SHARP

SERVICE MANUAL

PDSM981010-MZ

Personal Computer

MZ-80A

FEATURES

- The MZ-80A is a full-fledged personal microcomputer equipped with 8-bit microprocessor (Z-80) and it can meet a variety of applications like hobbies, educations, office works, controls (of apparatus in every industrial field), etc.
- It is a compact desk-top type, itself a simplified unit including CPU board, CRT display, cassette tape recorder and keyboard all together.
- The keyboard touch will satisfy professional operators, and numerical input keys are provided.
- Speaker (3 octaves) and clock function are built in.
- A video RAM of 2K bytes is provided to facilitate edition aided by CRT display.
- Memory extensions is allowed up to 48K bytes in the board.
- Four types of I/O cards for peripherals such as a floppy disk and printer can be added by optional extension units.

SHARP CORPORATION

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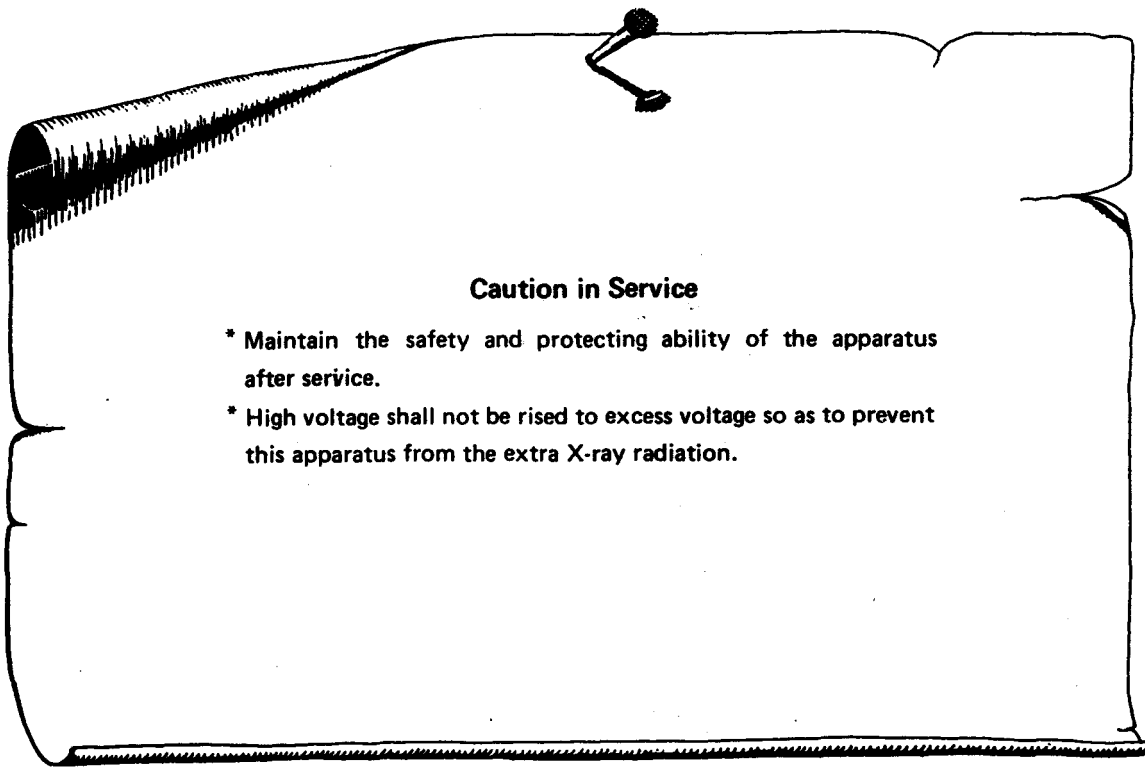


Caution in Service

* Maintain the safety and protecting ability of the apparatus after service.
* High voltage shall not be rised to excess voltage so as to prevent this apparatus from the extra X-ray radiation.

SPECIFICATIONS

■ General

CPU	Z-80	Clock function	Built in
Memory	ROM; 4K bytes (Monitor) ROM; 2K bytes (character generator) RAM; 32K bytes (dynamic RAM) Memory extension; 48K bytes (max.) RAM; 2K bytes (video RAM)	Music function	Built in
		Editor function	Cursor control; "up", "down", "right", "left", "home", "cleary home" Edit key, Delete key Roll up and roll down
Display	9" CRT (green display) 8 x 8 dot matrix. Characters; 1000 (40 characters x 25 lines)	Power supply	AC 220V ± 10%, 50 Hz AC 240V ± 10%, 50 Hz
Cassette	Standard audio cassette tape Data transfer speed; 1200 bits/sec. Data transfer system; SHARP PWM	Power consumption	Approx. 36W
		Temperature	Operating temp.; 0°C to 35°C Storage temp.; −15°C to 60°C
Sound output	400mW (max.)	Humidity	Lower than 80° during operation
Keys layout	Number; 73 keys ASCII standard (alphabet capital letter, figures), Small letter, Graphic, 10 Numerical	Weight	Approx. 10kg
		Dimensions	Width; 440mm Depth; 480mm Height; 260mm

■ CPU Board Section

CPU	Z-80; 1 pc	Programmable counter	8253 1 pc
ROM	Monitor; 1 pc (4K bytes) Character generator; 1 pc (2K bytes)		
RAM	Standard; 16K dynamic RAM; 16 pcs. (32K bytes) Video RAM; 1 pc (2K bytes)	Programmable peripheral interface	8255 1 pc

■ Power Supply Section

Input	AC 220V ±10%, 50Hz AC 240V ±10%, 50Hz
Output	DC 12V DC 5V DC −5V

■ Display Section

I. General specifications		II. Electrical specifications	
Size	9"	Video output	40Vp-p standard (35Vp-p limit)
Frequency	60Hz (vertical), 15.75kHz (horizontal)	Resolution	Horizontal  These patterns of the left in the center of the picture must be clear.
Power source	DC 12V, 1.1A ±10%	Non-linearity distortion	Horizontal; ±8% (±14% max.) Vertical; ±8% (±12% max.)
Picture tube	C10M36P31 or 2728B31; 9"90° deflection explosion proof type Heater; 12V, 75mA	Geometrical distortion	Pincushion dist.; 1% (2% max.) Barrel dist.; 1% (2% max.) Trapezoidal dist.; 1% (2% max.) Parallelogram dist.; 1° (2.5° max.)
IC	2 pcs.	High voltage	Zero beam; 11.0kV (10.0kV, min., 12.0kV, max.)
Transistor	7 pcs.	Power supply	DC12.0V, 1.05A (1.2A max.)
Diode	13 pcs.	Working range	12V ±10%
Sound output	400mW max. (440 Hz) Speaker 8cm, round dynamic type (32Ω)	Scan size	Horizontal; 10% (15% max.) Vertical; 10% (15% max.)
Control knob	Volume Brightness	Horizontal lock-in range	±300 Hz (±100Hz limit)
		Vertical lock-in range	−12 Hz (−6 Hz limit)
Working temperature	−10°C to 50°C	Audio friquency characteristic	440 Hz (0dB) −10dB ±4dB at 100 Hz −12dB ±4dB at 10kHz
		Sound maximum output	400mW at 440 Hz

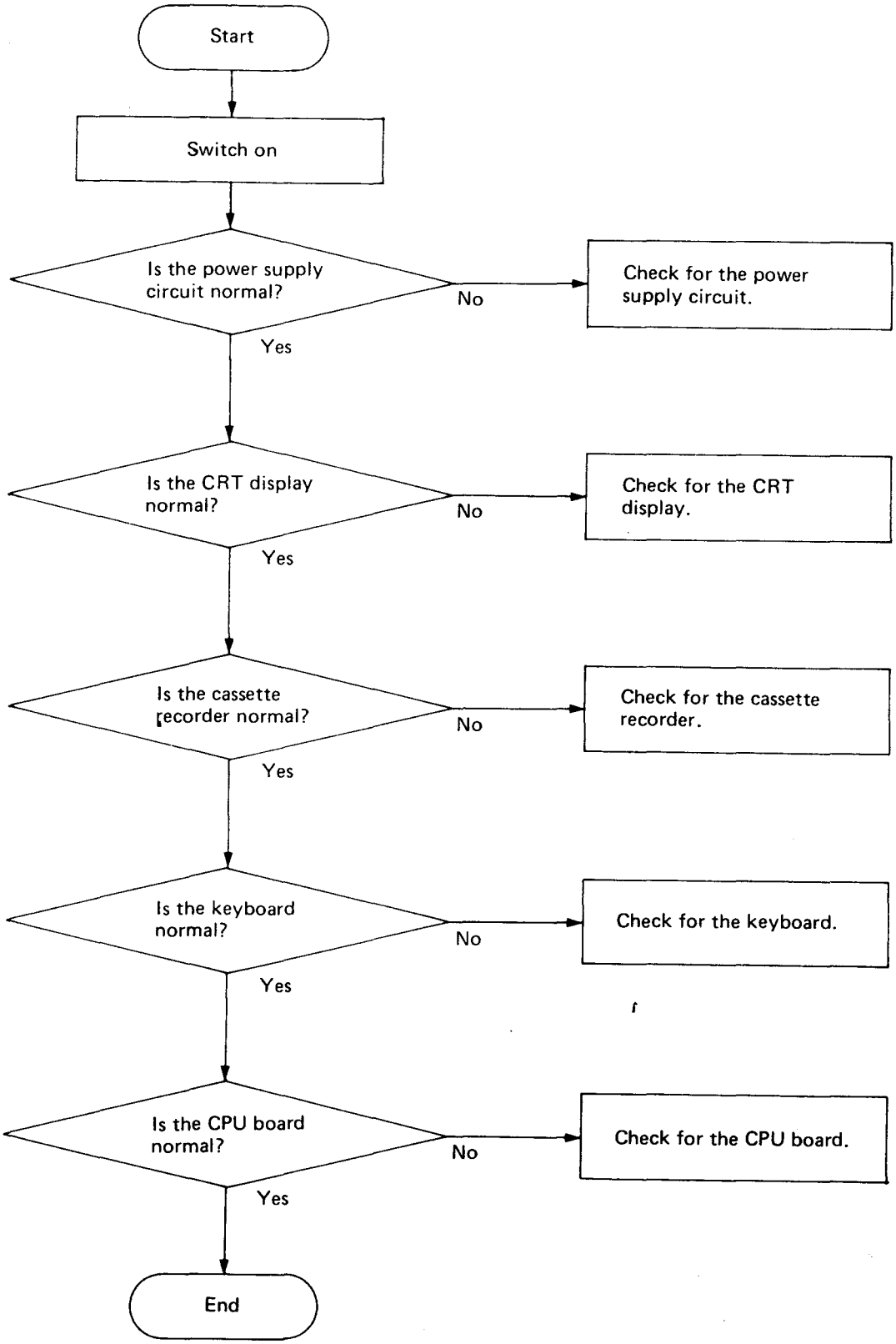
■ Cassette tape recorder Section

System	PWM recording	Biasing	DC system
Power source	5V ±0.25V (rated)	Erasing	DC system
Rated amperage	Wait; 2mA Record; 70mA (TEAC test tape) Playback; 7mA (TEAC test tape)	Playback sensitivity	1m sec. to 500μ sec. (standard)
		Input level	Below 0.4V ("L") Over 2.0V ("H")
Semiconductors	4 transistors 1 IC 4 diodes	Input impedance	Over 10kΩ (record jack)
		Output level	Below 0.4V ("L") Over 2.0V ("H")
Applied tape	From C30 to C120		
Tape speed	4.75 cm/sec.	Working temperature	−10°C to 50°C
Track	2-track monaural type		
Motor	Electronic governor motor (12V)	Storage temperature	−25°C to 70°C

NOTE Specifications and appearance are subject to change without prior notice for improvement. In such a case, the explanation here may be a little different from the product.

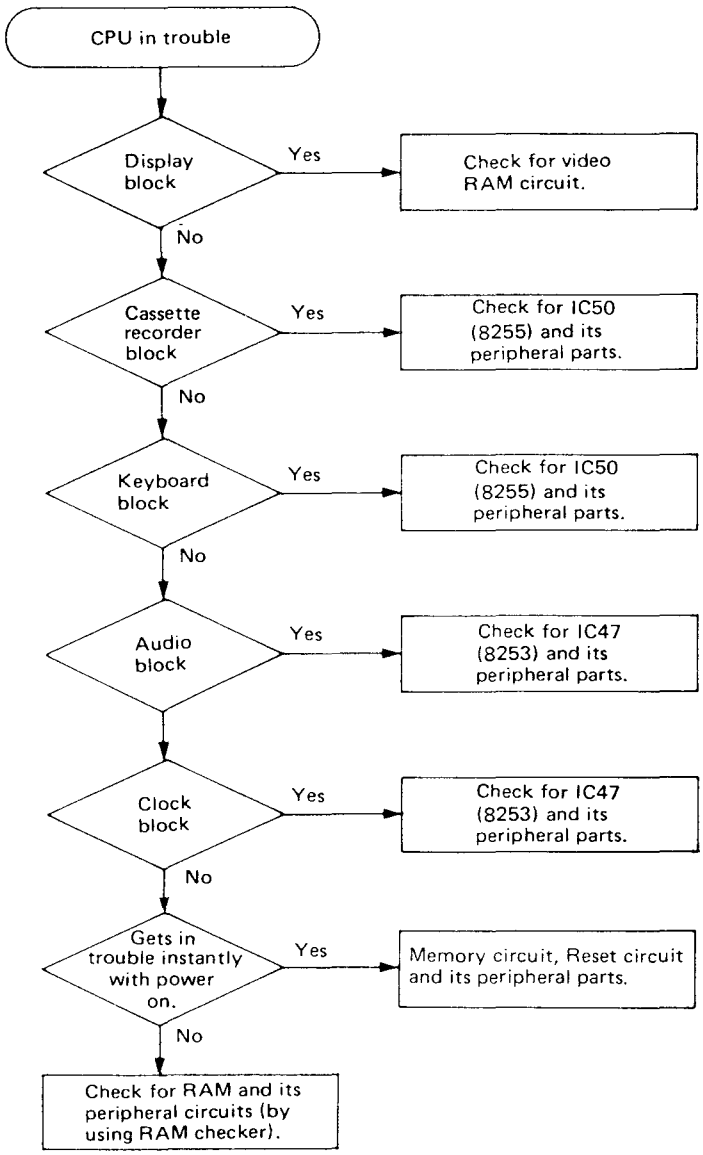
TROUBLE SHOOTING GUIDE

The machine comprises five main units, CPU board, display, cassette tape recorder, keyboard, and power supply circuits. For a quick solution to most operating difficulties, first consult the chart below to find which section of the machine is subjected to the trouble, and next to do the checkings according to more detailed instructions given in the succeeding pages.



CPU BOARD SECTION

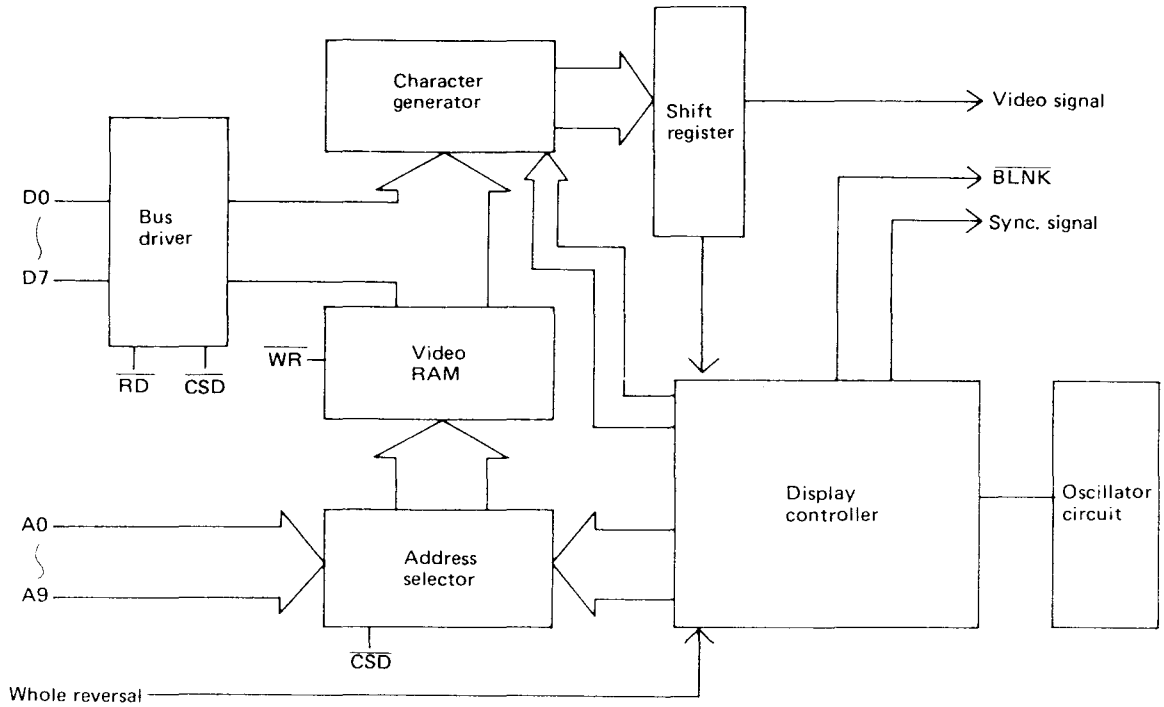
The CPU board is composed of the following six blocks. When it gets in trouble, first locate which block is concerned with the trouble, and next try to check for its corresponding circuits; the wiring diagrams of every block will be shown separately.



■ **Checking methods of each circuit**

1. By touching IC insulating parts by fingers:
   - If they seem too hot by heat generation;
     IC is defective, IC load is heavy or components are touching each other — ROM and V-RAM are exempted from this checking, however.
   - If a circuitry state is changed to another; Soldering is poor, socket contact is improper, or printed-wiring is erroneous.
2. By using a synchroscope:
   - If the relation between input and output of TTL IC is illogical, this means defective IC gate.
   - Check if the voltage level of TTL IC is as specified: High level; over 2.4V, Low level; below 0.5V.

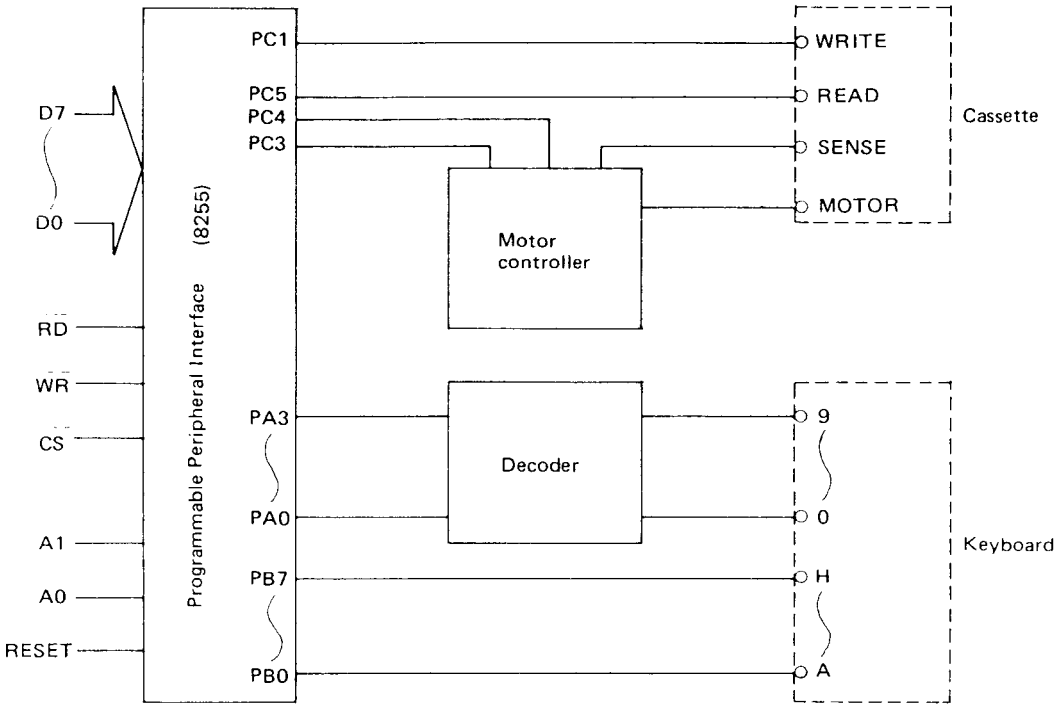
■ Display Block



Block Diagram of Parts around Video RAM

Problem	Check Point
1. Sync. signal is not produced.	Vertical sync. signal: Check for pin (10) of IC20. Horizontal sync. signal: Check for pin (7) of IC20.
2. Video signal is not produced.	Is $\overline{\text{V-GATE}}$ signal for pin (10) of IC2 high level? Yes; IC2 No; IC50 Is $\overline{\text{V-BLANK}}$ signal present at pin (8) of IC20? Yes; IC20 No; IC2 Is $\overline{\text{H-BLANK}}$ signal present at pin (1) of IC20? Yes; IC20, IC31 No; IC2 Does pin (9) of IC8 develop video signal? Yes; IC8 No; IC2, IC10, IC4
3. Irregular display characters	Check IC14, IC20.
4. The display is positionally deviated.	Check IC21, IC22, IC26, IC27, IC32, IC33
5. Position is correct but characters are abnormal.	Check IC15 and IC16.

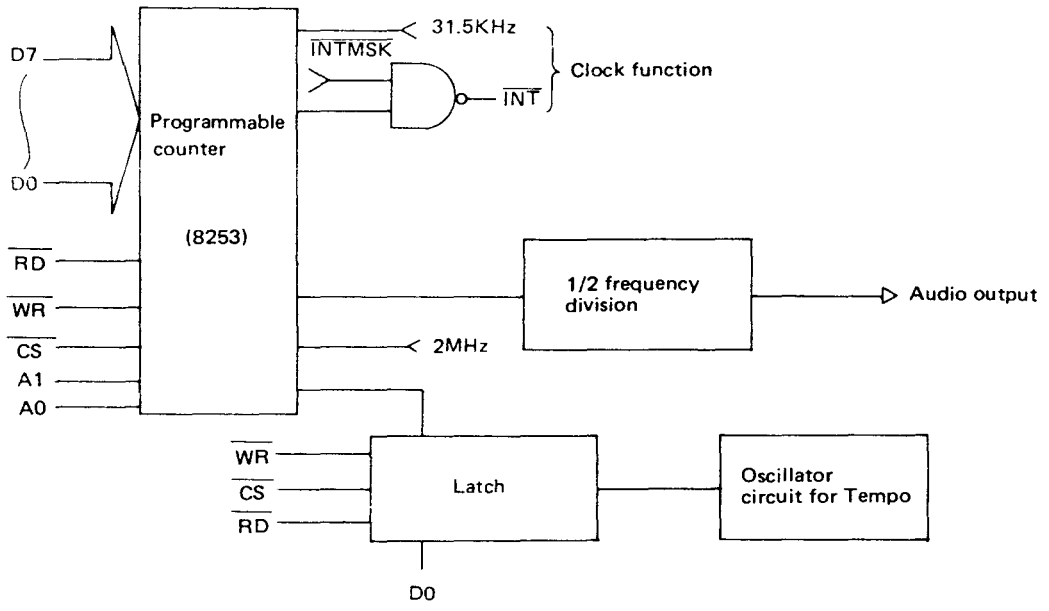
■ Cassette recorder/Keyboard Block



Block diagram of Parts around Cassette recorder/Keyboard.

Problem	Check Point
1. "LOAD" operation is impossible.	Is output signal present at pin (3) of IC10? Yes; IC50 No; IC10
2. "SAVE" operation is impossible.	Is output signal present at pin (15) of IC50? Yes; IC10 No; IC50
3. Motor doesn't rotate.	Is voltage at pin (8) of IC39 at "low" level? Yes; IC4, Q1 No; IC39, IC5
4. Motor doesn't stop.	Is voltage at pin (8) of IC39 at "high" level? Yes; IC4, Q1 No; IC39, IC5
5. Key input is ineffective.	Check for IC52 and IC50.

