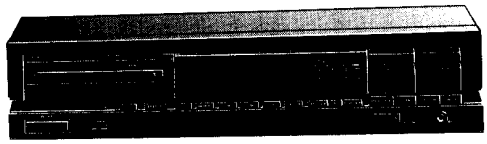
Compact disc player CD630/00R/05R/17R

Service
Service
Service



44 840 A11

Service Manual

COMPACT disc DIGITAL AUDIO

CONTENTS

(GB)
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde worden toegepast.

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)
Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricambiago identici a quelli specificati.

(F)
Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

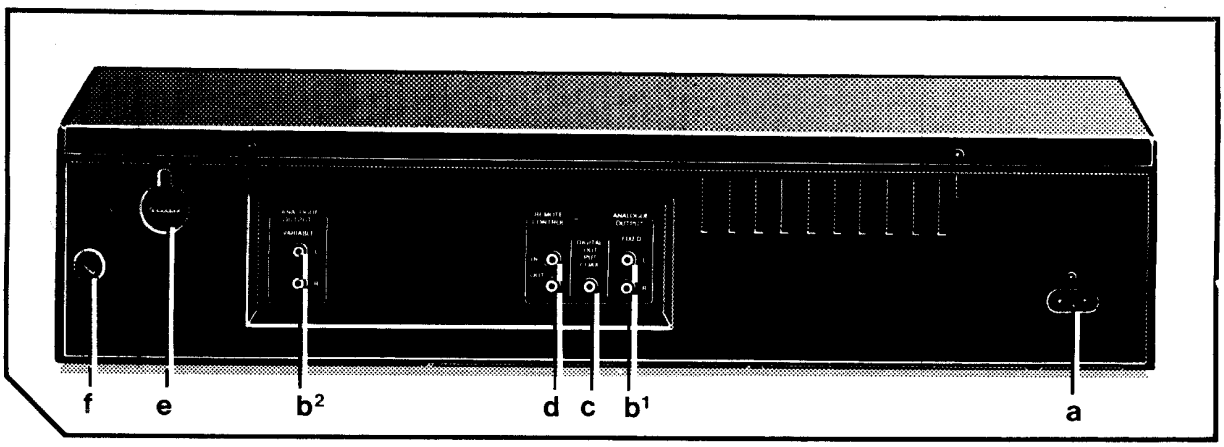
CLASS 1
LASER PRODUCT
3122 110 03420

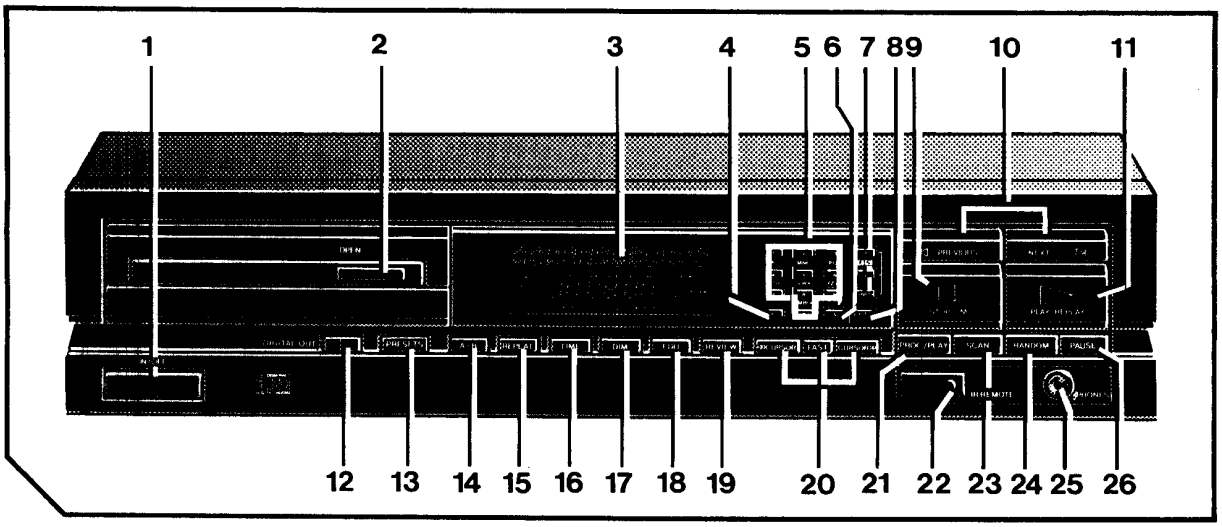
Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviço

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

Subject to modification
4822 725 22469
Printed in The Netherlands

PHILIPS
Published by Service Consumer Electronics





44 840 A11

OPERATION

EXPLANATION OF KEYS

1 On/Off
2 Open
3 Display
4 C(lear)
5 Digit/alphabet keys
6 S(tore)
7 FTS
Info
8 Title
9 Stop/CM
10 Previous/next
11 Play/Replay
12 Digital out
13 Presets
14 'A–B'
15 Repeat
16 Time
17 DIM
18 Edit
19 Review
20 ◁◁ Cursor ▷▷
21 Prog(ram) play
22 IR remote
23 Scan
24 Random
25 Phones
26 Pause

CONNECTIONS

a Mains lead
b Analogue output
c Digital out coax
d Remote control In/Out
e Voltage selector
f Mains fuse holder

TECHNICAL DATA

General

1. Mains voltage	: 220, 240 Volt (+/– 10%)
2. Mains frequency	: 50-60 Hz
3. Mains voltage selection	: By soldering (220/240 Volt-version) By changing transformer (110/127 Volt-version)
4. Power consumption mains, operated	: 15 W

External RC-5 connection

Specification: V-in Low: from -2,0 V to +1,6 V
V-in High: from +3 V to +7,5 V
R-in: from 47 k to 68 k

Line output

1. Number of channels	: 2
2. Output voltage	: 2 Vrms +/– 2 dB
3. Unbalance Left-Right	: max. +/– 0,2 dB
4. Output resistance	: 200 Ohm
5. Amplitude linearity	: max. +/– 0,15 dB from 20 Hz to 20 kHz
6. Phase non-linearity	: max. +/– 1,0° from 20 Hz to 20 kHz
7. Signal to noise ratio	: min 96 dB from 20 Hz to 20 kHz
8. Dynamic range	: min 90 dB from 20 Hz to 20 kHz
9. Total harmonic distortion + noise	: min -88 dB from 20 Hz to 20 kHz
10. Intermodulation distortion	: max. 0.004% (min -88 dB) from 20 Hz to 20 kHz
11. Out-band attenuation	: min 60 dB
12. Channel separation	: min 93 dB from 20 Hz to 20 kHz
13. Muting during random access	: min 90 dB from 20 Hz to 20 kHz
14. Automatic switched de-emphasis with time constants	15/50 us

Headphone (fixed)

1. Output voltage	: Max. 2 Vrms +/– 2 dB
2. Unbalance Left-right	: Max. +/– 0,2 dB
3. Output resistance	: 150 Ohm
4. Load impedance range	: 32 Ohm to 600 Ohm
5. Output power	: Max. 6 mW into 32 Ohm load Max. 10 mW into 150 Ohm load Max. 6 mW into 600 Ohm load
6. Signal to noise ratio	: Min 93 dB from 20 Hz to 20 kHz
7. Dynamic range	: Min 90 dB from 20 Hz to 20 kHz
8. Total harmonic distortion + noise	: Min 88 dB from 20 Hz to 20kHz
9. Intermodulation distortion	: Min 88 dB from 20 Hz to 20 kHz
10. Channel separation	: min 80 dB from 20 Hz to 20 kHz

Dimensions ans weight

1. Place and height of feet acc. to Philips specification		
2. Apparatus tray closed	WxDxM	: 420 x 280 x 90/104 mm
3. Apparatus tray open	WxDxM	: 420 x 423 x 90/104 mm
4. Weight	4,0 kg	

SERVICING HINTS

When the tray mechanism and CDM-unit has been disassembled the player can be prepared for measurements by bridging the "tray detection" switch SK2 on the main panel.

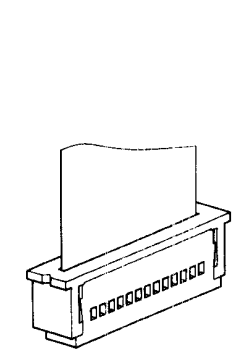
Service disc hold-down

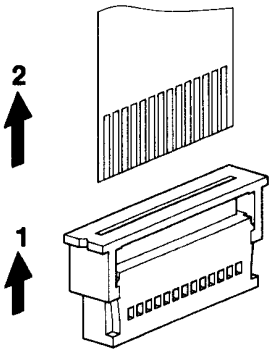
The disc should always rest properly on the turntable. To achieve this a disc hold–down has been mounted in a bracket of the tray mechanism.
If the tray mechanism has to be disassembled for servicing, a separate disc hold-down should be used. For a service disc hold–down see the figure below.
Compose a service Disc hold-down in the following way.

- Cut in the most inner ring of a disc holddown (4822 462 50383) with small and sharp nippers See fig. below.
- 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.

