

Service Manual

74 CD - 42/21B/22B/25B
74 CD - 52/21B/22B/25B
Compact disc player

This service manual explains them by extracting the different specifications from those of the model CD - 42MKII/CD - 52MKII, based on model CD - 42/CD - 52. For both electrical and mechanical information on the after - sales service which is not stated, all information is described in the model CD - 32/CD - 42/CD - 52 service manual(Code number 4822 725 50948).

The dispatch of the parts for after - sales service has to be referred to this service manual, with the first priority.

For this reason, please use this service manual with referring to the model CD - 32/CD - 42/CD - 52 service manual, without fail.

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model CD - 42MKII / CD - 52MKII

Different Parts between model CD-42 and CD-42MKII

PAGE	POS. NO.	CD-42	CD-42MKII	DESCRIPTION
10	1	4822 444 40472	4822 444 40614	Front
	141	4822 462 41859	4822 462 41859	Foot, 高さ 18mm
	141		4822 462 41955	Foot, 高さ 14mm(New)
	301		4822 321 10445	Ac-cord /21B
	301		4822 321 10249	Ac-cord /22B
	301		4822 321 10719	Flex, Mains /25B
	303		4822 272 10303	Adapter, Voltage adapter /21B
	309	4822 736 21187	4822 736 21525	User's Manual, CD-42MKII
	455	4822 600 70644	4822 600 70675	Box for CD-42MKII
34	2547	4822 124 41334	4822 124 80292	Capacitor, 470 μ F 20% 35V
	2657	4822 124 41525	4822 124 80293	Capacitor, 100 μ F 20% 25V
	2658	4822 124 41525	4822 124 80293	Capacitor, 100 μ F 20% 25V
	2659	4822 124 41525	4822 124 80293	Capacitor, 100 μ F 20% 25V
	2660	4822 124 41525	4822 124 80293	Capacitor, 100 μ F 20% 25V
35	2678	4822 124 23268	4822 124 80294	Capacitor, 3300 μ F 20% 16V
	2679	4822 124 41853	4822 124 80295	Capacitor, 1000 μ F 20% 16V
	2680	4822 124 40433	4822 124 80297	Capacitor, 220 μ F 20% 6.3V
	2683	4822 124 21189	4822 124 80292	Capacitor, 470 μ F 20% 35V
	2684	4822 124 21189	4822 124 80292	Capacitor, 470 μ F 20% 35V
37	6611	4822 209 86234	4822 209 31153	IC, NJM2114D
	6612	4822 209 86234	4822 209 31153	IC, NJM2114D
	5001	4822 146 31035	4822 146 31035	Mains Transformer /21B
	5001	4822 146 31004	4822 146 31004	Mains Transformer /22B/25B

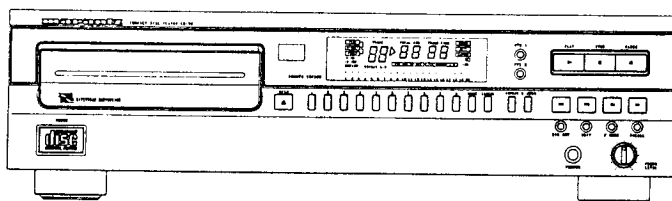
Different Parts between model CD-52 and CD-52MKII

PAGE	POS. NO.	CD-52	CD-52MKII	DESCRIPTION
10	1	4822 444 40476	4822 444 40613	Front
	141	4822 462 41859	4822 462 41859	Foot, 高さ 18mm
	141	4822 462 41955	4822 462 41955	Foot, 高さ 14mm(New)
	301		4822 321 10445	Ac-cord /21B
	301		4822 321 10249	Ac-cord /22B
	301		4822 321 10719	Flex, Mains /25B
	303		4822 272 10303	Adapter, Voltage adapter /21B
	309	4822 736 21196	4822 736 21524	User's Manual, CD-52MKII
	455	4822 600 70643	4822 600 70676	Box for CD-52MKII
34	2547	4822 124 41334	4822 124 80292	Capacitor, 470 μ F 20% 35V
	2657	4822 124 41525	4822 124 80293	Capacitor, 100 μ F 20% 25V
	2658	4822 124 41525	4822 124 80293	Capacitor, 100 μ F 20% 25V
	2659	4822 124 41525	4822 124 80293	Capacitor, 100 μ F 20% 25V
	2660	4822 124 41525	4822 124 80293	Capacitor, 100 μ F 20% 25V
	35	2678	4822 124 23268	4822 124 80294
2679		4822 124 41853	4822 124 80295	Capacitor, 1000 μ F 20% 16V
2680		4822 124 40433	4822 124 80297	Capacitor, 220 μ F 20% 6.3V
2683		4822 124 21189	4822 124 80292	Capacitor, 470 μ F 20% 35V
2684		4822 124 21189	4822 124 80292	Capacitor, 470 μ F 20% 35V
37	6611	4822 209 86234	4822 209 31153	IC, NJM2114D
	6612	4822 209 86234	4822 209 31153	IC, NJM2114D
	5001	4822 146 31035	4822 146 31035	Mains Transformer /21B
	5001	4822 146 31004	4822 146 31004	Mains Transformer /22B/25B

Service Manual

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74CD32 / 01B/02B/05B/07B
74CD42 / 01B/02B/05B/07B
74CD52 / 01B/02B/05B/07B
Compact disc player



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TECHNICAL SPECIFICATIONS : CD-32, CD-42, CD-52

General

1. Mains voltage : [01B] 110-120V, 220-240V [02B] 230V
[05B, /07B] 240V
2. Mains frequency : 50Hz
3. Mains voltage selection : By soldering
4. Power consumption mains, operated : 15W

External RC-5 connection

- Specification : V-in Low : from -2.0V to +1.6V
V-in High : from +3V to +7.5V
R-in : from 47 kOhm to 68 kOhm

Line output

1. Number of channels : 2
2. Output voltage : 2 Vrms +/- 2dB
3. Unbalance left-right : max. +/- 0.25dB
4. Output resistance : 200 Ohm
5. Amplitude linearity : max. +/- 0.2dB from 20 Hz to 20 kHz
typ. +/- 0.03dB from 20 Hz to 20 kHz
6. Phase non-linearity : max. +/- 1.0° from 20 Hz to 20 kHz
typ. +/- 0.5° from 20 Hz to 20 kHz
7. Signal to noise ratio : min. 100dB from 20 Hz to 20 kHz
typ. 105 dB
8. Dynamic range (-60dB) : min. 90dB from 20 Hz to 20 kHz (max. 0.0040 %)
typ. 96 dB (typ. 0.0025 %)
9. Total harmonic distortion + noise : min. 88dB from 20 Hz to 20 kHz (max. 0.0064 %)
typ. 92 dB (typ. 0.0032 %)
10. Intermodulation distortion : min. 88dB from 20 Hz to 20 kHz (max. 0.0064 %)
typ. 92 dB (typ. 0.0032 %)
11. Outband attenuation : min. 60dB above 24.8 kHz
12. Channel separation : min. 86dB from 20 Hz to 20 kHz
typ. 90 dB
13. Muting during random acces : min. 90dB from 20 Hz to 20 kHz
14. Automatic switched de-emphasis with time constant 15/50 μ s

Variable headphone

1. Max. output voltage : 7.4 Vrms
2. Load impedance range : 30-600 Ω
3. Output impedance : 150 Ω
4. Max. output power : 50 mW into 32 Ω
90 mW into 150 Ω
50 mW into 600 Ω
5. Signal to noise ratio : min. 90dB
6. Dynamic range : min. 90dB (20 Hz to 20 kHz)
7. THD and noise : min. 80dB (20 Hz to 20 kHz)
8. Intermodulation distortion : min. 80dB (20 Hz to 20 kHz)
9. Channel separation : min. 70dB (20 Hz to 20 kHz)

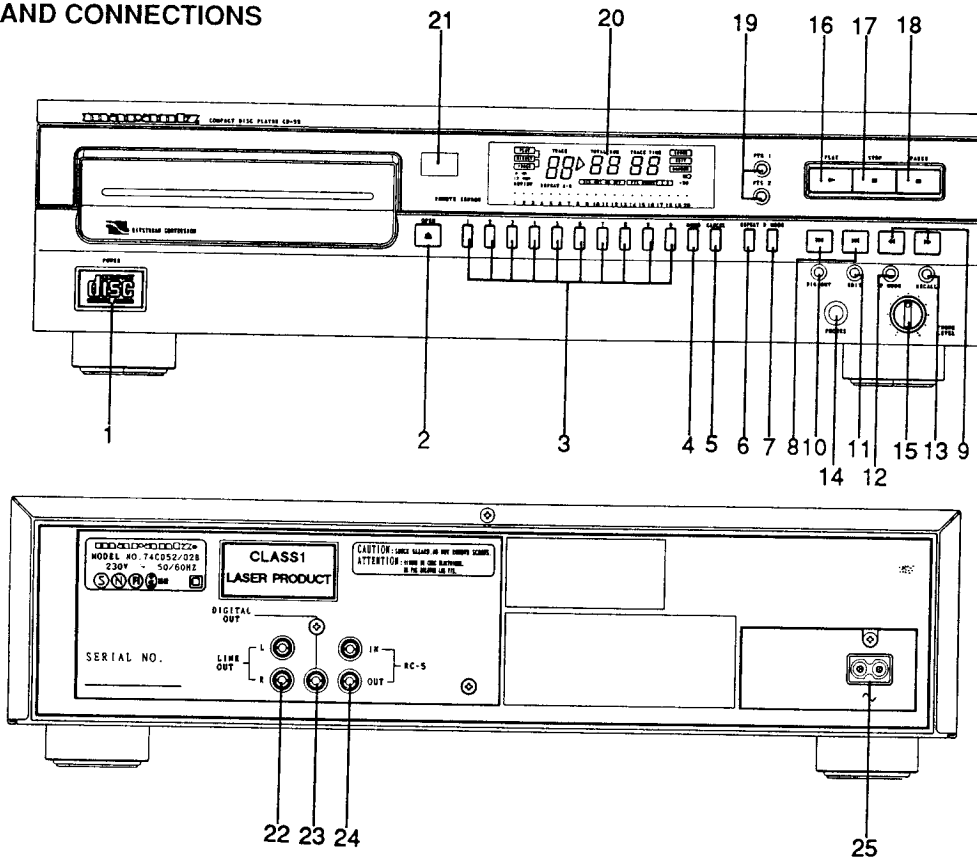
Dimensions and weight

1. Apparatus tray closed : 420 (W) x 100 (H) x 284 (D), W/O Legs.
2. Apparatus tray open : 420 (W) x 100 (H) x 429 (D)
3. Weight without packing : 4.4 Kg

Laser diode

1. Wavelength : 780nm +/- 5nm
2. Output power on laserdiode : typ. 3 mW
3. Output power after objective lens : 100 μ W

CONTROLS AND CONNECTIONS



Front of player

1	POWER	1010	13	RE CALL	1046
2	OPEN	1027	14	PHONES	1651
3	'1 ~ 0' digit keys	1020, 1051, 1021, 1028, 1034, 1030, 1050, 1029, 1031, 1033	15	PHONE LEVEL	3691
4	MEMO	1032	16	PLAY	1038
5	CANCEL	1047	17	STOP	1037
6	REPEAT	1035	18	PAUSE	1039
7	D MODE	1052	19	FTS 1, 2	1026, 1023
8	◀ and ▶ (Previous and Next)	1044, 1045	20	Display	1061
9	◀◀ and ▶▶ (Search)	1036, 1040	21	REMOTE SENSOR	1060
10	DIG OUT	1048	Back of player		
11	EDIT	1049	22	LINE OUT	1008
12	P MODE	1025	23	DIGITAL OUT	1008
			24	RC-5	1008
			25	Mains socket	1009

DIFFERENCE OF CD52/42/32

	ITEM & CONTENT	CD52	CD42	CD32		ITEM & CONTENT	CD52	CD42	CD32
1	1020 KEY 1	X	-	-	12	1034 KEY 5	X	-	-
2	1021 KEY 3	X	-	-	13	1035 REPEAT	X	-	-
3	1023 FTS 2	X	X	-	14	1046 RECALL	X	-	-
4	1025 P.MODE	X	-	-	15	1047 CANCEL	X	-	-
5	1026 FTS 1	X	X	-	16	1048 DIG.OUT	X	-	-
6	1028 KEY 4	X	-	-	17	1049 EDIT	X	-	-
7	1029 KEY 8	X	-	-	18	1050 KEY 7	X	-	-
8	1030 KEY 6	X	-	-	19	1051 KEY 2	X	-	-
9	1031 KEY 9	X	-	-	20	1052 D.MODE	X	-	-
10	1032 MEMO	X	-	-	21	1060 IR SENSOR	X	X	-
11	1033 KEY 0	X	-	-					

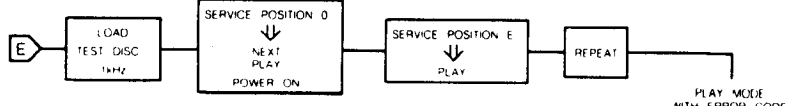
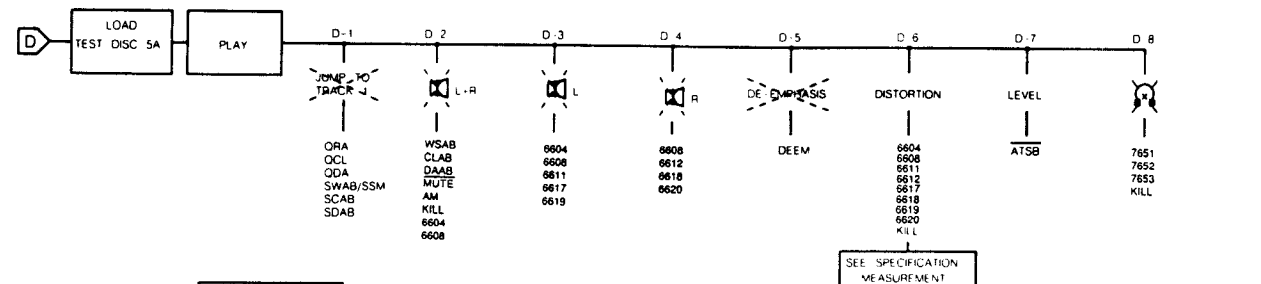
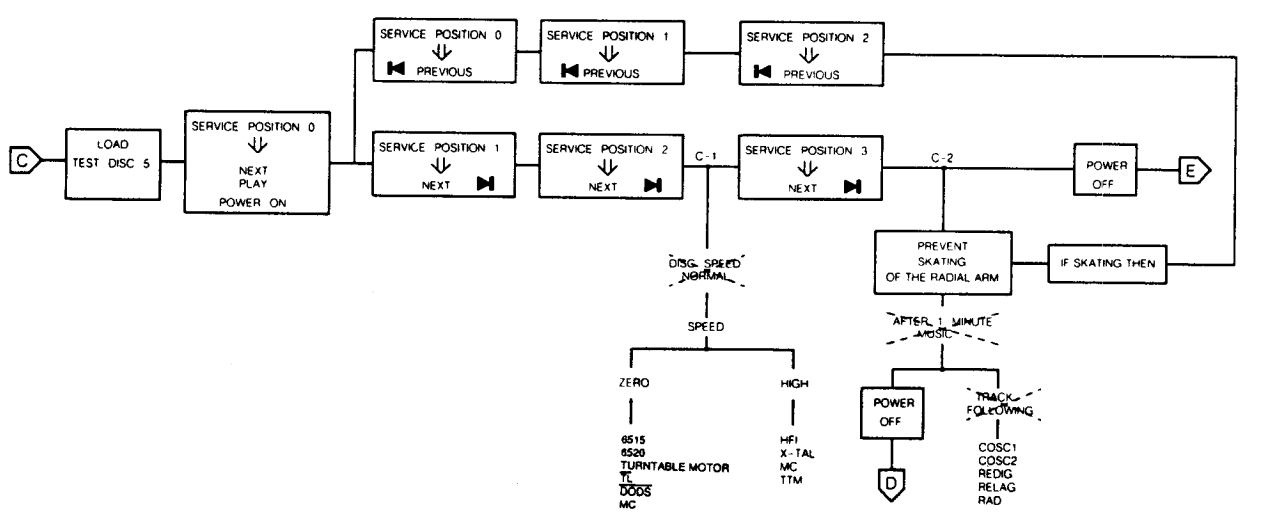
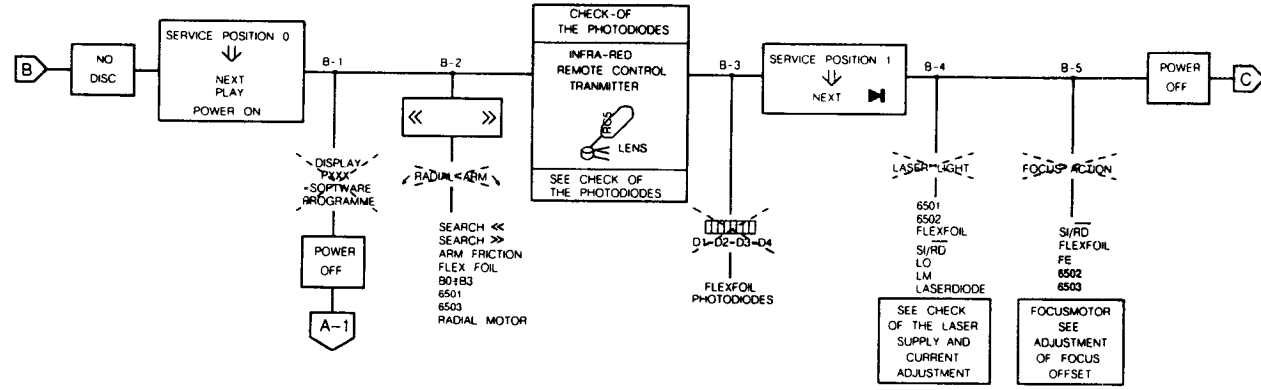
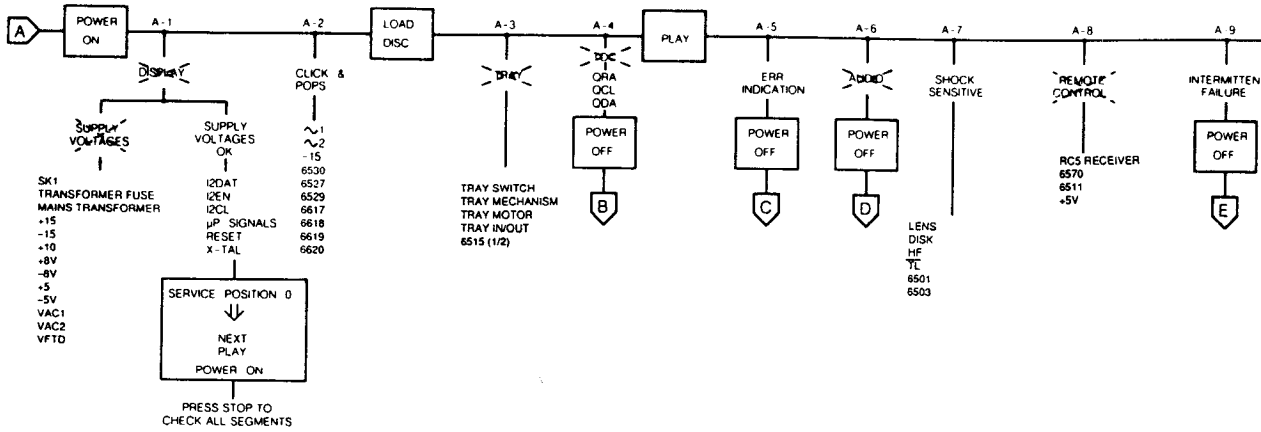
FAULTFINDING GUIDE

TROUBLE SHOOTING (FAULT FINDING TREE)

Follow the path of the faultfinding tree beginning at the top left. Perform the actions you come across in the various blocks.
 Look at the various side branches to find out if the information you see there applies to your problem. If, for instance, you find the indication **Display**, this means that no picture appears on the display.

If you establish this fault, follow the branch and perform the recommended actions. Check the signals mentioned. In a number of branches further reference is made to measurements you could carry out. These measurements are explained in several tables further on in this manual.

START-UP PROCEDURE



B-3 CHECK OF THE PHOTODIODES

Step	Signal	Mode					Remarks
1	D2 D1 D3 D4	power on	 	-	-	signal 4=6=7=8	Signal depends on Distance lens ← IR LED of remote control

B-4 CHECK OF LASER SUPPLY

The laser, the lasersupply and the monitor diode form a feedback system.

A defect in the lasersupply may result in the destruction of the laser. If, in that case, the laser is replaced, (= complete C.D.M.-unit) the new laser will also become defective. However, it is impossible to check and repair a feedback system if a link is missing. For this reason the laser supply can be checked with the replacement circuit for laser assembly.

Step	Signal	Mode			Remarks
1	LO	serv. pos. 2		1.8<V<2.3	
	LM	SK		170<mV<220	
2	LO	serv. pos. 2		1.8<V<2.3	
	LM	SK		170<mV<220	
3	LO	Power on		0V ± 0.2V	No light

After opening SK the led will emit a little more light for a short moment.

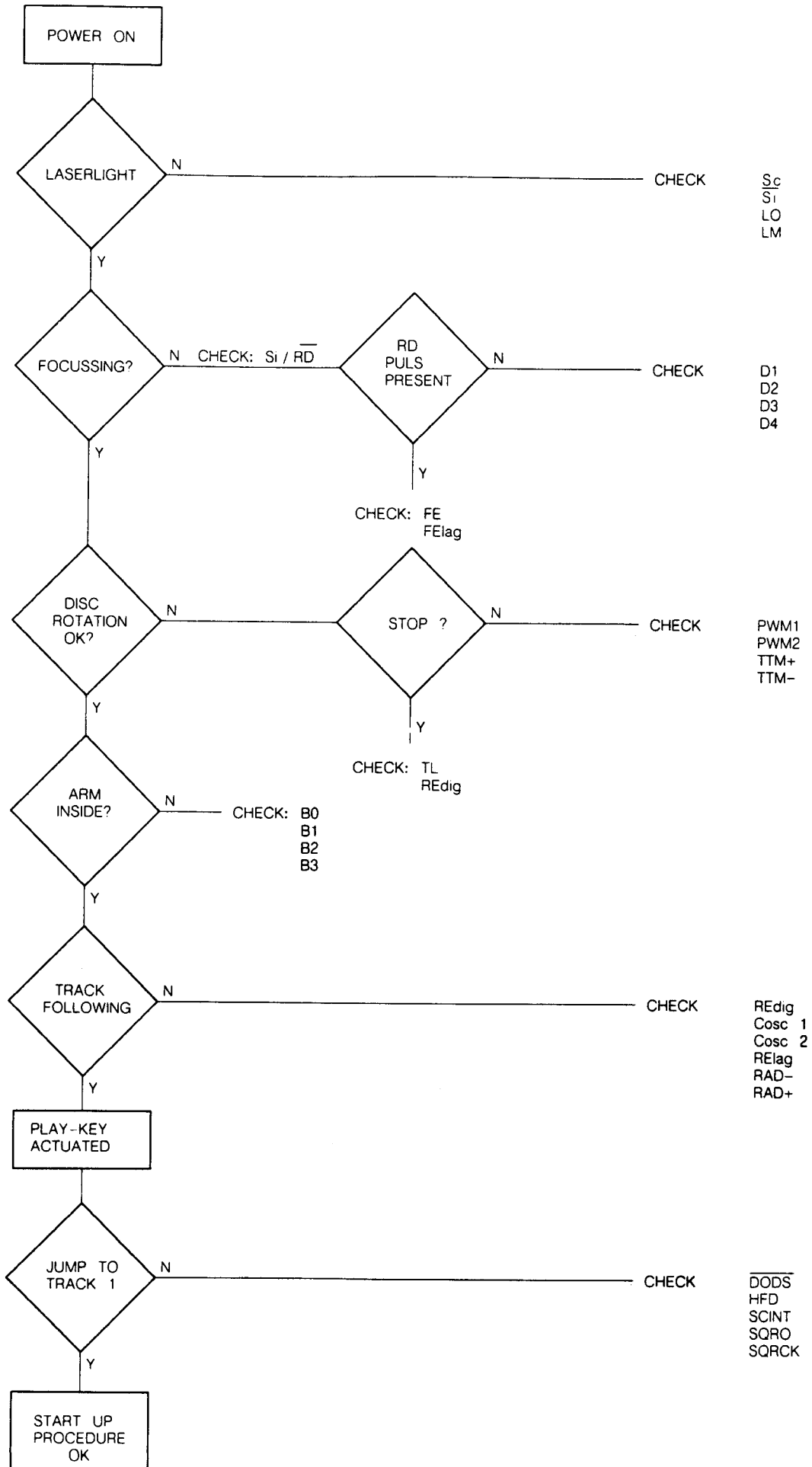
B-4 LASER CURRENT ADJUSTMENT

STEP	SIGNAL	MODE					REMARKS	
1	--	POWER OFF	--	--	--	--	CHECK IF FLEX-FOIL IS PROPERLY CONNECTED	
2	--	POWER OFF			R3519	1kΩ +10% -0	PRE ADJUSTMENT OHMIC VALUE	
3	--	POWER OFF	--		R3553	--	SET TO MID-POSITION	
4	LASER CURRENT ≡ VOLTAGE ACROSS R3501	TEST DISC 5A PLAY			mV DC	--	≥15mV	IF < 15mV THEN GO TO STEP 3 AND SET R3519 TO 1/4 OR 3/4. TRY AGAIN
5	LASER CURRENT ≡ VOLTAGE ACROSS R3501	TEST DISC 5A PLAY			mV DC	R3519	50mV	--
6	FE-LAG	TEST DISC 5A TRACK 1 PLAY			mV DC	R3533	400mV	FINE ADJUSTMENT

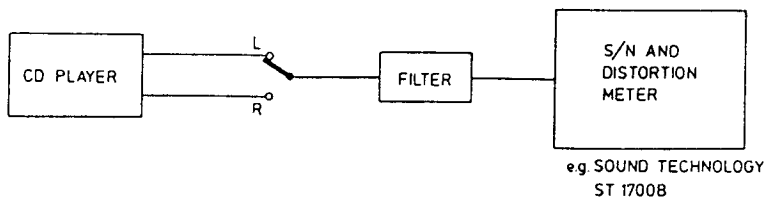
B-5 ADJUSTMENT OF FOCUS-OFFSET

Step	Signal	Mode					Remarks
1	-	Power on no disc	-		R3553	-	adjust for optical mid-position of the focus motor
2	FE LAG	Play Test disc 5	27		R3553	400mV ±	fine adjustment

START UP PROCEDURE



SPECIFICATION MEASUREMENT



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SYSTEM ERRORS

- ERROR 02 P122 Focus error: no track loss
- ERROR 03 P122 Radial start error: min. exentricity point not found
- ERROR 06 P122 TL error during jump: no positive TL or RP edge during 60 x 8 ms
- ERROR 07 P122 Subcode error: no valid subcode within 3 sec.
- ERROR 08 P122 TOC error: out of lead-in while reading TOC
- ERROR 09 P122 EEPROM cell error: EEPROM cell broken

OPERATING ERRORS

- ERROR 30 P122 NEXT at a boarder when repeat is off
- ERROR 31 P122 PREVIOUS at a boarder when repeat is off
- ERROR 33 P122 Selected index does not exist
- ERROR 34 P122 No program
- ERROR 35 P122 Program memory full
- ERROR 36 P122 Progamed track is non existing on this CD
- ERROR 37 P122 Selected track is non existing on this CD
- ERROR 39 P122 STORE or CLEAR pressed while in play program
- ERROR 42 P122 Selected track is not a program block
- ERROR 43 P122 FTS store error: memory full
- ERROR 44 P122 FTS store error: no program
- ERROR 46 P122 FTS play error: no FTS program in memory
- ERROR 47 P122 FTS selection error: upper bound of FTS memory (next)
- ERROR 49 P122 FTS selection error: selection request while storing (next/previous)
- ERROR 51 P122 FTS selection error: selection request while storing (review)
- ERROR 52 P122 FTS selection clear error: clear request while storing
- ERROR 54 P122 FTS store error: no record id (TOC) available
- ERROR 56 P122 AB key pressed when not in play mode
- ERROR 57 P122 Store pressed while there is no track selected
- ERROR 60 P122 Fast forward/reverse bound
- ERROR 63 P122 No track possible to play in edit mode
- ERROR 74 P122 Relative time not found
- ERROR 75 P122 Search time out error

SERVICING HINTS

In the set chip components have been applied.
For disassembly and assembly of chip components see the figure below.