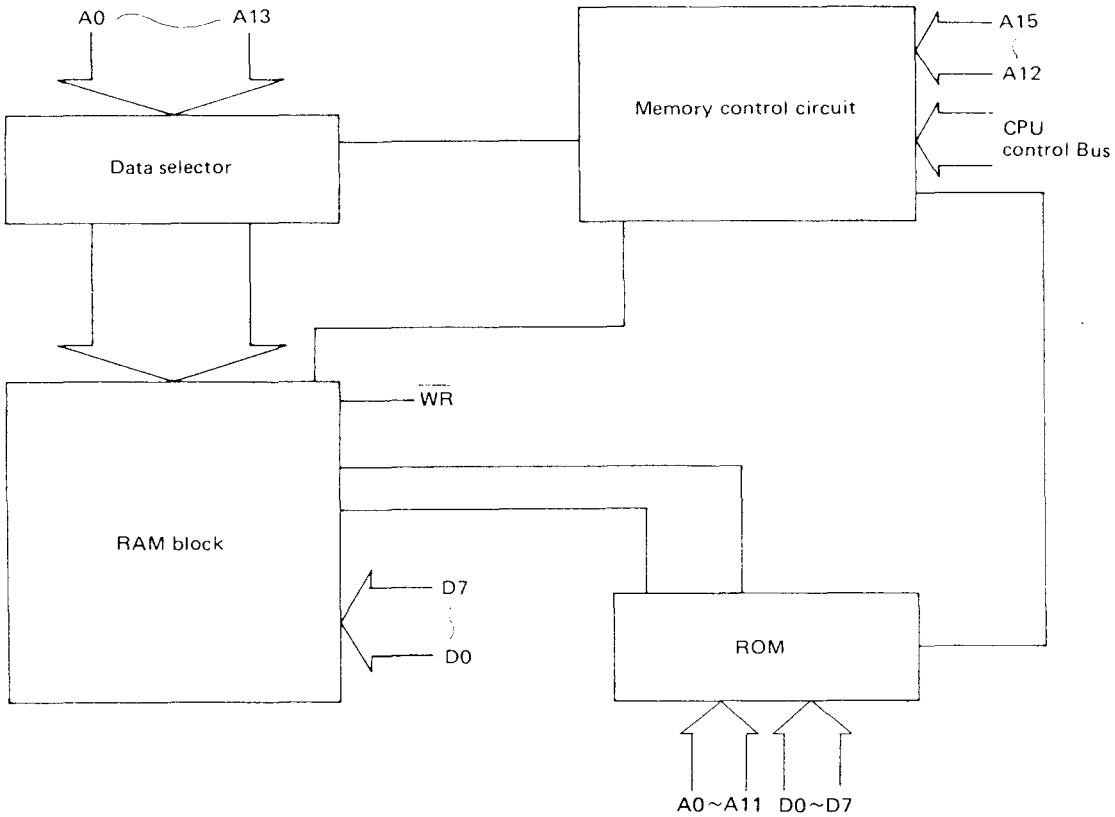
■ Audio/Clock Block



Block Diagram of Parts around Audio/Clock Block

Problem	Check Point
1. Abnormal sound output	Is output signal present at pin ⑩ of IC47? Yes; IC45, IC48 No; IC47, IC51
2. Clock function is abnormal.	Is 31.5KHz signal input to pin ⑮ of IC47? Yes; IC47 (8253) and surrounding are faulty. No; IC20 (Check if 8MHz signal is supplied to pin ⑳ of IC20)

■ Memory Circuit Block



Block Diagram of Parts around Memory Circuit

Problem	Check Point
1. Reproduced picture shows "panic".	Check for the following: ROM, IC46, CG, IC13 (CPU) and surrounding circuit Address bus line Data bus line Control line RAM (by using RAM checker),
2. Error display or misoperation is caused as a result of program execution.	RAM check
3. Returns to "MONITOR SA-1510".	RAM check
4. Error is caused after a long operation.	RAM check

* How to Use RAM Checker

Remove monitor ROM from the socket ("M-ROM" marked on the PWB) and insert RAM checker into the socket and turn on the power switch (the picture gets "panic" for about 1 second): then the following RAM TEST-1 and RAM TEST-2 will be automatically carried out from the address $1000 to the maximum address and the tested results will be displayed.

The following is an example of the testing performed with the standard set (with RAMs being all normal).
Note: RAM 32K bytes

RAM TEST-1	1000-OK	2000-OK	3000-OK	4000-OK	5000-OK
	6000-OK	7000-OK	8000-OK	9000-ER-9000,00,7F	
RAM TEST-2	00 FF	00 FF	F0 OK		

1) **RAM TEST-1**

In the range from the address $1000 to the maximum address, data $00 and $FF are subjected to automatic write/read test; if error is caused, "ER" mark is indicated in the unit of 4K bytes.

In the above table,

3000-OK: this means write/read operation has been normal from the address $3000 to $3FFF.

9000-ER-9000-00,7F: this means there exists error somewhere from the address **$9000 to $9FFF**; this error is because the standard set is provided with up to **$8FFF** but with no more address, so it doesn't show a malfunction of RAM itself.

An example showing an error really caused:

2000-ER-235B-00, 01

An error is caused in the addresses $2000s; namely, although data $00 has been written in the address $235B, its read-out data is $01.

2) **RAM TEST-2**

Write/read test is carried out with the following data.

(a) Write-in data $00 (from the address $1000 to the maximum address)
(b) Write-in data $FF (from the address $1000 to the maximum address)
(c) Write-in data $00 (from the maximum address to the address $1000)
(d) Write-in data $FF (from the maximum address to the address $1000)
(e) Write-in data $F0 and $0F to be entered alternately (from the address $1000 to the maximum address and vice versa).

The above table (RAM TEST-2) shows all the items (a) thru (e) are normal — the indications "00", "FF", "00", "FF" and "F0" correspond to (a) thru (e) respectively.

An example showing an error really caused:

RAM TEST-2	00	FF	00	ER-23FF-01

From the above, it can be seen that the tests (a) and (b) are both normal and that although data $00 in the test (c) has been written in the address $23FF, its read-out data is $01, which means that an error has been caused.

In this way, which RAM block (I, II or III) has been subjected to the error is first located, and then so does which RAM component having undergone the error, by the respective information given by the RAM tester. In the above example, the display of "$23FF" means RAM (I) block is in trouble, and the display of read-out data "$01" (with respect to write-in data "$00") shows RAM 1 of the block (I) is defective.

	D7	D6	D5	D4	D3	D2	D1	D0	
Write-in data $00	0	0	0	0	0	0	0	0	← Error
Read-out data $01	0	0	0	0	0	0	0	1	to occur

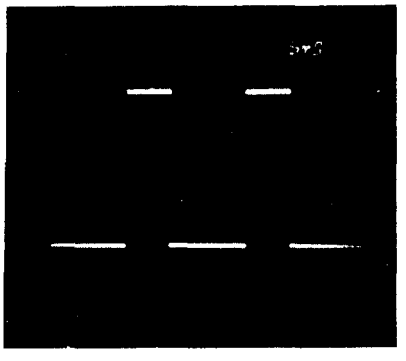
	RAM(Ⅲ)	RAM(Ⅱ)	RAM(Ⅰ)
D0	17	9	1
D1	18	10	2
D2	19	11	3
D3	20	12	4
D4	21	13	5
D5	22	14	6
D6	23	15	7
D7	24	16	8

RAM (I)
$1000 ~ $4FFF
RAM (II)
$5000 ~$8FFF

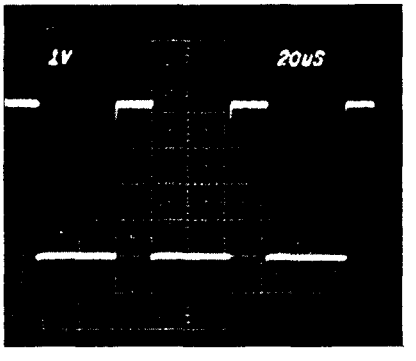
RAM (III)
$9000 ~ $CFFF

■ Wave form of Each Pin of CPU Board

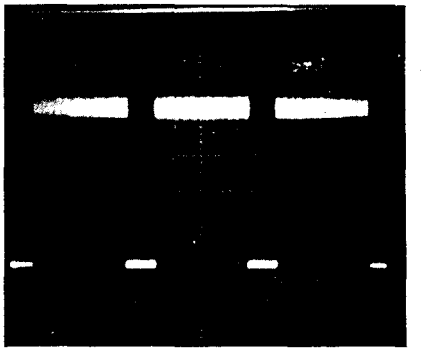
At pin 11 of IC 20
(31.5 KHz)



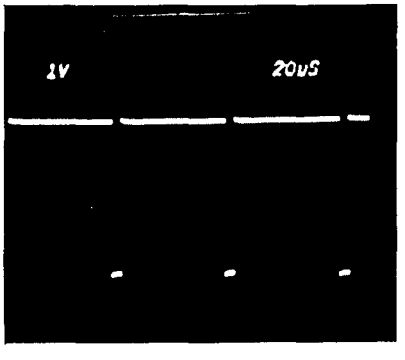
At Pin 8 of IC 11
(Horizontal Blanking Signal)



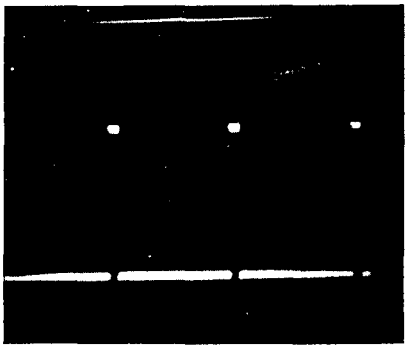
At Pin 10 of IC 50
(Vertical Blanking Signal)



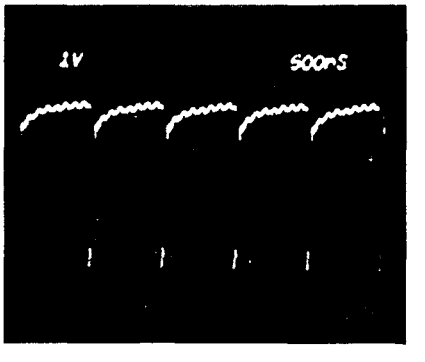
At Pin 4 of IC 3



At Pin 10 of IC 20
(Vertical Sync. Signal)



At Pin 4 of IC 3



	D7	D6	D5	D4	D3	D2	D1	D0	
Write-in data $00	0	0	0	0	0	0	0	0	← Error
Read-out data $01	0	0	0	0	0	0	0	1	to occur

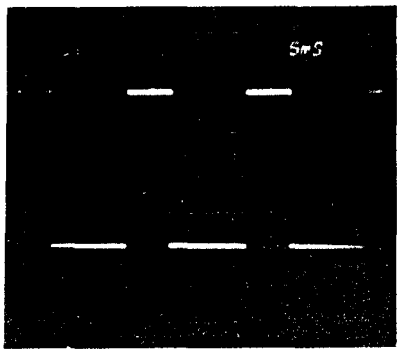
	RAM Ⅲ	RAM Ⅱ	RAM Ⅰ
D0	17	9	1
D1	18	10	2
D2	19	11	3
D3	20	12	4
D4	21	13	5
D5	22	14	6
D6	23	15	7
D7	24	16	8

RAM (I)
$1000 ~ $4FFF
RAM (II)
$5000 ~$8FFF

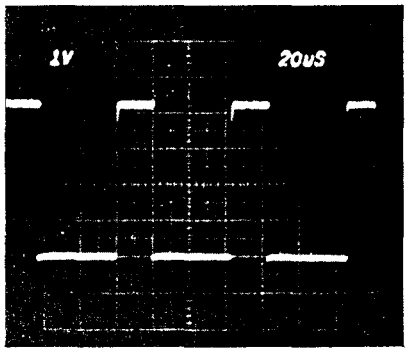
RAM (III)
$9000 ~ $CFFF

■ Wave form of Each Pin of CPU Board

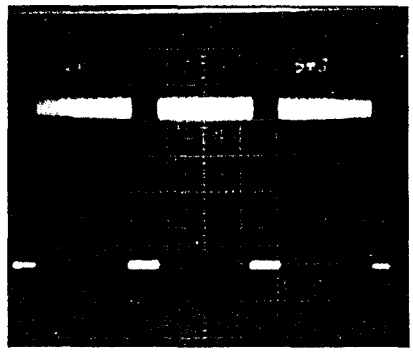
At pin 11 of IC 20
(31.5 KHz)



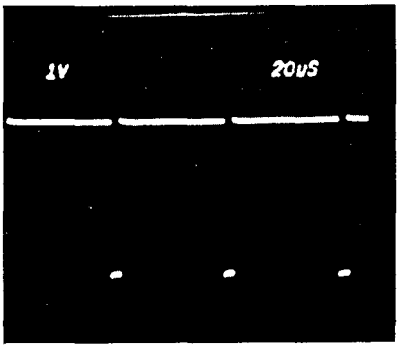
At Pin 8 of IC 11
(Horizontal Blanking Signal)



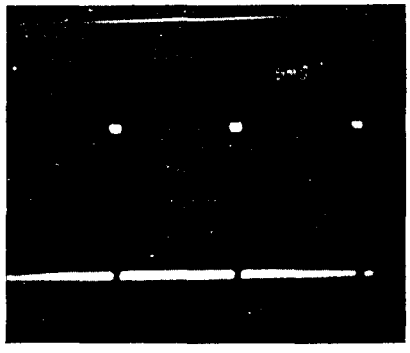
At Pin 10 of IC 50
(Vertical Blanking Signal)



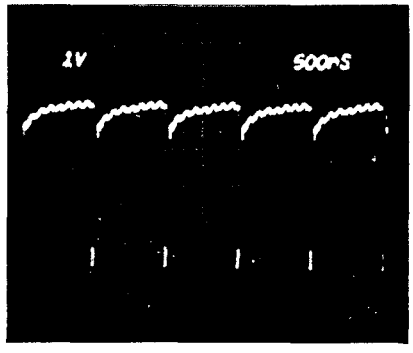
At Pin 4 of IC 3



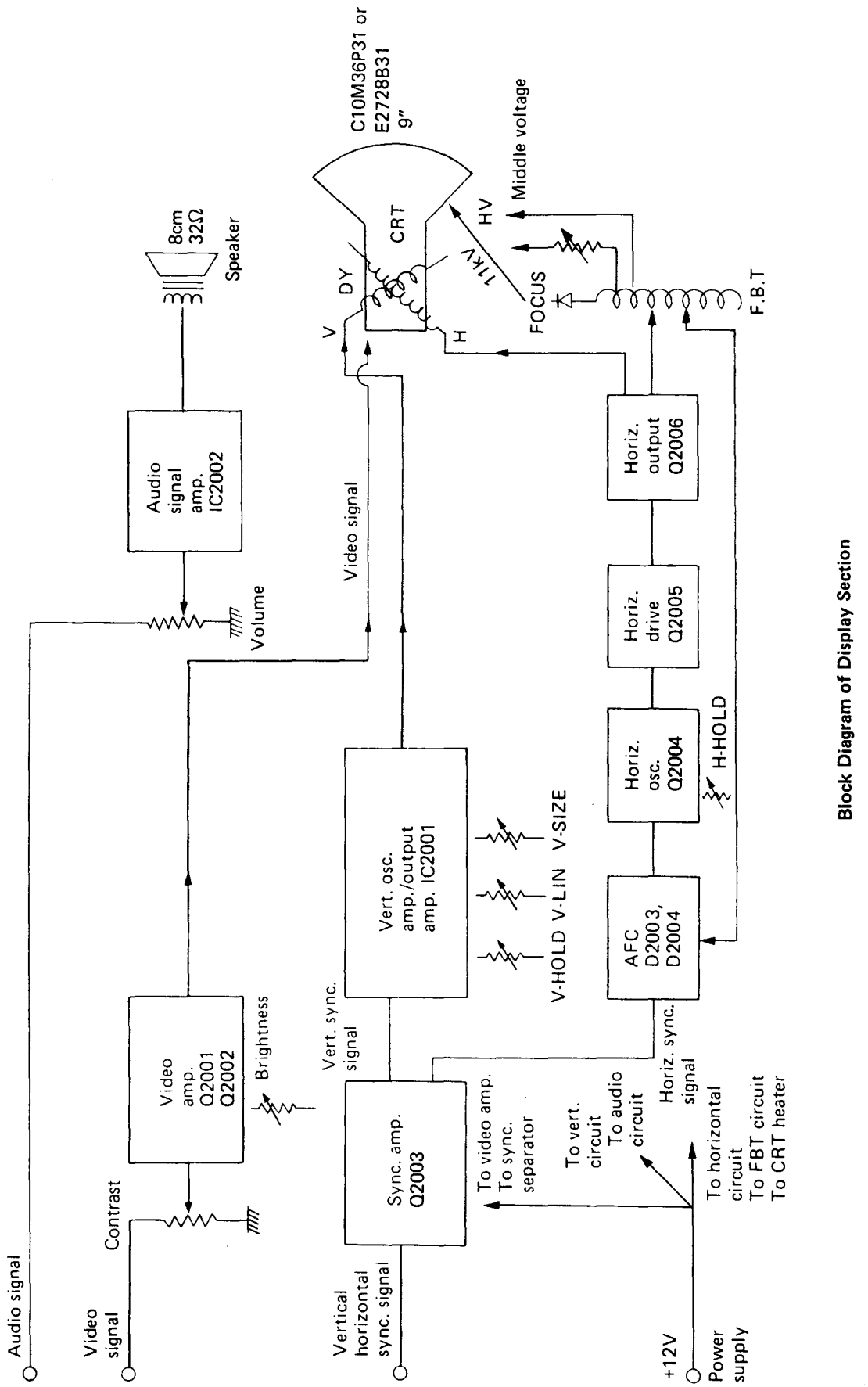
At Pin 10 of IC 20
(Vertical Sync. Signal)



At Pin 4 of IC 3



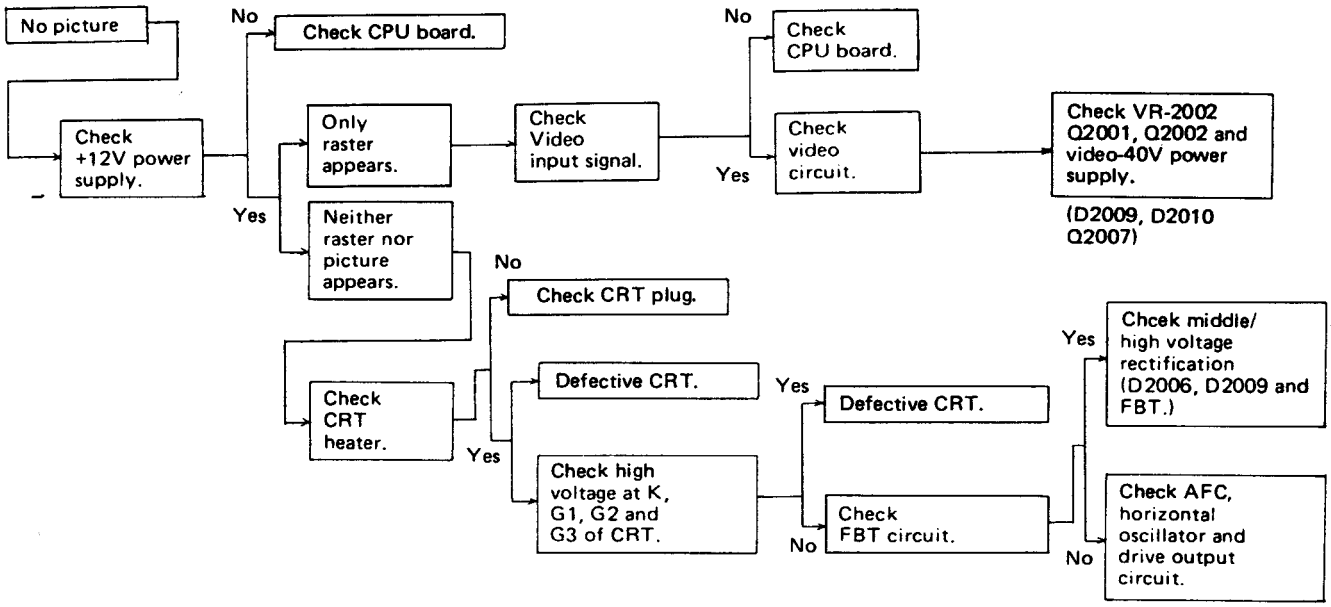
DISPLAY SECTION



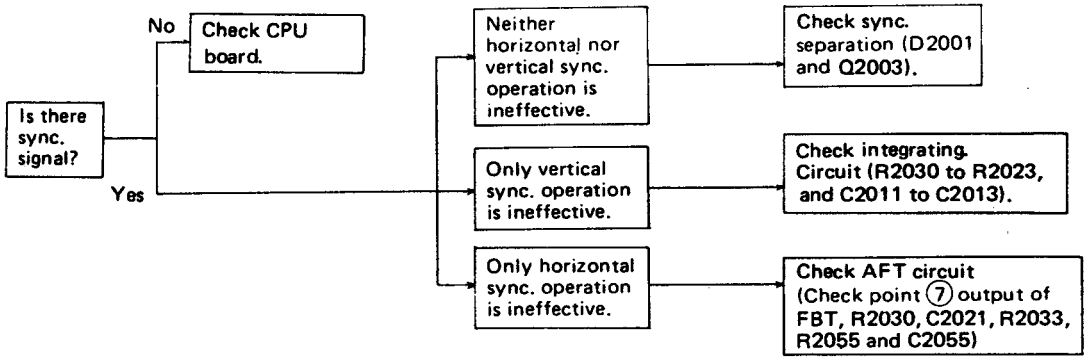
Block Diagram of Display Section

■ Trouble Shooting Chart

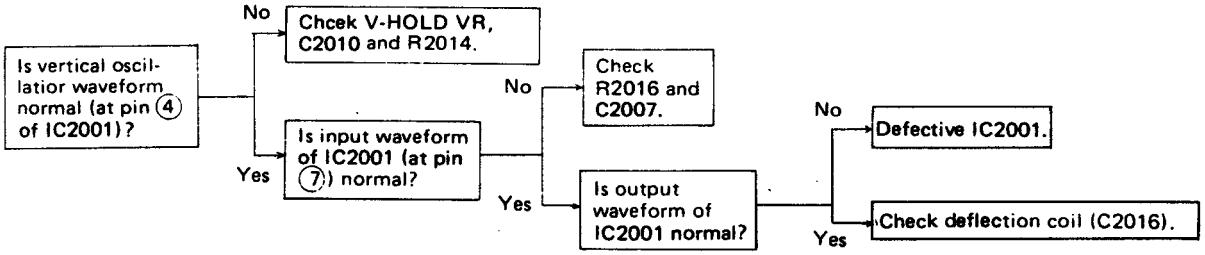
Problem 1: No picture appears.



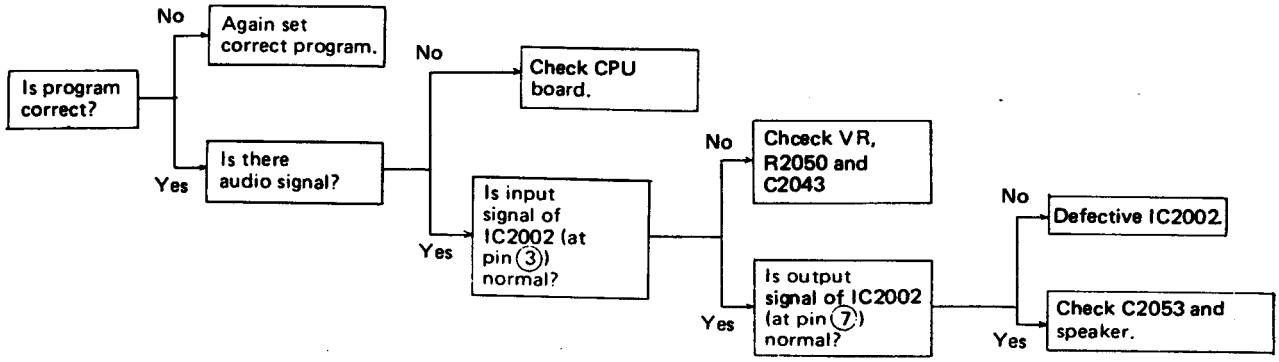
Problem 2: Sync operation remains ineffective.



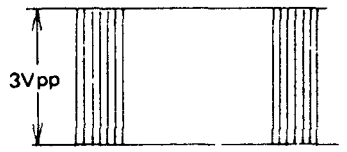
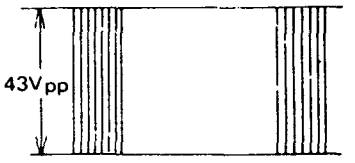
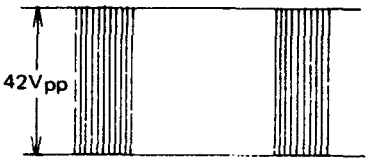
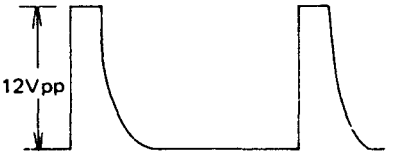
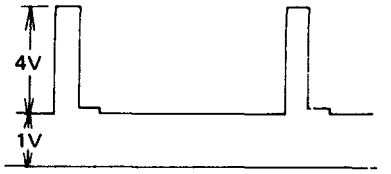
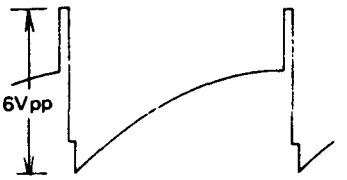
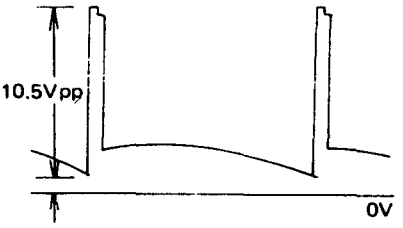
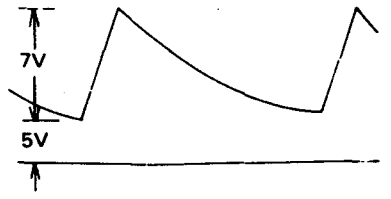
Problem 3: Raster is too narrow.

