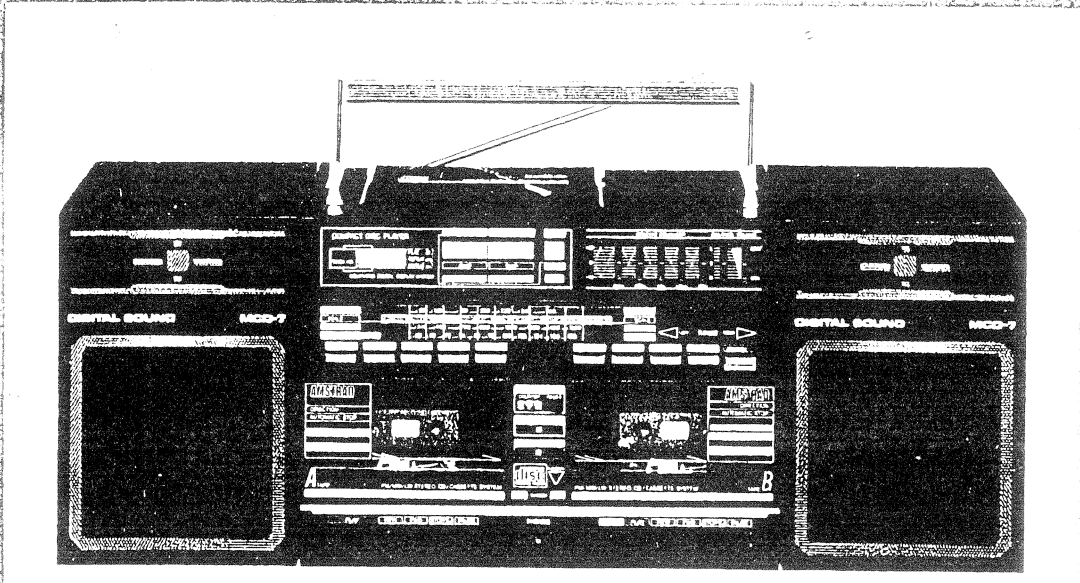


# AMSTRAD



## MCD-7

MW/LW/STEREO FM RADIO TWIN CASSETTE  
SYSTEM WITH COMPACT-DISC PLAYER

## CONTENTS

	Page
Technical Specification	2
Safety	2
Alignment Instructions	3,4,5
Troubleshooting Guide	6
CD Main PCB Alignment	7
Alignment of CD Section	8
Main PCB Alignment	9
Troubleshooting Guide (CD Section)	10 - 12
Exploded View & Parts List Cassette Deck 1	13
Exploded View & Parts List Cassette Deck 2	14
Display PCB Top/Bottom Views	15
Graphic Equalizer; Record; Power Indicator; Stereo Indicator; Standby Indicator PCB's	16
Power Supply; Headphone Jack; Speaker Jack PCB's	17
IC & Transistor Voltage Chart	18
CD Mechanism Parts List	18
Exploded View Phono	19
Exploded View Cassette Deck	20
CD Main PCB (Top View)	21
CD Main PCB (Bottom View)	22
Main PCB (Top View)	23
Main PCB (Bottom View)	24
Schematic Diagram CD	25
Schematic Diagram (Main)	26
Wiring Diagram	27
Cabinet Exploded View	28
Electrical Parts List	29,30

## TECHNICAL SPECIFICATION

### COMPACT DISC SECTION

Wow & Flutter	: Unmeasurable (Quartz Accuracy)
S/N Ratio	: Typically 75dB
Channel Separation	: Typically 60dB
Channel Balance	: 0dB
Frequency Response	: 20 - 20kHz

### AMPLIFIER SECTION

Power Output	: 10W Total Peak Music Power
Graphic Equalizer	: 5-Band $\pm 10$ dB (100, 330, 1K, 3.3K, & 10K) Hz

### CASSETTE SECTION

Tape Speed	: $\pm 0.5\%$
Wow & Flutter	: 0.15%
S/N Ratio	: Typically 45dB

### TUNER SECTION

FM Stereo Freq. Range	: 87 - 109MHz
Sensitivity	: 5 $\mu$ V
MW Freq. Range	: 520 - 1650KHz
Sensitivity	: 500 $\mu$ V
LW Freq. Range	: 145 - 280KHz
Sensitivity	: 800 $\mu$ V

### DIMENSIONS AND SUPPLY

Main Unit (mm)	: 320(w) x 245(h) x 190(d)
Speakers (mm)	: 170(w) x 245(h) x 180(d)
Supply Details	: 240Volts AC Mains or 8 x HP2 Batteries (12V DC)

### Safety

All units are tested to the following safety specification during manufacture: –

- Flash Test:** Tested at 2.2kV between live and neutral of the mains lead joined together and all accessible metal points on the exterior of the set.
- Insulation resistance test:** Tested between the live and neutral of the mains lead joined together and all accessible metal points on the exterior of the set to show a resistance of at least 4M ohms at 500V DC.
- Earth lead continuity test:** Tested for a continuity of less than 0.5 ohms at 10 Amps between the earth of the mains lead and the record deck transit screw.

If there are any doubts about continued electrical safety after servicing, the above tests should be carried out.

# ALIGNMENT INSTRUCTIONS

## Equipment Required:

- |  |                               |
|--|-------------------------------|
| 1. AM signal generator                         | 6. Nonmetallic alignment tool |
| 2. FM signal generator                         | 7. AF oscillator              |
| 3. IF sweep generator with marker capabilities | 8. Frequency counter          |
| 4. Oscilloscope                                | 9. Distortion meter           |
| 5. VTVM  |                               |

## Important:

1. Check line voltage.
2. Set function switch to band being aligned.
3. Remove the antenna from the terminal.
4. Set Graphic Equalizer control to center.
5. Connect low side of signal source and output indicator to chassis ground (unless otherwise specified). Ground connection should be kept close to high side connection.
6. Signal input should be kept as low as possible to avoid AVC and AFC action. (Set output indicator to high sensitivity.)
7. Standard modulation is 1000Hz at 30% amplitude for AM (1000Hz at 22.5kHz deviation for FM).

## AM IF

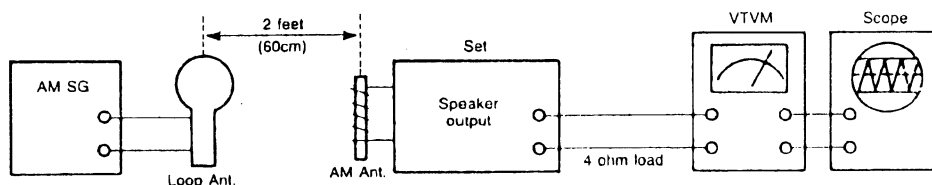


Figure 1

## AM Section

Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Dial Setting	Adjustments
IF	AM signal generator with loop antenna (See Fig. 1)	1	465 kHz (1000 Hz Mod.)	Tuning gang fully closed	T3 (AM IFT) Adjust for maximum output.
		2			Repeat until no further improvement can be made.

## AM BAND/TRACKING

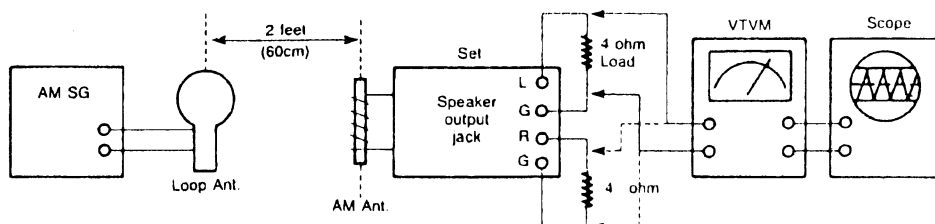


Figure 2

For Service Manuals  
**MAURITRON SERVICES**  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QY.  
 Tel (01844) 351694  
 Fax (01844) 352554  
 email:- sales@mauriron.co.uk

Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Dial Setting	Adjustment
MW BAND	AM Signal Generator with loop antenna. VTVM across 4 ohm load. (See Fig. 2.)	1	520 kHz (1000 Hz Mod.)	Tuning gang fully closed	L5 (MW Osc. coil) Adjust for maximum output.
		2	1650 kHz (1000 Hz Mod.)	Tuning gang fully open	TC4 (MW Osc. trimmer) Adjust for maximum output.
		3			Repeat steps 1 and 2.
MW TRACKING	AM signal Generator with loop antenna. VTVM across 4 ohm load. (See Fig. 2.)	4	600 kHz (1000 Hz Mod.)	Tune to signal	L3 (MW Ant. coil) Adjust coil on ferrite core for maximum output.
		5	1000 kHz (1000 Hz Mod.)	Tune to signal	TC3 (MW Ant. trimmer) Adjust for maximum output.
		6			Repeat steps 4 and 5 several times.
LW	BAND		145-280 kHz		L6, TC6. Adjust for maximum output.
	TRACKING		160/250 kHz		L4, TC5. Adjust for maximum output.

## FM IF

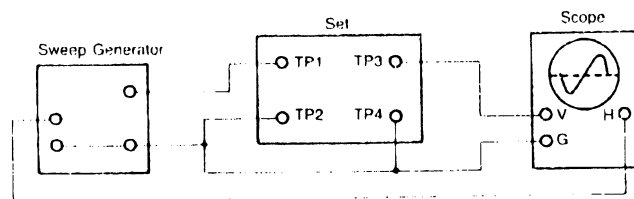


Figure 3

## FM Section

Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Dial Setting	Adjustment
IF	IF sweep Marker generator to FM Antenna Terminal TP1, TP2. Oscilloscope from "TP3 to TP4" (See Fig. 3.)	1	10.7 MHz	Tuning gang fully closed	T1, T2 (FM IFT) Adjust for maximum symmetrical response. (10.7 MHz at the center point)
		2			Repeat step 1.

## FM BAND/TRACKING

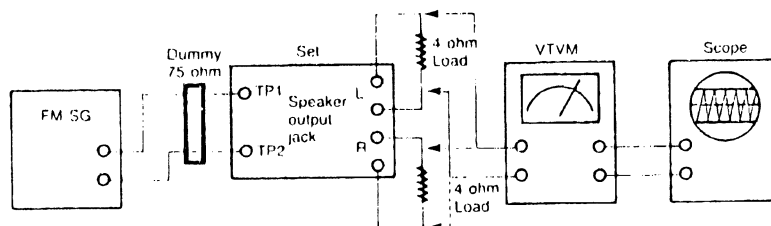


Figure 4

## FM Section

Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Dial Setting	Adjustments
LOCAL OSCILLATOR (BAND)	FM signal generator to antenna terminals (TP1, 2) through 75 ohm antenna matching network. VTVM across 4 ohm load. (Fig. 4)	1	87 MHz (Mod.)	Tuning gang fully closed	L2 (FM OSC. coil) – stretch or squeeze Adjust for maximum output.
		2	109 MHz (Mod.)	Tuning gang fully open	TC2 (FM OSC. Trimmer) Adjust for maximum output.
		3			Repeat steps 1 and 2 several times.
RF AMPLIFIER (TRACKING)	Same as "LOCAL OSC"	4	90 MHz (Mod.)	Tune to signal	L1 (FM RF coil) Adjust for maximum output – stretch or squeeze.
		5	106 MHz (Mod.)	Tune to signal	TC1 (FM RF Trimmer) Adjust for maximum output.
		6			Repeat steps 4 and 5 to obtain suitable sensitivity at 90 MHz and 106 MHz.

## FM MPX

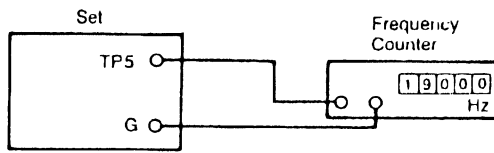


Figure 5

## FM MPX

Circuit Alignment	Equipment Connection	Gen. Freq.	Dial Setting	Adjustments
19/38 kHz	Freq. Counter from TP5 to ground (Fig. 5)	98 MHz (Mod.)	98 MHz	First make sure FM section is properly aligned. Adjust VR1 for frequency counter indication of 19 kHz.

## TAPE SPEED/AZIMUTH

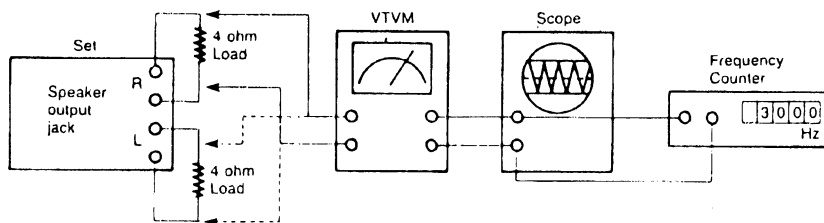


Figure 6

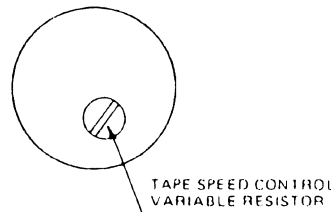


Figure 7

### Alignment of tape speed

- Play a standard test tape recorded with 3 kHz signal (or 1 kHz). (Equipment connection: See Figure 6.)
- Adjust variable resistor in motor to provide 3 kHz (1 kHz) frequency. (See Figure 7)

### Alignment of Head azimuth

- Play a standard test tape recorded with 8 kHz signal such as TEAC MTT-113CN.
- Adjust the azimuth adjustment screw for maximum output. (See Fig. 8)

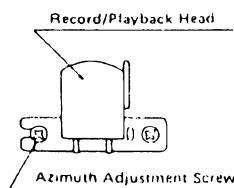


Figure 8

# TROUBLESHOOTING GUIDE

## RECEIVER SECTION

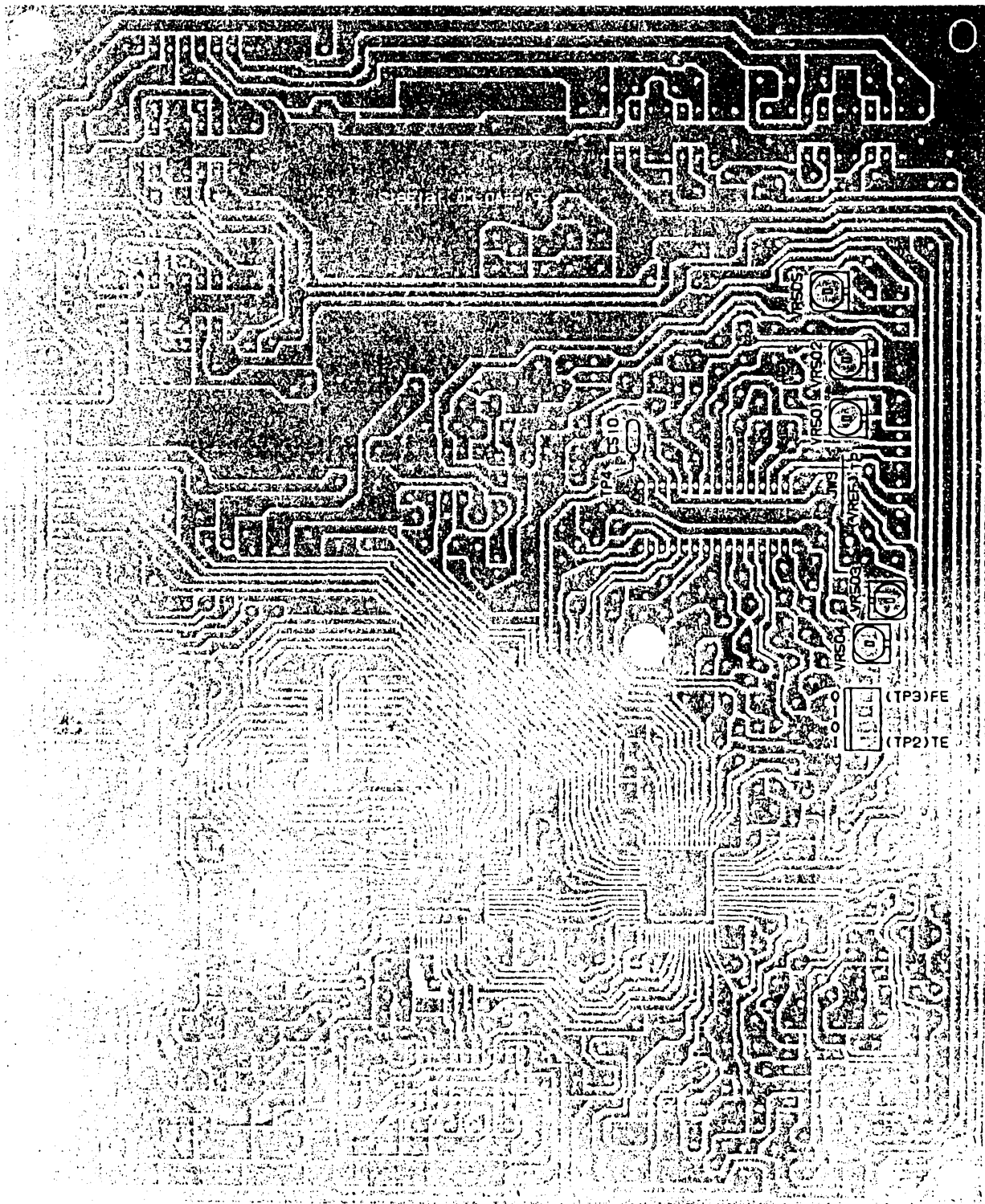
CIRCUIT	SYMPTOM	CAUSE	REMEDY	
GENERAL	Inoperative	Defective power switch (SW11)	Replace as necessary.	
		Open circuit in transformer (T401)	Check current and voltages. Replace as necessary.	
		Defect in power supply circuit	Check current and voltages. Replace as necessary.	
AM	No sound	Defective volume control	Check volume control resistance for continuous operation. Replace as necessary.	
		Defective function switch (SW1 - 5)	Replace or repair switch.	
	No sound	Defective detector	Check voltages in this circuit. Repair/Replace as necessary.	
		Open circuit in AM IFT ANT	Check voltages and resistance	
		Coil or Osc. coil (T3, L4-MW, L5-LW)	Replace as necessary	
	Weak sound (low sensitivity)	IF misaligned	Re-adjust (See Alignment Instructions).	
		RF misaligned	Re-adjust (See Alignment Instructions)	
		Defective IC2	Check voltages. Replace as necessary.	
		Poor contact in Antenna circuit	Resolder and/or repair. Replace as necessary.	
		Defective Band switch (SW1, 2)	Repair or replace switch.	
FM	No sound	Defective in Detector	Check voltages.	
		Open circuit in FM IFT	Check voltages and resistances.	
	Weak sound (low sensitivity)	Antenna coil or Osc. coil (L1, L2)	Replace as necessary.	
		Defective FM tuner	Check RF, IF and Detector circuits. Check voltages of IC1 and IC2. Replace parts as necessary.	
		RF misaligned	Re-adjust (See Alignment Instructions).	
		Defective IC1, IC2	Check voltages and replace as necessary.	
		Poor contact in FM Ant.	Resolder or replace as necessary.	
		Defective IC3	Check voltages of IC3. Replace as necessary.	
	MPX	Poor separation	Improper adjustment of VC0	Re-adjust VR1. (See Alignment Instructions).
		No stereo Indicator	Faulty D4	Check indicator D4 and circuit. Replace as necessary.

SYMPTOM	CIRCUIT	REMEDY
No sound	on both channels	Power supply Check voltage of transformer. Replace as necessary.
	on Rch (Lch)	Motor Check voltage at motor (9V). If not proper voltage, change motor.
		Pre-amplifier Check voltage of IC4 Replace as necessary.
on both Lch & Rch	Power supply Check voltage of IC4 Replace as necessary.	
Distortion	on Rch (Lch)	Pre-amplifier Check voltage of IC4 Replace as necessary.
Poor high frequency	on Rch (Lch)	Tape head Check head azimuth Re-align as in the alignment instructions. Replace if there are scratches.
		Equalizer amplifier Check voltage of IC4. Replace as necessary.
No erasing or no recording	on both Lch & Rch	Bias oscillator Check erase head. (Open or defective.) Check erase head lead wires. Replace Osc. coil L301 as necessary.
Defect in recording (no recording, weak recording or excessive recording level)	on Rch (Lch)	Record amplifier. Check that rec-signal is supplied to R/P head. If not check mic Jack, R/P slide switch and IC5 voltage.
		Bias Check bias current If not, replace Osc. coil L301

ALIGNMENT OF CD SECTION

# CD MAIN P.C.B. ALIGNMENT



## ALIGNMENT OF CD SECTION

### 1. Laser power alignment

- 1) Disconnect short pin then laser on and S503 LD SW on. (Short pin is located between Pin 3 of IC502 and Pin 6 of IC513)
- 2) Use laser power meter and adjust VR505 until meter reading becomes 0.25mW (See Figure 9).

### 2. Tracking offset

- 1) Connect Oscilloscope to TP1 and TP3, then short the circuit between Pin 40 and Pin 41 of IC601.
- 2) Turn the unit on and open the circuit between Pin 40 and Pin 41 of IC601.
- 3) Adjust VR501 until the center line of waveform becomes equal at 0V line (See Figure 10).

### 3. Focus offset

- 1) Use Oscilloscope (or voltmeter) and connect it between FE0 terminal (TP2).
- 2) Adjust VR504 until Oscilloscope (or voltmeter) reading becomes 50mV (See Figure 11).

### 4. Focus balance

- 1) Connect Jitter-meter to RF1 terminal (TP4).
- 2) Adjust VR503 until Jitter-meter shows the best result (in min. value) (See Figure 12).

