

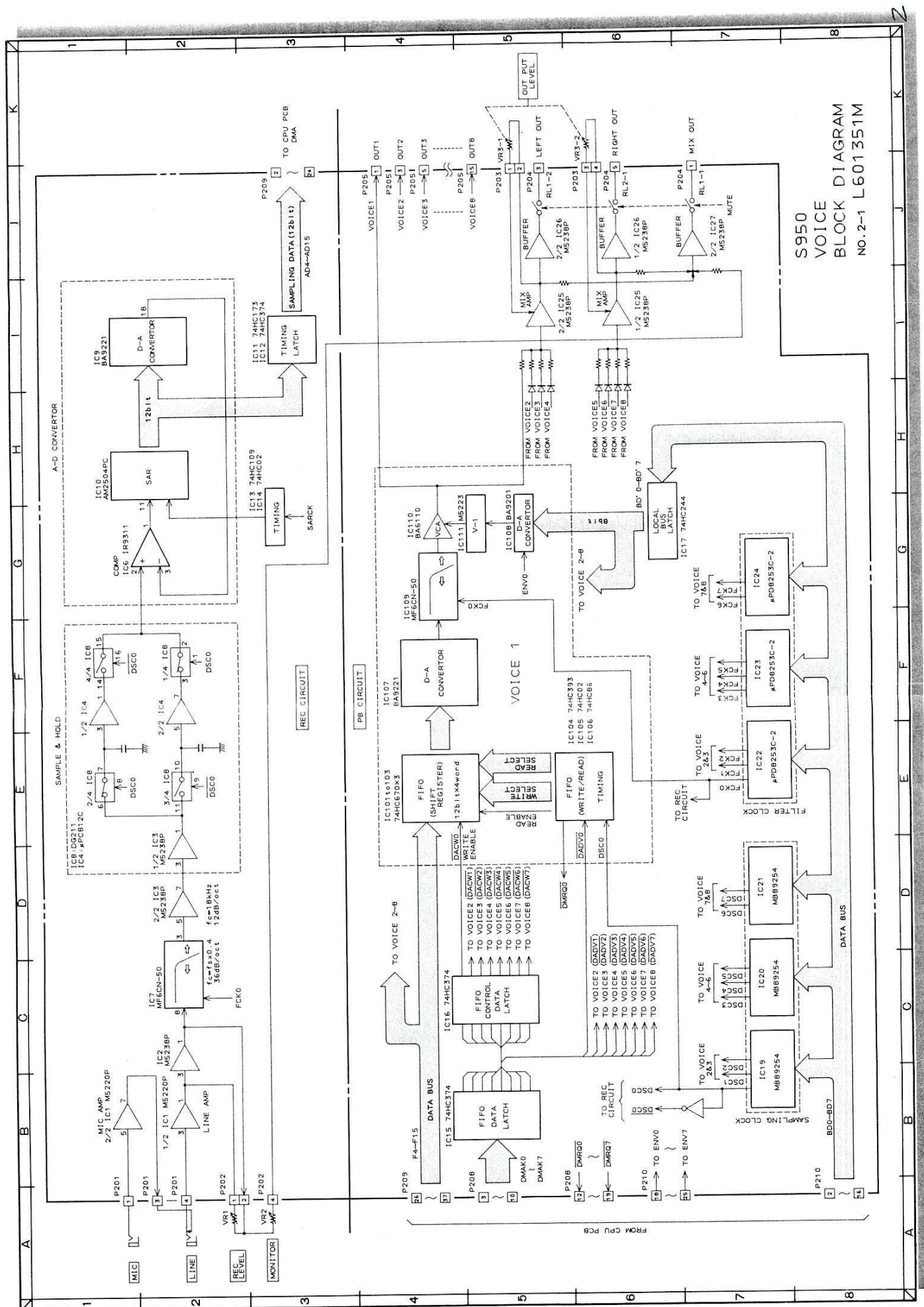
AKAI

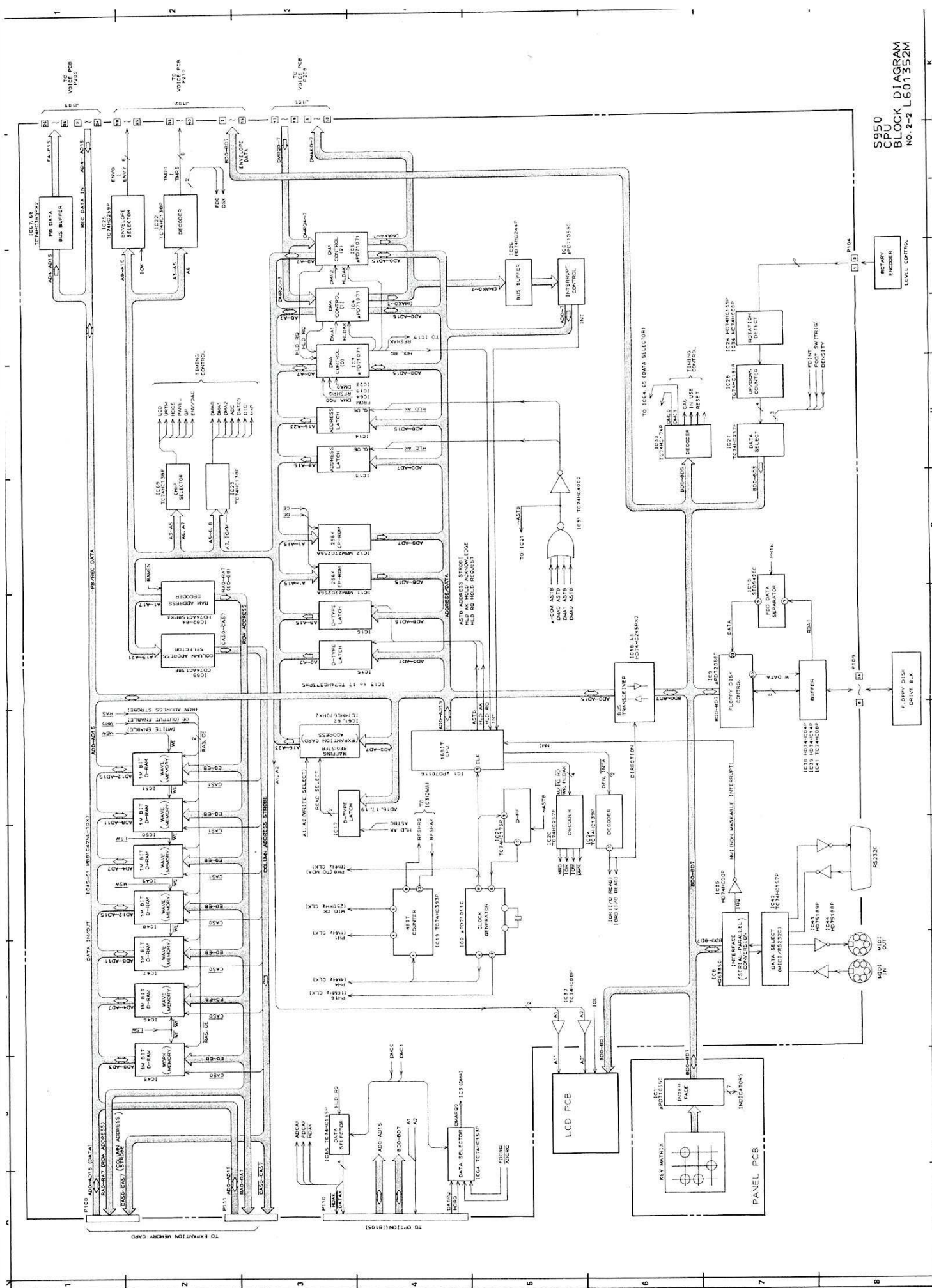
MODEL S950

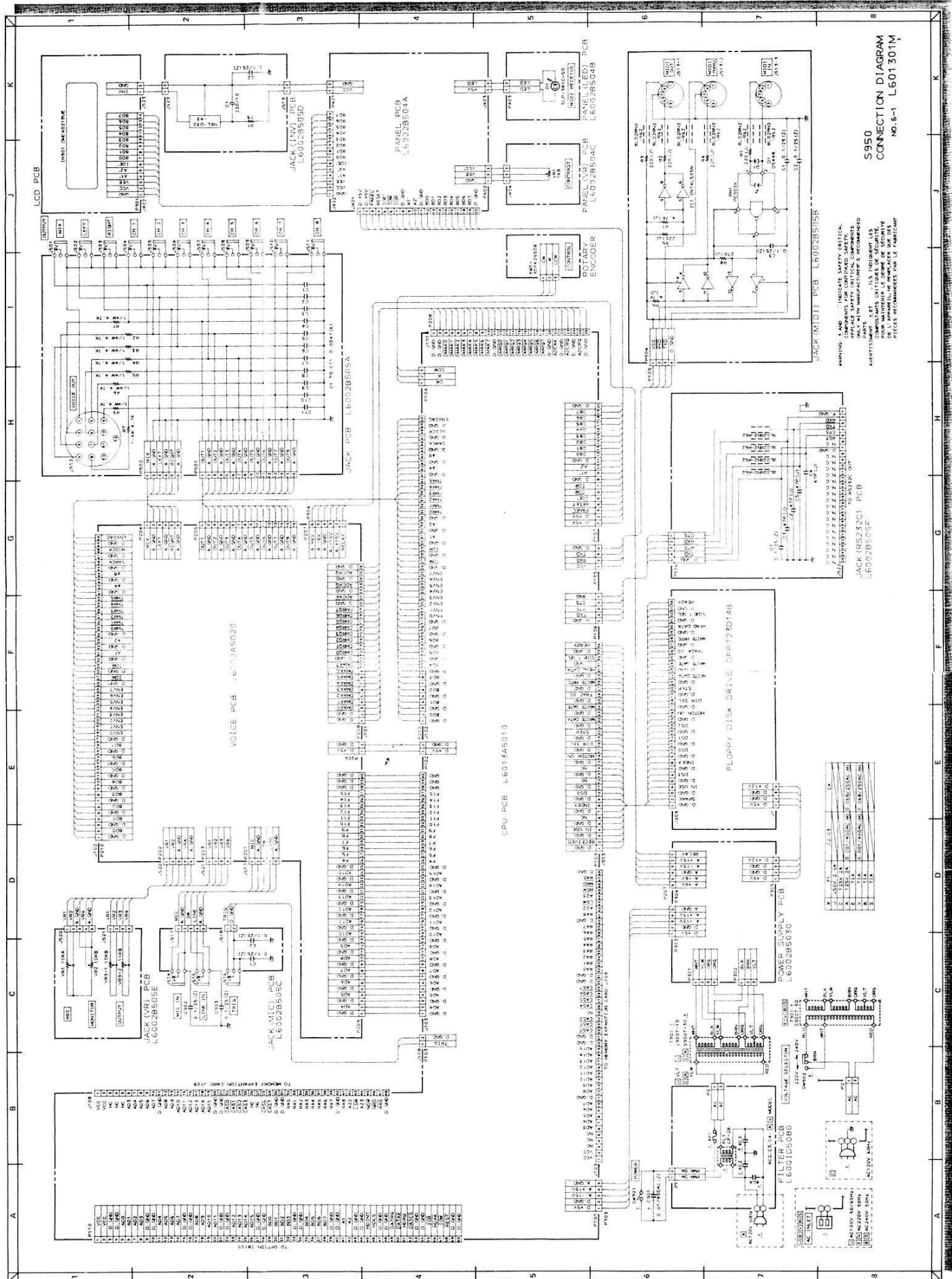