The disc should always rest properly on the turntable.
To achieve this a disc hold-down has been mounted in a bracket of the tray mechanism.

If the tray mechanism has to be disassembled for servicing, a separate disc hold-down should be used.
(See drawing "Service disc hold-down")

The set can function normally then.

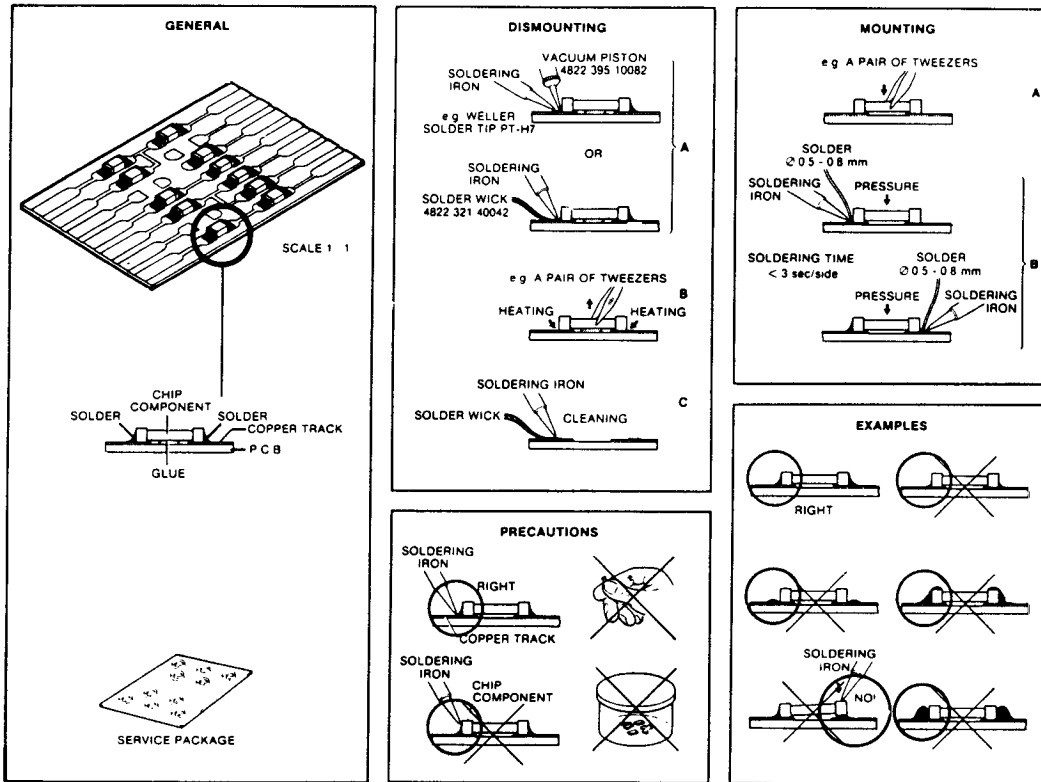
Code number of the disc hold-down is 4822 462 50383.

When the tray mechanism has been disassembled, the tray switch must be activated immediately after pressing the play button in order to ensure normal operation.

To avoid electric shock during servicing, it is recommended to mount an insulation cover over the mains leads on the servo & decoder panel. See drawing MDA 02548. The cover can be ordered under codenumber 4822 444 60655.

SERVICE TOOLS

Audio signals disc	4822 397 30184
Disc without errors (test disc 5) + disc with DO errors, black spots and fingerprints (test disc 5A)	4822 397 30096
Disc 65 min 1 kHz without pause	4822 397 30155
Max. diameter disc(58.0 mm)	4822 397 60141
Torx screwdrivers	
Set (straight)	4822 395 50145
Set (square)	4822 395 50132
13th order filter	4822 395 30204
Service cable (4p)	4822 321 21284
Service flexfoil (14p)	4822 322 40066
Service connector (14p)	4822 267 50676
Green LED CQY G11	5322 130 32182
Insulation cover	4822 444 60655



27 012C12

ⓐ WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.

When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.

Keep components and tools also at this potential.

ESD



Ⓝ WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).

Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.

Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.

Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

ⓕ ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).

Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.

Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.

Veiller à ce que les composants ainsi que les

ⓓ WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD).

Unvorsichtige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern. Sorgen Sie dafür, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind. halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

ⓔ AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).

La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.

Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.

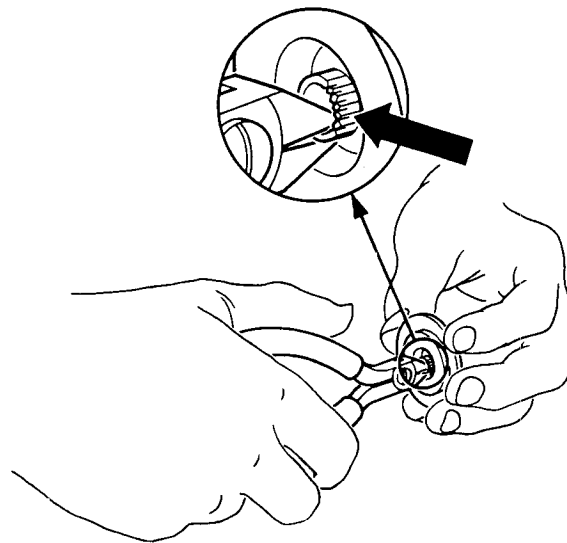
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo

SERVICE TOOLS

Audio signals disc	4822 397 30184
Disc without errors (test disc 5) +	
Disc with DO errors,	
Black spots and fingerprints (test	
Disc 5A)	4822 397 30096
Disc 65 min 1 kHz without pause	4822 397 30155
Max. diameter disc(58.0 mm)	4822 397 60141
Hex screwdrivers	
Set (straight)	4822 395 50145
Set (square)	4822 395 50132
With order filter	4822 395 30204
Service cable (4p)	4822 321 21284
Service flexfoil (14p)	4822 322 40066
Service connector (14p)	4822 267 50676
Green LED CQY G11	5322 130 32182
Insulation cover	4822 444 60655

SERVICE DISC-HOLDDOWN

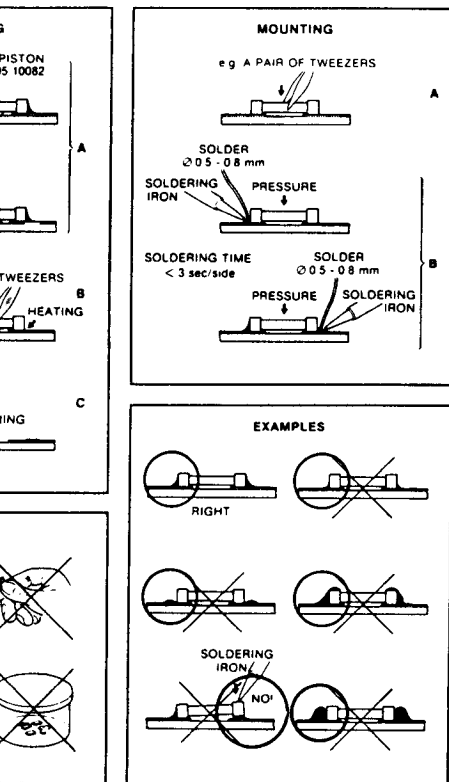
CABINET



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Compose a service Disc hold-down in the following way

- Cut in the most inner ring of a disc hold-down (4822 462 50383) with small and sharp nippers, see fig. above.
- Enlarge the diameter of the innermost ring slightly with the hind part of a pencil or ballpoint, so that it jams onto the turntable with sufficient force.
- If the jamming force decreases after certain time of use, the diameter has to be enlarged with a pencil or ballpoint again.



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NL WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).

Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.

Houd componenten en hulpmiddelen ook op hetzelfde potentiaal.

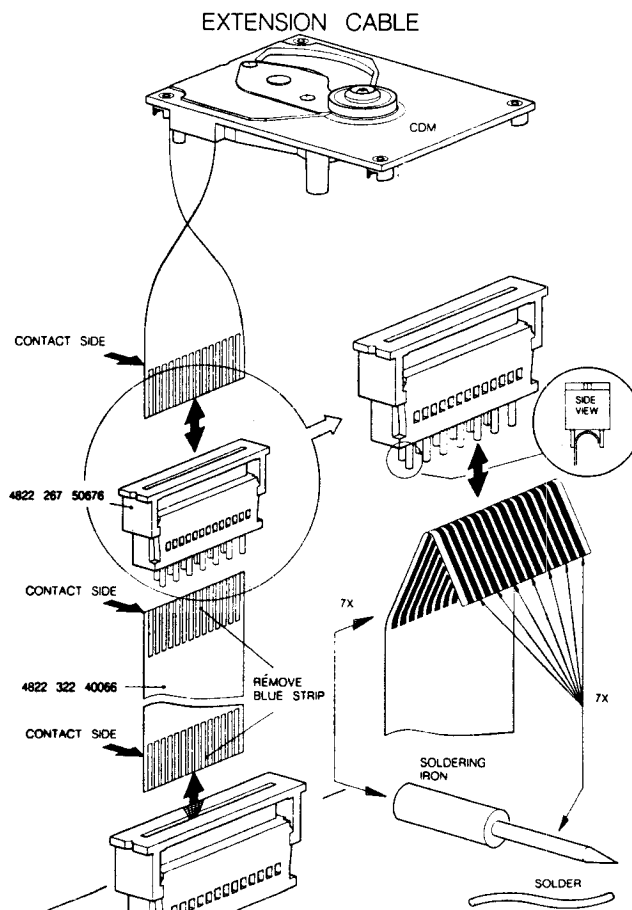
I AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).

La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cautela alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.

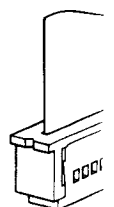
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo

SERVICE FOIL FOR CDM

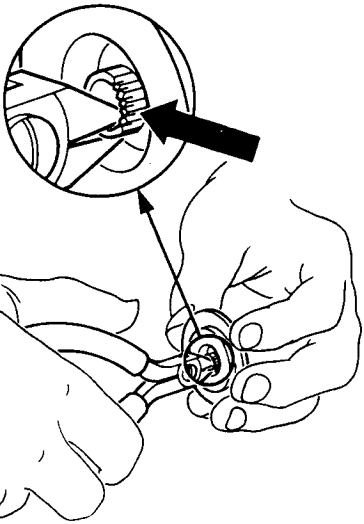


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Reparatur
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Reparaturfall
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DDOWN



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Disc hold-down in the following way

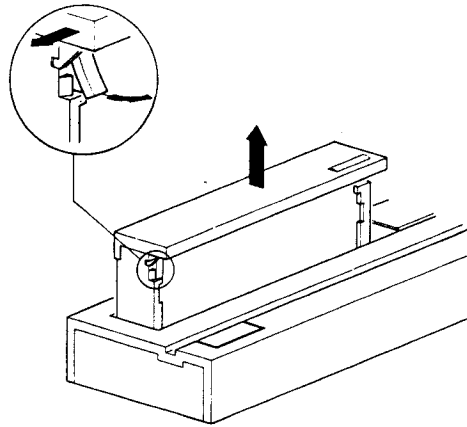
inner ring of a disc hold-down (4822) with small and sharp nippers, see fig.

center of the innermost ring slightly with the tip of a pencil or ballpoint, so that it is stable with sufficient force.

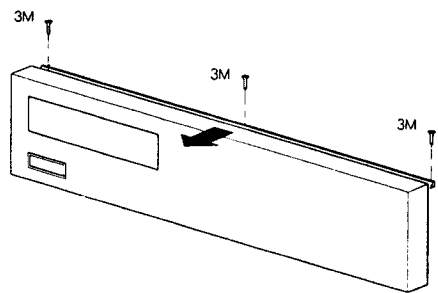
Force decreases after certain time of use, the hole has to be enlarged with a pencil or

CABINET DISASSEMBLY HINTS

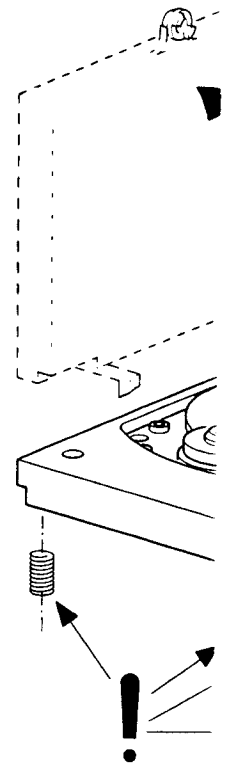
A



B



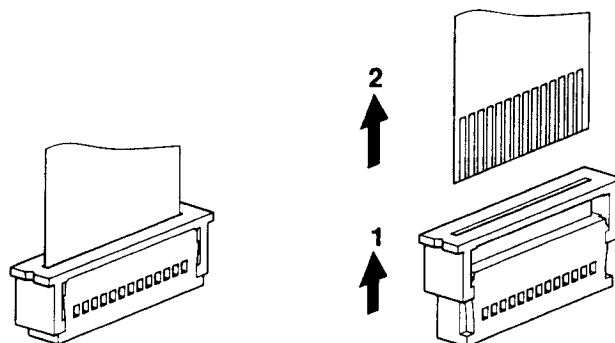
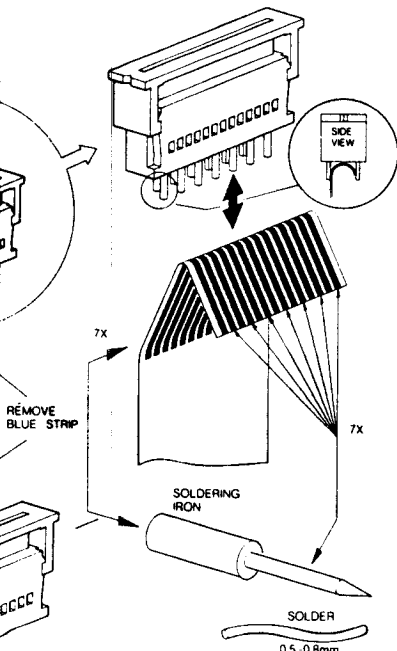
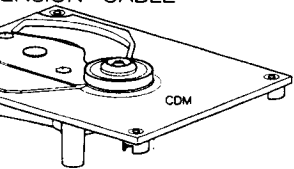
DISASSEMBLY OF LOADING MECHANISM