SERVICE TOOLS

Audio test disc 1	4822 397 30185
Disc without errors + disc with DO errors, black spots and fingerprints	4822 397 30096
Disc (65 min, 1kHz) without pause	4822 397 30155
Maximum diameter disc	4822 397 60141
Torx screwdrivers	
Set (straight)	4822 395 50145
Set (square)	4822 395 50132
13th order filter	4822 395 30204





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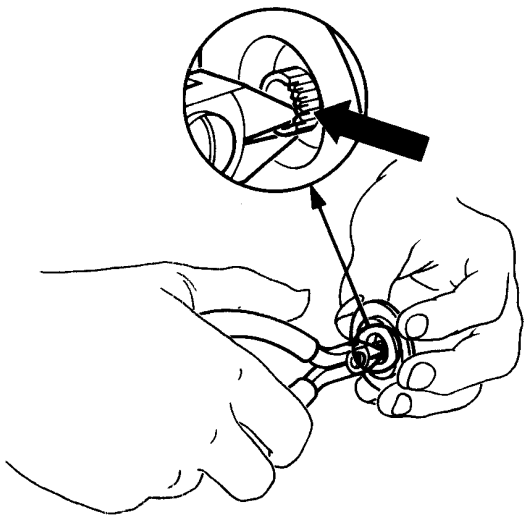

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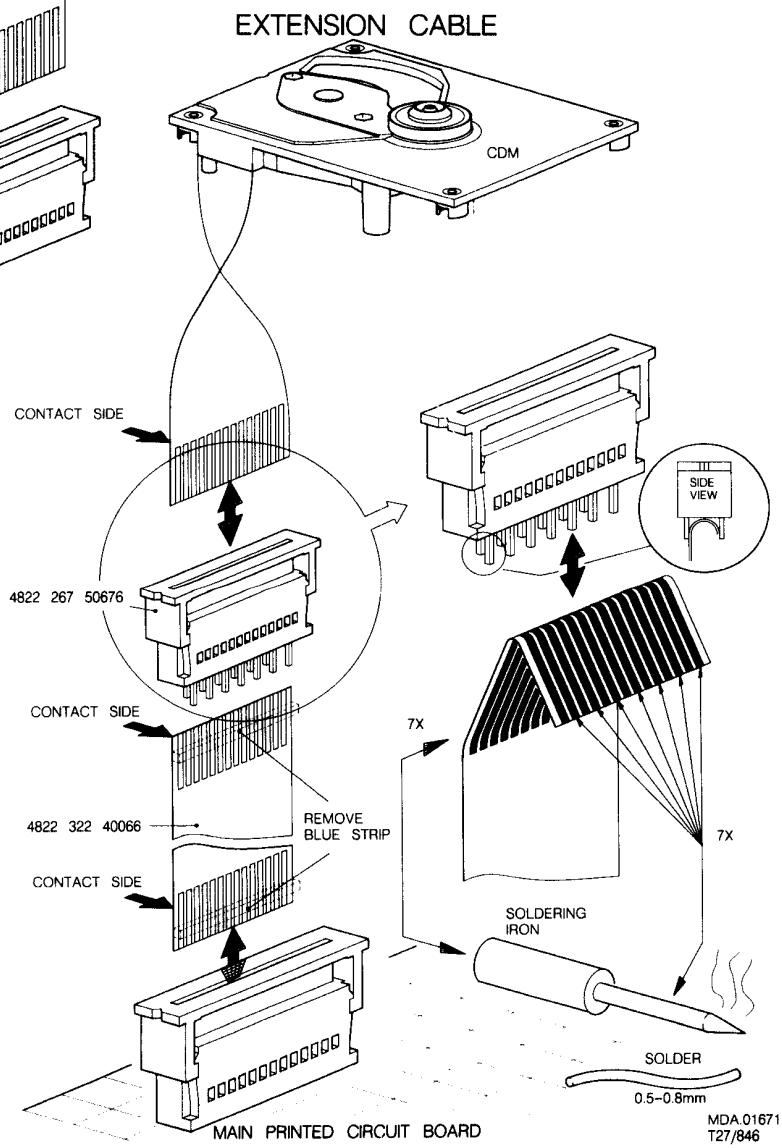

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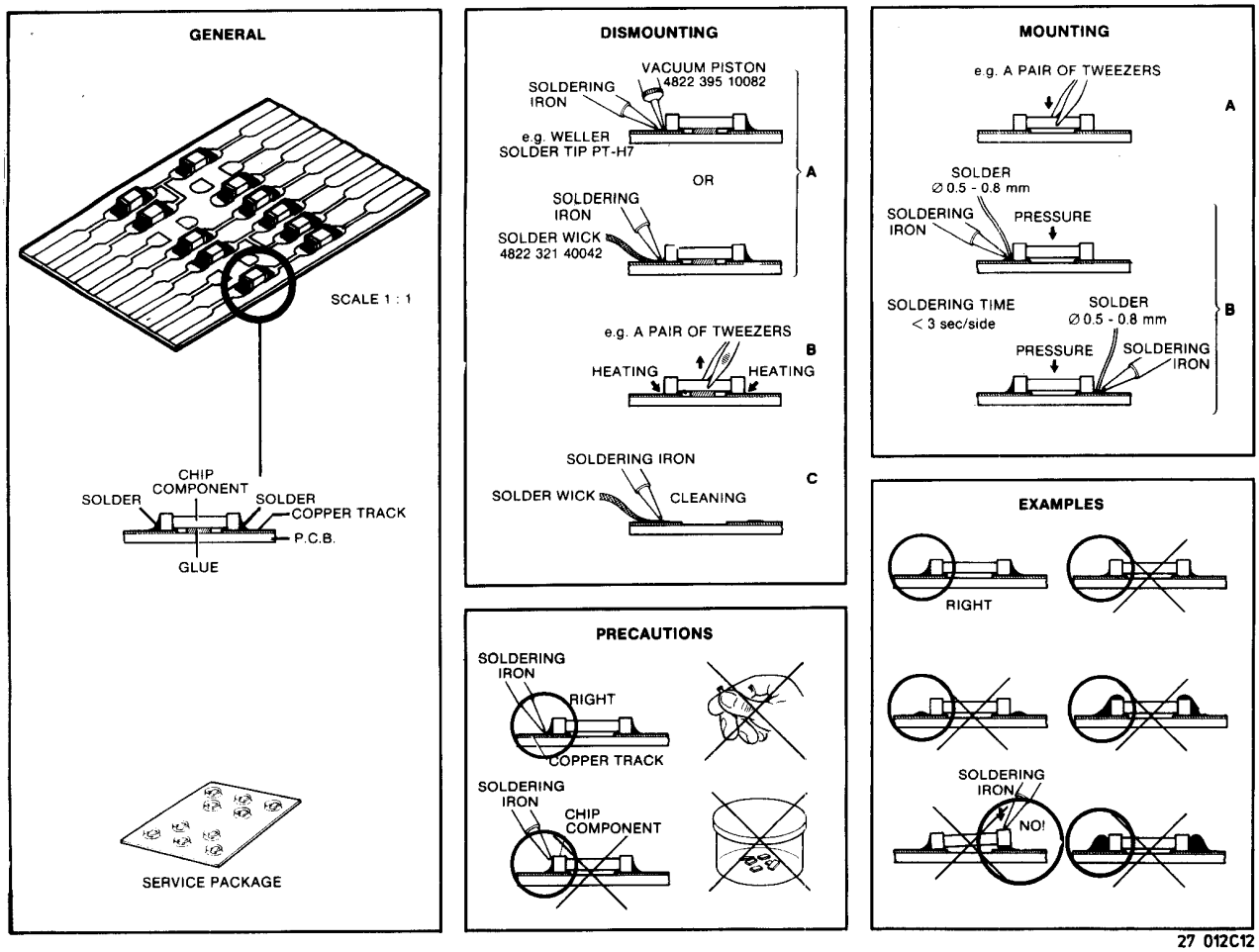


27 012C12

GB 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

F 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 outils que l'on utilise soient également à ce potentiel.

D WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

NL WAARSCHUWING

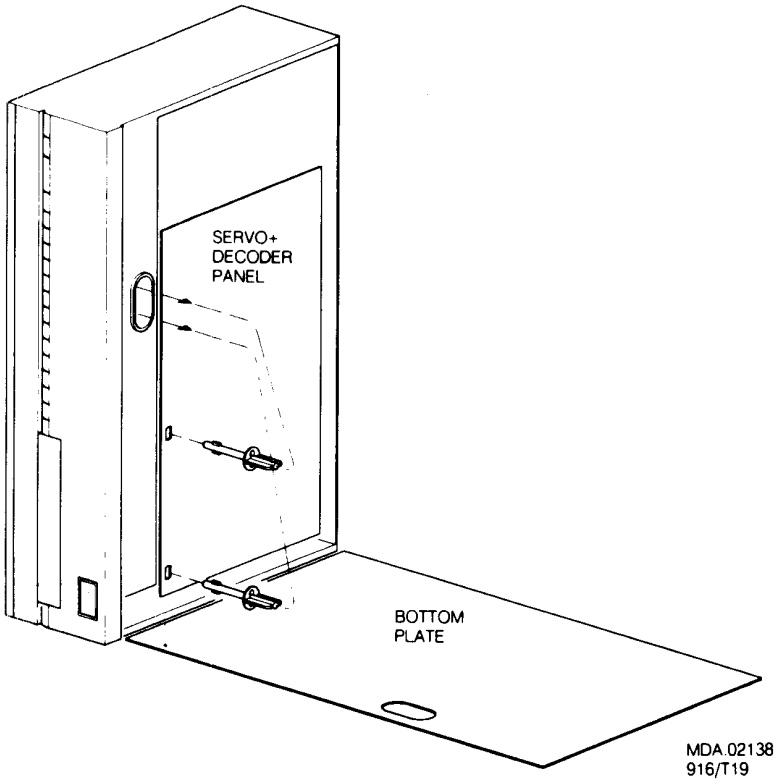
Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

I 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 potenziale.