SCHEMATIC DIAGRAMS AND PC BOARDS

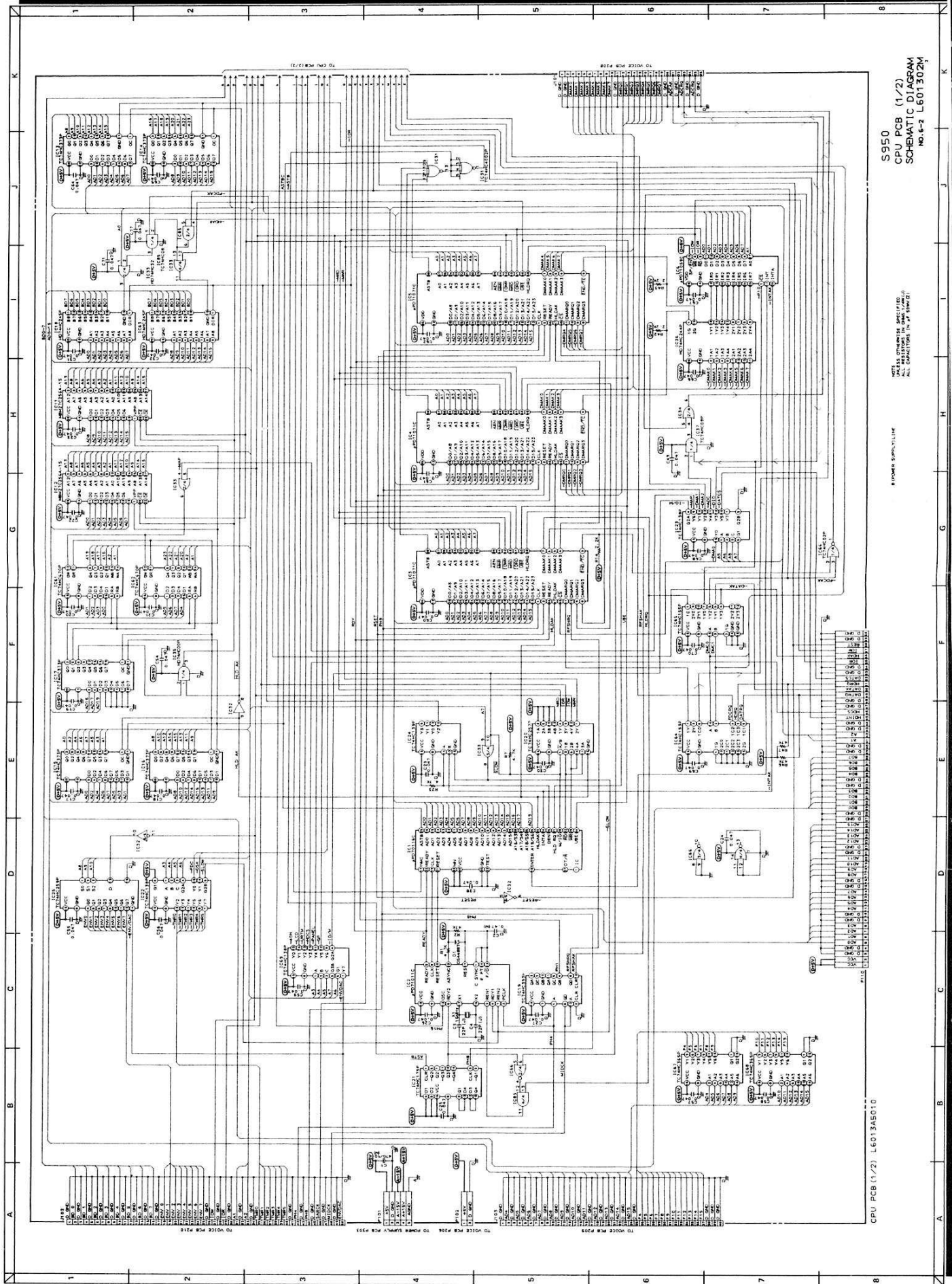
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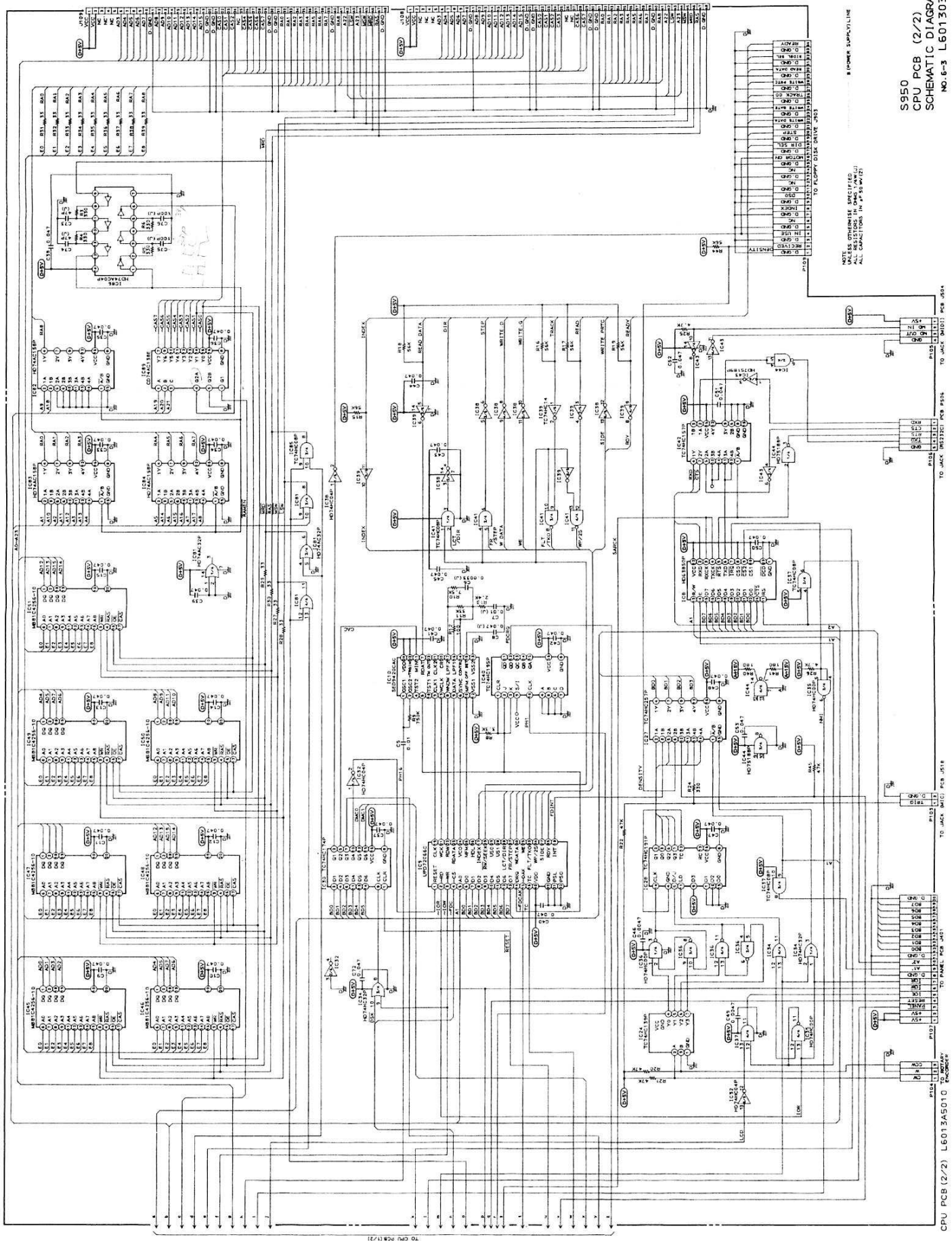


