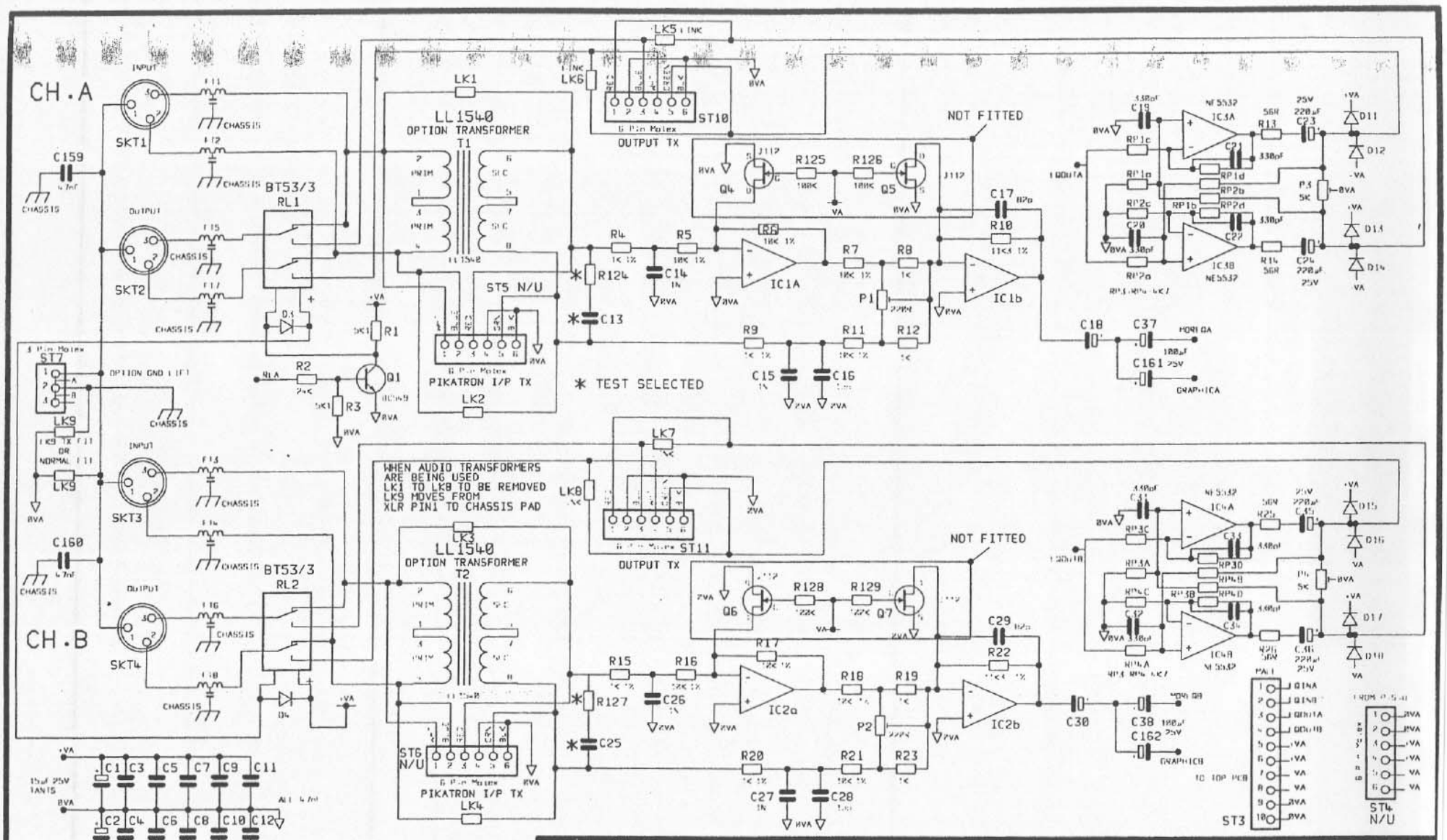
TECHNICAL SPECIFICATION

INPUTS	**TWO**
Type	Balanced (electronically)
Impedence (ohm)	
Balanced	20k
Unbalanced	10k
Max. level	+22dBu
OUTPUTS	**TWO**
Type	Balanced (electronically)
Min. load impedence	600ohm
Source impedence	50ohm
Max. level	+22dB into >2kohms
PERFORMANCE	
Frequency response /EQ flat	+/-0.5dB (20Hz to 20kHz)
Distortion @ +4dBm	<0.02% @ 1kHz
Equivalent input noise (20Hz to 20kHz unweighted)	< -94dBu
Overload indicator	+19dBu
Gain	-18 to +6dB
FILTERS	
Type	Revised MELT hybrid
Graphic ISO Centre Frequencies	30, 25Hz - 20kHz 1/3 Octave
Tolerance	+/-5%
Maximum Boost/Cut	12dB
Step size	1/2dB
High pass filter slope	12dB/Octave 20Hz - 400Hz
Step size	1/3 Octave
Low pass filter slope	12dB/Octave 30kHz - 1.6kHz
Step size	1/3 Octave
Notch filters	Two per channel, varying Q
Maximum cut	12dB
Step size	1/12 Octave and 1dB
POWER REQUIREMENTS	
Voltage	110/120/220/240v @ 50/60Hz AC
Consumption	<35VA
DIMENSIONS	
Width	482mm (19 inches)
Height	88mm (3.5 inches)
Depth	306mm (12.25 inches)
WEIGHT	
Net	5 kg
Shipping	7 kg

* NOTE: Noisy supply or insufficient mains voltage will cause the DN3600 to operate in noisy or intermittent manner.

The unit can be set to operate on 110/120or 220/240 (nominal) VAC @ 50 or 60Hz, by changing the position of the voltage selector switche on the rear panel of the unit, adjacent to the mains power inlet, and by swapping wires soldered within the unit (see overleaf). The range of supply voltages suitable for each setting are as follows:-

Switch Position	**Range**
240V	215-250V @ 50Hz
220V	200-230V @ 50Hz
120V	105-130V @ 60Hz
110V	95-115V @ 60Hz