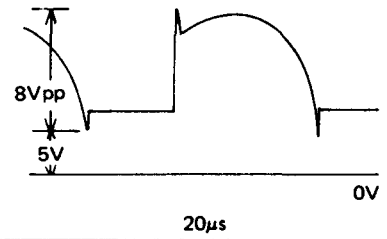
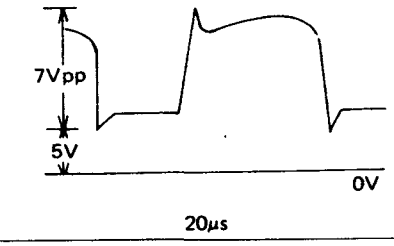
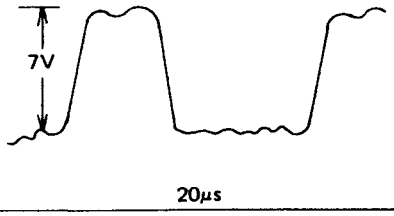
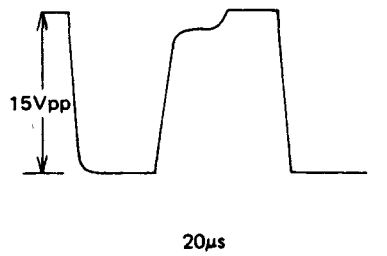
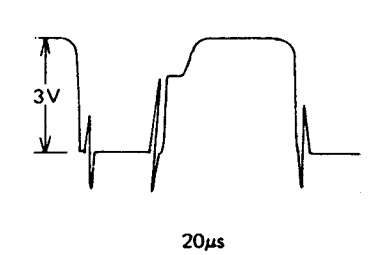
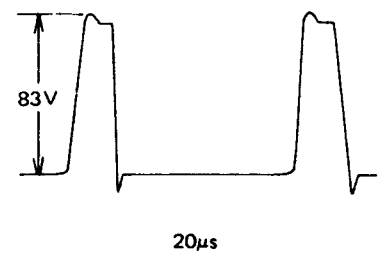
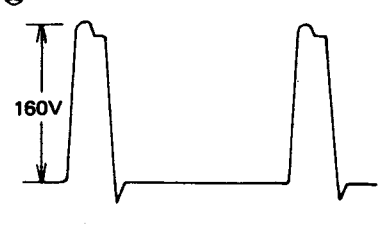
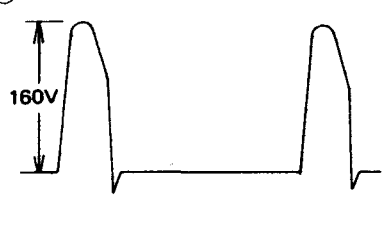
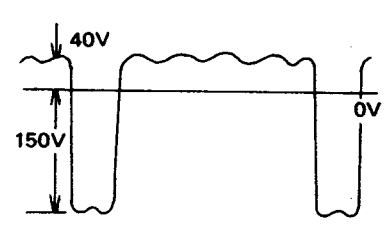
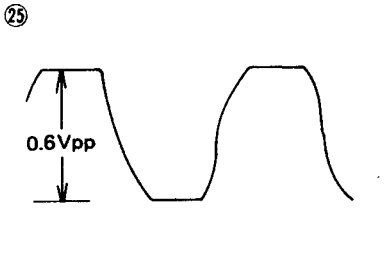
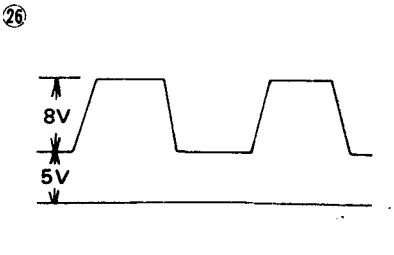


Problem 4: No sound comes out.



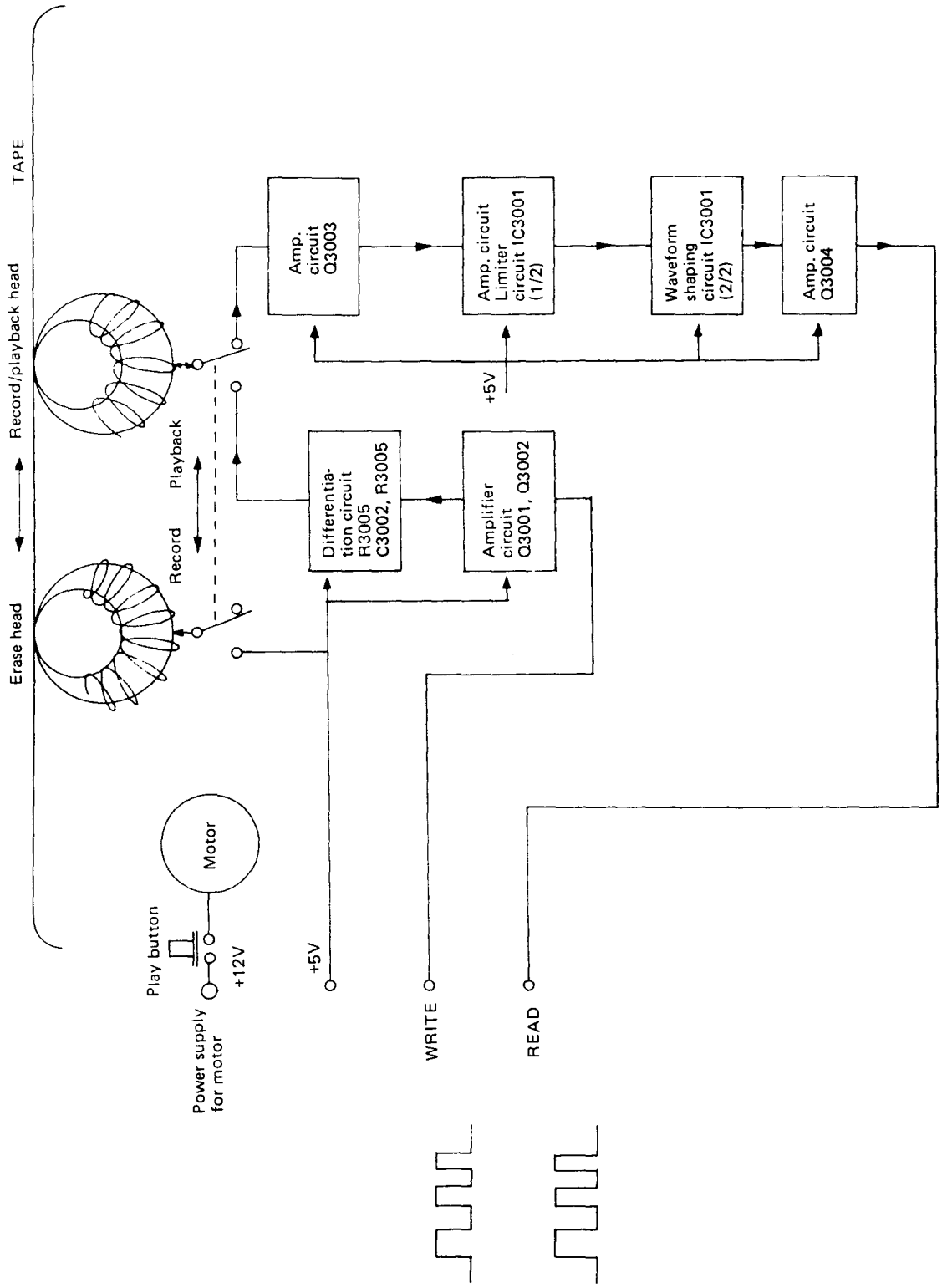
■ Waveforms of Display Section

Video input signal	Video output signal	Video output signal
①  5ms	②  5ms	③  5ms
Sync. input signal	**Sync. signal amp. output**	**Vertical sync. signal**
④  20μs	⑤  20μs	⑥  2ms
Vertical oscillator Circuit	**Vertical output waveform**	**Vertical drive collector waveform**
⑦  5ms	⑧  1.5V	⑨  5ms
Voltage at pin ⑨ of RH-IX0015	**Vertical deflection coil voltage waveform**	**Vertical linearity circuit waveform**
⑩  5ms	⑪  5ms	⑫  5ms
Horizontal sync. signal waveform	**AFC waveform**	**FBT waveform**
⑬  20μs	⑭  20μ	⑮  20μs

Horizontal oscillator waveform	Horizontal oscillator emitter waveform	Horizontal oscillator output waveform
⑯ 	⑰ 	⑱ 
Horizontal drive collector waveform	**Horizontal output base waveform**	**Horizontal output pulse**
⑲ 	20 	㉑ 
AFC pulse	**Middle voltage FBT pulse**	**Video power supply pulse**
㉒ 	㉓ 	㉔ 
Audio input signal	**Audio output waveform**	
㉕ 	㉖ 	

The figures encircled by ◯ in the above refer to those of "Wiring Diagram" --- "Check Points of Waveforms".

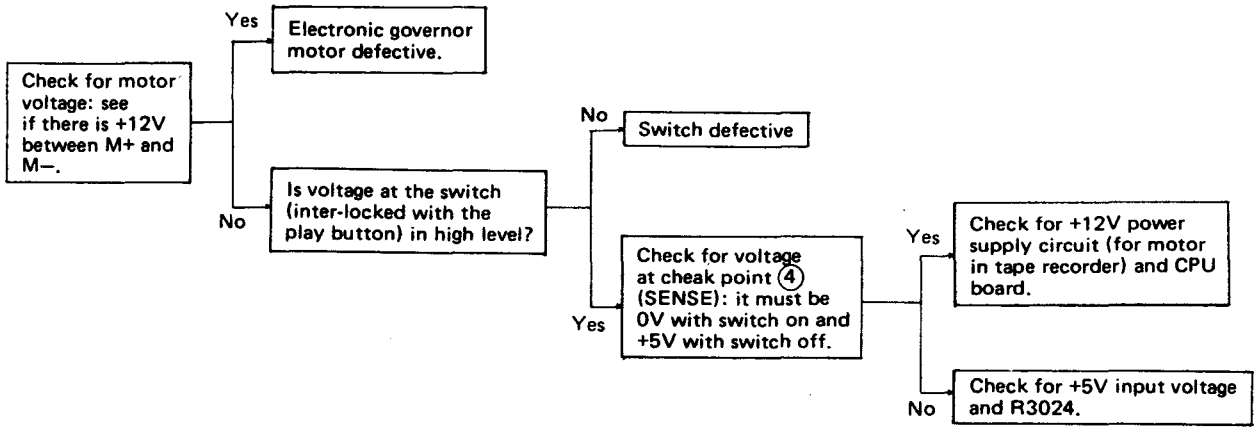
CASSETTE TAPE RECORDER SECTION



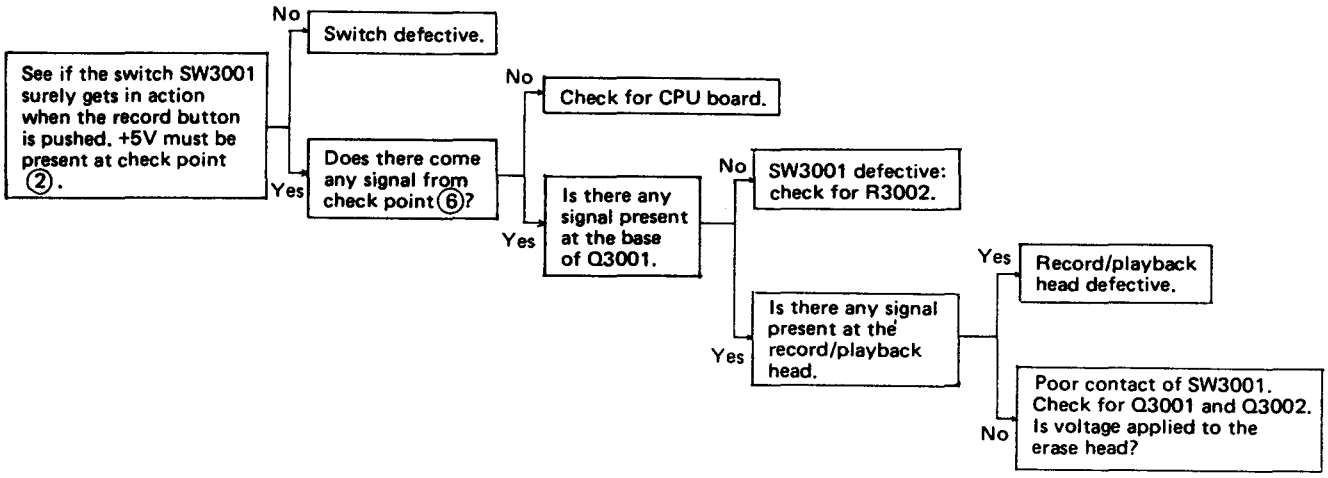
Block Diagram of Cassette Tape Recorder

■ Trouble Shooting Chart

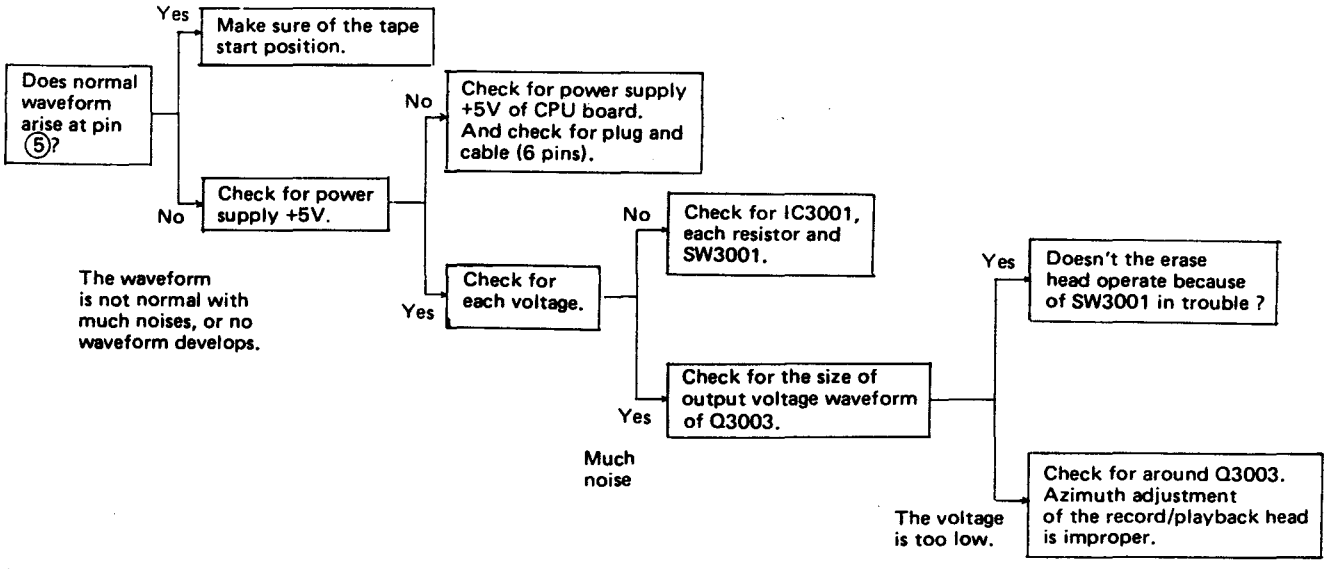
Problem 1: Even if the play button is pushed, neither motor rotales nor tape moves.



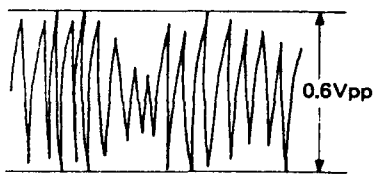
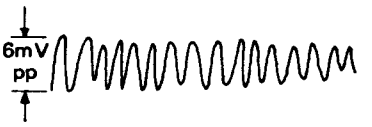
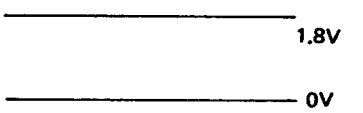
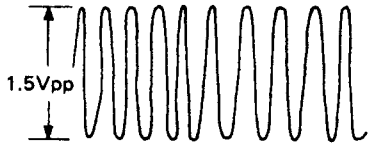
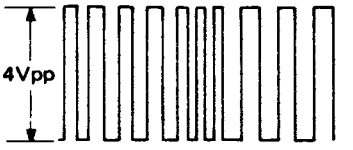
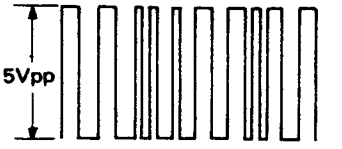
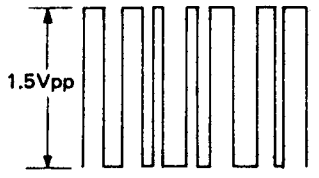
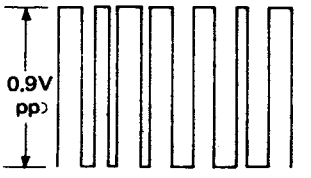
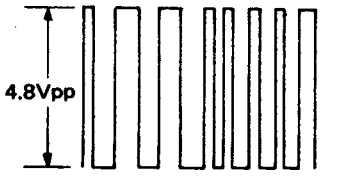
Problem 2: Record (SAVE) operation of program is impossible.



Problem 3: Playback (LOAD) of program is impossible, or error is caused.



■ Waveforms of Cassette Tape Recorder

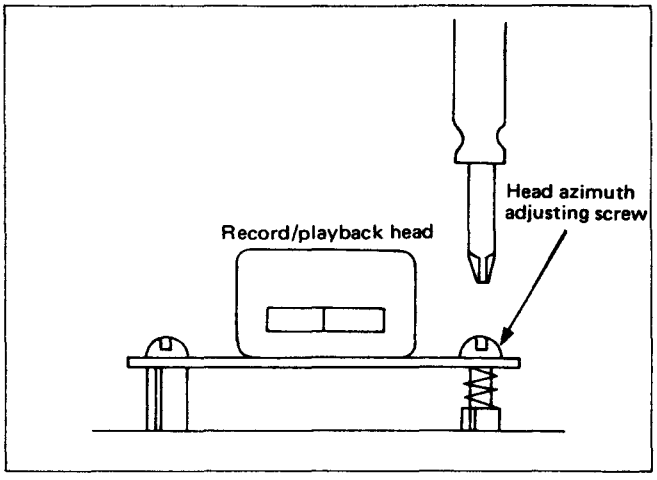
1st stage amp. output waveform	Operational amp. input waveform	Operational amp. input waveform
① 	② 	③ 
Operational amp. input waveform	**Operational amp. output waveform**	**Output waveform**
④ 	⑤ 	⑥ 
Record input waveform	**Record amp. waveform**	**Record amp. waveform**
⑦ 	⑧ 	⑨ 
Head input waveform		
⑩ 		

The figures encircled by ◯ correspond to those of "Wiring Diagram" – "Check Points of Waveforms".

■ Azimuth Adjustment and Head Cleaning

*** Azimuth adjustment of record/playback head**

1. Connect a synchroscope to the collector of Q3003.
2. Load a test tape (TEAC, 3kHz-signal recorded) and play it back.
3. Rotate the azimuth adjusting screw so that the waveform on a synchroscope will be the maximum.



Head cleaning

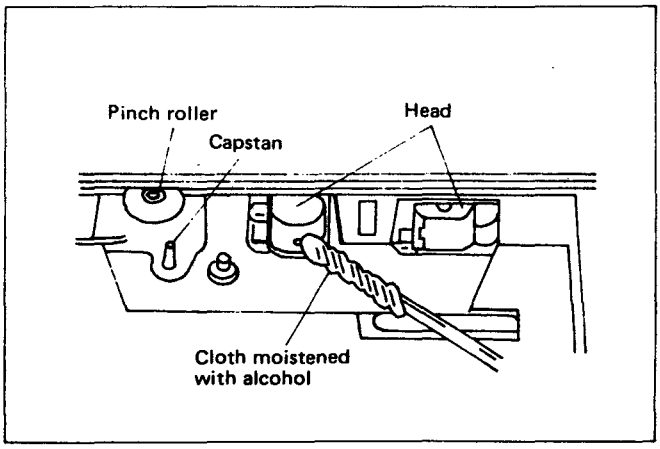
Clean the heads, capstan and pinch roller often, to remove dust and tape residue. Foreign material on them impairs the sound quality of both recording and playback.

Open the cassette holder, remove the tape, push the play button and clean them with a soft cloth moistened in alcohol.

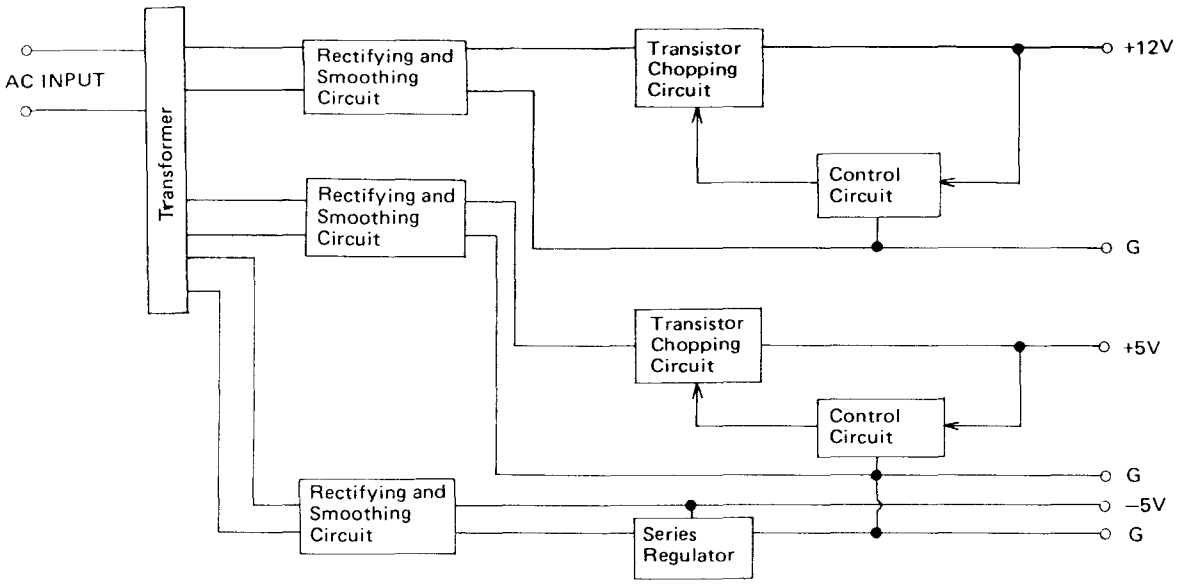
Erase protection

To protect a cassette tape from being accidentally erased it was designed with two removable tabs. When the tabs are removed, it is impossible to push the record button.

When no cassette is inside the machine, no pushing of the record button is allowed, either. Nevertheless, pushing the button strongly may cause a trouble.

