

**MC14013B**

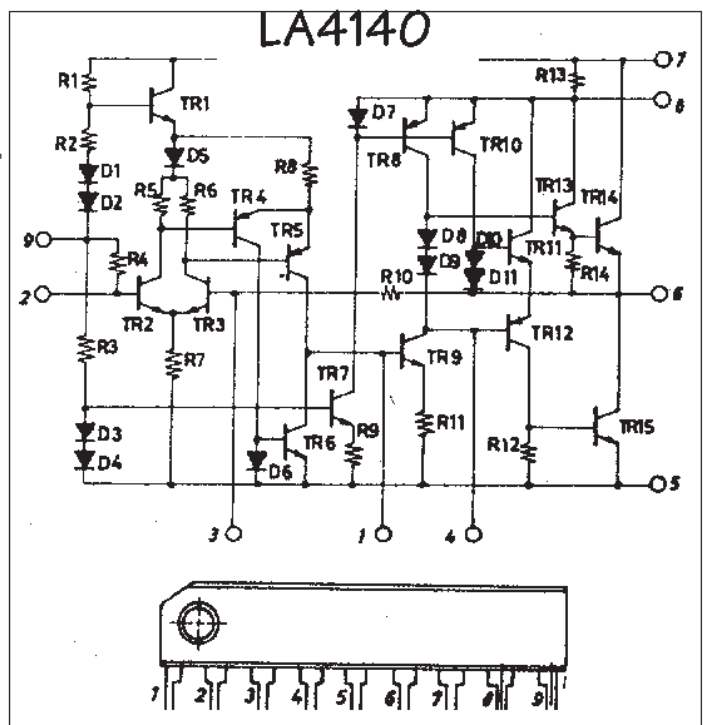
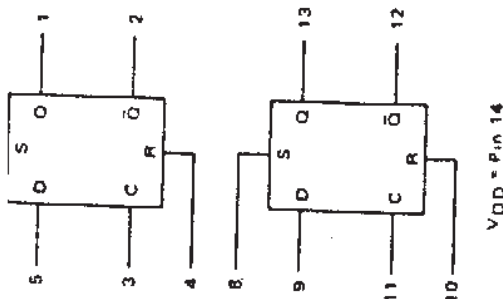
DUAL TYPE D FLIP-FLOP

TRUTH TABLE

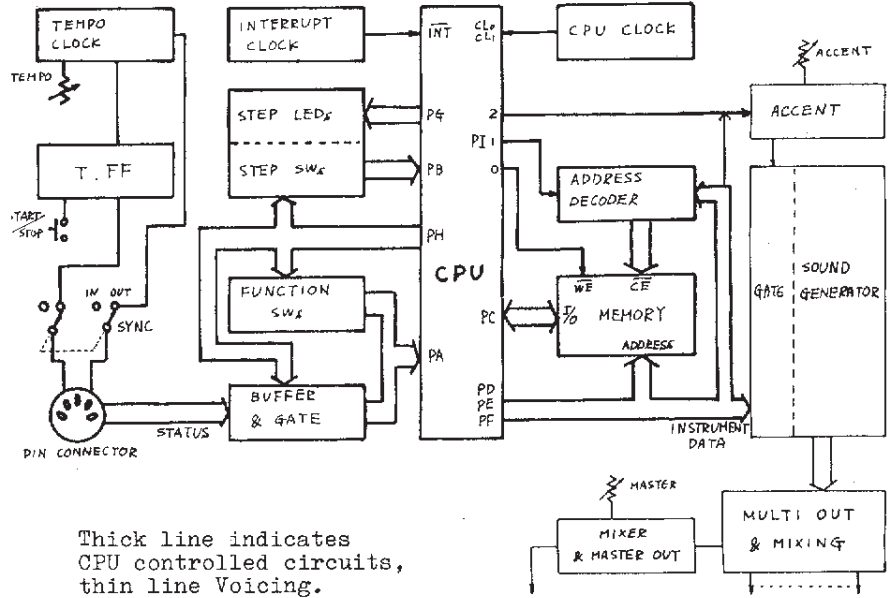
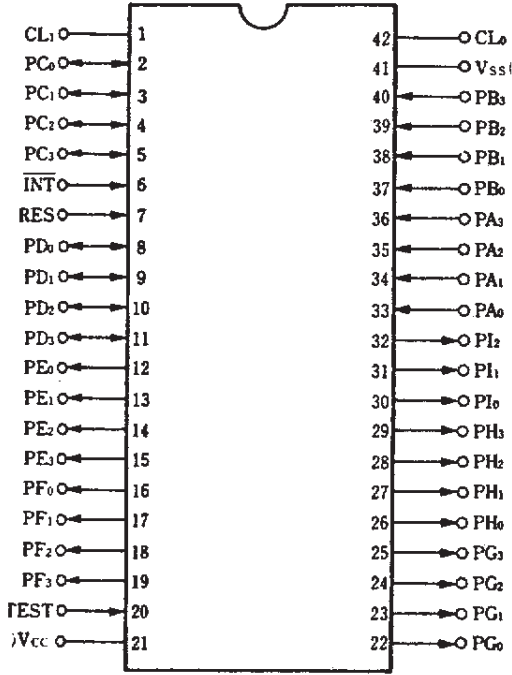
CLOCK <sup>1</sup>	INPUTS			OUTPUTS	
	DATA	RESET	SET	Q	$\bar{Q}$
	0	0	0	0	1
	1	0	0	1	0
	X	0	0	Q	$\bar{Q}$
X	X	1	0	0	1
X	X	0	1	1	0
X	X	1	1	1	1