### 5. RF gain

- 1) Connect Oscilloscope to RF1 terminal (Pin 10 of IC501: TP4).
- 2) Adjust VR502 until Oscilloscope shows 1.5V P-P (See Figure 12)

## TEST EQUIPMENT CONNECTIONS (CD Section)

Fig. 9 Laser Power

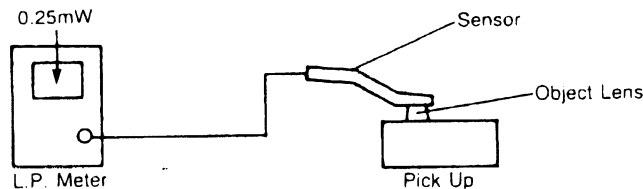


Fig. 10 Track Offset

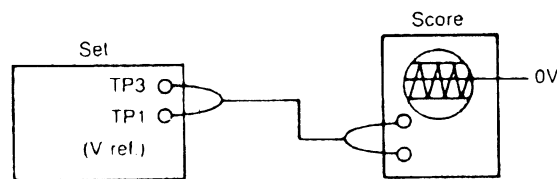


Fig. 11 Focus Offset

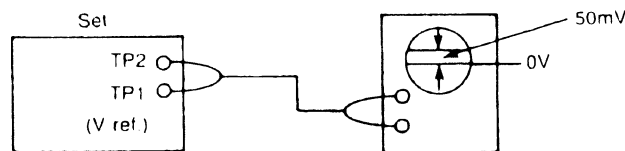
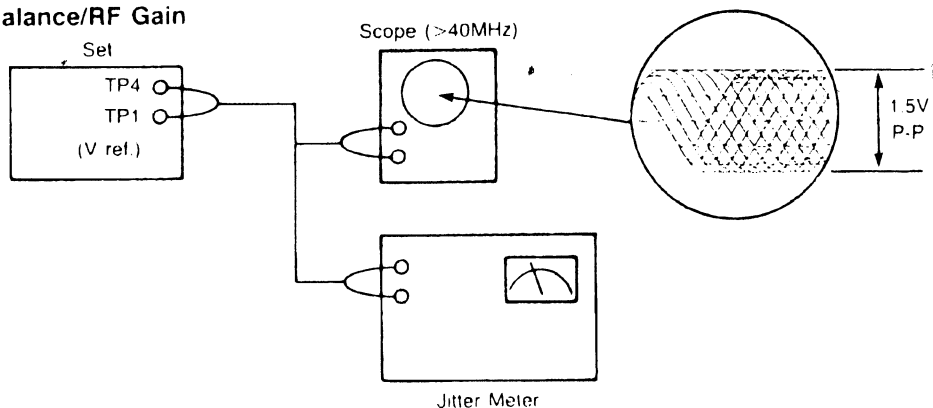
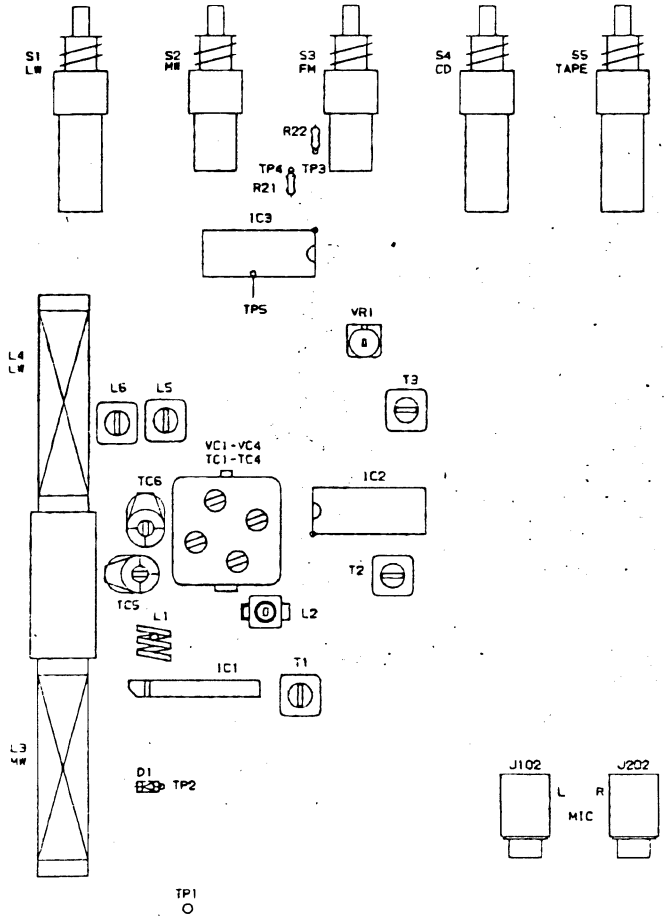


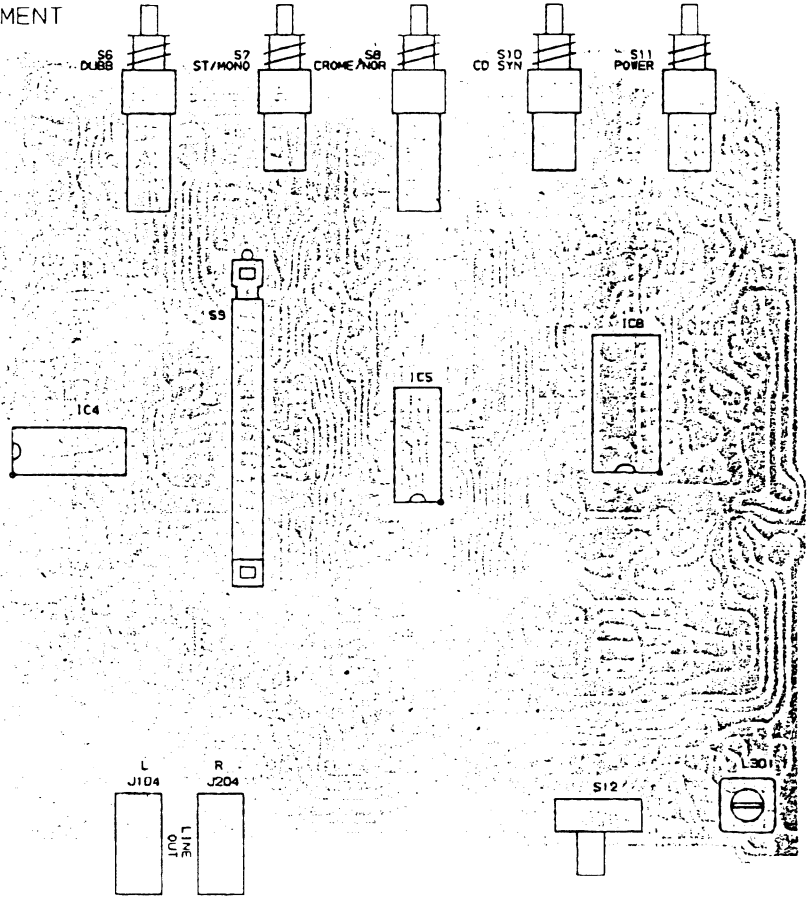
Fig. 12 Focus Balance/RF Gain





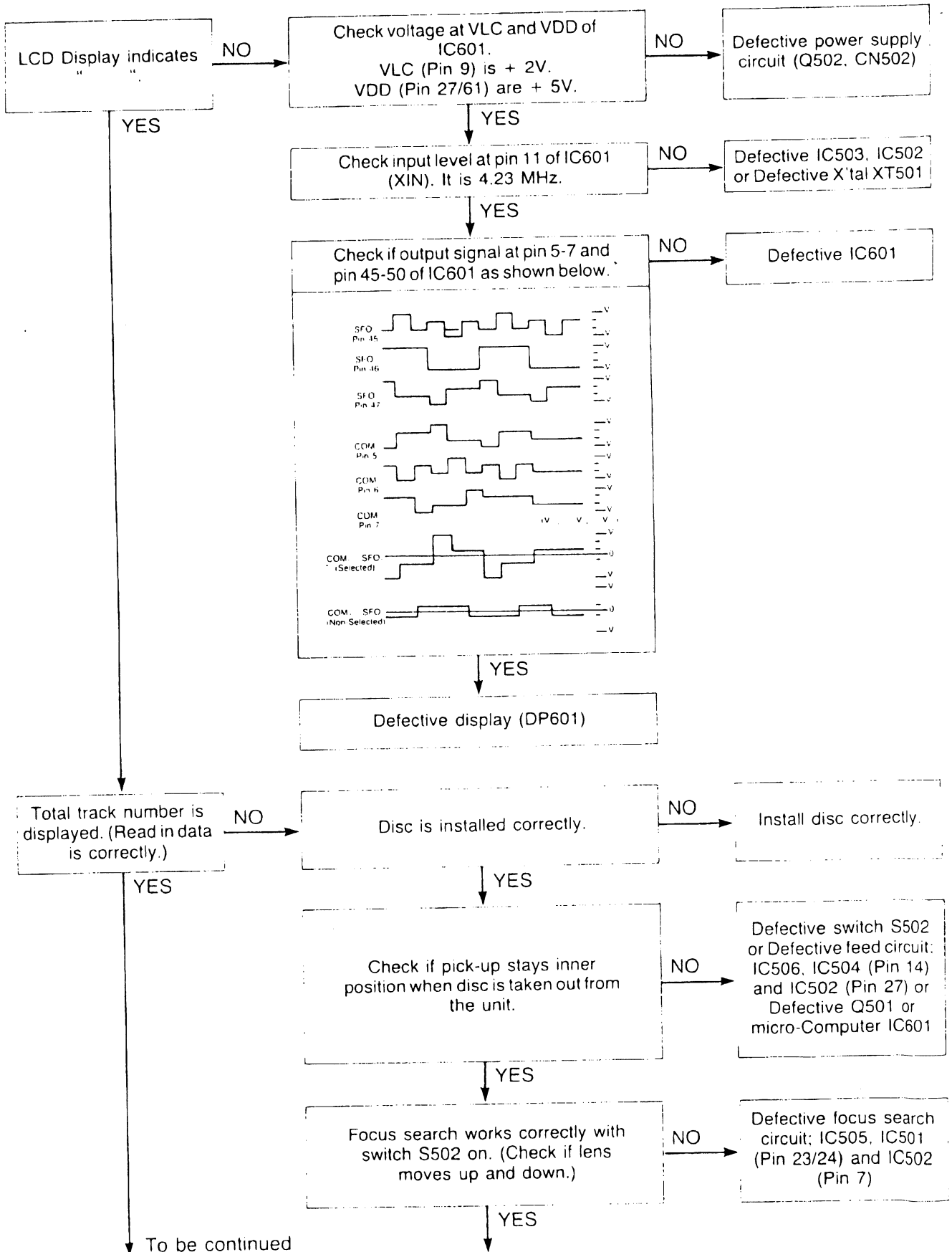


ALIGNMENT

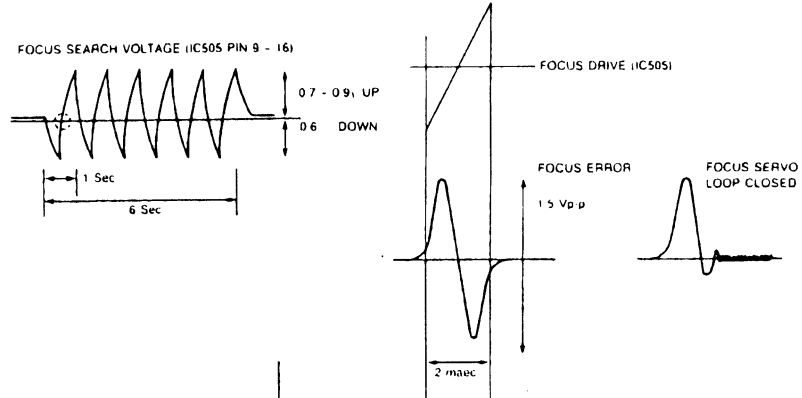


MAIN P.C.B. ALIGNMENT

## TROUBLESHOOTING GUIDE (CD SECTION)



YES



YES

Check laser diode is powered on with switch S501/S502 when no disc is set. It is 0.25 mW. (Refer to ALIGNMENT of CD SECTION)

NO

Defective switch S503 or Defective A.P.C. circuit; IC513, Q505 and IC502 (Pin 3) or Defective Pick-up (P501)

YES

Check focus servo is closed with disc installed.

NO

Defective focus servo circuit; Misalignment of VR503/504, IC501/504/505 Defective Pick-up (PD)

YES

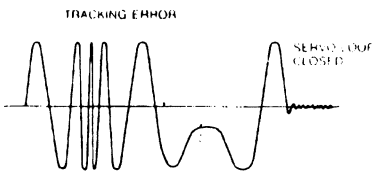
Disc motor rotates correctly.

NO

Defective disc motor (M502) Defective disc servo circuit; IC508, IC504 (Pin 8/9/10), IC502 (Pin 30), IC501

YES

Tracking servo is closed.



NO

Defective Tracking servo circuit; IC501, IC502 (Pin 25/26), IC504 (Pin 1-7) IC507, Misalignment of VR501 Defective Pick-up (E/F) (output)

YES

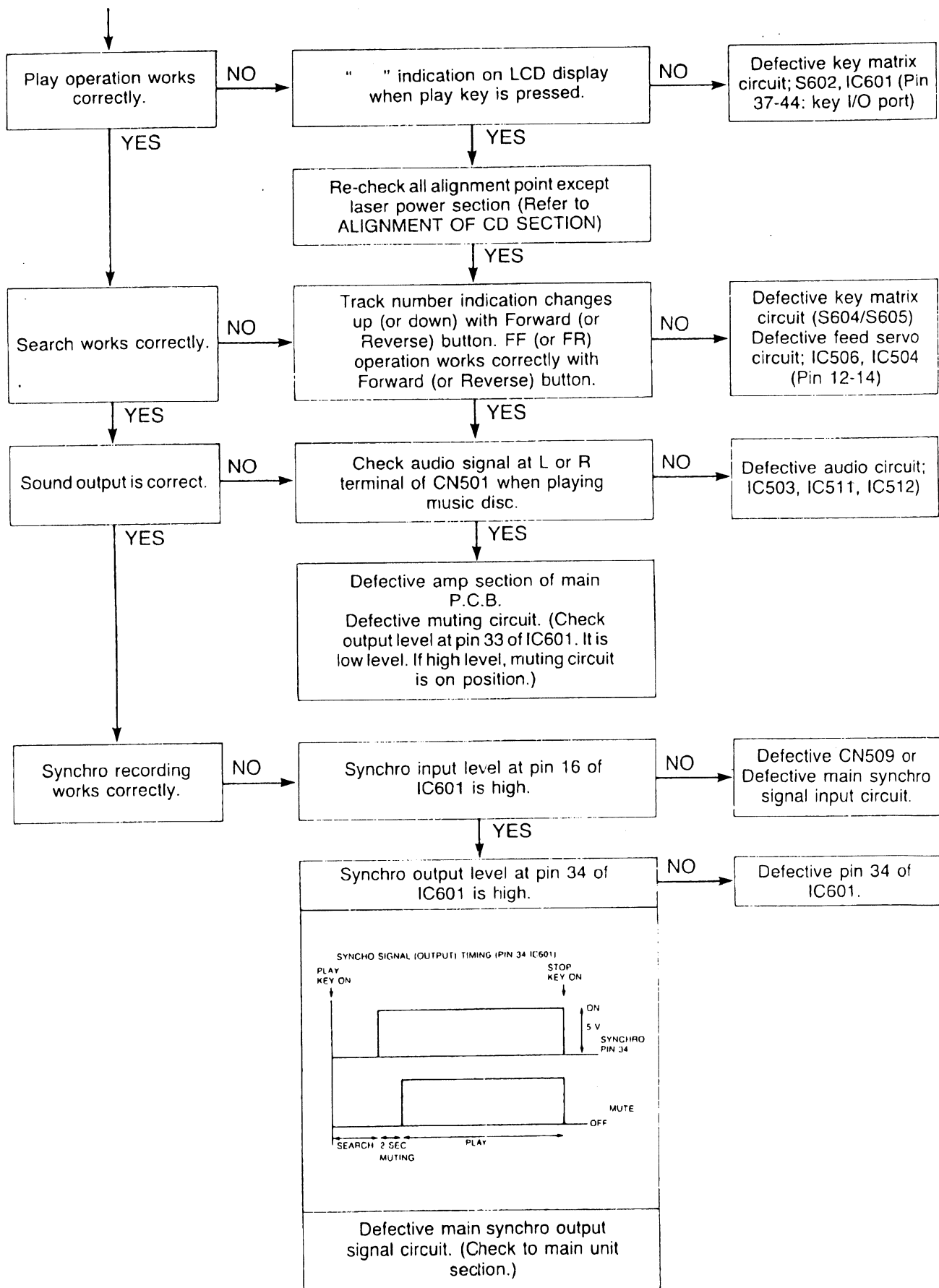
Read in data.

NO

Defective HF amp circuit; IC501, IC502 (Pin 6/28/29) or Misalignment of VR502 or Defective disc

To be continued

For Service Manuals  
**MAURITRON SERVICES**  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QY.  
 Tel (01844) 351694  
 Fax (01844) 352554  
 email:- sales@mauritron.co.uk