KLARK TEKNIK

Drawn: T.K.G	Checked: K.P	UNIT DN.3600	I/O STAGE	1 OF 15
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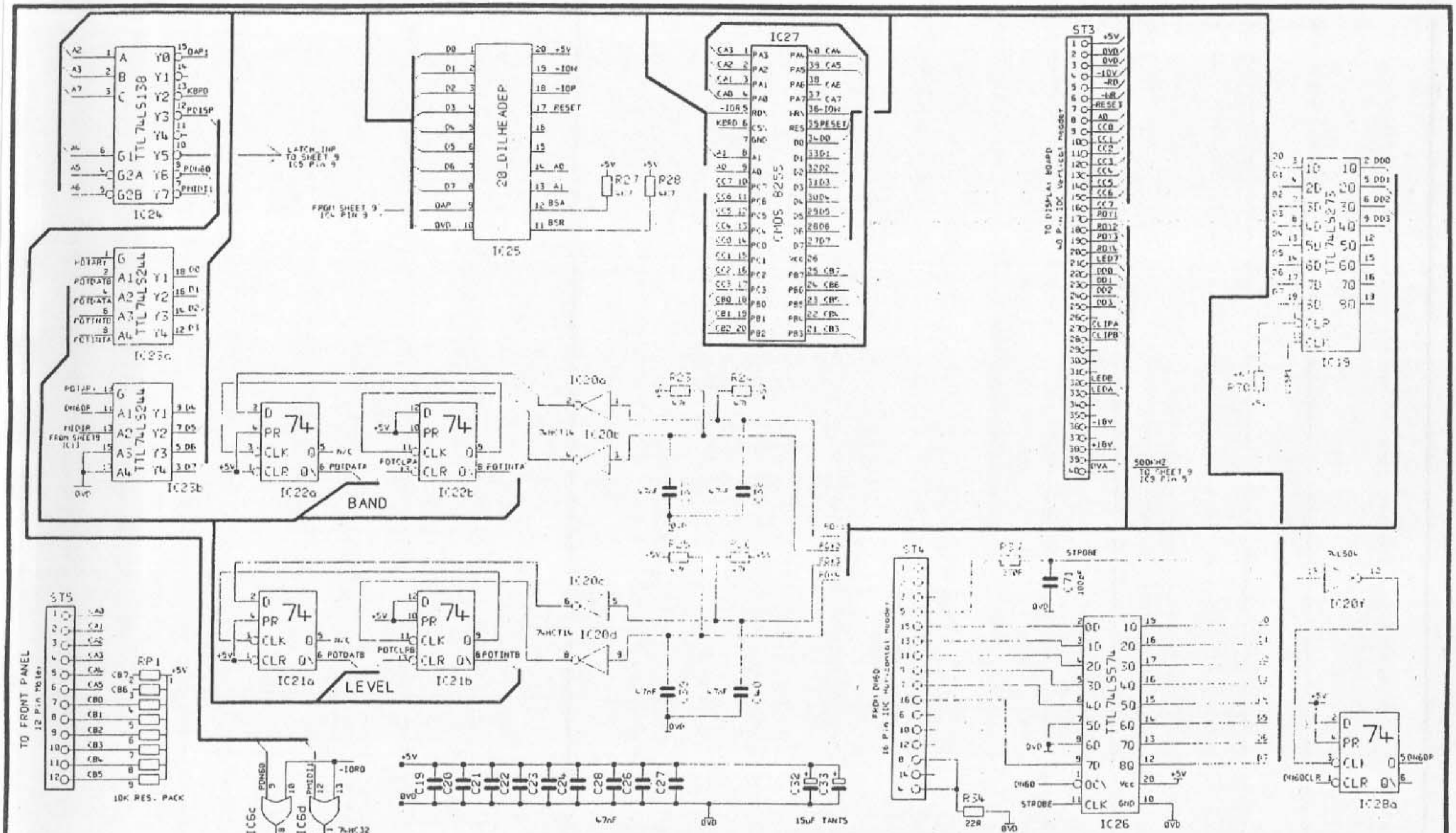

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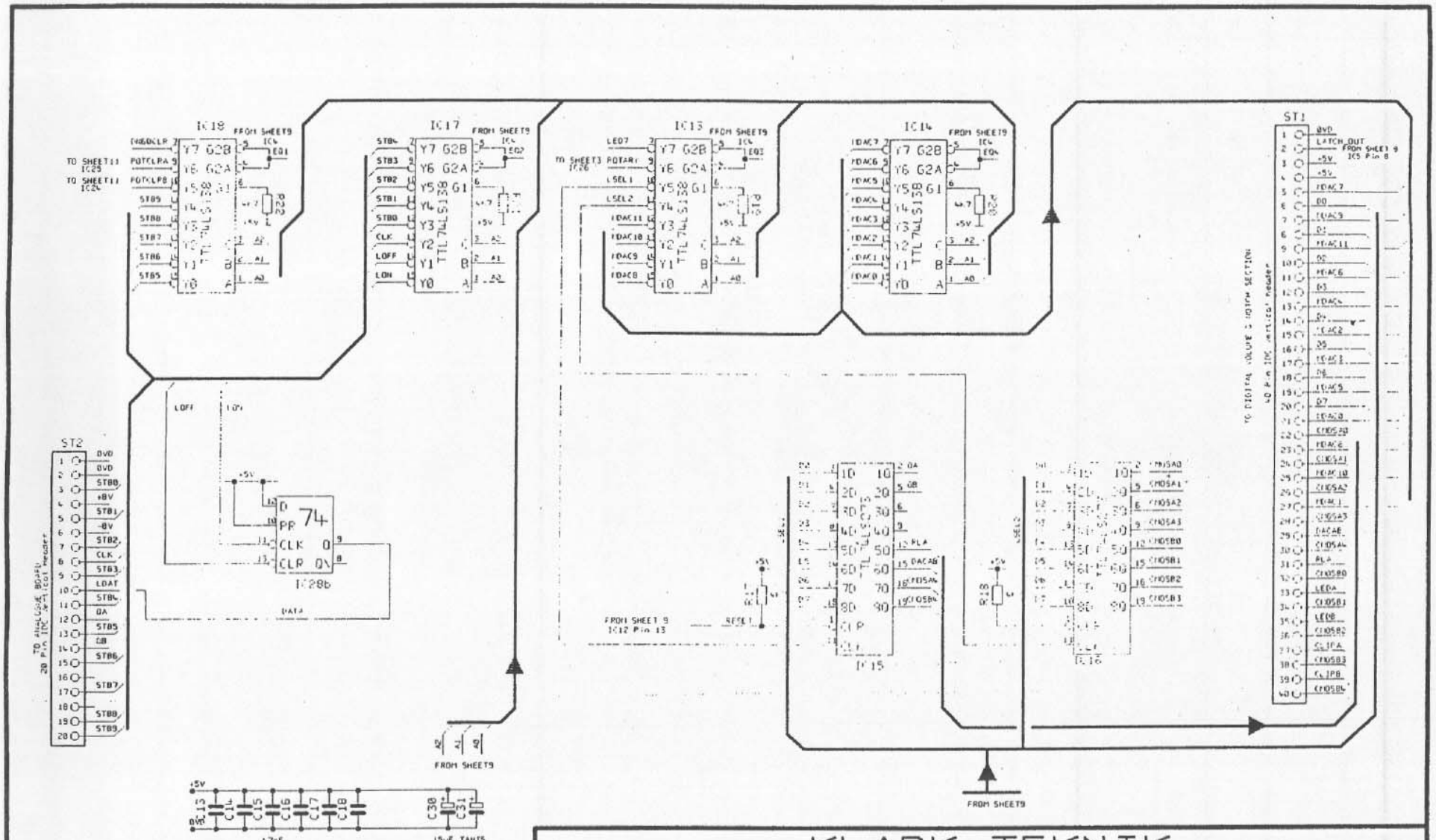
BOARD No. B2752	DWG No. 3600_11.DGM	ISSUE: 4	DATE: 1 JUN 93