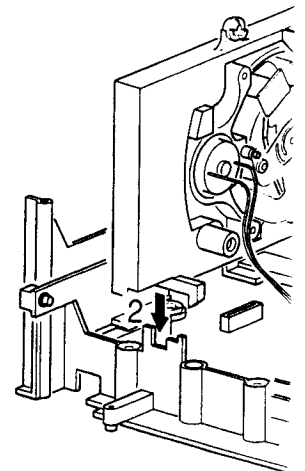
MDA 02137
916/T19

CDM

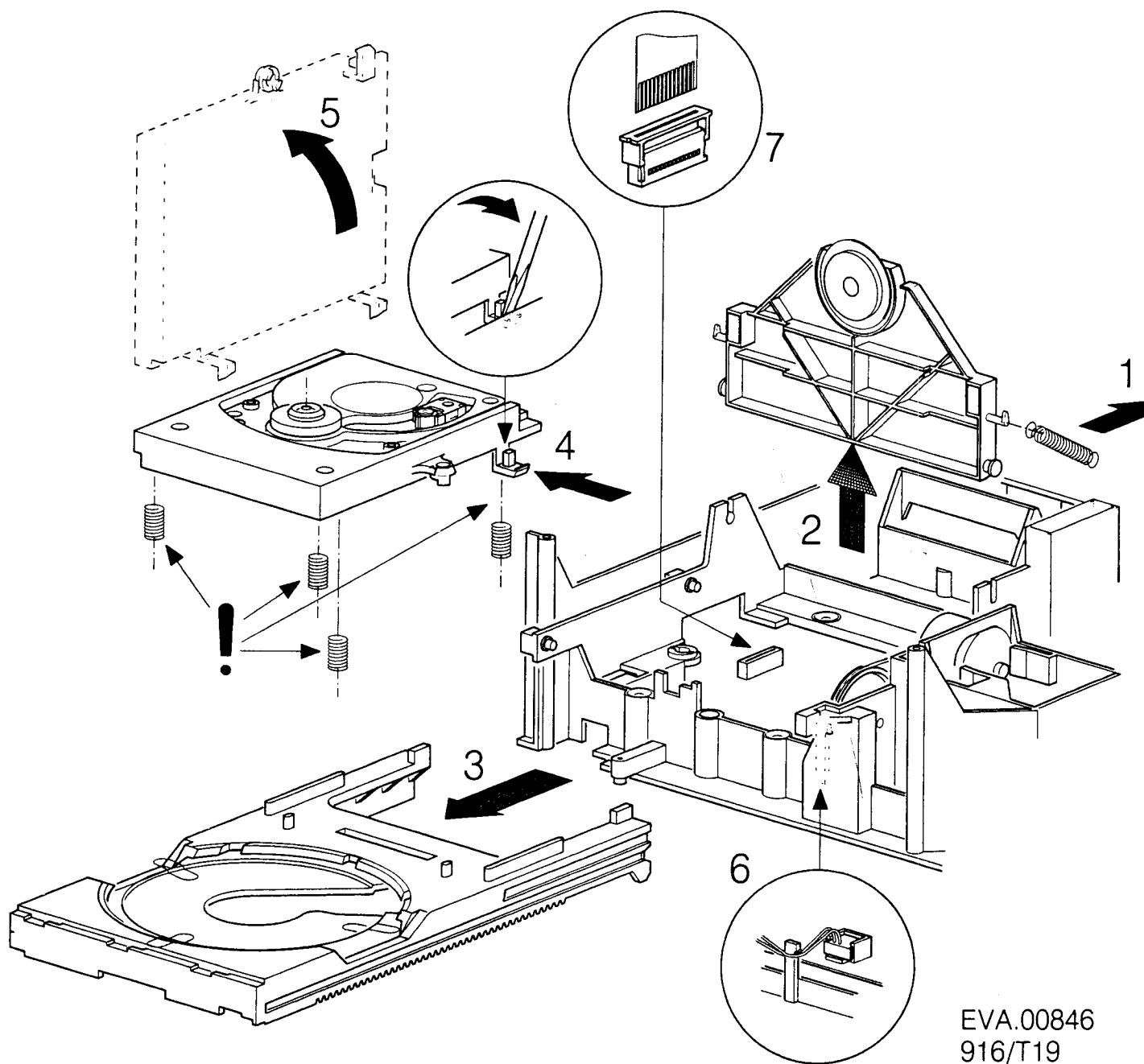
EXTENSION CABLE



PLAY SERVICE POSITION



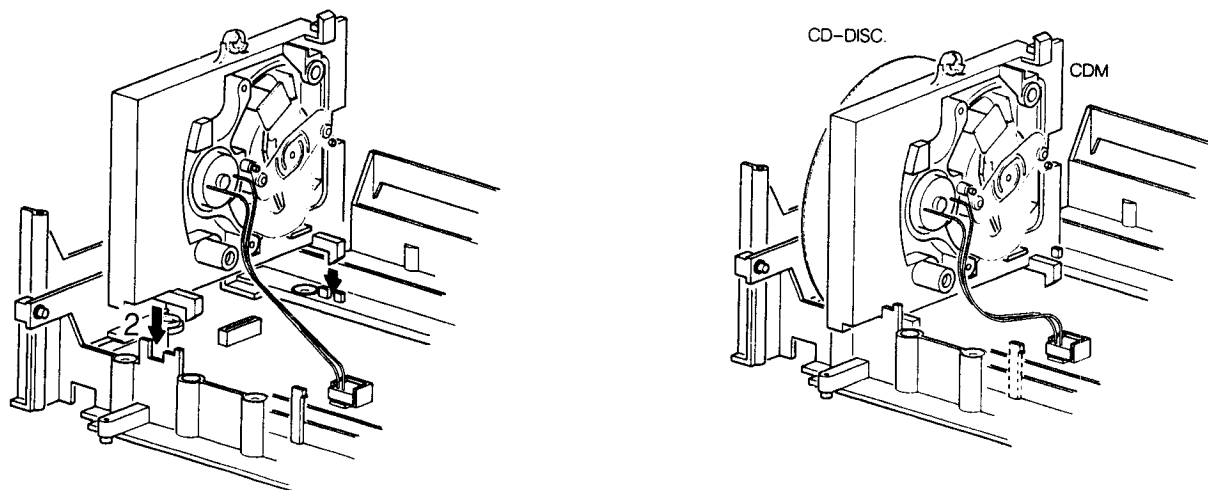
DISASSEMBLY OF LOADING AND CDM



DA 02137
6/T19

EVA.00846
916/T19

PLAY SERVICE POSITION



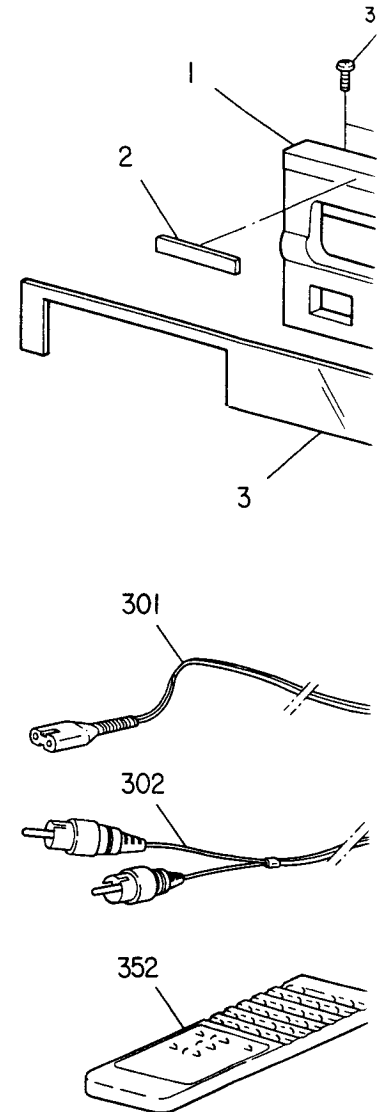
EVA.00848

EVA.00849
916/T19

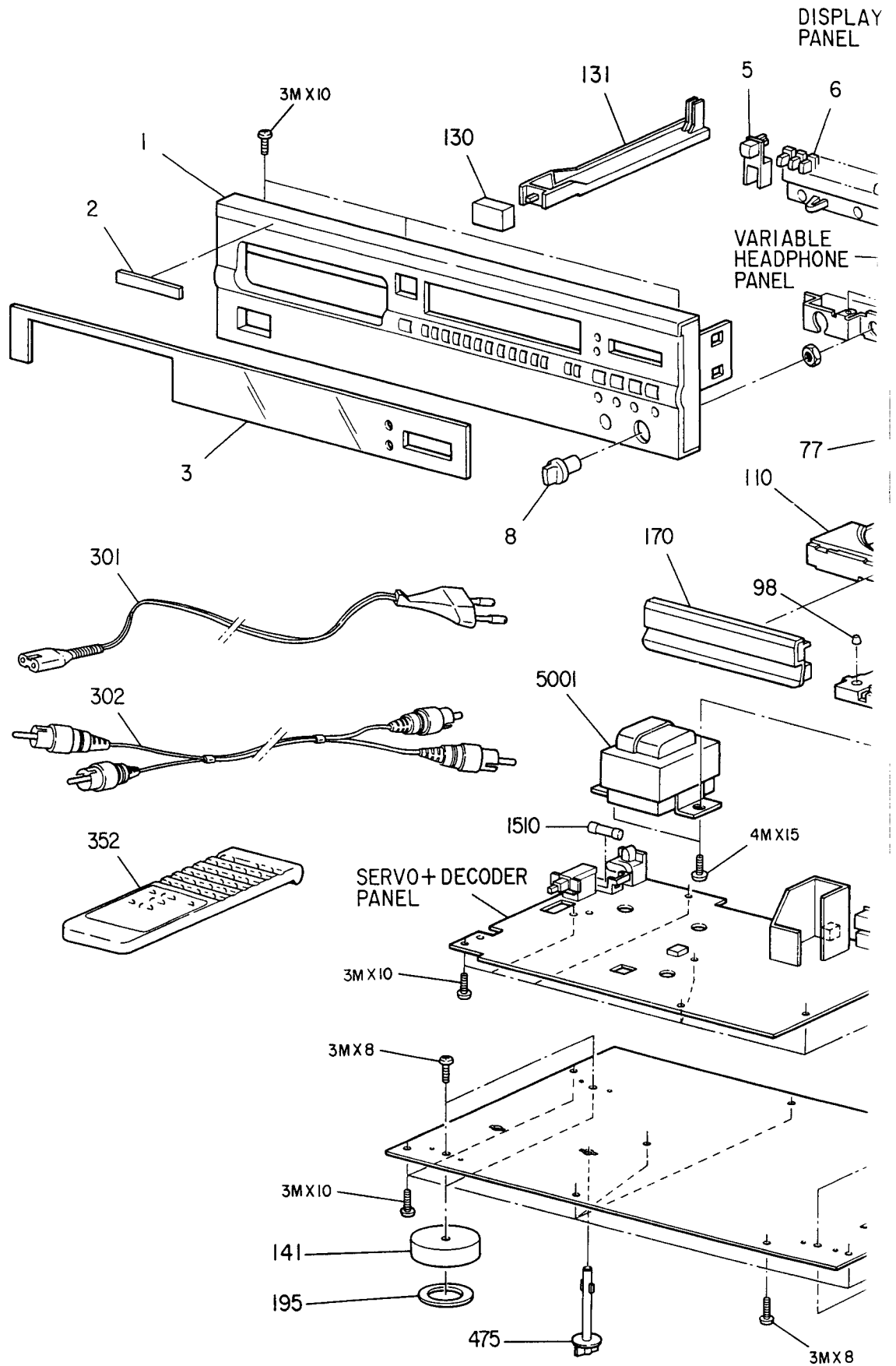
MECHANICAL PARTS LIST

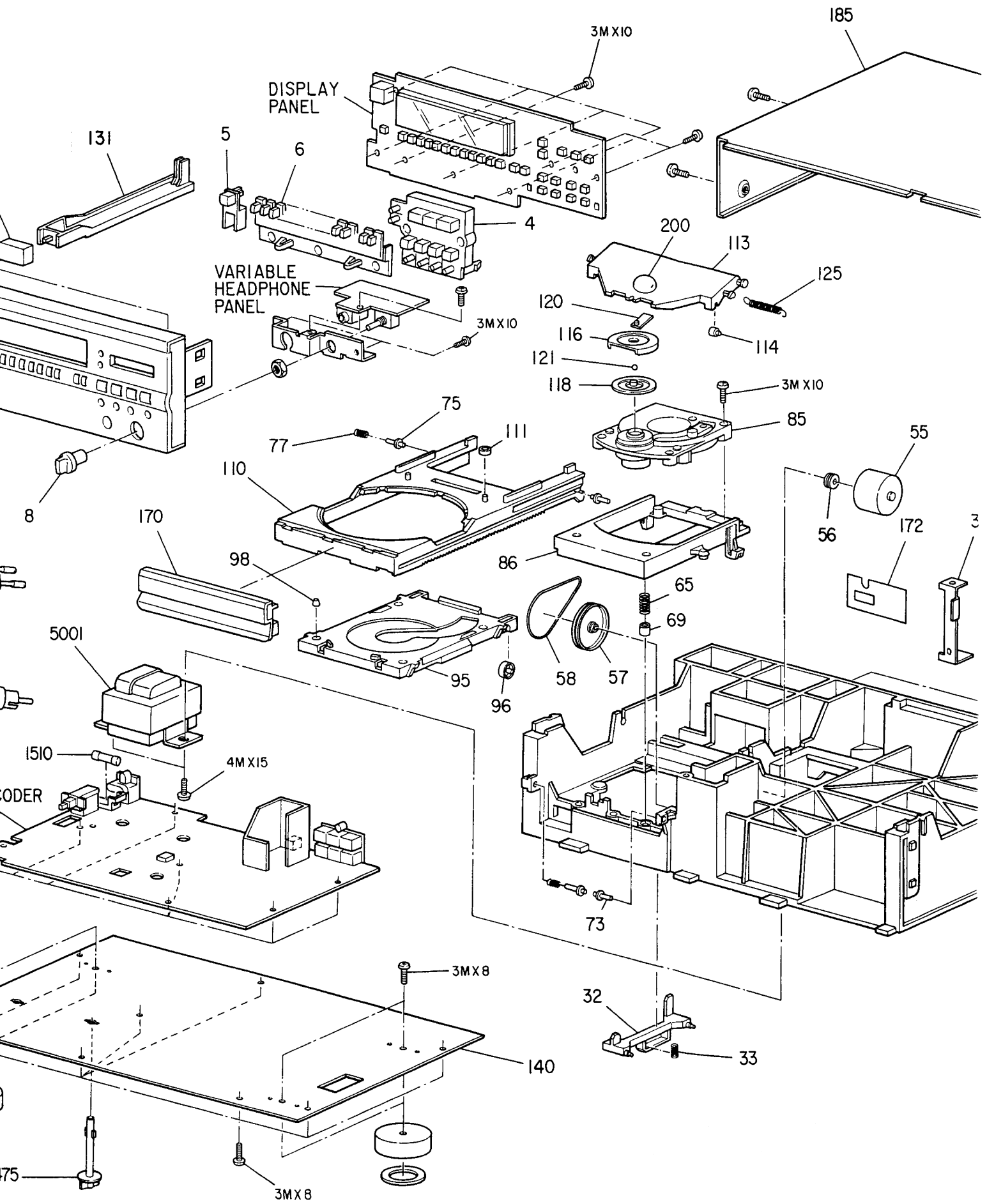
1	4822 444 40476	Front for CD52
1	4822 444 40472	Front for CD42
1	4822 444 40477	Front for CD32
2	4822 459 10747	Wordmark
3	4822 450 61767	Window for CD52, CD42
3	4822 450 61785	Window for CD32
4	4822 410 61465	Button, push for CD52
4	4822 410 61459	Button, push for CD42
4	4822 410 61517	Button, push for CD32
5	4822 410 61457	Button, push
6	4822 410 61466	Set of knobs for CD52
8	4822 410 61467	Button, Head Phone for CD52
32	4822 402 50276	Bracket, Switch
33	4822 492 52123	Spring, Compres.
55	4822 361 21452	Motor
56	4822 528 81447	Pulley
57	4822 528 81329	Pulley
58	4822 358 10115	Belt, Driving
65	4822 492 51902	Spring, Compres.
69	4822 466 61587	Foam
73	4822 402 61253	Guide
75	4822 402 61252	Guide
77	4822 492 52094	Spring, Compres.
85	4822 691 30209	Mech. Unit CDM-4
86	4822 402 61196	Support
95	4822 466 93011	Plate
96	4822 528 90638	Roller
98	4822 325 50177	Grommet, Cable
110	4822 444 50603	Tray
111	4822 532 51756	Grommet
113	4822 444 60568	Lid
114	4822 528 90639	Roller
116	4822 402 61207	Holder
118	4822 530 80503	Ring, Pressure
120	4822 466 92257	Plate
121	4822 520 40177	Ball
125	4822 492 32883	Spring, Tension
130	4822 410 61458	Button, Push
131	4822 535 93251	Rod
141	4822 462 41859	Foot
167	4822 502 30677	Screw, Selftap
170	4822 454 30456	Plate, Ornament
171	4822 459 11048	Plate, Name
172	4822 459 11047	Plate, Name
185	4822 444 60766	Cover
186	4822 502 30678	Screw, Selftap
195	4822 466 40577	Felt
301	4822 321 10249	AC-Cord for /02B
301	4822 321 10719	AC-Cord for /05B
302	4822 321 22832	Cable, Connect
309	4822 736 21196	User's Manual for CD52
309	4822 736 21187	User's Manual for CD42, CD32
352	4822 218 10419	Remote Control for CD52, CD42
455	4822 600 70643	Box for CD52
455	4822 600 70641	Box for CD42
455	4822 600 70645	Box for CD32
460	4822 600 10294	Cushion
475	4822 535 92907	Key

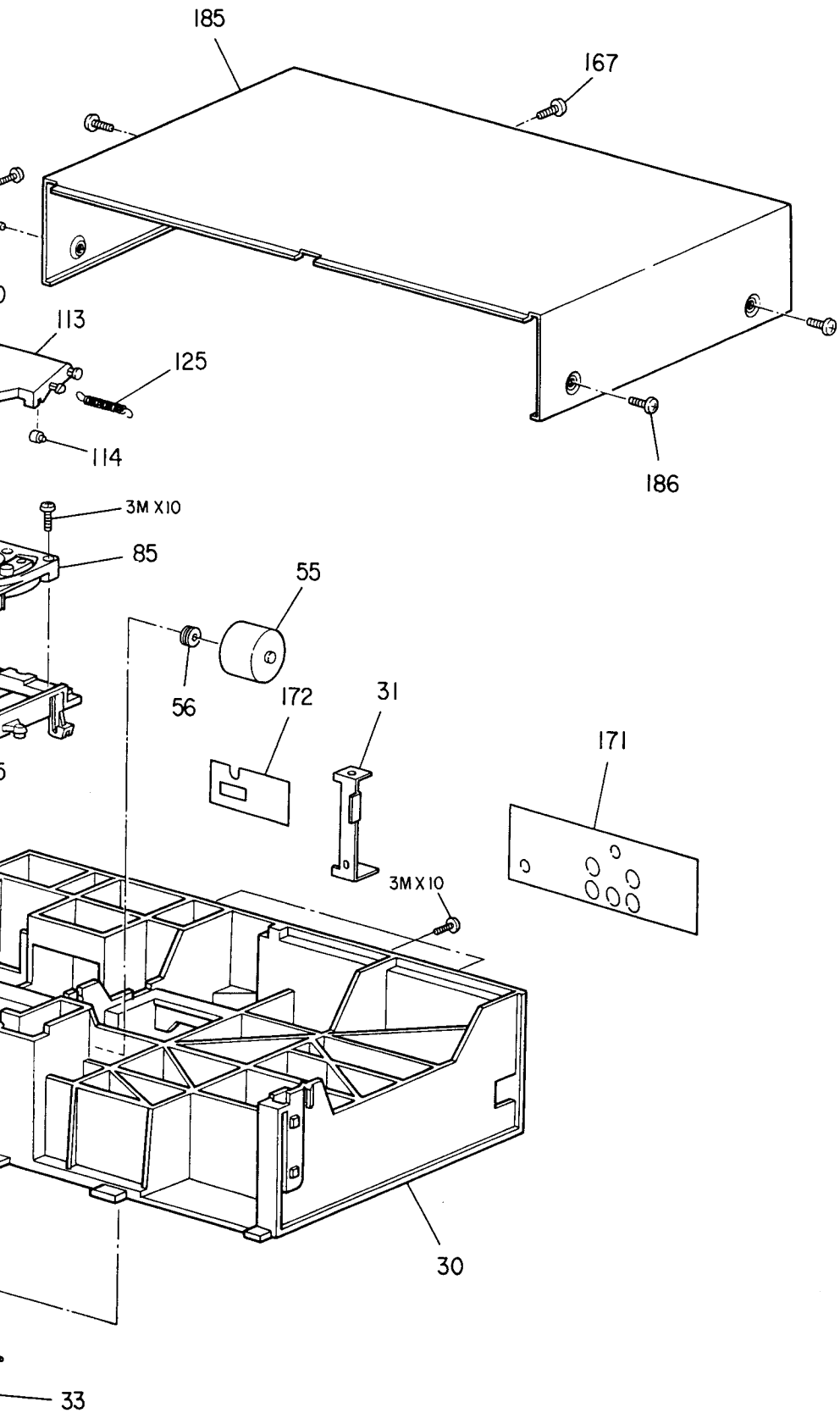
EXPLODED VIEW



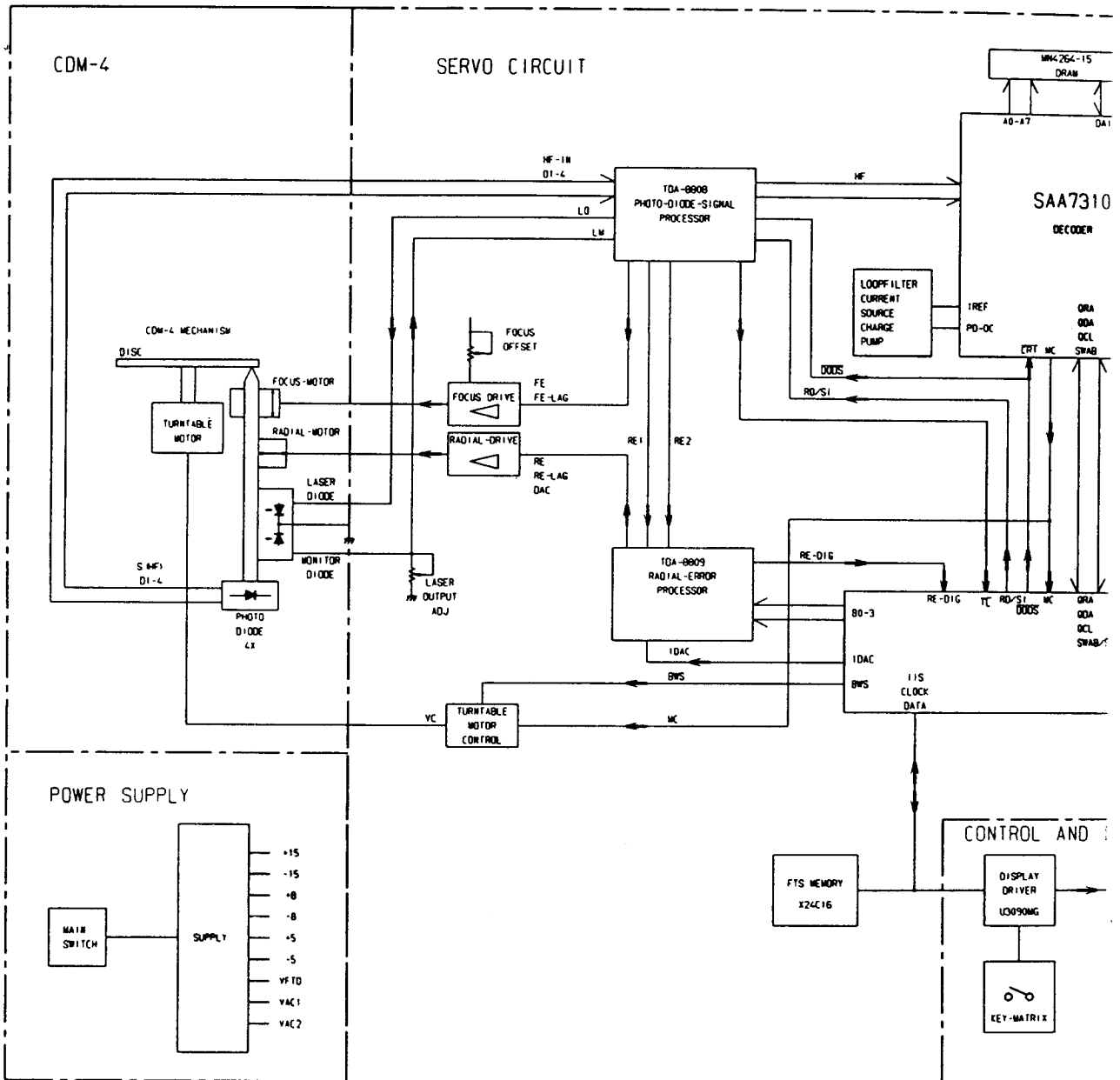
EXPLODED VIEW





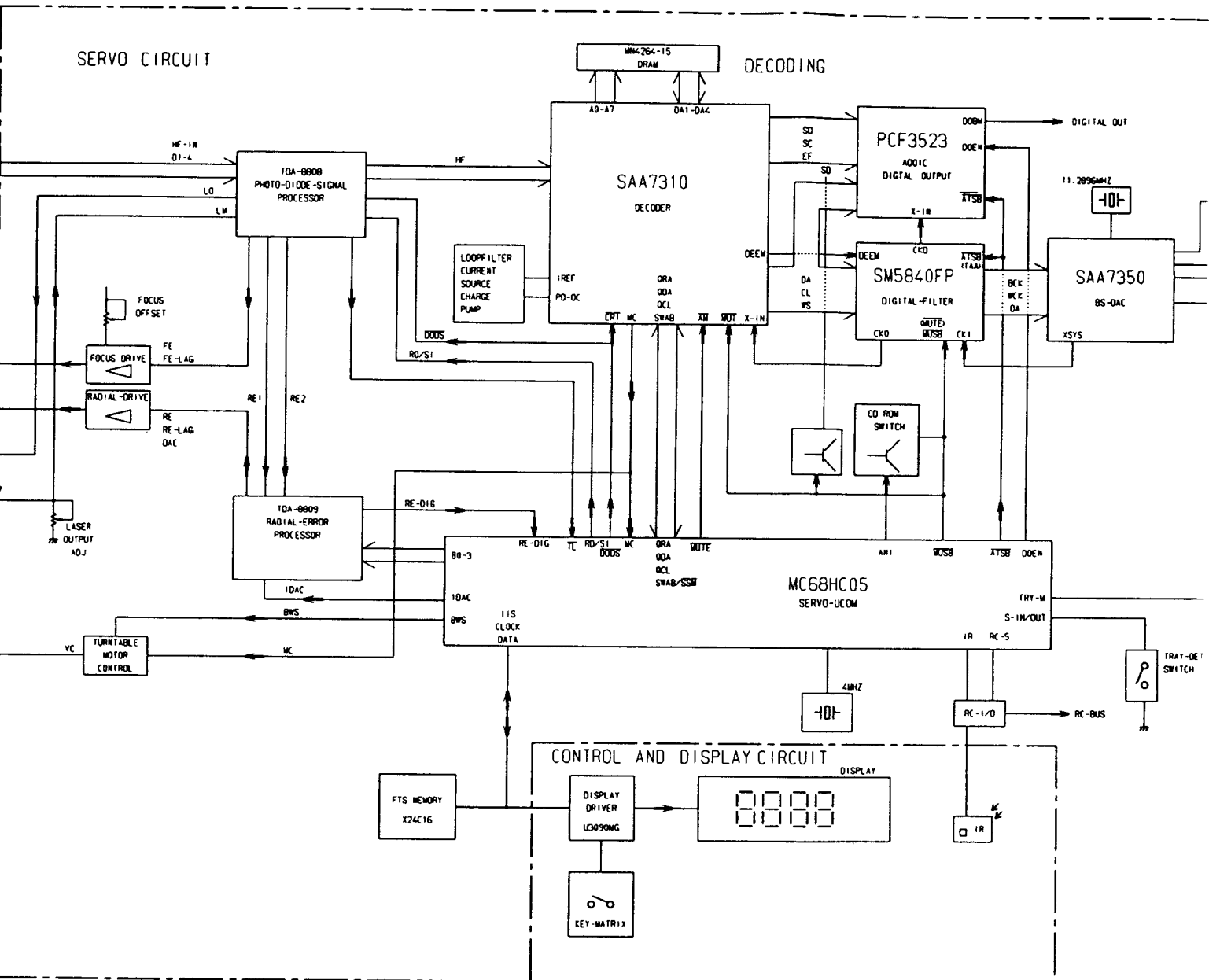


BLOCK DIAGRAM



AGC-----AUTOMATIC GAIN CONTROL
 B0-B3-----CONTROL BITS FOR RADIAL CIRCUIT
 BEQ-----EQUALIZER REFERENCE CURRENT INPUT
 BGC-----DC AND LF GAIN CONTROL REFERENCE INPUT
 COSC1-----CAPACITOR WOBBLE OSCILLATOR
 COSC2-----CAPACITOR WOBBLE OSCILLATOR
 DEC-----DECOUPLING INPUT OF INKRUAT BYPASS
 DET-----HF DETECTOR VOLTAGE INPUT
 DIV4-----DIVIDE BY 4 INPUT
 DODS-----DROP OUT DETECTOR SUPPRESSION
 DI-4-----PHOTOIODE CURRENTS
 FE-----FOCUS ERROR SIGNAL
 FE LAG----FOCUS ERROR SIGNAL FOR LAG NETWORK
 HF-----HF OUTPUT FOR DEMOD
 HFD-----HF DETECTOR OUTPUT FOR DEMOD
 HF IN----HF CURRENT INPUT TO HF AMPLIFIRE
 HF OUT---HF AMPLIFIRE AND EQUALIZER VOLTAGE OUTPUT

LM-----LASER MONITOR DIODE INPUT
 LO-----LASER AMPLIFIRE CURRENT OUTPL
 MC-----MONITOR CONTROL SIGNAL
 OFFSET IN--OFFSET IN-OFFSET CONTROL INPL
 OFFSET OUT--OFFSET OUT-OFFSET CONTROL OU
 PLLH-----PLL ON HOLD OUTPUT
 RADOUT----OUTPUT OF RE2-RE1 INPUT
 RE-----RADIAL ERROR SIGNAL
 ROSC-----RESISTOR WOBBLE OSCILLATOR
 RWOB-----WOBBLE GENERATOR INPUT
 RE1-----RADIAL ERROR SIGNAL 1
 RE2-----RADIAL ERROR SIGNAL 2
 RE DIG----RADIAL ERROR DIGITAL
 RE LAG----RADIAL ERROR SIGNAL FOR LAG I
 SC-----STARTING UP CAPACITOR INPUT
 SI/RD-----ON/OFF CONTROL FOR LASER SUPP
 CIRCUIT.READY SIGNAL.STARTING

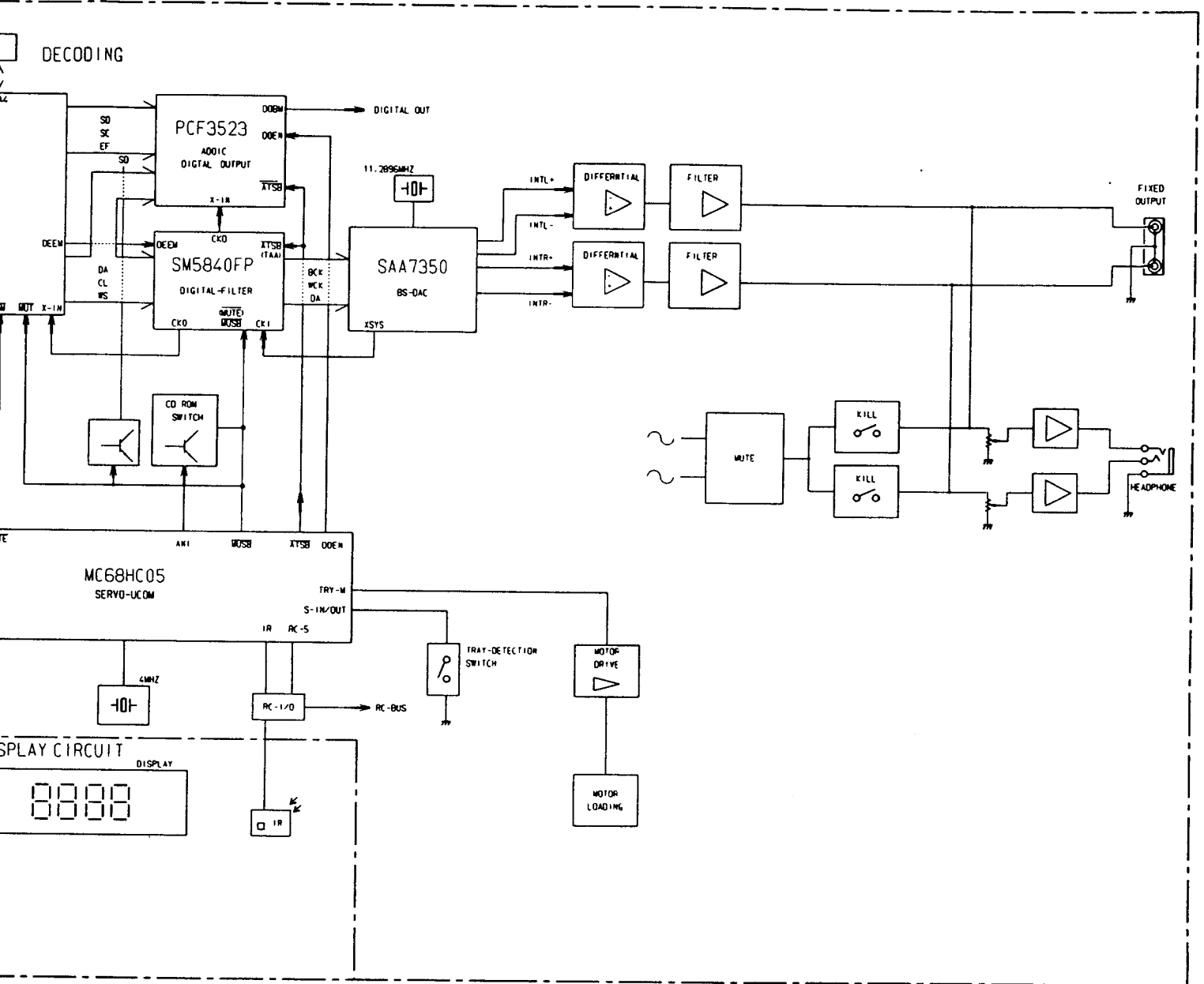


CONTROL
 RADIAL CIRCUIT
 CE CURRENT INPUT
 CONTROL REFERENCE INPUT
 OSCILLATOR
 OSCILLATOR
 OF INKRUAT BYPASS
 GE INPUT

 SUPPRESSION
 TS
 E FOR LAG NETWORK
 DD
 T FOR DEMOD
 TO HF AMPLIFIRE
 EQUALIZER VOLTAGE OUTPUT

LM-----LASER MONITOR DIODE INPUT
 LO-----LASER AMPLIFIRE CURRENT OUTPUT
 MC-----MONITOR CONTROL SIGNAL
 OFFSET IN-OFFSET IN-OFFSET CONTROL INPUT
 OFFSET OUT-OFFSET OUT-OFFSET CONTROL OUTPUT
 PLLH-----PLL ON HOLD OUTPUT
 RADOUT----OUTPUT OF RE2-RE1 INPUT
 RE-----RADIAL ERROR SIGNAL
 ROSC-----RESISTOR WOBBLE OSCILLATOR
 RWOB-----WOBBLE GENERATOR INPUT
 RE1-----RADIAL ERROR SIGNAL 1
 RE2-----RADIAL ERROR SIGNAL 2
 RE DIG----RADIAL ERROR DIGITAL
 RE LAG----RADIAL ERROR SIGNAL FOR LAG NETWORK
 SC-----STARTING UP CAPACITOR INPUT
 S1/RD-----ON/OFF CONTROL FOR LASER SUPPLY AND FOCUS
 CIRCUIT-READY SIGNAL-STARTING UP

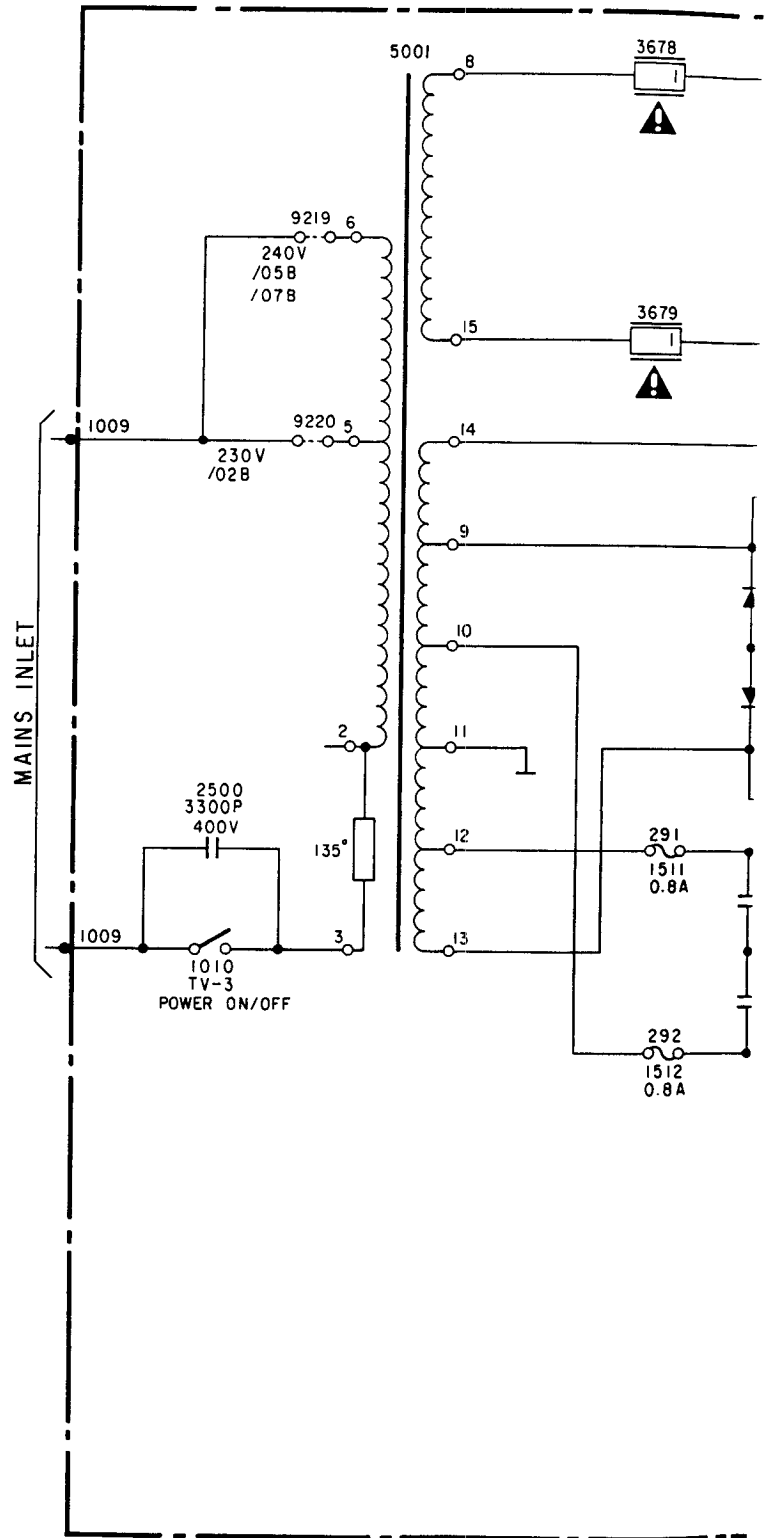
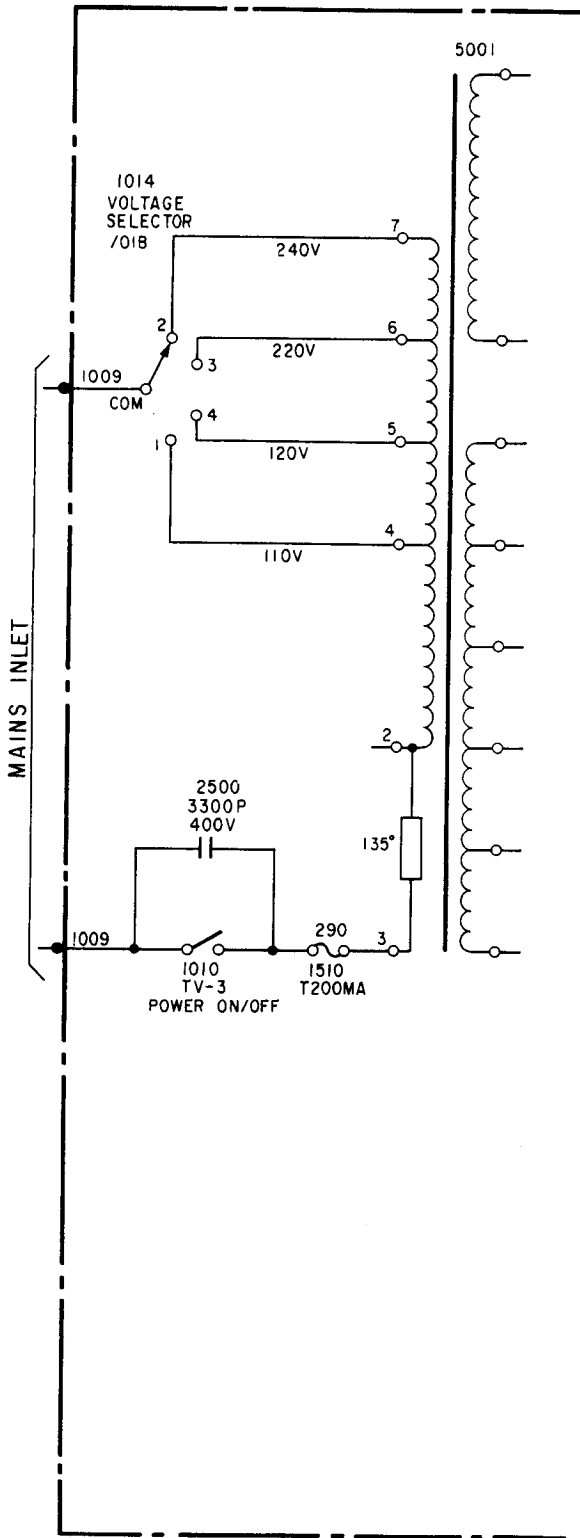
TL-----TRACK LOSS OUTPUT SIGNAL
 TTM+ ----CONTROL VOLTAGE FOR TURN
 TTM- ----CONTROL VOLTAGE FOR TURN
 VEXT- ---SUPPLY CONNECTION
 VEXT+ ---SUPPLY CONNECTION
 TCMF-----TURNTABLE CONTROL MOTOR
 BWS-----BAND WIDTH SWITCH 8 OR 1
 ANI-----DIGITAL DATA INFORMATION
 AM-----ADDITIONAL MUTE
 ATSB ----ATTENUATION OF AUDIO LEV
 CD ROM----DIGITAL DATA INFOMATION
 SWITCH
 CEFM-----CLOCK EIGHT TO FOURTEEN
 CL-----CLOCK SIGNAL DECODER TO
 BCK-----CLOCK SIGNAL FILTER TO C
 CREF-----REFERENCE CURRENT
 CRI-----COUNTER RESET INHIBIT
 IDAC-----ANTI SKATING CONTROL