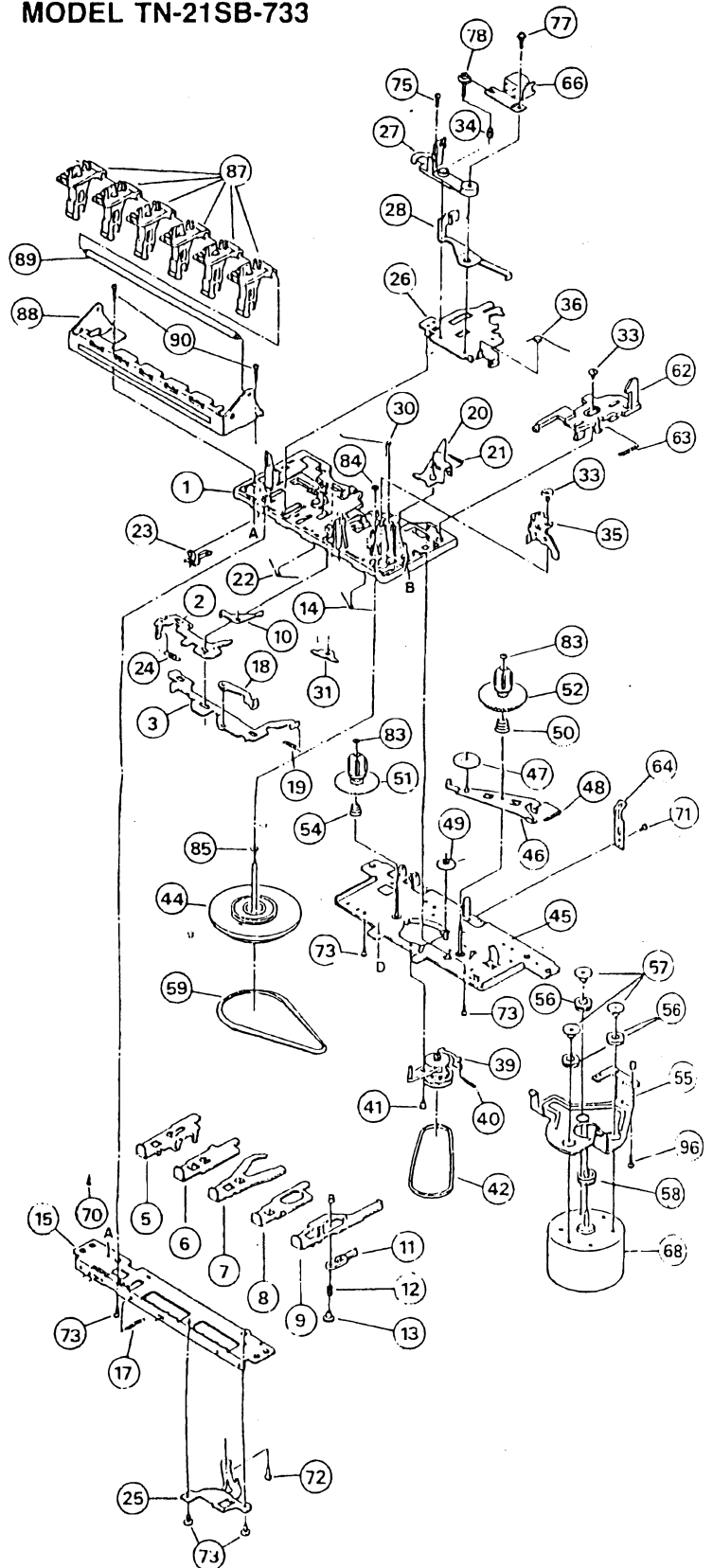


# EXPLODED VIEW (Cassette Deck 1)

## CASSETTE DECK PLAY

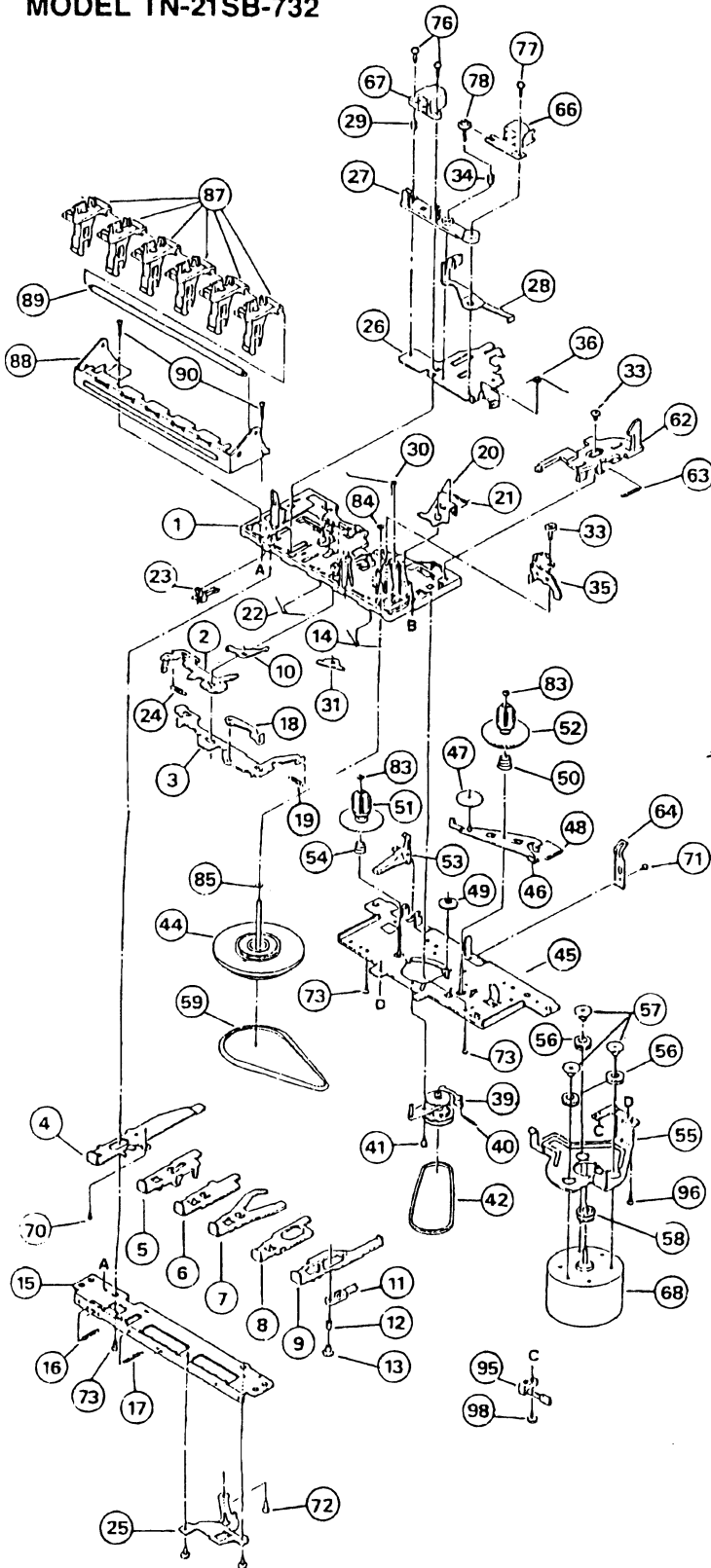
Ref.	Description	Part No.
1	Main Base Assy	201151
2	Switch	201152
3	Push Button Actuator	201153
4	Play Button Lever	201154
6	RWD Button Lever	201155
7	FF Button Lever	201156
8	Stop Button Lever	201157
9	Pause Button Lever Assy	201158
10	RWD Lever	201159
11	Pause Lever	201160
12	Pause Lever Spring	201161
13	Pause Stopper	201162
14	Button Lever Spring	201163
15	Sub Chassis	201164
17	Play Button Lever Spring	201165
18	E Kick Lever	201166
19	Actuator Spring	201167
20	Auto Lever	201168
21	Auton Lever Spring	201169
22	Button Lever Spring	201170
23	Leaf switch LSA-115R	201171
24	Switch Actuator Spring	201172
25	Metal Guide	201173
26	Head panel	201174
27	Head Bash	201175
28	Sensing Plate Assy	201176
30	Head Panel Spring	201177
31	PR Stopper	201178
33	PME Screw	201179
34	Spring	201180
35	Pinch Roller Assy	201181
36	Pinch Roller Spring	201182
39	RF Pulley Arm Assy	201183
40	RF Pulley Arm Spring	201184
42	RF Belt	201186
44	Flywheel Assy	201187
45	Reel Base Assy	201188
46	Take Up Gear Plate Assy	201189
47	Take Up Roller Gear	201190
48	T.G. Plate Spring	201191
49	FF Gear	201192
50	Back Tension Spring	201193
51	Supply Reel Assy	201194
52	Take Up reel Assy	201195
54	Back Tension Spring	201196
58	Motor Pulley	201200
59	Main Belt	201201
62	Eject Slide Lever	201202
63	Eject Slide Lever Spring	201203
64	Pack Spring	201204
66	Play Head	201205
67	Erase Head	201219
68	Motor	201206
87	Operation Lever	201207
88	Button Frame	201208
89	Button Lever Shaft	201209

## MODEL TN-21SB-733



# EXPLODED VIEW (Cassette Deck 2)

MODEL TN-21SB-732



### CASSETTE DECK RECORD/PLAY

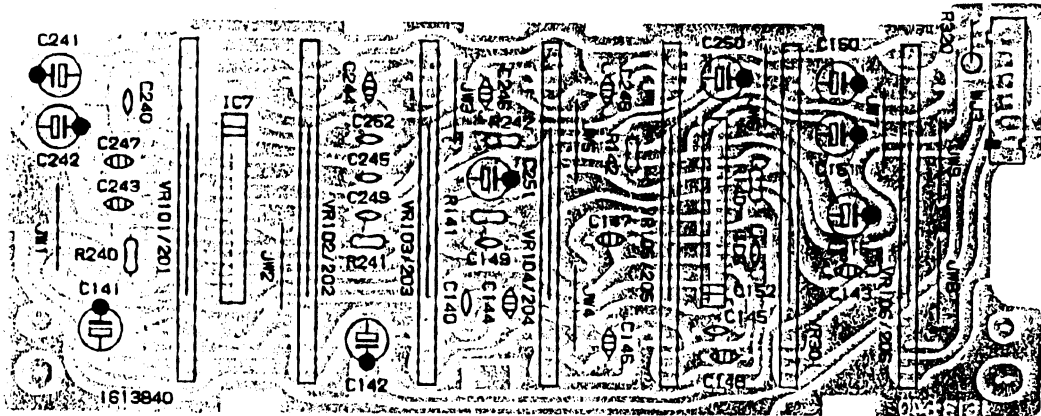
22	Button Lever Spring	201170
29	Erase Head Spring	201211
53	Record Safety Lever	201212
95	Leaf Switch	201213
	MSW-1373NBK	

FOR OTHER PARTS REFER PAGE 13.

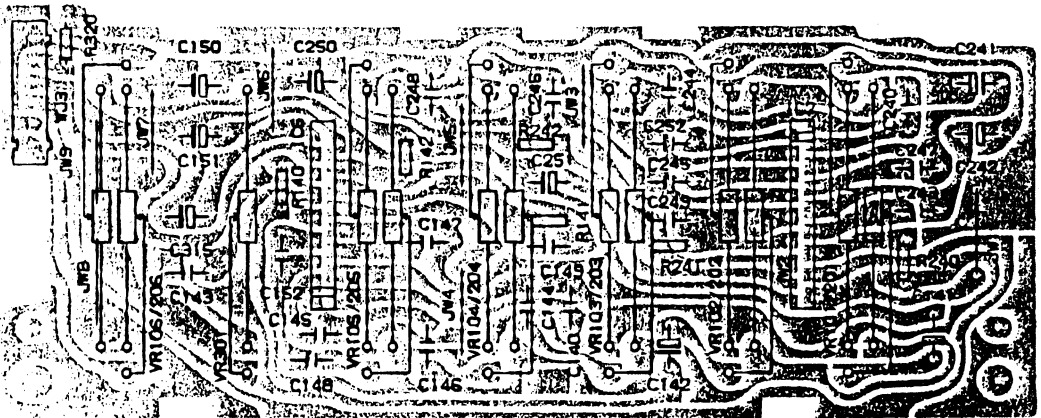


# GRAPHIC EQUALIZER P.C.B.

(Top View)

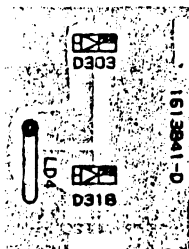


(Bottom View)

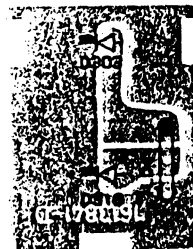


# RECORD/POWER INDICATOR P.C.B.

(Top View)

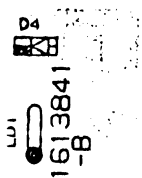


(Bottom View)



# STEREO INDICATOR P.C.B.

(Top View)

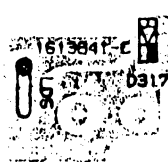


(Bottom View)



# STAND BY INDICATOR P.C.B.

(Top View)



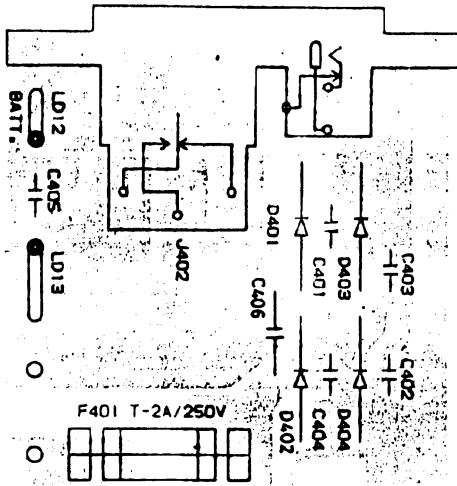
(Bottom View)



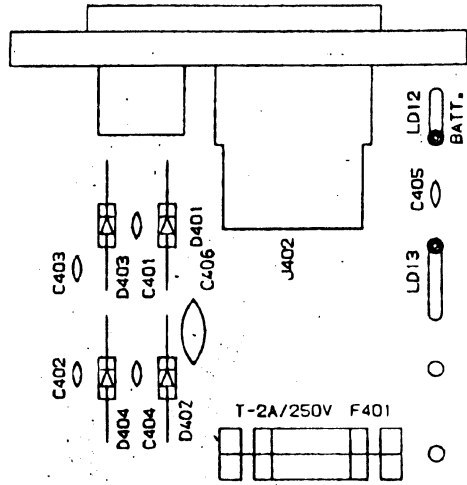


## POWER SUPPLY P.C.B.

(Top View)

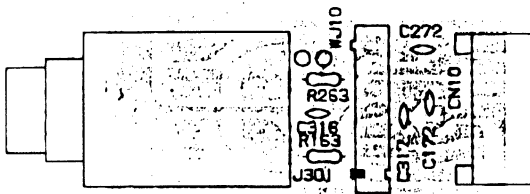


(Bottom View)

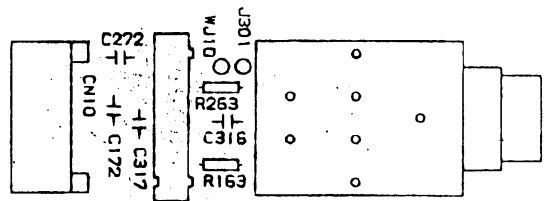


## HEADPHONE JACK P.C.B.

(Top View)



(Bottom View)



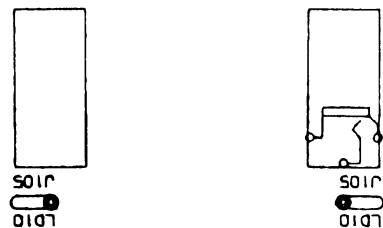
## SPEAKER JACK P.C.B. (L)

(Top View) (Bottom View)



## SPEAKER JACK P.C.B. (R)

(Top View) (Bottom View)



## IC AND TRANSISTOR VOLTAGE CHART

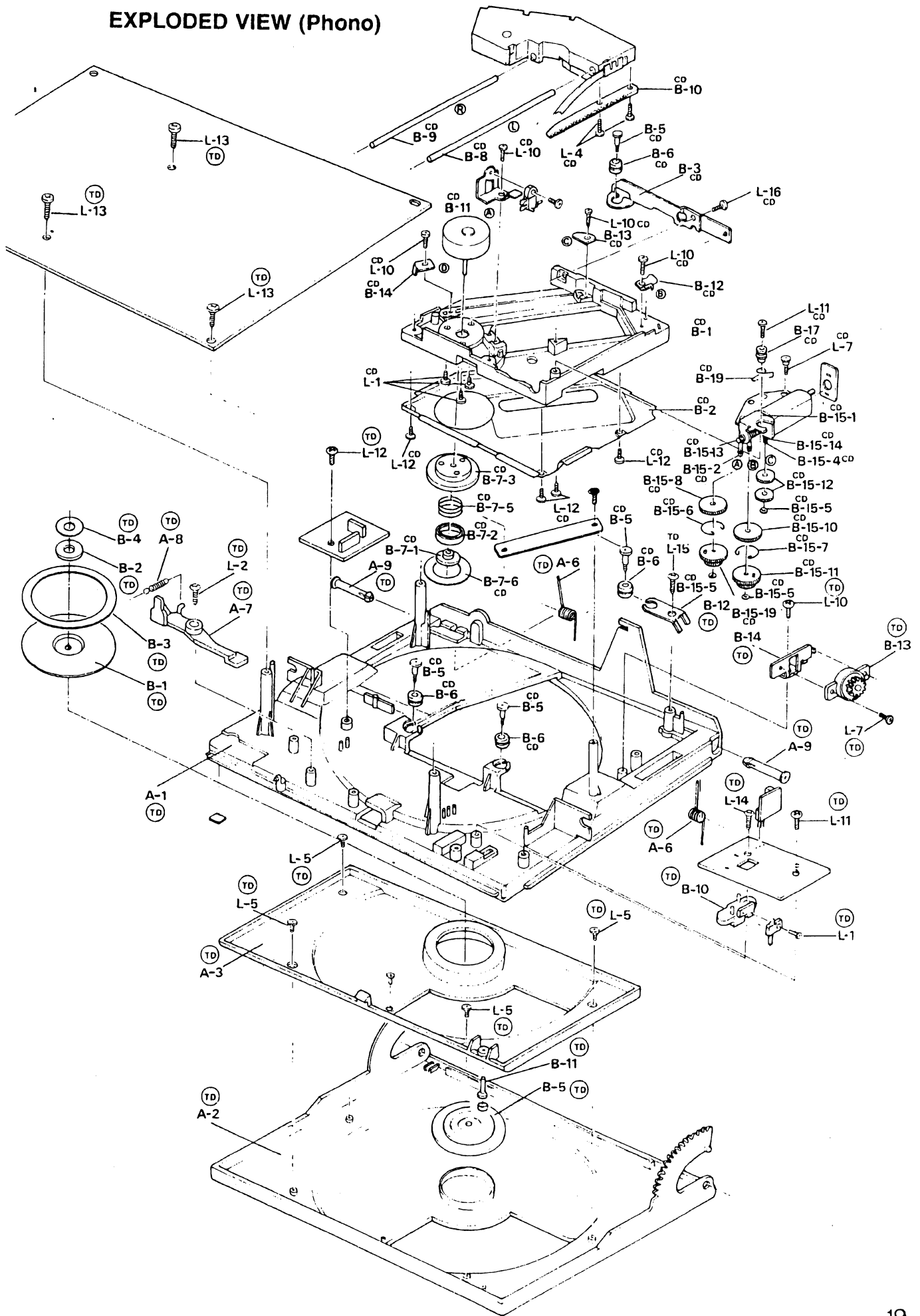
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC1	0.9	1.6	6.3	0	0	6.3	1.4	5.6	6.3											
IC2 FM	1.4	1.4	1.4	0	6.5	6.5	0	1.6	1.5	1.5	0.7	6.5	0	0	2.3	2.3				
IC2 AM	1.1	1.1	1.1	0	6.7	6.7	0	1.6	1.5	1.1	0.8	6.7	1.4	1.4	2.3	2.3				
IC3	6.6	2.3	1.6	1.6	1.6	6.3	0	0.4	3.4	1.4	1.4	0	1.4	1.4	1.4	0				
IC4	7.1	0	0	2.3	2.1	2.1	2.1	0	2.1	0	2.1	2.1	2.1	2.3	0	0				
IC5	0	7.1	0	3.0	1.3	1.2	0	0.9	0	0	1.2	1.3	3.0	0	1.4	7.2				
IC6	3.4	4.5	4.5	3.4	3.4	4.5	4.5	3.4	3.4	3.8	4.5	3.8	3.8	3.8	4.5	4.5	7.2	0		
IC7	3.4	4.5	4.5	3.4	3.4	4.5	4.5	3.4	3.4	3.8	4.5	3.8	3.8	3.8	4.5	4.5	7.2	0		
IC8	16.3	15.1	0.6	7.9	8.1	0.8	1.2	0	15.9	0	0.5	1.0	0	1.2	0.8	8.2	8.0	0.6	15.1	0

	Q1	Q101	Q201	Q102	Q202	Q103	Q203	Q302	Q304	Q305	Q306	Q308	Q310	Q311	Q312	Q315	Q316	Q317	Q301	
B	AM 0	FM 0.7	0	0	1.0	1.0	1.1	1.1	0.3	0	0	0.7	9.2	8.6	10.7	0.7	0.74	0	0	0
C	1.4	0	0	0	4.0	4.0	4.4	4.4	2.8	0	5.4	0	8.5	16.2	16.1	0	0	10.7	8.6	0
E	0	0	0	0	0.4	0.4	0.4	0.4	0.1	0	0	0	8.5	7.9	10.3	0	0	0	0	0

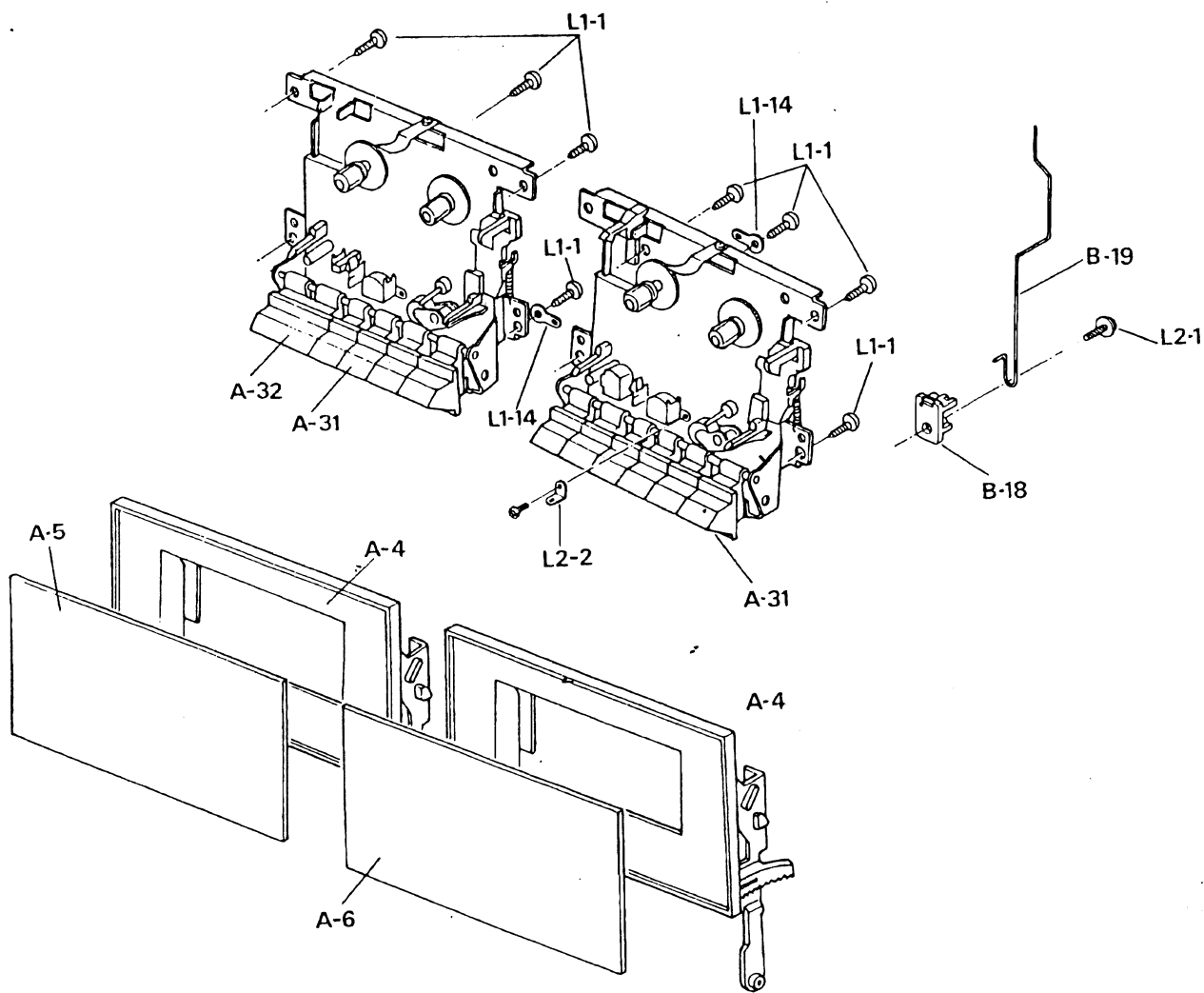
## CD MECHANISM PARTS LIST

Ref.	Description	Part No.
CDA-1	CD Base	201117
CDA-2	CD Door	201118
CDA-3	CD Door Window	201119
CDB-1	Disc Pressing Plate	201120
CDB-2	Magnet	201121
CDB-3	Chuck Cushion	201122
CDB-4	Magnet Cover	201123
CDB-5	Chuck Upper Plate	201124
CDB-6	Door Spring	201125
CDB-7	Eject Lever	201126
CDB-8	Eject Spring	201127
CDB-9	Door Shaft	201128
CDB-10	LD Switch Holder	201129
CDB-11	Switch Shaft	201130
CDB-12	Floating Plate	201131
CDB-13	Damper Assy	201132
CDB-14	Damper Holder	201133
B2-1	Pick Up Chassis	201134
B2-2	Pick Up Cover	201135
B2-3	Damper Holder	201136
B2-5	Damper Shaft	201137
B2-6	Damper	201138
B2-7	Turn Table Assy	201139
B2-8	Guide Shaft Left	201140
B2-9	Guide Shaft Right	201141
B2-10	Feed Rack	201142
B2-11	Shaft Holder A	201143
B2-12	Shaft Holder B	201144
B2-13	Shaft Holder C	201145
B2-14	Shaft Holder D	201146
B2-15	Feed Gear Assy	201147
B2-16	Collar A	201148
B2-17	Collar B	201149
B2-19	Tension Spring	201150