CPU PCB (1/2) L6013A5010

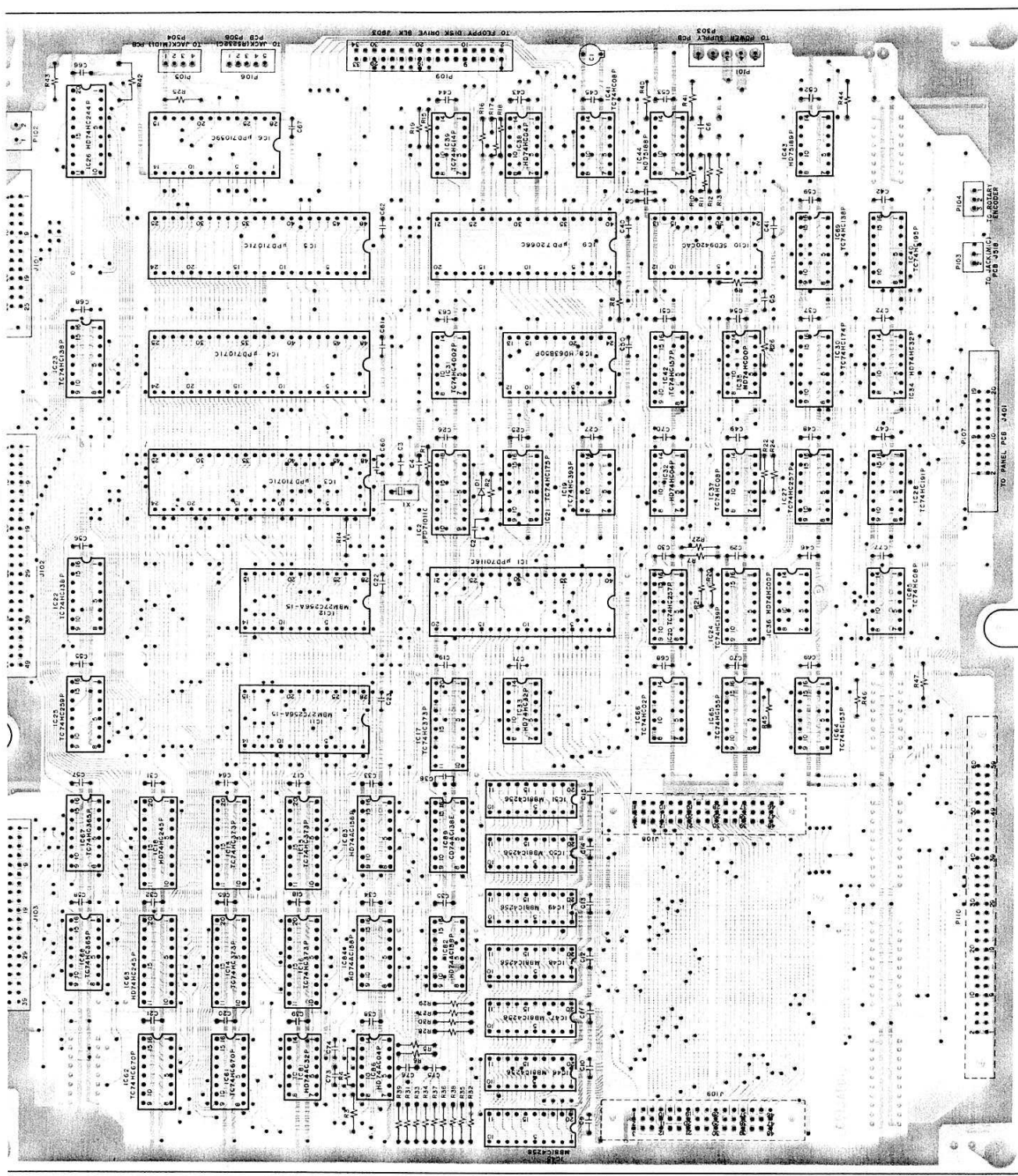
© POWER SUPPLY LINE

NOTES: ATTACHMENT L6013A5010
ALL PARTS ARE IN THE SAME
ASSEMBLY (1/2) L6013A5010

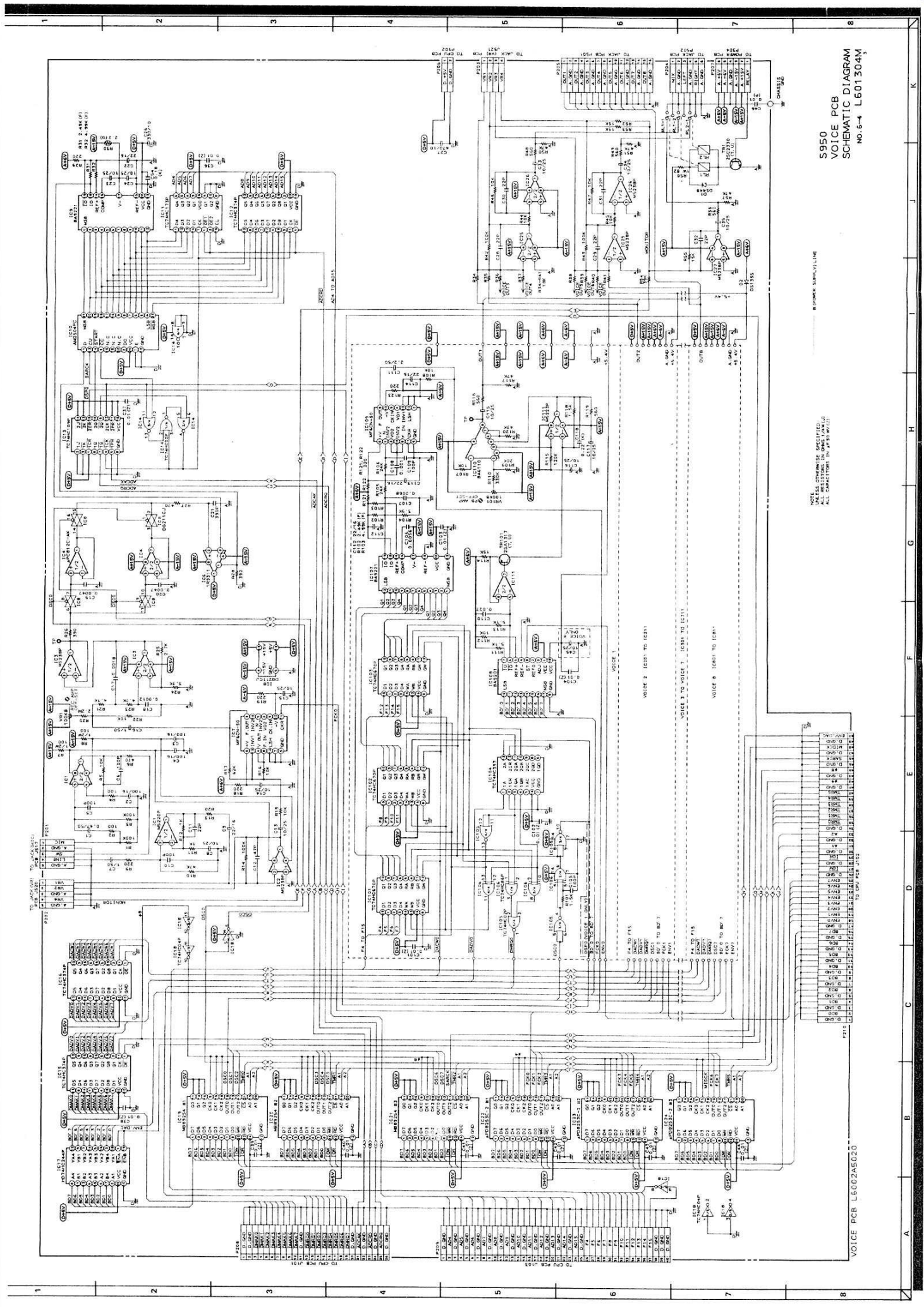
S950
CPU PCB (1/2)
SCHEMATIC DIAGRAM
NO. 1-2 L601302M



IC1.....C3
 IC2.....B,C3
 IC3.....B,C2
 IC4.....B2
 IC5.....A,B2
 IC6.....A1,2
 IC7.....A,B3
 IC8.....A,B3,5
 IC9.....A1,2
 IC10.....A,B4
 IC11.....D2
 IC12.....C2
 IC13.....D2
 IC14.....D,E2
 IC15.....D,E2
 IC16.....D,E2
 IC17.....C,D3
 IC18.....D1
 IC19.....B,C3
 IC20.....C4
 IC21.....B,C3
 IC22.....C1
 IC23.....C4
 IC24.....C4
 IC25.....C,D1
 IC26.....A1
 IC27.....B,C5
 IC28.....B,C5
 IC29.....B4,5
 IC30.....B4,5
 IC31.....B4,5
 IC32.....C4
 IC33.....C,D3
 IC34.....B5
 IC35.....B4
 IC36.....C4
 IC37.....B,C4
 IC38.....A3
 IC39.....A3
 IC40.....A,B5
 IC41.....A1,2
 IC42.....A,B5
 IC43.....A4,5
 IC44.....A4
 IC45.....E3
 IC46.....E3
 IC47.....E3
 IC48.....E3
 IC49.....D,E5
 IC50.....D,E5
 IC51.....D3
 IC52.....D3
 IC53.....E1
 IC54.....D,E1
 IC55.....D4,5
 IC56.....C,D4
 IC57.....D1
 IC58.....A4,5
 IC59.....A4,5
 IC60.....E3
 IC61.....E3
 IC62.....E3
 IC63.....D,E1
 IC64.....D4,5
 IC65.....C,D4
 IC66.....D1
 IC67.....D1
 IC68.....A4,5
 IC69.....A4,5
 IC70.....E3
 IC71.....E3
 IC72.....B4,5
 IC73.....B4,5
 IC74.....C4
 IC75.....C4
 IC76.....C,D3
 IC77.....B5
 IC78.....D3
 IC79.....B4
 IC80.....B4
 IC81.....B4
 IC82.....B4
 IC83.....B4
 IC84.....B4
 IC85.....B4
 IC86.....B4
 IC87.....B4
 IC88.....B4
 IC89.....B4
 IC90.....B4
 IC91.....B4
 IC92.....B4
 IC93.....B4
 IC94.....B4
 IC95.....B4
 IC96.....B4
 IC97.....B4
 IC98.....B4
 IC99.....B4
 IC100.....B4
 IC101.....A,B1
 IC102.....A1
 IC103.....D,E1
 IC104.....A,B5
 IC105.....A1,2
 IC106.....A2
 IC107.....B,C5
 IC108.....E2
 IC109.....A3
 IC110.....D,E5
 IC111.....A,B1
 IC112.....A,B1