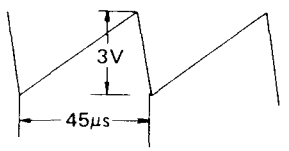
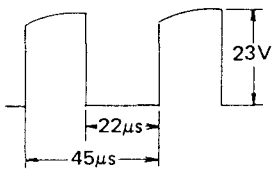
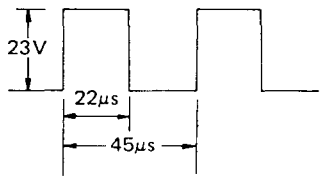


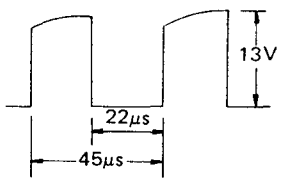
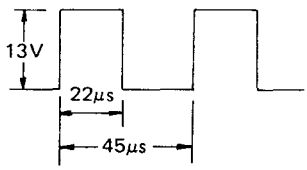
POWER SUPPLY SECTION



Block Diagram of Power Supply Section

■ Waveforms of Each Parts

Waveform of pin ⑤ of IC301 and IC401	Waveform of pin⑪of IC401	Q401 collector waveform
		

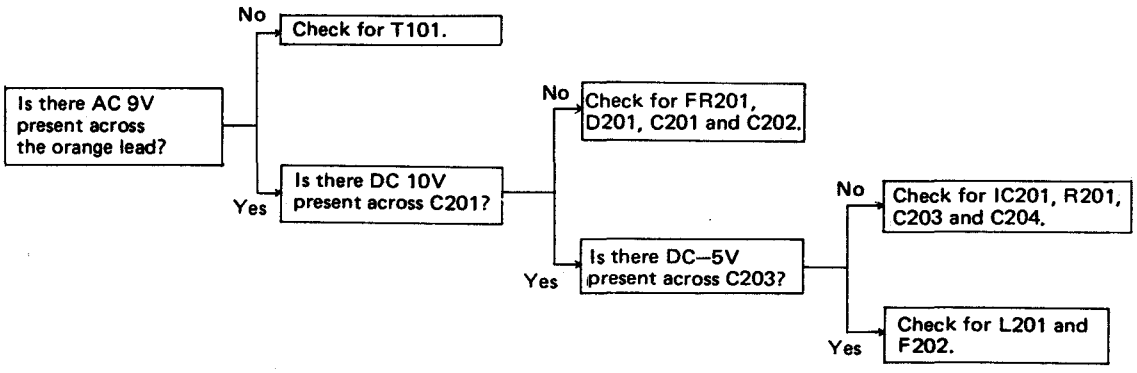
Waveform of pin⑪of IC301	Q301 collector waveform	
		

■ Trouble Shooting Chart

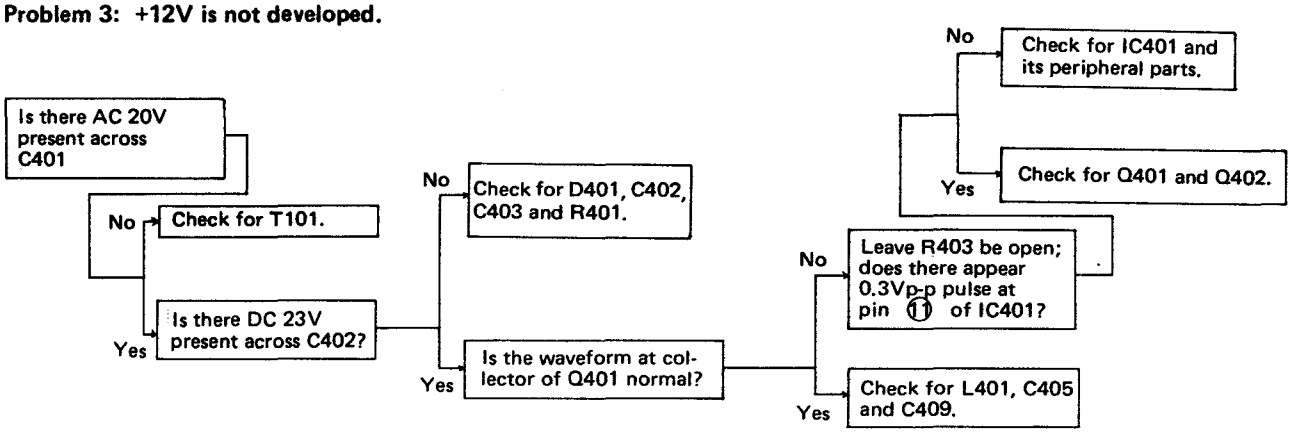
Problem 1: No voltage appears at any output terminal.

Check primary circuit which includes the transformer.

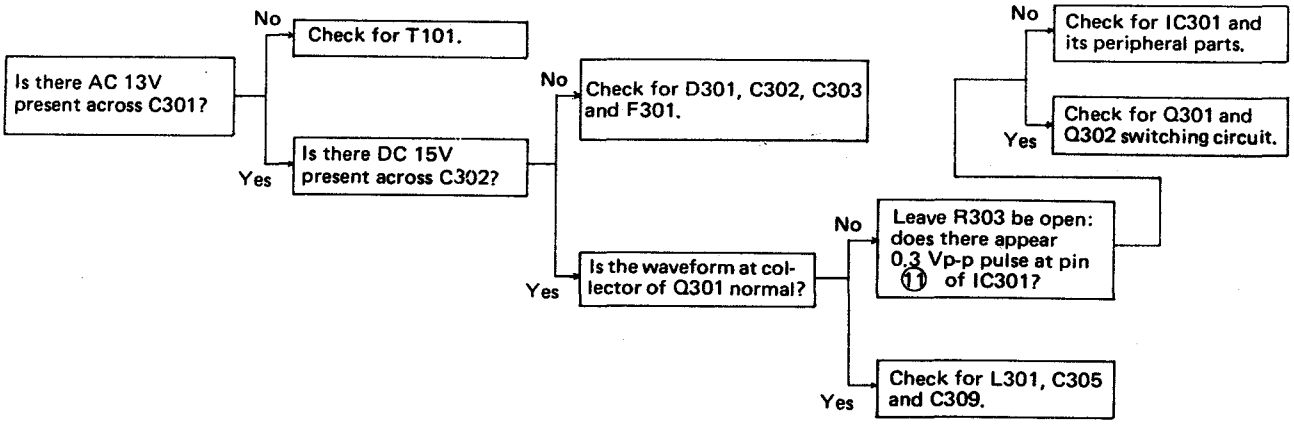
Problem 2: –5V is not developed.



Problem 3: +12V is not developed.



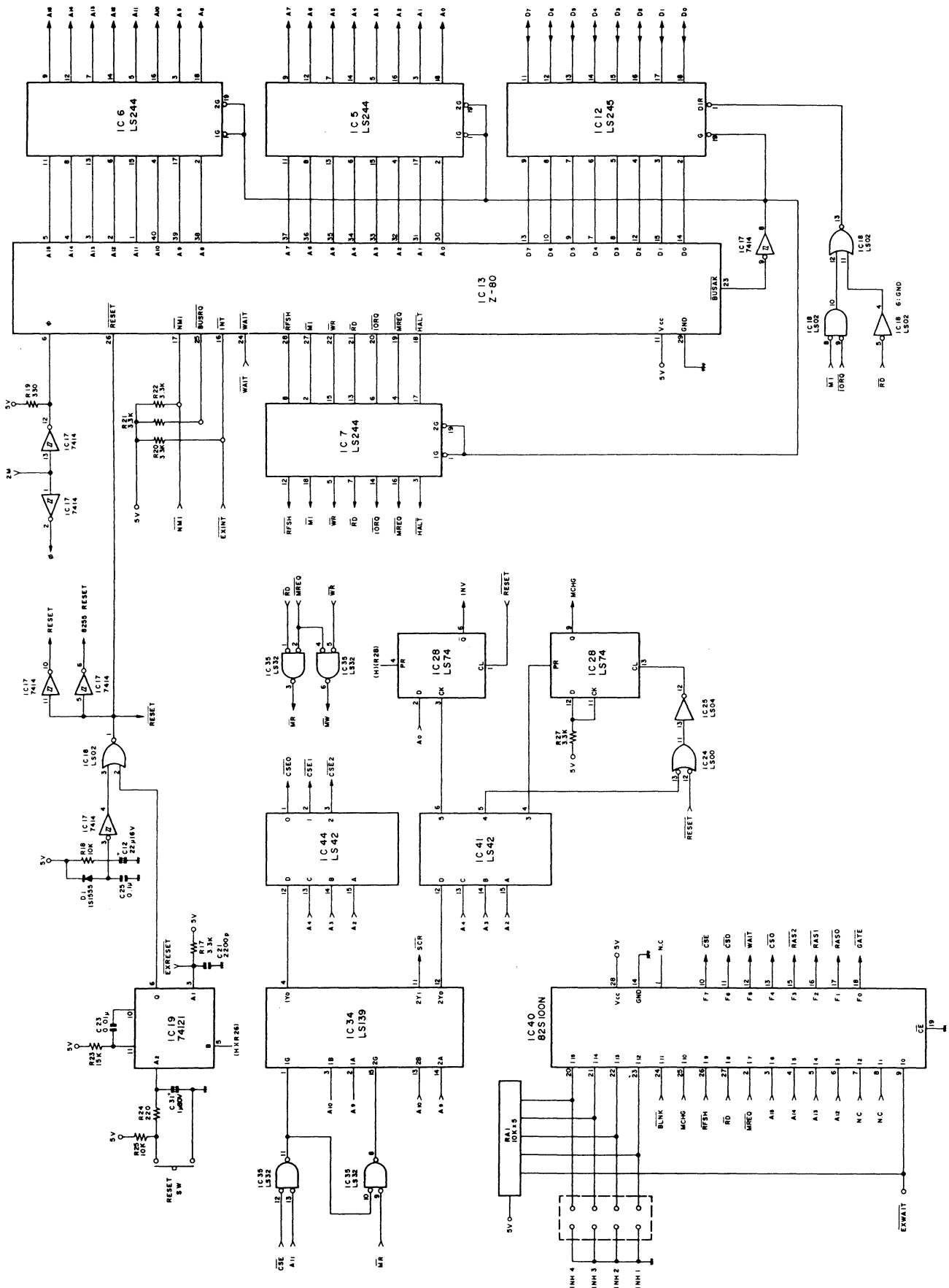
Problem 4: +5V is not developed.

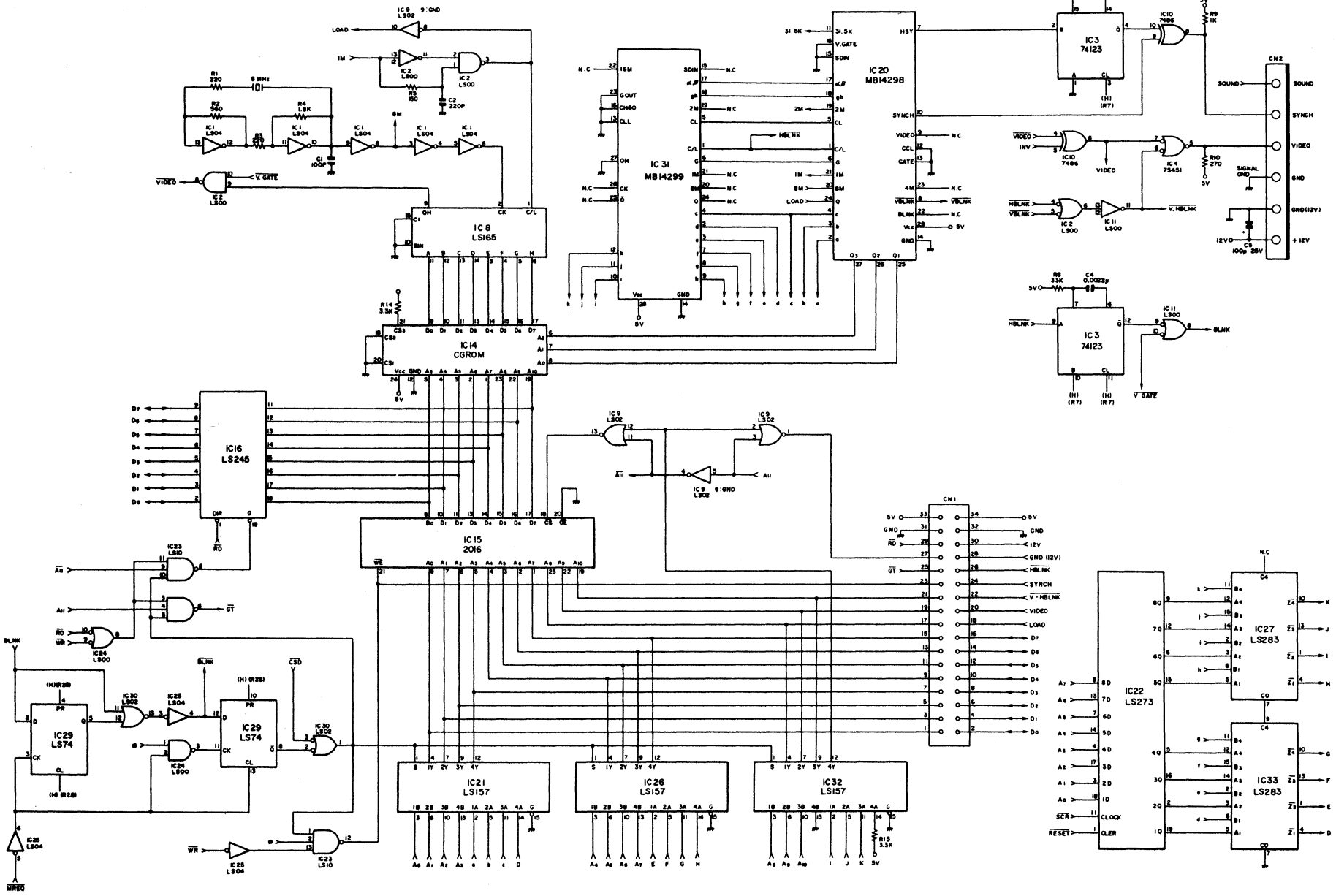


CIRCUIT DIAGRAM AND PRINTED WIRING BOARD

Notes: The circuit diagram and printed wiring board subject to change without prior notice.

■ **CPU Board Circuits (1)**





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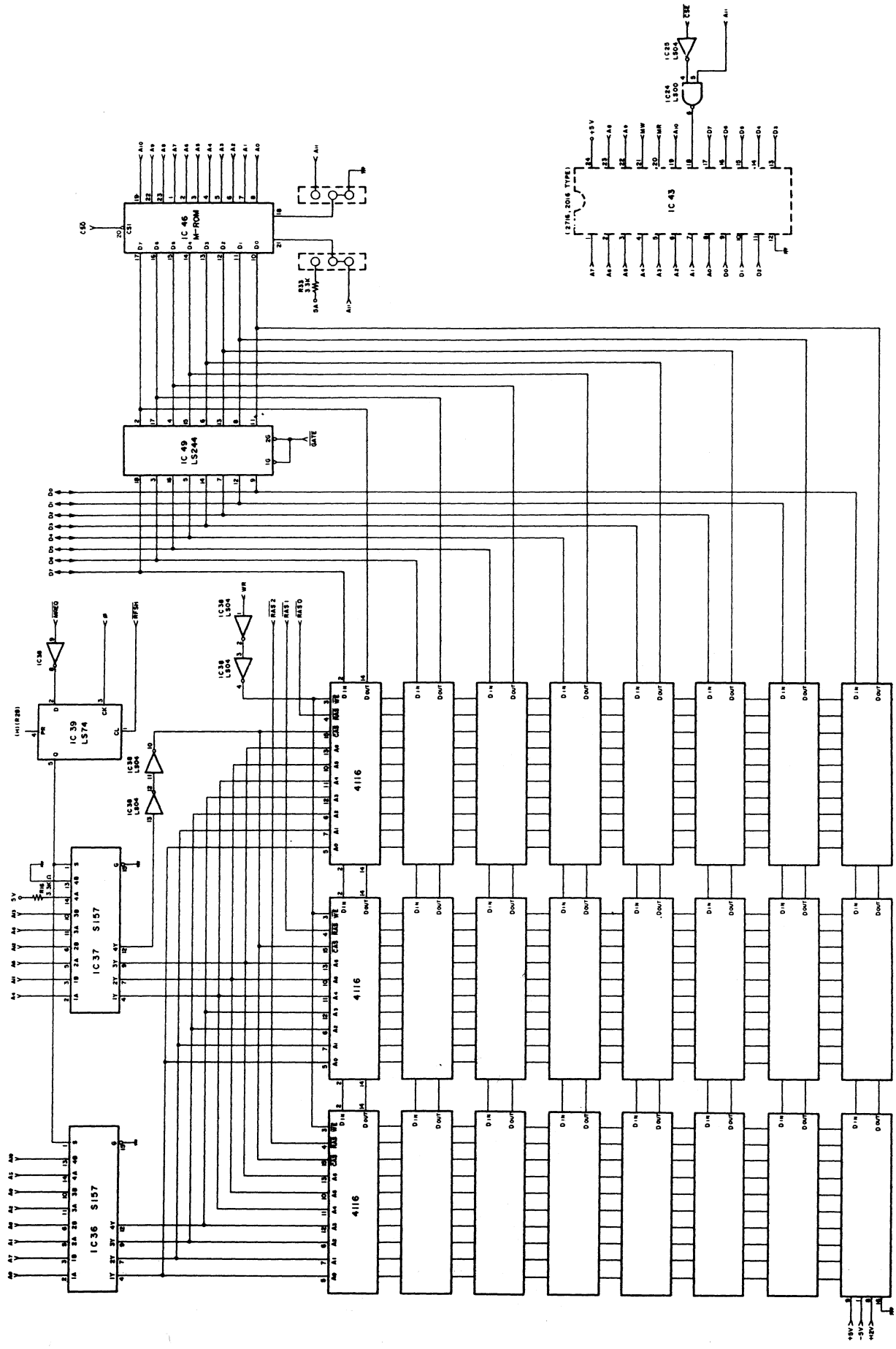
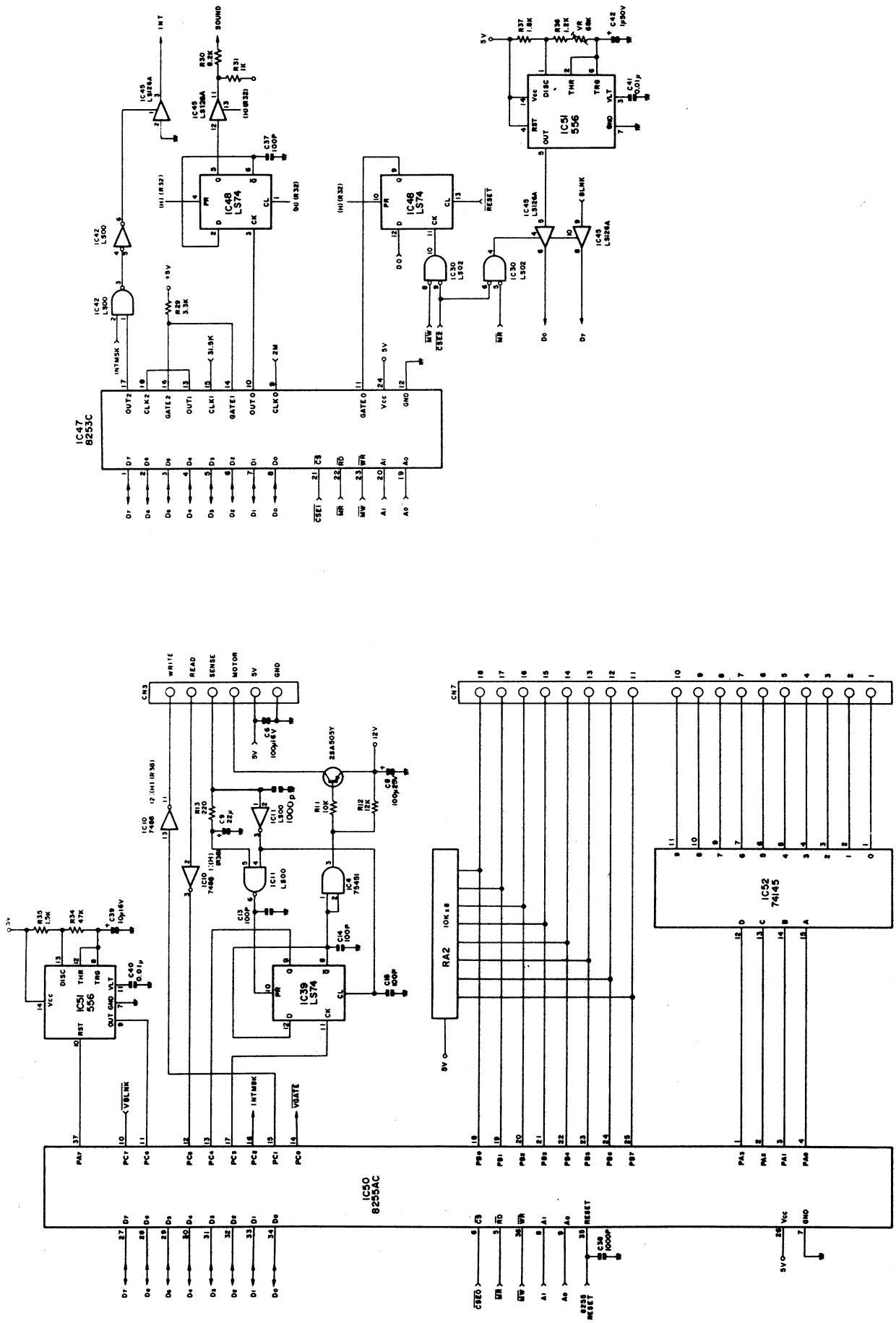
(H): Pulled up to +5V line through 3.3K ohm.

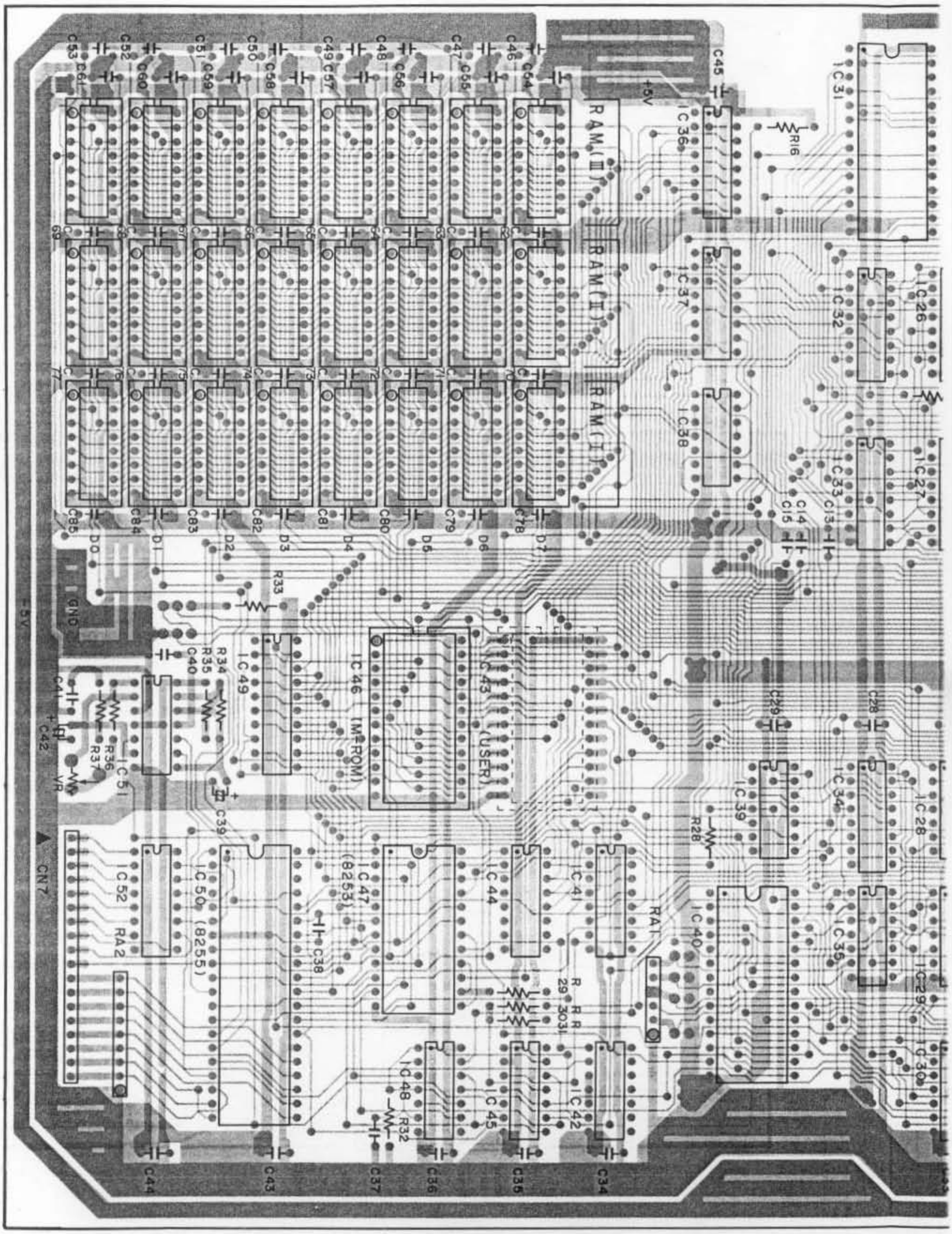
■ CPU Board Circuits (3)