DISASSEMBLY OF THE CABINET AND CDM

MEASURING AND ADJUSTMENT POSITION



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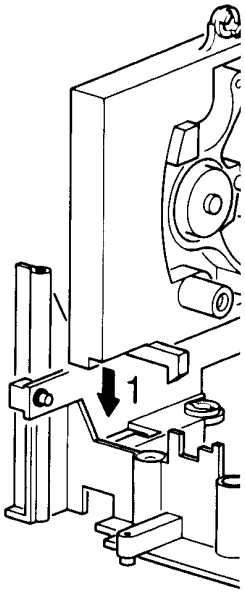
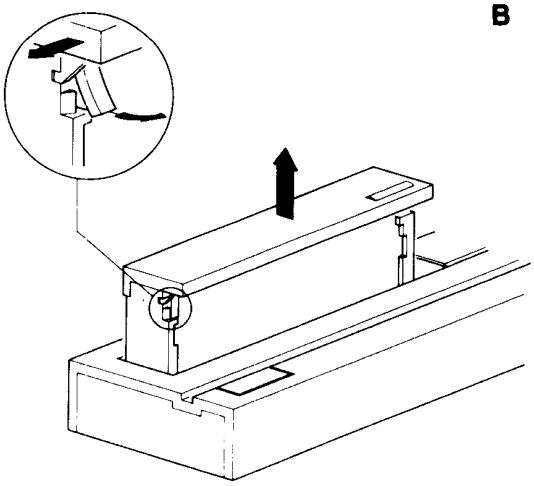
916/T19

FOIL CONNECTION



CABINET DISASSEMBLY HINTS

A



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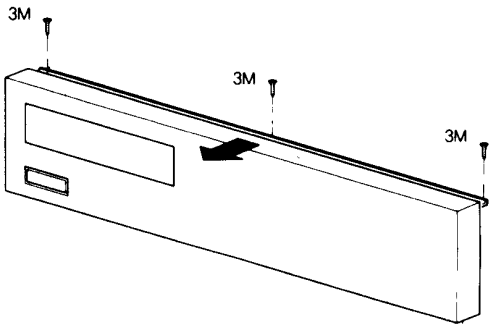
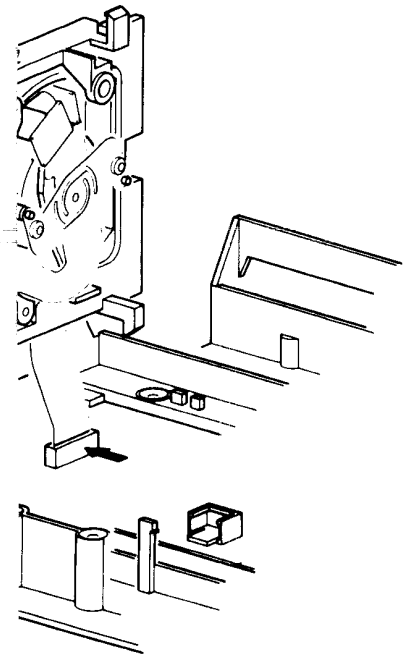


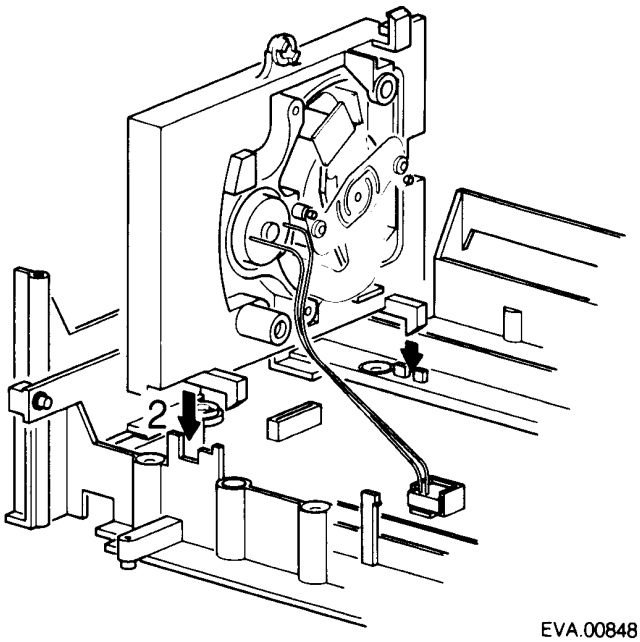
MDA.021
916/T19

I POSITION



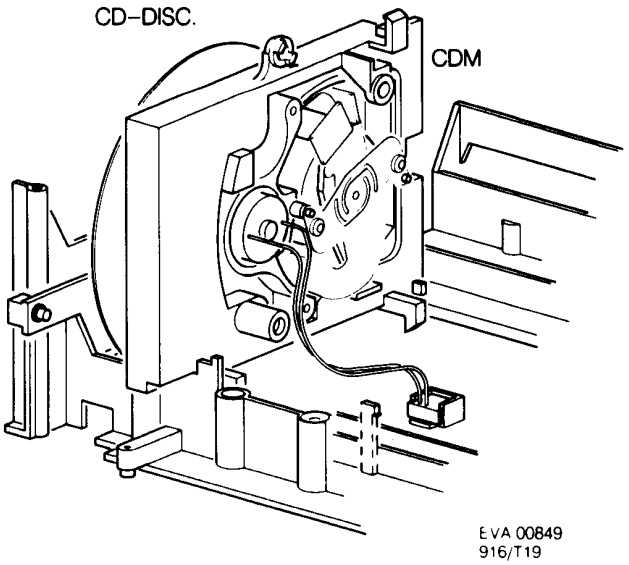
PLAY-SERVICE POSITION

CAUTION
INVISIBLE LASER RADIATION WHEN OPEN DO NOT STARE INTO BEAM
3104 106 75942



EVA.00848
916/T19

SERVICE POSITION PLAY



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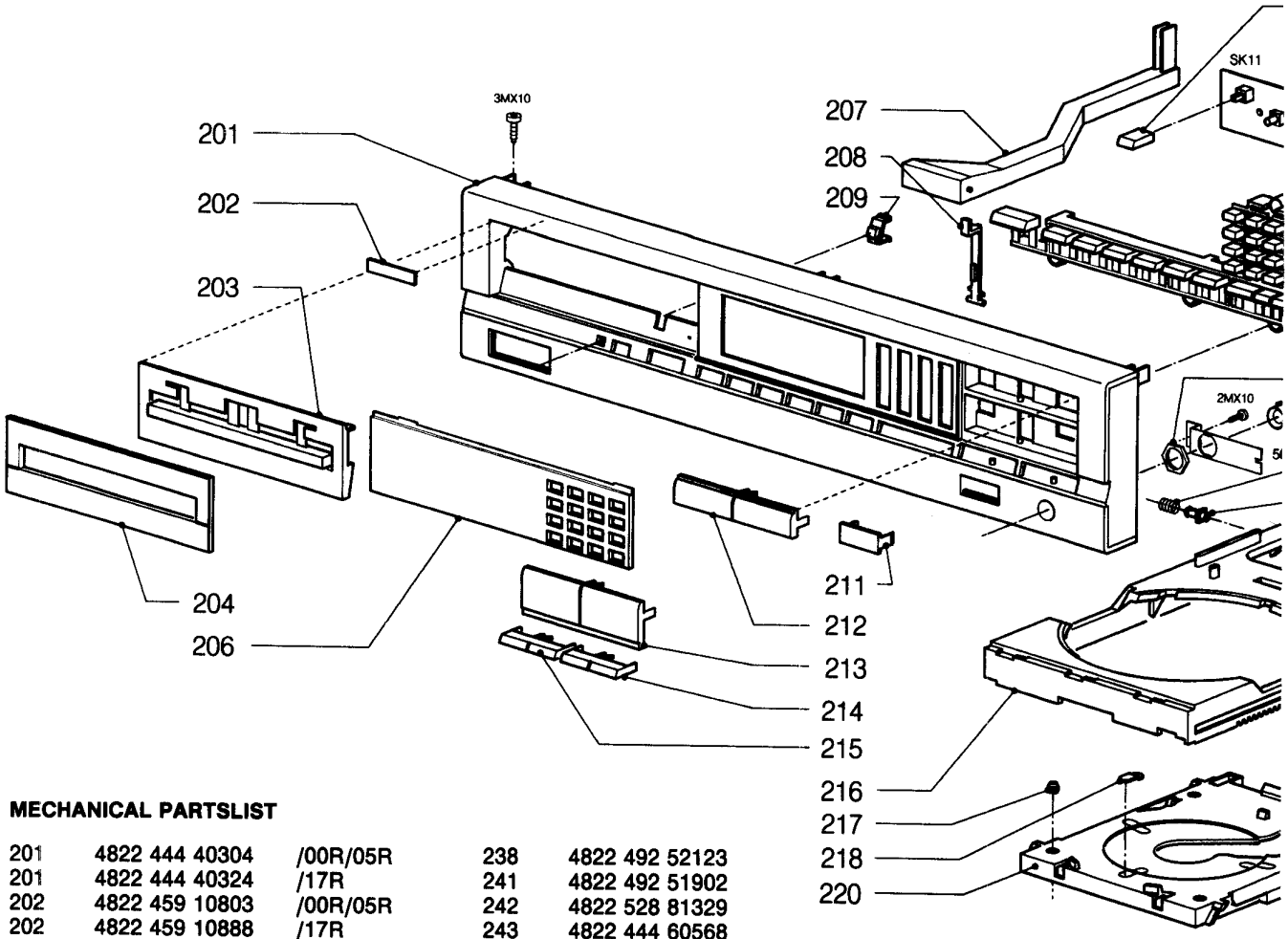
916/T19