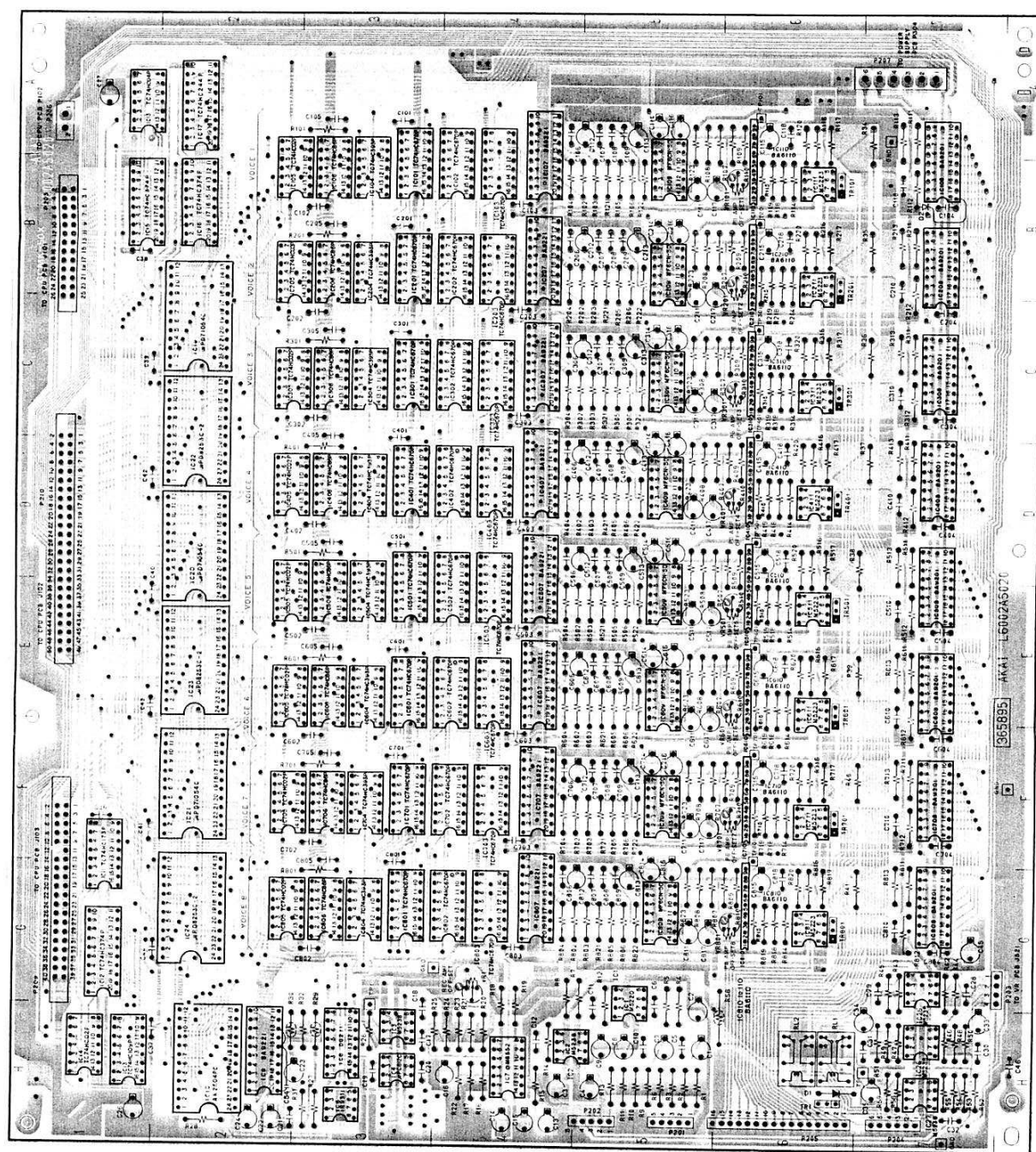
CPU PCB L6013A5010



NOTE: VALUES SHOWN ARE ASSUMED
ALL CAPACITORS IN P.P.F.M. (P.P.F.M.)

S950
VOICE PCB
SCHEMATIC DIAGRAM
NO. 6-4 L601304M

VOICE PCB L602A5020



VOICE PCB L6002A5020 (-A)

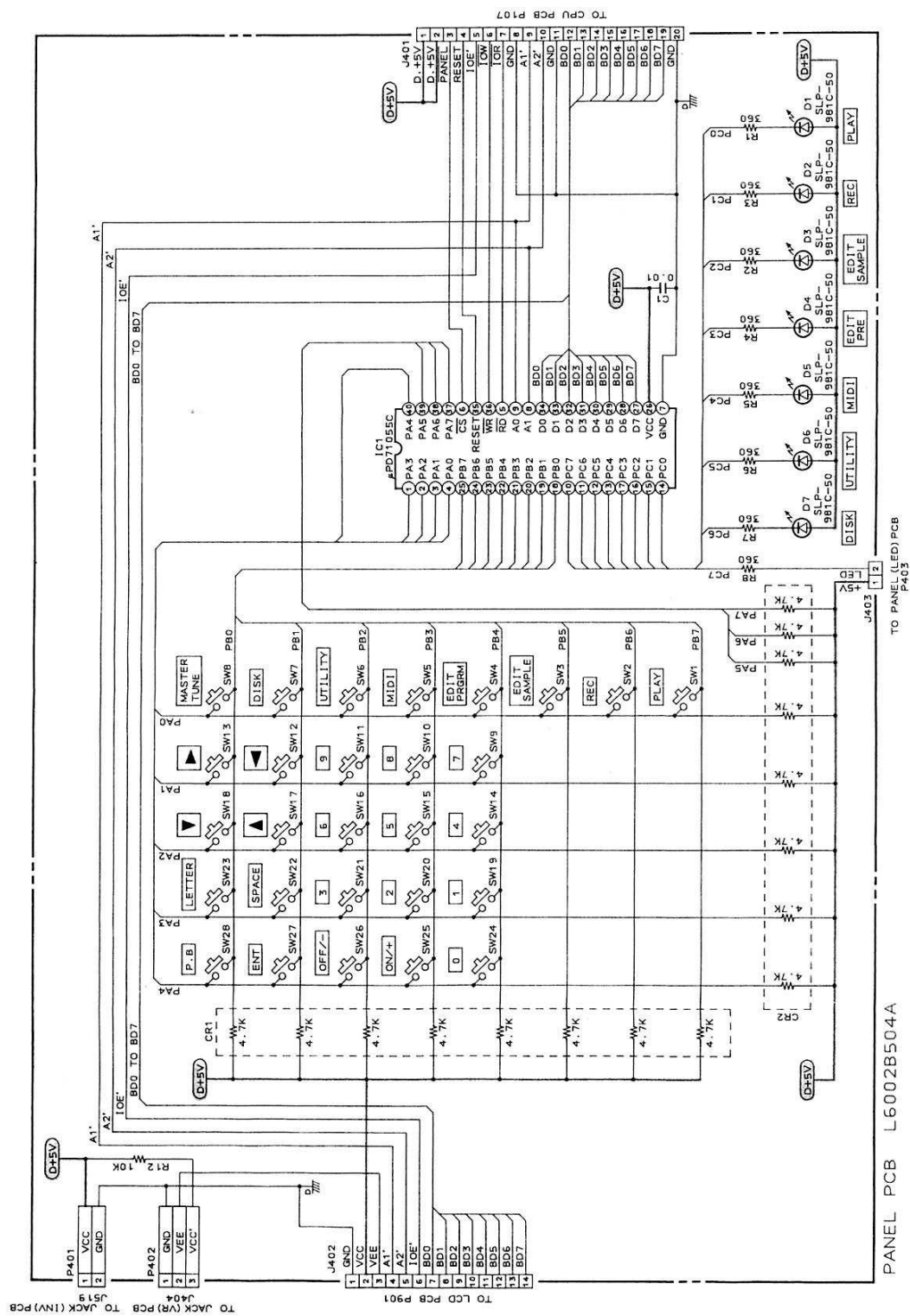
 = NPN TRANSISTOR
 = PNP TRANSISTOR

0250 VA PCO
J520

TO INPUT
JACK
PCB
J517

TO OUTPUT JACK
PC0 P501

0 OUTPUT JACK
PCB 0502

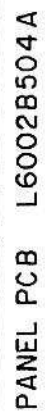


S950
PANEL PCB
SCHEMATIC DIAGRAM
NO. 6-5 L601305M²

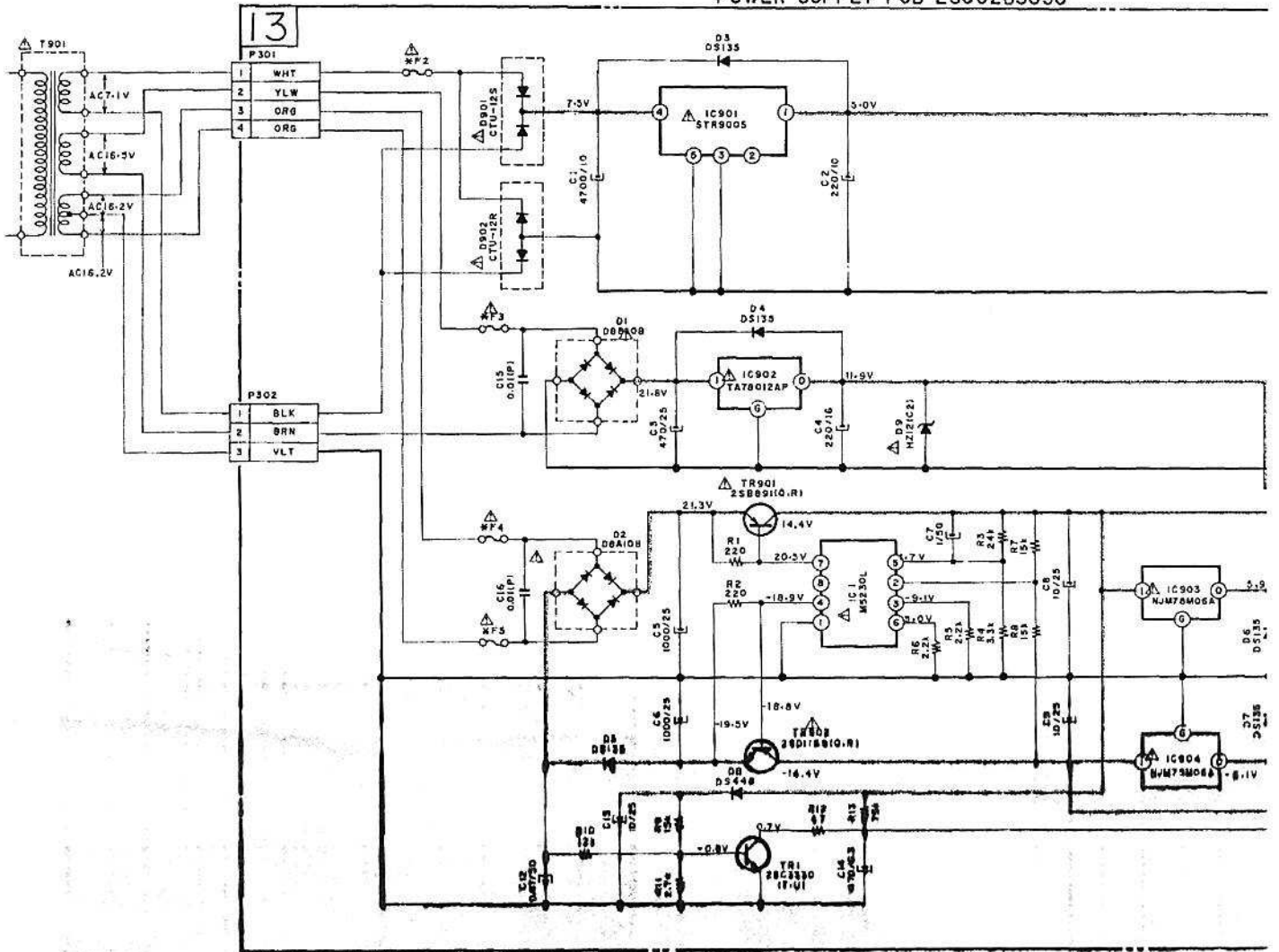
3 (POWER SUPPLY) LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μ F 50WV(P)