KLARK TEKNIK

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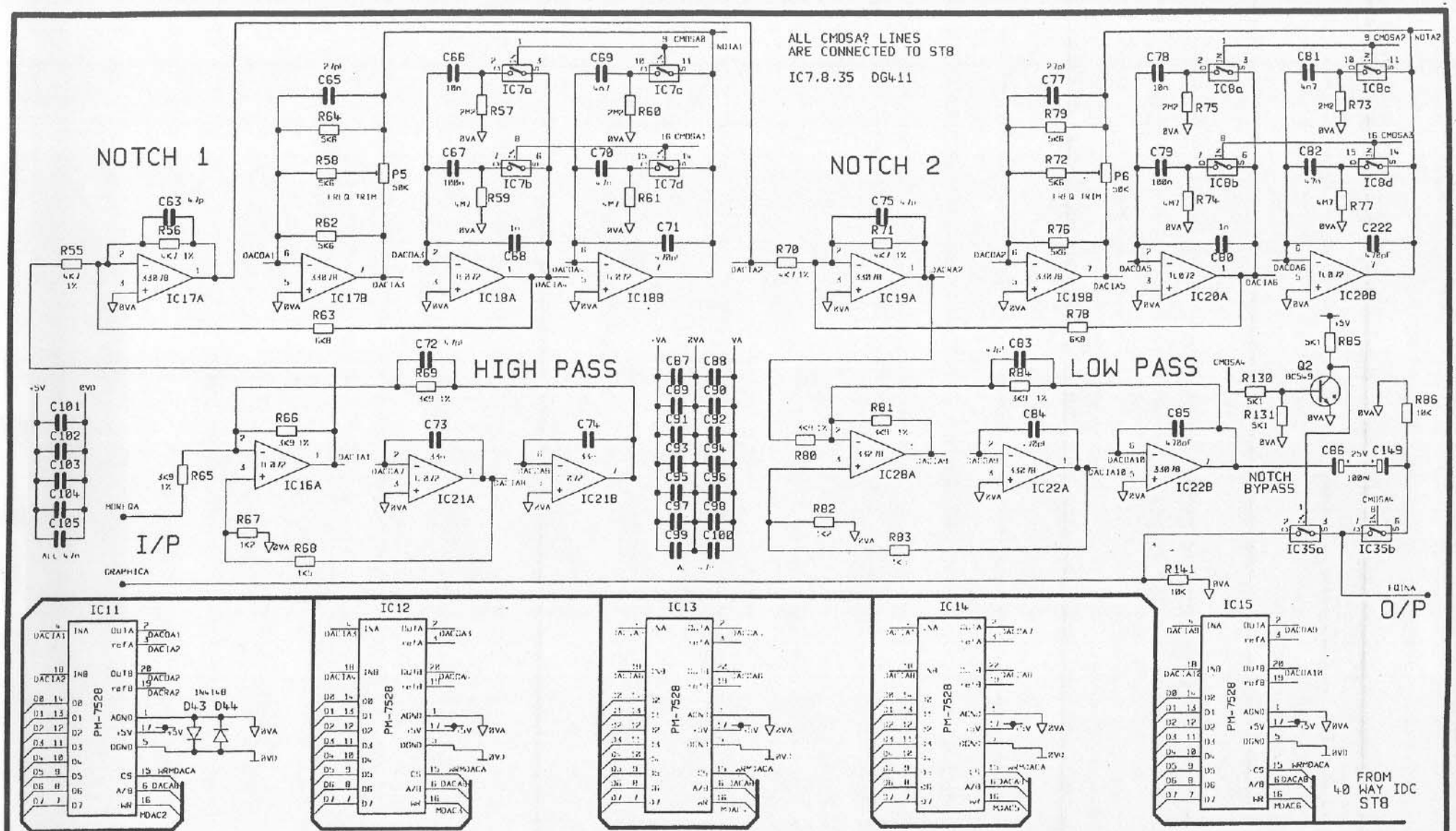

KLARK TEKNIK

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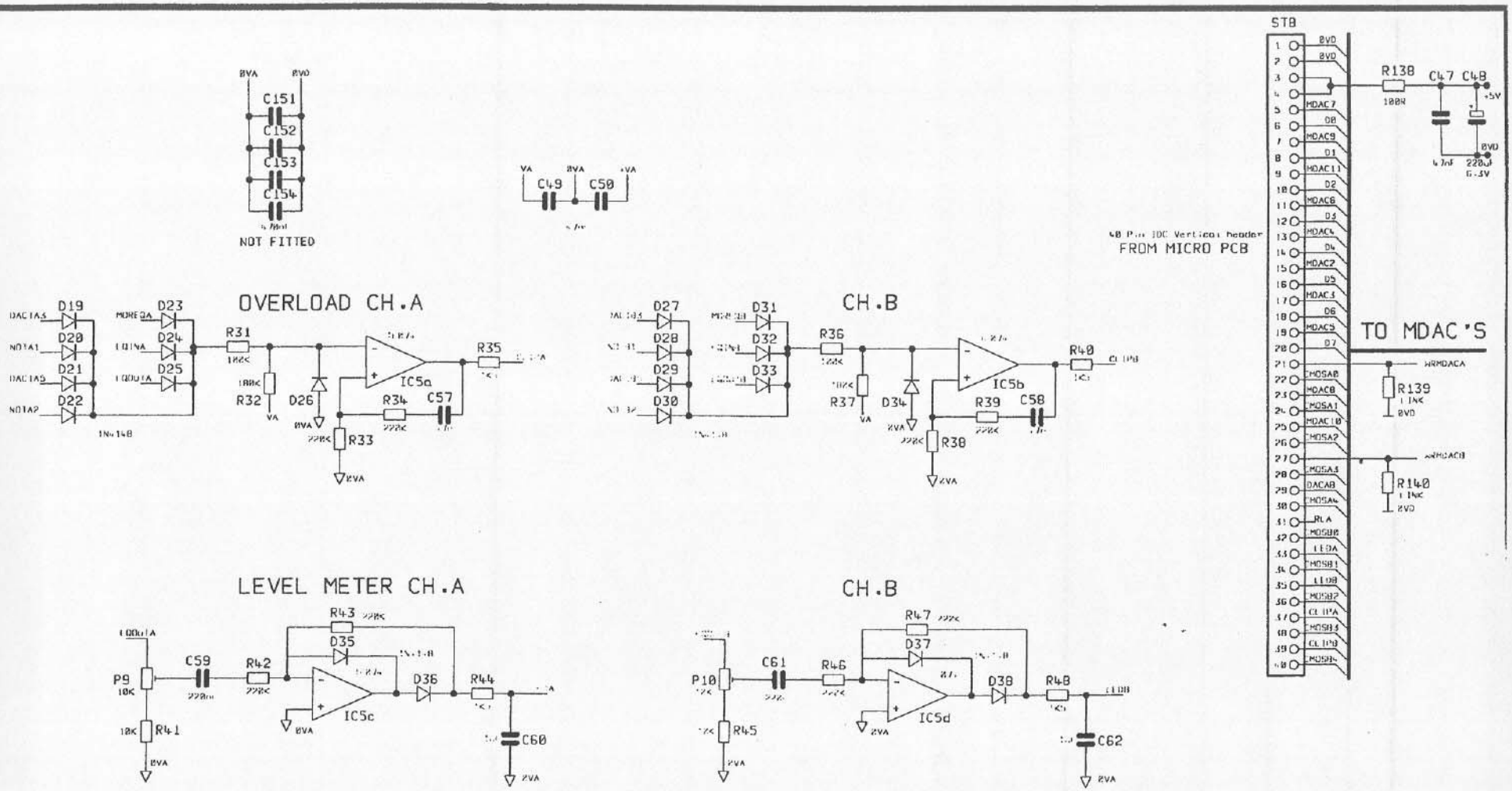
BOARD No. B2758is4		DWG No. 3600_3.DGM	ISSUE: 3	DATE: 3.6.94