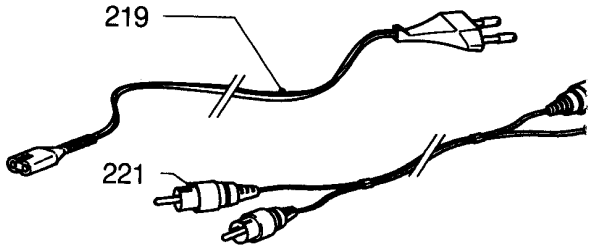
37

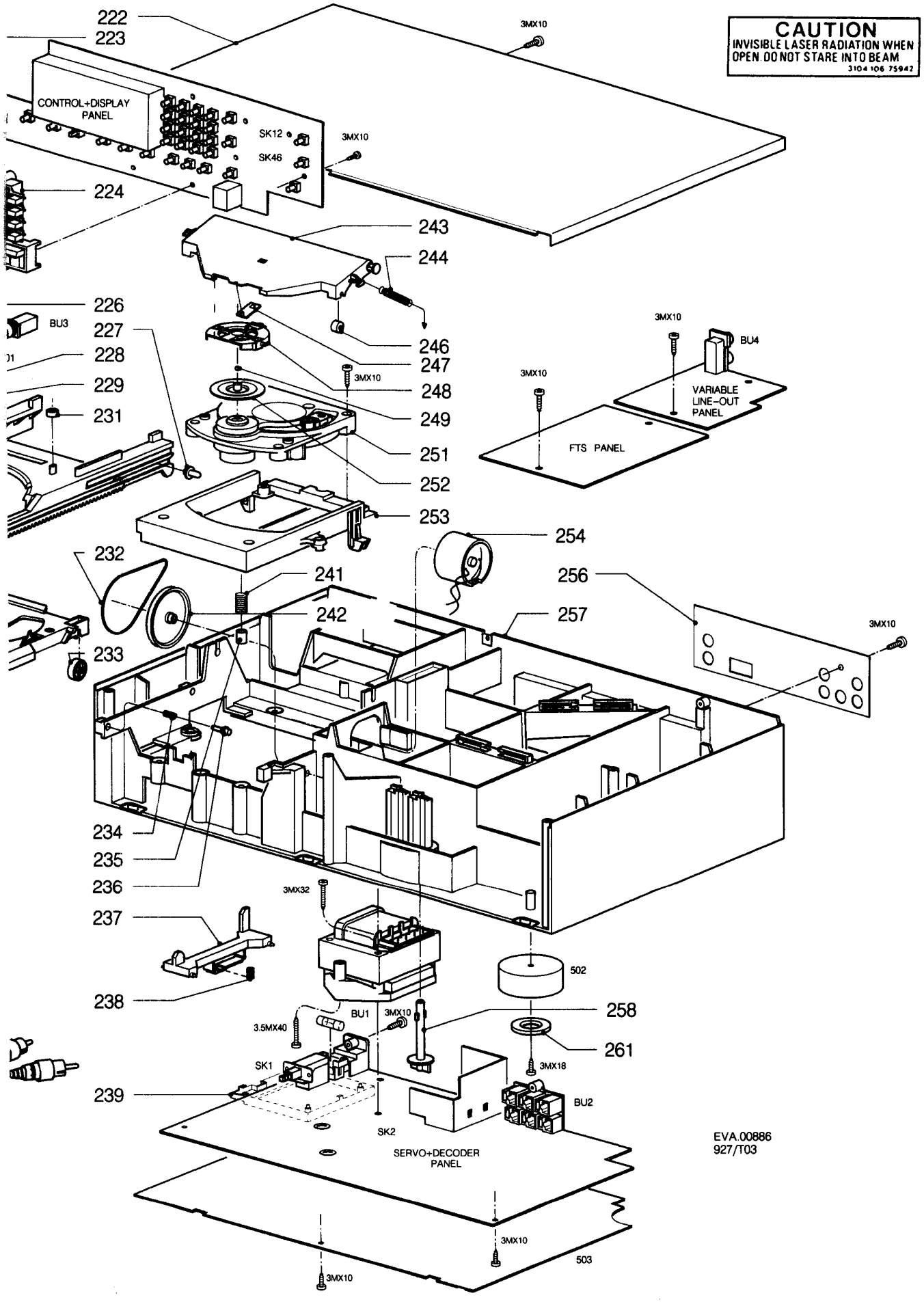
EXPLODED VIEW CABINET



MECHANICAL PARTSLIST

201	4822 444 40304	/00R/05R
201	4822 444 40324	/17R
202	4822 459 10803	/00R/05R
202	4822 459 10888	/17R
203	4822 444 60626	
204	4822 450 61356	
206	4822 410 60101	
207	4822 410 60105	
208	4822 402 61249	
209	4822 381 11052	
211	4822 381 11051	
212	4822 410 60094	
213	4822 410 60095	
214	4822 410 60099	
215	4822 410 60102	
216	4822 444 50603	
217	4822 325 50177	
218	4822 325 50176	
219	4822 321 10457	/00R
219	4822 321 10522	/05R
219	4822 321 10445	/17R
220	4822 466 92251	
221	4822 321 22832	
222	4822 444 30417	
223	4822 410 60104	
224	4822 410 60098	
226	4822 505 10571	
227	4822 402 61253	
228	4822 492 52094	
229	4822 402 61252	
231	4822 532 51756	
232	4822 358 10115	
233	4822 528 90638	
235	4822 466 61587	
237	4822 402 50276	
238	4822 492 52123	
241	4822 492 51902	
242	4822 528 81329	
243	4822 444 60568	
244	4822 492 32883	
246	4822 528 90639	
247	4822 466 92257	
248	4822 402 61207	
249	4822 520 40177	
251	4822 691 30209	
252	4822 530 80503	
253	4822 402 61196	
254	4822 361 21258	
256	4822 444 30416	
257	4822 444 50621	
261	4822 444 30404	




CAUTION
INVISIBLE LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM
3104 106 75942
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502
503
CONTROL+DISPLAY PANEL
SK12
SK46
3MX10
BU3
BU4
VARIABLE LINE-OUT PANEL
FTS PANEL
3MX32
3.5MX40
BU1
SK1
SK2
3MX18
BU2
SERVO+DECODER PANEL
EVA.00886
927/T03

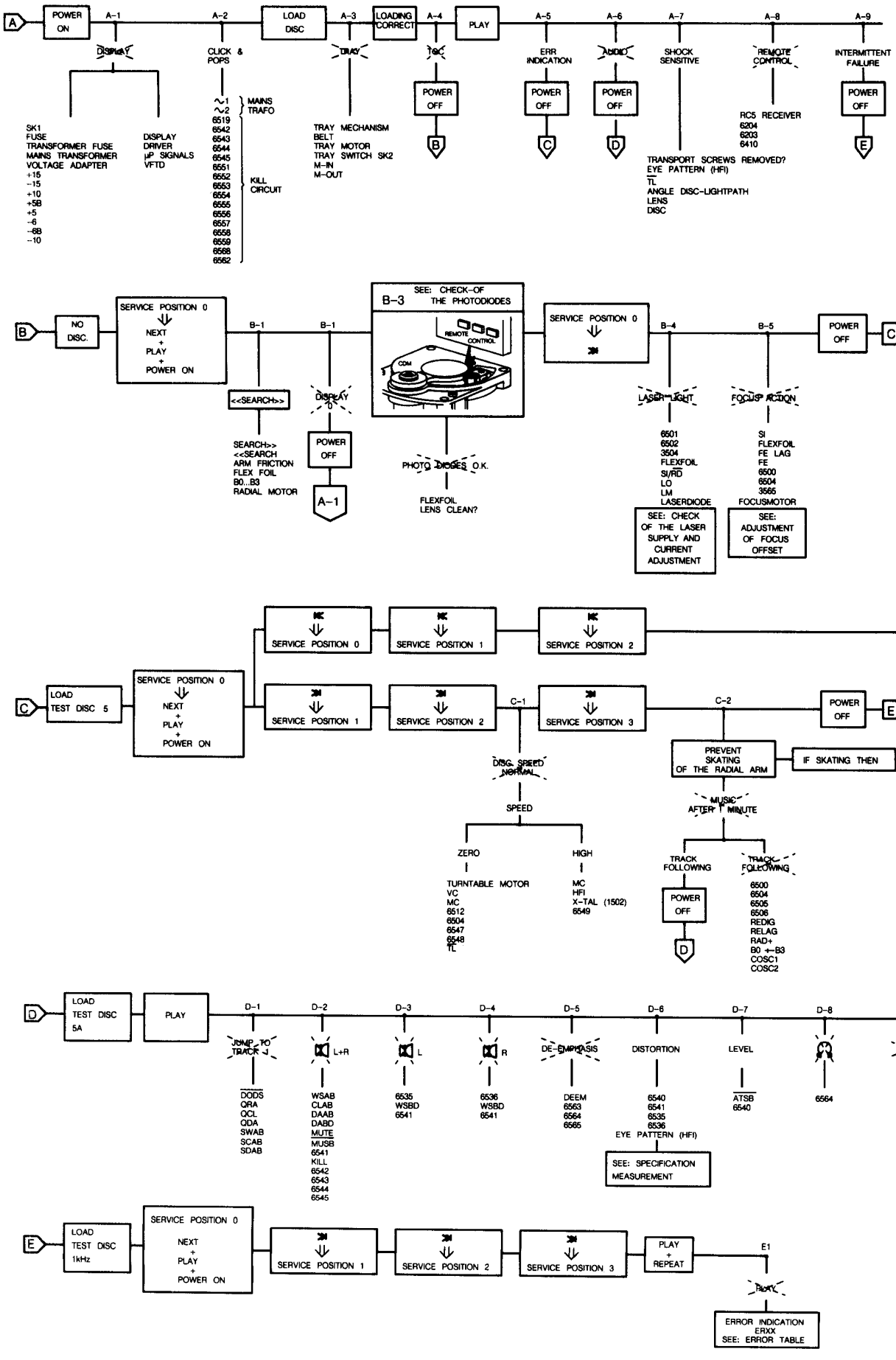
MEASUREMENTS AND ADJUSTMENTS

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	◇	Adjust	Meter	Oscilloscope	Remarks
1	D2 D1 D3 D4	power on	4 — oscilloscope — ⊥ 6 — oscilloscope — ⊥ 7 — oscilloscope — ⊥ 8 — oscilloscope — ⊥	–	–	signal 4=6=7=8	Signal depends on Distance lens ↔ IR LED of remote control