# EXPLODED VIEW (Phono)

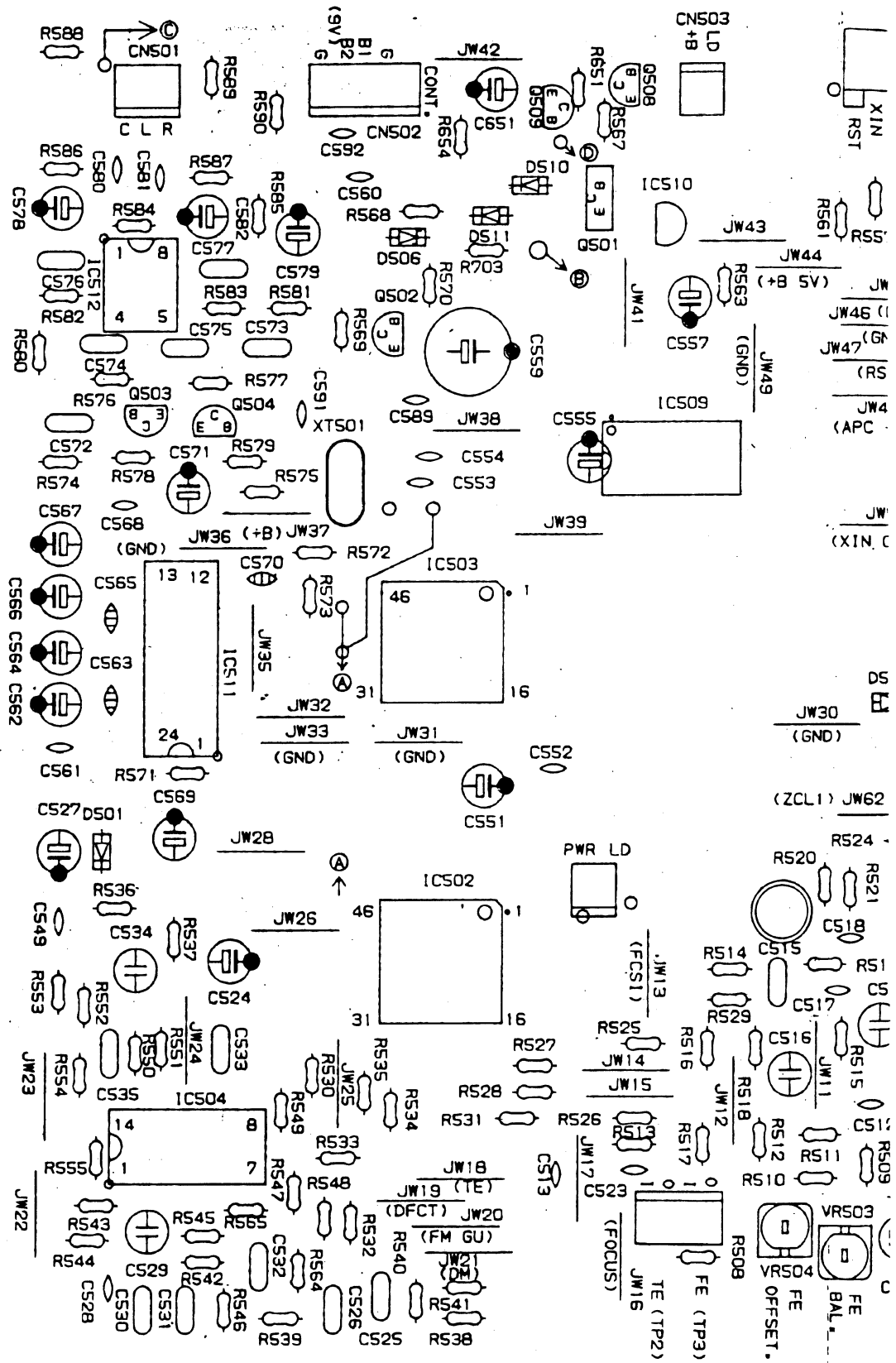


# EXPLODED VIEW (Cassette Deck)

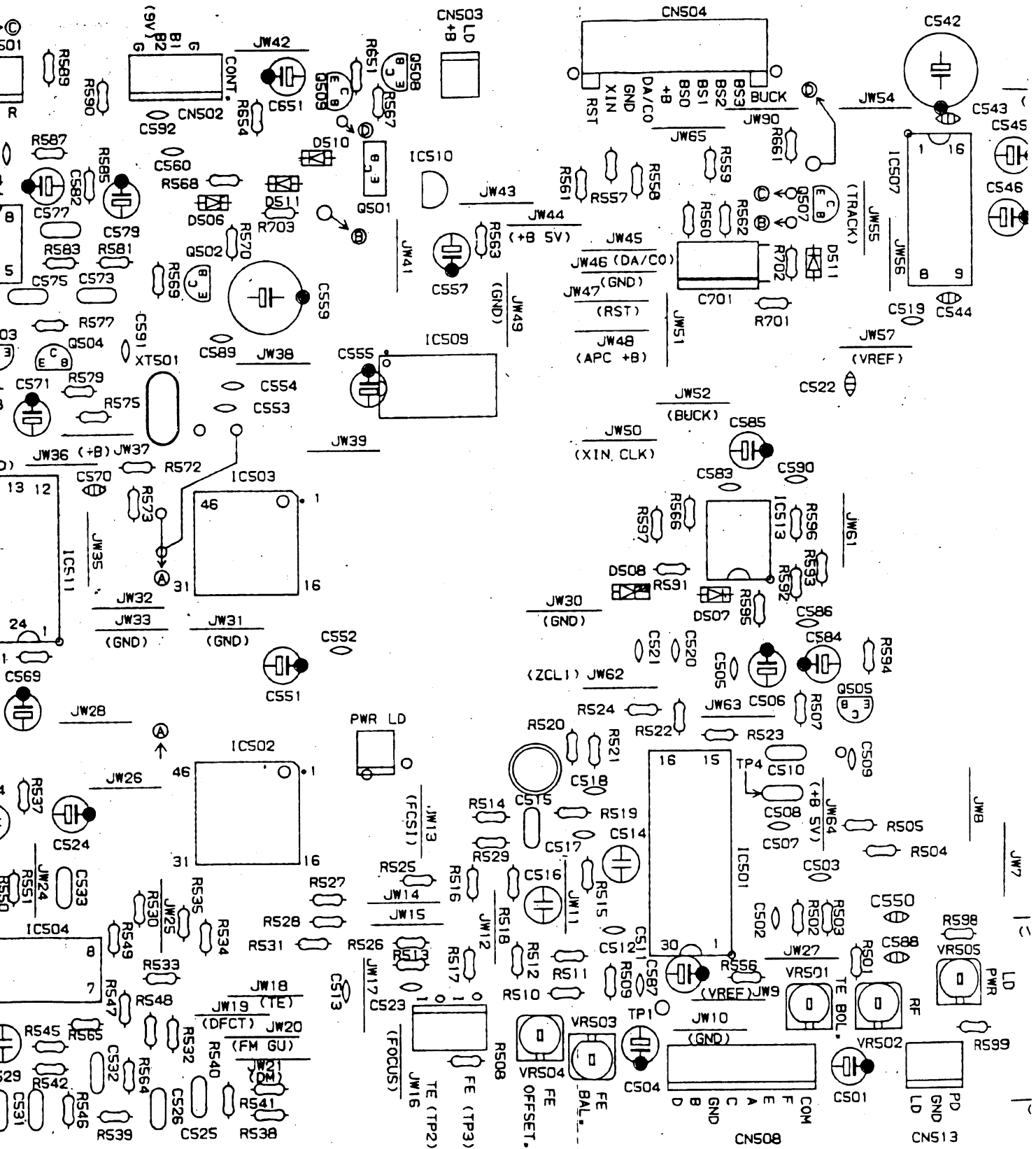


REFER TO PAGE 28 FOR DRAWING REFERENCE

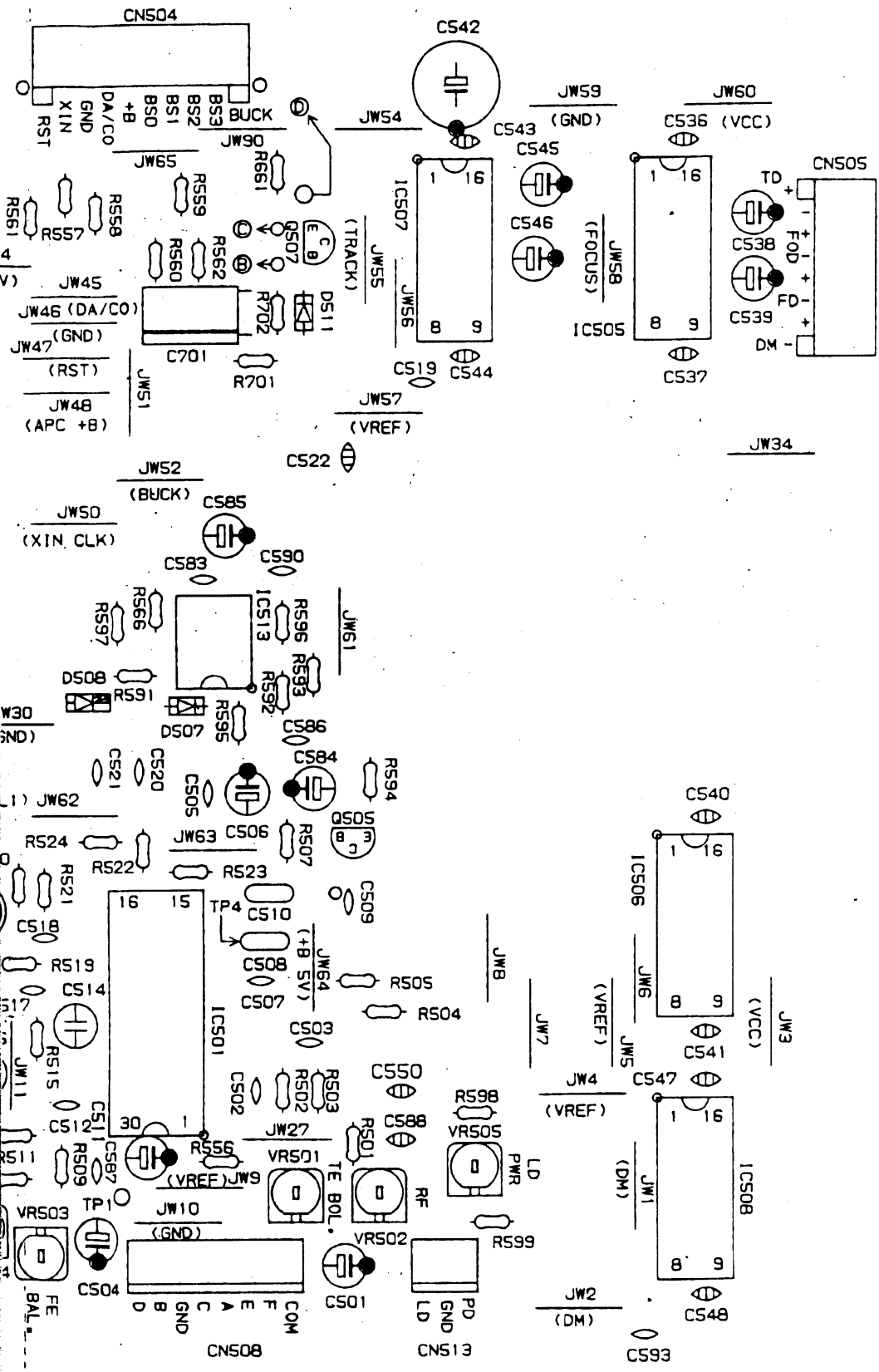
# CD MAIN P.C.B

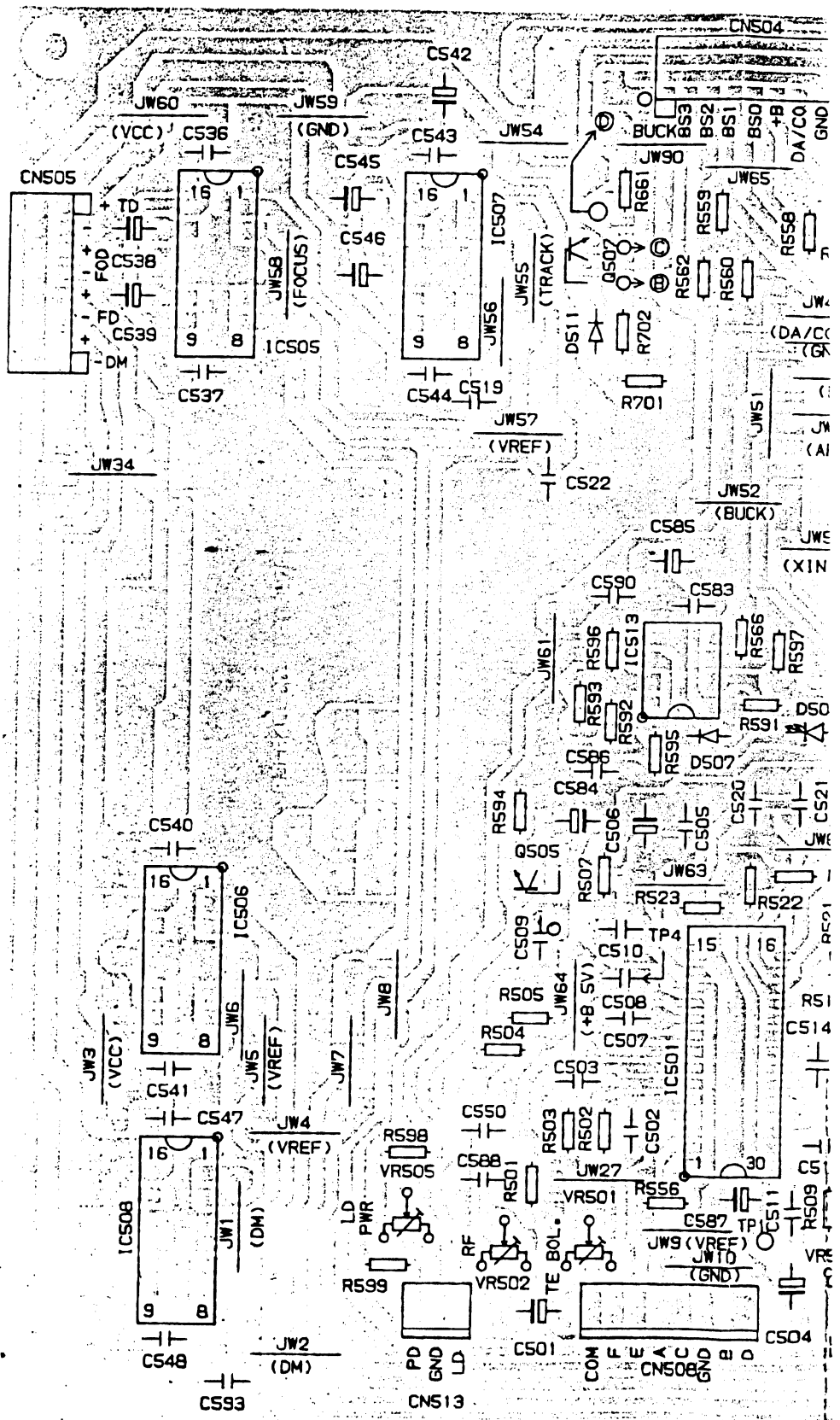


# CD MAIN P.C.B. (Top View)



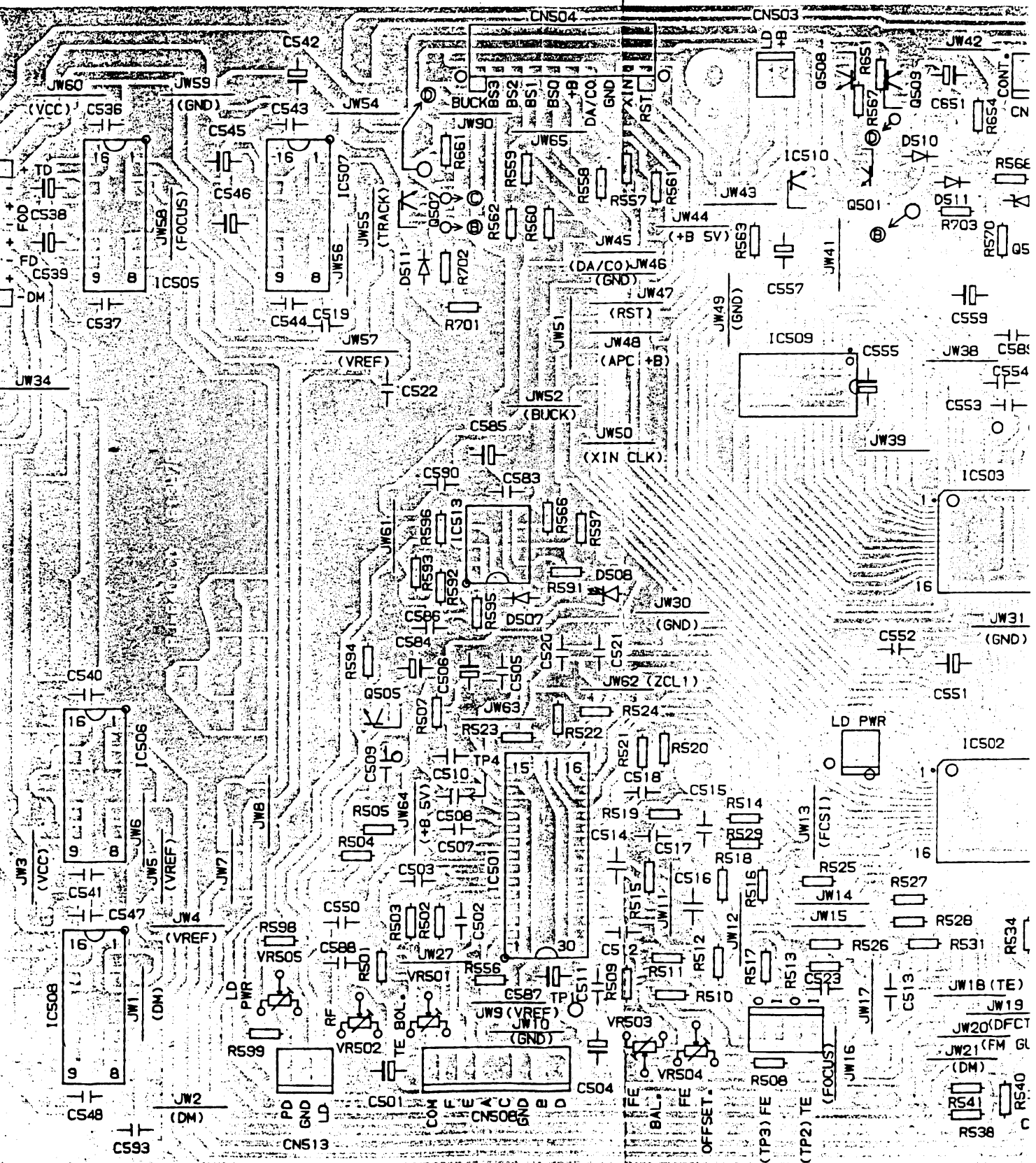
# P.C.B. (Top View)