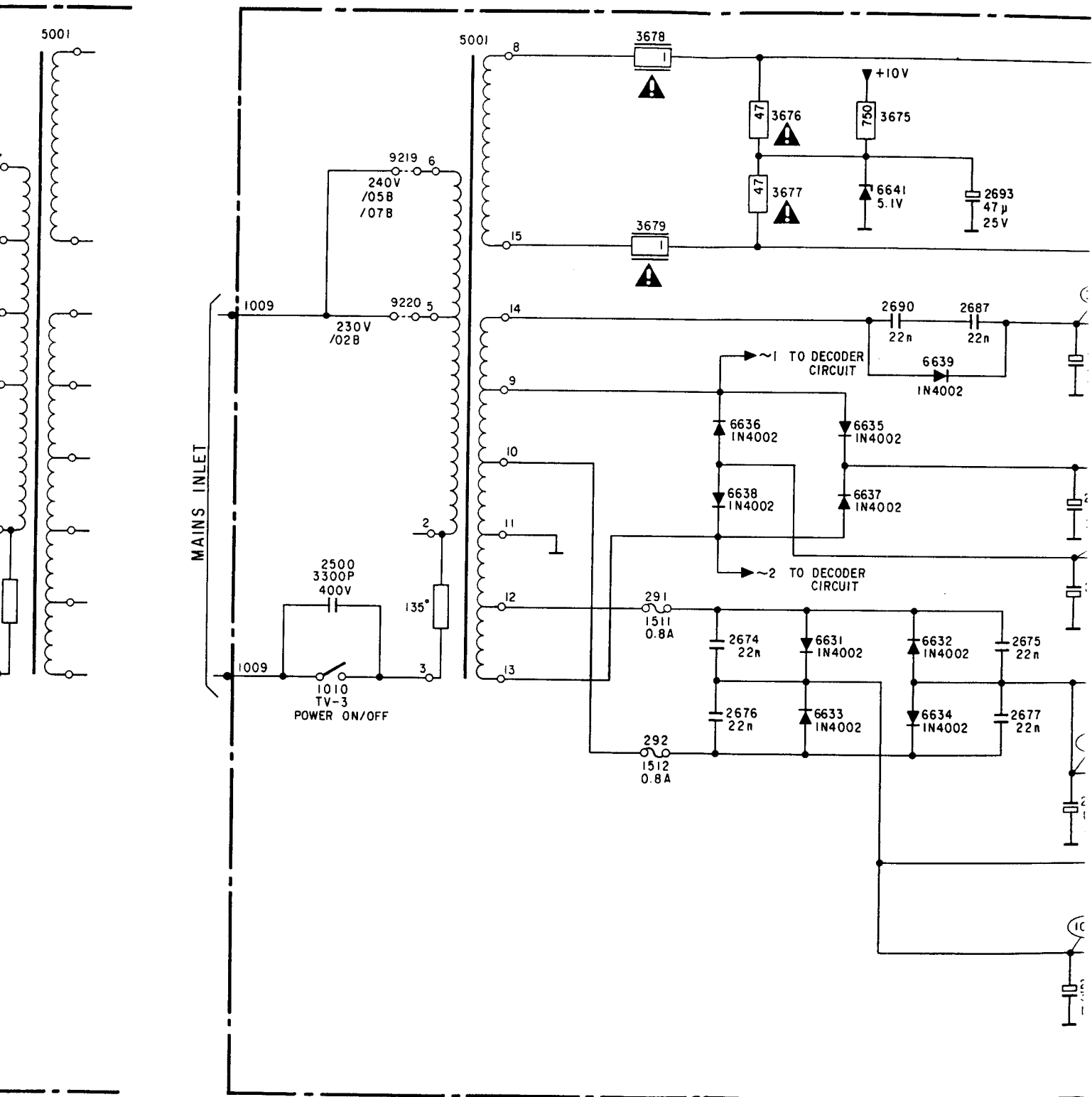
TL-----TRACK LOSS OUTPUT SIGNAL
 TTM+ ----CONTROL VOLTAGE FOR TURNTABLE MOTOR
 TTM- ----CONTROL VOLTAGE FOR TURNTABLE MOTOR
 VEXT- ---SUPPLY CONNECTION
 VEXT+ ---SUPPLY CONNECTION
 TCMF----TURNTABLE CONTROL MOTOR PULSE
 BWS-----BAND WIDTH SWITCH 8 OR 12CM DISC
 ANI-----DIGITAL DATA INFORMATION ON DISC SIGNAL
 AM-----ADDITIONAL MUTE
 ATSB ----ATTENUATION OF AUDIO LEVEL IN SEARCH POSITION
 CD ROM---DIGITAL DATA INFORMATION ON DISC SIGNAL
 SWITCH
 CEFM-----CLOCK EIGHT TO FOURTEEN MODULATOR
 CL-----CLOCK SIGNAL DECODER TO FILTER
 BCK-----CLOCK SIGNAL FILTER TO DAC
 CREF-----REFERENCE CURRENT
 CRTI-----COUNTER RESET INHIBIT
 IDAC-----ANTI SKATING CONTROL

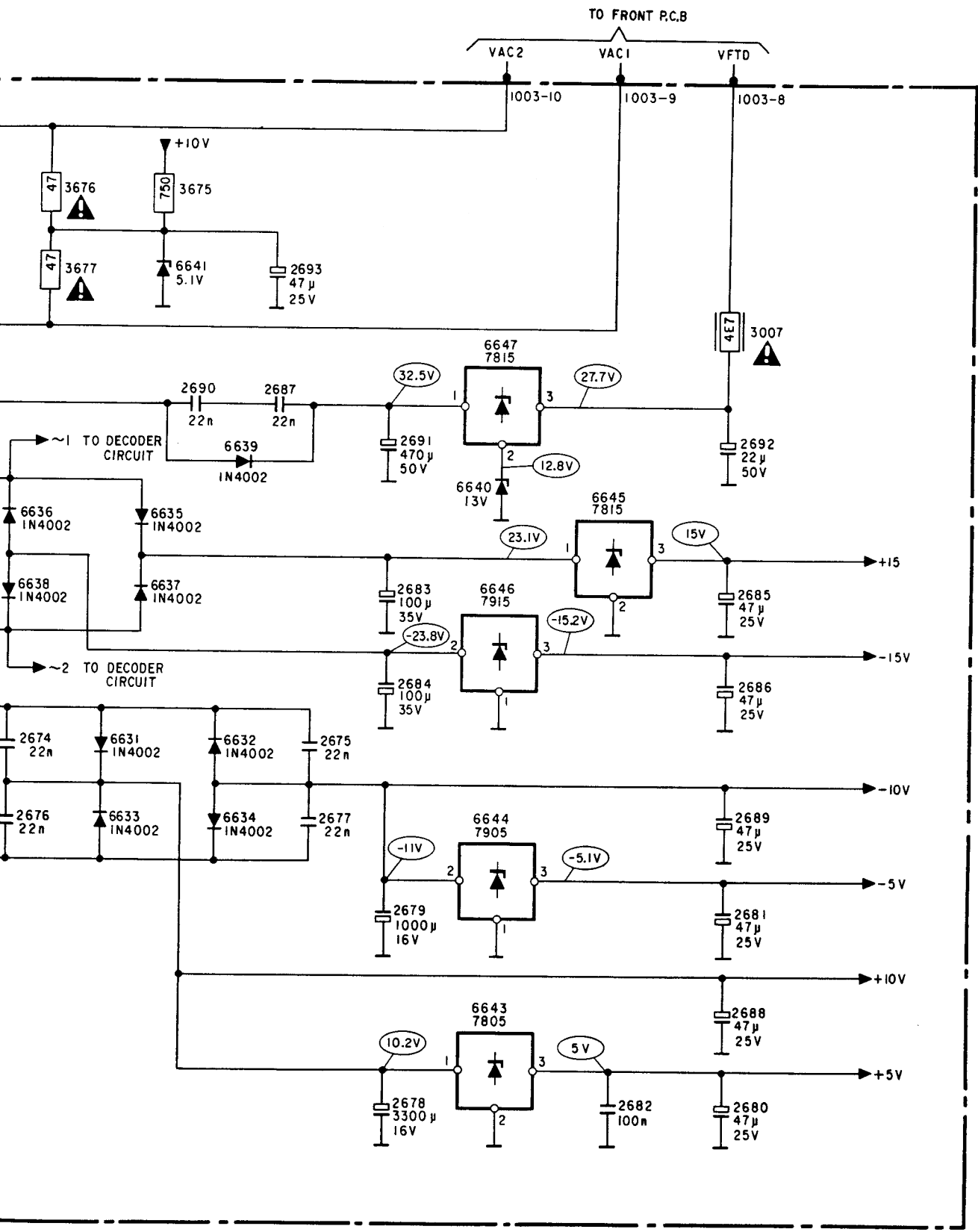
DA-----DATA SIGNAL DECODER TO FILTER
 DEEM-----DEEMPHASIS
 DOBM-----DIGITAL OUT SIGNAL
 DOEM-----DIGITAL OUTPUTENABLE
 EF-----ERROR FLAG DECODER TO FILTER
 MUTE ----MUTE SIGNAL
 MUSB-----SOFT MUTE SIGNAL
 PD/OC----PHASE DETECTOR-OSCILLATOR CONTROL
 QCL-----Q-CHANNEL CLOCK SIGNAL
 QDA-----Q-CHANNEL DATA SIGNAL
 QRA-----Q-CHANNEL REQUEST AKNOWLEDGE
 SC-----SUBCODE CLOCK DECODER TO FILTER
 SD-----SUBCODE DATA DECODER TO FILTER
 SWAB/SSM--SUBCODE WORD/START-STOP MOTOR SIGNA
 WS-----WORD SELECT DECODER TO FILTER
 TRY-M ---TRAY MOTOR CONTROL
 WCK-----WORD SELECT FILTER TO DAC
 XIN-----OSCILLATOR SIGNAL IN
 XSYS-----OSCILLATOR SIGNAL OUT

POWER SUPPLY CIRCUIT DIAGRAM

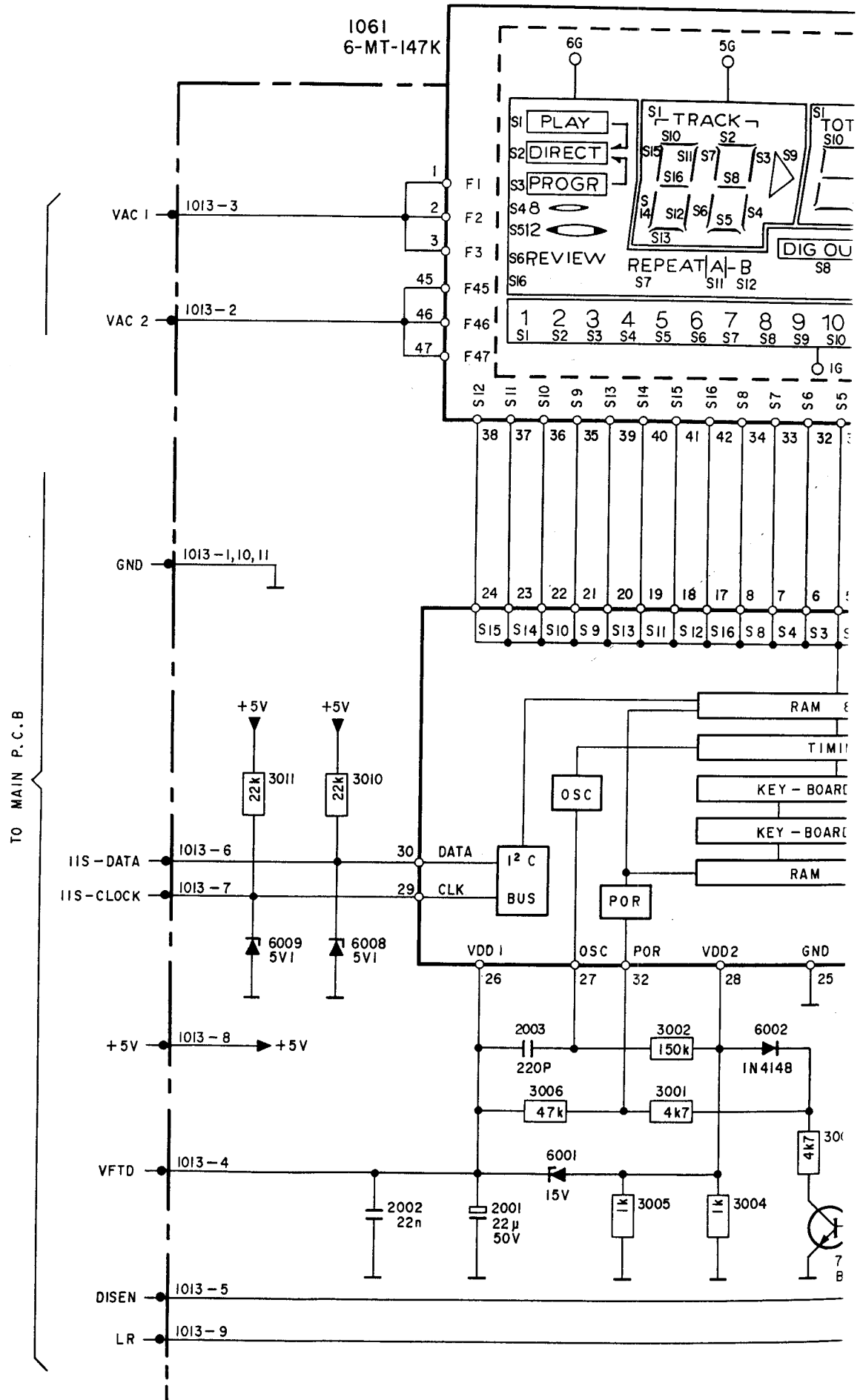


DIAGRAM

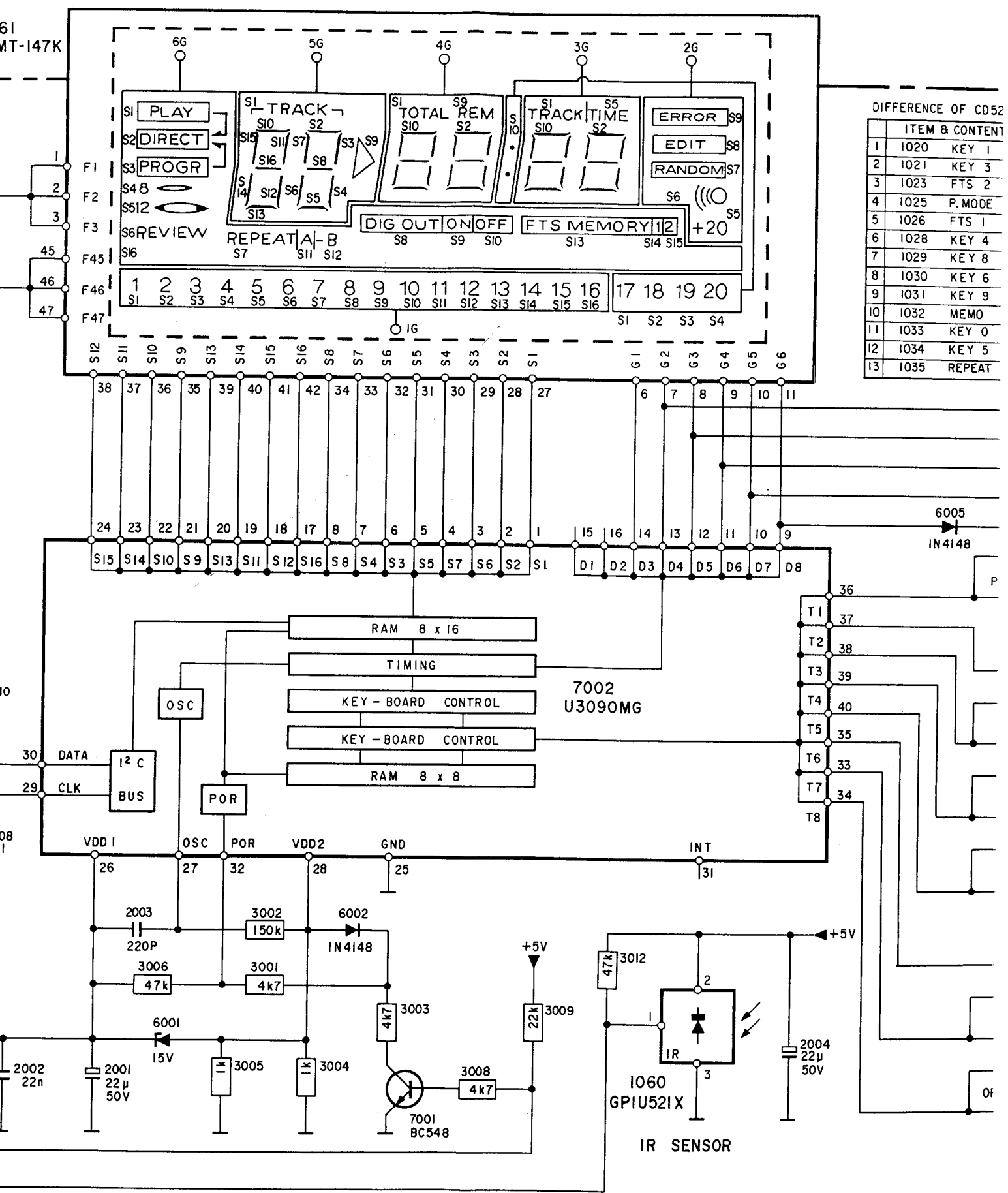




DISPLAY CIRCUIT DIAGRAM

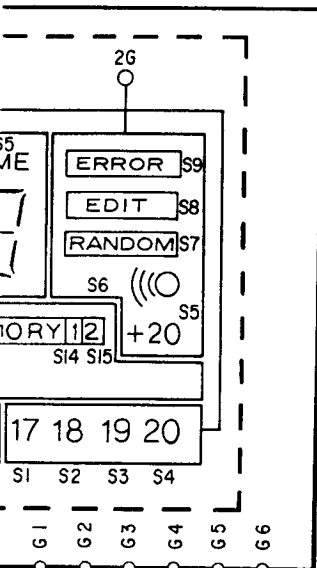


61
MT-147K



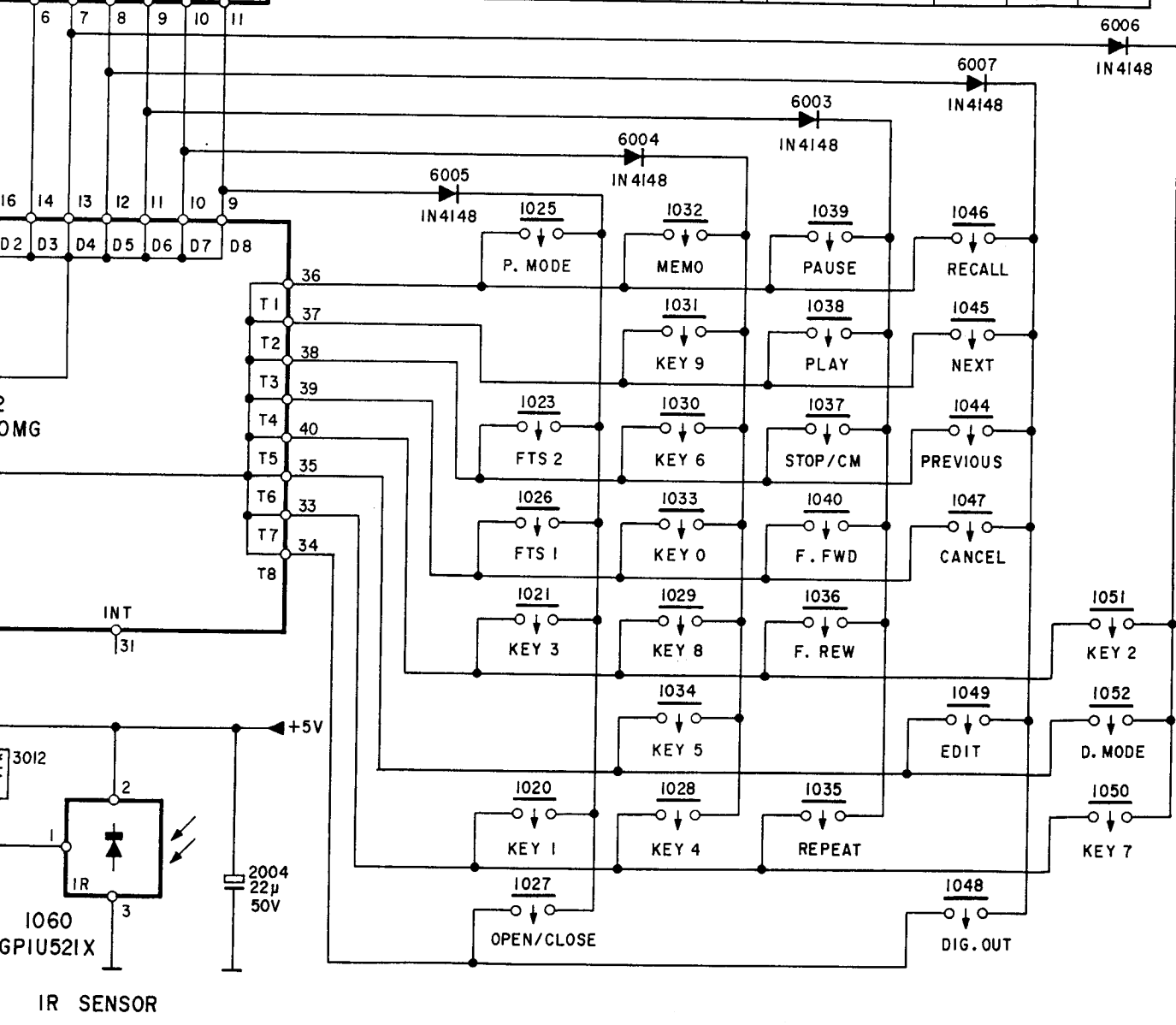
DIFFERENCE OF CD52

ITEM	CONTENT
1	1020 KEY 1
2	1021 KEY 3
3	1023 FTS 2
4	1025 P.MODE
5	1026 FTS 1
6	1028 KEY 4
7	1029 KEY 8
8	1030 KEY 6
9	1031 KEY 9
10	1032 MEMO
11	1033 KEY 0
12	1034 KEY 5
13	1035 REPEAT