T-22407A

B4
CHECK OF LASER SUPPLY (WITH DEMOUNTED CDM AND ADDITIONAL CIRCUIT)

STEP	SIGNAL	MODE	◇	Adjust	Meter	Oscilloscope	REMARKS
1	LO	SERV. POS. 2 SK (open)	9 — V — ⊥	–	1.8 < V < 2.3	–	Si=1 21; A K; LITTLE LIGHT; 33Ω; GREEN LED; SK; 18Ω; to LO; to LM; to ⊥; CONNECTED DIRECTLY TO PANEL
	LM		11 — V — ⊥	–	170 < mV < 220	–	
2	LO	SERV. POS. 2 SK (closed)	9 — V — ⊥	–	1.8 < V < 2.3	–	Si=1 21; A K; LITTLE LIGHT; 33Ω; GREEN LED; SK; 18Ω; to LO; to LM; to ⊥; CONNECTED DIRECTLY TO PANEL
	LM		11 — V — ⊥	–	170 < mV < 220	–	
3	LO	POWER ON	9 — V — ⊥	–	0V ± 0.2V	–	A K NO LIGHT; Si=0 21

During the change over from SK closed to SK open, the LED will emit more light for a short moment.

MDA.01379
T-08 824

B4
LASER CURRENT ADJUSTMENT

STEP	SIGNAL	MODE	◇	Adjust	Meter	Oscilloscope	REMARKS
1	–	POWER OFF	11 — Ω — GND	R3520	1k	–	PRE-ADJUSTMENT OHMIC VALUE
2	EYE-PATTERN HF	TEST DISC 5 PLAY	PIN 32 DECODER A (SAA7310) — oscilloscope — 0V GND	–	–	SEE DRAWING 37017B8	IF NO SIGNAL SEE: "START UP PROCEDURE"
3	LASER CURRENT ≙ VOLTAGE ACROSS R3501	TEST DISC 5 PLAY TRACK 1	1 — V — 2	R3520	50mV DC	–	HIGH-OHMIC MEASUREMENT

MDA.01778
T28/901

B5
ADJUSTMENT OF FOCUS-OFFSET

STEP	SIGNAL	MODE	◇	Adjust	Meter	Oscilloscope	REMARKS
1	–	POWER ON	–	R3569	–	–	ADJUST FOR OPTICAL MID-POSITION
2	FE LAG	PLAY TEST DISC 5 TRACK 1	27	R3569	400mV ± 40mV DC	–	FINE ADJUSTMENT

MDA.01381
T-08 824

SPECIFICATIONS MEASUREMENT

Signal	Mode	◇			Remarks
BU2-L	Test disc 3, play total harmonic distorsion	filter output	See spec.		See drawing 30459A12
BU2-R	Test disc 3, play total harmonic distorsion	filter output	See spec.		See drawing 30459A12
BU2-L	Test disc 3, play signal-to-noise ratio	filter output	See spec.		See drawing 30459A12
BU2-R	Test disc 3, play signal-to-noise ratio	filter output	See spec.		See drawing 30459A12

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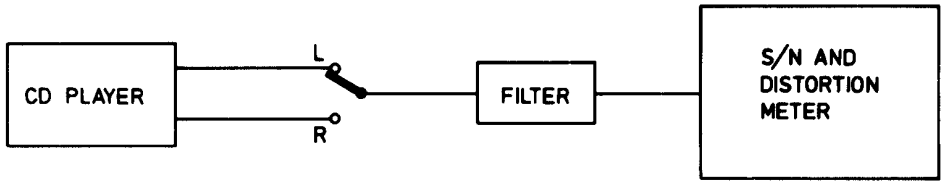


e.g. SOUND TECHNOLOGY
ST 1700B

30 459 A12

ERROR CODE TABLE

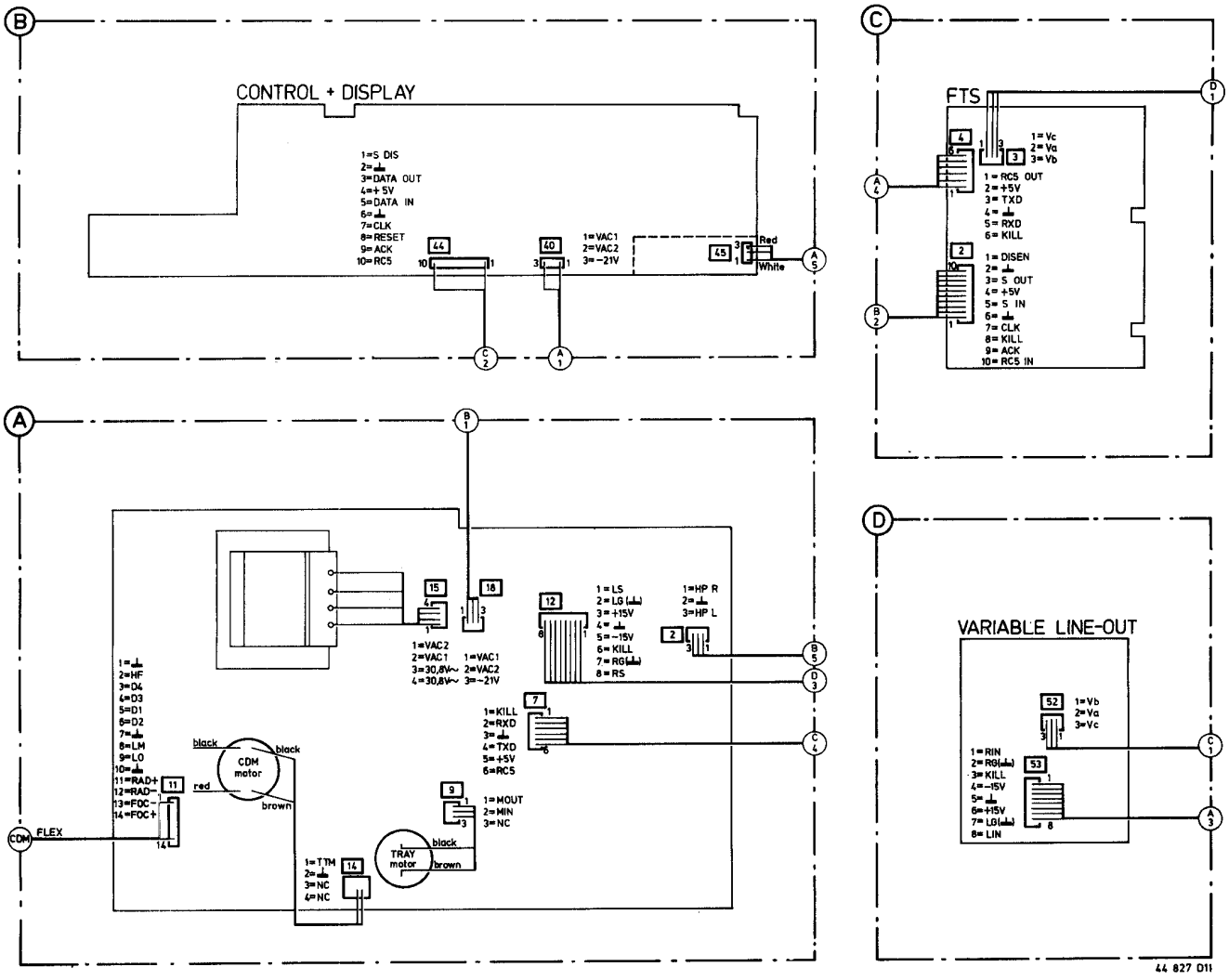
SYSTEM ERRORS

ERROR 01 Tray error
ERROR 02 Focus error
ERROR 03 Radial error
ERROR 04 Too many TL
ERROR 05 TL low to long
ERROR 06 Jump error
ERROR 07 Subcode error
ERROR 08 TOC error