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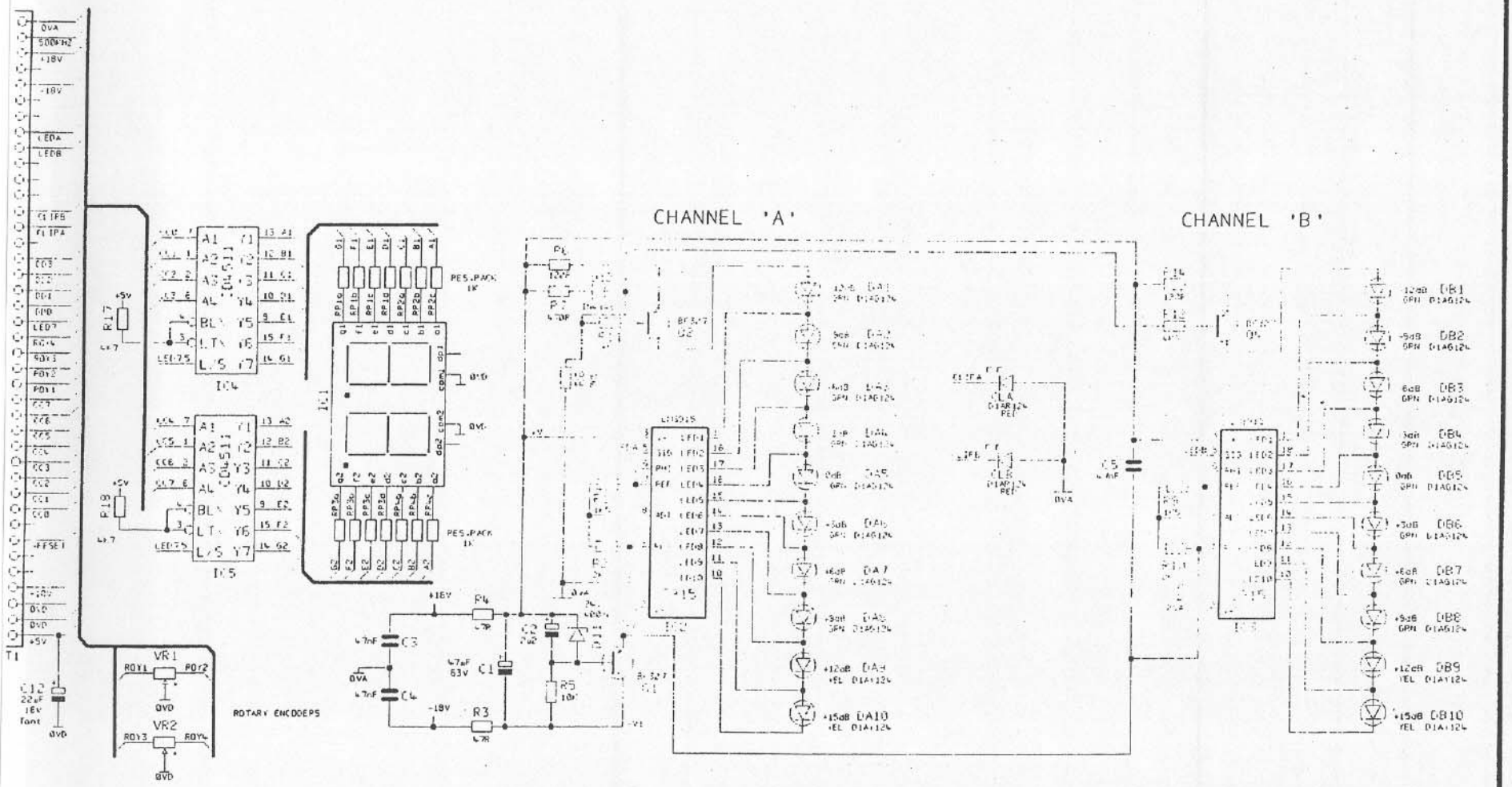

KLARK TEKNIK

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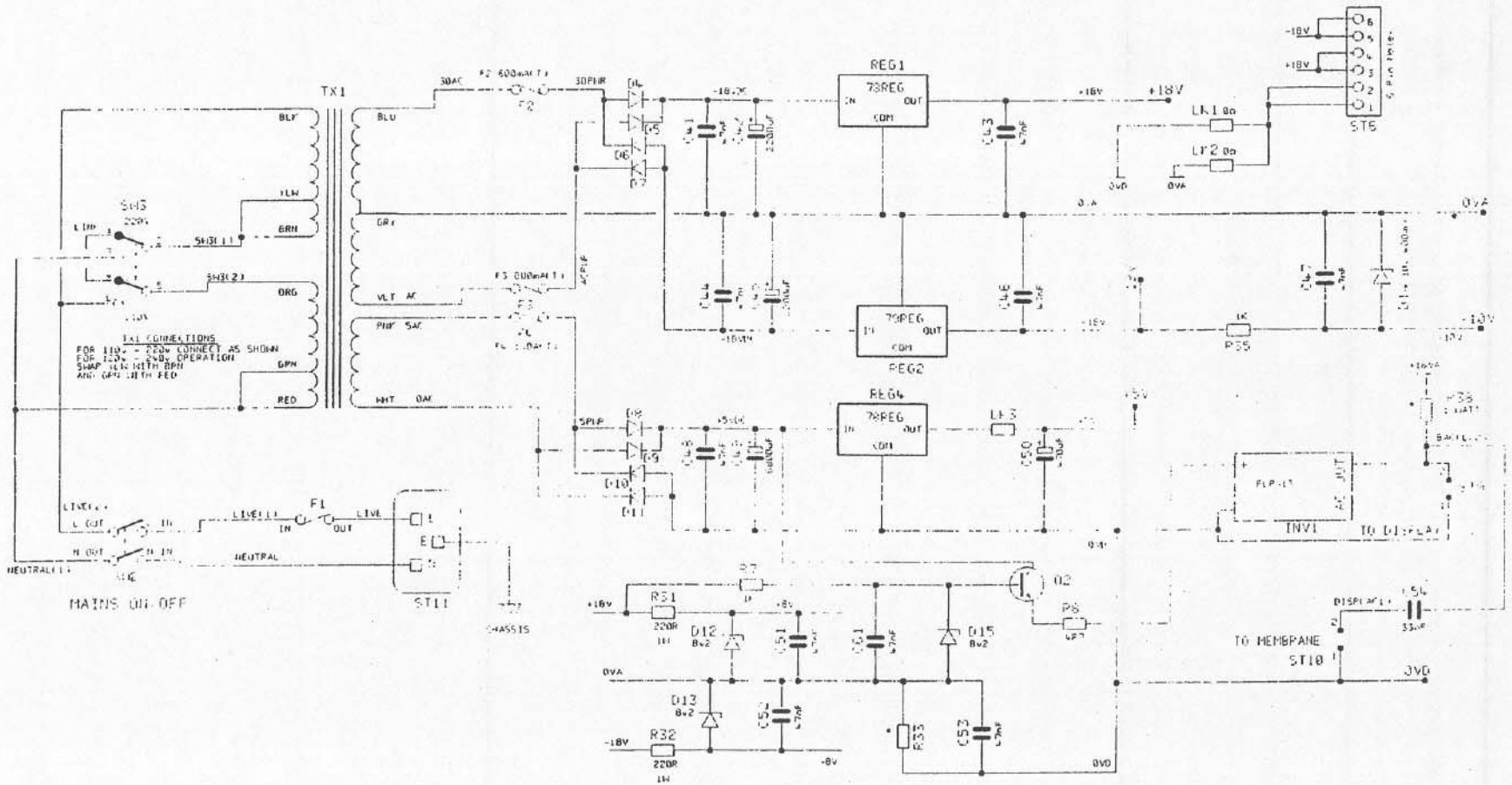