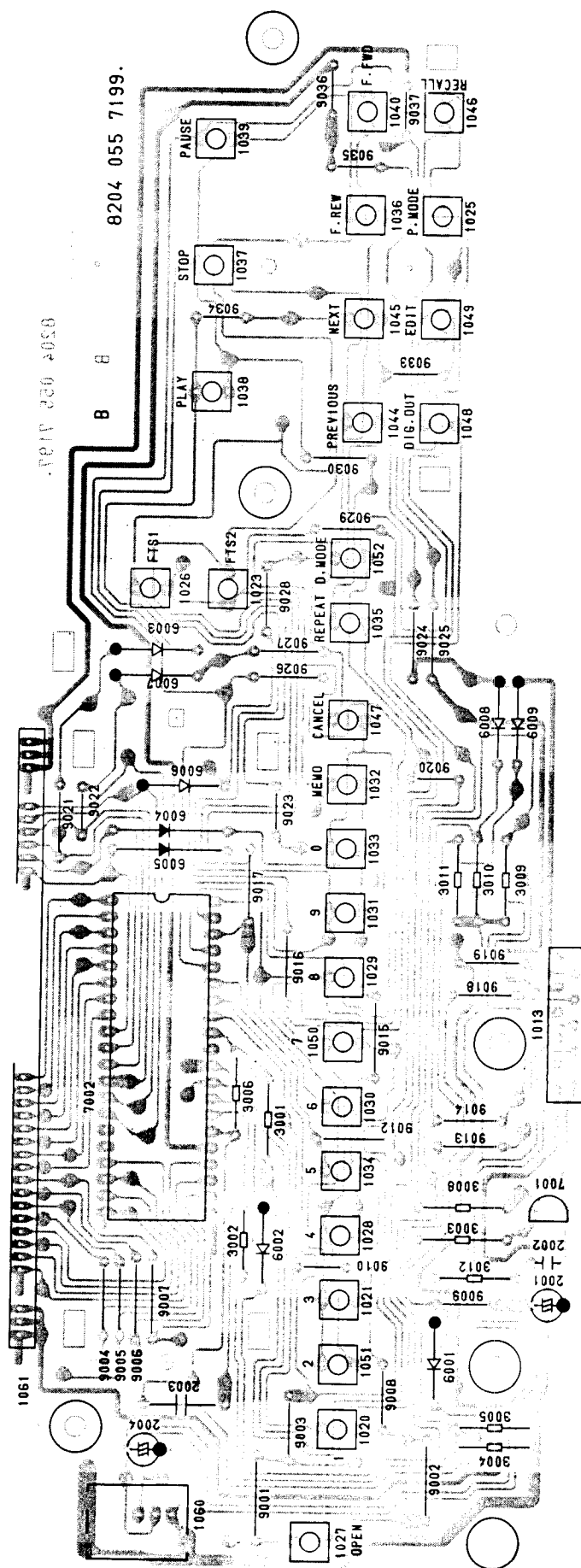
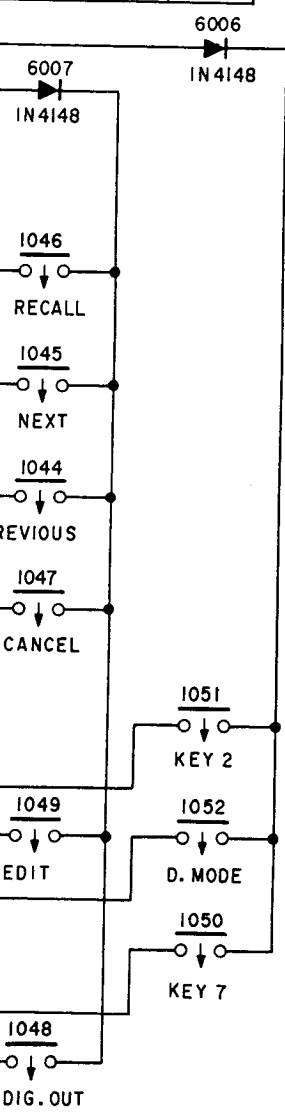


DIFFERENCE OF CD52/42/32

ITEM & CONTENT	CD52	CD42	CD32	ITEM & CONTENT	CD52	CD42	CD32
1 1020 KEY 1	X	—	—	14 1046 RECALL	X	—	—
2 1021 KEY 3	X	—	—	15 1047 CANCEL	X	—	—
3 1023 FTS 2	X	X	—	16 1048 DIG. OUT	X	—	—
4 1025 P. MODE	X	—	—	17 1049 EDIT	X	—	—
5 1026 FTS 1	X	X	—	18 1050 KEY 7	X	—	—
6 1028 KEY 4	X	—	—	19 1051 KEY 2	X	—	—
7 1029 KEY 8	X	—	—	20 1052 D. MODE	X	—	—
8 1030 KEY 6	X	—	—	21 1060 IR RCIVER	X	X	—
9 1031 KEY 9	X	—	—	22 2004 ELCO	X	X	—
10 1032 MEMO	X	—	—	23 3012 FLM RST	X	X	—
11 1033 KEY 0	X	—	—	24 3691 POTM IOKA	X	—	—
12 1034 KEY 5	X	—	—	25 6004 DIODE	X	X	—
13 1035 REPEAT	X	—	—	26 6006 DIODE	X	X	—

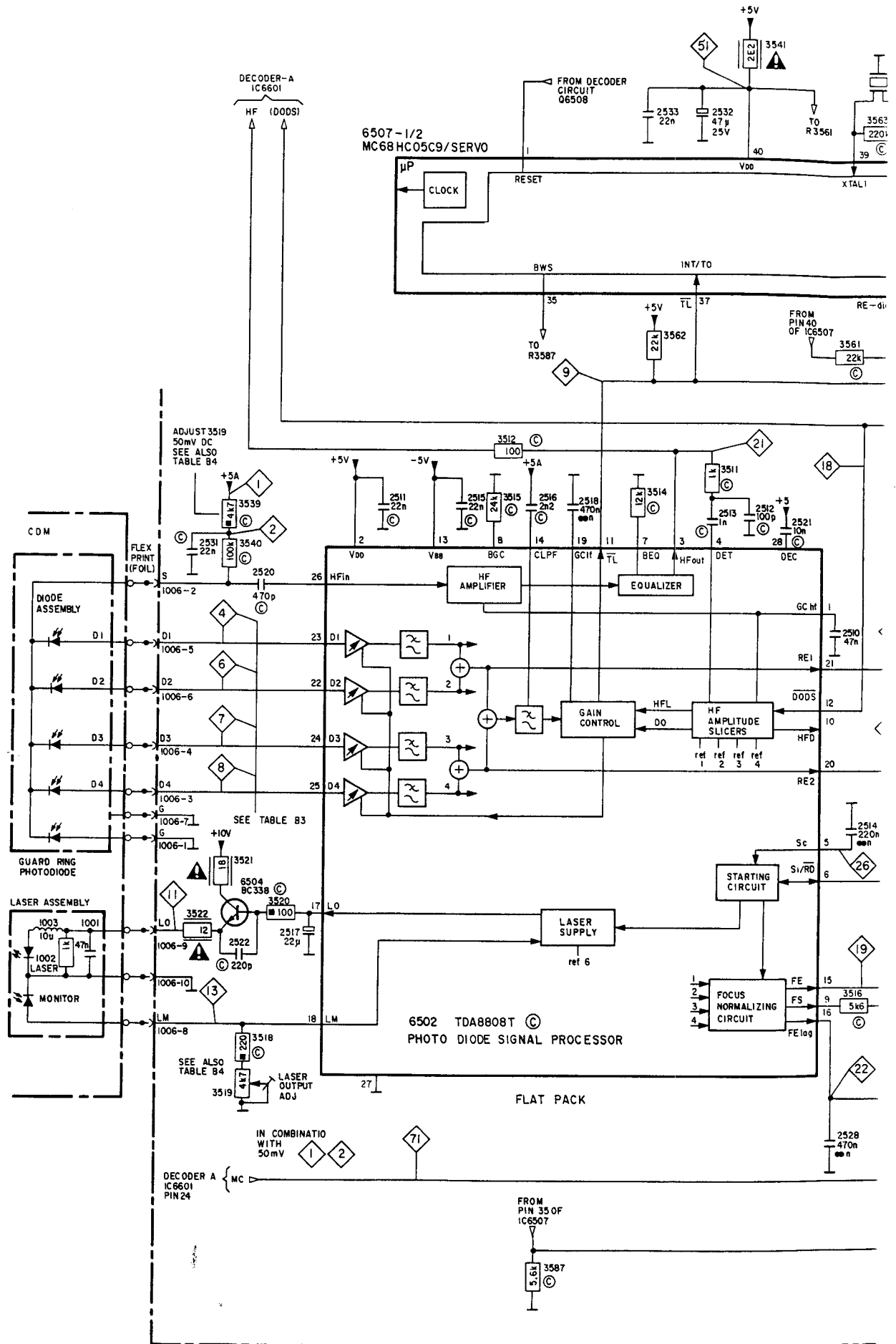


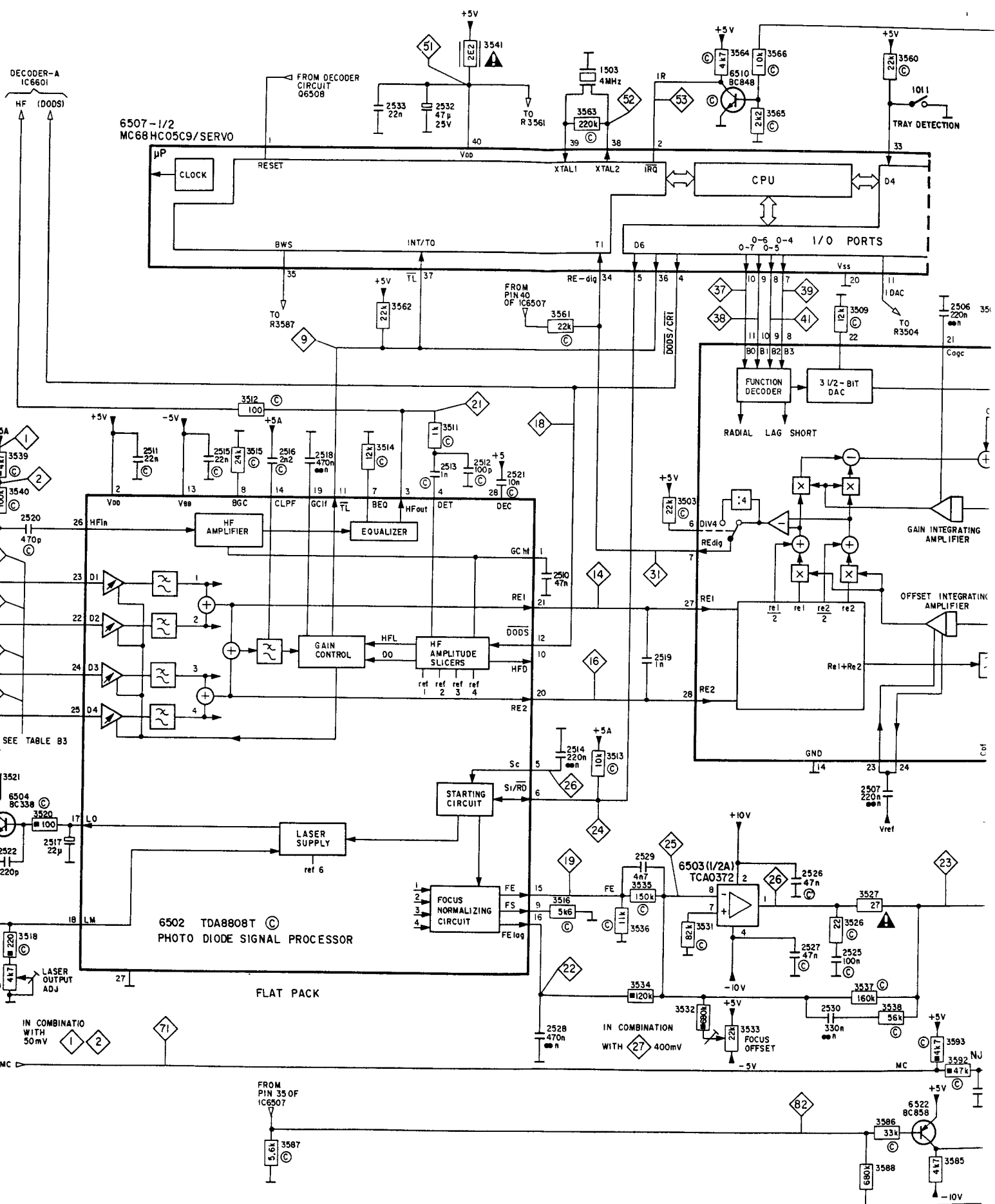
	CD52	CD42	CD32
	X		
	X		
	X		
	X		
	X		
	X		
	X		
	X		
	X		
	X		
	X		
	X		
	X		
	X		
	X		
	X		

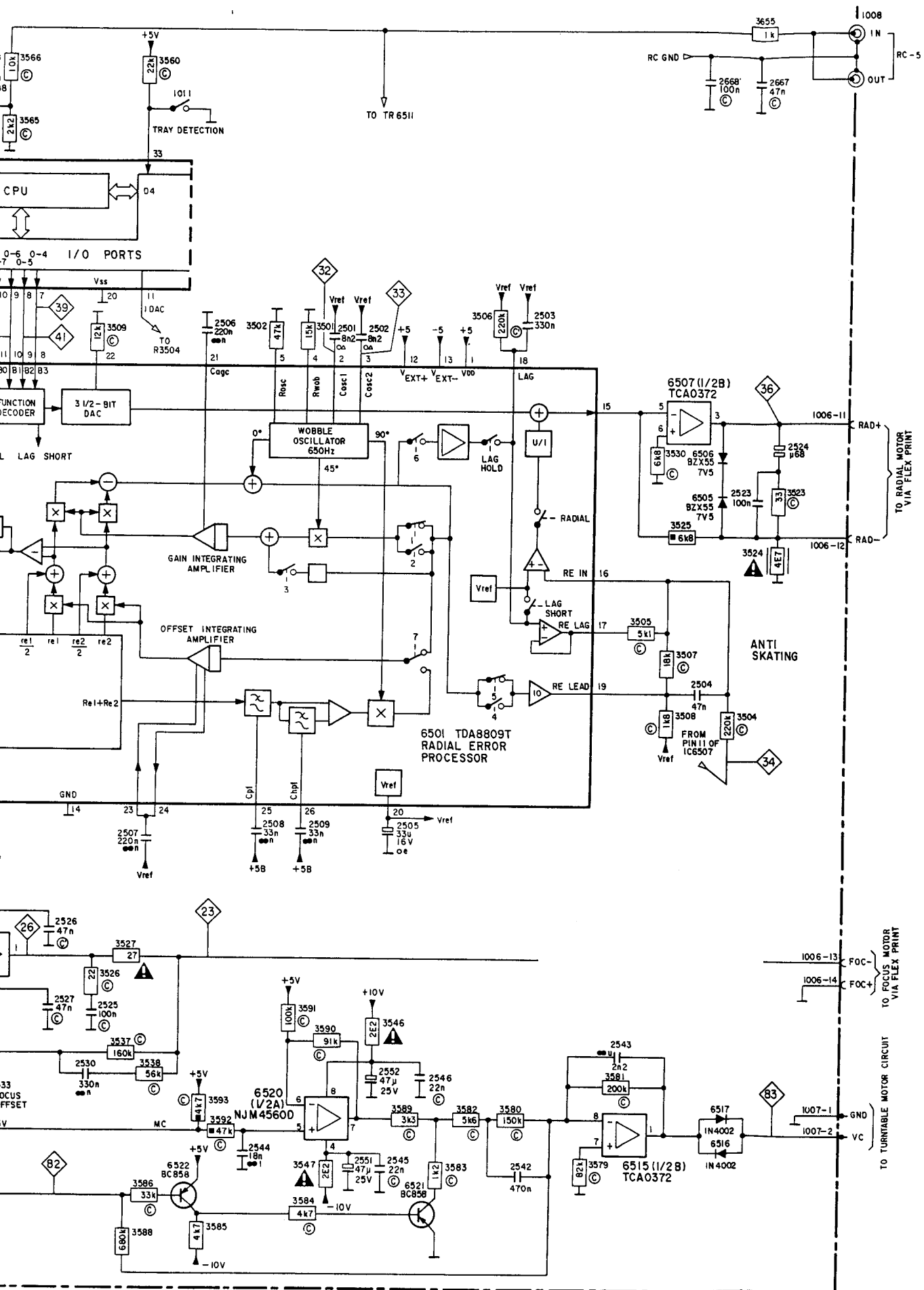


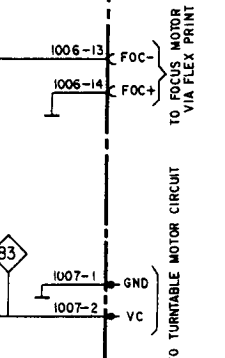
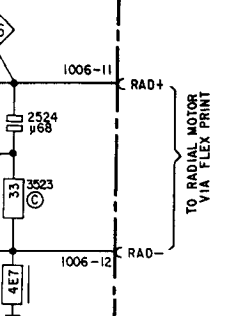
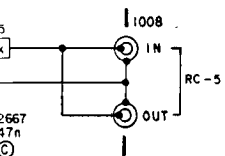
8204 055 7199.

SERVO CIRCUIT DIAGRAM









ADJUST R3520
50mV DC
SEE ALSO TABLE

SEE TABLE B-3

LOW PULSES DURING SEARCH

SEE TABLE B-4

LOW PULSES DURING (TRACK AND TRACK)

SERVICE POS 1

ADJUST R3568
400mV DC
SEE ALSO TABLE B-5

SERVICE POS 1

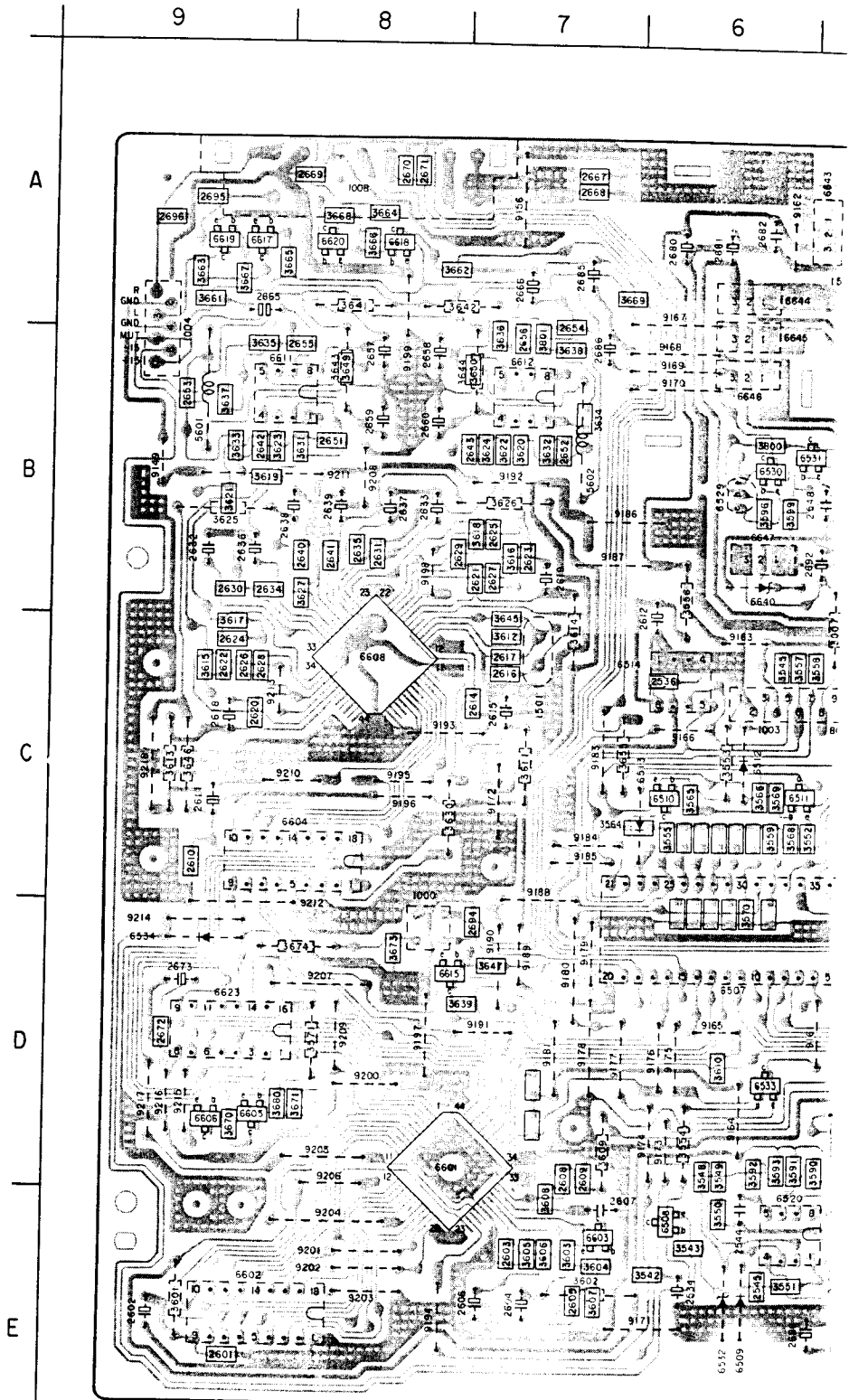
POWER ON

	SERVICE POSITION 0		PLAY MODE
	SEARCH	SEARCH	SEARCH
B3	HIGH	HIGH	ACTIVITY
B2	HIGH	LOW	ACTIVITY
B1	HIGH	HIGH	ACTIVITY
B0	LOW	LOW	ACTIVITY

0 V FOR 12 cm DISC
5 V FOR 8 cm DISC
.1 V AT BEGINNING OF DISC
-0.6 V AT END OF DISC

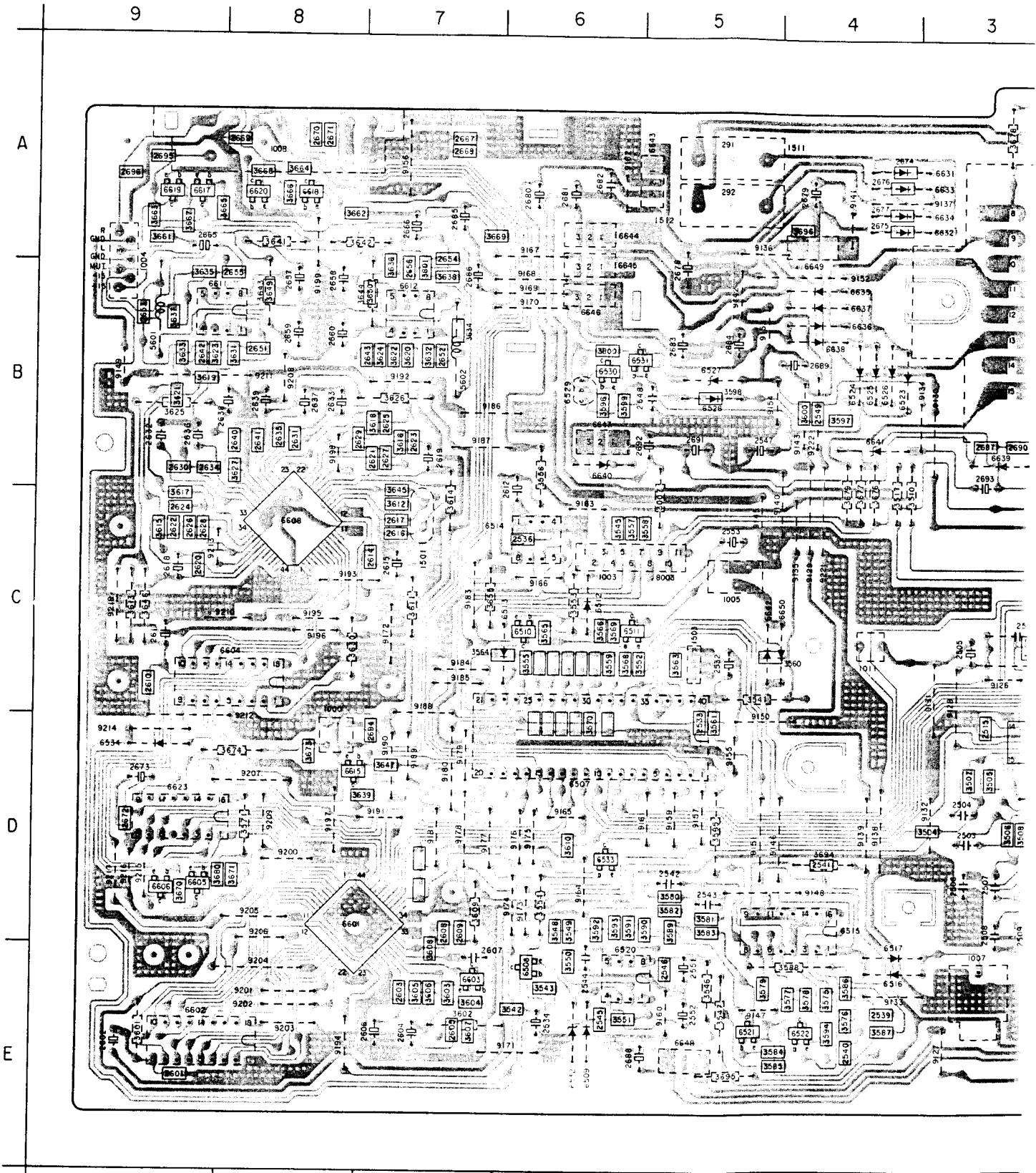
SERVO & DECODER PANEL SOLDER SIDE

290 B1	1503 C5	2511 C1	2526 D1	2545 C6	2608 D7	2624 C9	2639 B8	2665 A9	2680 A6	2695 A9	3513 C1	3530 D1
291 A5	1510 B1	2512 C1	2527 D1	2546 E5	2609 D7	2625 B7	2640 B8	2666 A7	2681 A6	2696 A9	3514 C1	3531 D1
292 A5	1511 A5	2513 C1	2528 C0	2547 B5	2610 C9	2626 C9	2641 B8	2667 A7	2682 A6	2697 C3	3515 C1	3532 D2
1000 D8	1512 A5	2514 C1	2530 D0	2548 B5	2611 C9	2627 B7	2642 B9	2668 A7	2683 B5	3007 C5	3516 C2	3533 E2
1003 D6	2500 B0	2515 D3	2531 C1	2549 B4	2612 B6	2628 C9	2643 B7	2669 A6	2684 B5	3502 C3	3517 C4	3534 D2
1004 A9	2501 B3	2516 C2	2532 C5	2551 E5	2614 C7	2629 B8	2644 B8	2670 A8	2685 A7	3503 C2	3518 C0	3535 D2
1005 C5	2502 B3	2517 C2	2533 D5	2552 E5	2615 C7	2630 B9	2645 A7	2671 A8	2686 B7	3504 D3	3519 C0	3536 D2
1006 D0	2503 D3	2518 C2	2534 E9	2553 C5	2616 C7	2631 B8	2646 A7	2672 D9	2687 B3	3505 D3	3520 D1	3537 D1
1007 E3	2504 D3	2519 D2	2535 B9	2554 B9	2617 C7	2632 B9	2647 A8	2673 D9	2688 E5	3506 D3	3521 D0	3538 D0
1008 A8	2505 B3	2520 C0	2536 E4	2555 C5	2618 C7	2633 B8	2648 A7	2674 A4	2689 B4	3507 D3	3522 D0	3539 C0
1009 A0	2506 D3	2521 D1	2540 E4	2556 B9	2619 B7	2634 B9	2649 A7	2675 A4	2690 B3	3508 D3	3523 E1	3540 C0
1010 B0	2507 D3	2522 D0	2541 D4	2557 C9	2620 C9	2635 B8	2650 A7	2676 A4	2691 B5	3509 D2	3524 E1	3541 C5
1011 C4	2508 D3	2523 E0	2542 D5	2558 E7	2621 B7	2636 C8	2651 B8	2677 A4	2692 B5	3510 C4	3525 D1	3542 C6
1012 A1	2509 D3	2524 E0	2543 D5	2559 E7	2622 C9	2637 B8	2652 B8	2678 A5	2693 B3	3511 C1	3526 D1	3543 C6
1501 C7	2510 C0	2525 E0	2544 E6	2560 E7	2623 B7	2638 B8	2653 B8	2679 A4	2694 D7	3512 D2	3527 D0	3544 C6
												3545 C6