PANEL PCB L6002B504A



POWER SUPPLY PCB L6002B5030



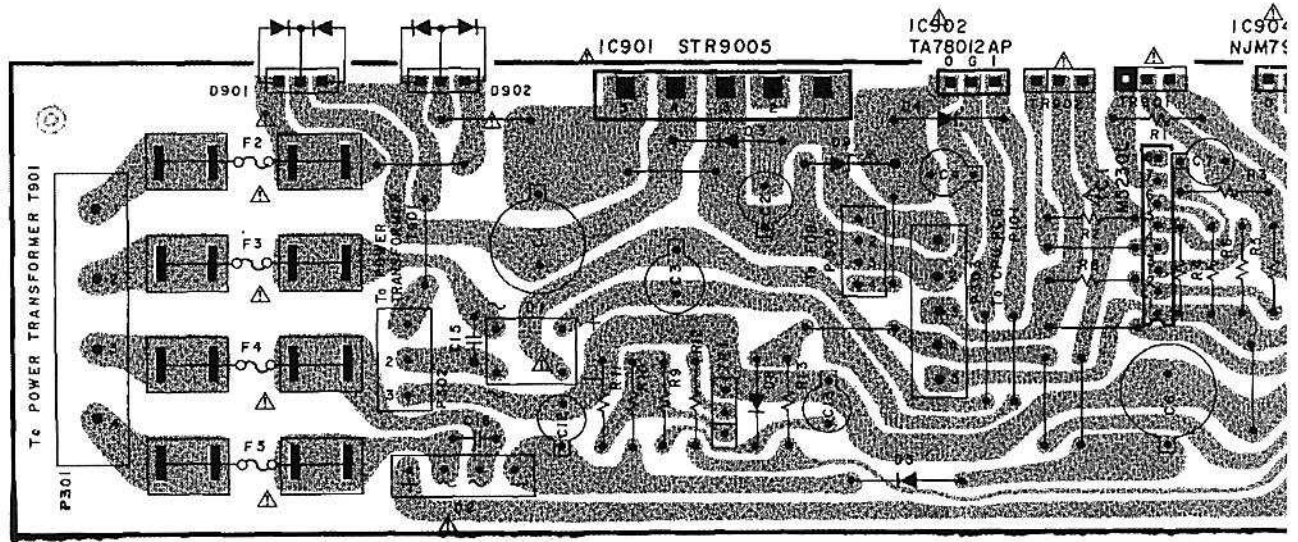
F1	F2	F3	F4	F5
250V 4A	250V 4A	250V 630mA	250V 1A	250V 1A
125V 4A	125V 4A	125V 630mA	125V 1A	125V 1A
13.16A	13.16A	1630mA	1000mA	1000mA

NOTES

UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μ F 50 WV(J)
(FS) - FAIL SAFE RESISTORS

WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFE
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER
RECOMMENDED PARTS

AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SURETE. POUR
MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACEZ
COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA S
QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT



POWER SUPPLY

 = PNP TRANSISTOR
 = NPN TRANSISTOR



2SD3330



2SD001
2SD1180

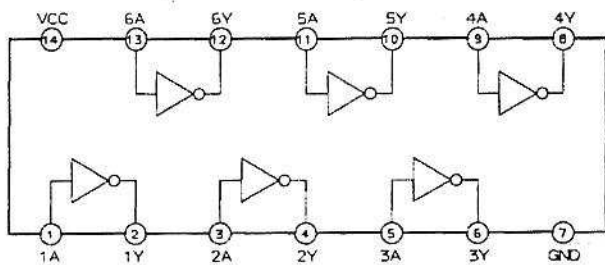
WARNING: Δ INDICATES SAFETY CRITICAL PARTS
 REPLACE SAFETY CRITICAL PARTS WITH RECOMMENDED PARTS
 AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS DONT LE DEGRÉ DE DANGÉREUSEté DOIT ÊTRE MAINTENIR LE DEGRÉ DE DANGÉREUSEté QUE PAR DES PIÉCES RECOMMANDÉES

INFORMATION OF IC's

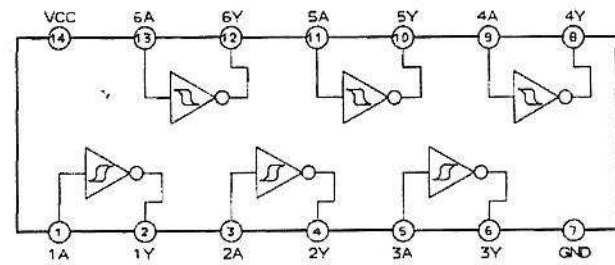
NAME OF IC	FUNCTION
HD74HC00P	Quad 2-Input NAND Gate
TC74HC02P	Quad 2-Input NOR Gate
HD74AC04P	Hex Inverter (Hi-speed)
HD74HC04P	Hex Inverter
SN74LS05P	Hex Inveter (Open COLLECTOR)
TC74HC08P	Quad 2-Input AND Gate
TC74HC14P	Hex Schmitt Inverter
HD74AC32P	Qund 2-Input OR Gate (Hi-speed)
HD74HC32P	Quad 2-Input OR Gate
TC74HC86P	Quad 2-Input Exclusive OR Gate
TC74HC109P	Dual JK Flip-Flop with Preset and Clear
CD74AC138E	3 to 8-Line Decoder/Demultiplexer (INV)
TC74HC138P	3 to 8-Line Decoder
TC74HC139P	Dual 2 to 4-Line Decoder
TC74HC153P	Dual 4 to 1-Line Multiplexer
TC74HC155P	Dual 2 to 4-Line Decoder/Demultiplexer
TC74HC157P	Quad 2 to 1-Line Multiplexer
HD74AC158P	Quad 2 to 1-Line Multiplexer(INV)
TC74HC173P	3 State Quad D-Type Register
TC74HC174P	Hex D-Type Flip-Flop
TC74HC175P	Quad D-Type Flip-Flop
TC74HC191P	Presetable 4-Bit Binary UP/DOWN counter
TC74HC195P	4-Bit Parallel Shift Register
HD74HC244P	Octal 3-State Bus Buffer
HD74HC245P	Octal 3-State Bus Transceiver
TC74HC257P	Quad 2-Channel 3 State Line Multiplexer
TC74HC259P	8-Bit Addressable Latch / 3 to 8 Line Decoder
TC74HC365P	Hex 3 State Bus Buffer
TC74HC373P	3 State Octal D-Type Latch
TC74HC374P	3 State Octal D-Type Flip-Flop
TC74HC393P	Dual 4-Bit Binary Counter
TC74HC670P	4-Ward × 4-Bit Register File
TC74HC4002P	Dual 4-Input NOR Gate
AM2504PC	8 Bit/12Bit Successive Approximation Register
BA6110	Voltage Controlled Low Noise OP-Amp
BA9201	8 Bit D/A Converter with Latch
BA9221	12 Bit D/A Converter
DG211CJ	Quad Analog Switch
HD63B50	Asynchronous Communicatios Interface Adapter
HD75188P	Quad Line (RS232C) Driver
HD75189P	Quad Line (RS232C) Receiver
IR9311	Comparator
M5220P	Quad Low Noise Voltage Amplifire
M5223P	Dual J-FET Input OP-Amp
M5230L	Regulator(Variable output,+ – tracking type)
M5238P	Dual FET Input OP-Amp
MB81C4256-10	1M-Bit Dynamic RAM

NAME OF IC	FUNCTION
MBM27C256A-15	256K-Bit EP-ROM
MF6CN-50	6th order switched capacitor Butter worth Low pass filter
NJM78M06A	+6V Regulator
NJM79M06A	−6V Regulator
SED9420CAC	VFO Type FDD Data Separator
STR9005	Molded Series Regulator
TA78012P	+12V Regulator
UPC812C-AK	Dual Low Drift J-FET Input OP-Amp
UPD8253C	Programmable Interval timer
UPD70116C	16-Bit Micro Processor
UPD71011C	Clock Pulse Generator Drive
UPD71055C	Parallel Interface unit
UPD71059C	Interrupt Control Unit
UPD71071C	Direct Memory Access Controller
UPD72066C	Programmable Floppy Disk Controller
UPD89254	Programmable timer counter

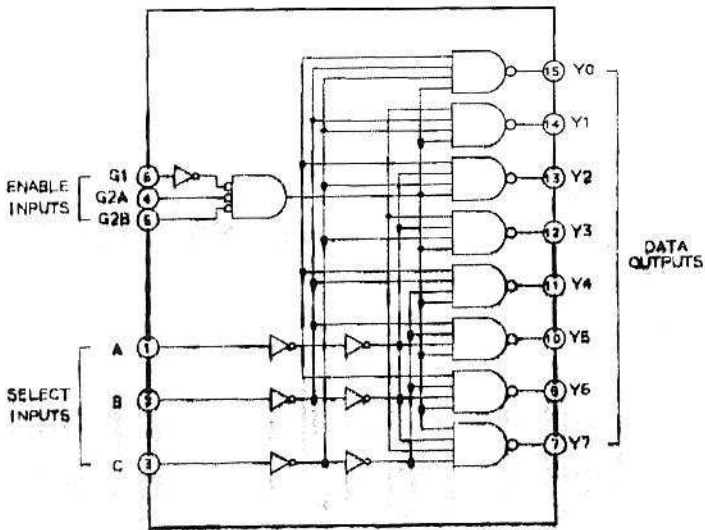
HD74HC04P (HEX INVERTER)



TC74HC14P (HEX SCHMITT TRIGGER, INVERTER)



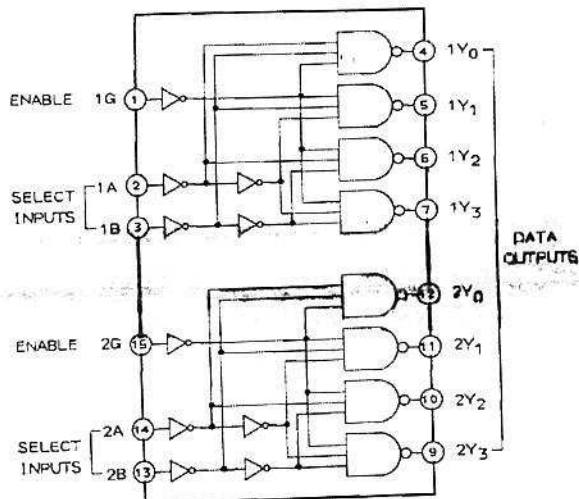
TC74HC138P (3 TO 8 DEMULTIPLEXER)