KLARK TEKNIK .			
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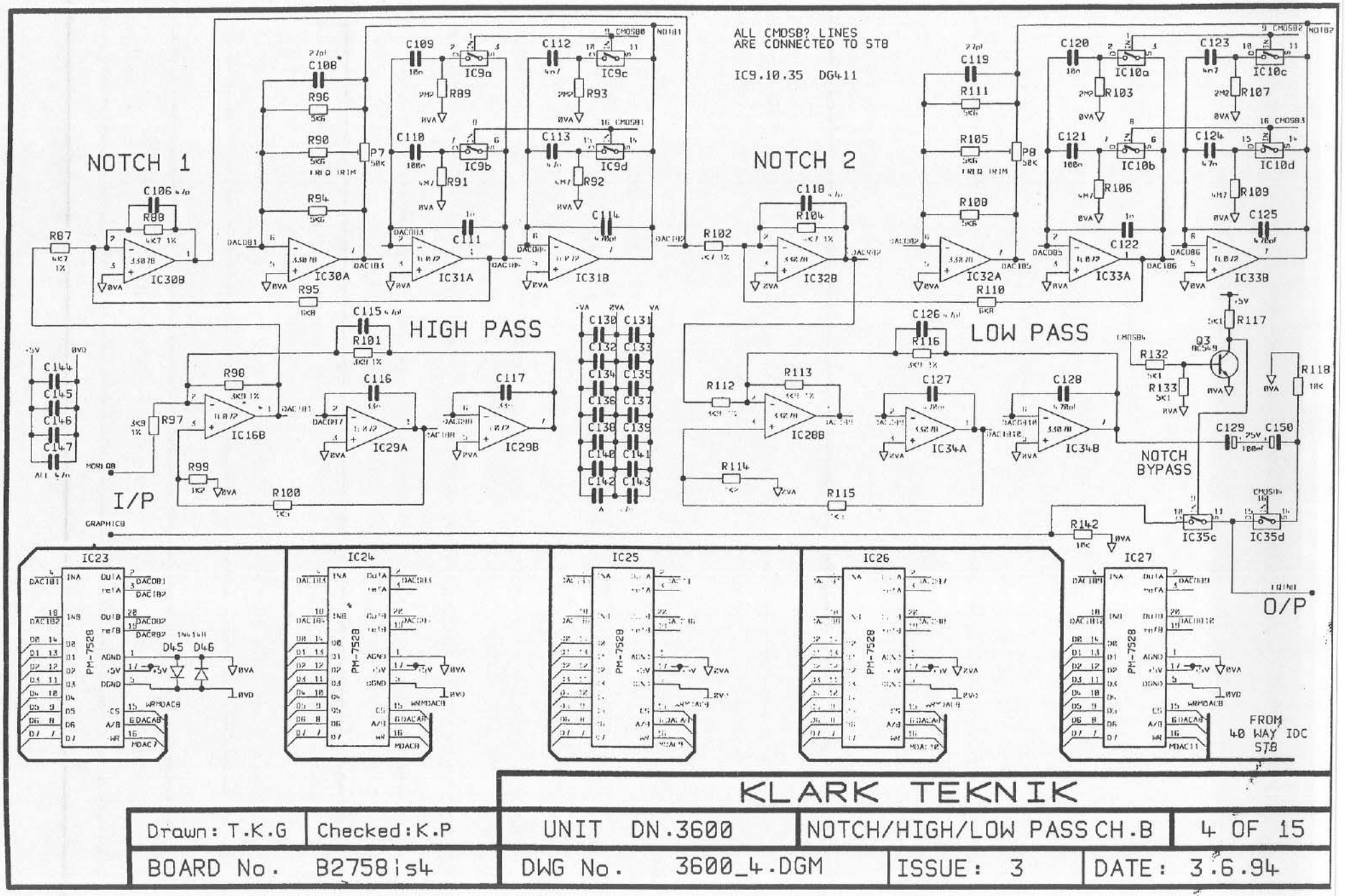

KLARK TEKNIK

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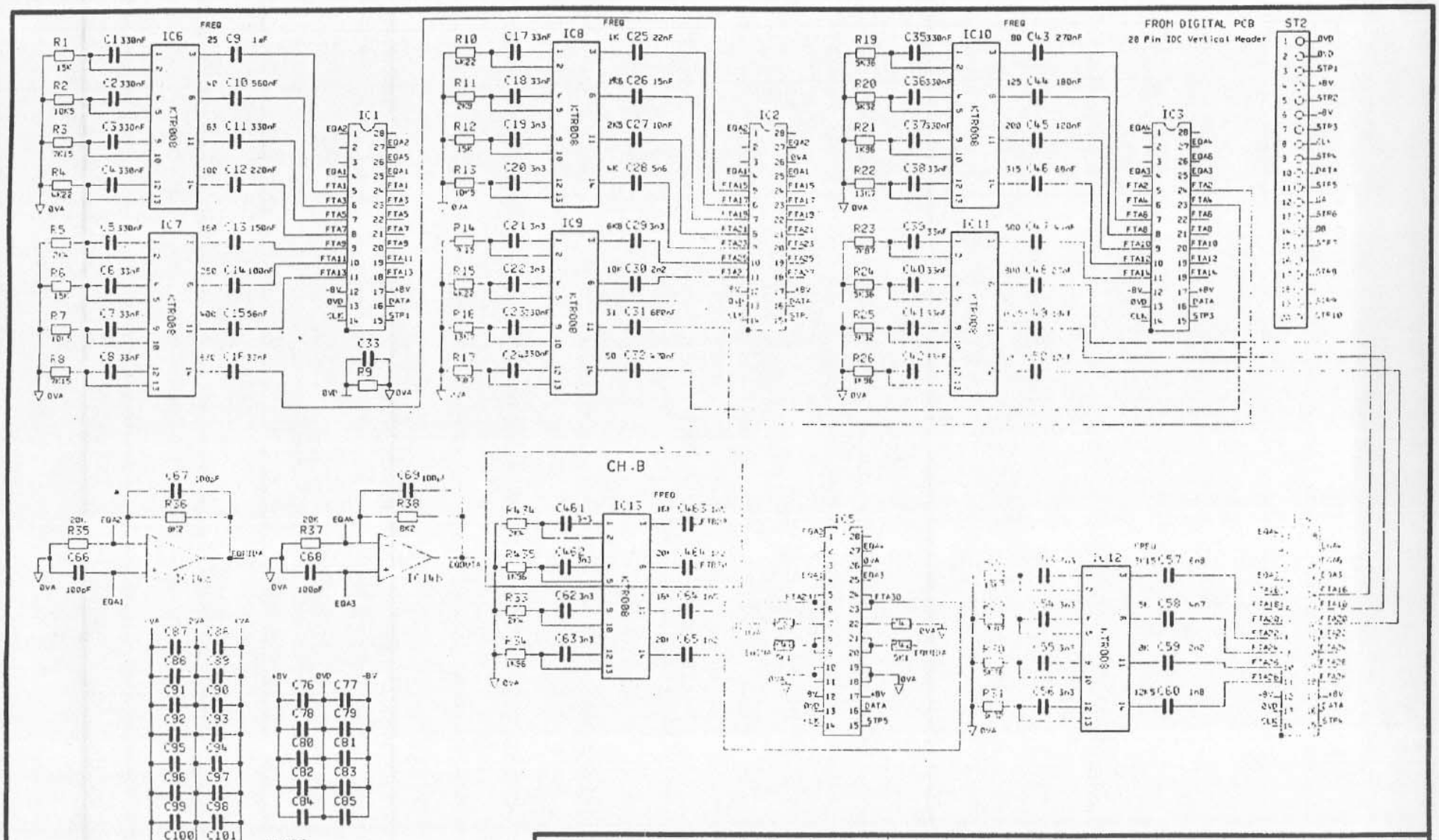
BOARD No. B2758 is4		DWG No. 3600_4.DGM	ISSUE: 3	DATE: 3.6.94