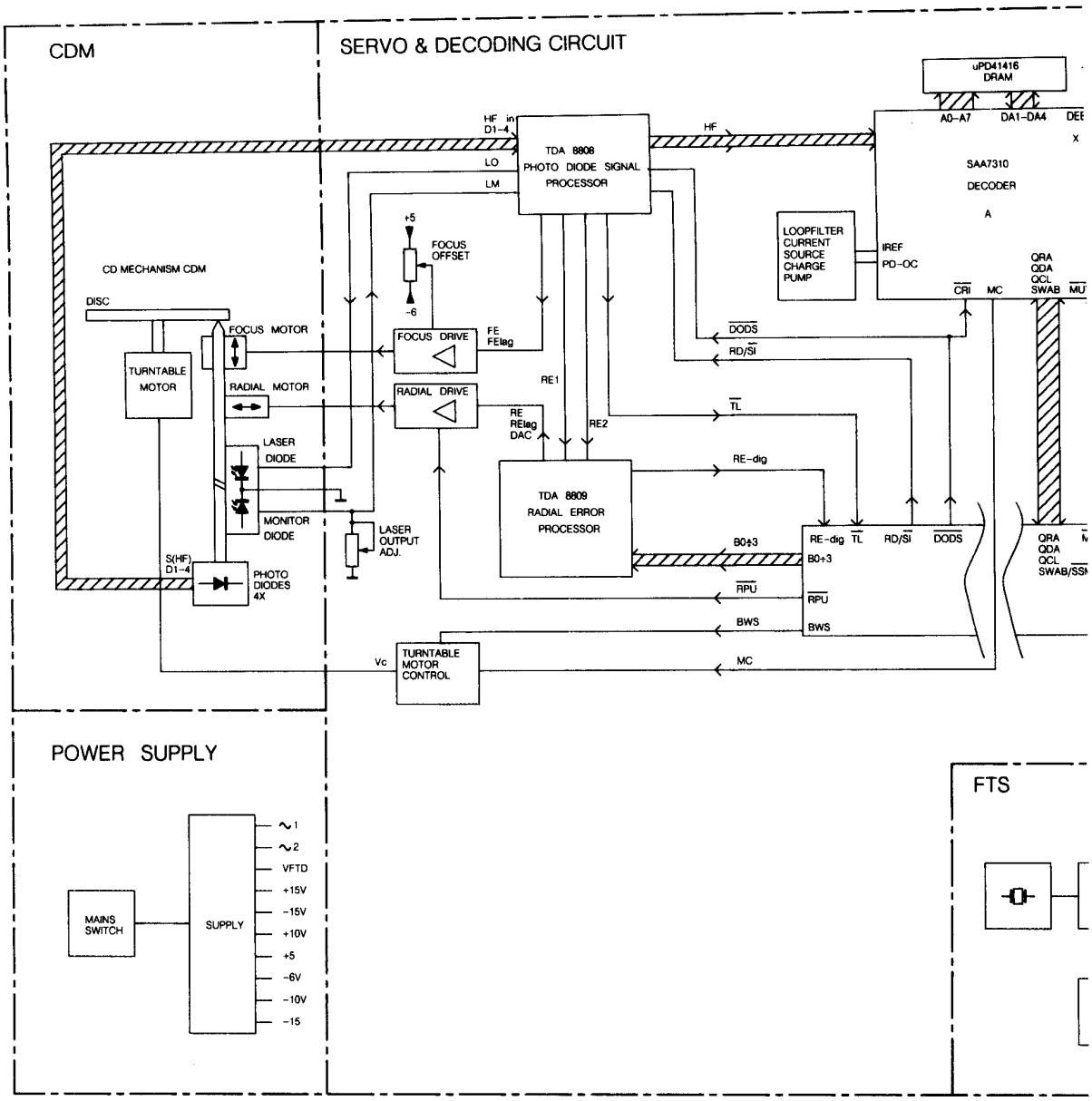
OPERATING ERRORS

ERROR 10 Selected track not accessible
ERROR 11 Relative time not accessible
ERROR 12 Absolute time not accessible
ERROR 30 Next operated during last track without repeat
ERROR 31 Previous operated during last track without repeat
ERROR 42 Selected track does not exist