No Change

X = Don't Care  
1 = Level Change



# μPD650C (Top View)

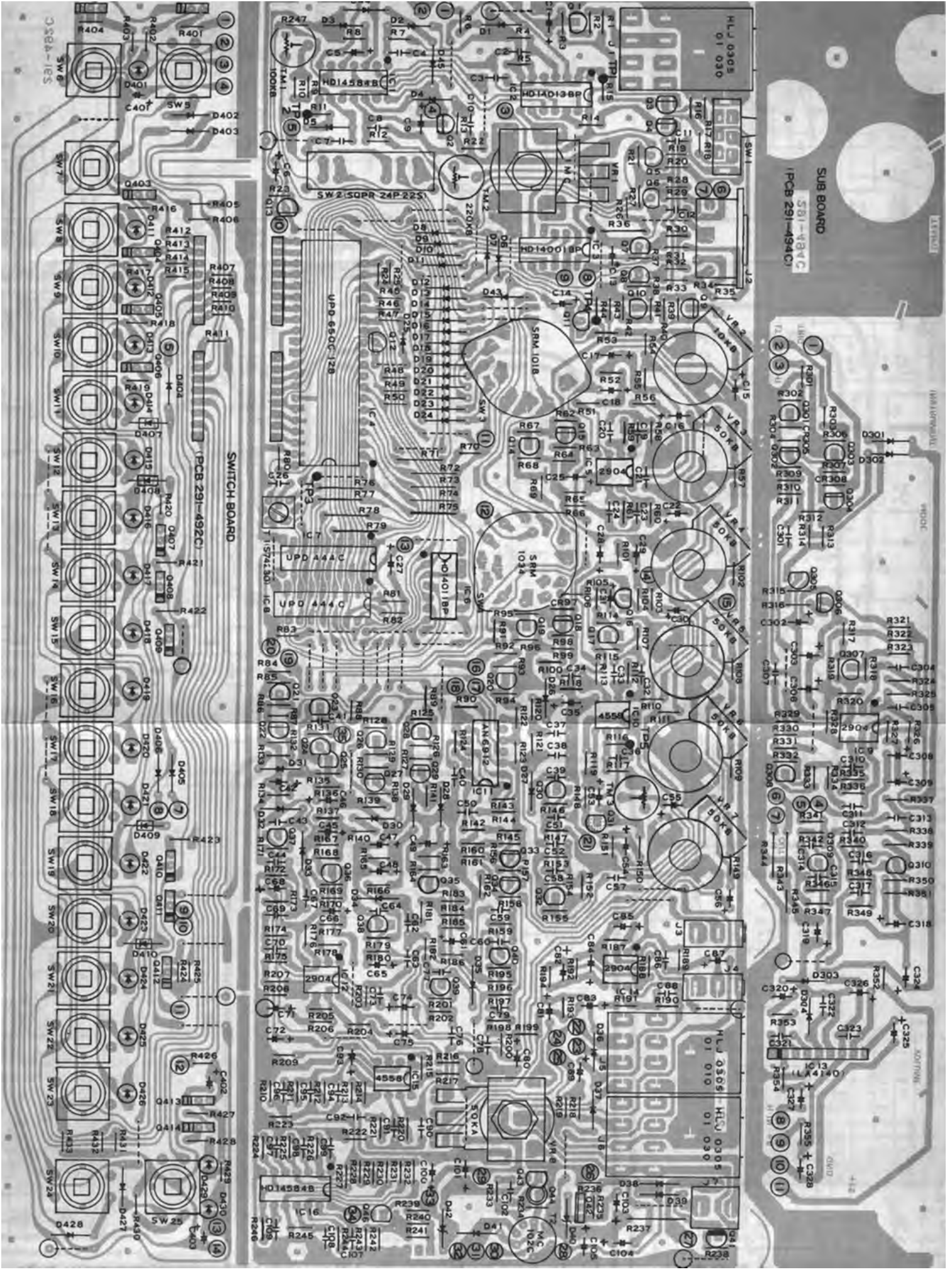


Thick line indicates  
CPU controlled circuits,  
thin line Voicing.

BLOCK DIAGRAM

## μPD650C-085 FUNCTIONAL DESCRIPTION

No.	Description
PH (Port H) 0 26 1 27 2 28 3 29	Scanning signal outputs to switches Switching signal outputs to STATUS BUFFER & GATE
PA (Port A) 0 33 1 34 2 35 3 36	Switch scanning signal inputs STATUS (TEMPO CLOCK, START/STOP, TAP) inputs
PB (Port B) 0 37 1 38 2 39 3 40	Inputs from STEP Switches (RHYTHM SELECT Switches)
PG (Port G) 0 22 1 23 2 24 3 25	Drive signals to STEP LEDs
PE (Port E) 0 12 1 13 2 14 3 15	I/II Memory bank select CH OH CY HT
PD (Port D) 0 8 1 9 2 10 3 11	MEMORY ADDRESSES These pins use CE from ADDRESS Decoder to select cells in RAM to be accessed INSTRUMENT DATA These data need COMMON TRIG to trigger Sound Generators being designated
PF (Port F) 0 16 1 17 2 18 3 19	LT SD BD AC
PC (Port C) 0 2 1 3 2 4 3 5	Data Inputs/Outputs
PI (Port I) 0 30 1 31 2 32	Memory WE Memory CE (associated with PE-2, 3 at ADDRESS DECODER) Trigger Pulse (INSTRUMENT) output



308A-1ES

SWITCH BOARD  
(PCB 291-492C)

SUB BOARD  
581-484C  
(PCB 291-494C)