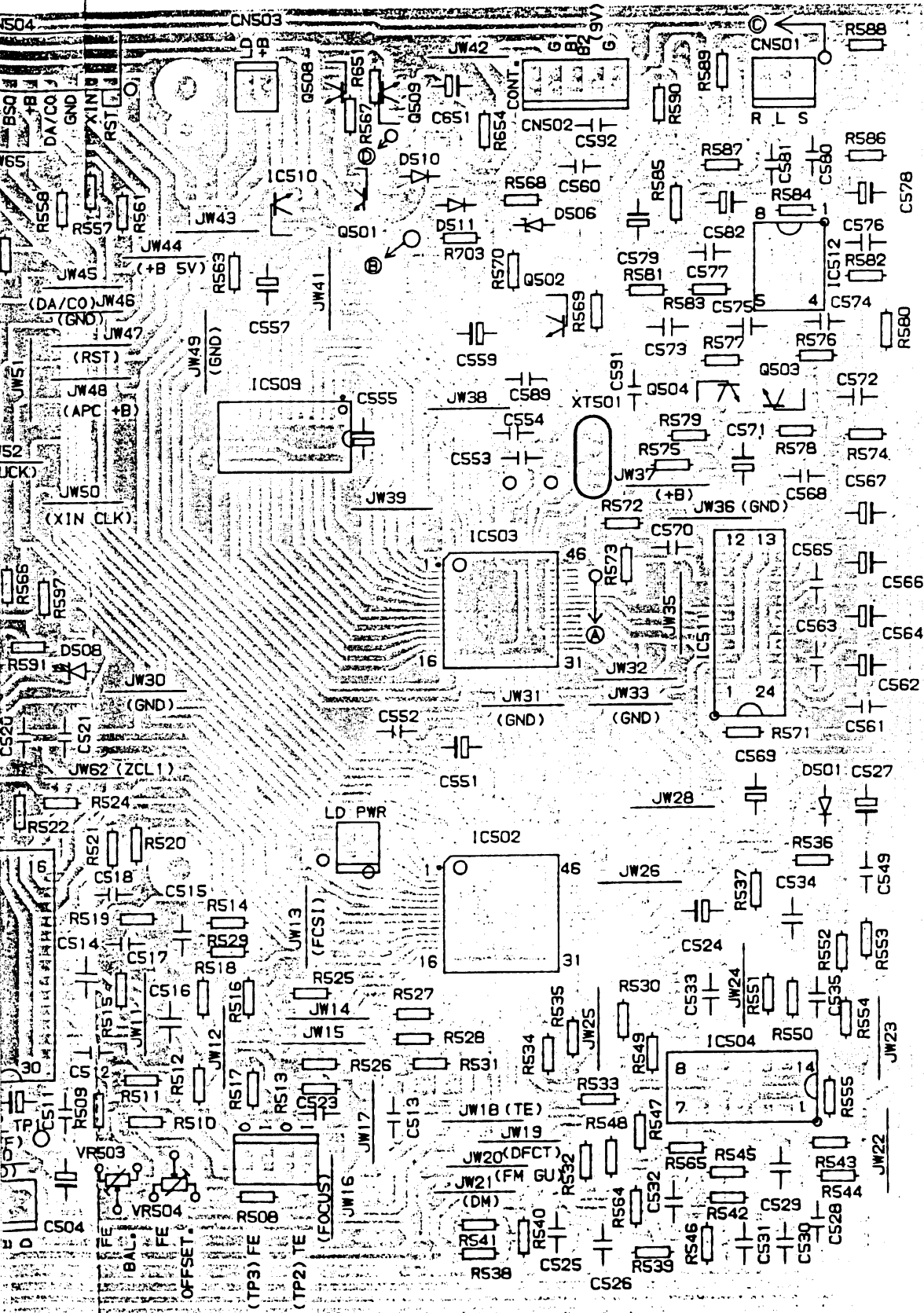




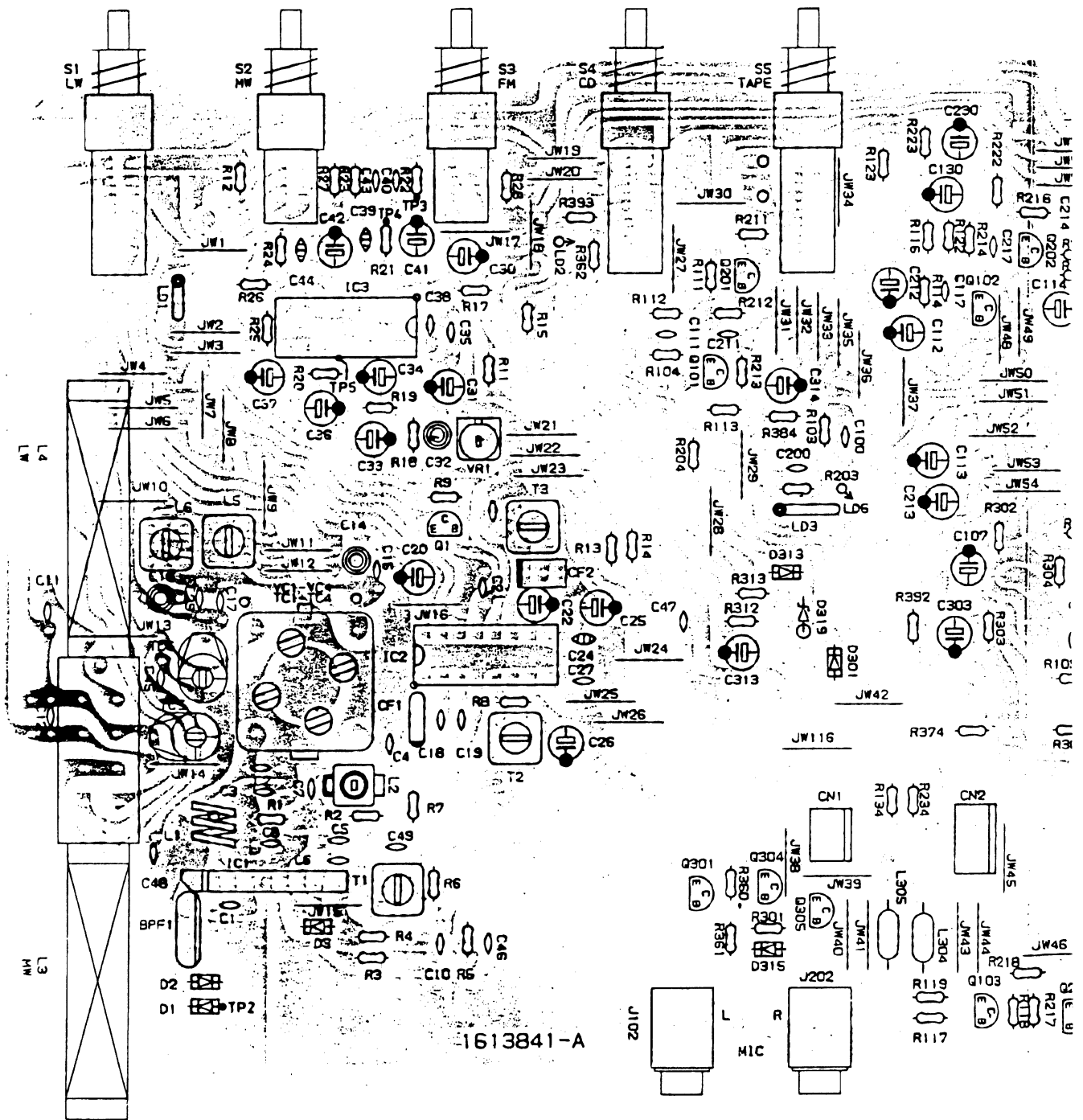
# CD MAIN P.C.B. (Bottom View)



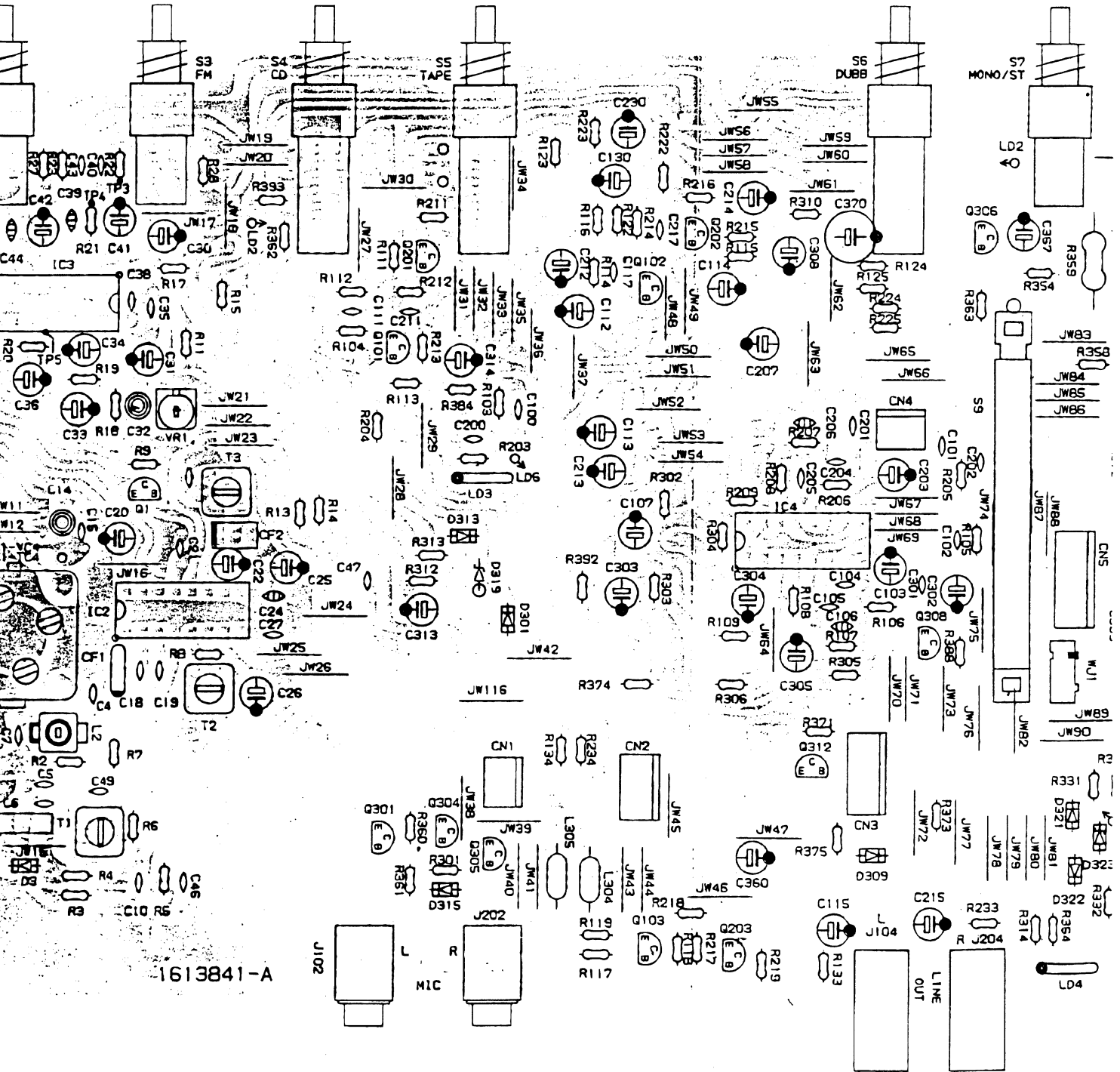
# IN P.C.B. (Bottom View)



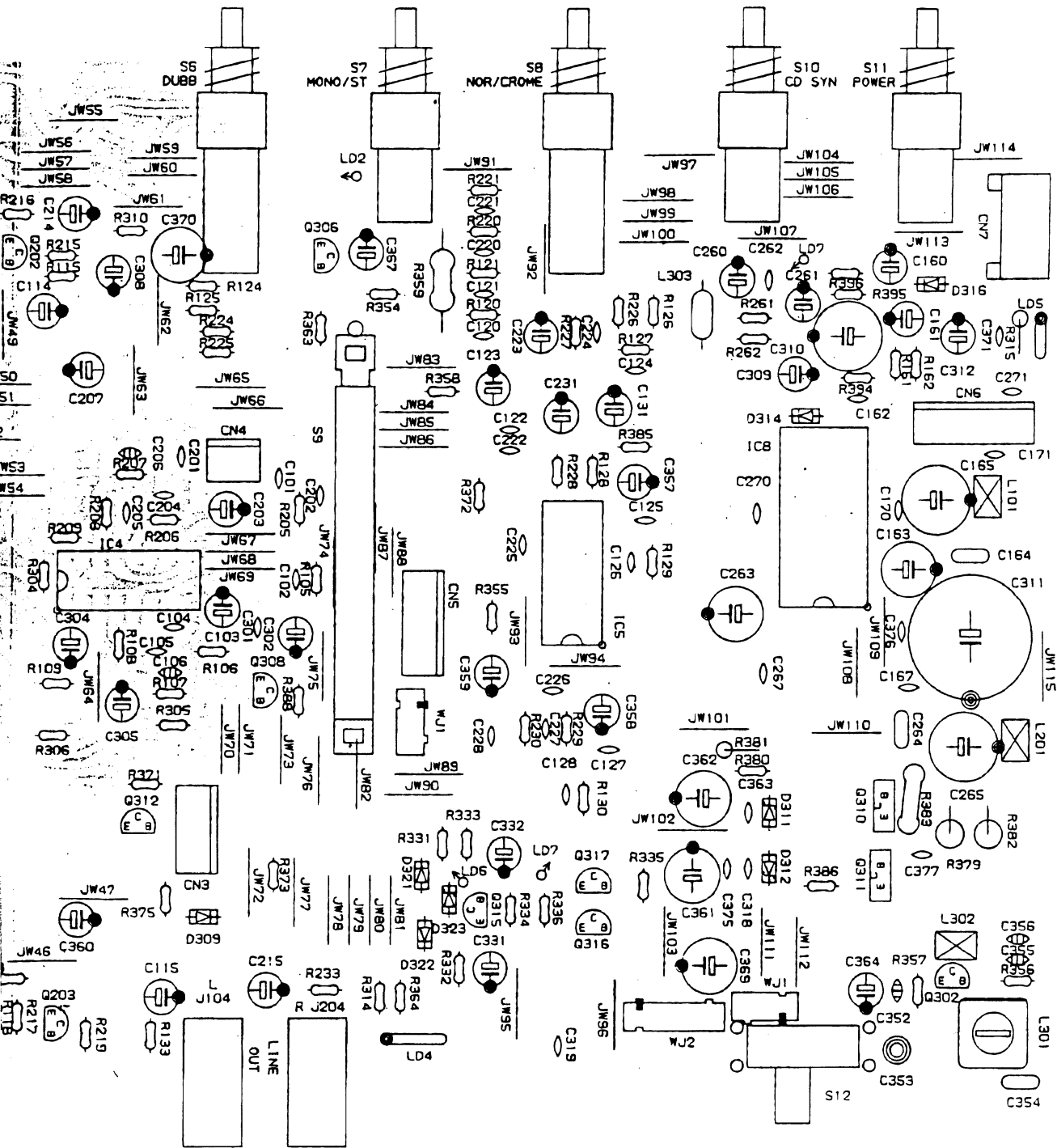
# MAIN P.C.B



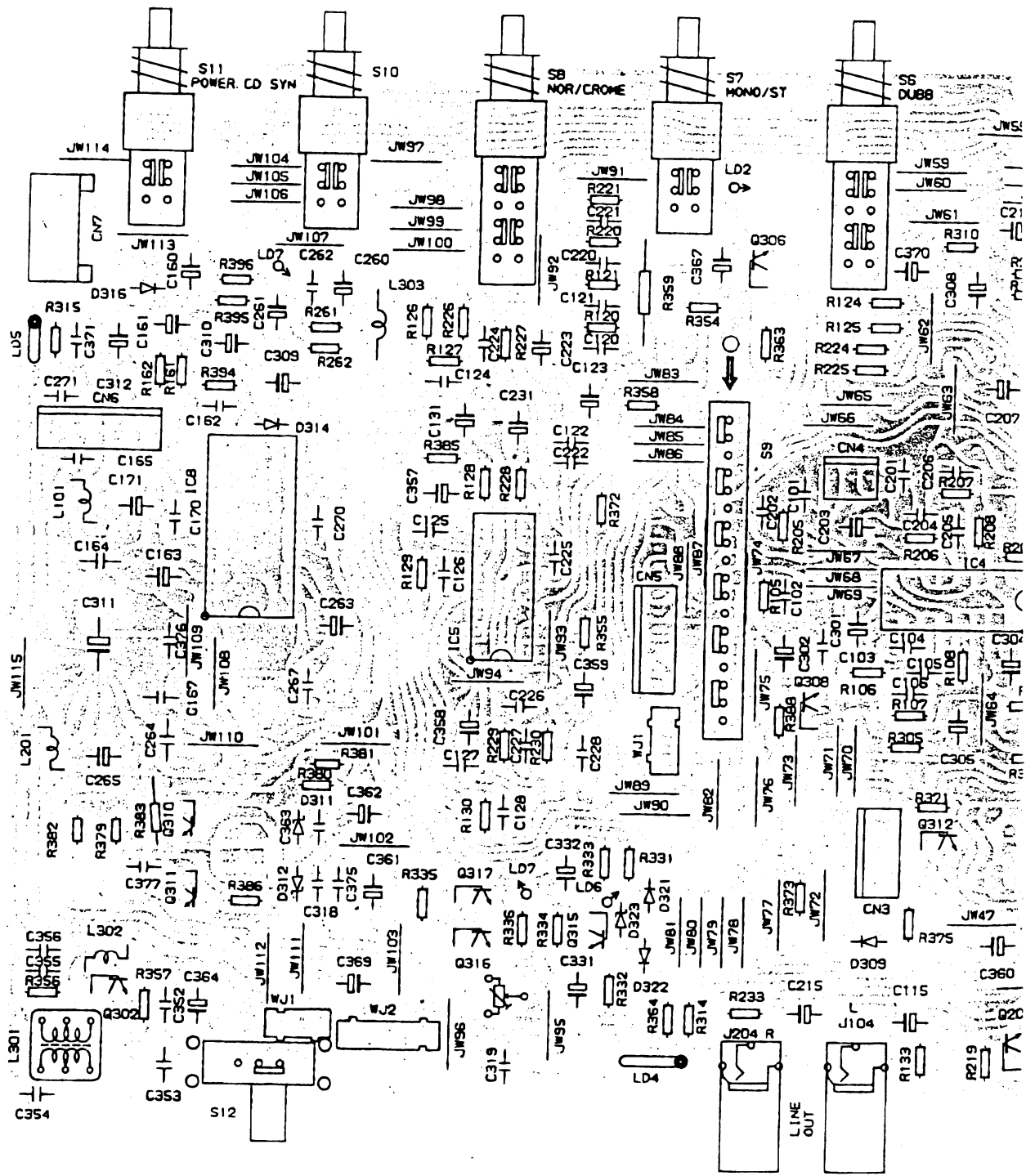
# MAIN P.C.B. (Top View)



C.B. (Top View)

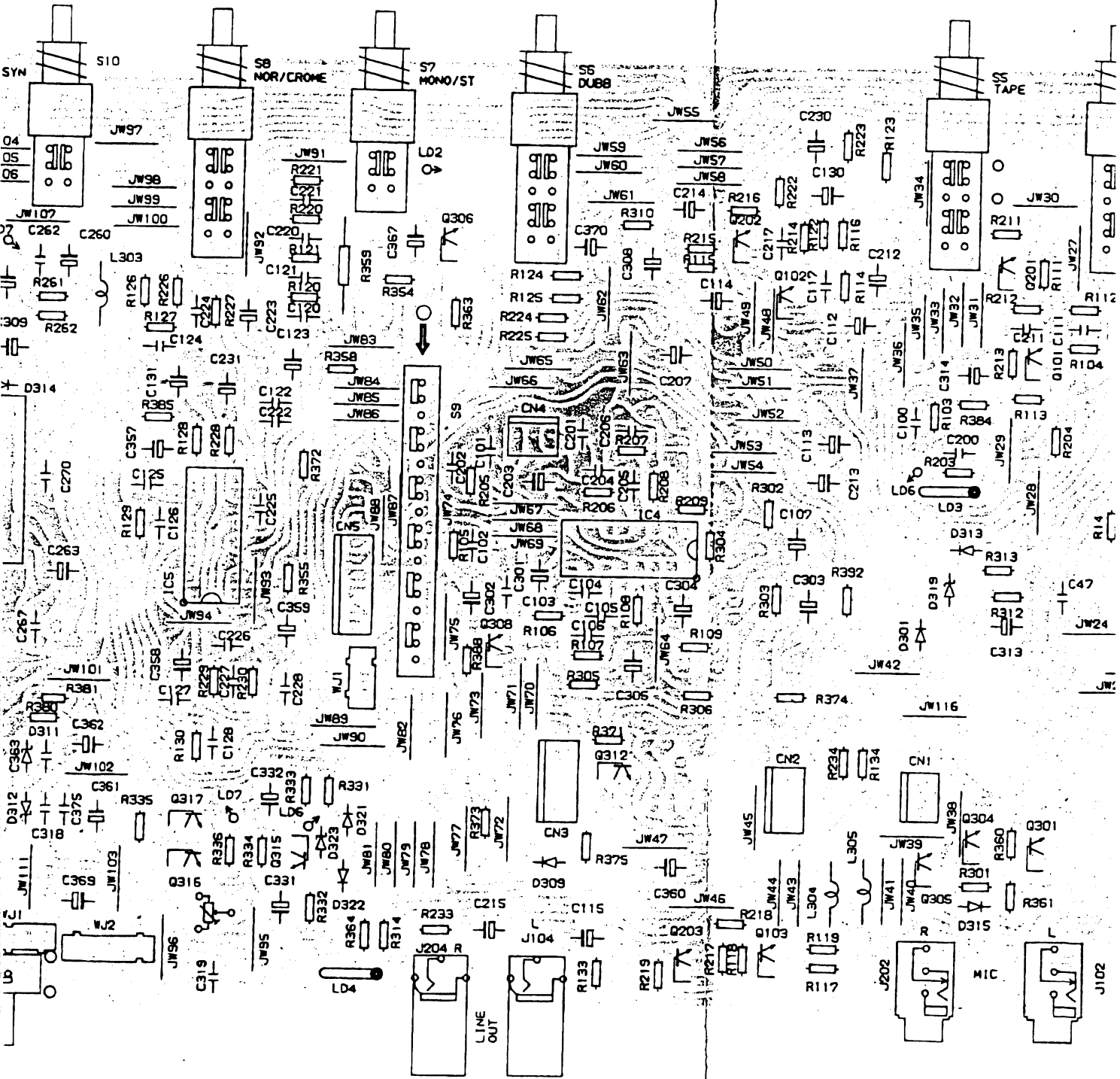


# MAIN P.C



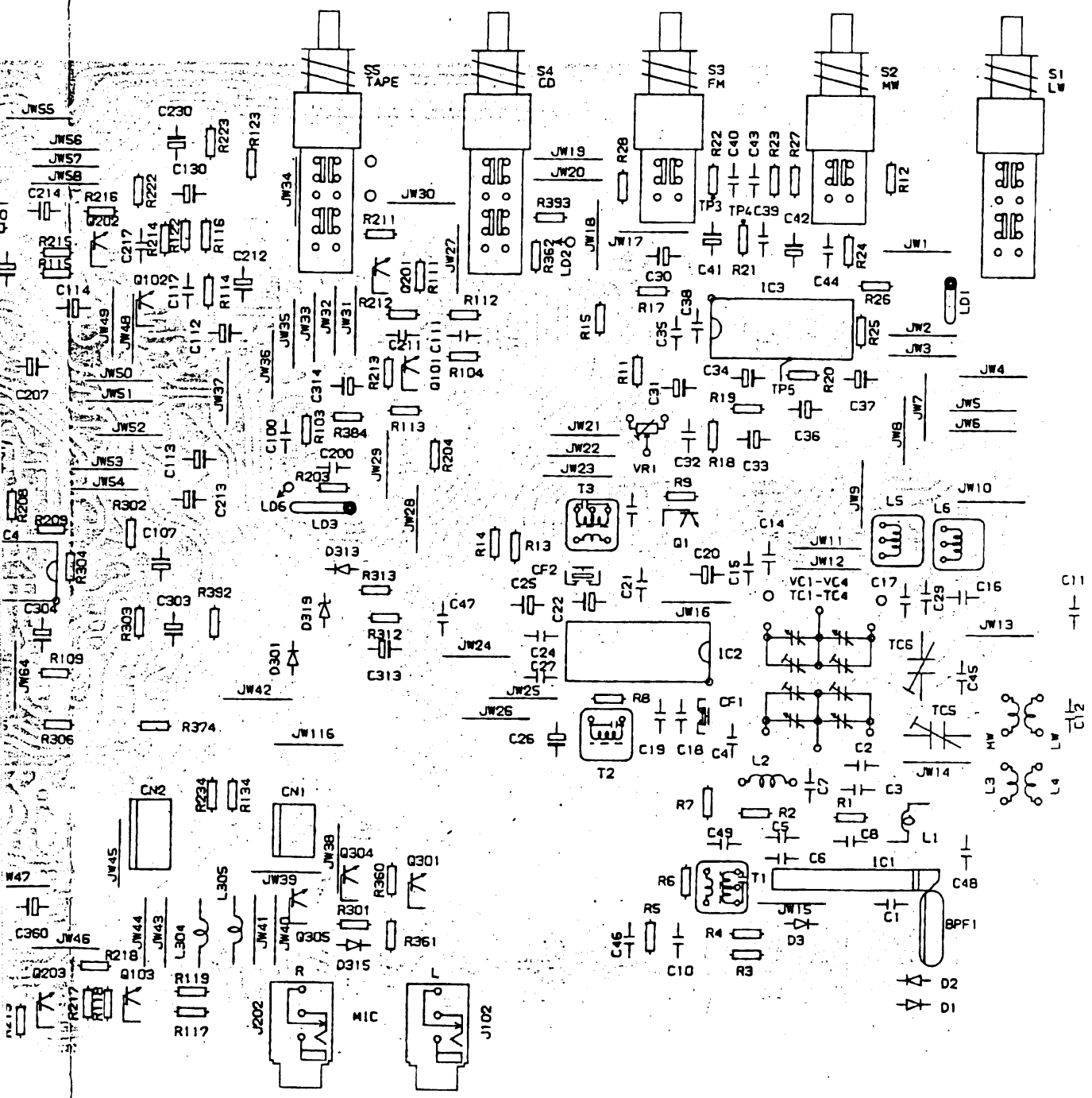
For Service Manuals  
 MAURITRON SERVICES  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QY.  
 Tel (01844) 351694  
 Fax (01844) 352554  
 email:- sales@mauritron.co.uk