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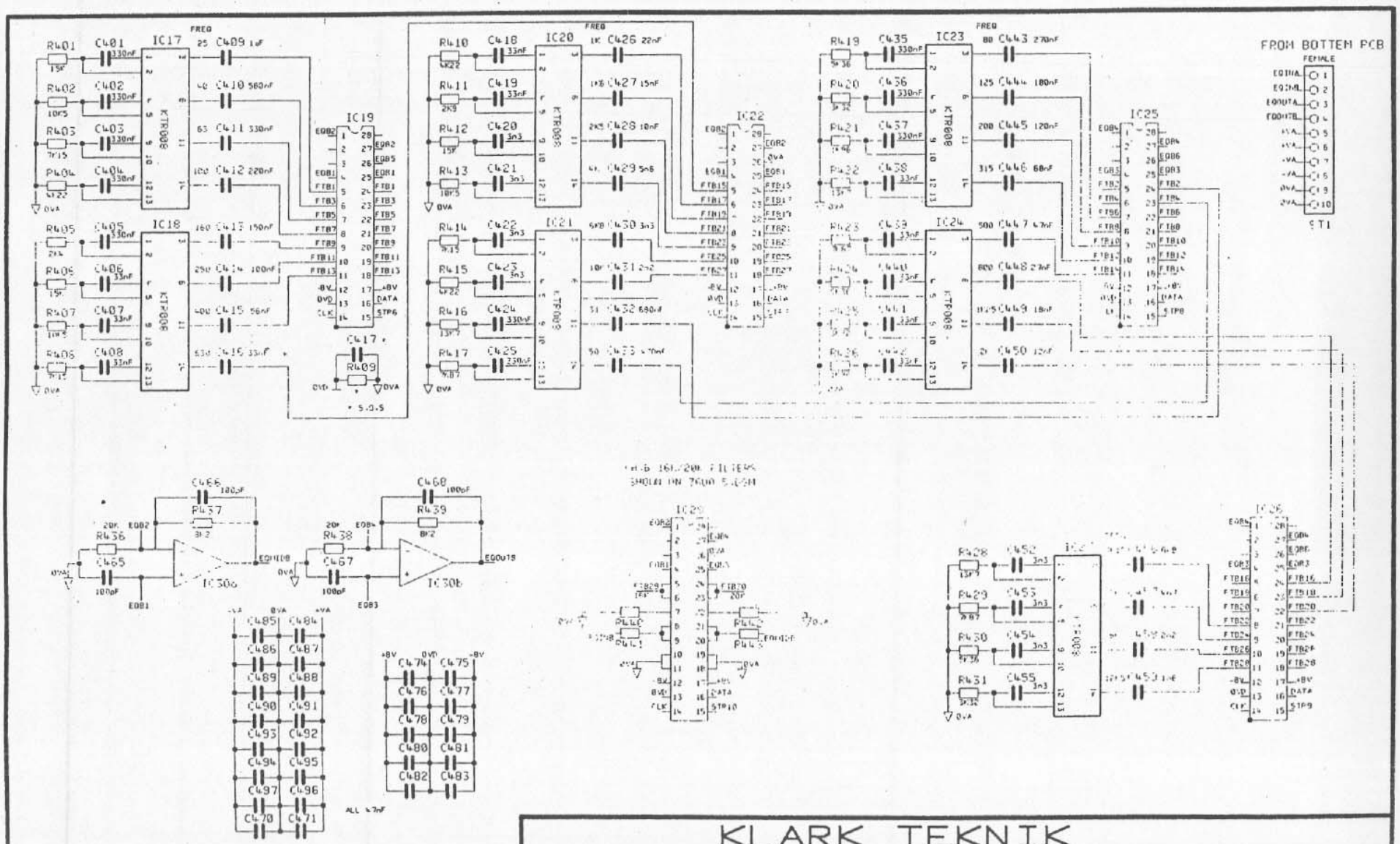

KLARK TEKNIK			
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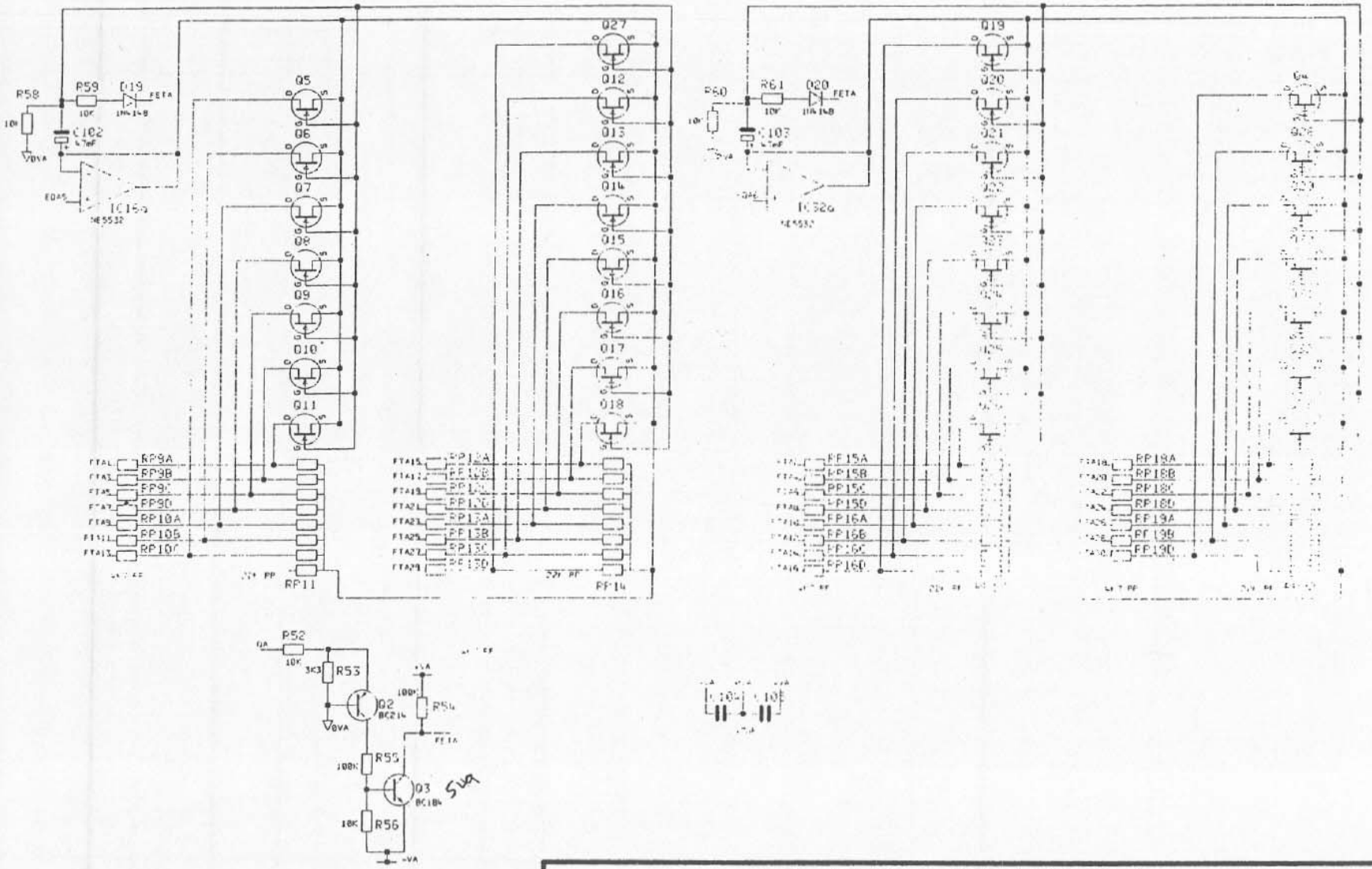