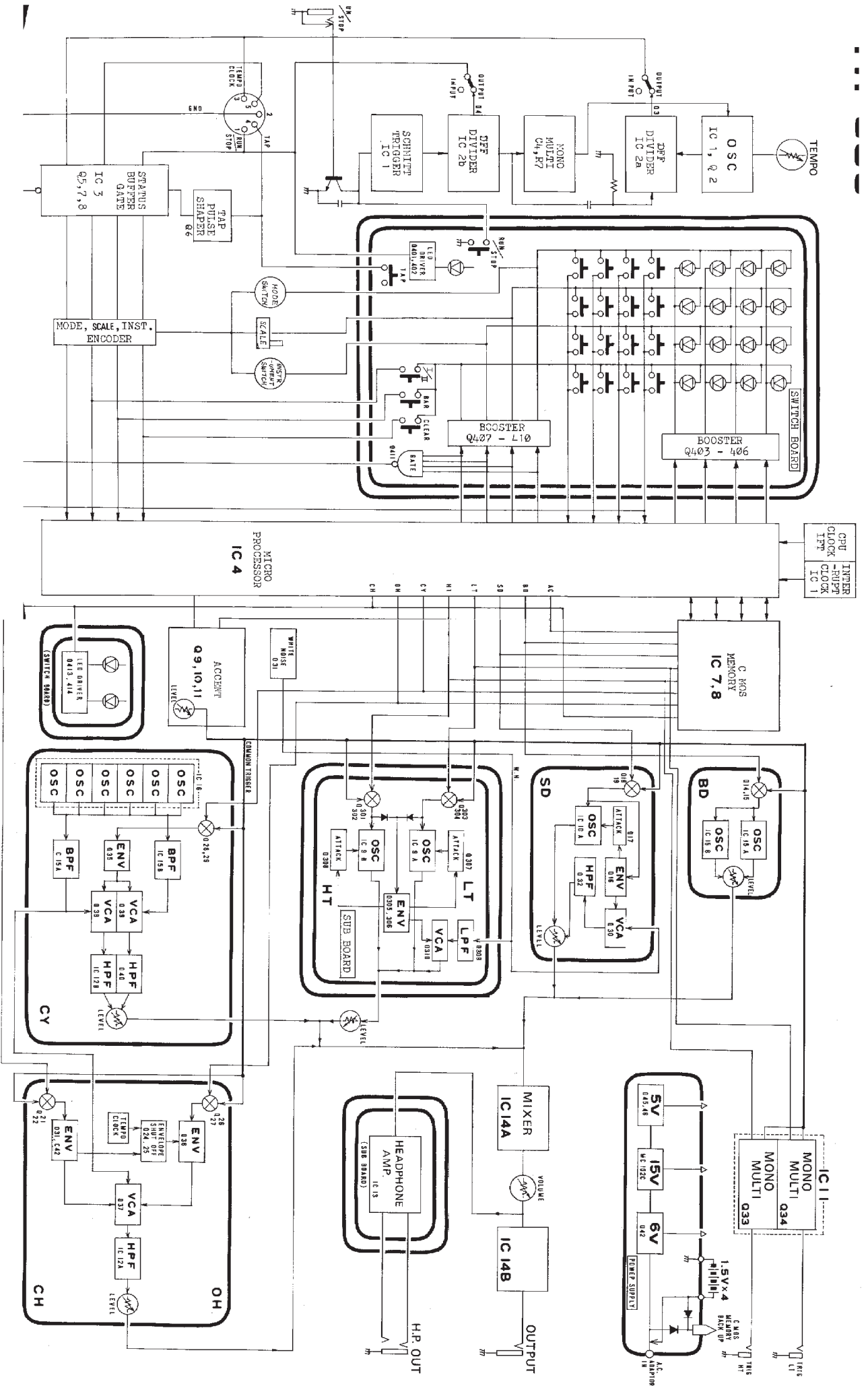
VERTICAL

INTERNAL

PROOF

30798

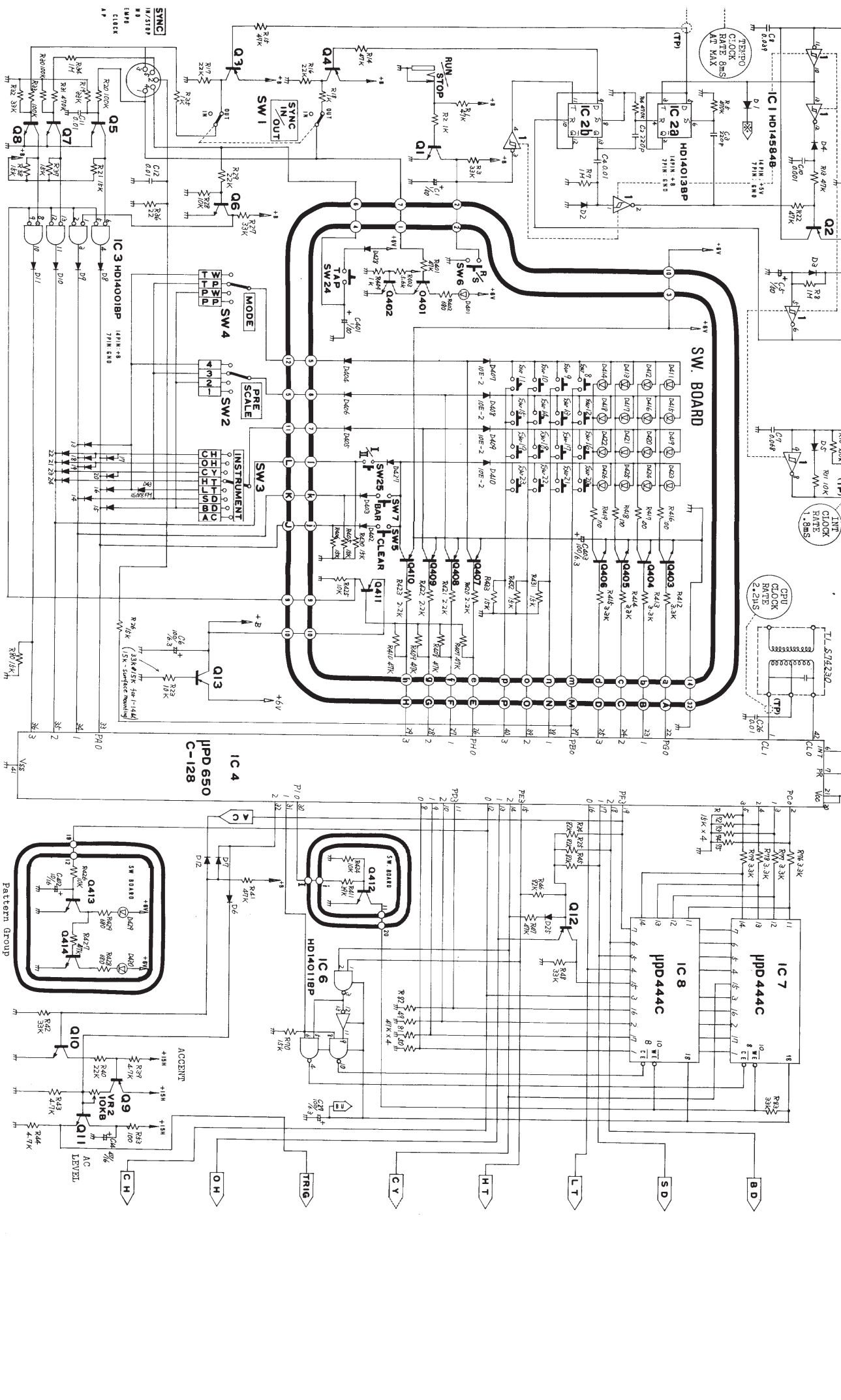
112



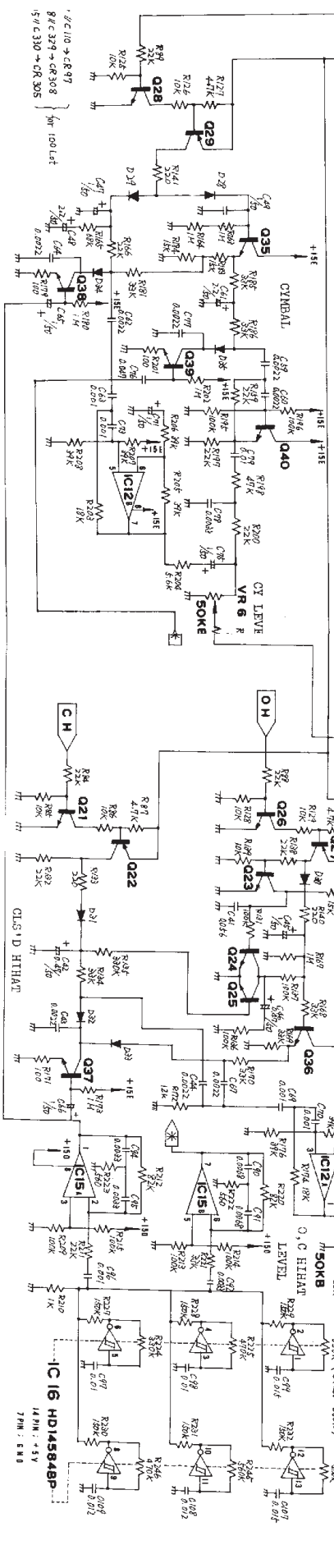
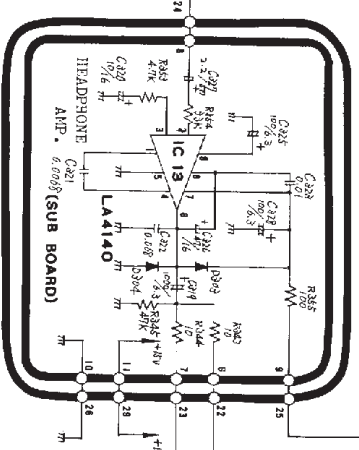