# MAIN P.C.B (Bottom View)



For Service Manuals  
**MAURITRON SERVICES**  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QY.  
 Tel (01844) 351694  
 Fax (01844) 352554  
 email:- sales@mauritron.co.uk

# P.C.B (Bottom View)

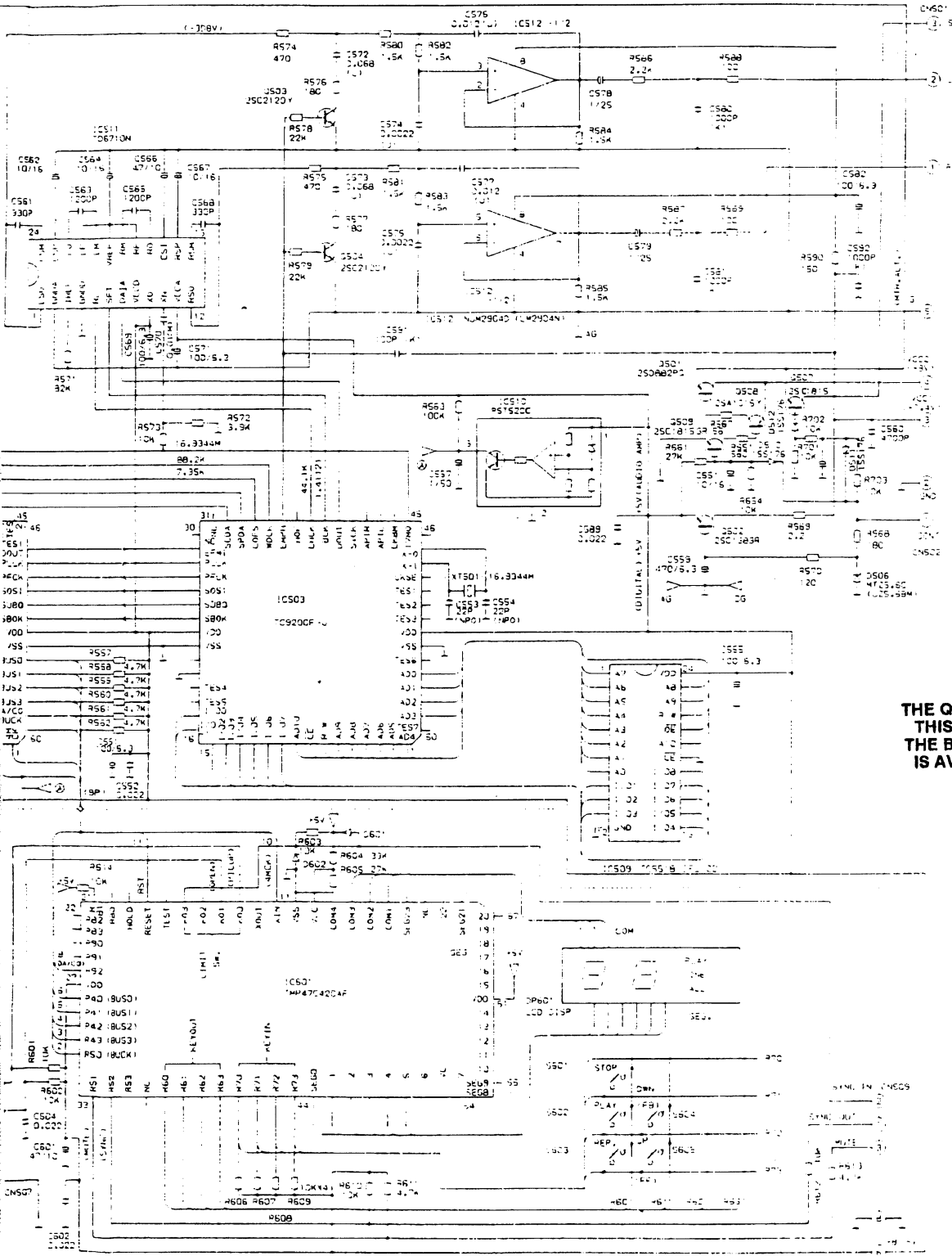




# IC DIAGRAM (CD)

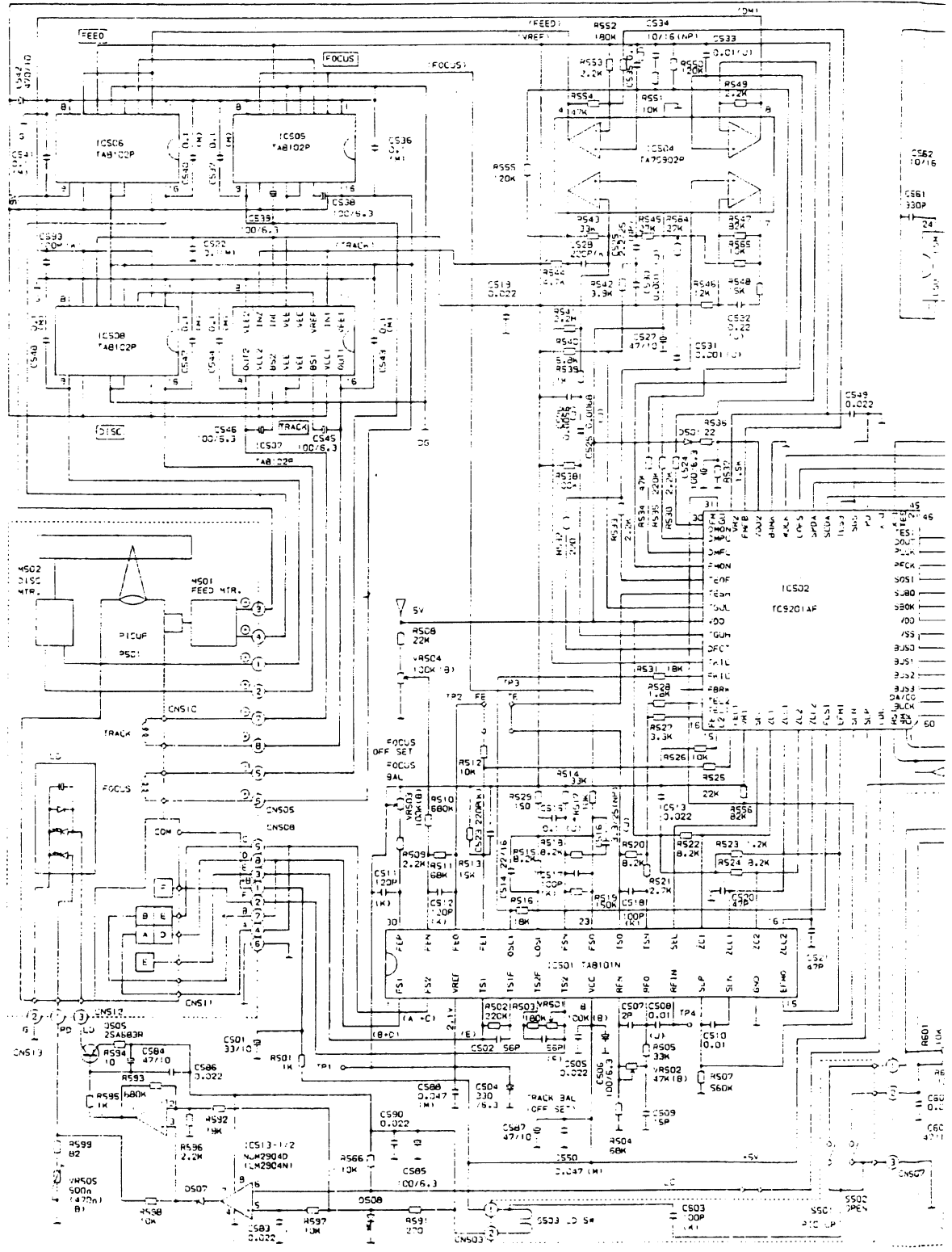
**WARNING:**

REPLACE PARTS WITH SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A  $\Delta$  SHOWING ON THIS SCHEMATIC DIAGRAM. REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS. DON'T DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING. SERVICE PERSONNEL SHOULD MAKE LEAKAGE CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.



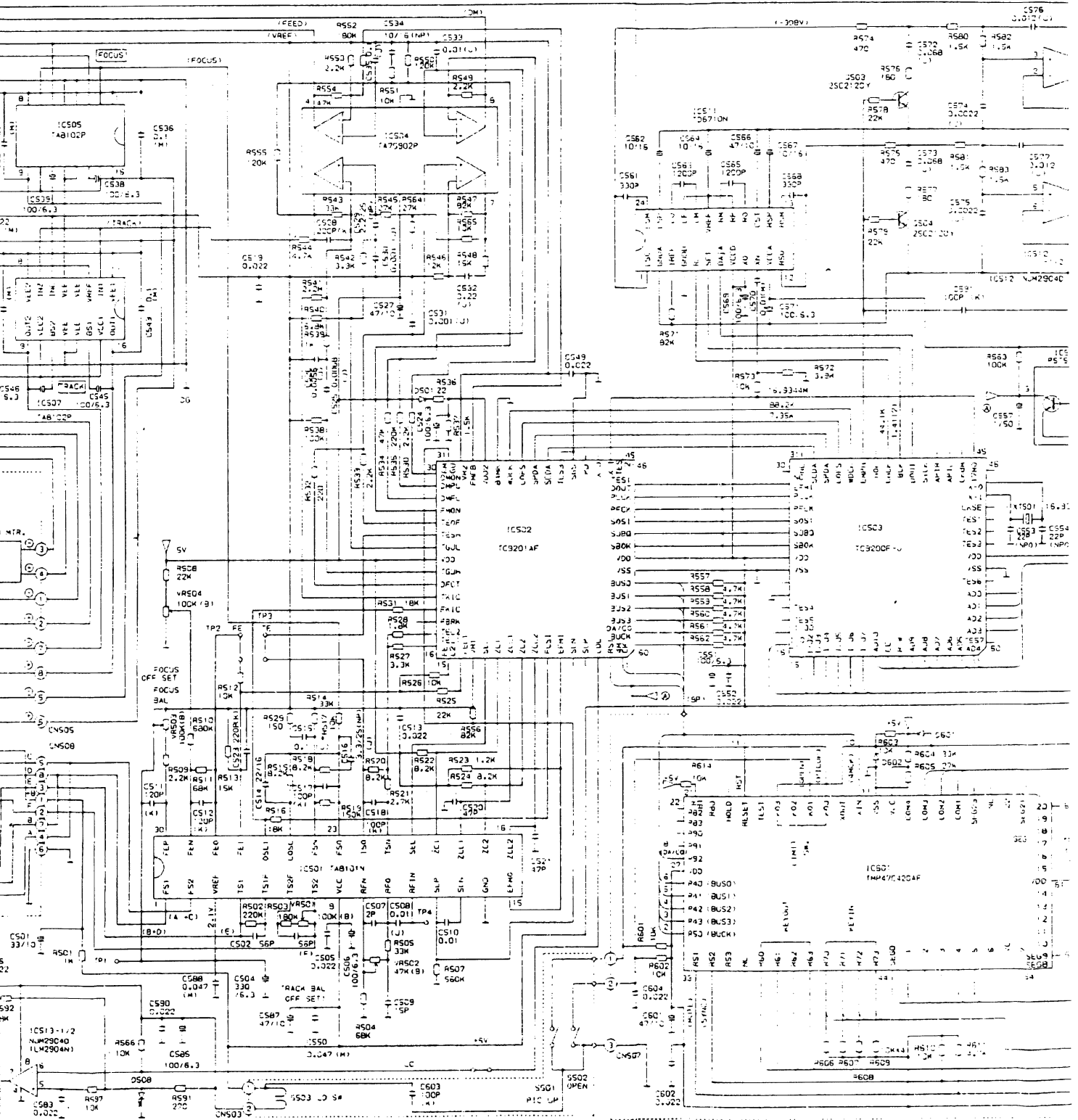
**THE QUALITY OF THIS PAGE IS THE BEST THAT IS AVAILABLE**

# SCHEMATIC I



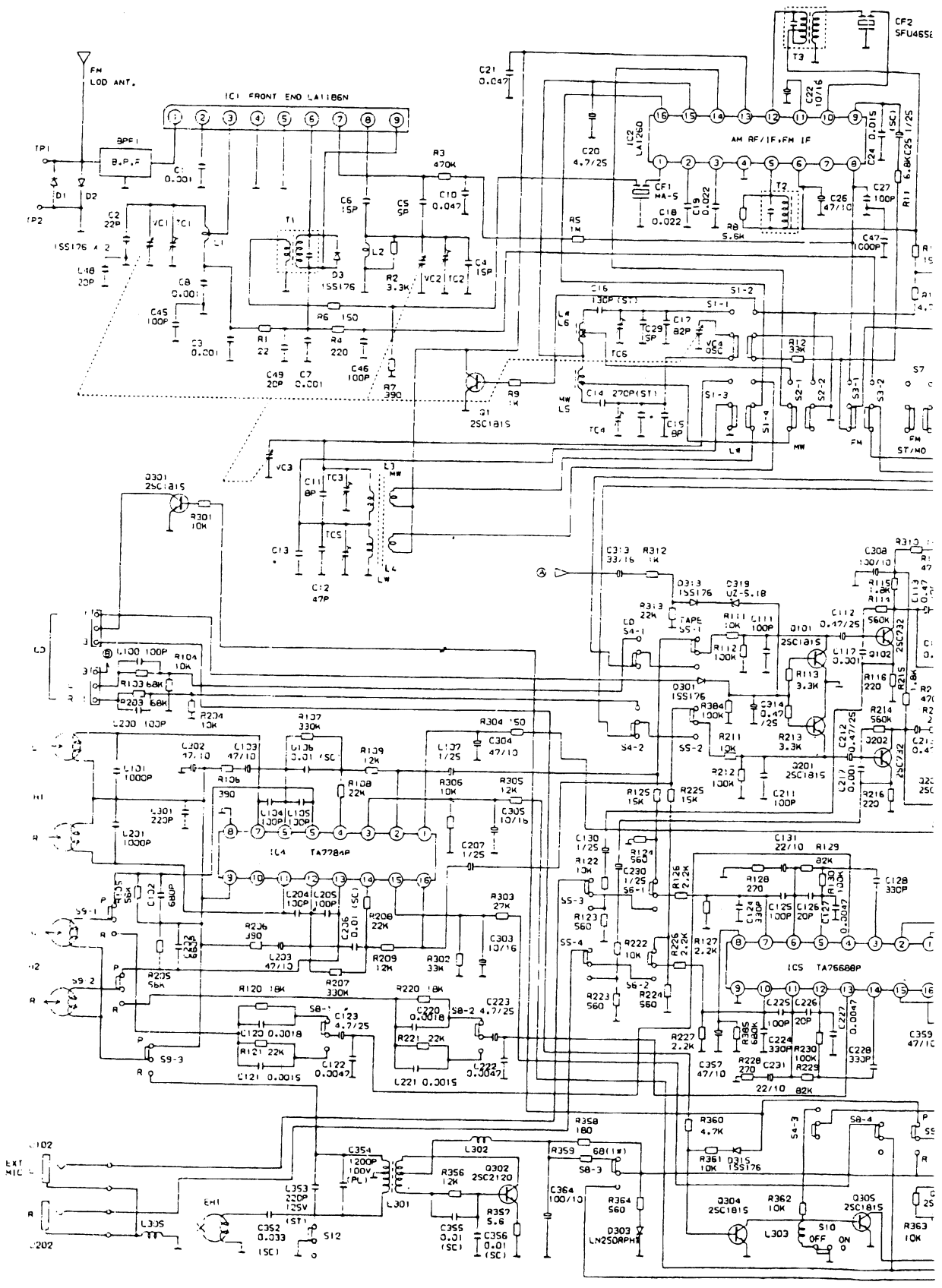
# SCHEMATIC DIAGRAM (CD)

**WARNING:**  
REPLACEMENT PARTS WITH SPECIAL SA#  
ON THIS SCHEMATIC DIAGRAM, SAFETY OF  
PARTS. DON'T DEGRADE THE SAFETY OF  
SHOULD MAKE LEAKAGE CURRENT OR RE  
ACCEPTABLY INSULATED FROM THE SUP



# SCHEMATIC D

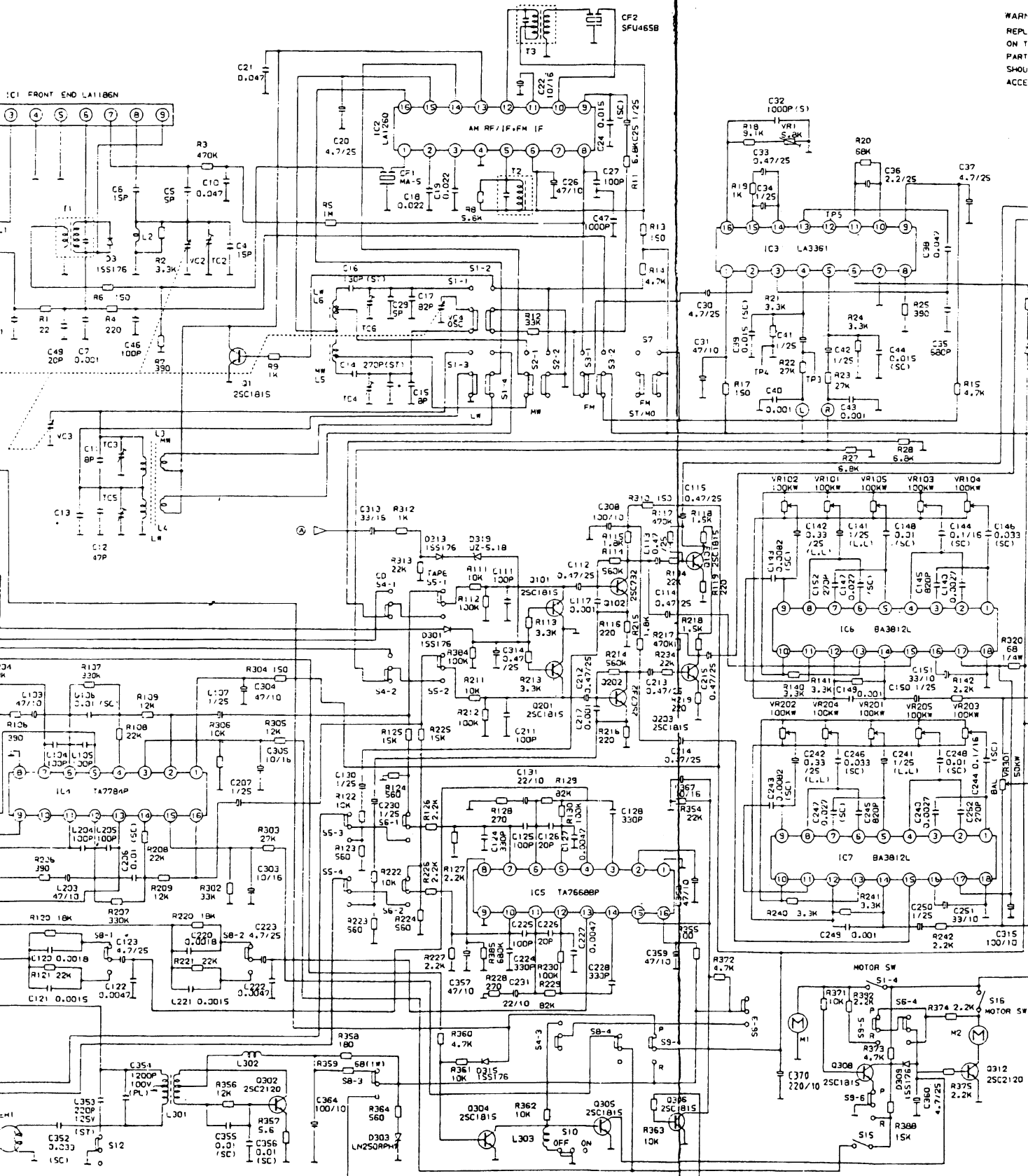
For Service Manuals  
 MAURITRON SERVICES  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QX  
 Tel (01844) 351694  
 Fax (01844) 352554  
 email: sales@maurtron.co.uk