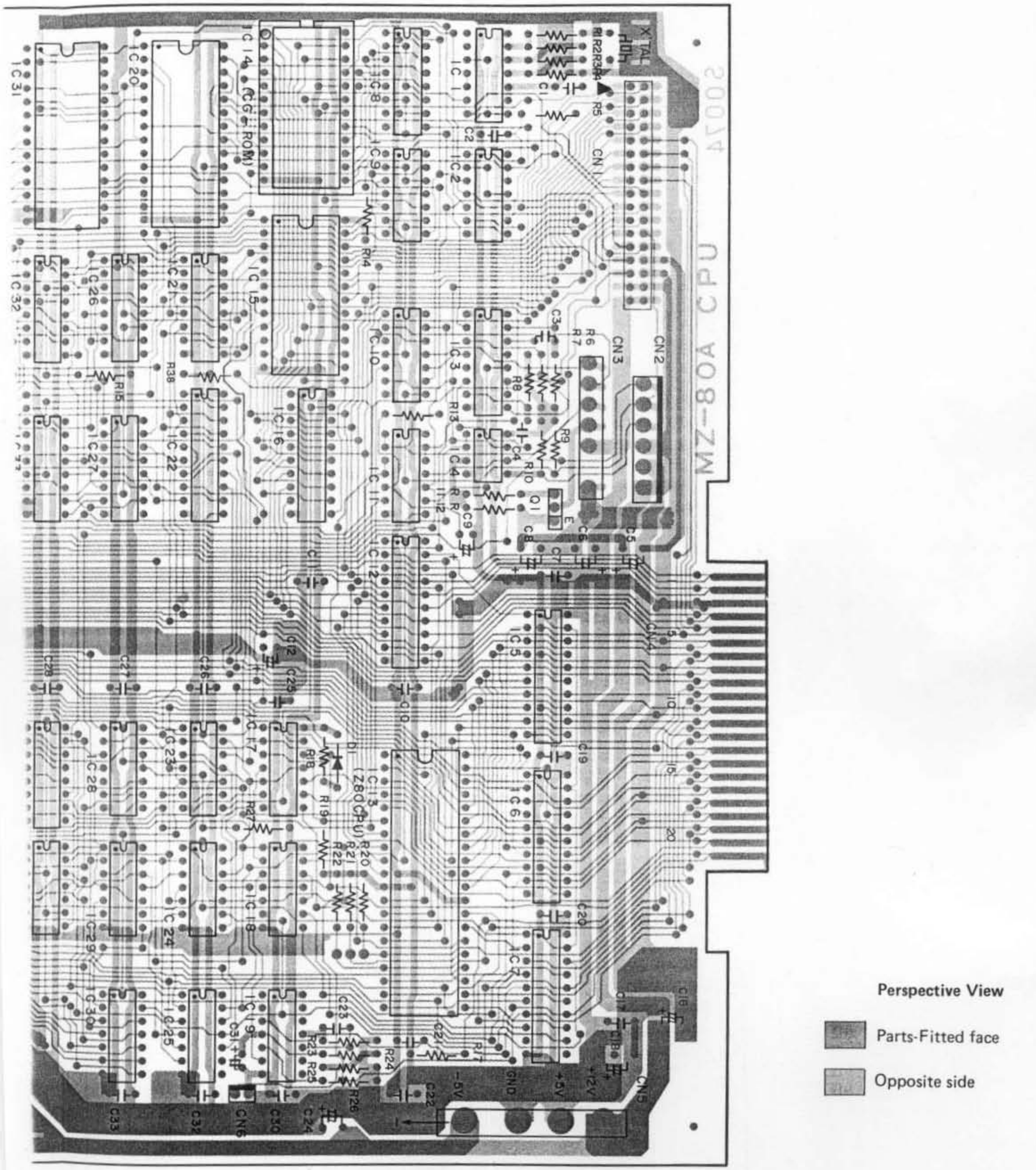


■ CPU Board Circuits (4)



■ CPU PWB


C53 C52 C51 C50 C49 C48 C47 C46
C61 C60 C59 C58 C57 C56 C55 C54
C45
+5V
IC 31
IC 36
R16
RAM(III)
RAM(II)
RAM(I)
IC 37
IC 32
IC 26
IC 38
IC 33
IC 27
C14 C15
C13
C69 C68 C67 C66 C65 C64 C63 C62
C77 C76 C75 C74 C73 C72 C71 C70
C85 C84 C83 C82 C81 C80 C79 C78
D0 D1 D2 D3 D4 D5 D6 D7
GND
R33
R34 R35 C40
IC 49
IC 46 (M²ROM)
IC 43 (USER)
C28
C29
IC 28
IC 39
R28
IC 34
C41 +C42
R36 R37
VR
IC 51
C39
IC 52
RA2
IC 50 (8255)
IC 47 (8253)
C38
IC 44
IC 41
RA1
IC 40
IC 35
IC 29
IC 30
R 29
R 30
IC 48
R32
IC 45
IC 42
C44 C43 C37 C36 C35 C34
CN7
-5V



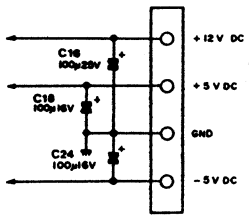
Perspective View

Parts-Fitted face

Opposite side

■ CPU Board Circuits (5)

CN5



CN4

	A	B
1	D1	D0
2	D3	D2
3	GND	GND
4	D5	D4
5	D7	D6
6	GND	A0
7	RESET	A1
8	GND	A2
9	$\overline{HALT}$	A3
10	$\overline{M1}$	A4
11	GND	A5
12	$\overline{WR}$	A6
13	$\overline{RD}$	A7
14	GND	A8
15	$\overline{IORQ}$	A9
16	$\overline{MREQ}$	A10
17	GND	A11
18	$\overline{EXINT}$	A12
19	GND	A13
20	$\overline{NMI}$	A14
21	$\overline{EX\ WAIT}$	A15
22	$\overline{EX\ RESET}$	Φ

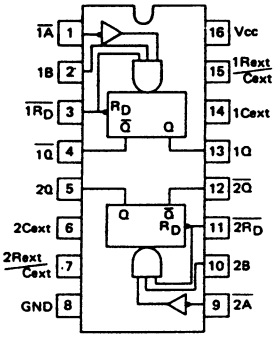
A : PARTS SIDE

MZ-80A(5/5)

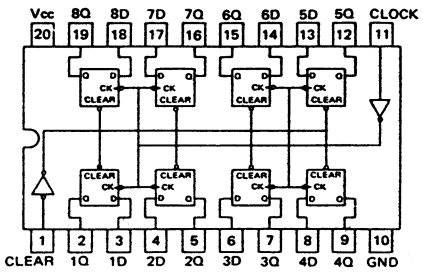
■ IC Pin Assignments (New parts)

Top View

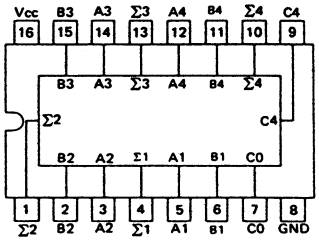
- IC 3 RH-iX0041PAZZ
  SN74123N



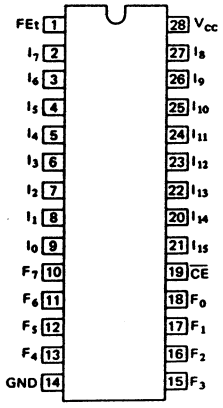
- IC22 RH-iX0250PAZZ
  SN74LS273N



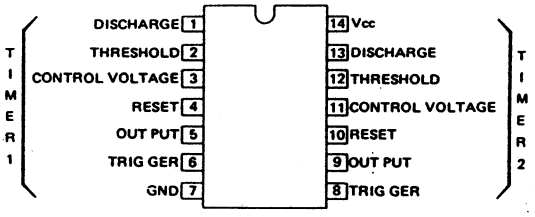
- IC27, 33 RH-iX0300PAZZ
  SN74LS283N



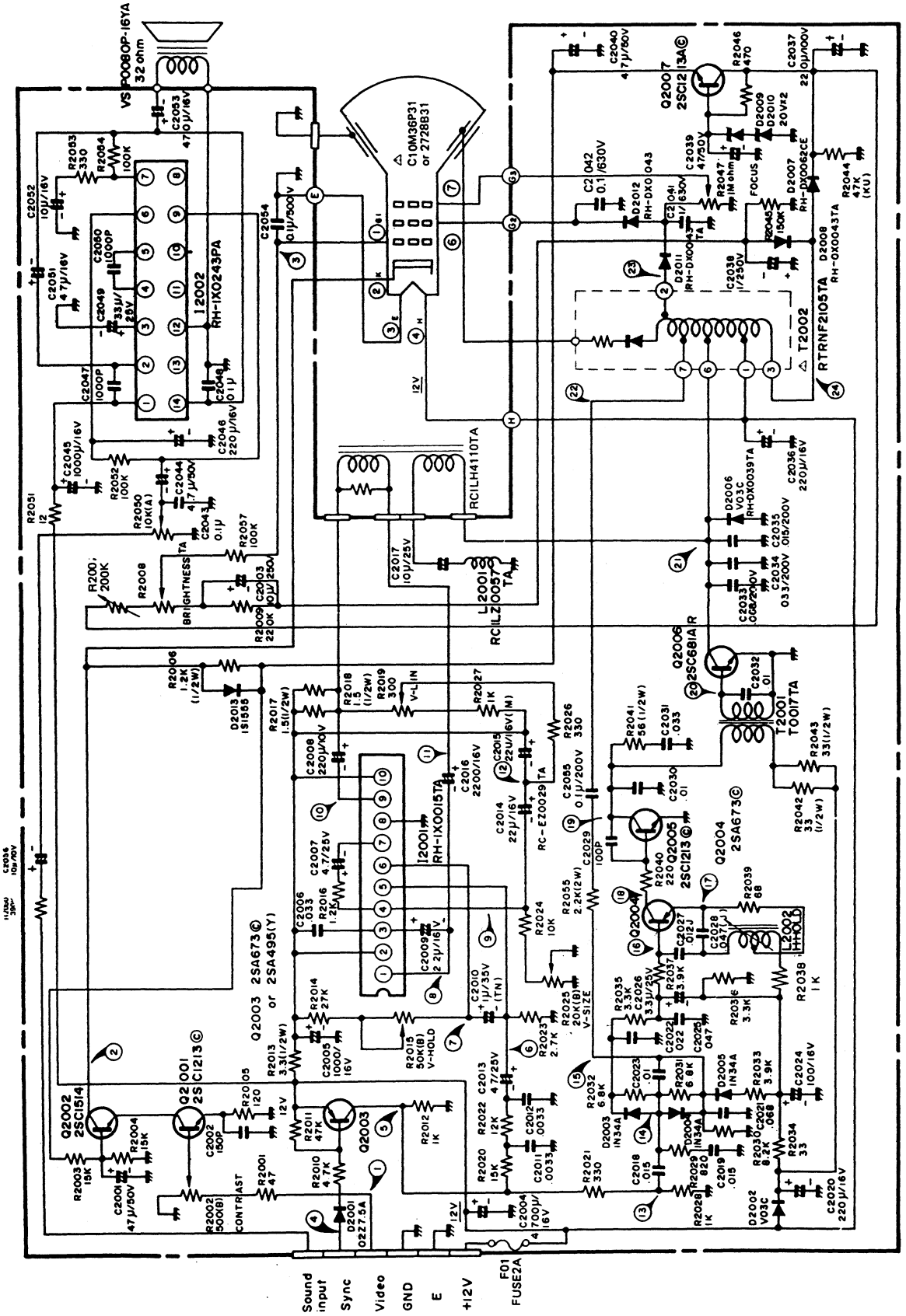
- IC 40 RH-iX0301PAZZ
  N82S 100



- IC 51 RH-iX0302PAZZ
  NE556



■ Display Circuit



Parts marked with " △ " are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

■ Display PWB

A
B
C
D
E
F
G
H
1
2
3
4
5
6
7
8
9
10
11
C2042
C2036
C2033
C2034
C2035
GND
H
D2012
T2002
C2017
D2006
Q2006
+12V
E
GND
Video
Sync
Sound Input
C2056
D2011
C2041
C2032
C2004
C2020
C2028
R2039
VR1
VR3
R2051
R2013
L200
R2005
T2001
C2031
C2030
Q2005
D2002
L2002
H-HOLD
D2001
C2045
C2005
DY
R2041
R2043
R2042
C2029
R2040
R2034
C2027
R2037
C2024
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C2055
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R2038
R2036
C2026
C2043
C2050
I2001
R2054
C2051
C2048
C2053
C2016
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VR2
R2052
C2046
C2052
C2014
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D2004
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C2018
R2028
R202
R2011
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R2016
C2013
R2017
R2002
CONTRAST
C2001
C2009
C2007
R2018
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R2045
R2025
D2013
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D2008
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C2002
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D2007
R2046
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R2027
R2019
C2040
D2010
C2037
C2008
R2015
C2010
R2023
R2024
V-LIN
D2009
R2025
R2014
V-Hold
C2039
Q2007
FOCUS
R2009
R2047
V-SIZE
R2007
BR1
C2054
C2003
R2057
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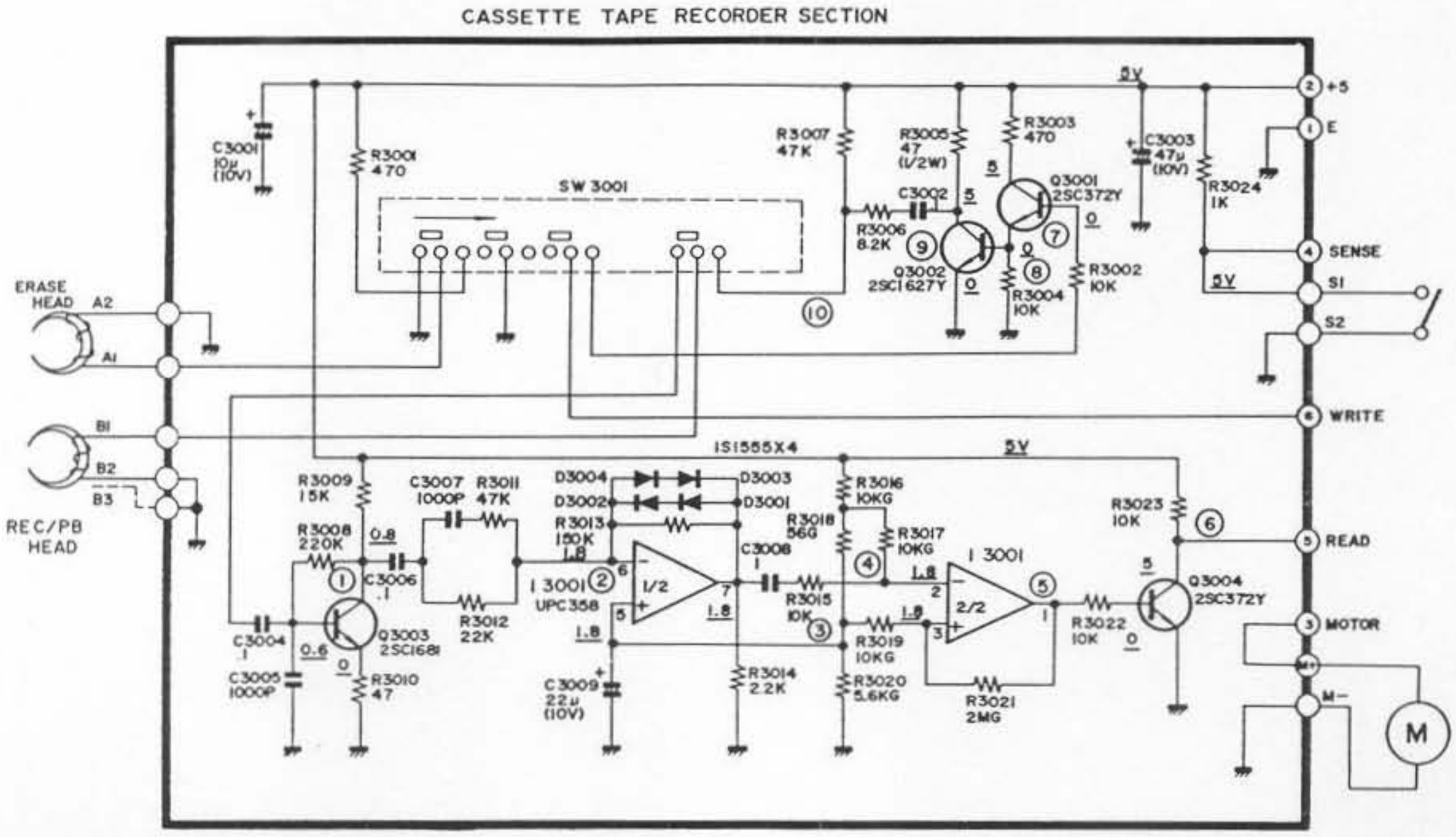
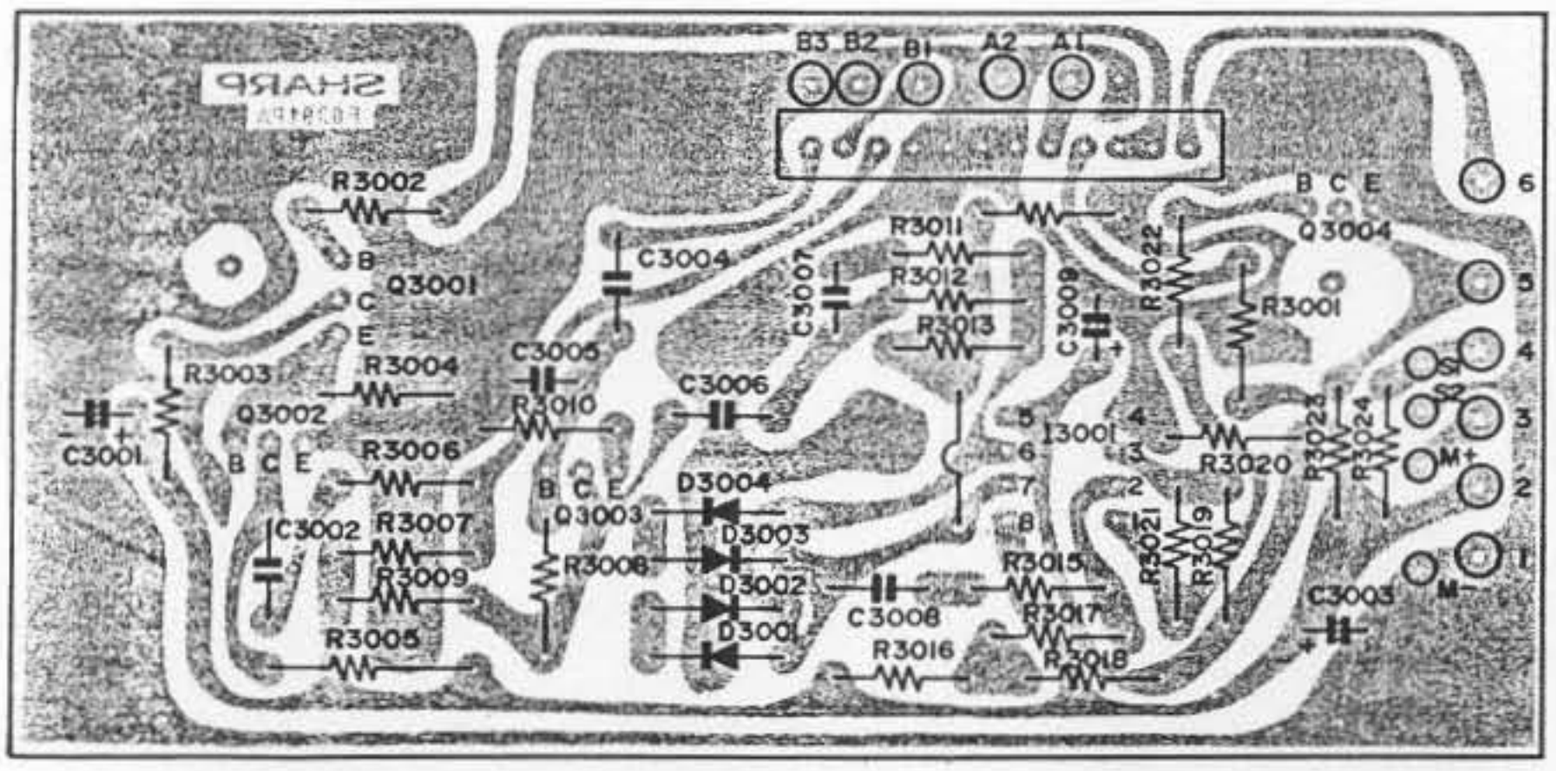
B-Out