TRUTH TABLE

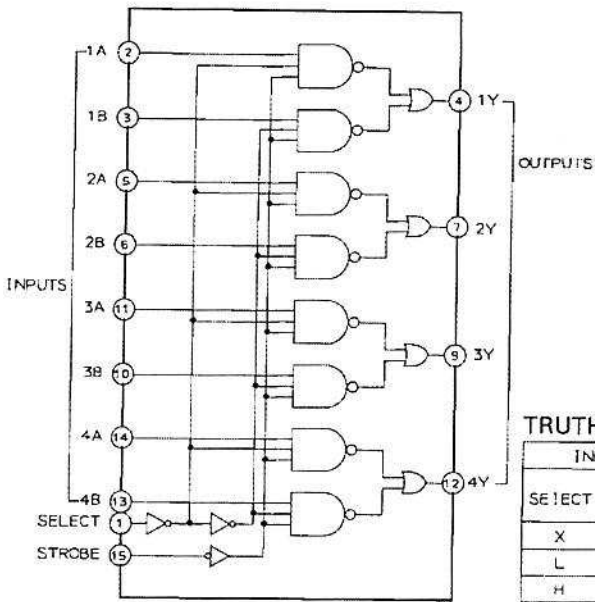
INPUTS		OUTPUTS							
		ENABLE	SELECT						
G1	G2	C	B	A	Y0	Y1	Y2	Y3	Y4
X	H	X	X	X	H	H	H	H	H
L	H	X	X	X	H	H	H	H	H
H	L	L	L	L	L	H	H	H	H
H	L	L	L	H	H	L	H	H	H
X	H	X	X	X	H	H	L	H	H
H	L	L	H	L	H	H	L	H	H
H	L	L	H	H	H	H	L	H	H
H	L	H	L	L	H	H	H	L	H
H	L	H	H	L	H	H	H	L	H
H	L	H	H	H	H	H	H	L	H

TC74HC139P (DUAL 2 TO 4 DEMULTIPLEXER)



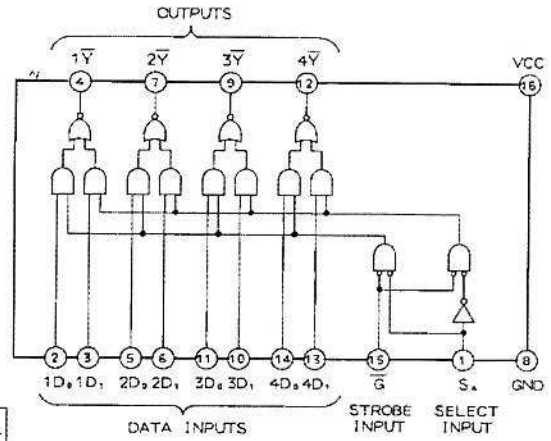
TRUTH TABLE

INPUTS		OUTPUTS			
		ENABLE	SELECT		
G	B	A	Y0	Y1	Y2
H	X	X	H	H	H
H	X	X	H	H	H
H	X	X	H	H	H
H	X	X	H	H	H
H	X	X	H	H	H

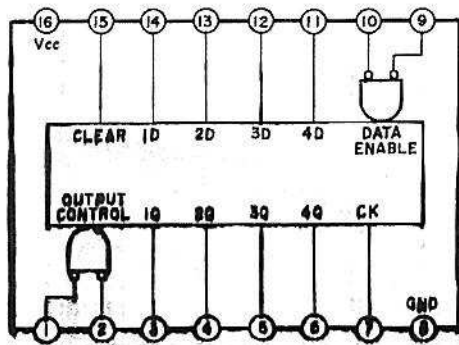


TRUTH TABLE

INPUTS		OUTPUT Y
SELECT	STROBE G	
X	H	L
L	L	A
H	L	B



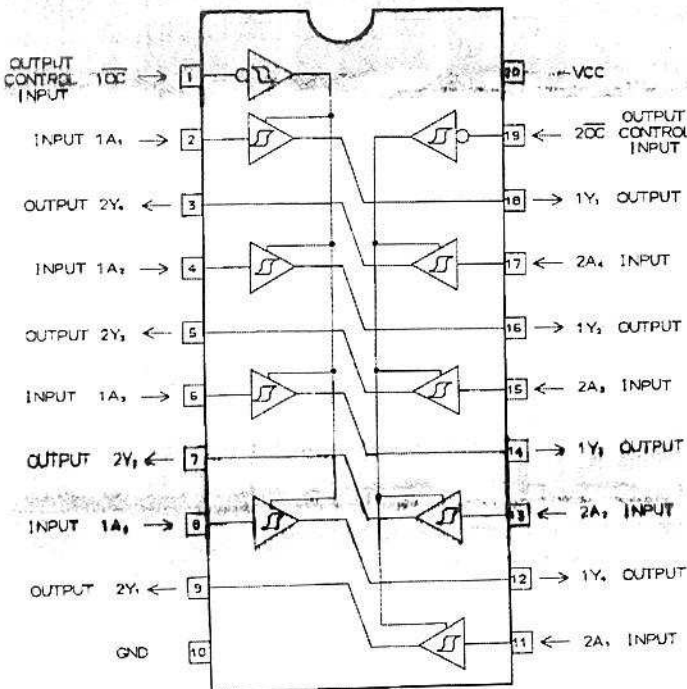
74HC173P



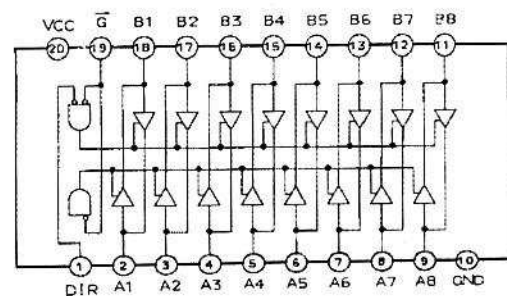
TRUTH TABLE

		INPUT		OUTPUT CONTROL		OUTPUT Q _A ~ Q _D	OPERATION
		ENABLE		M	N		
CLEAR	CK	G1	G2				
L		L	L	—	—	1D ~ 4D	DATA SET
L		H	X	—	—	—	HOLD
		X	H	—	—	—	HOLD
		X	X	—	—	—	CLEAR
				H	X	—	—
				X	H	—	—

TC74HC244P (OCTAL 3 STATE BUS BUFFER)



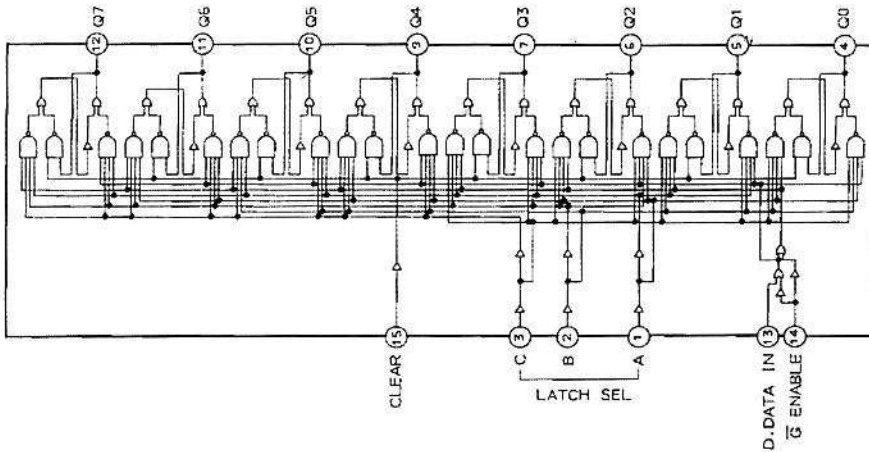
TC74HC245P (OCTAL 3 STATE TRANSCEIVER)



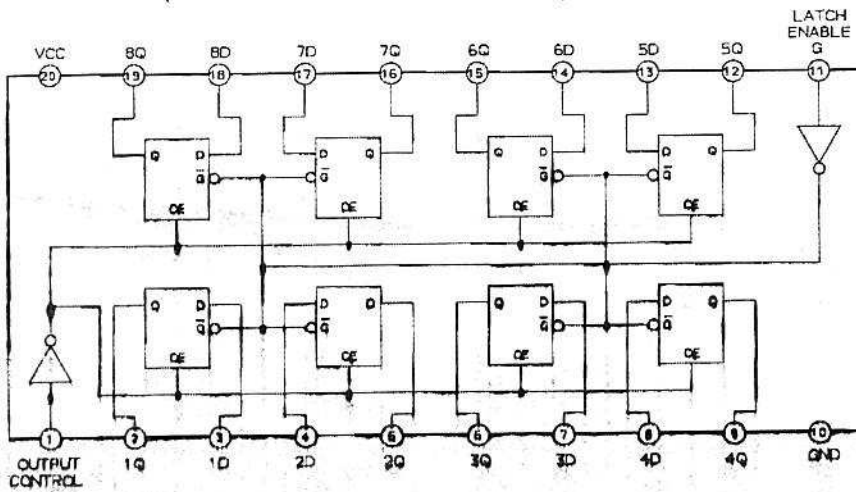
FUNCTION TABLE

CONTROL INPUTS		OPERATION
G	DIR	
L	L	B DATA TO A BUS
L	H	A DATA TO B BUS
H	X	ISOLATION

TC74HC259P (8 BIT ADDRESSABLE LATCHE)(IC25)



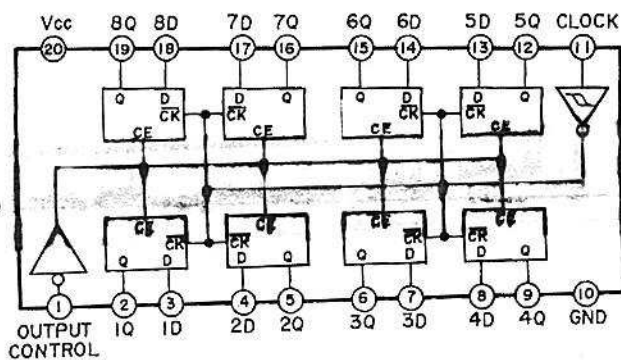
TC74HC373P (3 STATE OCTAL D-TYPE LATCH)