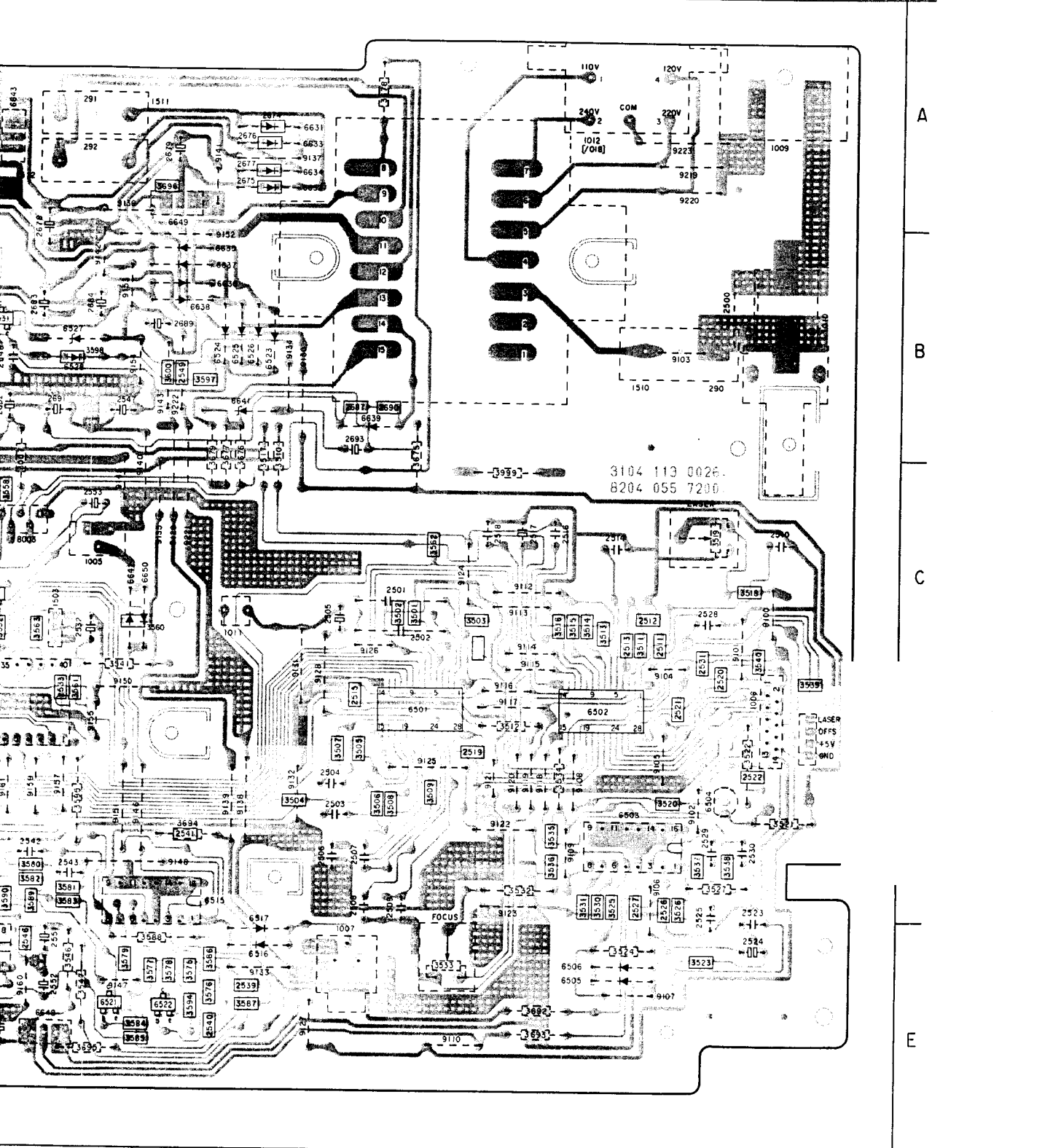
R PANEL SOLDER SIDE

290 B1	1503 C5	2511 C1	2526 D1	2545 C6	2608 D7	2624 C9	2639 B8	2665 A9	2680 A6	2695 A9	3513 C1	3530 D1	3546 E5	3561 D5	3580 D6	3595 D6	3610 D6	3625 B9	3643 B8	3668 A
291 A5	1510 B1	2512 C1	2527 D1	2546 E5	2609 D7	2625 C7	2640 B8	2666 A7	2681 A6	2696 A9	3514 C1	3531 D1	3547 E5	3562 C2	3581 D5	3596 B6	3611 C7	3626 B7	3644 B7	3669 A
292 A5	1511 A5	2513 C1	2528 D0	2547 B5	2610 C9	2626 C9	2641 B8	2667 A7	2682 A6	2697 C5	3515 C1	3532 D2	3548 D6	3563 C3	3582 D5	3597 B4	3612 C7	3627 B8	3645 C7	3670 D
1000 D6	1512 A5	2514 C1	2530 D0	2548 B5	2611 C9	2627 C7	2642 B8	2668 A7	2683 B5	3501 C3	3516 C2	3533 D2	3549 D6	3564 C6	3583 D5	3598 B5	3613 C9	3628 C8	3646 C9	3671 D
1003 C6	2500 B0	2515 D3	2531 C1	2549 B4	2612 B6	2628 C8	2643 B7	2669 A8	2684 B5	3502 C3	3517 C4	3534 D2	3550 D6	3565 C6	3584 E5	3599 B6	3614 C9	3629 C8	3647 C9	3672 D
1005 C5	2502 B3	2517 C2	2532 C5	2551 E5	2614 C7	2629 C8	2651 B8	2670 A8	2685 A7	3503 C2	3518 C0	3535 D2	3551 C6	3566 C6	3585 E5	3599 B6	3615 C9	3630 C8	3647 D7	3673 D
1006 D0	2503 D3	2518 C2	2533 C5	2552 E5	2615 C7	2630 B9	2652 B7	2671 A8	2686 B7	3504 D3	3519 C0	3536 D2	3552 C6	3567 C6	3586 E4	3599 B6	3616 C9	3631 C7	3648 B8	3674 D
1007 C3	2504 D3	2519 D2	2538 E9	2601 E9	2617 C7	2632 B9	2653 B9	2672 D9	2687 B3	3505 D3	3520 D1	3537 D1	3553 C6	3568 C6	3587 E4	3602 E7	3617 C9	3634 B7	3651 C7	3675 B
1008 A8	2505 B3	2520 C0	2539 E4	2602 E9	2618 C9	2633 B8	2655 B8	2674 A4	2688 B4	3506 D3	3521 D0	3538 D0	3554 D6	3569 C6	3588 E4	3603 E7	3618 B7	3635 B9	3651 A9	3676 C
1009 A0	2506 D3	2521 D1	2540 E4	2603 E7	2619 B7	2634 B9	2656 B7	2675 A4	2690 B3	3507 D3	3522 D0	3539 C0	3555 C6	3571 D8	3589 D5	3604 E7	3619 B9	3636 B7	3652 A8	3678 A
1010 B0	2507 D3	2522 D0	2541 D4	2604 E7	2620 C9	2635 B8	2657 B8	2676 A4	2691 B5	3508 D3	3523 D0	3540 C0	3556 B6	3572 E4	3591 D6	3606 E7	3621 B9	3638 B7	3653 A9	3679 C
1011 C4	2508 D3	2523 E9	2542 D5	2605 E7	2621 B7	2636 C6	2658 B8	2677 A4	2692 B5	3509 D2	3524 E1	3541 C5	3557 D8	3573 E4	3592 D6	3607 E7	3622 B7	3639 D7	3654 A8	3680 D
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1501 C7	2510 C0	2525 E9	2544 B6	2607 E7	2623 B7	2638 B8	2660 B8	2679 A4	2694 D7	3511 C1	3526 D1	3543 C6	3559 C6	3575 E4	3594 E4	3609 D7	3624 B7	3642 A8	3657 A9	3682 E



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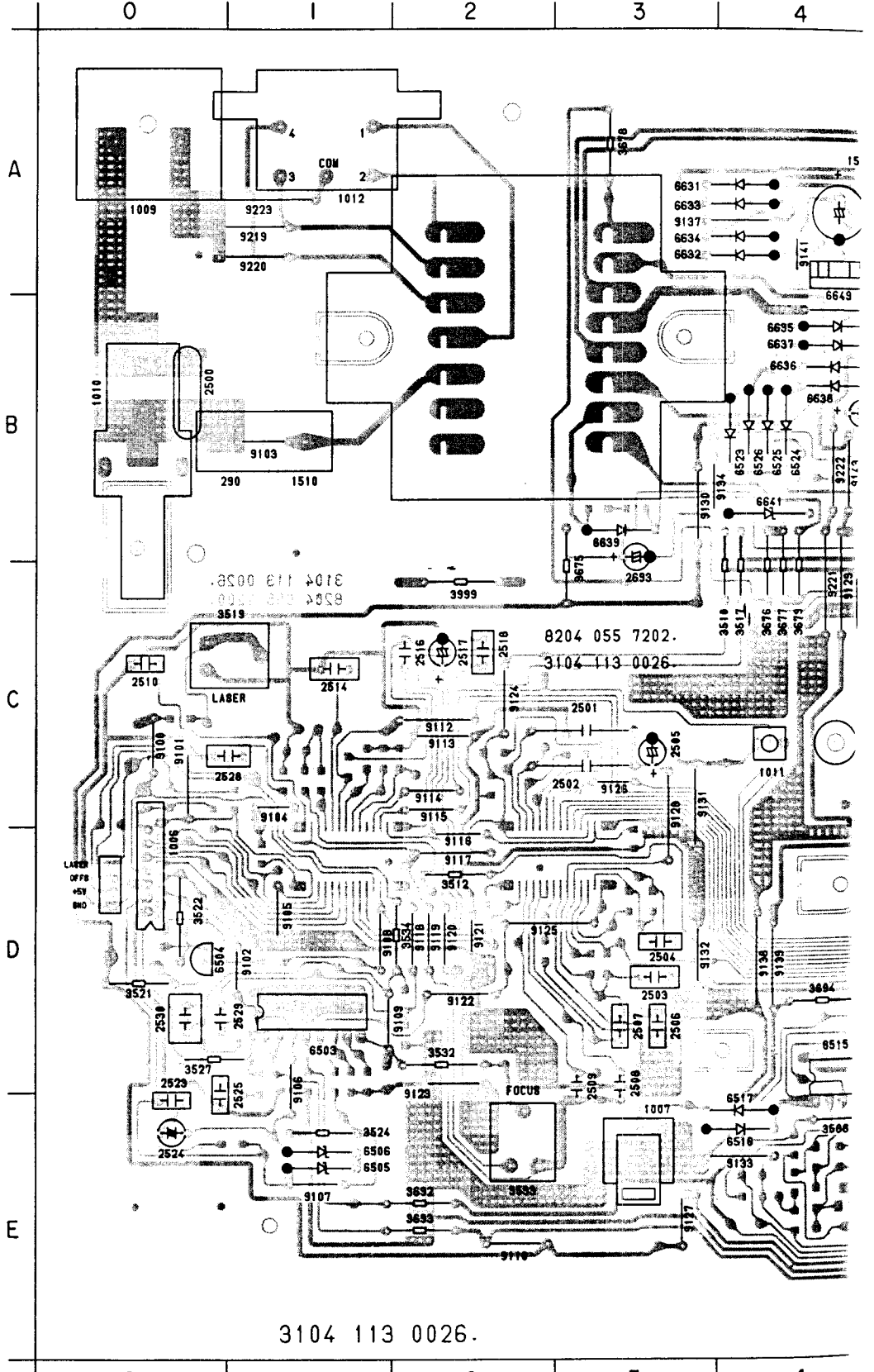
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5 4 3 2 1 0

SERVO & DECODER PANEL COMPONENT SIDE

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1003 C5	2500 B0	2515 C3	2531 C1	2549 B4	2612 B6	2628 C9	2643 B7	2669 A8	2684 B5	2699 C3	3517 C4	3534 D2	3550 C6	3565 C6	3584 E5
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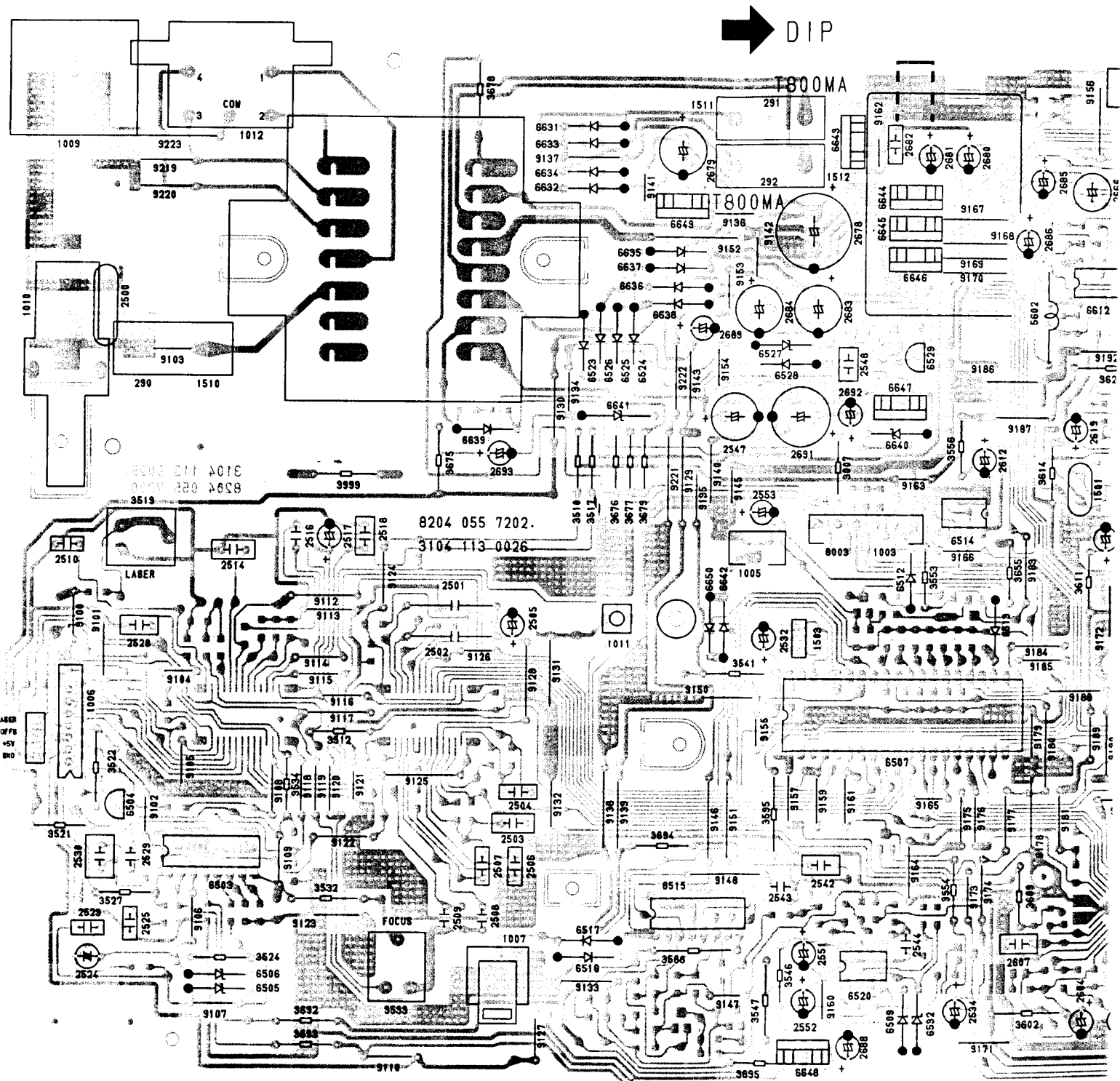


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COMPONENT SIDE

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2500 B9	2515 C3	2531 C1	2549 B4	2612 B6	2628 C9	2643 B7	2669 A8	2694 B5	2699 A8	3517 C4	3534 D2	3550 C6	3565 C6	3584 E5	3599 B6	3614 C7	3631 B8	3647 D7	3672 D8	3698 A7	6512 C6	6529 B6	6509 B8	6640
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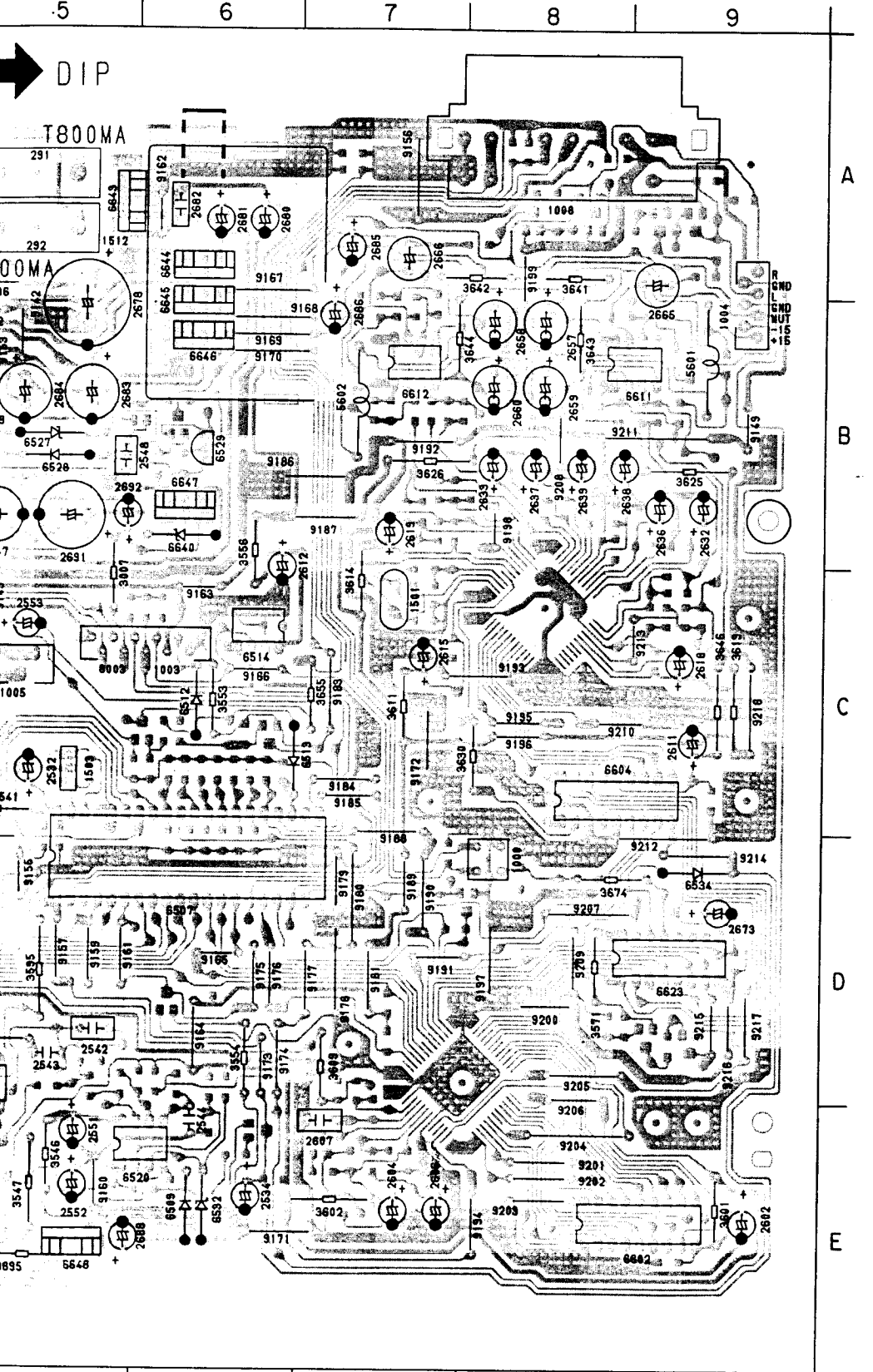
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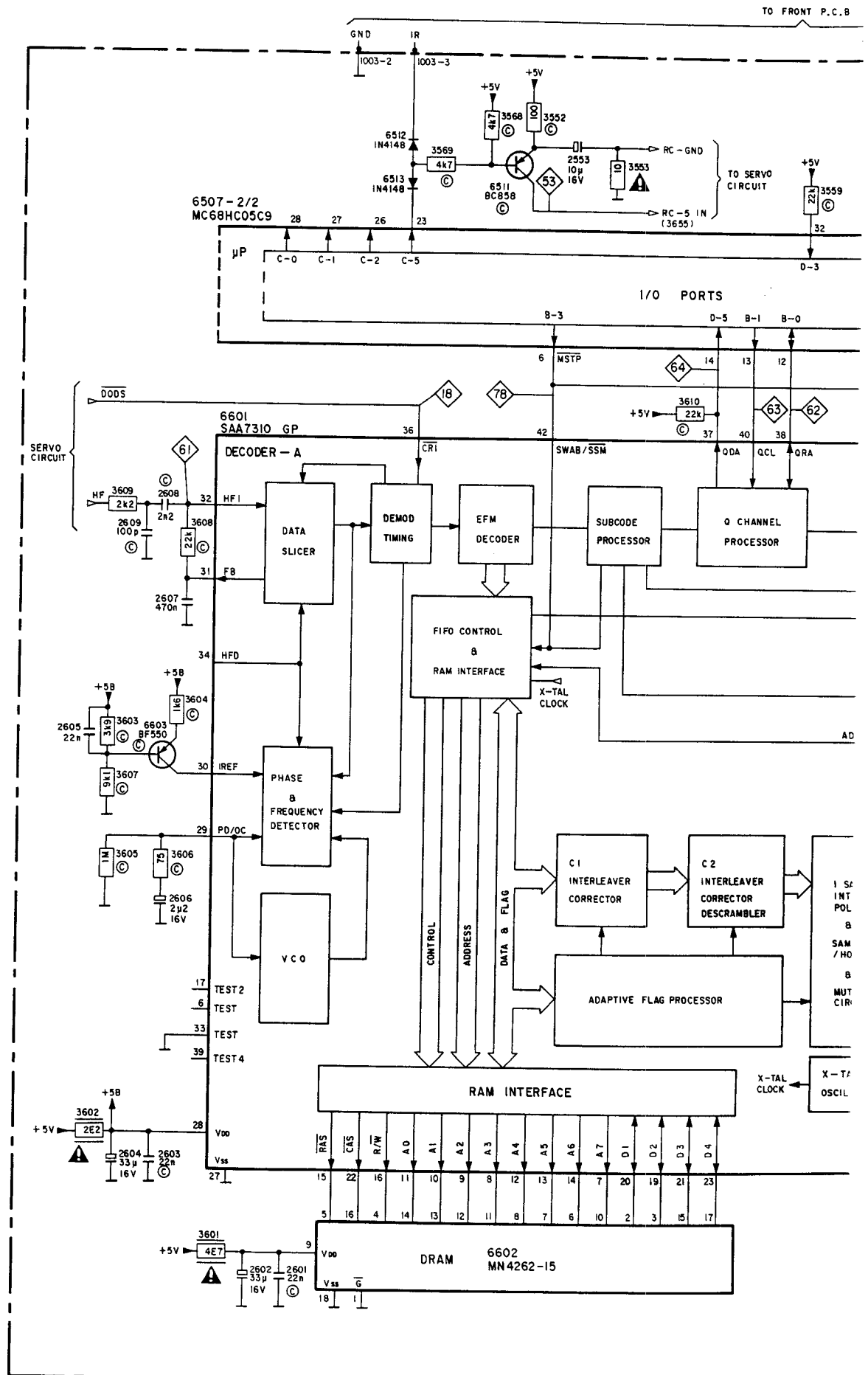
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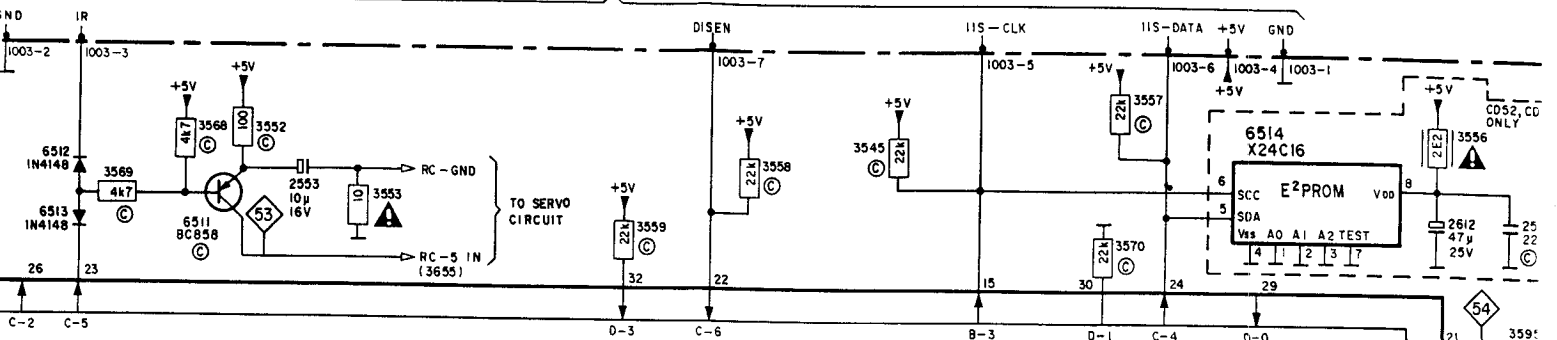
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3614 C7	3630 C8	3646 C9	3671 D8	3901 B7	6511 C8	6528 B5	6612 B7	6639 B3	9102 D1	9118 D2	9133 E4	9149 D9	9166 C8	9181 D7	9197 D8	9212 D8
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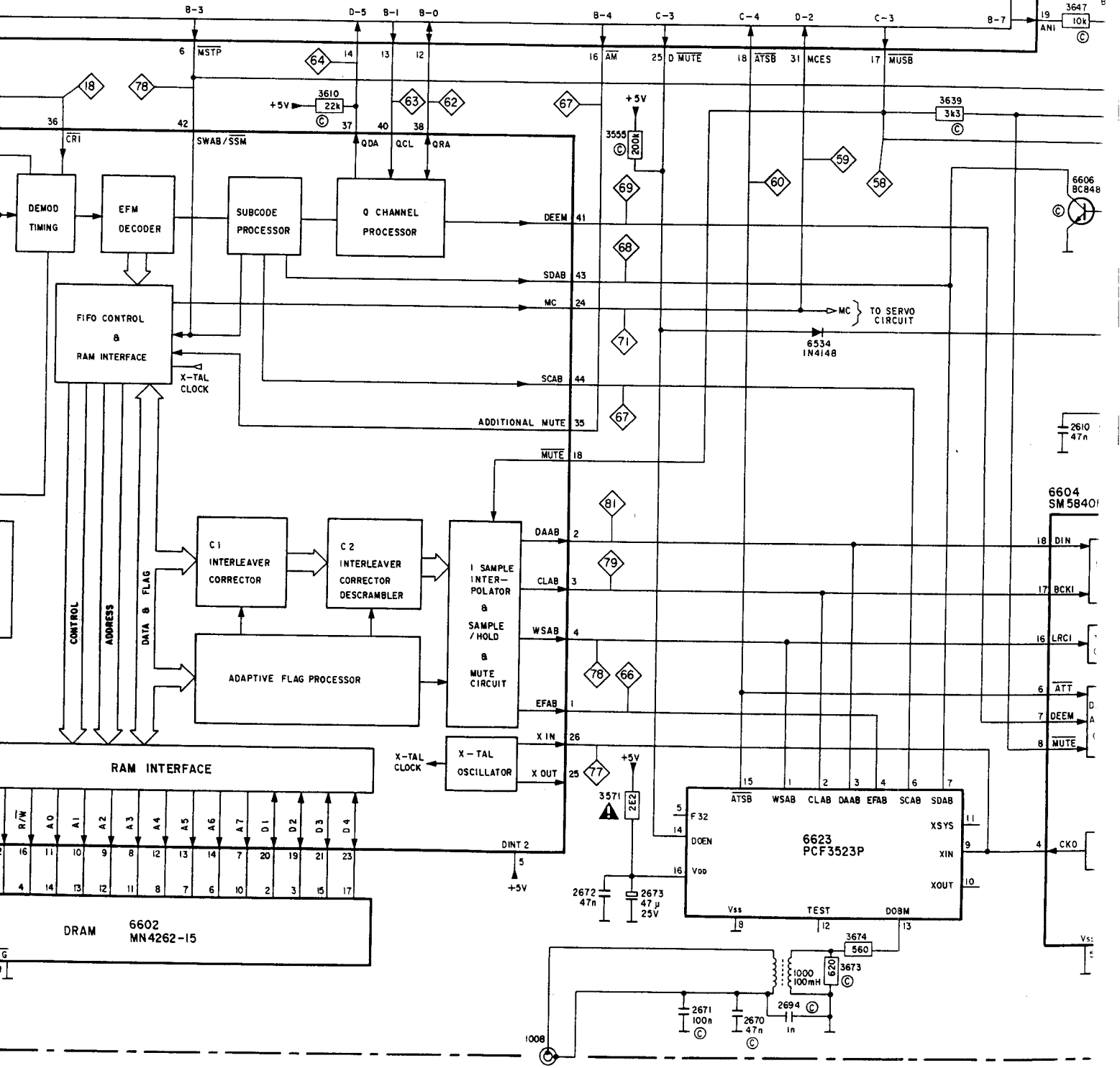
DECODER CIRCUIT DIAGRAM