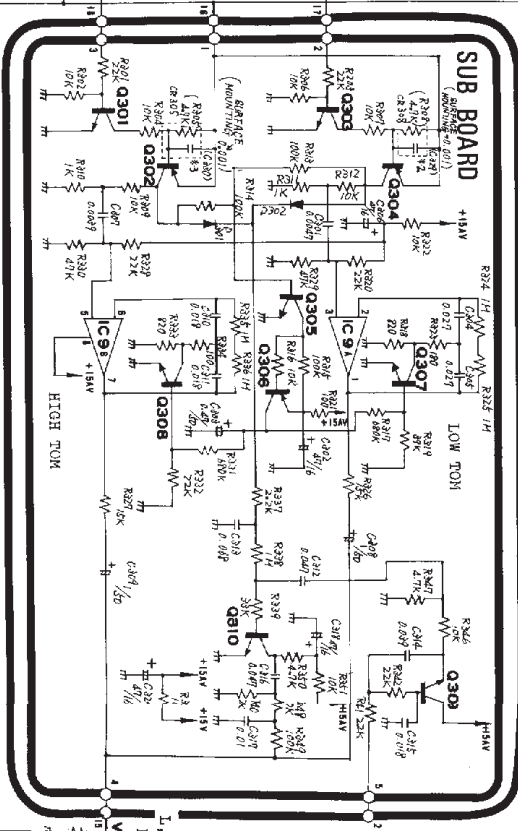
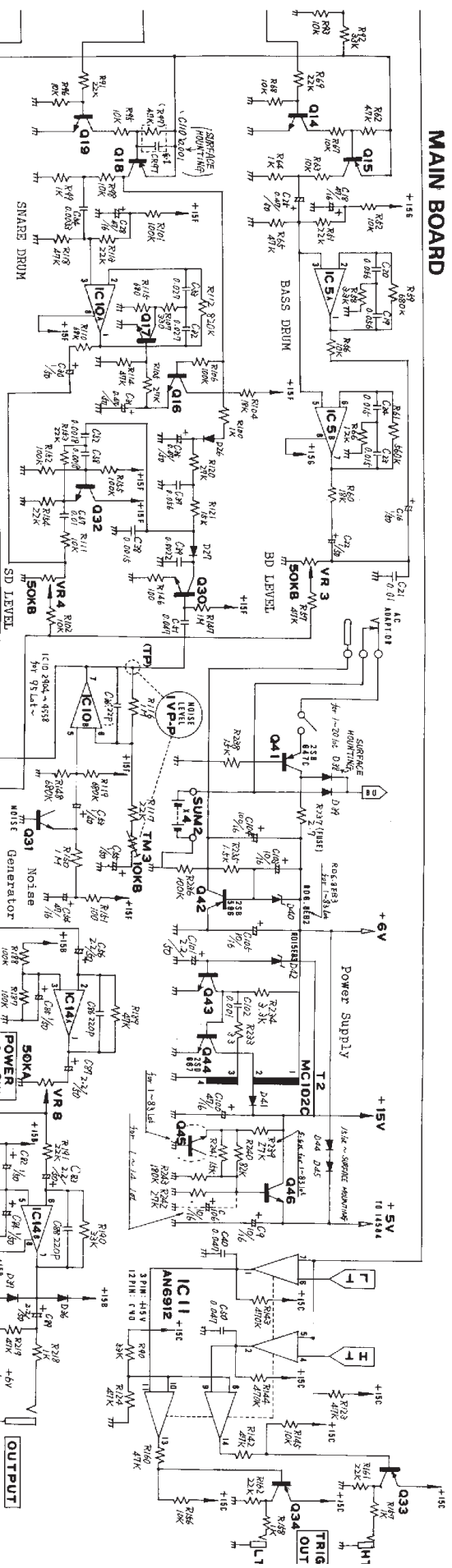
(TM2: 22.68) for 1-46 (4)  
(R12: 100 K) AT MAX

R317 SYNC HOLDING 20M-123.61  
(R9: 50K) for 1-64  
(R10: 100K) INT. CLOCK RATE 1.98S  
(R11: 100K) CPU CLOCK RATE 2.21S

# MAIN BOARD



**MAIN BOARD**



- ALL NEW TRANSISTORS ON THE MAIN AND THE SUB BOARD ARE 2SC9.
- ALL PNP TRANSISTORS ON THE MAIN AND THE SUB BOARD ARE 2SA17.
- ALL NEW TRANSISTORS ON THE SW. B ARE 2SC202
- ALL PNP TRANSISTORS ON THE SW. B ARE 2SA337.
- ALL DIODES ARE 1S2475
- ALL OP AMP'S ARE JRC2904
- IC15 4PC4558

\* IC10 → CR97  
 \* IC29 → CR308  
 \* IC30 → CR305

14 PIN: +5V  
 7 PIN: 5B