TRUTH TABLE

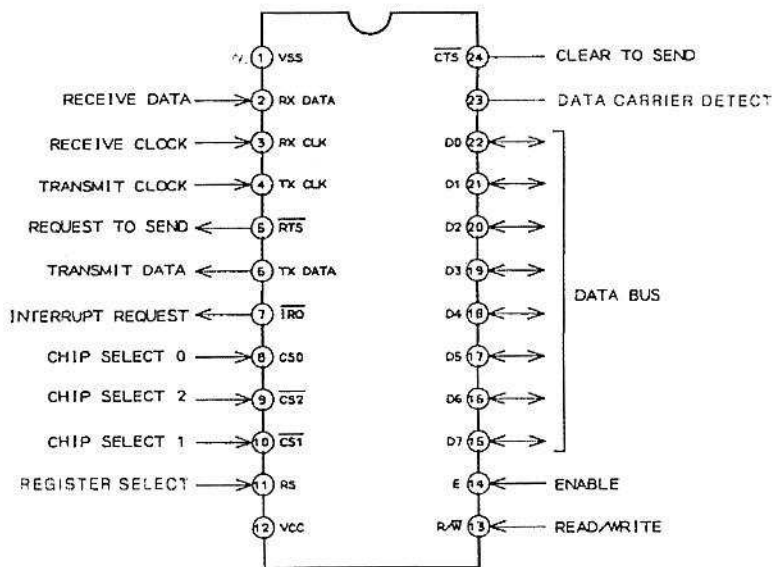
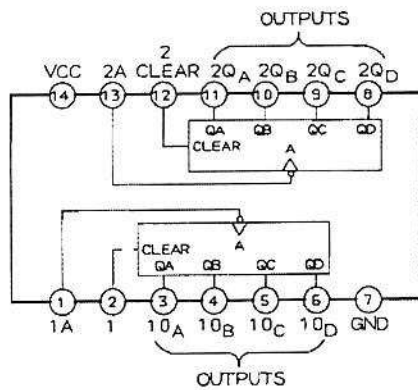
OUTPUT CONTROL	LATCH ENABLE G	DATA	OUTPUT
L	H	H	H
L	H	L	L
L	L	X	Q _i
H	X	X	Z

74HC374P

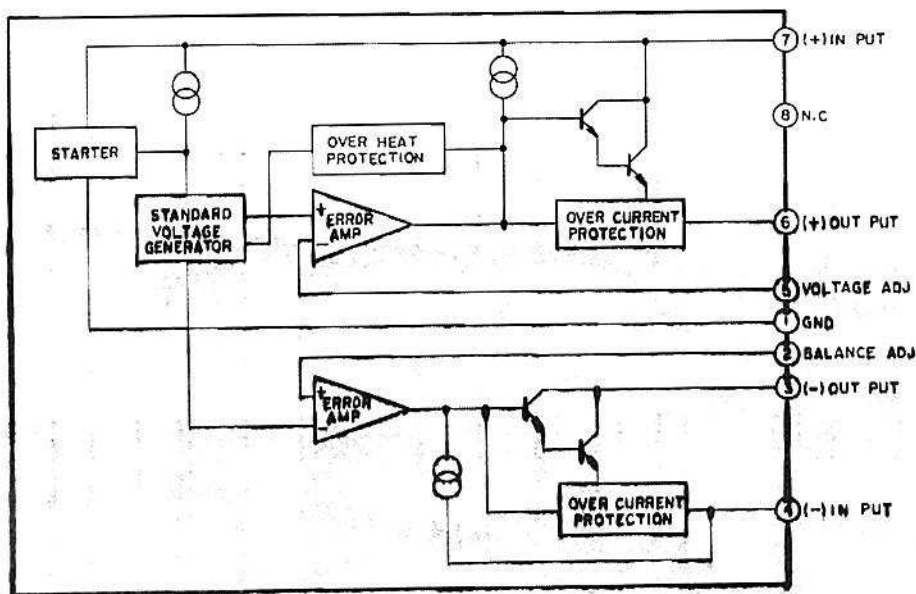


TRUTH TABLE

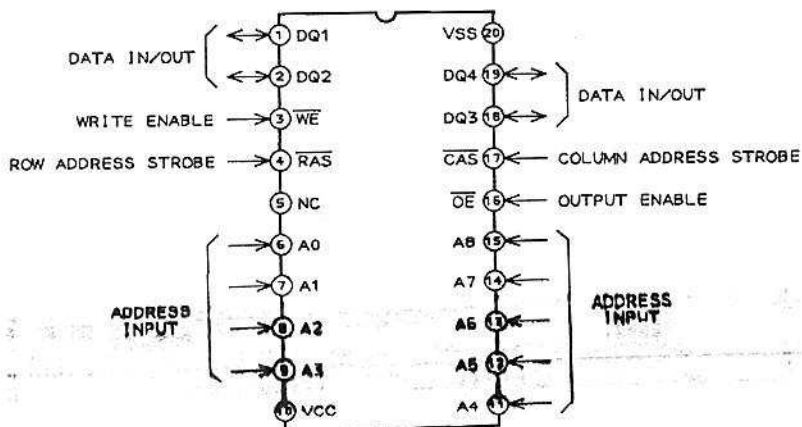
INPUT		OUTPUT
OUTPUT CONTROL	CK	
X		DATA RET
H	X	OUTPUT HIGH IMPEDANCE

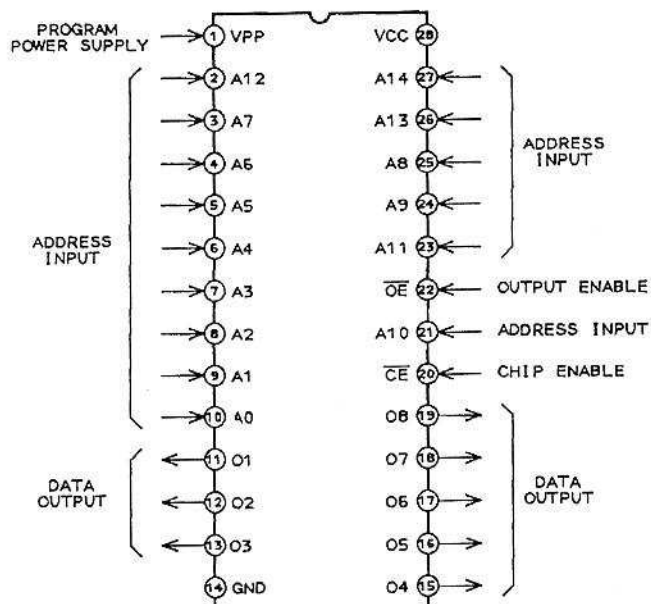


M5230L



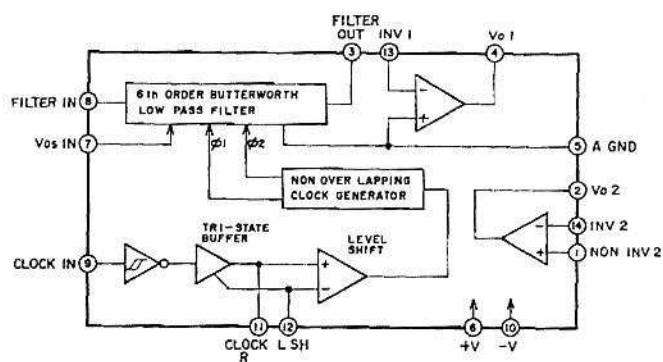
MB81C4256-10 (1M BIT DYNAMIC RAM)



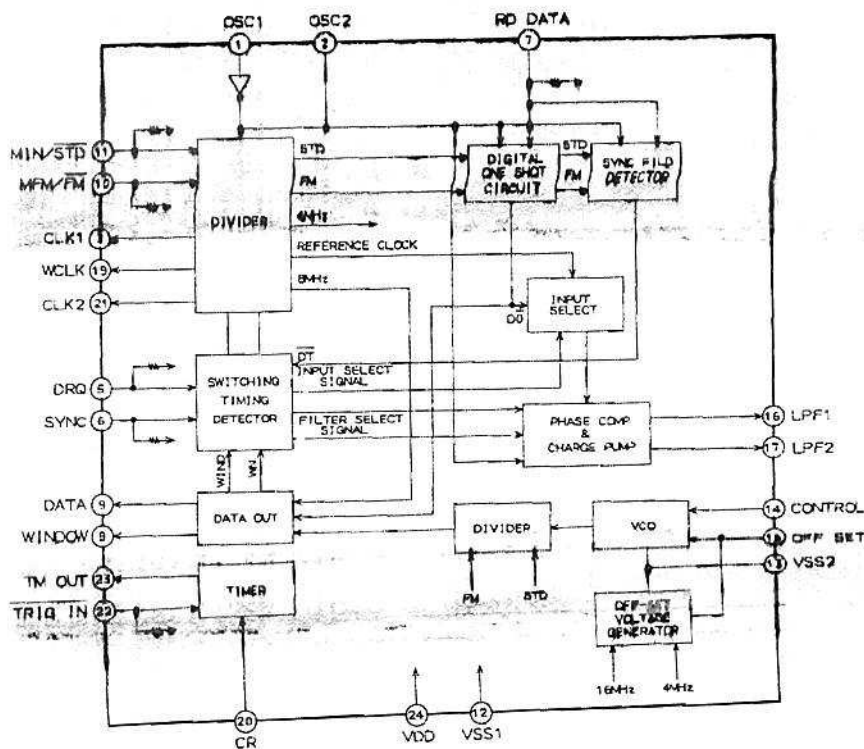


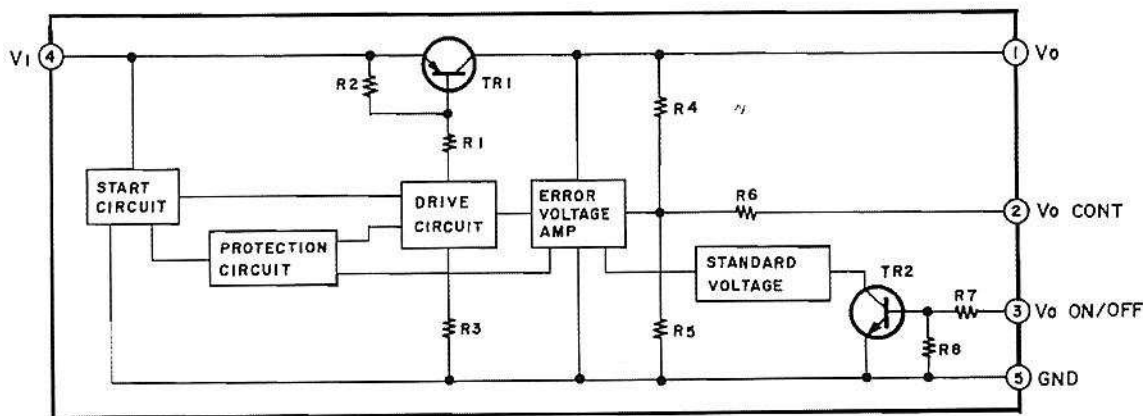
MF6CN²50

(6th ORDER BUTTERWORTH LOW PASS FILTER)