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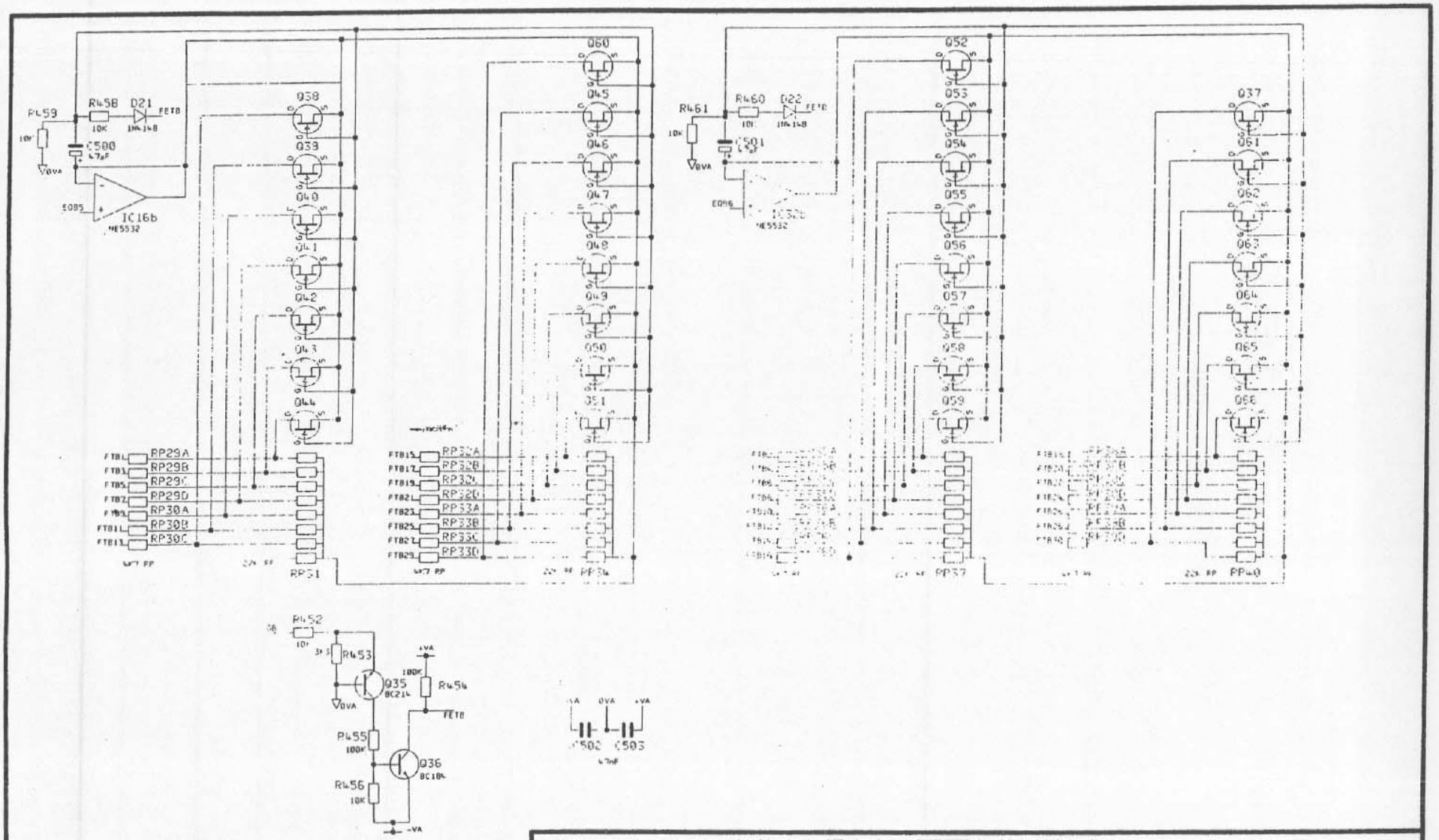

KLARK TEKNIK

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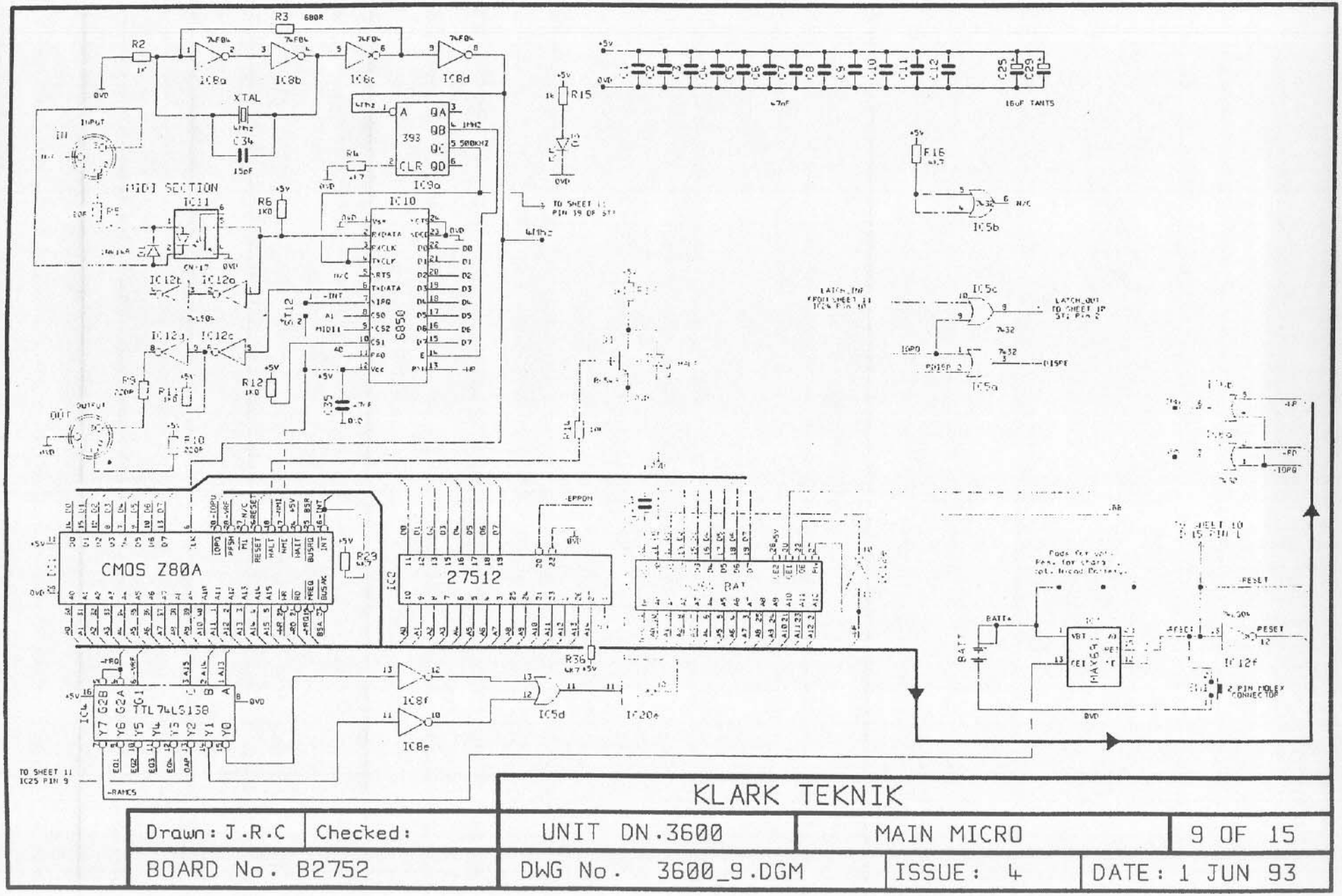
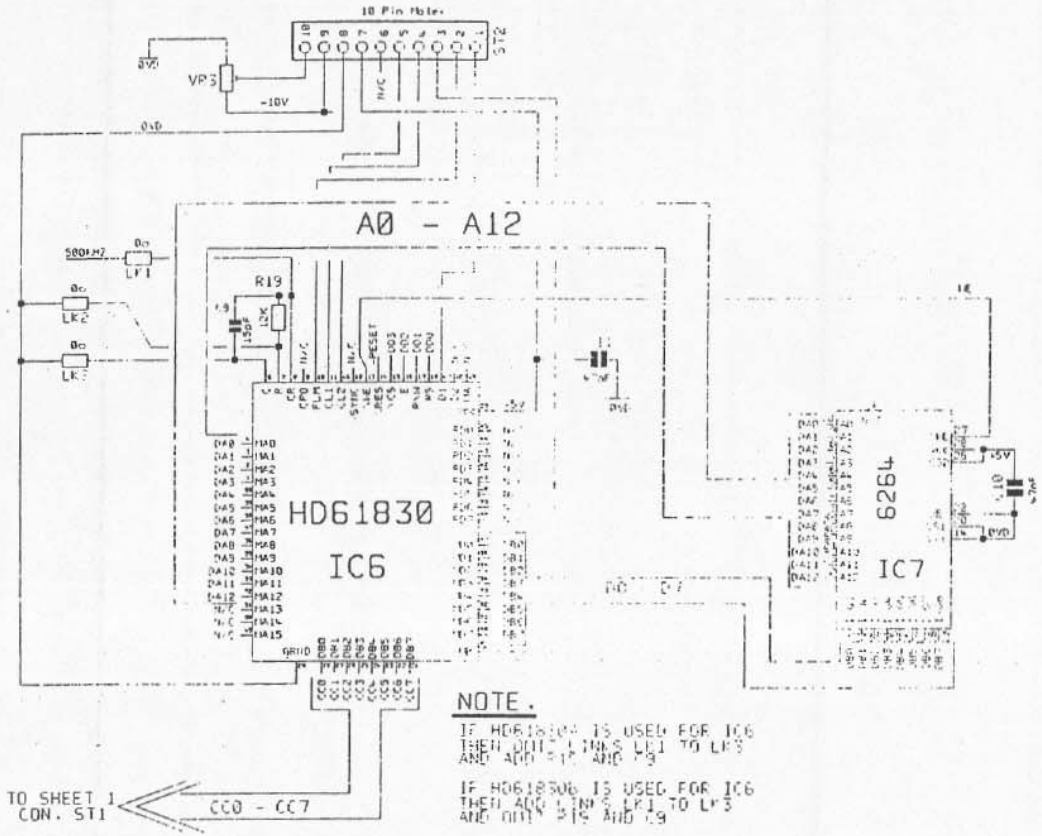