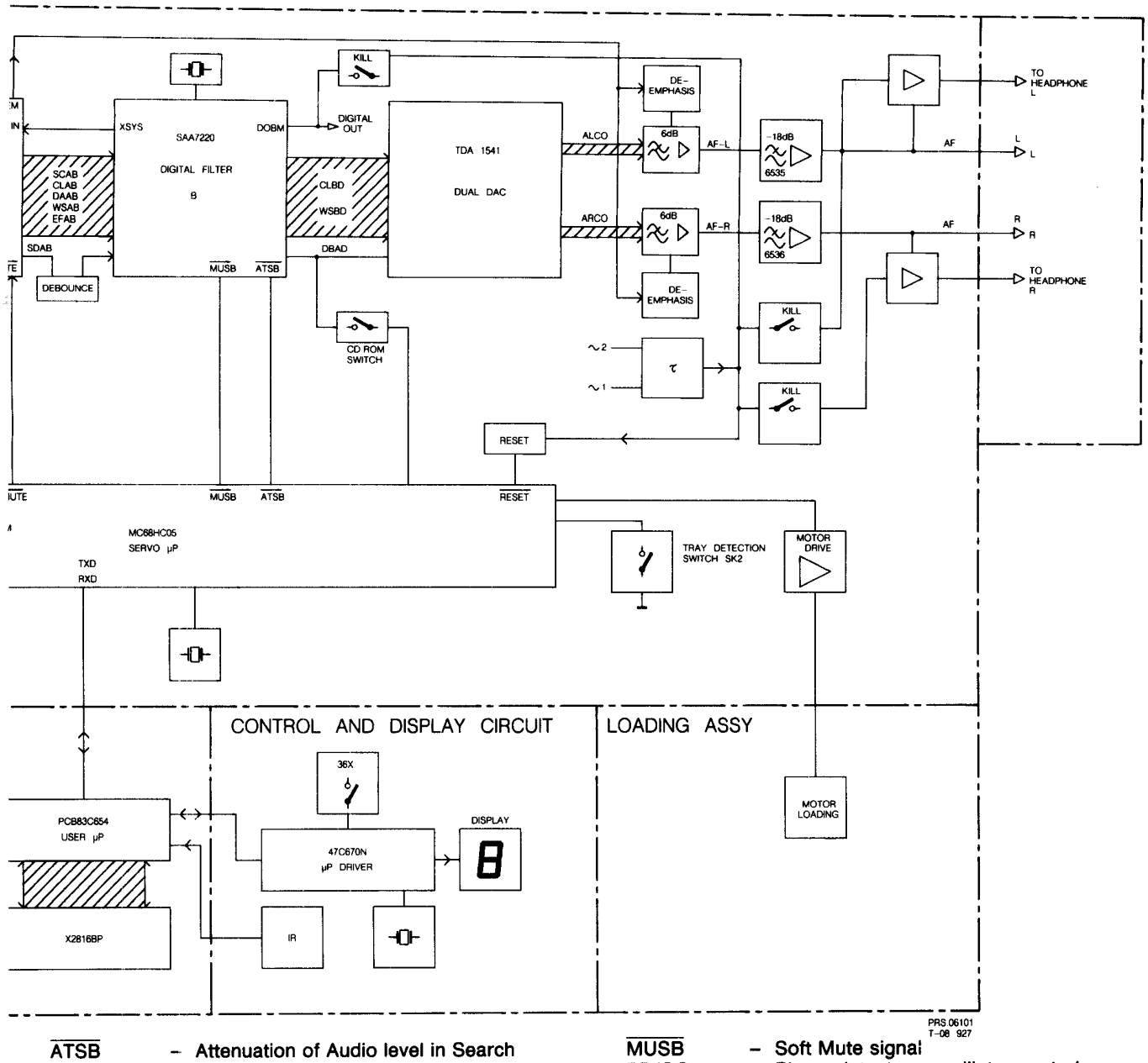
WIRING DIAGRAM



BLOCK DIAGRAM



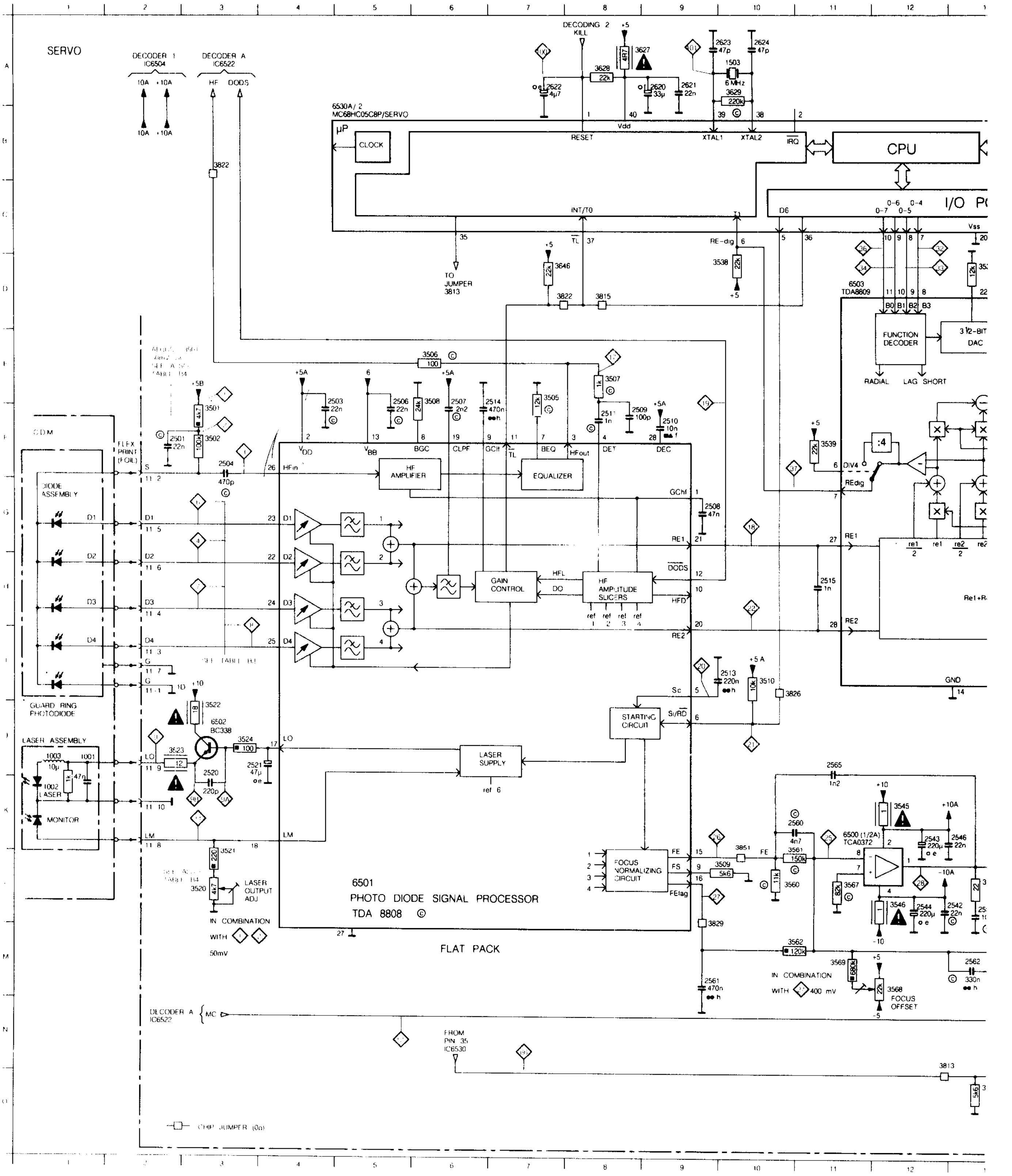
AGC	–	Automatic Gain Control
B0-B3	–	Control bits for radial circuit
BEQ	–	Equalizer reference current input
BGC	–	DC and LF gain control reference input
Cosc1	–	Capacitor wobble oscillator
Cosc2	–	Capacitor wobble oscillator
DEC	–	Decoupling input internal bypass
DET	–	HF detector voltage input
DIV4	–	Divide by 4 input
DODS	–	Drop out detector suppression
D1÷4	–	Photodiode 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 amplifier
HF-out	–	HF amplifier and equalizer voltage output
LM	–	Laser monitor diode input
LO	–	Laser amplifier current output
MC	–	Motor control signal
offset IN	–	Offset control input
offset OUT	–	Offset control output
PLLH	–	PLL on hold output
RADout	–	output of RE2-RE1 input
RE	–	Radial error signal (Amplified RE_2-RE_1 currents)
Rosc	–	Resistor wobble oscillator
Rwob	–	Wobble generator input
RE1	–	Radial error signal 1 (summation of amplified currents D_3 and D_4
RE2	–	Radial error signal 2 (summation of amplified currents D_1 and D_2
RE dig	–	Radial error digital
RE lag	–	Radial error signal for LAG network
Sc	–	Starting up capacitor input
Si/RD	–	On/off control for laser supply and focus circuit. Ready signal, Starting up procedure succesful.
TL	–	Track loss output signal
TTM–	–	Control voltage for turntable motor
TTM+	–	Control voltage for turntable motor
Vext–	–	Supply connection
Vext+	–	Supply connection

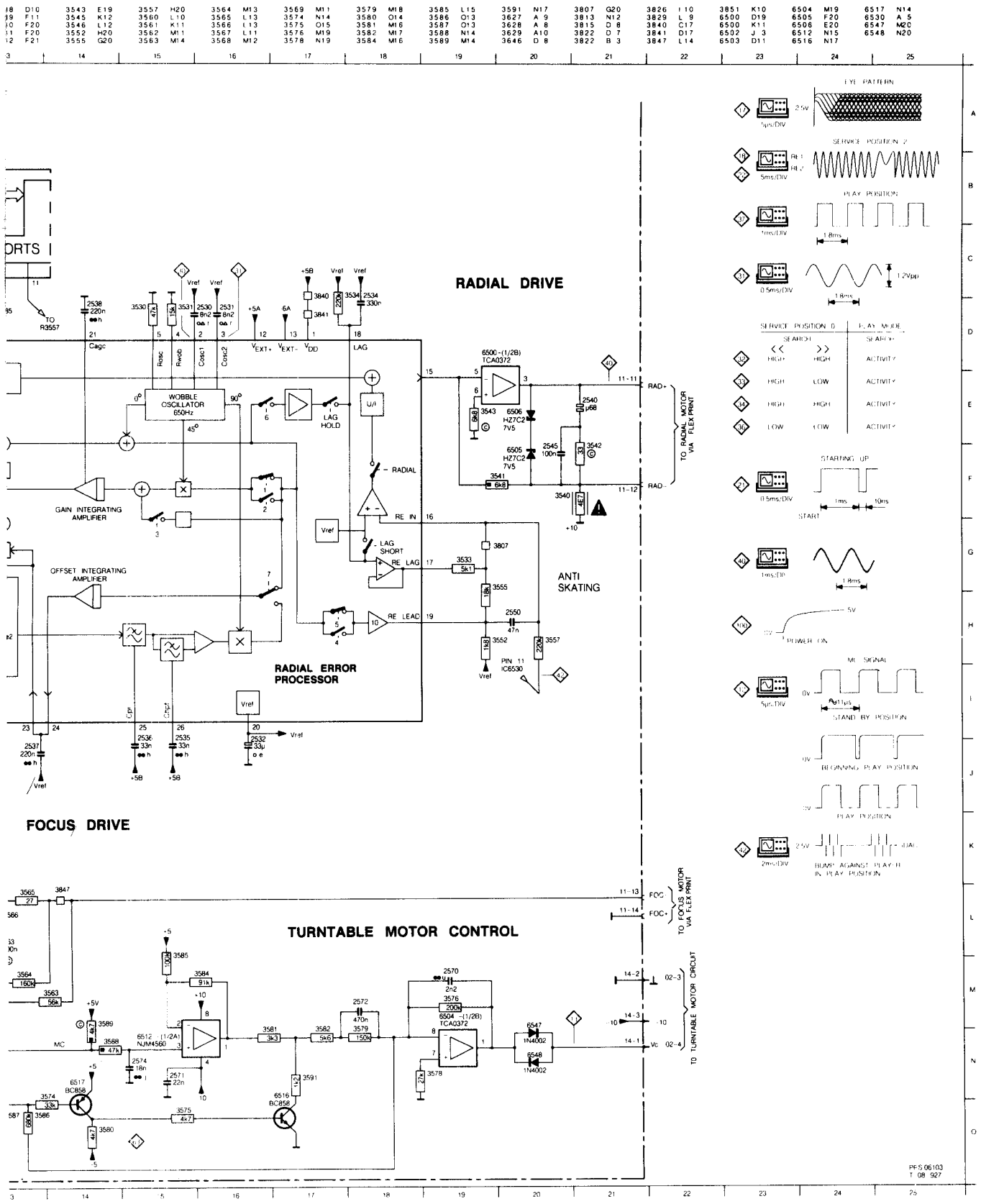


$\overline{\text{ATSB}}$	– Attenuation of Audio level in Search position (Cueing)	$\overline{\text{MUSB}}$	– Soft Mute signal
CD ROM Switch	– Digital Data information on disc signal	PD/OC	– Phase detector - oscillator control
CEFM	– Clock Eight-to-Fourteen Modulator	QCL	– Q-channel Clock signal
CLAB	– Clock signal Decoder-A to Filter-B	QDA	– Q-channel Data signal
CLBD	– Clock signal Filter-B to DAC	QRA	– Q-channel Request Aknowledge
$\overline{\text{CREF}}$	– Reference Current	SCAB	– Subcode clock Decoder-A to Filter-B
$\overline{\text{CRI}}$	– Counter Reset Inhibit	SDAB	– Subcode data Decoder-A to Filter-B
DAAB	– Data signal Decoder-A to Filter-B	SWAB/$\overline{\text{SSM}}$	– Subcode Word/Start-stop motor signal
$\overline{\text{DABD}}$	– Data signal Filter-B to DAC	WSAB	– Word select Decoder-A to Filter-B
$\overline{\text{DEEM}}$	– Deemphasis	WSBD	– Word Select Filter-B to DAC
DOBM	– Digital out signal	XIN	– Oscillator signal in Decoder-A
$\overline{\text{EFAB}}$	– Error flag Decoder-A to Filter-B	XSYS	– Oscillator signal out Filter-B
$\overline{\text{MUTE}}$	– Mute signal	BSW	– Bandwidth switch turntable motor circuit

SERVO

1001	J 1	2503	E 5	2509	F 9	2515	H11	2532	I 16	2538	D14	2545	F20	2562	M13	2572	M18	2623	A10	3506	E 6	3520	L 3	3530	D15	35
1002	K 1	2504	F 3	2510	F 9	2520	J 3	2534	C18	2540	E21	2546	K13	2563	L13	2574	N15	2624	A10	3507	E 8	3521	L 3	3531	D15	35
1003	J 1	2506	E 5	2511	F 8	2521	J 3	2535	I 15	2542	L13	2550	H20	2565	J11	2620	A 9	3501	F 3	3508	E 6	3522	J 3	3533	G19	354
1503	A10	2507	E 6	2513	I 10	2530	D16	2536	I 15	2543	K12	2560	K11	2570	M19	2621	A 9	3502	F 3	3509	L10	3523	J 2	3534	C18	354
2501	F 2	2508	G 9	2514	E 7	2531	D16	2537	J13	2544	L12	2561	M 9	2571	N15	2622	A 7	3505	E 7	3510	I 10	3524	J 3	3535	D13	354