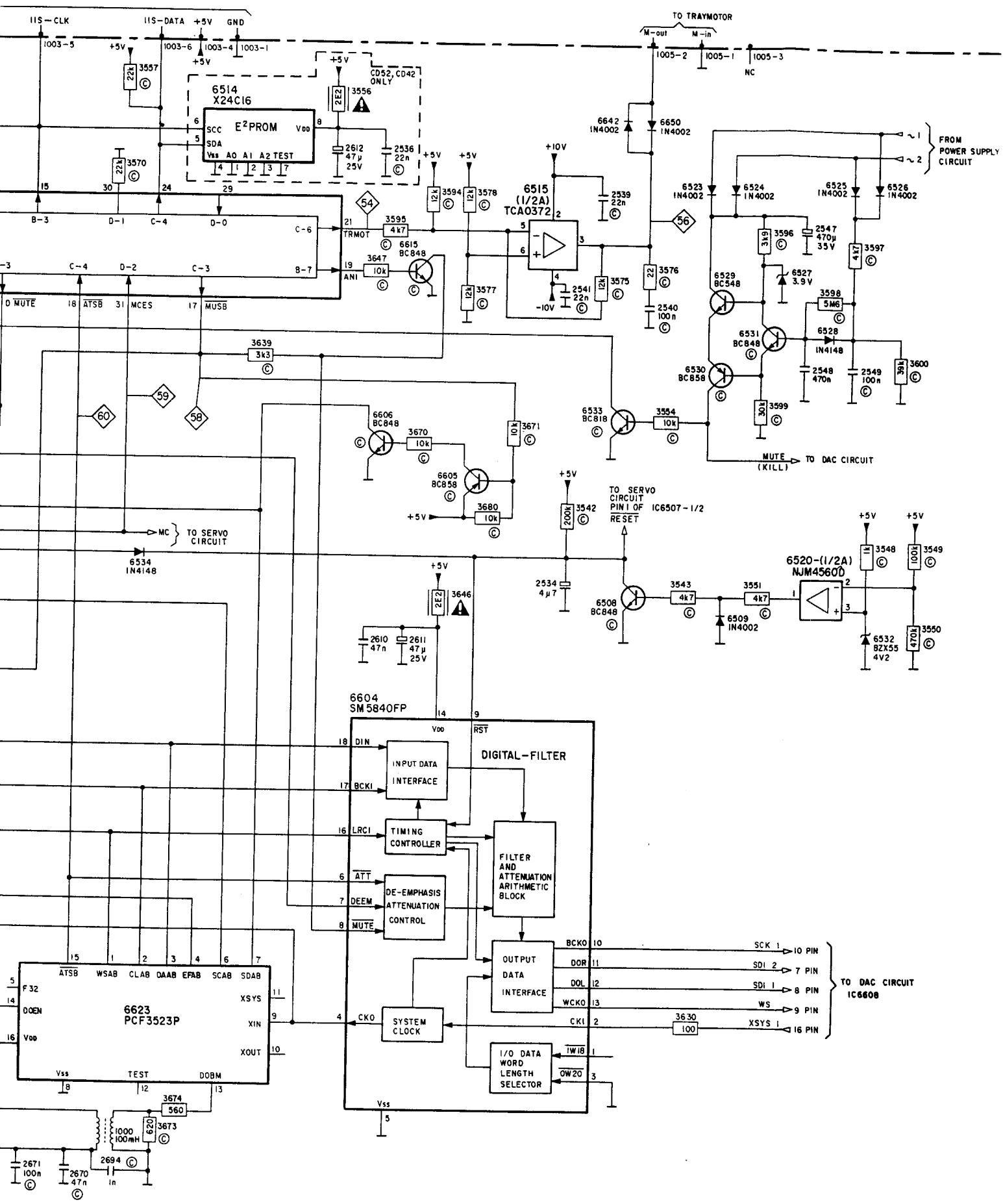


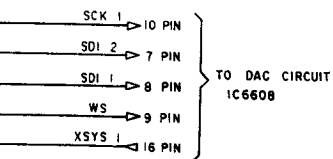
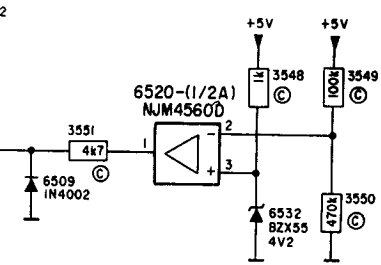
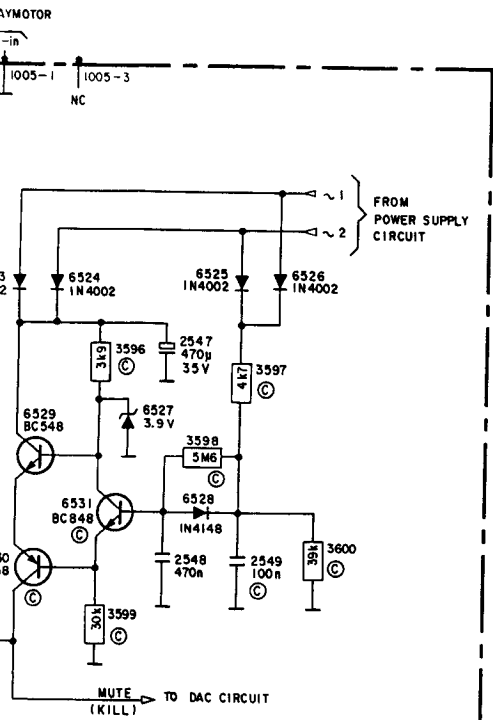
TO FRONT P.C.B



I/O PORTS







68 LOW PULSES DURING NEXT AND PREVIOUS

63 ACTIVITY WHEN USING AN IR REMOTE CONTROL

64 0V WHILE OPENING

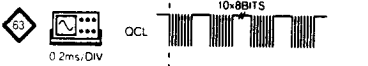
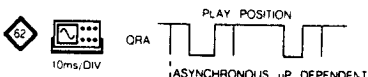
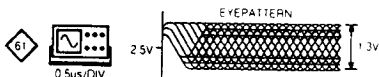
5V WHILE CLOSING

2.5V IN REST

66 -5V WHILE TRAY IS OPENING

-5V WHILE TRAY IS CLOSING

0V IN REST



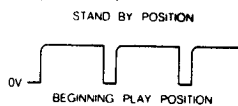
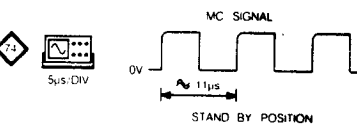
66 PULSES WHEN THE DISC IS SLOWLY BRAKED BY HAND



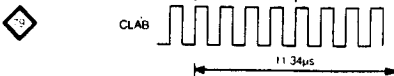
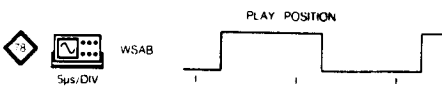
68 ACTIVITY DURING PLAY

69 AUDIO SIGNALS DISC: HIGH ON TRACK 76 78 80 82 84 86 88

LOW ON TRACK 77 79 81 83 85 87 89

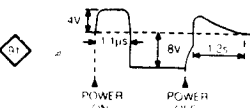


77 11 2896 MHz SINEWAVE

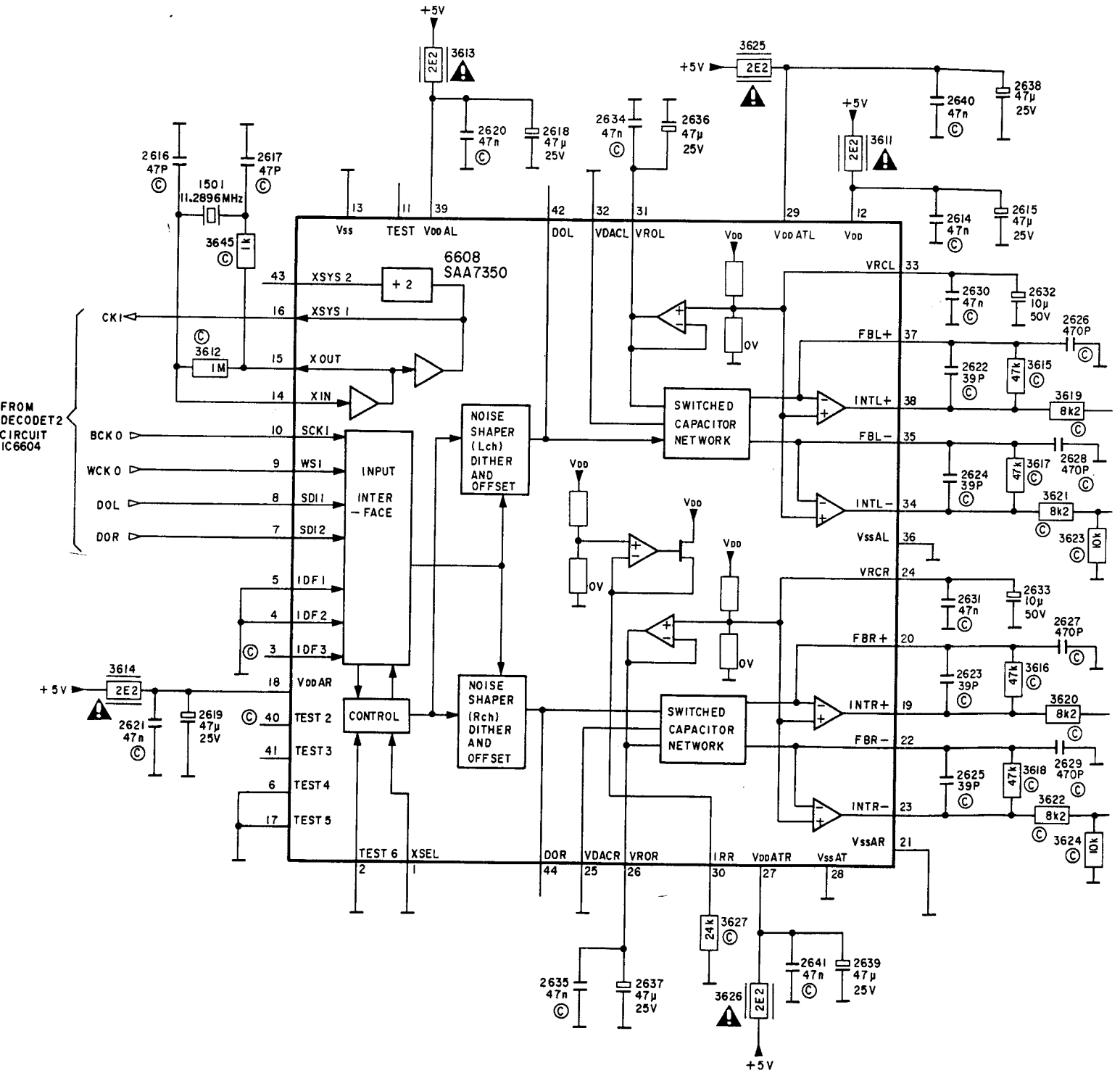


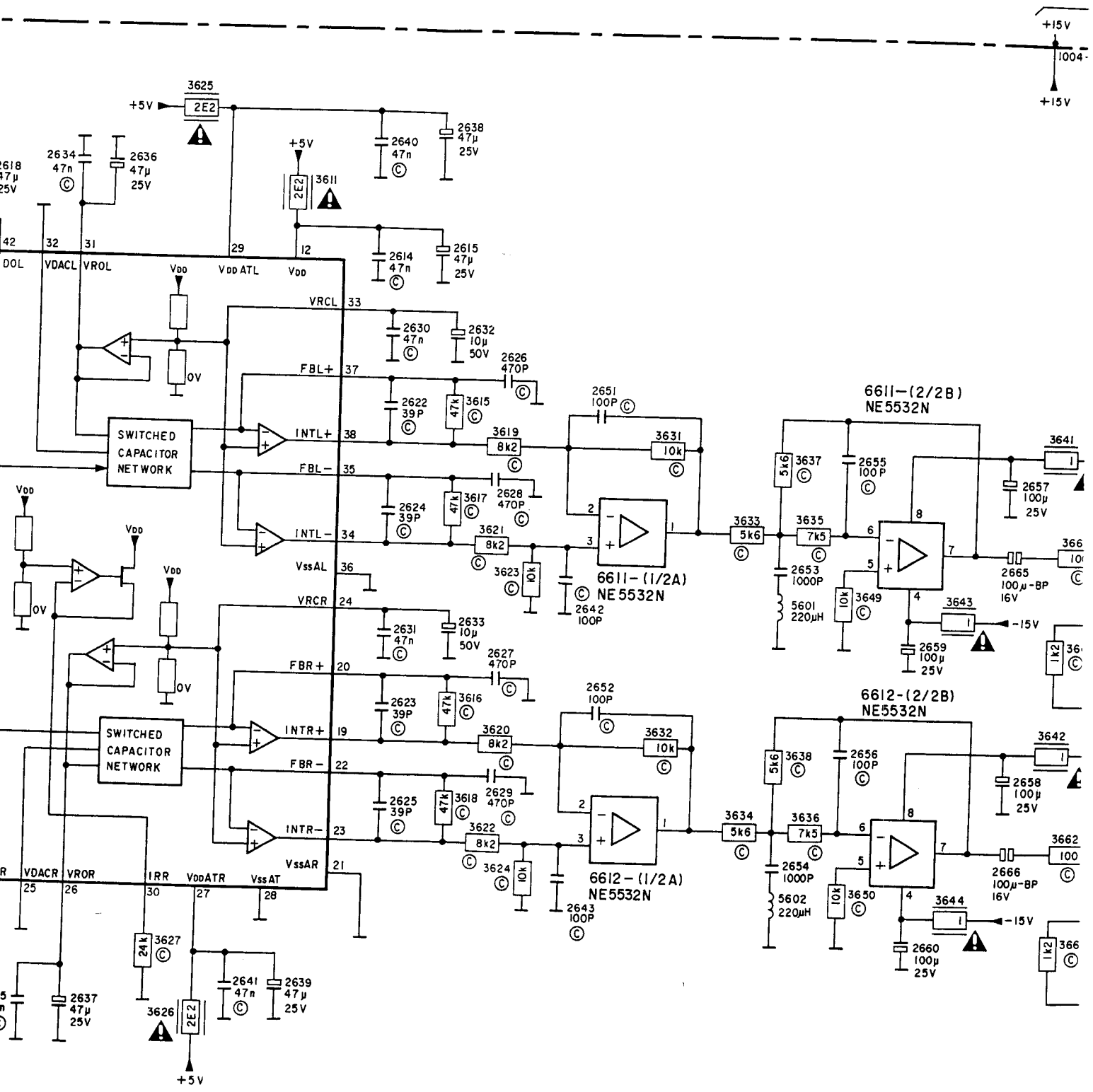
81 ACTIVITY DURING PLAY

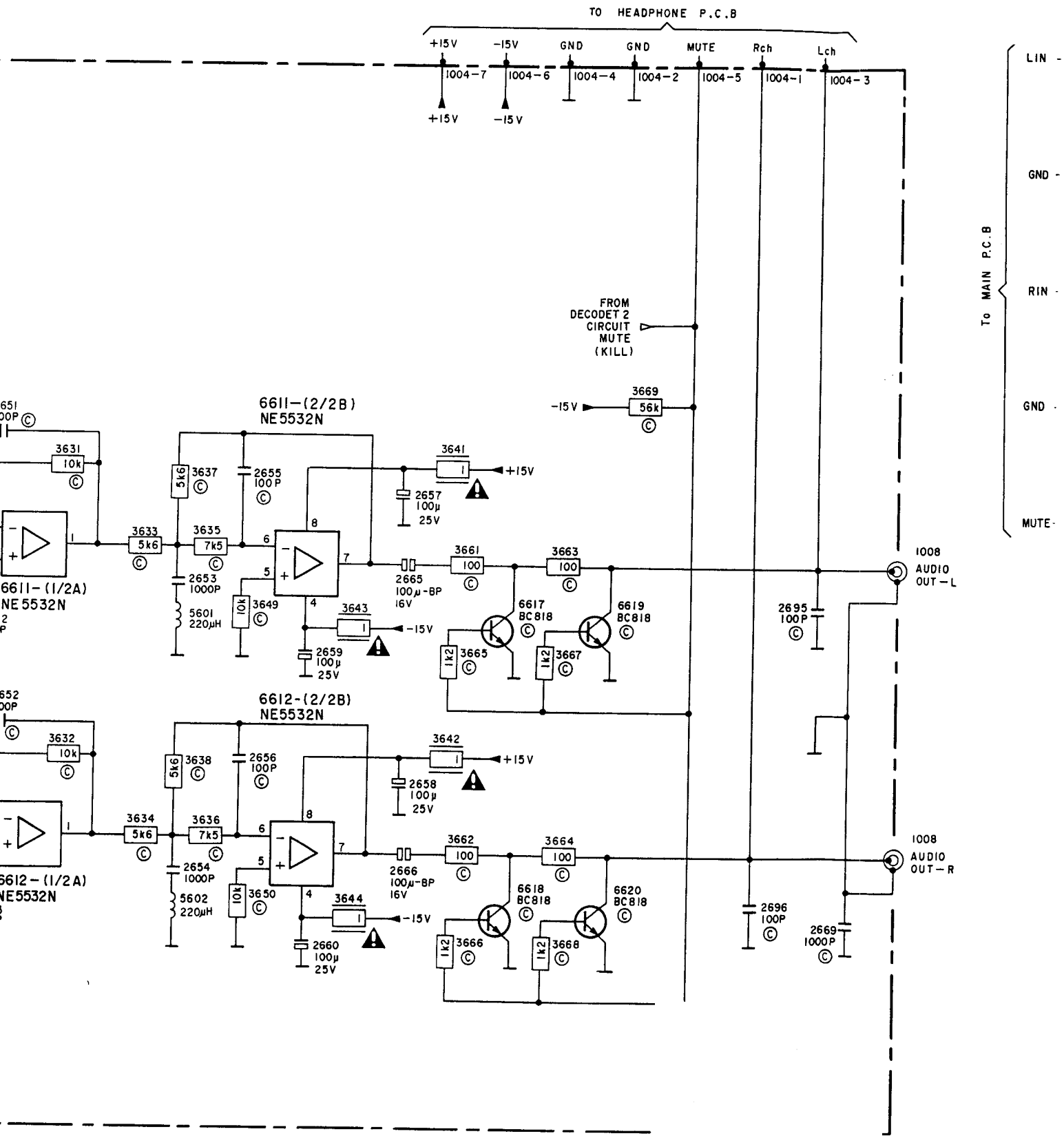
82 11 2896 MHz SINEWAVE



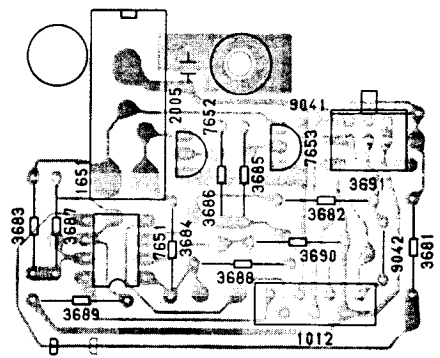
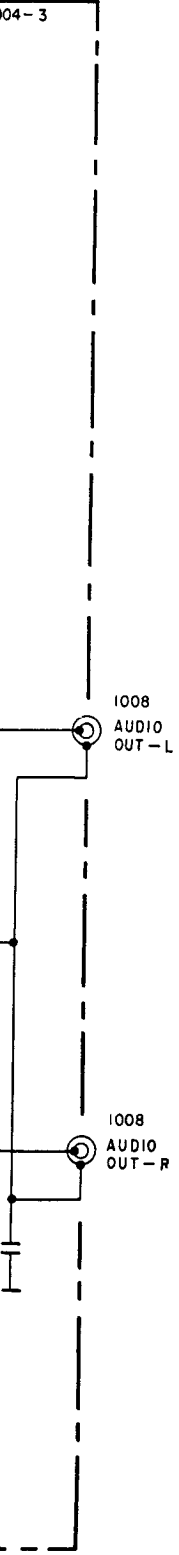
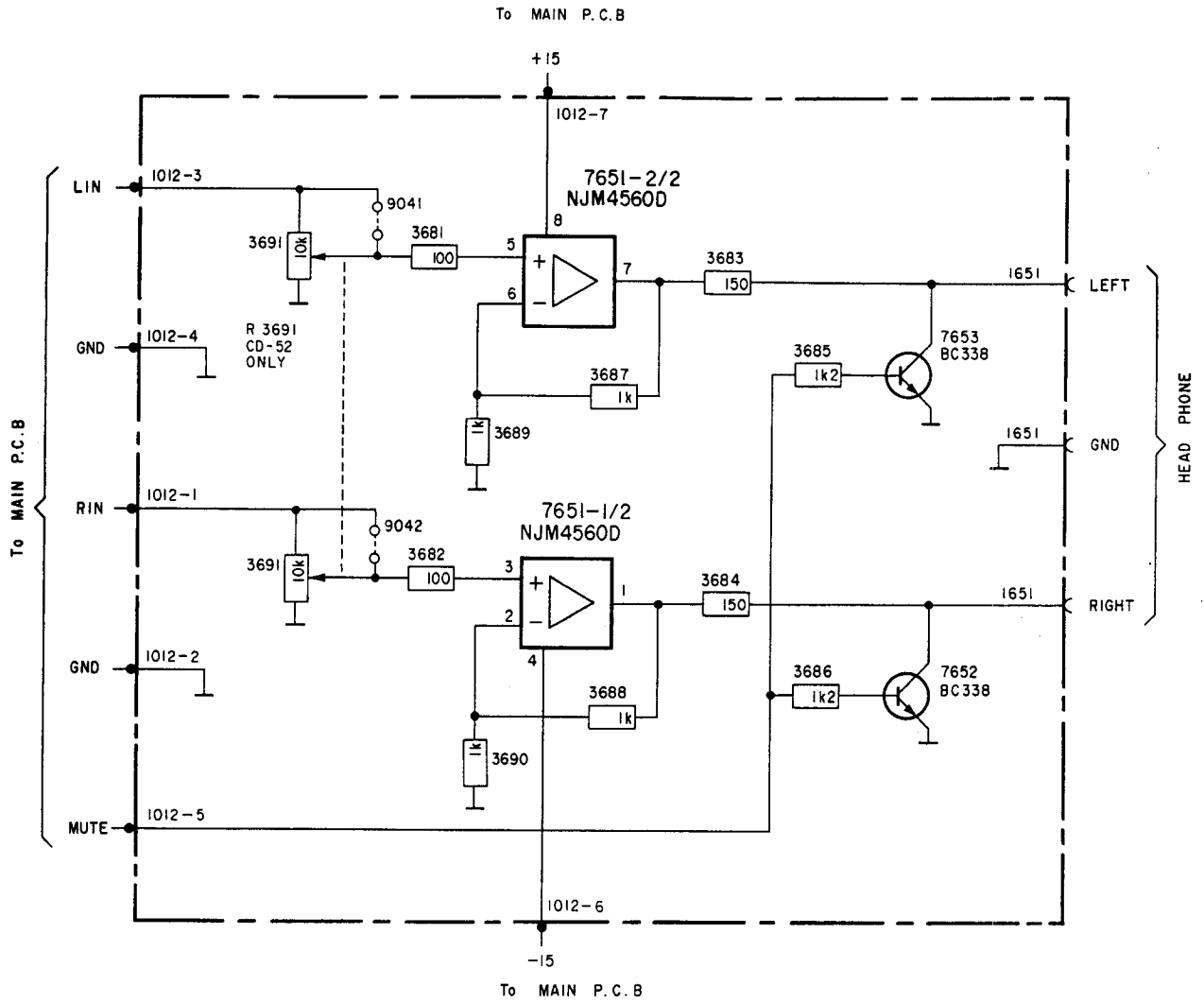
DAC CIRCUIT DIAGRAM



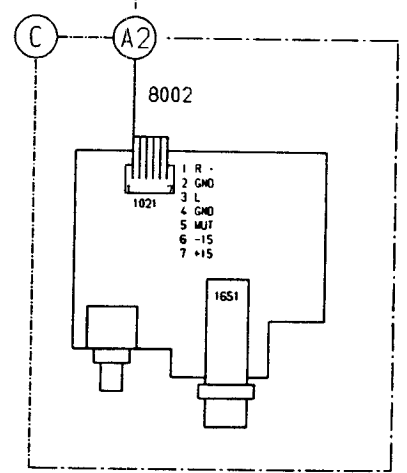
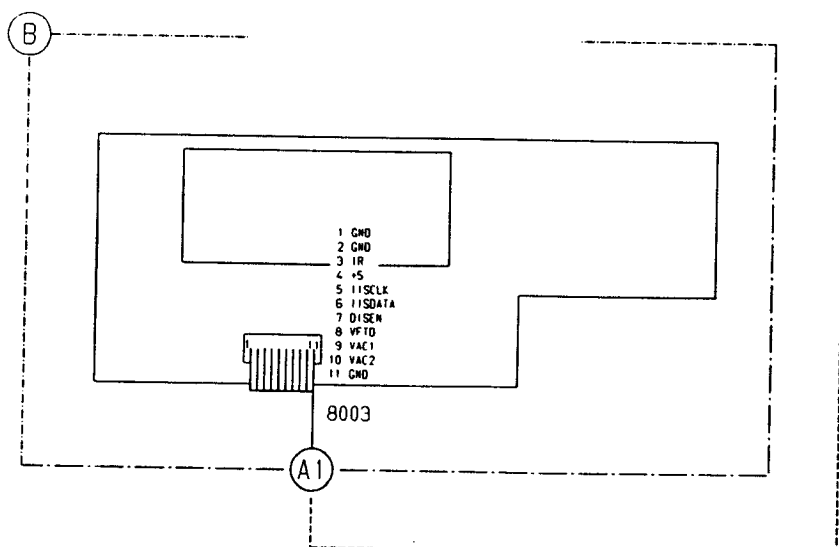
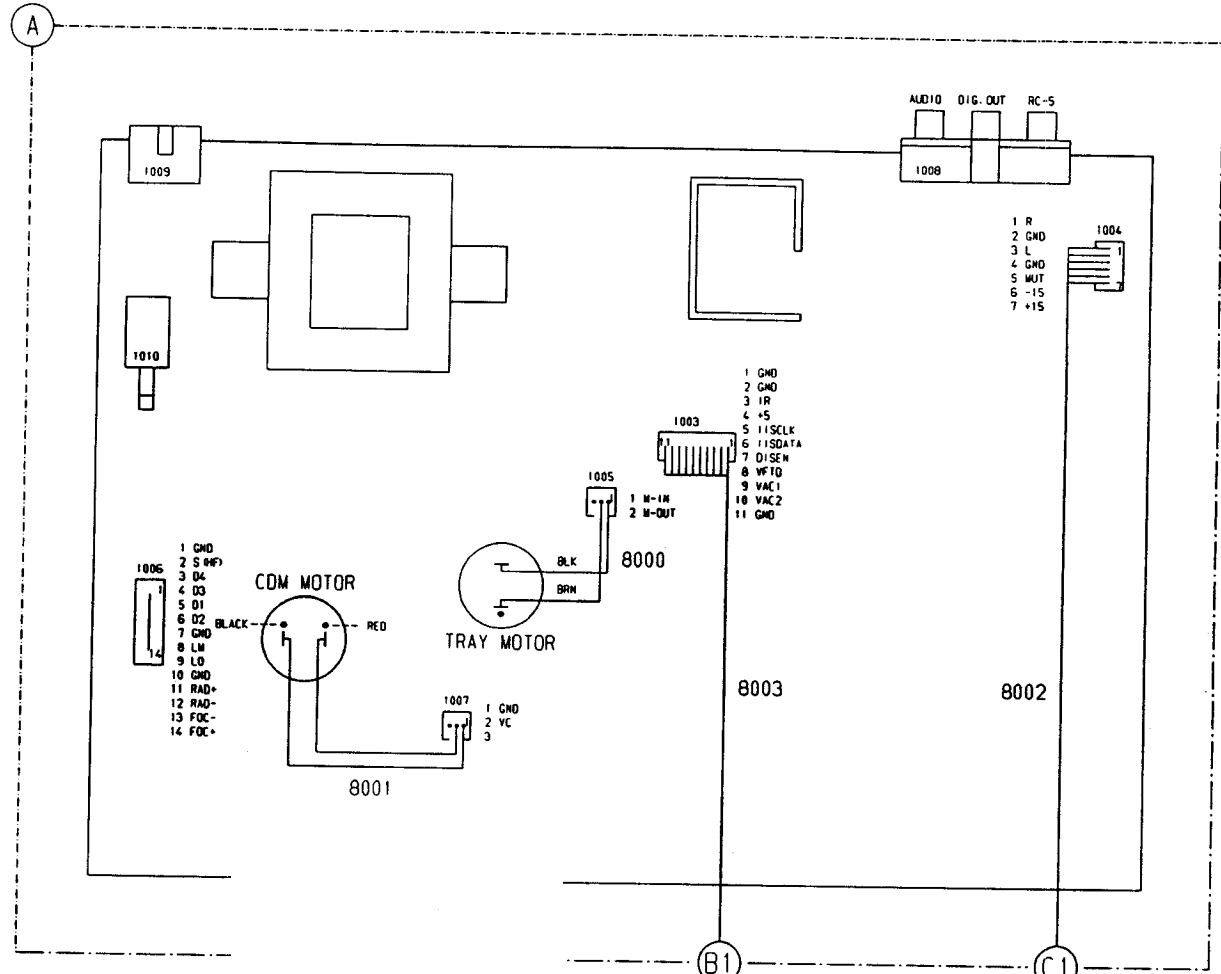