MIDI SECTION
CMOS Z80A
27512
TTL74LS138
6850
KLARK TEKNIK
Drawn: J.R.C
Checked:
UNIT DN.3600
MAIN MICRO
9 OF 15
BOARD No. B2752
DWG No. 3600_9.DGM
ISSUE: 4
DATE: 1 JUN 93



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Drawn: J.R.C	Checked: K.P.	UNIT DN.3600	LCD DISPLAY DRIVER	14 OF 15
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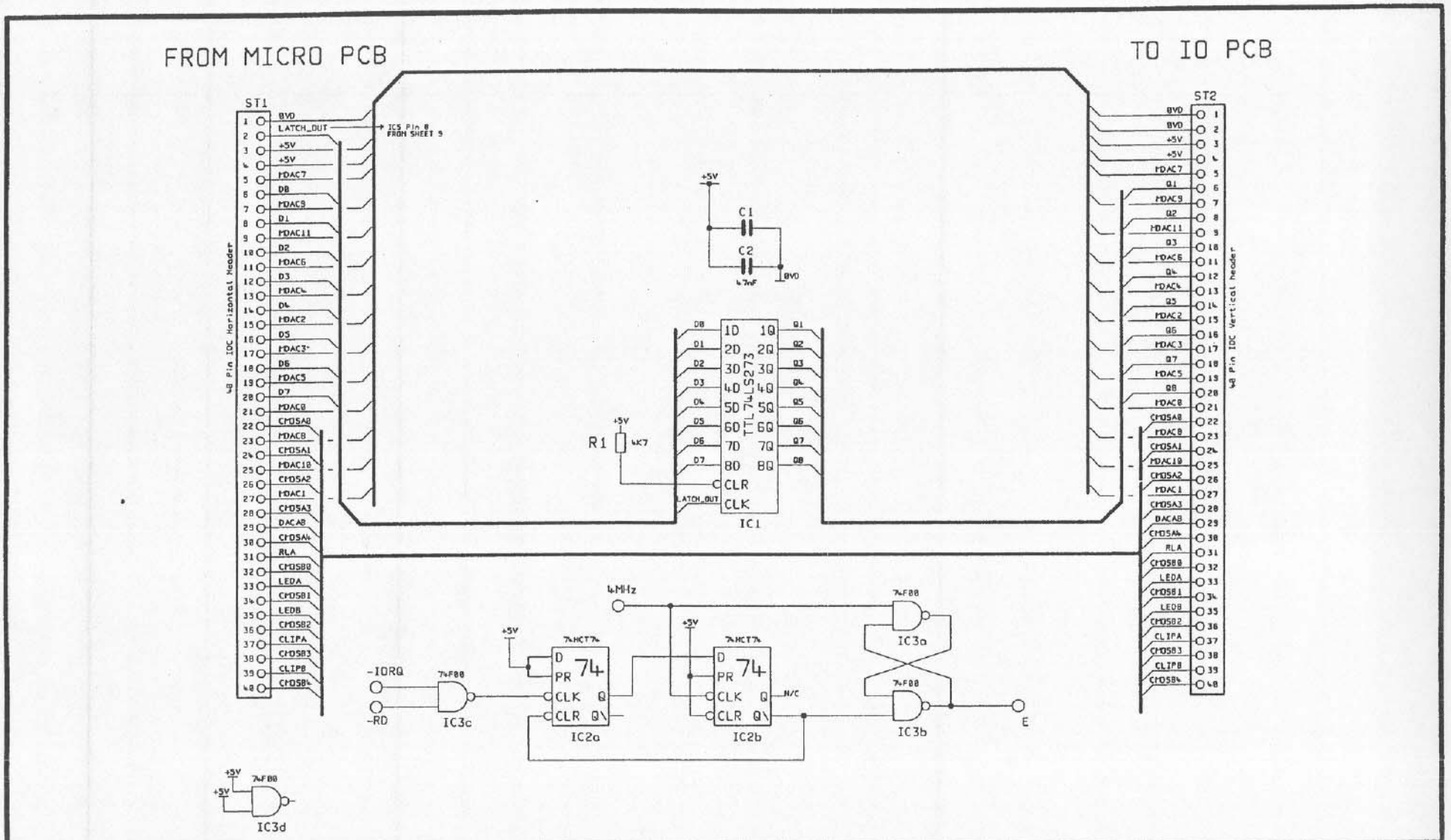

KLARK TEKNIK				
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BOARD No. B2764is4		DWG No. 3600_15.DGM	ISSUE: 2	DATE: 12.11.93