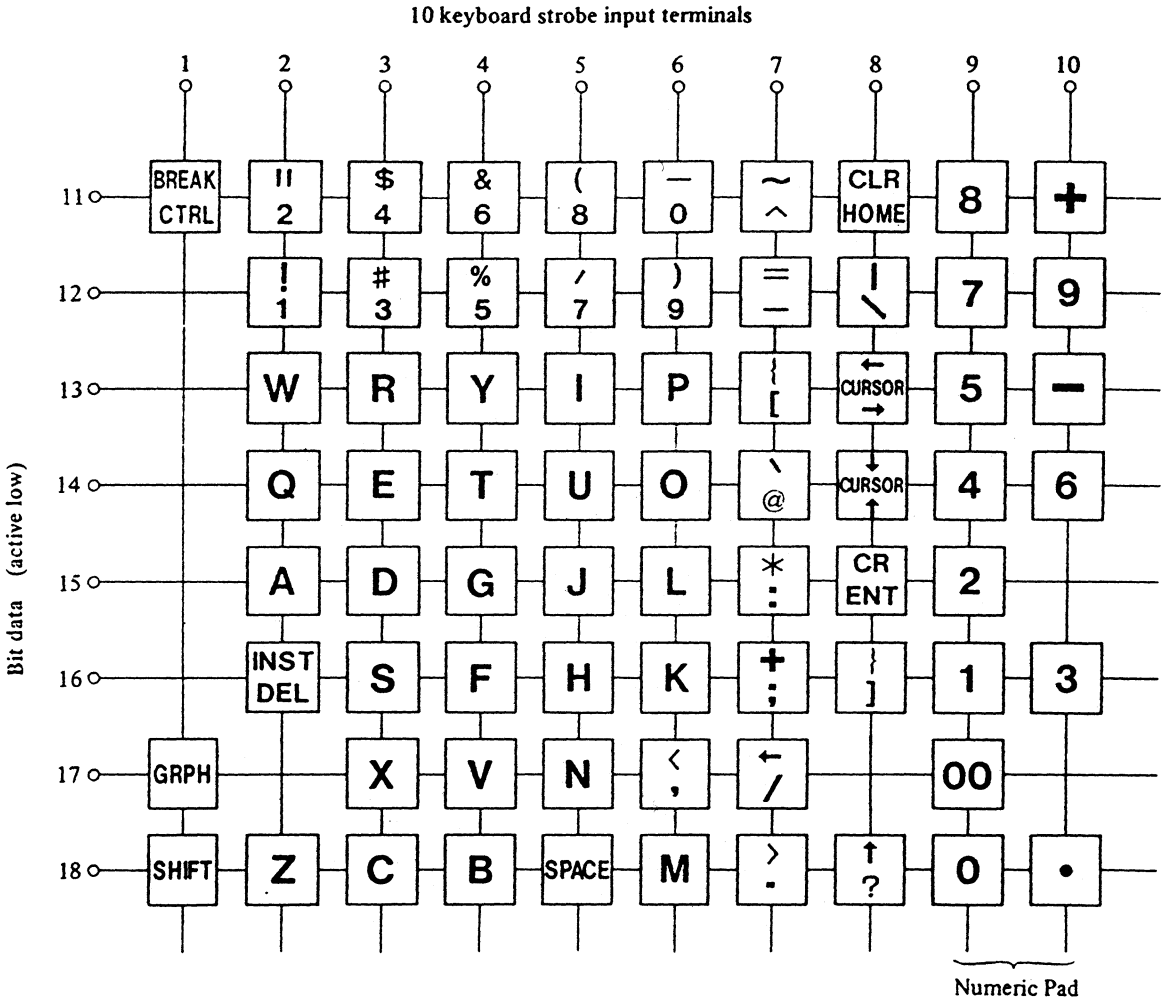
■ Cassette Circuit



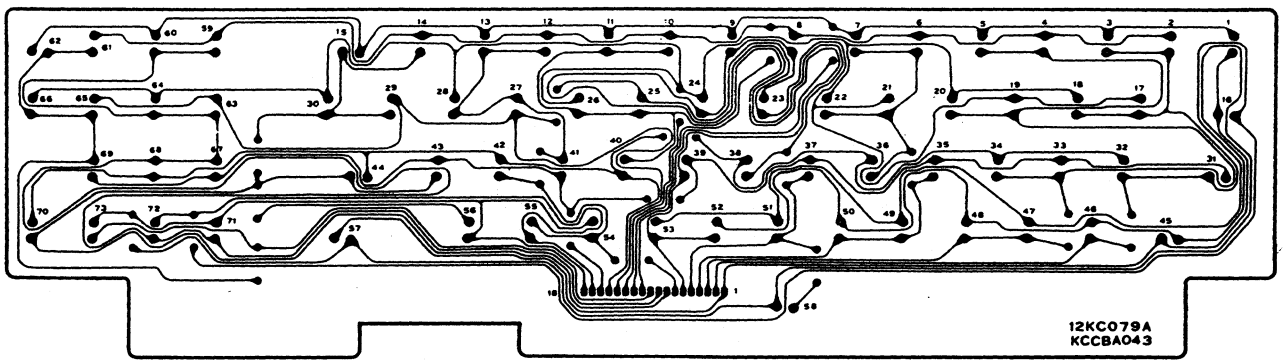
■ Cassette PWB



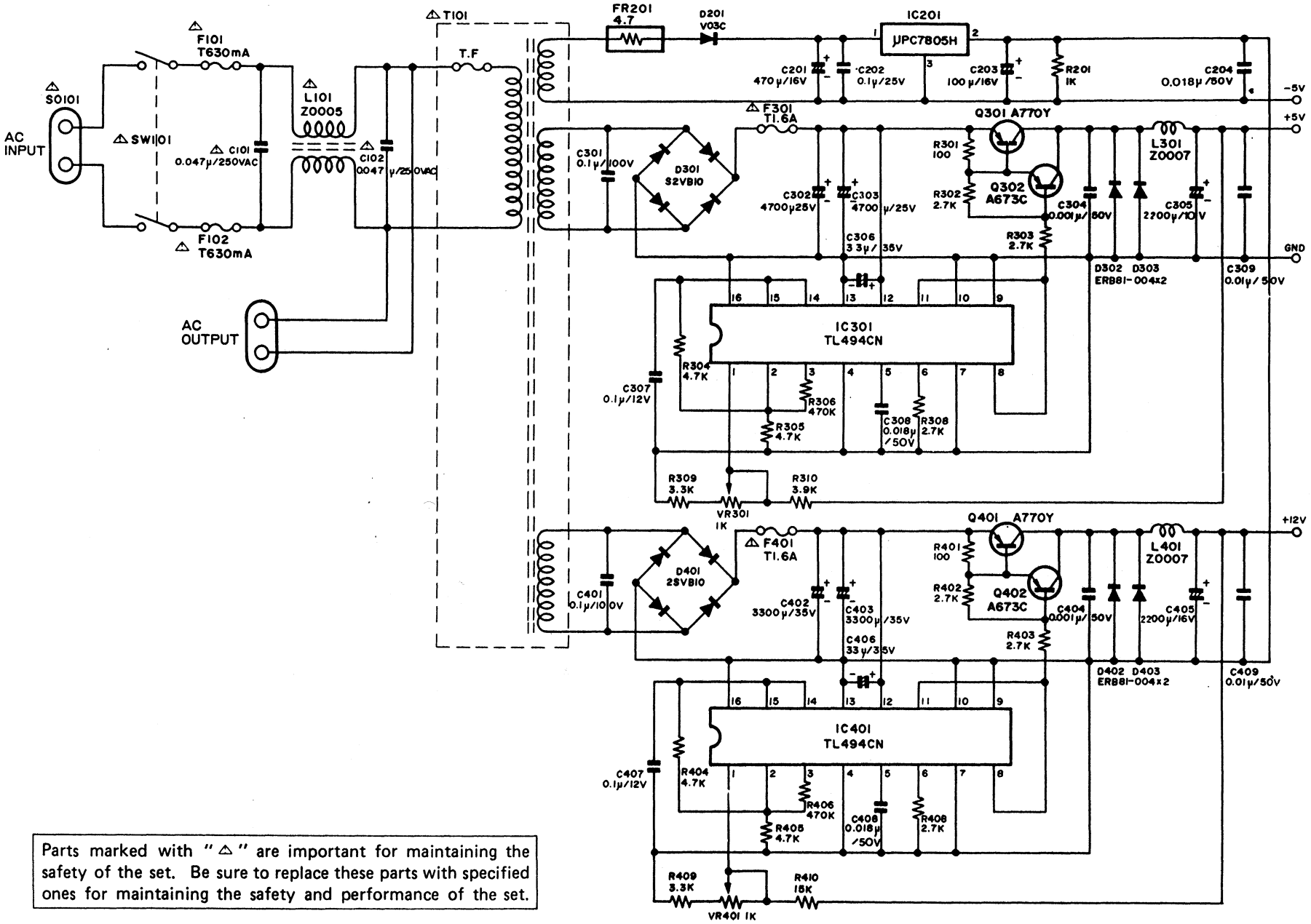
■ Key Board Circuit (Matrix)



■ Key Board PWB

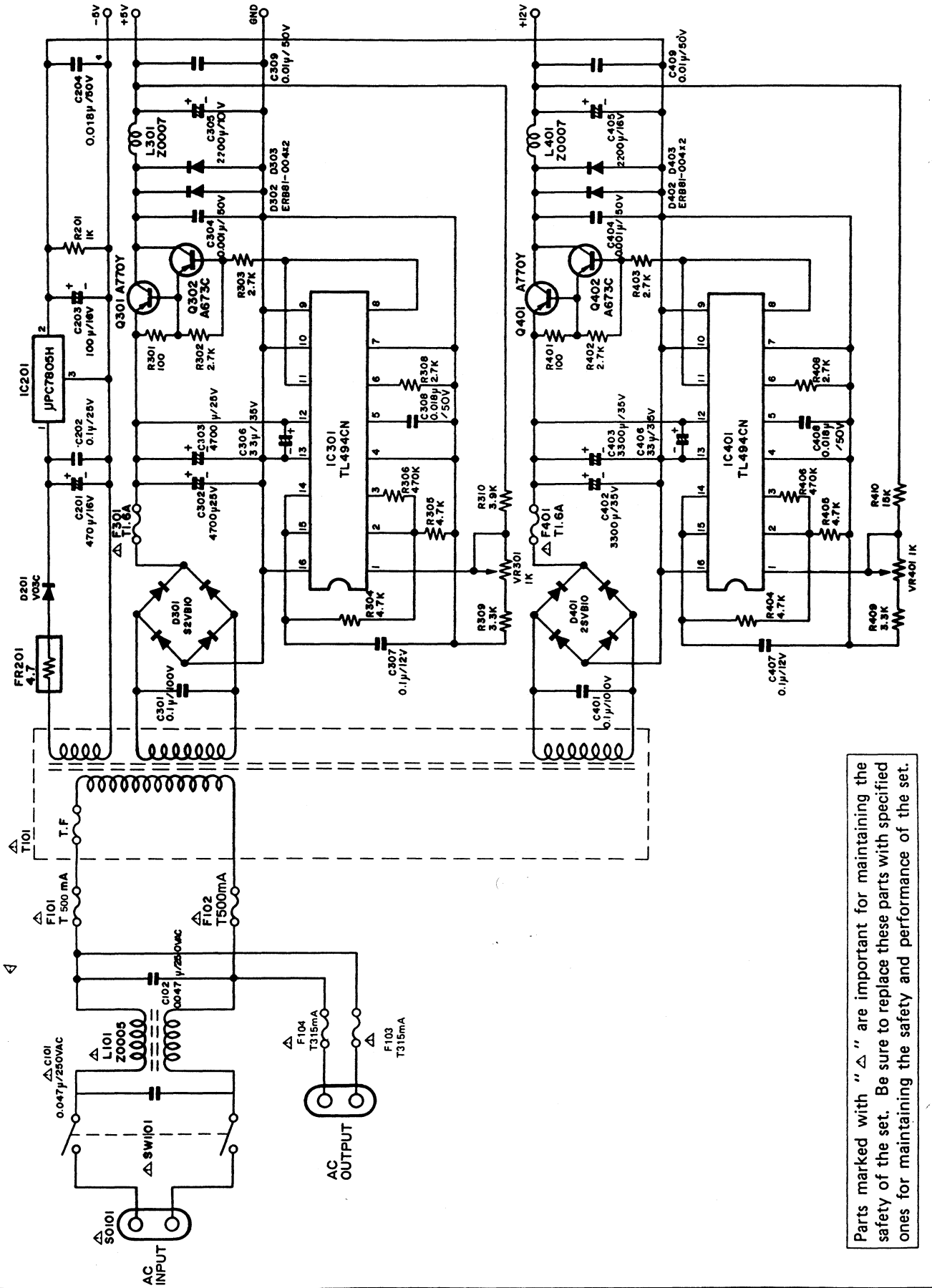


■ Power Supply Circuit (for 220V)



Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

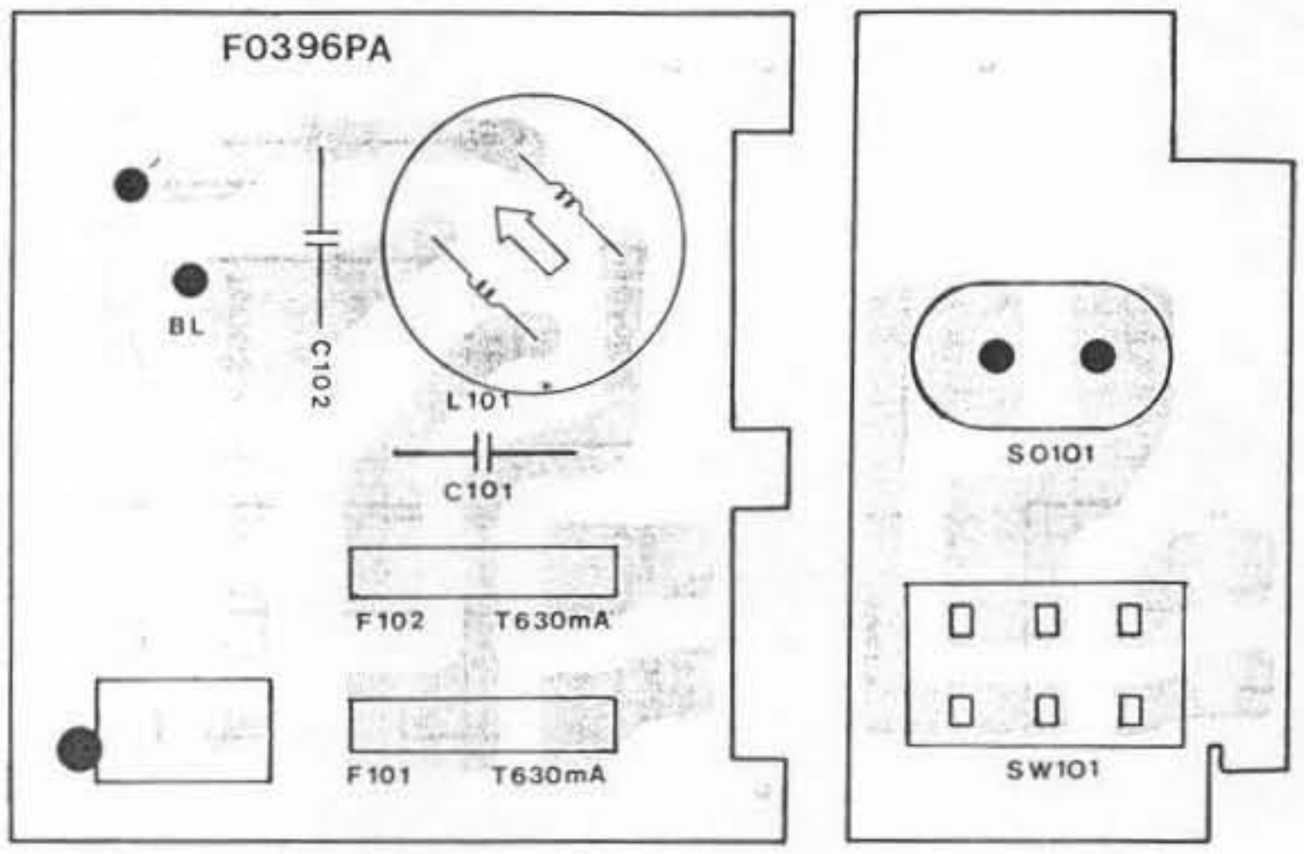
■ Power Supply Circuit (for 240V)



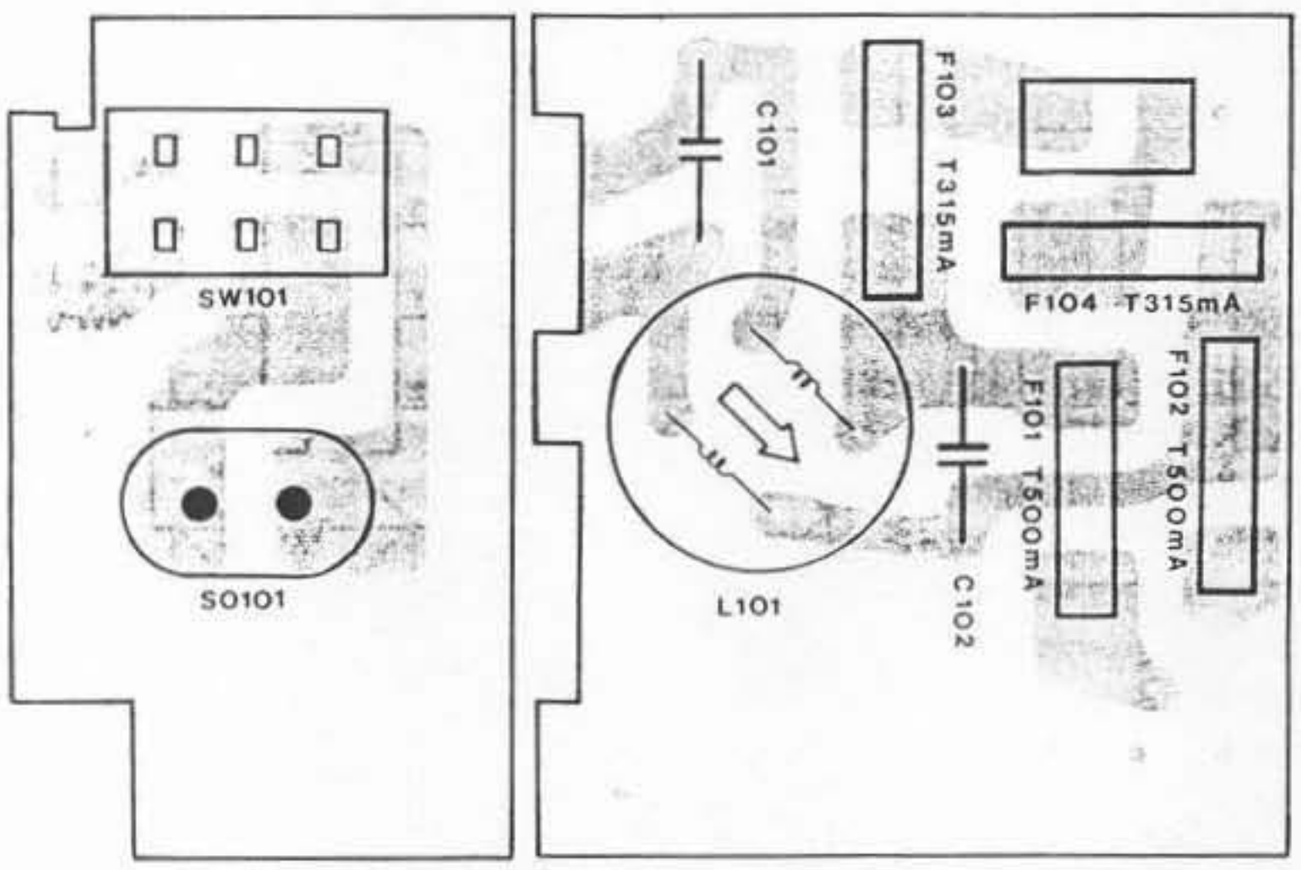
Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

A | B | C | D | E | F | G | H

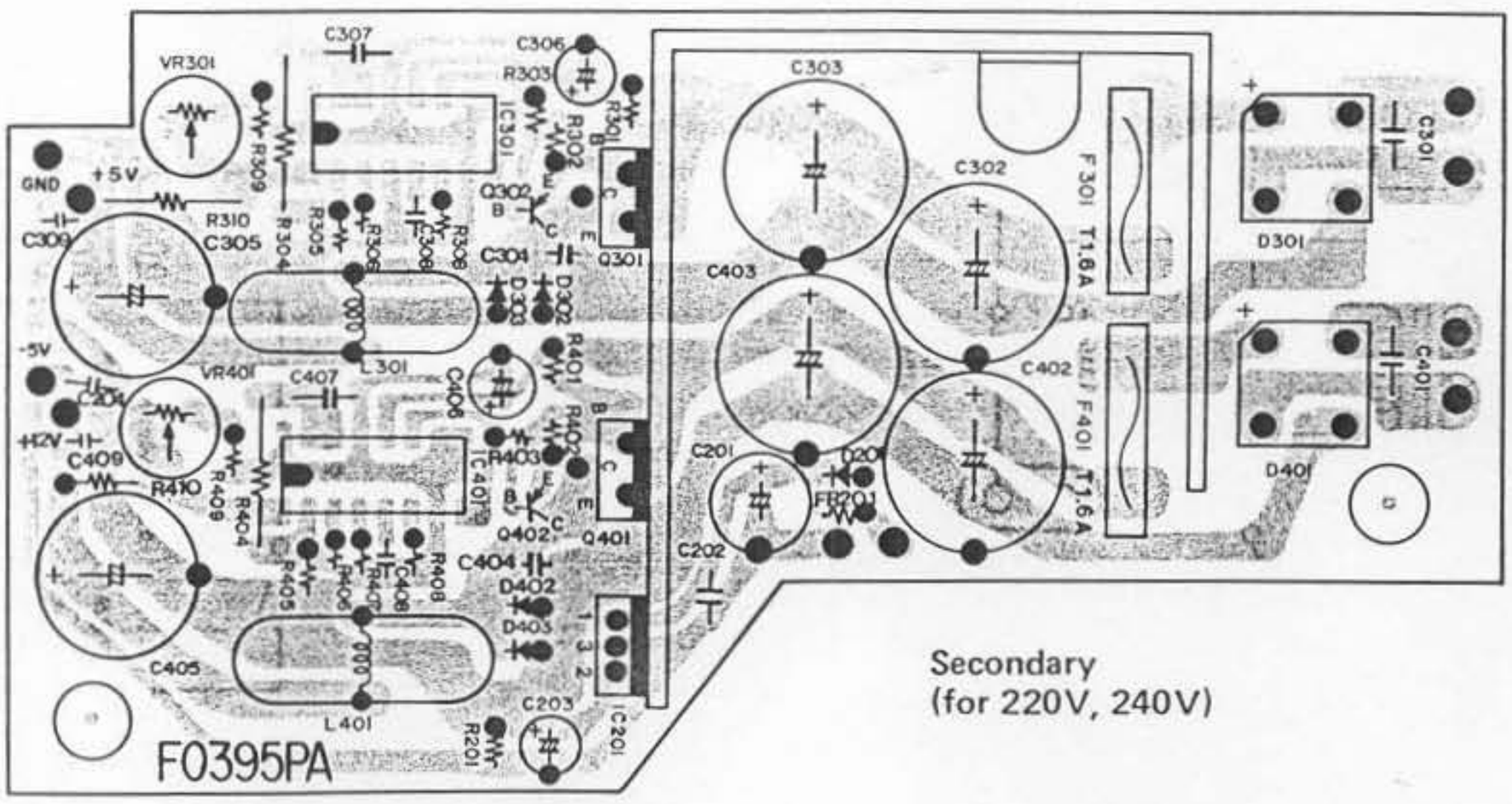
■ Power Supply PWB



Primary
(for 220V)

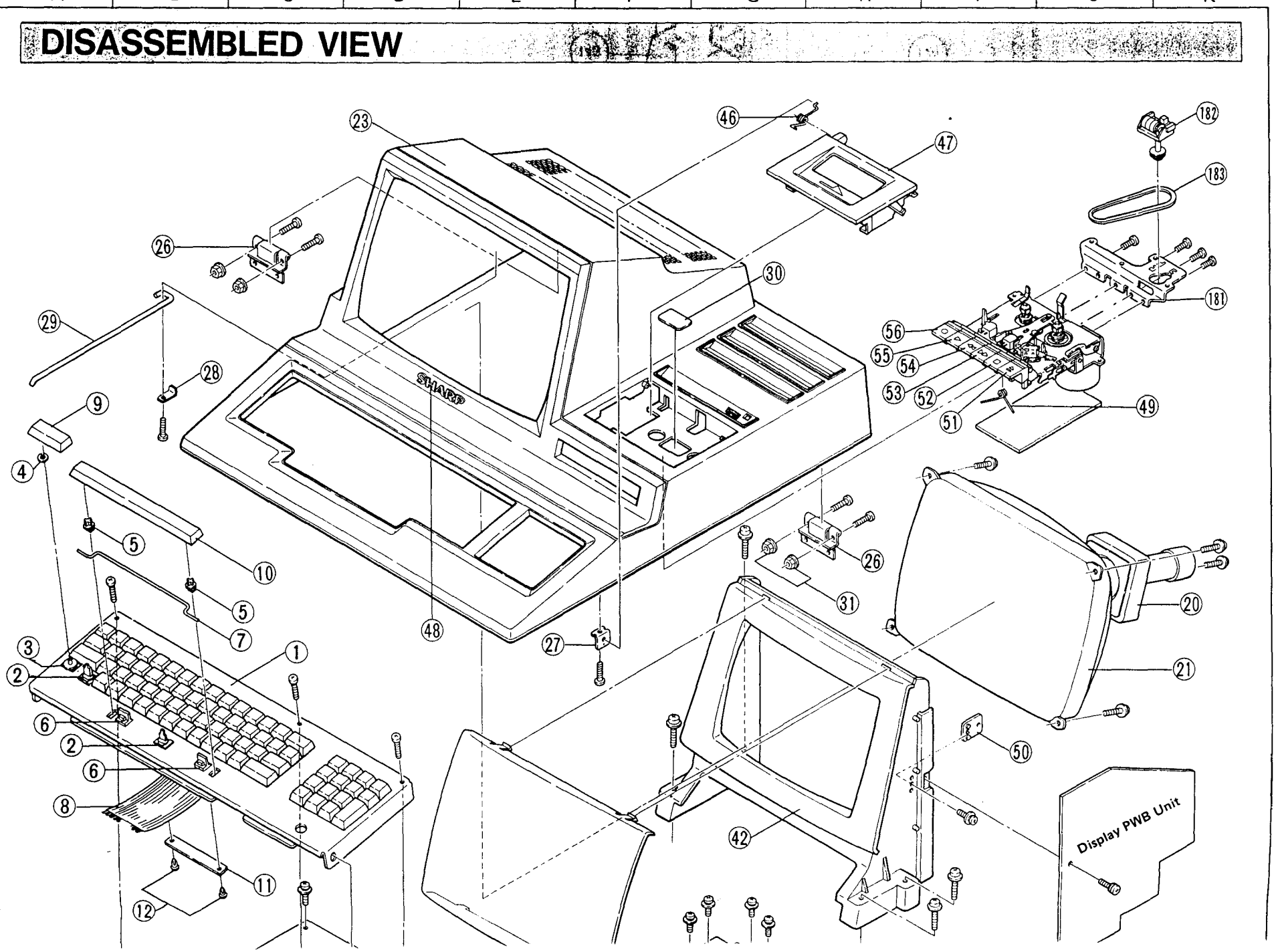


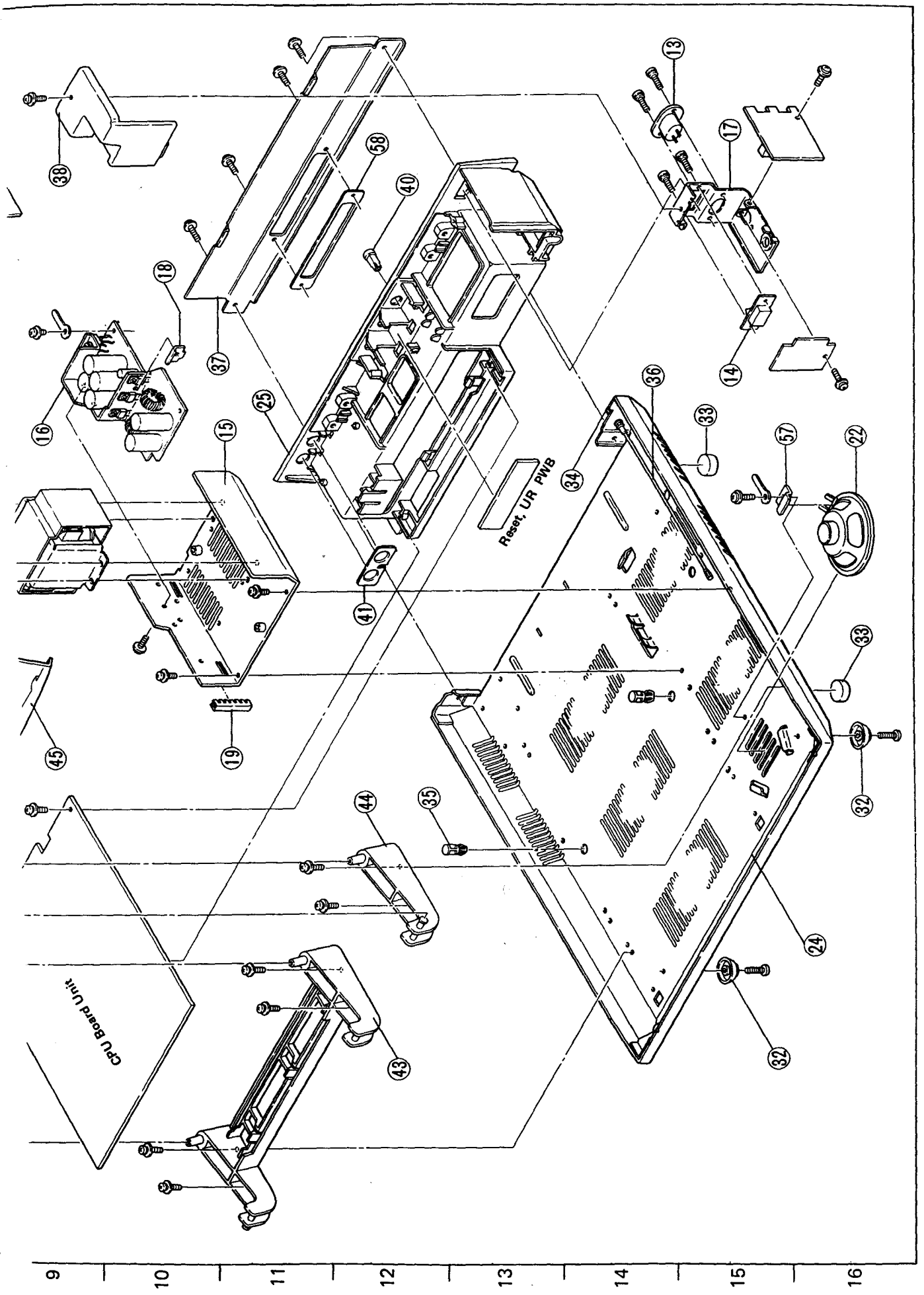
Primary
(for 240V)