HEADPHONE CIRCUIT DIAGRAM



WIRING DIAGRAM



SERVO & DECODER PARTSLIST

-II-			-II-		
2500	4822 126 10454	3.3nF 20% 400V	2605	4822 122 32863	22nF 80% 50V
2501	4822 121 51321	8.2μF 1% 63V	2606	4822 124 41576	2.2μF 20% 50V
2502	4822 121 51321	8.2μF 1% 63V	2607	4822 121 51252	470nF 5% 63V
2503	5322 121 42661	330nF 5% 63V	2608	4822 122 31644	2.2nF 10% 63V
2504	4822 121 43526	47nF 5% 100V	2609	4822 122 31765	100pF 5% 50V
2505	4822 124 40272	33μF 20% 16V	2610	4822 122 32542	47nF 10% 63V
2506	4822 121 42408	220nF 5% 63V	2611	4822 124 40433	47μF 20% 25V
2507	4822 121 42408	220nF 5% 63V	2612	4822 124 40433	47μF 20% 25V for CD42, CD52
2508	4822 121 43996	33nF 5% 50V	2614	4822 122 32542	47nF 10% 63V
2509	4822 121 43996	33nF 5% 50V	2615	4822 124 40433	47μF 20% 25V
2510	4822 121 43526	47nF 5% 100V	2616	4822 122 31772	47pF 5% 50V
2511	4822 122 32863	22nF 80% 50V	2617	4822 122 31772	47pF 5% 50V
2512	4822 122 31765	100pF 5% 50V	2618	4822 124 40433	47μF 20% 25V
2513	4822 122 31746	1nF 5% 50V	2619	4822 124 40433	47μF 20% 25V
2514	4822 121 42408	220nF 5% 63V	2620	4822 122 32542	47nF 10% 63V
2515	4822 122 32863	22nF 80% 50V	2621	4822 122 32542	47nF 10% 63V
2516	4822 121 43925	2.2nF 5% 50V	2622	4822 122 31972	39pF 5% 50V
2517	4822 124 41596	22μF 20% 50V	2623	4822 122 31972	39pF 5% 50V
2518	4822 121 51252	470nF 5% 63V	2624	4822 122 31972	39pF 5% 50V
2519	4822 122 31746	1nF 5% 50V	2625	4822 122 31972	39pF 5% 50V
2520	4822 122 31727	470pF 5% 63V	2626	4822 122 31727	470pF 5% 63V
2521	4822 122 32442	10nF 10% 50V	2627	4822 122 31727	470pF 5% 63V
2522	4822 122 31965	220pF 5% 63V	2628	4822 122 31727	470pF 5% 63V
2523	5322 121 42386	100nF 5% 63V	2629	4822 122 31727	470pF 5% 63V
2524	4822 124 41583	0.68μF 20% 50V Bipolar	2630	4822 122 32542	47nF 10% 63V
2525	5322 121 42386	100nF 5% 63V	2631	4822 122 32542	47nF 10% 63V
2526	4822 122 32542	47nF 10% 63V	2632	4822 124 40435	10μF 20% 50V
2527	4822 122 32542	47nF 10% 63V	2633	4822 124 40435	10μF 20% 50V
2528	4822 121 51252	470nF 5% 63V	2634	4822 122 32542	47nF 10% 63V
2529	4822 121 43901	4.7nF 5% 50V	2635	4822 122 32542	47nF 10% 63V
2530	5322 121 42661	330nF 5% 63V	2636	4822 124 40433	47μF 20% 25V
2531	4822 122 32863	22nF 80% 50V	2637	4822 124 40433	47μF 20% 25V
2532	4822 124 40433	47μF 20% 25V	2638	4822 124 40433	47μF 20% 25V
2533	4822 122 32863	22nF 80% 50V	2639	4822 124 40433	47μF 20% 25V
2534	4822 124 41577	4.7μF 20% 50V	2640	4822 122 32542	47nF 10% 63V
2536	4822 122 32863	22nF 80% 50V for CD52, CD42	2641	4822 122 32542	47nF 10% 63V
2539	4822 122 32863	22nF 80% 50V	2642	4822 122 31765	100pF 5% 50V
2540	4822 122 33496	100nF 10% 63V	2643	4822 122 31765	100pF 5% 50V
2541	4822 122 32863	22nF 80% 50V	2651	4822 122 31765	100pF 5% 50V
2542	4822 121 51252	470nF 5% 63V	2652	4822 122 31765	100pF 5% 50V
2543	4822 121 43925	2.2nF 5% 50V	2653	4822 122 31746	1000pF 5% 63V
2544	4822 121 43179	18nF 5% 250V	2654	4822 122 31746	1000pF 5% 63V
2545	4822 122 32863	22nF 80% 50V	2655	4822 122 31765	100pF 5% 50V
2546	4822 122 32863	22nF 80% 50V	2656	4822 122 31765	100pF 5% 50V
2547	4822 124 41334	470μF 20% 35V	2657	4822 124 41525	100μF 20% 25V
2548	4822 121 51252	470nF 5% 63V	2658	4822 124 41525	100μF 20% 25V
2549	4822 122 33496	100nF 10% 63V	2659	4822 124 41525	100μF 20% 25V
2551	4822 124 40433	47μF 20% 25V	2660	4822 124 41525	100μF 20% 25V
2552	4822 124 40433	47μF 20% 25V	2665	4822 124 22339	100μF 20% 16V Bipolar
2553	4822 124 40435	10μF 20% 50V	2666	4822 124 22339	100μF 20% 16V Bipolar
2601	4822 122 32863	22nF 80% 50V	2667	4822 122 32542	47nF 10% 63V
2602	4822 124 40272	33μF 20% 16V	2668	4822 122 33496	100nF 10% 63V
2603	4822 122 32863	22nF 80% 50V	2669	4822 122 31746	1nF 5% 50V
2604	4822 124 40272	33μF 20% 16V	2670	4822 122 32542	47nF 10% 63V



2671	4822 122 33496	100nF 10% 63V
2672	4822 122 32542	47nF 10% 63V
2673	4822 124 40433	47μF 20% 25V
2674	4822 122 32863	22nF 80% 50V
2675	4822 122 32863	22nF 80% 50V
2676	4822 122 32863	22nF 80% 50V
2677	4822 122 32863	22nF 80% 50V
2678	4822 124 23268	3300μF 20% 16V
2679	4822 124 41853	1000μF 20% 16V
2680	4822 124 40433	47μF 20% 25V
2681	4822 124 40433	47μF 20% 25V
2682	5322 121 42386	100nF 5% 63V
2683	5322 124 21189	100μF 20% 40V
2684	5322 124 21189	100μF 20% 40V
2685	4822 124 40433	47μF 20% 25V
2686	4822 124 40433	47μF 20% 25V
2687	4822 122 32863	22nF 80% 50V
2688	4822 124 40433	47μF 20% 25V
2689	4822 124 40433	47μF 20% 25V
2690	4822 122 32863	22nF 80% 50V
2691	4822 124 23172	470μF 20% 50V
2692	4822 124 41596	22μF 20% 50V
2693	4822 124 40433	47μF 20% 25V
2694	4822 122 31746	1nF 5% 50V
2695	4822 122 31765	100pF 5% 50V
2696	4822 122 31765	100pF 5% 50V



3007	4822 052 10478	4.7Ω 5% 0.33W Safety
3501	4822 051 10153	15kΩ 2% 0.25W
3502	4822 051 10473	47kΩ 2% 0.25W
3503	4822 051 10223	22kΩ 2% 0.25W
3504	4822 051 10224	220kΩ 2% 0.25W
3505	4822 051 10512	5.1kΩ 2% 0.25W
3506	4822 051 10224	220kΩ 2% 0.25W
3507	4822 051 20183	18kΩ 5% 0.1W
3508	4822 051 10182	1.8kΩ 2% 0.25W
3509	4822 051 10123	12kΩ 2% 0.25W
3511	4822 051 10102	1kΩ 2% 0.25W
3512	4822 051 10101	100Ω 2% 0.25W
3513	4822 051 10103	10kΩ 2% 0.25W
3514	4822 051 10123	12kΩ 2% 0.25W
3515	4822 051 10243	24kΩ 2% 0.25W
3516	4822 051 10562	5.6kΩ 2% 0.25W
3518	4822 051 10221	220Ω 2% 0.25W
3519	4822 101 10685	4.7kΩ 20% 0.05W
3520	4822 051 10101	100Ω 2% 0.25W
3521	4822 052 10189	18Ω 5% 0.33W Safety
3522	4822 052 10129	12Ω 5% 0.33W Safety
3523	4822 051 10339	33Ω 2% 0.25W
3524	4822 052 10478	4.7Ω 5% 0.33W Safety
3525	4822 051 10682	6.8kΩ 2% 0.25W
3526	4822 051 10229	22Ω 2% 0.25W
3527	4822 052 10279	27Ω 5% 0.33W Safety
3530	4822 051 10682	6.8kΩ 2% 0.25W



3532	4822 050 26804	680kΩ 1% 0.6W
3533	4822 100 11193	22kΩ 20% Potmtr. Lin.
3534	4822 050 21204	120kΩ 1% 0.6W
3535	4822 051 10154	150kΩ 2% 0.25W
3536	4822 111 91494	11kΩ 2% 0.1W
3537	4822 111 91495	160kΩ 2% 0.1W
3538	4822 051 10563	56kΩ 2% 0.25W
3539	4822 051 10472	4.7kΩ 2% 0.25W
3540	4822 051 10104	100kΩ 2% 0.25W
3541	4822 052 10228	2.2Ω 5% 0.33W Safety
3542	4822 051 10204	200kΩ 2% 0.25W
3543	4822 051 10472	4.7kΩ 2% 0.25W
3545	4822 051 10223	22kΩ 2% 0.25W
3546	4822 052 10228	2.2Ω 5% 0.33W Safety
3547	4822 052 10228	2.2Ω 5% 0.33W Safety
3548	4822 051 10102	1kΩ 2% 0.25W
3549	4822 051 10104	100kΩ 2% 0.25W
3550	4822 051 10474	470kΩ 2% 0.25W
3551	4822 051 10472	4.7kΩ 2% 0.25W
3552	4822 051 10101	100Ω 2% 0.25W
3553	4822 052 10109	10Ω 5% 0.33W Safety
3554	4822 050 21003	10kΩ 1% 0.6W
3555	4822 051 10204	200kΩ 2% 0.25W
3556	4822 052 10228	2.2Ω 5% 0.33W Safety for CD42, CD52
3557	4822 051 10223	22kΩ 2% 0.25W
3558	4822 051 10223	22kΩ 2% 0.25W
3559	4822 051 10223	22kΩ 2% 0.25W
3560	4822 051 10223	22kΩ 2% 0.25W
3561	4822 051 10223	22kΩ 2% 0.25W
3562	4822 051 10223	22kΩ 2% 0.25W
3563	4822 051 10224	220kΩ 2% 0.25W
3564	4822 051 10472	4.7kΩ 2% 0.25W
3565	4822 051 20222	2.2kΩ 5% 0.1W
3566	4822 051 10103	10kΩ 2% 0.25W
3568	4822 051 10472	4.7kΩ 2% 0.25W
3569	4822 051 10472	4.7kΩ 2% 0.25W
3570	4822 051 10223	22kΩ 2% 0.25W
3571	4822 052 10228	2.2Ω 5% 0.33W Safety
3575	4822 051 10123	12kΩ 2% 0.25W
3576	4822 051 10229	22Ω 2% 0.25W
3577	4822 051 10123	12kΩ 2% 0.25W
3578	4822 051 10123	12kΩ 2% 0.25W
3579	4822 051 10823	82kΩ 2% 0.25W
3580	4822 051 10154	150kΩ 2% 0.25W
3581	4822 051 10204	200kΩ 2% 0.25W
3582	4822 051 10562	5.6kΩ 2% 0.25W
3583	4822 051 10122	1.2kΩ 2% 0.25W
3584	4822 051 10472	4.7kΩ 2% 0.25W
3585	4822 051 10472	4.7kΩ 2% 0.25W
3586	4822 051 10333	33kΩ 2% 0.25W
3587	4822 051 10562	5.6kΩ 2% 0.25W
3588	4822 050 26804	680kΩ 1% 0.6W
3589	4822 051 10332	3.3kΩ 2% 0.25W
3590	4822 051 10913	91kΩ 2% 0.25W



3592	4822 051 10473	47kΩ 2% 0.25W
3593	4822 051 10472	4.7kΩ 2% 0.25W
3594	4822 050 10123	12kΩ 1% 0.125W
3595	4822 050 24702	4.7kΩ 1% 0.6W
3596	4822 051 10392	3.9kΩ 2% 0.25W
3597	4822 051 10472	4.7kΩ 2% 0.25W
3598	4822 051 10565	5.6MΩ 5% 0.25W
3599	4822 051 10303	30kΩ 2% 0.25W
3600	4822 051 10393	39kΩ 2% 0.25W
3601	4822 052 10228	4.7Ω 5% 0.33W Safety
3602	4822 052 10228	2.2Ω 5% 0.33W Safety
3603	4822 051 10392	3.9kΩ 2% 0.25W
3604	4822 051 10162	1.6kΩ 2% 0.25W
3605	4822 051 10105	1MΩ 5% 0.25W
3606	4822 051 10759	75Ω 2% 0.25W
3607	4822 051 10912	9.1kΩ 2% 0.25W
3608	4822 051 10223	22kΩ 2% 0.25W
3609	4822 050 22202	2.2kΩ 1% 0.6W
3610	4822 051 10223	22kΩ 2% 0.25W
3611	4822 052 10228	2.2Ω 5% 0.33W Safety
3612	4822 051 10105	1MΩ 5% 0.25W
3613	4822 052 10228	2.2Ω 5% 0.33W Safety
3614	4822 052 10228	2.2Ω 5% 0.33W Safety
3615	4822 051 10473	47kΩ 2% 0.25W
3616	4822 051 10473	47kΩ 2% 0.25W
3617	4822 051 10473	47kΩ 2% 0.25W
3618	4822 051 10473	47kΩ 2% 0.25W
3619	4822 051 10822	8.2kΩ 2% 0.25W
3620	4822 051 10822	8.2kΩ 2% 0.25W
3621	4822 051 10822	8.2kΩ 2% 0.25W
3622	4822 051 10822	8.2kΩ 2% 0.25W
3623	4822 051 10103	10kΩ 2% 0.25W
3624	4822 051 10103	10kΩ 2% 0.25W
3625	4822 052 10228	2.2Ω 5% 0.33W Safety
3626	4822 052 10228	2.2Ω 5% 0.33W Safety
3627	4822 051 10243	24kΩ 2% 0.25W
3630	4822 051 10101	100Ω 2% 0.25W
3631	4822 051 10103	10kΩ 2% 0.25W
3632	4822 051 10103	10kΩ 2% 0.25W
3633	4822 051 10562	5.6kΩ 2% 0.25W
3634	4822 051 10562	5.6kΩ 2% 0.25W
3635	4822 051 10752	7.5kΩ 2% 0.25W
3636	4822 051 10752	7.5kΩ 2% 0.25W
3637	4822 051 10562	5.6kΩ 2% 0.25W
3638	4822 051 10562	5.6kΩ 2% 0.25W
3639	4822 051 10332	3.3kΩ 2% 0.25W
3641	4822 052 10108	1Ω 5% 0.33W Safety
3642	4822 052 10108	1Ω 5% 0.33W Safety
3643	4822 052 10108	1Ω 5% 0.33W Safety
3644	4822 052 10108	1Ω 5% 0.33W Safety
3645	4822 051 10102	1kΩ 2% 0.25W
3646	4822 052 10228	2.2Ω 5% 0.33W Safety
3647	4822 051 10103	10kΩ 2% 0.25W
3649	4822 051 10103	10kΩ 2% 0.25W
3650	4822 051 10103	10kΩ 2% 0.25W









3655	4822 050 21002	1kΩ 1% 0.6W
3661	4822 051 10101	100Ω 2% 0.25W
3662	4822 051 10101	100Ω 2% 0.25W
3663	4822 051 10101	100Ω 2% 0.25W
3664	4822 051 10101	100Ω 2% 0.25W
3665	4822 051 10122	1.2kΩ 2% 0.25W
3666	4822 051 10122	1.2kΩ 2% 0.25W
3667	4822 051 10122	1.2kΩ 2% 0.25W
3668	4822 051 10122	1.2kΩ 2% 0.25W
3669	4822 051 10563	56kΩ 2% 0.25W
3670	4822 051 10103	10kΩ 2% 0.25W
3671	4822 051 10103	10kΩ 2% 0.25W
3673	4822 051 10621	620Ω 2% 0.25W
3674	4822 051 10561	560Ω 2% 0.25W
3675	4822 050 27501	750Ω 1% 0.6W
3676	4822 050 10479	47Ω 5% 0.33W Safety
3677	4822 052 10479	47Ω 5% 0.33W Safety
3678	4822 052 10108	1Ω 5% 0.33W Safety
3679	4822 052 10108	1Ω 5% 0.33W Safety
3680	4822 051 10103	10kΩ 2% 0.25W
3800	4822 051 10008	0Ω 5% 0.25W
3801	4822 051 10008	0Ω 5% 0.25W







5601	4822 157 51192	220μH
5602	4822 157 51192	220μH








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6502	4822 209 73234	TDA8808T/C3
6503	4822 209 72587	TCA0372DP2
6504	4822 130 44121	BC338
6505	4822 130 30861	BZX79-C7V5
6506	4822 130 30861	BZX79-C7V5
6507	4822 209 62667	MC68HC05D9P/ZC400005
6508	4822 130 61207	BC848
6509	5322 130 30684	1N4002
6510	4822 130 61207	BC848
6511	5322 130 42012	BC858A
6512	4822 130 30621	1N4148 for CD42, CD52
6513	4822 130 30621	1N4148
6514	4822 209 60772	X24C16 for CD42, CD52
6515	4822 209 72587	TCA0372DP2
6516	5322 130 30684	1N4002
6517	5322 130 30684	1N4002
6520	4822 209 83274	NJM4560D
6521	5322 130 42012	BC858A
6522	5322 130 42012	BC858A
6523	5322 130 30684	1N4002
6524	5322 130 30684	1N4002
6525	5322 130 30684	1N4002
6526	5322 130 30684	1N4002
6527	4822 130 31981	BZX79-C3V9
6528	4822 130 30621	1N4148
6529	4822 130 40938	BC548

   6530 5322 130 42012 BC858A 6531 4822 130 61207 BC848 6532 4822 130 31554 BZX79-C4V3 6533 4822 130 42675 BC818 6534 4822 130 30621 1N4148 6601 4822 209 61759 SAA7310GP/H5 6602 4822 209 70422 MN4264-15 6603 4822 130 42131 BF550 6604 4822 209 30264 SM5840FP 6605 5322 130 42012 BC858A 6606 4822 130 61207 BC848 6608 4822 701 11933 SAA7350 6611 5322 209 86234 NE5532N 6612 5322 209 86234 NE5532N 6615 4822 130 61207 BC848 6617 4822 130 42675 BC818 6618 4822 130 42675 BC818 6619 4822 130 42675 BC818 6620 4822 130 42675 BC818 6623 4822 209 62588 PCF3523P 6631 5322 130 30684 1N4002 6632 5322 130 30684 1N4002 6633 5322 130 30684 1N4002 6634 5322 130 30684 1N4002 6635 5322 130 30684 1N4002 6636 5322 130 30684 1N4002 6637 5322 130 30684 1N4002 6638 5322 130 30684 1N4002 6639 5322 130 30684 1N4002 6640 4822 130 34195 BZX79-C13	   6641 4822 130 31456 BZV85-C5V1 6642 5322 130 30684 1N4002 6643 4822 209 71579 TY40408 6644 5322 209 11222 MC7905CT 6645 4822 209 80808 MC7815CT 6646 5322 130 41899 MC7915CT 6647 4822 209 80808 MC7815CT 6650 5322 130 30684 1N4002 <p style="text-align: center;">Miscellaneous</p> 0281 4822 492 63076 Spring, clamping 0291 4822 256 30274 Holder, Fuse 0292 4822 256 30274 Holder, Fuse 1000 4822 148 80281 Transformer for Dig. Out 1003 4822 265 40722 Socket 11P 1004 4822 267 50621 Socket 7P 1005 4822 264 40207 Connector 3P 1006 4822 267 50676 Connector 14P 1007 4822 265 30913 Connector 3P 1008 4822 267 31384 Socket for CD42, CD32 1008 4822 267 31397 Socket for CD52 1009 4822 267 31383 Inlet 1010 4822 276 11309 Mains Switch 1011 4822 276 13106 Tact Switch 1501 4822 242 71349 11,2896MHz Crystal 1503 4822 242 72527 4MHz Resonator 1511 4822 070 38001 Fuse 800mA 1512 4822 070 38001 Fuse 800mA 5001 4822 146 31004 Mains Transformer
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HEADPHONE PANEL PARTSLIST

 2005 4822 121 43925 2.2nF 5% 50V  3681 4822 050 10101 100Ω 2% 0.25W 3682 4822 050 10101 100Ω 2% 0.25W 3683 4822 050 21501 150Ω 1% 0.6W 3684 4822 050 21501 150Ω 1% 0.6W 3685 4822 050 10122 1.2kΩ 2% 0.25W 3686 4822 050 10122 1.2kΩ 2% 0.25W 3687 4822 050 21002 1kΩ 1% 0.6W 3688 4822 050 21002 1kΩ 1% 0.6W 3689 4822 050 21002 1kΩ 1% 0.6W 3690 4822 050 21002 1kΩ 1% 0.6W 3691 4822 102 10433 10kΩ Potm. Twin for CD52	  7651 4822 209 83274 NJM4560D 7652 4822 130 44121 BC338 7653 4822 130 44121 BC338 <p style="text-align: center;">Miscellaneous</p> 1012 4822 267 50621 Socket 7P 1651 4822 267 31065 Headphone Socket
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CONTROL & DISPLAY PANEL PARTSLIST

			Miscellaneous		
2001	4822 124 41596	22µF 20% 50V	0250	4822 156 91796	Holder
2002	4822 121 43867	22nF 5% 50V	1013	4822 265 40722	Socket 11P
2003	4822 122 10172	220pF 10% 50V	1020	4822 276 13114	Tact Switch for CD52
2004	4822 124 41596	22µF 20% 50V for CD52, CD42	1021	4822 276 13114	Tact Switch for CD52
			1023	4822 276 13114	Tact Switch for CD52, CD42
			1025	4822 276 13114	Tact Switch for CD52
3001	4822 050 24702	4.7kΩ 1% 0.6W	1026	4822 276 13114	Tact Switch for CD52, CD42
3002	4822 050 21504	150kΩ 1% 0.6W	1027	4822 276 13114	Tact Switch
3003	4822 050 24702	4.7kΩ 1% 0.6W	1028	4822 276 13114	Tact Switch for CD52
3004	4822 050 21002	1kΩ 1% 0.6W	1029	4822 276 13114	Tact Switch for CD52
3005	4822 050 21002	1kΩ 1% 0.6W			
3006	4822 050 24703	47kΩ 1% 0.6W	1030	4822 276 13114	Tact Switch for CD52
3008	4822 050 24702	4.7kΩ 1% 0.6W	1031	4822 276 13114	Tact Switch for CD52
3009	4822 050 22203	22kΩ 1% 0.6W	1032	4822 276 13114	Tact Switch for CD52
3010	4822 050 22203	22kΩ 1% 0.6W	1033	4822 276 13114	Tact Switch for CD52
3011	4822 050 22203	22kΩ 1% 0.6W	1034	4822 276 13114	Tact Switch for CD52
3012	4822 050 24703	47kΩ 1% 0.6W for CD52, CD42	1035	4822 276 13114	Tact Switch for CD52
			1036	4822 276 13114	Tact Switch
			1037	4822 276 13114	Tact Switch
			1038	4822 276 13114	Tact Switch
			1039	4822 276 13114	Tact Switch
  			1040	4822 276 13114	Tact Switch
6001	4822 130 34281	BZX79-C15	1044	4822 276 13114	Tact Switch
6002	4822 130 30621	1N4148	1045	4822 276 13114	Tact Switch
6003	4822 130 30621	1N4148	1046	4822 276 13114	Tact Switch for CD52
6004	4822 130 30621	1N4148 for CD52, CD42	1047	4822 276 13114	Tact Switch for CD52
6005	4822 130 30621	1N4148			
6006	4822 130 30621	1N4148 for CD52, CD42	1048	4822 276 13114	Tact Switch for CD52
6007	4822 130 30621	1N4148	1049	4822 276 13114	Tact Switch for CD52
6008	4822 130 34233	BZX79-B5V1	1050	4822 276 13114	Tact Switch for CD52
6009	4822 130 34233	BZX79-B5V1	1051	4822 276 13114	Tact Switch for CD52
7001	4822 130 40938	BC548	1052	4822 276 13114	Tact Switch for CD52
7002	4822 209 72226	U3090			
			1060	4822 214 51772	IR Receiver GP1U521X for CD52, CD42
			1061	4822 130 90661	Display 6-MT-147GK