MAURITRON SERVICES  
 For Service Manuals  
 8 Cherry Tree Road, Chimney  
 Oxfordshire, OX9 4QX  
 Tel (01844) 351694  
 Fax (01844) 352554  
 email:- sales@mauritron.co.uk

# SCHEMATIC DIAGRAM (Main)

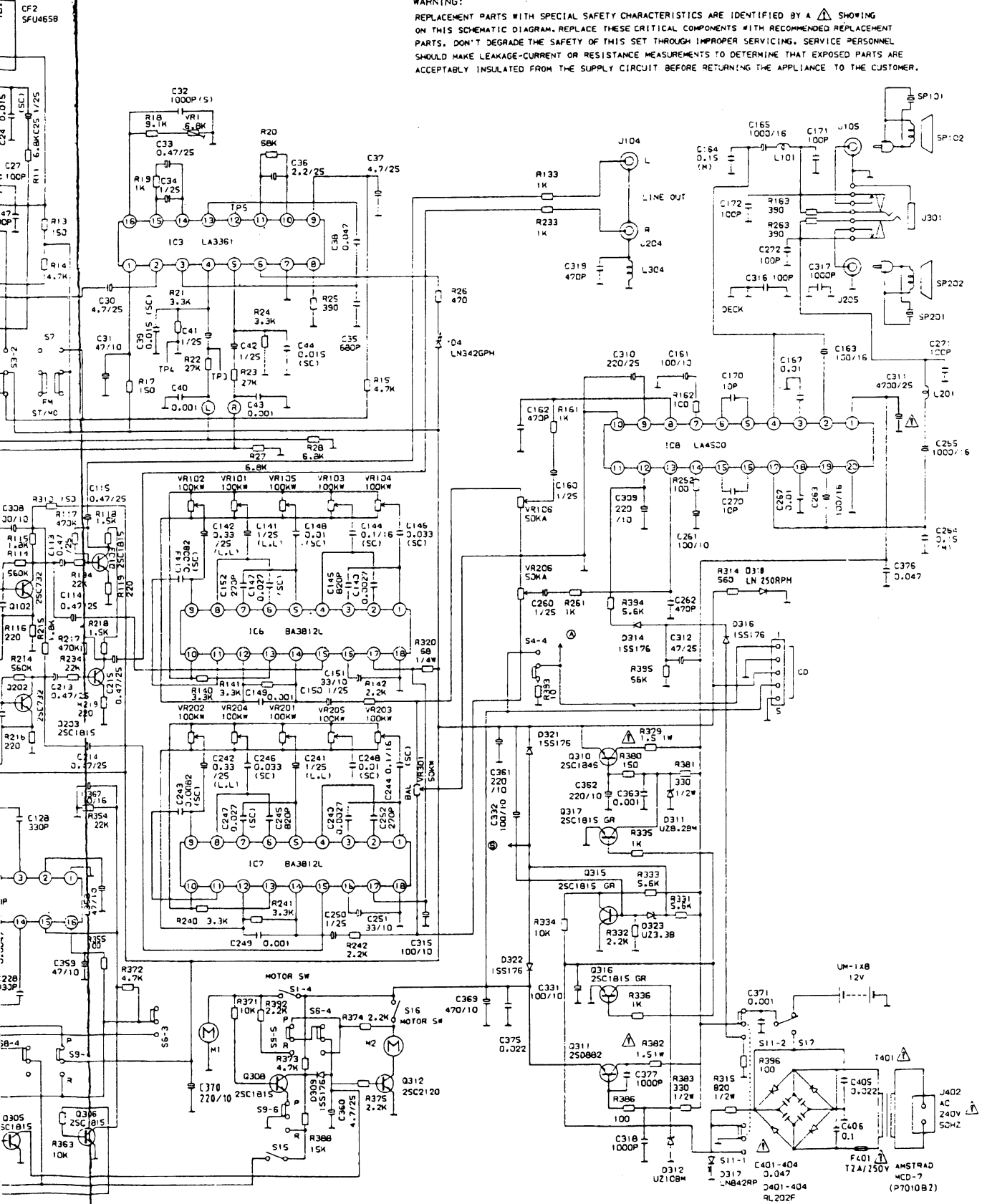
WARR  
 REPL  
 ON T  
 PART  
 SHOU  
 ACCE



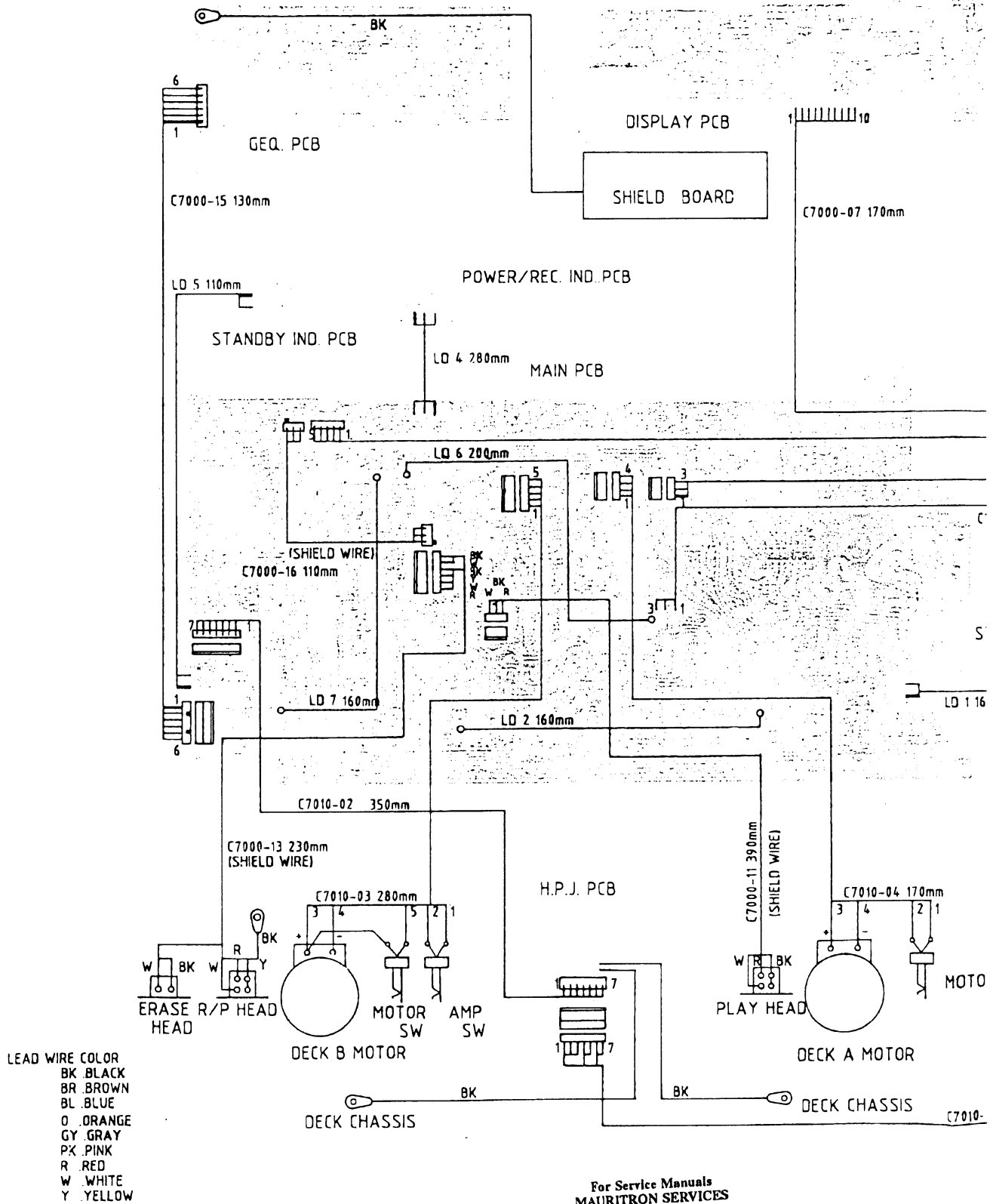
# IC DIAGRAM (Main)

**WARNING:**

REPLACEMENT PARTS WITH SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A  $\Delta$  SHOWING ON THIS SCHEMATIC DIAGRAM. REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS. DON'T DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING. SERVICE PERSONNEL SHOULD MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

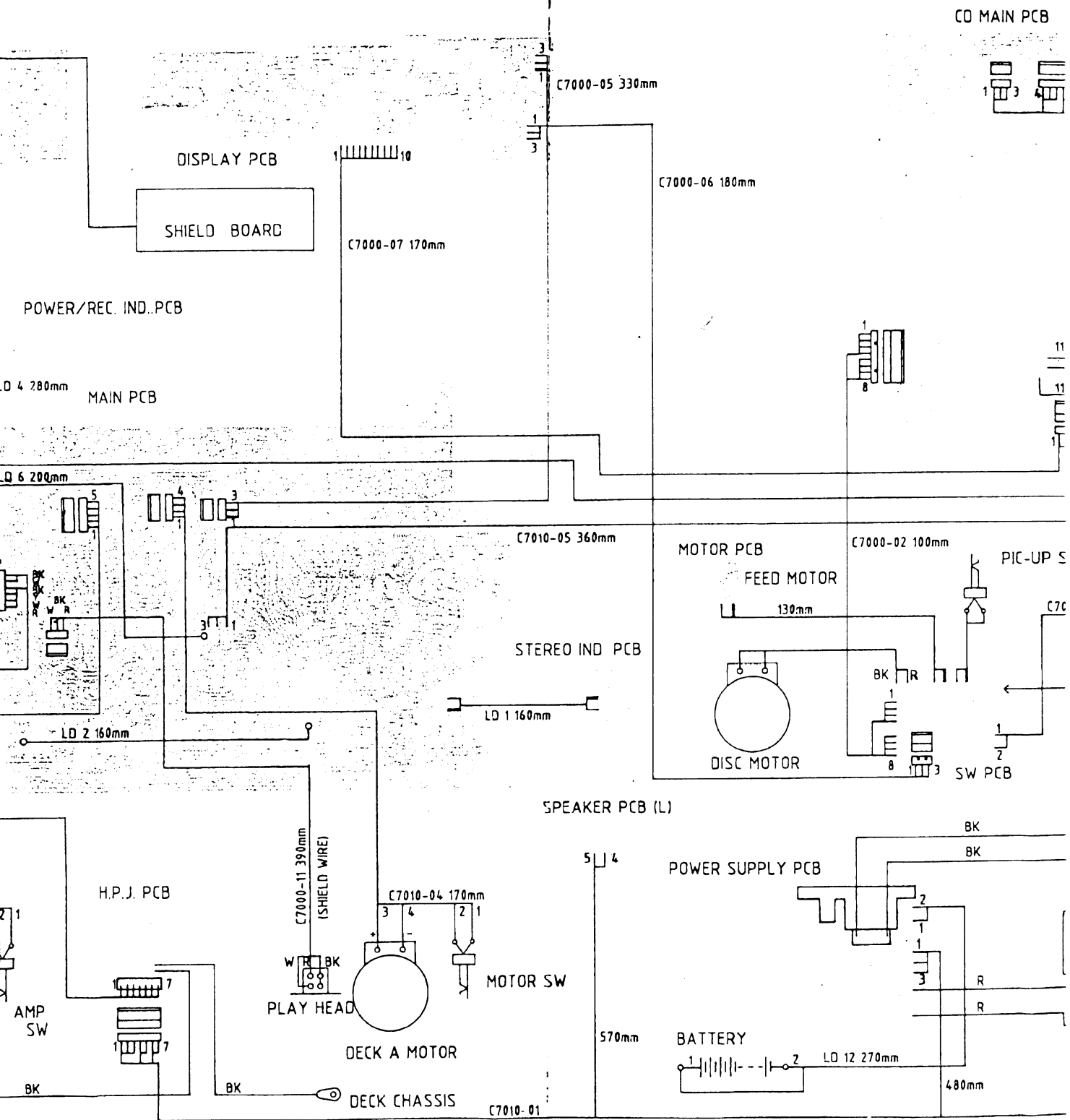


# WIRING D



For Service Manuals  
**MAURITRON SERVICES**  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QY.  
 Tel (01844) 351694  
 Fax (01844) 352554  
 email:- sales@mauritron.co.uk

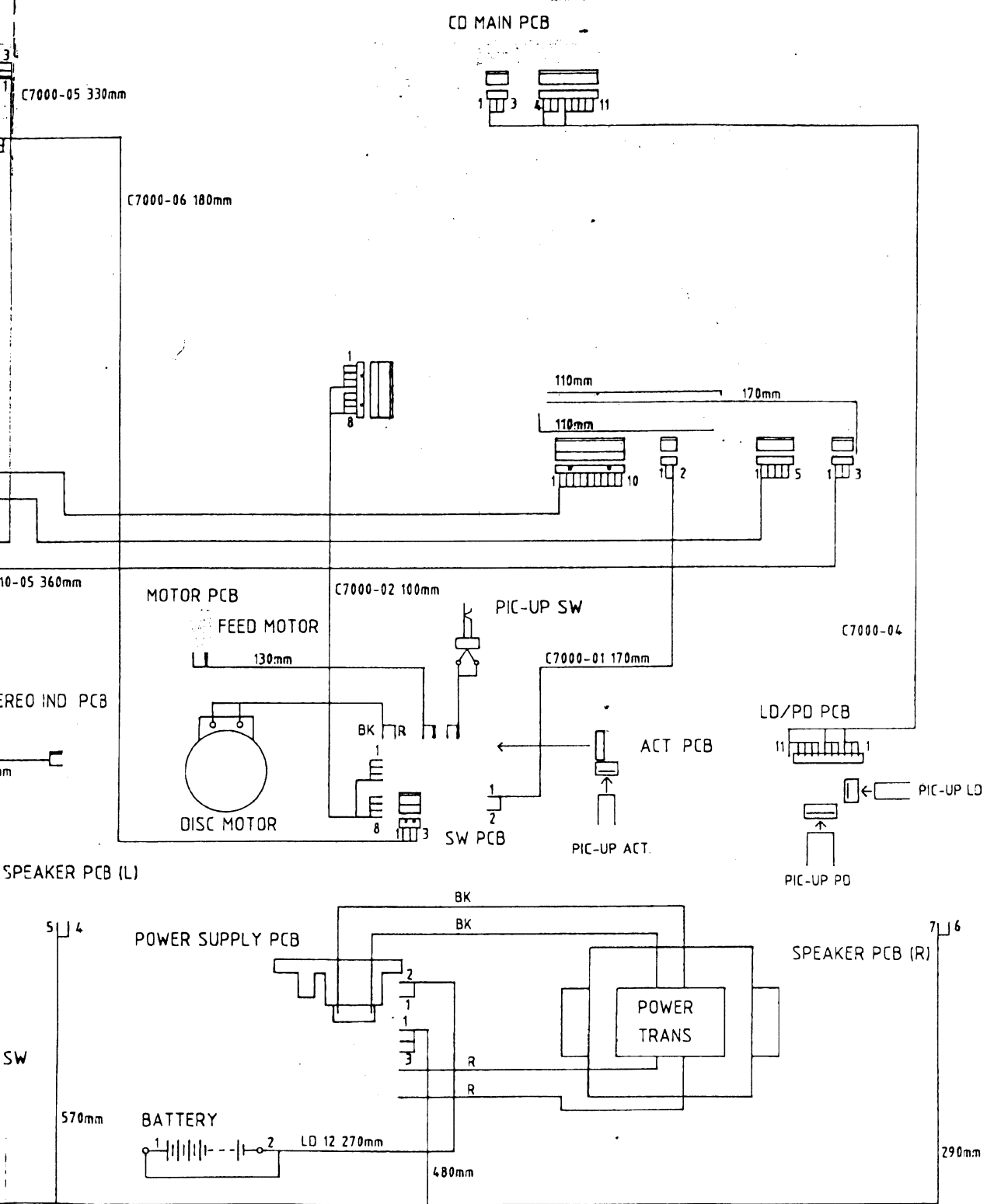
# WIRING DIAGRAM



For Service Manuals  
**MAURITRON SERVICES**  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QY.  
 Tel (01844) 351694  
 Fax (01844) 352554  
 email:- sales@mauritron.co.uk

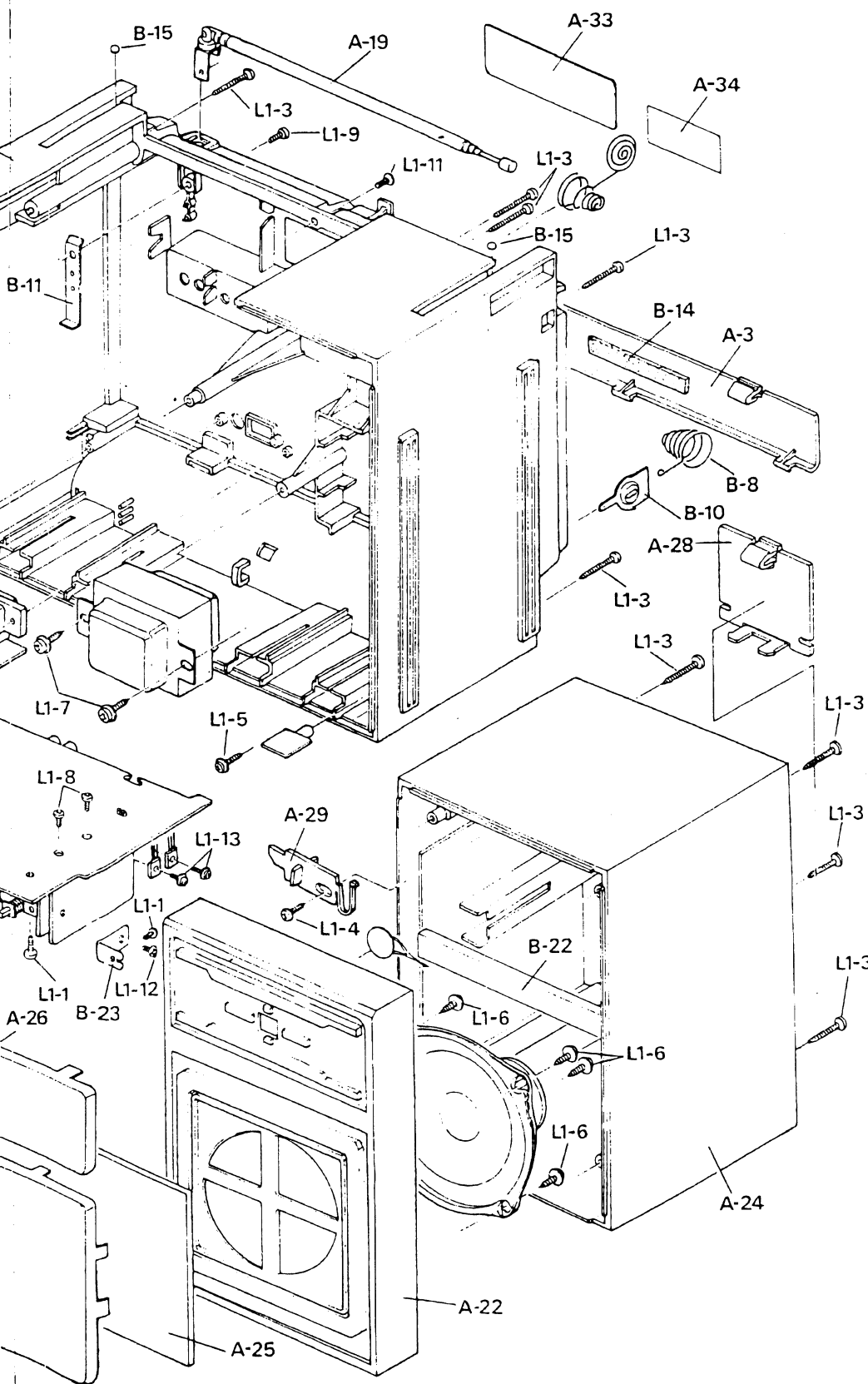


# AGRAM



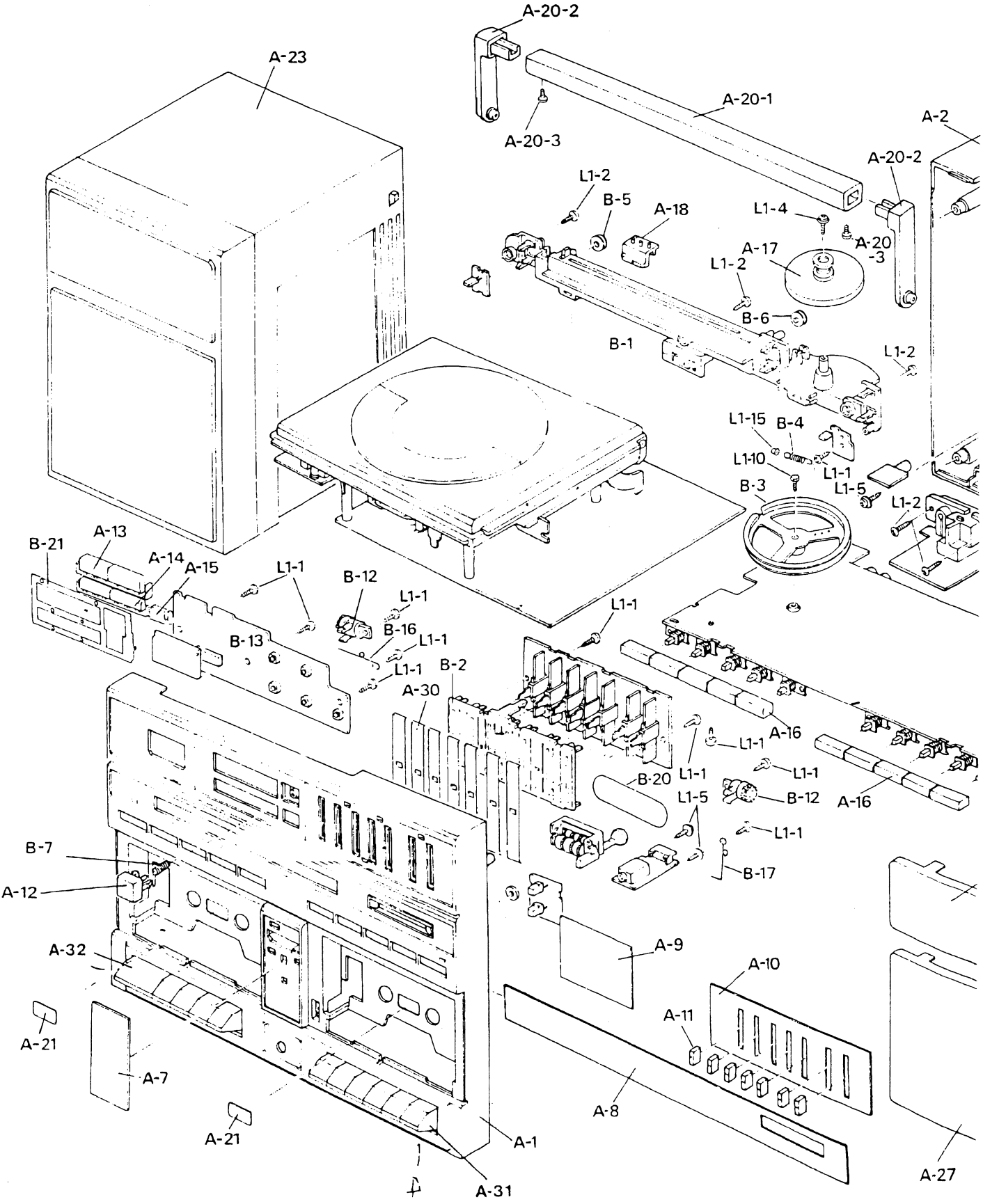
inet)