Secondary
(for 220V, 240V)

DISASSEMBLED VIEW




Reset, UR PWB
CPU Board Unit
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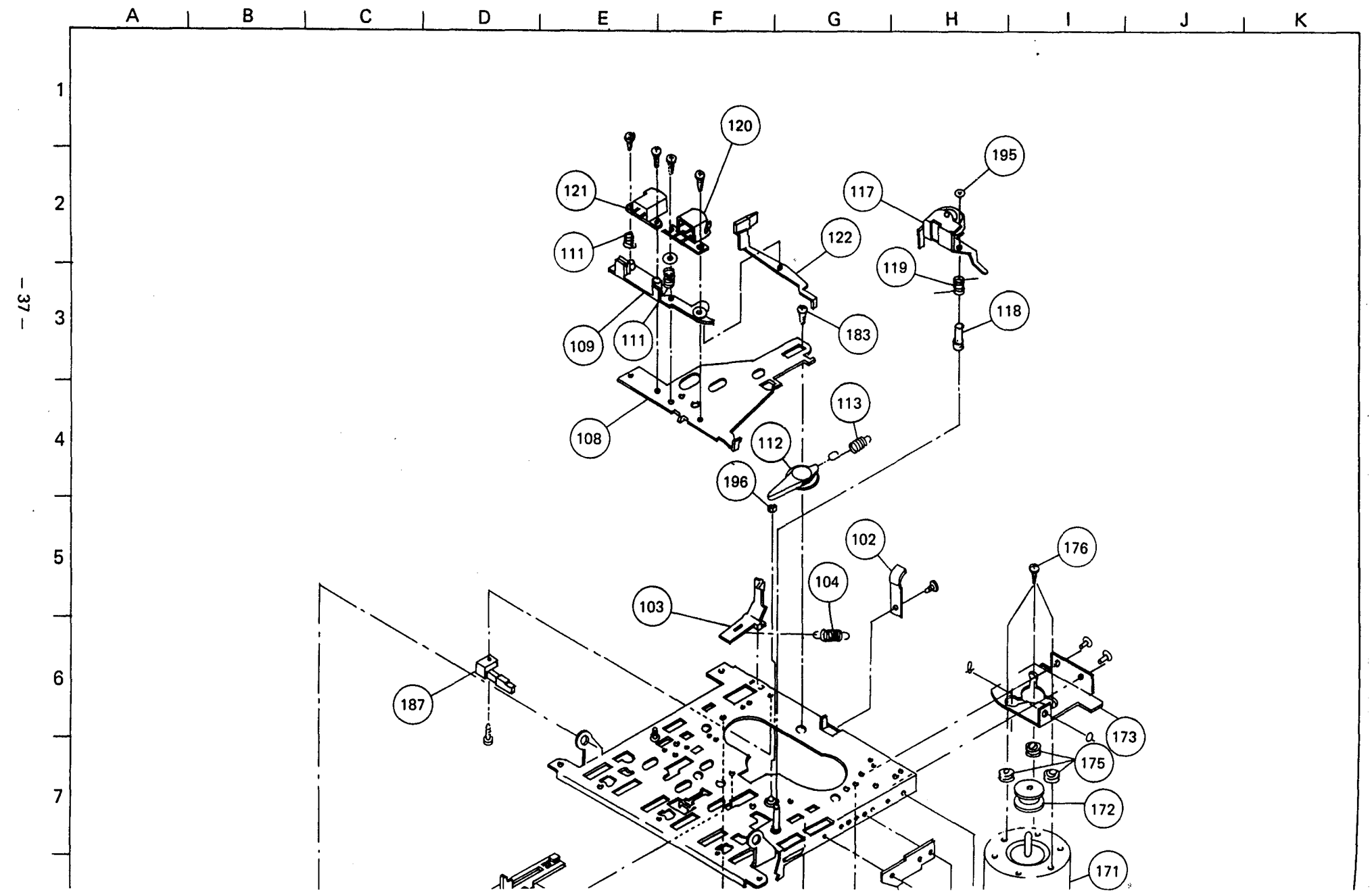
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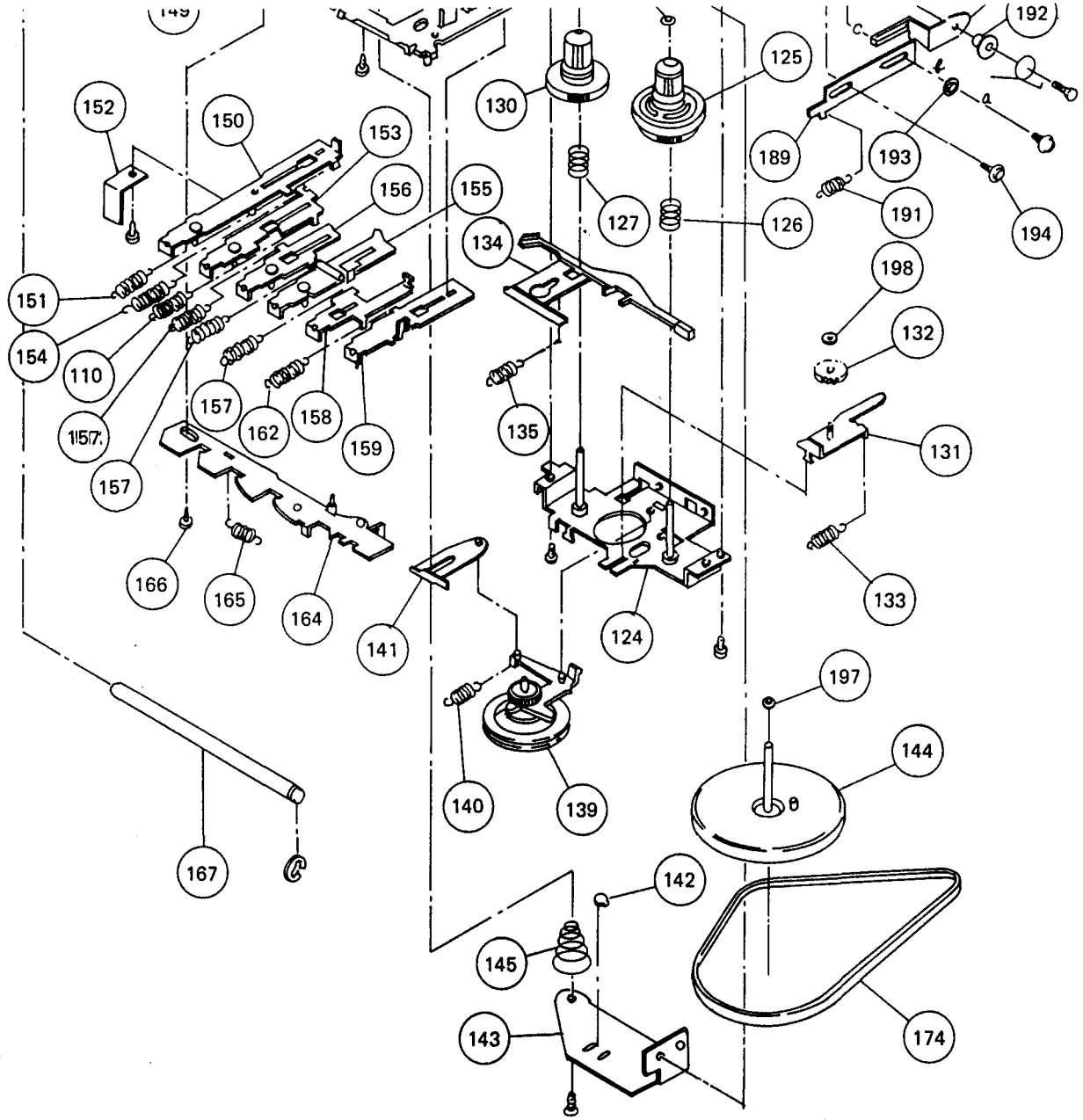
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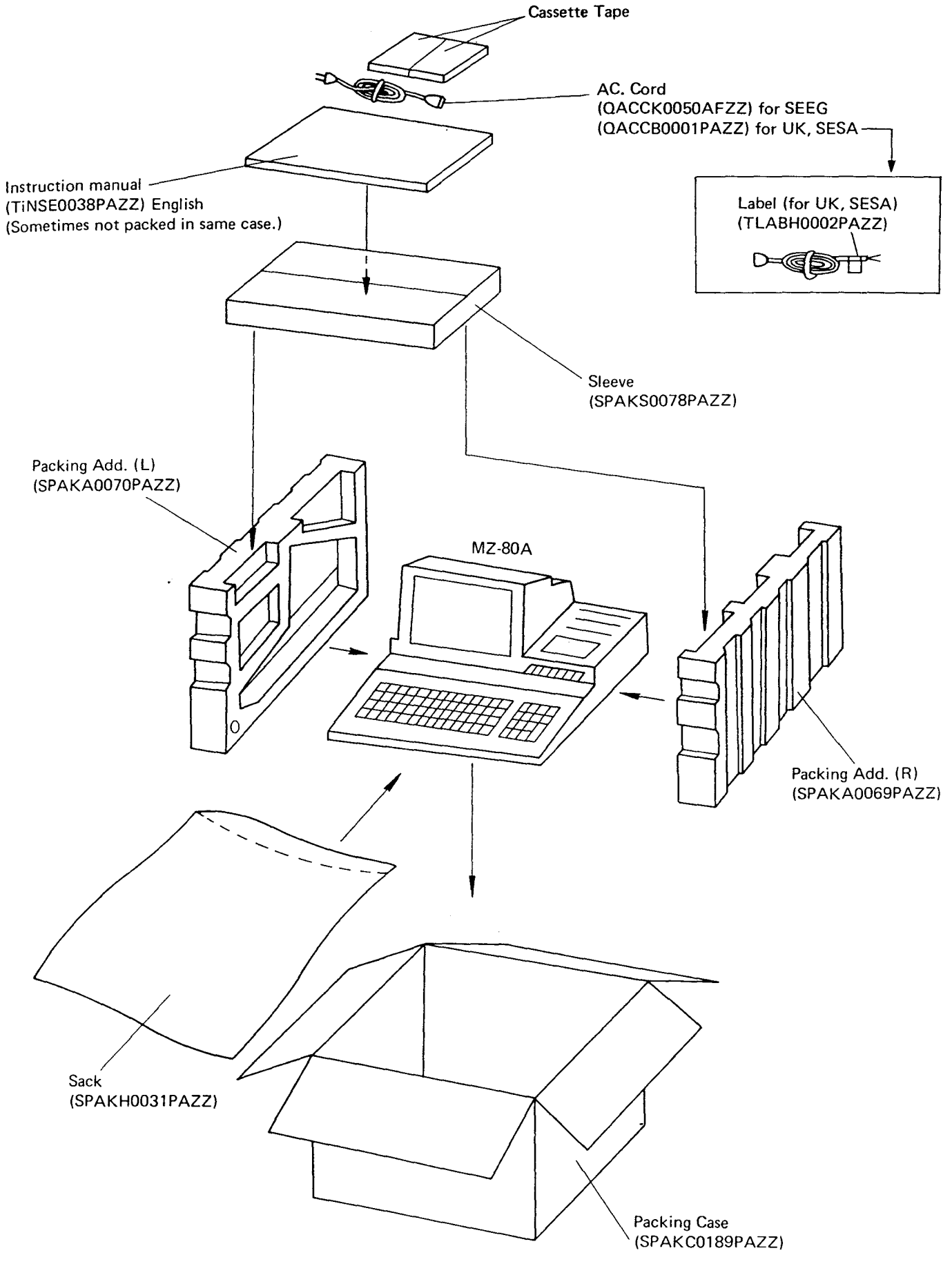
PACKING METHOD



REPLACEMENT PARTS LIST

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.
1. MODEL NAME 2. REF. NO.
3. PART NO. 4. DESCRIPTION

NOTES: Be sure to use regular parts for securing the safety and reliability of the set. Parts marked with " △ " ( ) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

MODEL MZ-80A

REF. NO.	PART NO.	DESCRIPTION	CODE
	*** CPU BOARD UNIT SECTION ***		
	DCPU-0012PAZZ	Assembled CPU Board Unit (Not replacement item)	——
	INTEGRATED CIRCUITS		
AM	RH-iX0145PAZZ	D-RAM 4116	BE
1, 25, 38	RH-iX0074PAZZ	SN74LS04N	AE
2, 11, 24, 42	RH-iX0070PAZZ	SN74LS00N	AE
3	RH-iX0041PAZZ	SN74123N	AK
4	RH-iX0188PAZZ	SN75451N	AK
5, 7, 49	RH-iX0123PAZZ	SN74LS244N	AS
8	RH-iX0129PAZZ	SN74LS165N	AQ
9, 18, 30	RH-iX0071PAZZ	SN74LS02N	AE
10	RH-iX0132PAZZ	SN7486N	AF
12, 16	RH-iX0124PAZZ	SN74LS245N	AR
13	RH-iX0090PAZZ	CPUZ80	BF
14	DPRÖM0029PAZZ	CG-ROM, (2K P-ROM 2716)	BH
15	RH-iX0265PAZZ	TMM 2016P (2K S-RAM)	BP
17	RH-iX0131PAZZ	SN7414N	AM
19	RH-iX0040PAZZ	SN7412 1N	AG
20	RH-iX0241PAZZ	MB 14298	BD
21, 26, 32	RH-iX0083PAZZ	SN74LS157N	AH
22	RH-iX0250PAZZ	SN74LS273N	AQ
23	RH-iX0076PAZZ	SN74LS10N	AE
27, 33	RH-iX0300PAZZ	SN74LS283N	AK
28, 29, 39, 48	RH-iX0079PAZZ	SN74LS74AN	AG
31	RH-iX0242PAZZ	MB14299	BD
34	RH-iX0081PAZZ	SN74LS139N	AL
35	RH-iX0078PAZZ	SN74LS32N	AF
36, 37	RH-iX0148PAZZ	SN74S157N	AQ
40	RH-iX0301PAZZ	N82S100	BK
41, 44	RH-iX0104PAZZ	SN74LS42N	AH
45	RH-iX0142PAZZ	SN74LS126AN	AH
IC46	DPRÖM0028PAZZ	Monitor-ROM (4KP-ROM2732)	BB
IC47	RH-iX0146PAZZ	8253	BC
IC50	RH-iX0136PAZZ	8255	BA
IC51	RH-iX0302PAZZ	NE556	AG
IC52	RH-iX0217PAZZ	SN74145N	AM
	TRANSISTOR and DIODE		
Q1	VS2SA505Y//1A	2SA505Y	AF
D1	VHD1S1555//1A	1S1555	AA
	RESISTORS		
R1, R3, R13, R24	VRD-SC2EF221J	220 ohm 1/4W	AA
R2	VRD-SC2EF561J	560 ohm 1/4W	AA
R4, R37	VRD-SC2EF182J	1.8K ohm 1/4W	AA
R5	VRD-SC2EF151J	150 ohm 1/4W	AA
R6, R12	VRD-SC2EF123J	12K ohm 1/4W	AA
R7, R14 ~ R17, R20 ~ R22, R26 ~ R29, R32, R33, R38	VRD-SC2EF332J	3.3K ohm 1/4W	AA
R8	VRD-SC2EF333J	33K ohm 1/4W	AA
R9, R31	VRD-SC2EF102J	1K ohm 1/4W	AA
R10	VRD-SC2EF271J	270 ohm 1/4W	AA
R11, R18, R25	VRD-SC2EF103J	10K ohm 1/4W	AA
R19	VRD-SC2EF331J	330 ohm 1/4W	AA
R23	VRD-SC2EF153J	15K ohm 1/4W	AA
R30	VRD-SC2EF822J	8.2K ohm 1/4W	AA
R34	VRD-SC2EF473J	47K ohm 1/4W	AA
R35	VRD-SC2EF152J	1.5K ohm 1/4W	AA
R36	VRD-SC2EF122J	1.2K ohm 1/4W	AA
RA1	RMPTC1020PAZZ	Resistor Array 10K ohm x 5	AC
RA2	RMPTC1004PAZZ	Resistor Array 10K ohm x 8	AD
VR	RVR-M0019PAZZ	Variable Resistor 68K ohm	AC

MODEL MZ-80A PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
CAPACITORS			
C1, C13 ~ C15, C37	VCCCPR1H310J	100PF, 50V, Ceramic	AA
C2	VCCSPR1H6221J	220PF, 50V, Ceramic	AA
C3	VCQYKU1HM152K	0.0015MFD, 50V, Film	AA
C4	VCQYKU1HM222K	0.0022MFD, 50V, Film	AA
C5, C8, C16	VCEAAU1EW107M	100MFD, 25V, Aluminum	AB
C6, C18, C24	VCEAAU1CW107M	100MFD, 16V, Aluminum	AB
C7, C10, C11, C17, C19, C20, C22, C25 ~ C30, C32 ~ C36, C43 ~ C46, C48, C54 ~ C61, C63, C65, C67, C69, C70, C72, C74, C76, C79, C81, C83, C85	VCTYPU1BD104Z	0.1MFD, 12V, Ceramic	AB
C9, C12	VCEAAU1CW226Y	22MFD, 16V, Aluminum	AC
C21	VCKZPR1HF222P	2,200PF, 50V, Ceramic	AA
C23, C40, C41	VCKZPR1HF103P	0.01MFD, 50V, Ceramic	AA
C31, C42	VCEAAU1HW105Y	1MFD, 50V, Aluminum	AB
C38	VCKZPR1HF102P	1000PF, 50V, Ceramic	AA
C39	VCEAAU1CW106Y	10MFD, 16V, Aluminum	AB
C47, C49, C51, C53, C62, C64	VCTYPU1ED104Z	0.1MFD, 25V, Ceramic	AB
C66, C68, C71, C73, C75, C77, C78, C80, C82, C84	VCTYPU1ED104Z	0.1MFD, 25V, Ceramic	AB
MISCELLANEOUS			
X'TAL	RCRSA0018PAZZ	Crystal, 8.064MHz	AM
CN1	QSŌCZ0030PAZZ	34-Pin Socket	AS
CN2	QPLGZ0018PAZZ	6-Pin Terminal (for Display)	AD
CN3	QPLGZ0006PAZZ	6-Pin Terminal (for Cassette)	AD
CN5	QPLGN0403CEZZ	4-Pin Terminal (for Power Supply)	AB
CN6	QPLGZ0042PAZZ	2-Pin Terminal (for Reset SW)	AD
CN7	QSŌCZ0029PAZZ	18-Pin Terminal (for KeyBoard)	AG
	QSŌCZ0022PAZZ	16-Pin IC Socket	AE
	QSŌCZ0010PAZZ	24-Pin IC Socket	AF
	QSŌCZ0011PAZZ	28-Pin IC Socket	AN
	QSŌCZ0012PAZZ	40-Pin IC Socket	AH
	QTANL0005PAZZ	1-Pin Tip	AA
	***** DISPLAY PWB UNIT SECTION *****		
	DPWB-0296PAZZ	Assembled Display PWB Unit (Not replacement item)	——
INTEGRATED CIRCUITS			
i2001	RH-iX0015TAZZ	μPC1031H, Vertical deflection	AN
i2002	RH-iX0243PAZZ	LA4200 Sound Amp.	AK
TRANSISTORS			
Q2001, Q2005	VS2SC1213-CIA	2SC1213	AC
Q2002	VS2SC1514-/1E	2SC1514	AF
Q2003, Q2004	VS2SA673-C/1E	2SA673	AC
Q2006	VS2SC681A-R1A	2SC681A-R	AM
Q2007	VS2SC1213AC1A	2SC1213A	AC
DIODES			
D2001	VHD02Z7R5A//A	7.5V Zener, 02Z75A	AC
D2002, D2006	RH-DX0039TAZZ	SI-RECT208	AC
D2003, D2004, D2005	VHD1N34A///-1	1N34A	AB
D2007	RH-DX0062CEZZ	RH1	AD
D2008, D2011, D2012	RH-DX0043TAZZ	SiR 60	AC
D2009, D2010	VHD05Z20X//1A	20V Zener	AB
D2013	VHD1S1555//1A	1S1555	AA