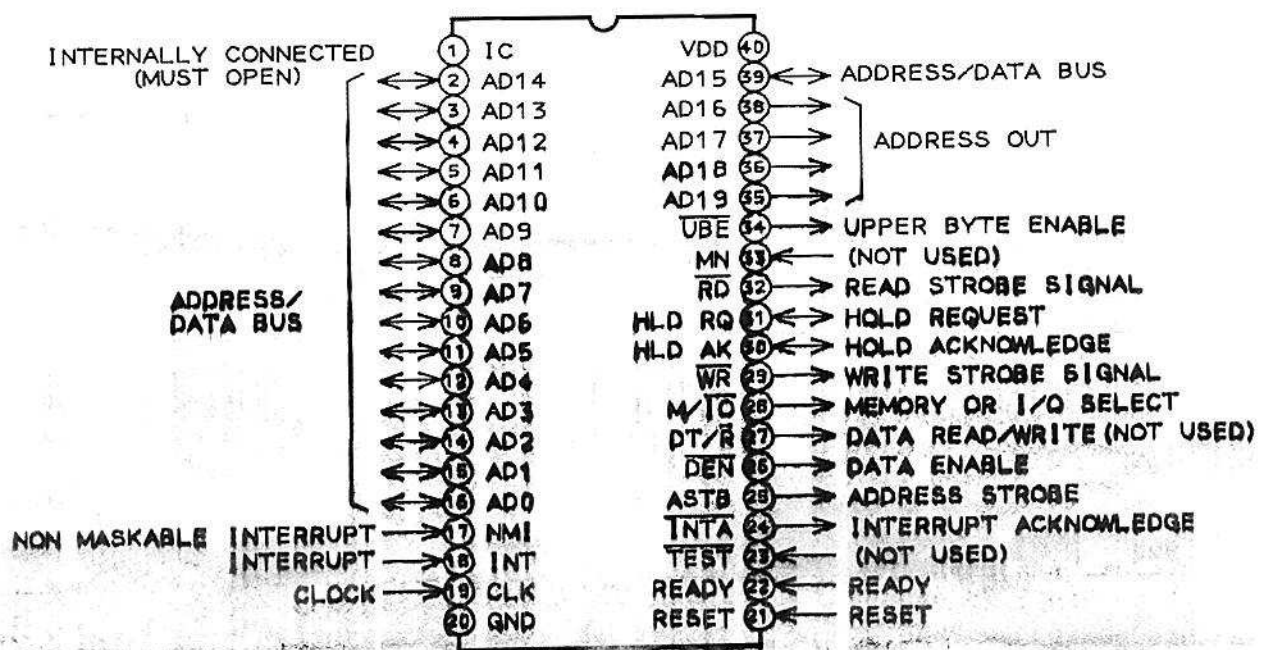


SED0420CAC (VFO TYPE FDD DATA SEPARATOR)

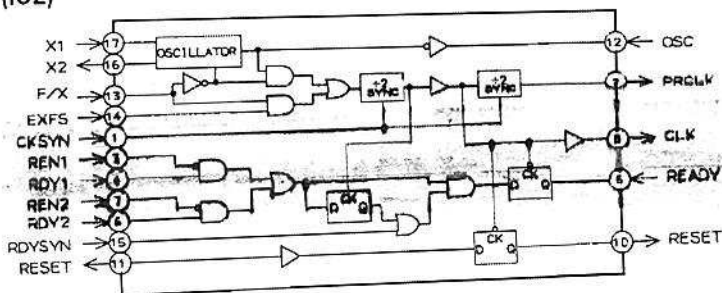




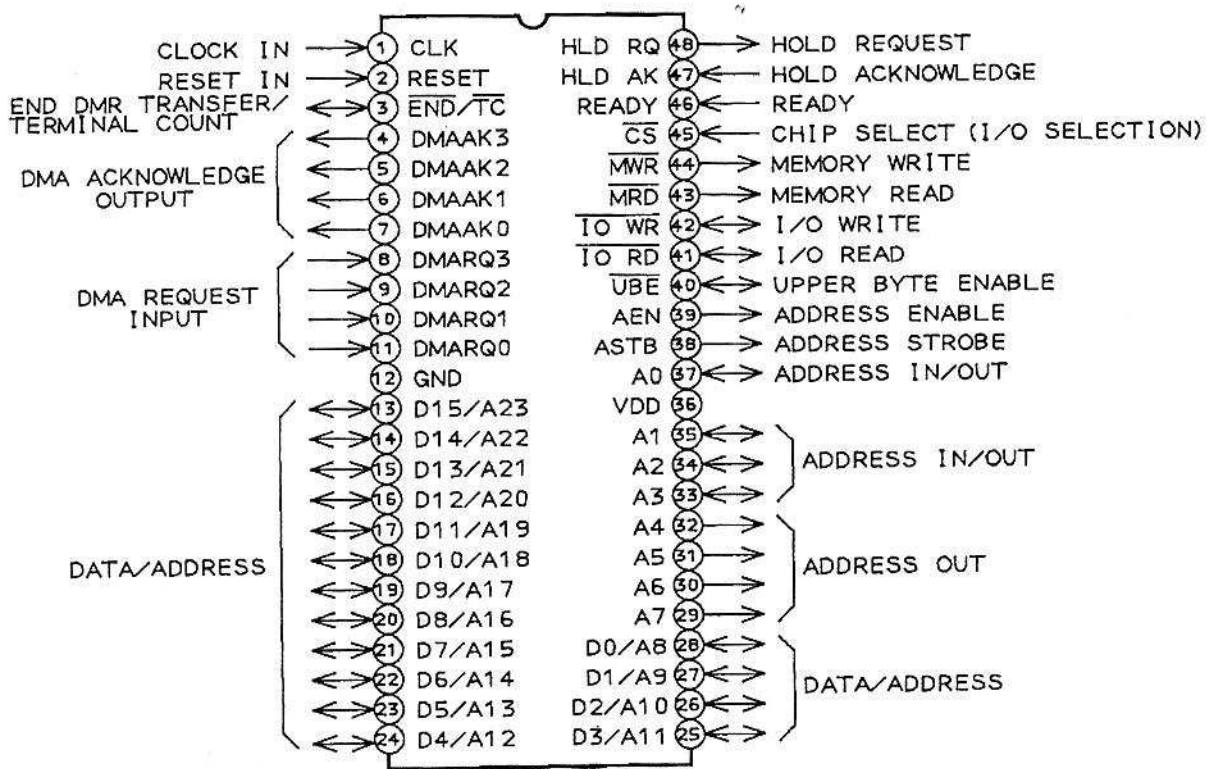
μ PD70116 (16BIT MICRO PROCESSOR)



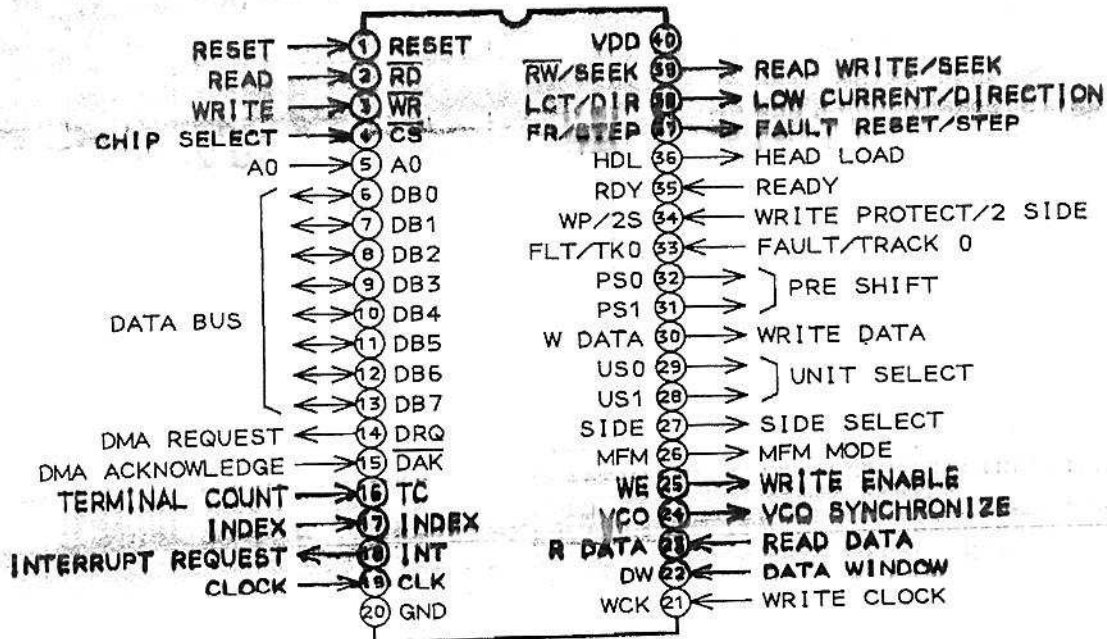
μ PD71011C (CLOCK PULS GENERATOR DRIVE) (IC2)



μPD71071C (DMA CONTROLLER)



μPD72068C (FDD CONTROLLER)



ABBREVIATION FOR SERVICE MANUAL

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
ALTER	ALTERnating	MON	MONitor
BUSDIR	BUS DIRection	RFSH	ReFreSH
CASSR	CASSette Read	RXD	Receive Data
CASSW	CASSette Write	RD	ReaD
CH	CHannel	SHOT	one SHOT
CS	Chip Select	SIN	Signal INput
DUB	over DUB	SLTSL	SLoT SeLect
IORQ	I/O ReQuest	TRANS	TRANSPose
LOOP	LOOPing	TRIG	TRIGger
M1	Machin cycle 1	TXD	Transmit Data
MREQ	Memoly REQuest	V.REF	Voltage for REFERENCE
MIDI	Musical Instrument Digital Interface	WR	WRite

S-950

AKAI ELECTRIC CO., LTD.

12-14, 2-Chome, Higashi-Kojiya, Ohta-Ku, Tokyo, Japan

SERVICE DEPARTMENT TEL: Tokyo(745)9884 TOKYO TELEX: J26261

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