### CABINET PARTS LIST



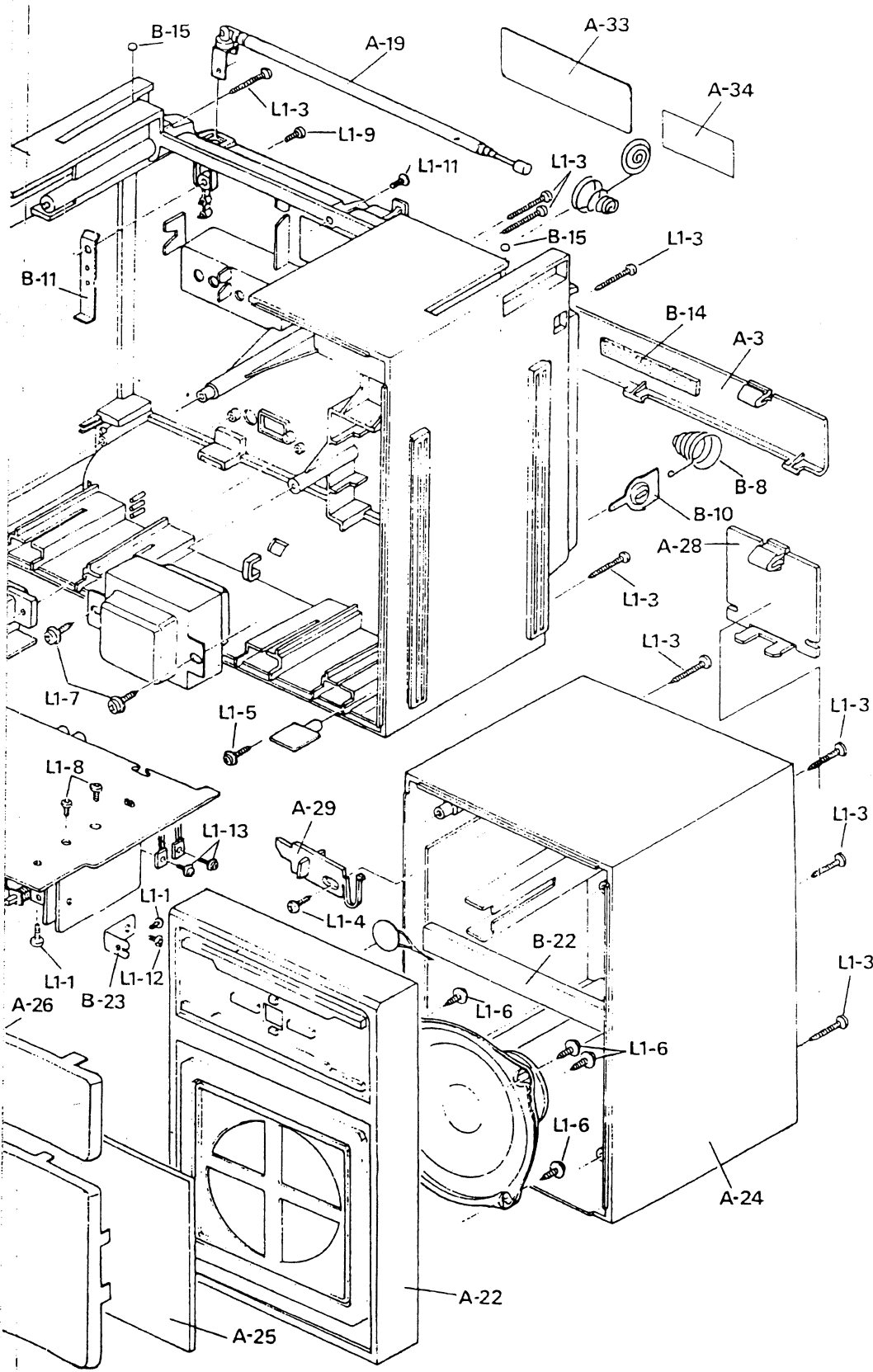
Ref.	Description	Part N
	Front Panel Assembly Complete	20100
A-1	Front Cabinet	20100
A-7	Indicator Window	20100
A-8	Dial Window	20100
A-9	LCD Window	20100
A-10	Control Window	20100
A-21	Tape Mirror	20100
A-2	Rear Cabinet Complete	20100
A-2	Rear Cabinet	20100
B-8	Battery Spring (-)	20100
B-9	Battery Spring (+)	20100
B-10	Battery Terminal	20100
A-3	Battery Lid Complete	20101
A-5	Cassette Door Assy Tape A	20101
A-5	Cassette Window A	20101
A-4	Cassette Door	20101
A-6	Cassette Door Assy Tape B	20101
A-6	Cassette Window B	20101
A-11	Volume Knob	20102
A-12	Door Open Button	20102
A-13	CD Play Button	20102
A-14	CD RF Button	20102
A-15	CD Repeat Button	20102
A-16	Function Button	20102
A-17	Tuning Knob	20102
A-18	Dial Pointer	20102
A-19	Rod Antenna	20102
A-20	Handle Assy	20103
A-22	Speaker Front Cabinet	20103
A-23	Speaker Rear Cabinet (L)	20103
A-24	Speaker Rear Cabinet (R)	20103
A-27	Speaker Cover	20103
A-28	Speaker Cord Lid	20103
A-29	Speaker Stopper	20103
A-30	Volume Indicator	20103
A-31	Cassette Button	20104
A-32	Play Button	20104
B-1	Chassis	20104
B-2	Volume Chassis	20104
B-3	Dial Drum	20104
B-4	Drum Spring	20104
B-5	Tuning Pulley (L)	20104
B-6	Tuning Pulley (R)	20104
B-7	Open Button Spring	20104
B-11	Antenna Terminal	20104
B-12	Damper Assy	20105
B-13	LCD Cushion	20105
B-15	Handle Cushion	20105
B-16	Door Spring	20105
B-17	Door Spring	20105
B-18	Record Spring Holder	20105
B-19	Record Spring	20105
B-20	Tape Counter Belt	20105

# EXPLODED VIEW (Cabi



# CABINET PARTS LIST

inet)



Ref.	Description	Part N
	Front Panel Assembly Complete	20100
A 1	Front Cabinet	20100
A-7	Indicator Window	20100
A-8	Dial Window	20100
A 9	LCD Window	20100
A-10	Control Window	20100
A-21	Tape Mirror	20100
A-2	Rear Cabinet Complete	20100
A 2	Rear Cabinet	20100
B 8	Battery Spring (-)	20100
B 9	Battery Spring (+)	20100
B 10	Battery Terminal	20100
A 3	Battery Lid Complete	20101
A-5	Cassette Door Assy Tape A	20101
A-4	Cassette Door	20101
A 6	Cassette Door Assy Tape B	20101
A-6	Cassette Window B	20101
A-11	Volume Knob	20102
A 12	Door Open Button	20102
A 13	CD Play Button	20102
A 14	CD RF Button	20102
A 15	CD Repeat Button	20102
A 16	Function Button	20102
A-17	Tuning Knob	20102
A 18	Dial Pointer	20102
A-19	Rod Antenna	20102
A 20	Handle Assy	20103
A-22	Speaker Front Cabinet	20103
A 23	Speaker Rear Cabinet (L)	20103
A 24	Speaker Rear Cabinet (R)	20103
A-27	Speaker Cover	20103
A-28	Speaker Cord Lid	20103
A-29	Speaker Stopper	20103
A-30	Volume Indicator	20103
A-31	Cassette Button	20104
A-32	Play Button	20104
B 1	Chassis	20104
B-2	Volume Chassis	20104
B 3	Dial Drum	20104
B 4	Drum Spring	20104
B 5	Tuning Pulley (L)	20104
B 6	Tuning Pulley (R)	20104
B 7	Open Button Spring	20104
B 11	Antenna Terminal	20104
B 12	Damper Assy	20105
B 13	LCD Cushion	20105
B 15	Handle Cushion	20105
B 16	Door Spring	20105
B 17	Door Spring	20105
B 18	Record Spring Holder	20105
B 19	Record Spring	20105
B 20	Tape Counter Belt	20105

## ELECTRICAL PARTS LIST

Circ. Ref.	Description	Part No.
<b>I.C.s</b>		
IC501	RF/ER AMP TA8101N	201058
IC502	Servo Control TC9201F	201059
IC503	D.S.P. TG9200F	201060
IC504	Phase Compensation TA75902P	201061
IC505-508	Driver TA8102P	201062
IC509	S-Ram TC5518CFL-20	201063
IC510	Reset PST520C	201064
IC511	DAC TD6710N	201065
IC512, 513	APC, Audio AMP NJM2904D	201066
IC601	Micro Computer 14DN241	201067
IC1	FM Front End LA1186N	201068
IC2	AM/FM IF LA1260	201069
IC3	MPX LA3361	200402
IC4	Equalizer TA7784P	201070
IC5	Record Amp TA7668BP	200762
IC8	Power Amp LA4500	201071
IC6, 7	BA3812L	200407
<b>Transistors</b>		
TR1, 101, 103, 203, 301, 304-306, 308, 507, 509	TR. 2SC1815	171137
TR508	TR. 2SC1015Y	170453
TR102, 202	TR. 2SC732	201072
TR302, 312, 503, 504	TR. 2SC2120	170113
TR310	TR. 2SD1846	201073
TR311, 501	TR. 2SD882	201074
TR502	TR. 2SC1383R	201075
TR505	TR. 2SA683R	201076
<b>Diodes</b>		
D501, 507, 510-512, 1-3, 101, 201, 301, 302, 304, 309, 310, 313-316	D. 1SS176	201077
D311	D. UZ8.2B	201078
D312	D. UZ-10B	201079
D319	D. UZ.5.1	201080
D401-404	D. 1N4002	400111
D506	D. MTZ5.6C	201081
D4	LED Green	201096
D303, 318	LED Red	201097
D317	LED Power Stand	201098
D508	LED APC	201099
<b>Coils</b>		
L1	Coil Spring 112M127	201082
L2	Coil Bobbin FM OSC 114M069	201083
L3, 4	Coil Bar Antenna 111B783	201084
L5	Coil Casing MW OSC 113M614	201085
L6	Coil Casing LW OSC 113M615	201086
L301	Coil Bias OSC 113M653	201087
L302	Coil Spring 112M114	201088
T1	Coil FM IFT 11LM228	201089
T2	Coil FM IFT 11JM252	201090
T3	Coil AM IFT 11AM287	201091
<b>Filters</b>		
CF1	Filter 10.7MHz	993034
CF2	Filter 465	800225
BPF1	Band Pass Filter	201094
XT501	Crystal 6.9344MHz	201095
<b>Switches</b>		
SW1-5	Push Switch 55	201100
SW6-8, 10,11	Push Switch 51	201101
SW9	Slide Switch R/P	201102
SW12	Slide Switch	201103
SW501, 502	Pick Up Switch	201104
SW601-605	Push Switch 15	201105

Description	Circ. Ref.	Part No.
<b>Variable Resistors</b>		
VR1	S.F. 6.8K Ohm	201214
VR106, 206	Volume Control	201106
VR301	Balance Control	201107
VR101-105, 201-205	Volume Graphic Eq.	201215
VR501, 503, 504	S.F. 100K Ohm	201216
VR502	S.F. 47K Ohm	201217
VR505	S.F. 1K Ohm	201218
<b>Carbon Film Resistors</b>		
2.2ohm	R569	10002
5.6ohm	R357	201261
10ohm	R594	10008
22ohm	R1, 536	10016
33ohm	R320	10018
56ohm	R567	10022
100ohm	R162, 262, 393, 396, 538, 588, 589, 599	10032
120ohm	R570	10034
150ohm	R6, 13, 17, 304, 310, 380, 529, 590	10036
180ohm	R358, 568, 576, 577	10038
220ohm	R4, 116, 119, 216, 219, 532, 591	10040
270ohm	R128, 228	10042
330ohm	R381	10044
390ohm	R7, 106, 163, 206, 263, 383	10046
430ohm	R25	201220
470ohm	R26, 574, 575	10048
560ohm	R123, 124, 223, 224, 314, 315, 364, 651	10050
1kohm	R9, 19, 133, 161, 233, 261, 501, 539, 595	10061
1.2kohm	R523	10063
1.5kohm	R118, 218, 537, 580-585	10065
1.8kohm	R115, 215, 528	10067
2.2kohm	R126, 127, 142, 226, 227, 242, 374, 375, 392, 509, 530, 533, 549, 553, 586, 587, 596	10069
2.7kohm	R521	10068
3.3kohm	R21, 24, 113, 140, 141, 213, 240, 241, 527	10070
3.9kohm	R542, 572	10075
4.7kohm	R14, 15, 360, 372, 373, 544, 557-562, 611, 613	10077
5.6kohm	R2, 6, 394	10079
6.8kohm	R11, 27, 28, 103, 540	10081
8.2kohm	R515, 518, 520, 522, 524	10083
9.1kohm	R18	201221
10kohm	R104, 111, 122, 164, 204, 211, 222, 264, 301, 306, 361-363, 371, 512, 517, 526, 551, 565, 566, 573, 598, 601-603, 606- 610, 612, 614, 654, 701-703	10085
12kohm	R109, 209, 305, 356, 546	10087
15kohm	R125, 225, 388, 513, 548	10089
18kohm	R108, 120, 208, 220, 516, 531, 592	10091
22kohm	R121, 134, 221, 234, 313, 354, 508, 525, 578, 579	10093
27kohm	R21, 22, 303, 545, 564, 661, 605	10095
33kohm	R12, 302, 505, 514, 543, 604	10097
47kohm	R534, 554	10101
56kohm	R105, 205, 395	10103
68kohm	R20, 203, 504, 511	10105
82kohm	R129, 229, 547, 556, 571	10107
100kohm	R112, 130, 212, 230, 384, 563, 597	10109
120kohm	R550, 555	10111
150kohm	R519	10113
180kohm	R503, 552	10115
220kohm	R502, 535	10117
330kohm	R107	10121
470kohm	R3, 117, 217	10125
560kohm	R114, 214, 507	10127
680kohm	R385, 510, 593	10129
1Mohm	R5	10147
2.2Mohm	R541	201222

## ELECTRICAL PARTS LIST

Circ. Ref.	Description	Part No.
<b>Metal Film Resistors</b>		
1.5ohm	R382	201223
47ohm	E359	201224
<b>Ceramic Capacitors</b>		
2pF	C507	201231
5pF	C5	201232
8pF	C11, 15	810310
15pF	C4, 509	400106
20pF	C2, 6, 126, 226	201233
22pF	C553, 554	150511
47pF	C12, 520, 521	150515
56pF	C502, 503	806222
82pF	C16	150517
100pF	C27, 100, 104, 105, 111, 125, 200, 204, 205, 211, 225, 517, 518, 591, 593	24016
120pF	C511, 512	150491
220pF	C301, 523, 528	400107
270pF	C152, 252	150510
330pF	C124, 128, 224, 228, 561, 568	150518
470pF	C101, 162, 201, 262	24004
680pF	C35, 102, 202	806223
820pF	C145, 245	800209
0.001uF	C3, 40, 43, 117, 149, 217, 249, 363, 580, 581, 592	24027
0.0012uF	C121, 221	150493
0.0015uF	C120, 220	151573
0.0027uF	C140, 240	201260
0.0047uF	C122, 127, 222, 227	21004
0.1uF	C1, 167, 267	24020
0.022uF	C7, 18, 19, 401-405, 505, 513, 519, 549, 552, 583, 586, 589, 590	21007
0.047uF	C10, 38	24015
<b>Electrolytic Capacitors</b>		
0.22uF/25V	C602	201234
0.33uF/25V	C142, 242	201235
0.47uF/25V	C33, 112-115, 212-215, 314	201236
1uF/25V	C25, 34, 41, 42, 107, 130, 141, 150, 160, 207, 230, 241, 250, 260, 557, 578, 579	201237
2.2uF/25V	C36, 529	201238
3.3uF/25V	C516	201239
4.7uF/25V	C20, 30, 37, 123, 223, 360	201240
10uF/16V	C22, 303, 305, 306, 367, 534, 562, 564, 567, 651	20037
22uF/10V	C131, 231	20025
22uF/16V	C514	20025
33uF/10V	C251, 501	170610
33uF/16V	C151, 313	150521
47uF/10V	C26, 31, 103, 203, 302, 304, 357-359, 527, 566, 584, 587, 601	20027
47uF/25V	C312	201241
100uF/6.3V	C506, 524, 538, 539, 545, 546, 551, 555, 569, 571, 585	201242
100uF/10V	C161, 163, 261, 263, 308, 315, 364	201243
220uF/6.3V	C701	201244
220uF/10V	C309, 310, 361, 362, 370	170611
330uF/6.3V	C504	201245
470uF/10V	C369, 542	170424
1000uF/16V	C165, 265, 559	20118
4700uF/25V	C311	1504479

Circ. Ref.	Description	Part No.
<b>Mylar Capacitors</b>		
0.001uF	C530, 531, 533	151579
0.0022uF	C574, 575	21002
0.0056uF	C526	201253
0.0068uF	C525	201254
0.01uF	C508, 510	21006
0.012uF	C576, 577	201255
0.068uF	C572, 573	809236
0.1uF	C515, 535	21029
0.15uF	C164, 264	201256
0.22uF	C532	24019
<b>Polypropylene Capacitors</b>		
1000pF	C353	201257
1800pF	C354	201258
<b>Miscellaneous</b>		
VC-1-4	Variable Capacitor	201225
TC-1-4	Trimmer Capacitors	201226
F401	Fuse 2.5A(T) 250V	*201259
PU501	Pick Up	201227
M501	Motor Feed	201228
M502	Motor Spindle	201229
DP601	Display LCD	201230
J101, 201	Jack RCA	201108
J102, 202	Jack 3.5mm	201109
J301	Headphone Jack	201110
J105, 205	Speaker Jack	201111
J401	AC Inlet	201112
SP101, 201	Speaker Tweeter	201114
SP102, 202	Speaker Woofer	201115
T401	Power Transformer	201116
<b>Styroflex Capacitors</b>		
130pF	C16	201246
270pF	C14	201247
1000pF	C32	201248
<b>Semi Conductive Capacitors</b>		
0.0012uF	C563, 565	201249
0.0082uF	C143, 243	201250
0.01uF	C106, 148, 206, 248, 355, 356, 570	151583
0.015uF	C24, 39, 44	201251
0.027uF	C147, 247	201252
0.033uF	C146, 352, 246	151586
0.047uF	C550, 588	151587
0.1uF	C144, 244, 522, 537, 540, 541, 543, 544, 547, 548	150887