REF. NO.	PART NO.	DESCRIPTION	CODE
RESISTORS			
R2001	VRD-ST2EF470J	47 ohm 1/4W	AA
R2002	RVR-M7003TAZZ	Variable Resistor 500 ohm	AC
R2003, R2004, R2020	VRD-ST2EF153J	15K ohm 1/4W	AA
R2005	VRD-ST2EF121J	120 ohm 1/4W	AA
R2006	VRD-ST2HF122J	1.2K ohm 1/4W	AA
R2007	RVR-M0005VAZZ	Variable Resistor 200K ohm	AC
R2008	RVR-B4011PAZZ	Variable Resistor 250K ohm	AD
R2009	VRD-ST2EF224J	220K ohm 1/4W	AA
R2010	VRD-ST2EF472J	4.7K ohm 1/4W	AA
R2011	VRD-ST2EF473J	47K ohm 1/4W	AA
R2012, R2027, R2028, R2038	VRD-ST2EF102J	1K ohm 1/4W	AA
R2013	VRD-ST2HF3R3J	3.3 ohm 1/2W	AA
R2014	VRD-ST2EF273J	27K ohm 1/4W	AA
R2015	RVR-M7010TAZZ	Variable Resistor 50K ohm	AC
R2016	VRD-ST2EF122J	1.2K ohm 1/4W	AA
R2017, R2018	VRD-ST2HF1R5J	1.5 ohm 1/2W	AA
R2019	RVR-M7005TAZZ	Variable Resistor 300 ohm	AC
R2021, R2026, R2053	VRD-ST2EF331J	330 ohm 1/4W	AA
R2022	VRD-ST2EF123J	12K ohm 1/4W	AA
R2023	VRD-ST2EF272J	2.7K ohm 1/4W	AA
R2024	VRD-ST2EF103J	10K ohm 1/4W	AA
R2025	RVR-M7059TAZZ	Variable Resistor 20K ohm	AC
R2029	VRD-ST2EF821J	820 ohm 1/4W	AA
R2030	VRD-ST2EF822J	8.2K ohm 1/4W	AA
R2031, R2032	VRD-ST2EF682J	6.8K ohm 1/4W	AA
R2033, R2037	VRD-ST2EF392J	3.9K ohm 1/4W	AA
R2034	VRD-ST2EF330J	33 ohm 1/4W	AA
R2035, R2036	VRD-ST2EF332J	3.3K ohm 1/4W	AA
R2039	VRD-ST2EF680J	68 ohm 1/4W	AA
R2040	VRD-ST2EF221J	220 ohm 1/4W	AA
R2041	VRD-ST2HF560J	56 ohm 1/2W	AA
R2042, R2043	VRD-ST2HF330J	33 ohm 1/2W	AA
R2044	VRD-RU2EE473J	47K ohm 1/4W	AA
R2045	VRD-ST2EF154J	150K ohm 1/4W	AA
R2046	VRD-RU2EE471J	470 ohm 1/4W	
R2047	RVR-B4009PAZZ	Variable Resistor 1M ohm	AA
R2050	RVR-A0004PAZZ	Variable Resistor 10K ohm	AD
R2051	VRD-ST2EF120J	12 ohm 1/4W	AE
R2052, R2054, R2057	VRD-ST2EF104J	100K ohm 1/4W	AA, AA
R2055	VRS-PU3DB222J	2.2K ohm 2W	AA
R2060	VRD-ST2EF394J	390K ohm 1/4W	AA
CAPACITORS			
C2001, C2039, C2040	VCEAAU1HW476M	47MFD, 50V, Aluminum	AC
C2002	VCCSPR1H6151J	150PF, 50V, Ceramic	AA
C2003	VCEAAU2EW106M	10MFD, 250V, Aluminum	AD
C2004	VCEAAU1CW478M	4,700MFD, 16V, Aluminum	AH
C2005, C2045	VCEAAU1CW108M	1,000MFD, 16V, Aluminum	AD
C2006, C2031	VCQYKU1HM333K	0.033MFD, 50V, Film	AB
C2007, C2013	VCEAAU1EW475M	4.7MFD, 25V, Aluminum	AB
C2008	VCEAAU1AW227M	220MFD, 10V, Aluminum	AB
C2009	VCEAAU1CW226Y	22MFD, 16V, Aluminum	AB
C2010	VCSACU1VE105K	1MFD, 35V, Tantalum	AC
C2011, C2012	VCQYKU1HM332K	0.0033MFD, 50V, Film	AA
C2014	RC-EZ0029TAZZ	22MFD, 16V, Aluminum	AC
C2015	VCEABA1CW226M	22MFD, 16V, Aluminum	AC
C2016	VCEAAU1CW228M	2,200MFD, 16V, Aluminum	AF
C2017	RC-EZ0027TAZZ	10MFD, 25V, Nonpolar Alum.	AG
C2018, C2019	VCQYKU1HM153K	0.015MFD, 50V, Film	AB
C2020, C2036, C2046	VCEAAU1CW227M	220MFD, 16V, Aluminum	AB
C2021	VCQYKU1HM683K	0.068MFD, 50V, Film	AB
C2022	VCQYKU1HM223K	0.022MFD, 50V, Film	AB
C2023, C2030	VCQYKU1HM103K	0.01MFD, 50V, Film	AB
C2024	VCEAAU1CW107M	100MFD, 16V, Aluminum	AB
C2025	VCQYKU1HM473K	0.047MFD, 50V, Film	AB
C2026	VCEAAU1EW335M	3.3MFD, 25V, Aluminum	AB
C2027	VCQYKU1HM123J	0.012MFD, 50V, Film	AB
C2028	VCQYKU1HM473J	0.047MFD, 50V, Film	AB
C2029	VCCSPR1H6101K	100PF, 50V, Ceramic	AA
C2032, C2043	VCKZPR1HF103P	0.01MFD, 50V, Ceramic	AA
C2033	VCQPSC2DA683K	0.068MFD, 200V, Film	AB
C2034	VCQPSC2DA333K	0.033MFD, 200V, Film	AB
C2035	VCQPSC2DA153K	0.015MFD, 200V, Film	AB
C2037	VCEAAU2AW227M	220MFD, 100V, Aluminum	AF
C2038	VCEAAU2EW105M	1MFD, 250V, Aluminum	AC
C2041, C2042	VCQYSU2JM104K	0.1MFD, 630V, Film	AE
C2044	VCEAAU1HW475M	4.7MFD, 50V, Aluminum	AB
C2047, C2050	VCKZPR1HF102Z	1,000PF, 50V, Ceramic	AA
C2048	VCTYPU1BD104Z	0.1MFD, 12V, Ceramic	AB
C2049	VCEAAU1EW336M	33MFD, 25V, Aluminum	AB
C2051	VCEAAU1CW476M	4.7MFD, 16V, Aluminum	AB
C2052, C2056	VCEAAU1CW106M	10MFD, 16V, Aluminum	AB
C2053	VCEAAU1CW477M	470MFD, 16V, Aluminum	AC
C2054	VCKZPU2HE103P	0.01MFD, 500V, Ceramic	AB
C2055	VCQPSC2DA104K	0.1MFD, 200V, Film	AC
COIL AND TRANSFORMERS			
T2001	RTRNZ0017TAZZ	H-Drive Transformer	AF
△T2002	RTRNF2105TAZZ	FBT	AZ
L2001	RCiLZ0057TAZZ	H-Line Coil	AG
L2002	RCiLB0031TAZZ	H-Hold Coil	AG
MISCELLANEOUS			
	PRDAF0147TAZZ	Radiator (for IC2001)	AB
	PRDAF0107TAZZ	Radiator (for 2SC681A-R)	AB
	QSOCV0013VAZZ	CRT Socket	AF

MODEL MZ-80A PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
	QPLGN0207CEZZ	2-Pin Plug (for Speaker)	AA
	DSŌCN0099PAZZ	6-Pin Socket with Lead Wire	AH
	QPLGN0404CEZZ	4-Pin Plug (for Refrection Coil)	AB
	QFSHD1002CEZZ	Fuse Holder	AA
F01	QFS-C2002TAZZ	Fuse 2A	AD
	***** CASSETTE TAPE PWB UNIT SECTION *****		
	DPWB-0293PAZZ	Assembled Cassette Tape PWB Unit (Not replacement item)	—
	INTEGRATED CIRCUIT		
I3002	RH-iX0150PAZZ	OP Amp LM358	AK
	TRANSISTORS		
Q3001, Q3004	VS2SC1815Y/1E	2SC1815Y	AB
Q3002	VS2SC1627-Y-A	2SC1627Y	AD
Q3003	VS2SC1681//-1	2SC1681	AD
	DIODES		
D3001 ~ D3004	VHD1S1555//1A	1S1555	AA
	RESISTORS		
R3001, R3003	VRD-ST2EF471J	470 ohm 1/4W	AA
R3002, R3004, R3015, R3022, R3025	VRD-ST2EF103J	10K ohm 1/4W	AA
R3005	VRD-ST2HF470J	47 ohm 1/2W	AA
R3006	VRD-ST2EF822J	8.2K ohm 1/4W	AA
R3007, R3011	VRD-ST2EF473J	47K ohm 1/4W	AA
R3008	VRD-ST2EF224J	220K ohm 1/4W	AA
R3009	VRD-ST2EF153J	15K ohm 1/4W	AA
R3010	VRD-ST2EF470J	47 ohm 1/4W	AA
R3012	VRD-ST2EF223J	22K ohm 1/4W	AA
R3013	VRD-ST2EF154J	150K ohm 1/4W	AA
R3014	VRD-ST2EF222J	2.2K ohm 1/4W	AA
R3016, R3017, R3019	VRD-ST2EF103G	10K ohm (G) 1/4W	AA
R3018	VRD-ST2EF560G	56 ohm (G) 1/4W	AA
R3020	VRD-ST2EF562G	5.6K ohm (G) 1/4W	AA
R3021	VRD-ST2EF205G	2M ohm (G) 1/4W	AA
R3024	VRD-ST2EF102J	1K ohm 1/4W	AA
	CAPACITORS		
C3001	VCEAAU1AW476M	47MFD, 10V, Aluminum	AB
C3002, C3004, C3006, C3008	VCQYKU1HM104K	0.1MFD, 50V, Filum	AB
C3003	VCEAAU1AW106M	10MFD, 10V, Aluminum	AB
C3005, C3007	VCQYKU1HM102K	0.001MFD, 50V, Filum	AA
C3009	VCEAAU1AW226M	22MFD, 10V, Aluminum	AB
	MISCELLANEOUS		
SW3001	QSW-S0015VAZZ	Slide Switch (2 contacts)	AG
	QSŌCN0078PAZZ	6-pin Socket with Lead Wire	AH
	***** CASSETTE MECH. UNIT SECTION *****		
	KMECA0003PAZZ	Assembled Cassette Mech. Unit	BG
	MISCELLANEOUS		
102	94R00280ACTRM	Pack Spring	AC
103	94R00380ACTRM	Record Safety Lever	AC
104	94R00480ACTRM	Spring	AB
108	94R00880ACTRM	Head Panel	AG
109	94R00980ACTRM	Head Base	AC
110	94R01080ACTRM	Spring	AB
111	94R01180ACTRM	Head Spring	AA
112	94R01280ACTRM	Take-up Roller Ass'y	AH
113	94R01380ACTRM	Spring B	AB
117	94R01780ACTRM	Pinch Roller Ass'y	AG
118	94R01880ACTRM	Pinch Roller Arm Sleeve	AB
119	94R01980ACTRM	Pinch Roller Spring	AB
120	94R06080KCTRM	Play/Record Head	AM
121	94R01680KCTRM	Erase Head	AG
122	94R02280ACTRM	Sensing Plate (with Cap)	AE
124	94R02480ACTRM	Reel Rest Ass'y	AG
125	94R02580ACTRM	Take-up Reel Ass'y	AK
126	94R02680ACTRM	Spring	AB
127	94R02780ACTRM	Spring	AB
130	94R03080ACTRM	Supply Reel Ass'y	AG
131	94R03180ACTRM	FF Idler Arm Ass'y	AG
132	94R03280ACTRM	Center Gear	AC
133	94R03380ACTRM	Spring	AA
134	94R03480ACTRM	Main Plate Ass'y	AG
135	94R03580ACTRM	Main Plate Spring	AA
139	94R03980ACTRM	RF Clutch Ass'y	AN
140	94R04080ACTRM	Spring	AA
141	94R04180ACTRM	Spring	AB
142	94R04280ACTRM	Flywheel Plate	AA
143	94R04380ACTRM	Flywheel Holder	AE
144	94R04480ACTRM	Flywheel Capstan	AN
145	94R04580ACTRM	Spring	AA
149	94R04980ACTRM	Push Button Base	AF
150	94R05080ACTRM	Record Button Lever Ass'y	AF
151	94R05180ACTRM	Spring	AB
152	94R05280ACTRM	Spring	AC
153	94R05380ACTRM	Play Button Lever Ass'y	AF
154	94R05480ACTRM	Spring	AB
155	94R05580ACTRM	FF Button Lever Ass'y	AF
156	94R05680ACTRM	RWD Button Lever Ass'y	AF
157	94R05780ACTRM	Spring	AB
158	94R05880ACTRM	Stop Button Lever H	AD
159	94R05980ACTRM	Eject Button Lever H	AD
162	94R06280ACTRM	Spring	AB
164	94R06480ACTRM	Push Button Actuator Ass'y	AH
165	94R06580ACTRM	Spring	AB
166	94R06680ACTRM	Actuator Shaft B	AB
167	94R06780ACTRM	Push Button Lever Shaft	AD
171	94R07180ACTRM	Motor	AV

MODEL MZ-80A PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
72	94R07280ACTRM	Motor Pulley	AD
73	94R07380ACTRM	Motor Bracket	AF
74	94R07480ACTRM	Main Belt	AG
75	94R06980KCTRM	Motor Rubber	AA
76	94R07280KCTRM	Special Screw (s)	AB
81	94R08080ACTRM	Counter Bracket	AG
82	94R08180ACTRM	Counter	AL
83	94R08280ACTRM	Counter Belt	AD
87	94R08780ACTRM	Leaf Switch	AF
89	94R08980ACTRM	Eject Slide Lever	AD
90	94R09080ACTRM	Eject Kick Lever	AC
91	94R00480KCTRM	Spring	AB
92	94R09280ACTRM	Coller	AA
93	94R09380ACTRM	Coller	AA
94	94R09480ACTRM	Eject Screw	AB
95	94R11180ACTRM	Washer (2.1x5x0.4)	AA
96	94R11580ACTRM	Nylon Washer	AA
97	94R11880ACTRM	Nylon Washer	AA
98	94R12180ACTRM	Washer	AA
99	94R12280ACTRM	Washer	AA

*** KEY BOARD UNIT SECTION ***

	DKEY-009PAZZ	Assembled Key Board Unit (Not replacement item)

MISCELLANEOUS

1	LANGK0340PAZZ	Key Plate	AT
2	QSW-P0013PAZZ	Push Switch	AE
3	PGIDM0010PAZZ	Guide Pin (for Key Top of SHIFT, ENT)	AC
4	PCUSG0011PAZZ	Cushion (for Key Top of SHIFT, ENT)	AA
5	LSTYP0002PAZZ	Lever (for SPACE Key)	AE
6	LSTYP0003PAZZ	Shaft Holder (for SPACE Key)	AC
7	MLEVS0001PAZZ	Shaft (for SPACE Key)	AD
8	QPWBB0002PAZZ	Flexible Prented Circuit	AK
	JBTN-0064PA01	Key Top	AE
	JBTN-0064PA02	Key Top	AE
	JBTN-0064PA03	Key Top	AE
	JBTN-0064PA04	Key Top	AE
	JBTN-0064PA05	Key Top	AE
	JBTN-0064PA06	Key Top	AE
	JBTN-0064PA07	Key Top	AE
	JBTN-0064PA08	Key Top	AE
	JBTN-0064PA09	Key Top	AE
	JBTN-0064PA10	Key Top	AE
	JBTN-0064PA11	Key Top	AE
	JBTN-0064PA12	Key Top	AE
	JBTN-0064PA13	Key Top	AE
	JBTN-0064PA14	Key Top	AE
	JBTN-0064PA15	Key Top	AE
	JBTN-0064PA16	Key Top CURSOR	AE
	JBTN-0064PA17	Key Top CURSOR	AE
	JBTN-0064PA18	Key Top	AE
	JBTN-0064PA19	Key Top	AE
	JBTN-0064PA20	Key Top	AE
	JBTN-0064PA21	Key Top	AE
	JBTN-0064PA22	Key Top	AE
	JBTN-0064PA23	Key Top	AE
	JBTN-0064PA24	Key Top	AE
	JBTN-0064PA25	Key Top A	AE
	JBTN-0064PA26	Key Top B	AE

REF. NO.	PART NO.	DESCRIPTION	CODE
	JBTN-0064PA27	Key Top C	AE
	JBTN-0064PA28	Key Top D	AE
	JBTN-0064PA29	Key Top E	AE
	JBTN-0064PA30	Key Top F	AE
	JBTN-0064PA31	Key Top G	AE
	JBTN-0064PA32	Key Top H	AE
	JBTN-0064PA33	Key Top I	AE
	JBTN-0064PA34	Key Top J	AE
	JBTN-0064PA35	Key Top K	AE
	JBTN-0064PA36	Key Top L	AE
	JBTN-0064PA37	Key Top M	AE
	JBTN-0064PA38	Key Top N	AE
	JBTN-0064PA39	Key Top O	AE
	JBTN-0064PA40	Key Top P	AE
	JBTN-0064PA41	Key Top Q	AE
	JBTN-0064PA42	Key Top R	AE
	JBTN-0064PA43	Key Top S	AE
	JBTN-0064PA44	Key Top T	AE
	JBTN-0064PA45	Key Top U	AE
	JBTN-0064PA46	Key Top V	AE
	JBTN-0064PA47	Key Top W	AE
	JBTN-0064PA48	Key Top X	AE
	JBTN-0064PA49	Key Top Y	AE
	JBTN-0064PA50	Key Top Z	AE
	JBTN-0064PA51	Key Top ■	AE
	JBTN-0064PA52	Key Top 1	AE
	JBTN-0064PA53	Key Top 2	AE
	JBTN-0064PA54	Key Top 3	AE
	JBTN-0064PA55	Key Top 4	AE
	JBTN-0064PA56	Key Top 5	AE
	JBTN-0064PA57	Key Top 6	AE
	JBTN-0064PA58	Key Top 7	AE
	JBTN-0064PA59	Key Top 8	AE
	JBTN-0064PA60	Key Top 9	AE
	JBTN-0064PA61	Key Top 0	AE
	JBTN-0064PA62	Key Top 00	AE
	JBTN-0064PA63	Key Top +	AE
	JBTN-0064PA64	Key Top −	AE
	JBTN-0064PA65	Key Top BREAK CTRL	AE
	JBTN-0065PA01	Key Top GRPH	AD
	JBTN-0065PA02	Key Top CLR HOME	AD
	JBTN-0066PA01	Key Top INST DEL	AD
	JBTN-0066PA02	Key Top CR	AD
9	JBTN-0067PASA	Key Top SHIFT	AG
	JBTN-0068PASA	Key Top ENT	AH
10	JBTN-0069PASA	Key Top (for Space bar)	AL
11	LSUB-0001PAZZ	FPC Holder Plate	
12	LX-GZ0048PAZZ	Holder	

*** POWER SUPPLY UNIT SECTION ***

	DBŌXD0033PAZZ	Assembled Power Supply Unit (for 220V) (Not replacement item) —
	DBŌXD0037PAZZ	Assembled Power Supply Unit (for 240V) (Not replacement item) —

INTEGRATED CIRCUIT

IC201	RH-iX0281PAZZ	μPC7805H	AL
IC301 IC401	RH-iX0275PAZZ	TL494CN	AP

MODEL MZ-80A PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
TRANSISTORS			
Q301, Q401	VS2SA770-Y/-1	2SA770Y	AH
Q302, Q402	VS2SA673-C/1E	2SA673C	AC
DIODES			
D201	RH-DX0039TAZZ	V03C	AC
D301, D401	VHDS2VB10//-1	S2VB10	AG
D302, D303, D402, D403	VHDERB81-004/	ERB81-0004 (or VHDRK14////-1)	AG
RESISTORS			
R201	VRD-RU2EE102J	1K ohm 1/4W	AA
R301, R401	VRD-RU2EE101J	100 ohm 1/4W	AA
R302, R303, R308, R402, R403, R408	VRD-RU2EE272J	2.7K ohm 1/4W	AA
R304, R404	VRD-ST2EF472J	4.7K ohm 1/4W	AA
R305, R405	VRD-RU2EE472J	4.7K ohm 1/4W	AA
R306, R406	VRD-RU2EE474J	470K ohm 1/4W	AA
R309, R409	VRD-RU2EE332J	3.3K ohm 1/4W	AA
R310	VRD-ST2EF392J	3.9K ohm 1/4W	AA
R410	VRD-RU2EE153J	15K ohm 1/4W	AA
VR301, VR401	RVR-M0010PAZZ	Variable Resistor 1K ohm	AC
FR201	RR-XZ0002PAZZ	Fuse Resistor 4.7 ohm 1/4W	AB
CAPACITORS			
△C101, △C102	RC-CZ0180PAZZ	0.047MFD, 250V	AH
C201	VCEAAU1CM477M	470MFD, 16V, Aluminum	AC
C202	VCTYPU1ED104Z	0.1MFD, 25V, Ceramic	AB
C203	VCEAAU1AM107M	100MFD, 10V, Aluminum	AC
C204, C308, C408	VCQYKU1HM183K	0.018MFD, 50V, Film	AB
C301, C401	RC-QZ0003PAZZ	0.1MFD, 100V, Film	AB
C302, C303	VCEAAU1EM478M	4,700MFD, 25V, Aluminum	AH
C304, C404	VCQYKU1HM102K	0.001MFD, 50V, Film	AA
C305	VCEAAU1AM228M	2,200MFD, 10V, Aluminum	AE
C306, C406	VCEAAU1VM336M	33MFD, 35V, Aluminum	AB
C307, C407	VCTYPU1ND104Z	0.1MFD, 12V, Ceramic	AB
C309, C409	VCQYKU1HM103K	0.01MFD, 50V, Film	AB
C402, C403	VCEAAU1VM338M	3,300MFD, 35V, Aluminum	AC
C405	VCEAAU1CM228M	2,200MFD, 16V, Aluminum	AE
COIL AND TRANSFORMER			
△L101	RTRNZ0005PAZZ	Line Coil	AL
L301, L401	RTRNZ0007PAZZ	Choke Coil	AP
△T101	RTRNP0065PAZZ	Power Supply Transformer (for 220V)	BC
△T101	RTRNP0067PAZZ	Power Supply Transformer (for 240V)	BC
MISCELLANEOUS			
△F101, △F102	QFS-C0006PAZZ	Fuse, T 630mA (for 220V)	AD
△F101, △F102	QFS-C0002PAZZ	Fuse, T 500mA (for 240V)	AD
△F103, △F104	QFS-C0001PAZZ	Fuse, T 315mA (for UK)	AD
△F301, △F401	QFS-C0003PAZZ	Fuse, T 1.6A	AD
13	QSOCA0003PAZZ	Appliance Inlet	AF
14	QSW-C0003PAZZ	AC. Switch	AQ
	QSOCA0004PAZZ	2-Pin Socket	AD
	QFSHA0001PAZZ	Fuse Holder	AA
	DSOCN0161PAZZ	4-Pin with Lead Wire	AG
15	PRDAR0054PAZZ	Radiator	AR
16	PKDAR0055PAZZ	Radiator	AK
17	LANGQ0035PAZZ	Switch, Appliance Inlet Fixing Metal	AE
18	LANGQ0036PAZZ	Radiator Fixing Metal	AB
19	LBSHC0010PAZZ	Bushing	AC
***** OTHER SECTION *****			
20	RCiLH4110TAZZ	Reflection Coil	AW
△21	VBC10M36P311E	CRT (or VBE2728B31/1E)	BQ
22	VSP0080P-16YA	Speaker	AQ
23	DCABA3504PASA	Cabinet A	BE
24	GCABB8432PASA	Cabinet B	BK
25	GCABC8432PASA	Cabinet C	AS
26	MHNG-0002PAFC	Hinge	AF
27	LANGK0339PAZZ	Fixing Plate (for Spring of Cassette)	AB
28	LANGK0356PAZZ	Fixing Plate (for Arm)	AD
29	MARMM0002PAZZ	Arm	AE
30	HDECA0031PASA	Decoration Plate	AA
31	LX-NZ0020PAZZ	3mm Nat with Washer	AA
32	GLEGP0007PASA	Foot	AB
33	GLEGP0008PASA	Foot	AC
34	QTANN0003PAZZ	Frame Ground Terminal	AK
35	LHLDF0022PAZZ	Holder for CPU Board	AD
36	DTiP-0063PAZZ	Tip with Wire	AC
37	PFTA-0008PASA	Rear Cover	AU
38	PFTA-0009PASA	Cover for Power Supply Primary	AF
40	JBTN-0070PASA	Reset Button	AC
41	PCOVP0017PAZZ	Socket Cover	AD

MODEL MZ-80A PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
	TINSE0038PAZZ	Instruction Manual (English)	BB
△	TSPCE0028PAZZ	Specification Panel (for 220V)	AE
△	TSPCE0030PAZZ	Specification Panel (for 240V)	AE
42	LDAi-0010PAZZ	CRT Fixing Base	AU
43	LDAi-0011PAZZ	Key Unit Fixing Base A	AM
44	LDAi-0012PAZZ	Key Unit Fixing Base B	AG
45	GCOVZ0008PAZZ	Smoky Panel	AL
46	MSPRB0037PAFJ	Spring (for Flap of Cassette)	AB
47	DFTAC0005PASA	Flap (for Cassette)	AK
48	HBDGB3002GESA	SHARP Badge	AU
△	QACCK0050AFZZ	AC, Cord (for SEEG)	AQ
△	QACCB0001PAZZ	AC, Cord (for UK, SESA)	AQ
△	TLABH0002PAZZ	Label for AC Cord (for UK, SESA)	AC
49	MSPRB0038PAFG	Spring for Cassette Button	AB
50	LANGK0352PAZZ	Display PWB Fixing Metal	
51	JBTN-0058PASA	Cassette Button (EJECT)	AD
52	JBTN-0059PASA	Cassette Button (STOP)	AD
53	JBTN-0060PASA	Cassette Button (FFWD)	AD
54	JBTN-0061PASA	Cassette Button (REWIND)	AD
55	JBTN-0062PASA	Cassette Button (PLAY)	AD
56	JBTN-0063PASA	Cassette Button (RECORD)	AD
57	LANGS0013CEZZ	Speaker Holder	AB
	QSOCN0160PAZZ	2-Pin with Lead Wire (for Reset SW)	AE
	QSW-P0005VAZZ	Reset Switch	AD
	DSOCN0168PAZZ	2-Pin with Lead Wire (for Speaker)	AF
58	LANGK0341PAZZ	Cover (for I/O Card)	AE
	MSPRT0011PAZZ	CRT Earth Spring	AB

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