RADIAL DRIVE
WOBBLE OSCILLATOR 650Hz
GAIN INTEGRATING AMPLIFIER
OFFSET INTEGRATING AMPLIFIER
RADIAL ERROR PROCESSOR
ANTI SKATING
LAG HOLD
LAG SHORT
RADIAL
RE IN
RE LAG
RE LEAD
TO RADIAL MOTOR VIA FLEX PRINT
FOCUS DRIVE
TURNTABLE MOTOR CONTROL
TO FOCUS MOTOR VIA FLEX PRINT
TO TURNTABLE MOTOR CIRCUIT
EYE PATTERN
SERVICE POSITION 2
PLAY POSITION
STARTING UP
POWER ON
MC SIGNAL
STAND BY POSITION
BEGINNING PLAY POSITION
PLAY POSITION
BUMP AGAINST PLAY IN PLAY POSITION
SERVICE POSITION D
PLAY MODE
SEARCH
ACTIVITY

SERVO AND DECODING PANEL

651	C 4	181	G 6	206	D 4	230	F 5	258	D 1	2500	C 1	253	B 1	2575	E 2	2633	F 9	2673	C 8	2697	D10	3505	E 3
654	G 4	182	G 3	206	D 4	231	E 4	259	B 7	2501	E 2	2530	D 1	26	F 8	2634	E10	2674	D11	2698	D 8	3506	E 4
151	F 9	184	D 7	207	D 5	232	E 3	1000	F11	2503	E 2	2531	D 1	26	F 8	2635	E10	2675	D 9	2699	D 9	3507	E 2
153	E 7	185	E 8	208	D 5	233	E 3	11	F 2	2504	F 2	2532	D 2	2600	E 6	2636	E 9	2676	E 9	2700	B 9	3508	E 3
157	C 9	187	G 7	209	F10	234	F 5	12	B 8	2506	E 2	2534	E 2	2601	E 7	2638	G11	2677	E 9	2703	A 5	3509	E 3
158	G 6	188	E 4	210	E 4	235	D 4	14	G 5	2507	E 3	2535	D 2	2602	E 6	2641	F10	2678	E 9	2704	B 6	3510	E 2
160	G 8	189	G10	211	F 8	236	B 8	15	C 6	2508	E 2	2536	E 2	2604	F 7	2642	A 7	2679	E 9	2705	C 5	3520	G 3
164	E10	190	F 9	212	F 9	237	E 3	150	G 1	2509	E 2	2537	D 2	2607	E 7	2642	A 7	2680	E10	2706	B 5	3521	F 3
165	G 6	191	F 3	213	C 8	240	G 5	1501	A 3	251	E 7	2538	D 2	2608	F 7	2645	G 4	2681	E10	2707	B 5	3522	G 2
167	E 7	192	D 5	214	B 9	241	C 6	1502	G10	2510	E 2	2540	E 1	2609	E 7	2646	F 4	2682	E10	2708	B 6	3523	G 2
168	E 3	193	C 7	215	C 8	242	E 8	1503	D 6	2511	E 2	2542	G 2	2610	D 5	2651	E10	2683	E 9	2709	C 5	3524	G 2
169	E 3	194	F 9	216	D 4	243	C10	1510	B 1	2513	E 2	2545	F 1	2611	G 9	2652	E 9	2684	E 9	2710	C 5	3530	D 3
170	F 4	195	D 6	217	F 8	244	B 6	155	G10	2514	D 4	2546	G 2	2612	G 9	2653	E10	2685	E 9	2711	B 5	3531	D 3
171	G 8	196	F 7	218	D 7	245	B 8	157	C 8	2515	F 2	2550	D 3	2619	B 7	2654	E 9	2686	E 9	2712	B 6	3533	E 3
172	C 4	197	G 7	219	C 7	246	G 9	159	C 7	2520	G 2	2560	F 1	2620	G 4	2664	D11	2687	E 9	2713	A 5	3534	E 2
173	F 3	198	F 9	220	E 5	247	B 4	161	B 8	2521	G 1	2561	F 1	2621	D 5	2665	D 9	2688	E 9	2714	A 6	3535	D 2
174	E 4	199	G10	223	F 9	248	E 1	162	G 9	2522	C 6	2562	E 1	2622	D 5	2666	C10	2689	E10	2715	B 6	3539	F 4
175	B 8	200	E11	224	C 8	249	F 3	166	F 4	2524	C 6	2563	F 2	2623	D 5	2667	C 8	2690	B 6	2716	C 6	3540	F 1
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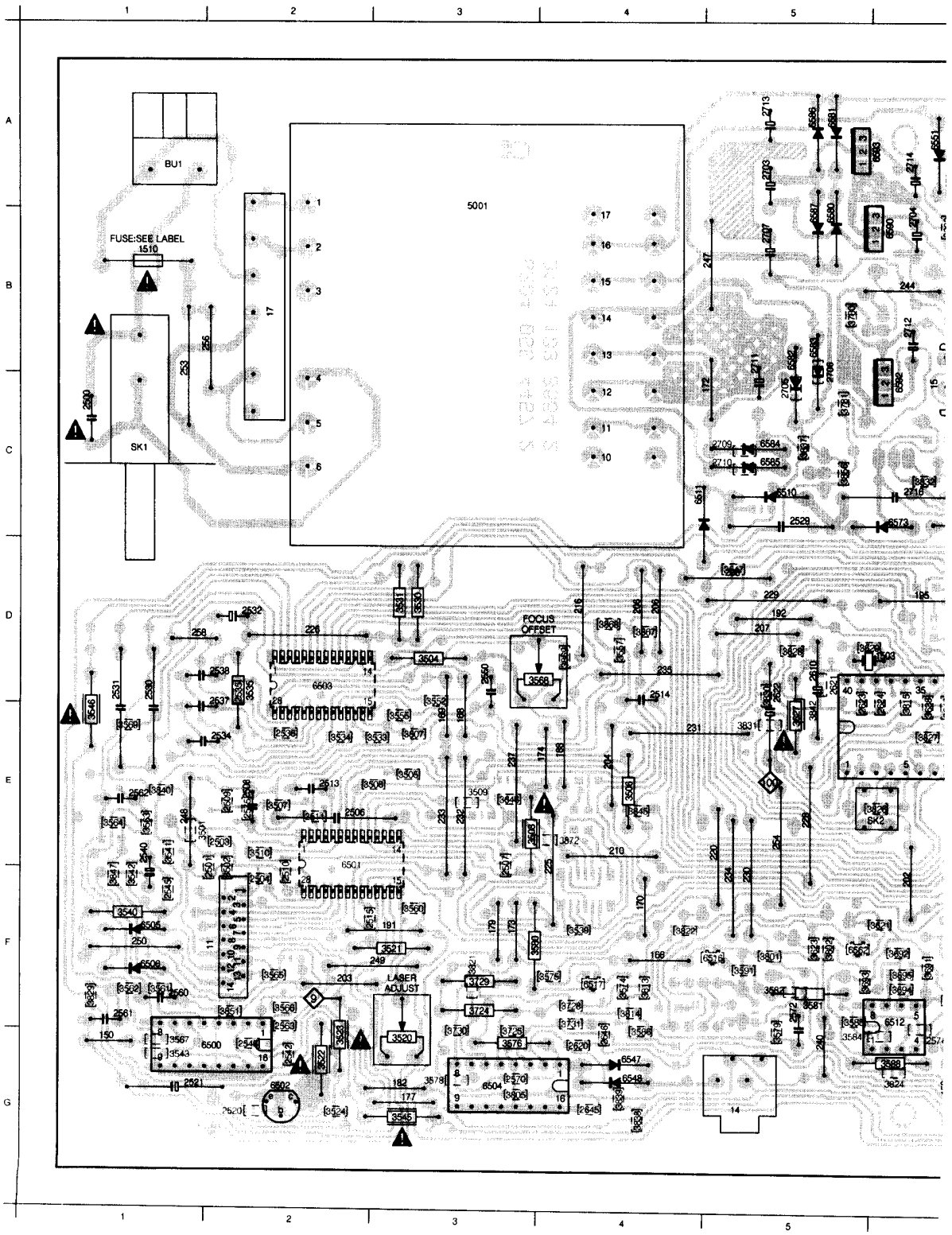
179	F 3	204	E 4	229	D 5	256	B 1	2	B10	2529	C 5	2574	G 6	2632	F 9	2671	C 9	2696	D10	3504	D 3	3545	G 3



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3552	D 3	3585	F 5	3629	D 6	3672	C 9	3706	B 9	3750	A 9	3820	B 8	3843	C 7	5503	D 8	6540	F10	6562	B 7	6603	C 6
3555	E 3	3586	F 4	3638	D 6	3673	C10	3707	B 9	3775	D 7	3821	F 3	3844	F 6	6500	G 2	6541	E10	6563	E10	7	D 8
3557	D 4	3588	G 6	3639	D 8	3674	C 9	3708	B 7	3776	D10	3822	F 4	3845	E 4	6501	E 2	6544	B 7	6564	D10	9	F 6
3560	F 3	3589	D 6	3640	D 8	3675	B 9	3710	B 6	3780	B 5	3823	E 7	3847	F 1	6502	G 2	6545	B 7	6565	D 9	BU1	A 1
3561	F 1	3591	F 5	3642	D 6	3676	B 8	3720	D 7	3781	C 5	3824	G 6	3848	E 8	6503	D 2	6546	C10	6568	F10	BU2	A 8
3562	F 1	3600	E 6	3645	F 9	3677	B 9	3721	D 7	3783	G 7	3825	G11	3851	F 2	6504	G 3	6548	G 4	6573	C 6	SK1	C 1
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3564	E 1	3603	F 7	3647	D 5	3679	B 9	3725	F 3	3801	F 5	3827	E 6	3854	B10	6506	F 1	6549	F 7	6580	A 5		
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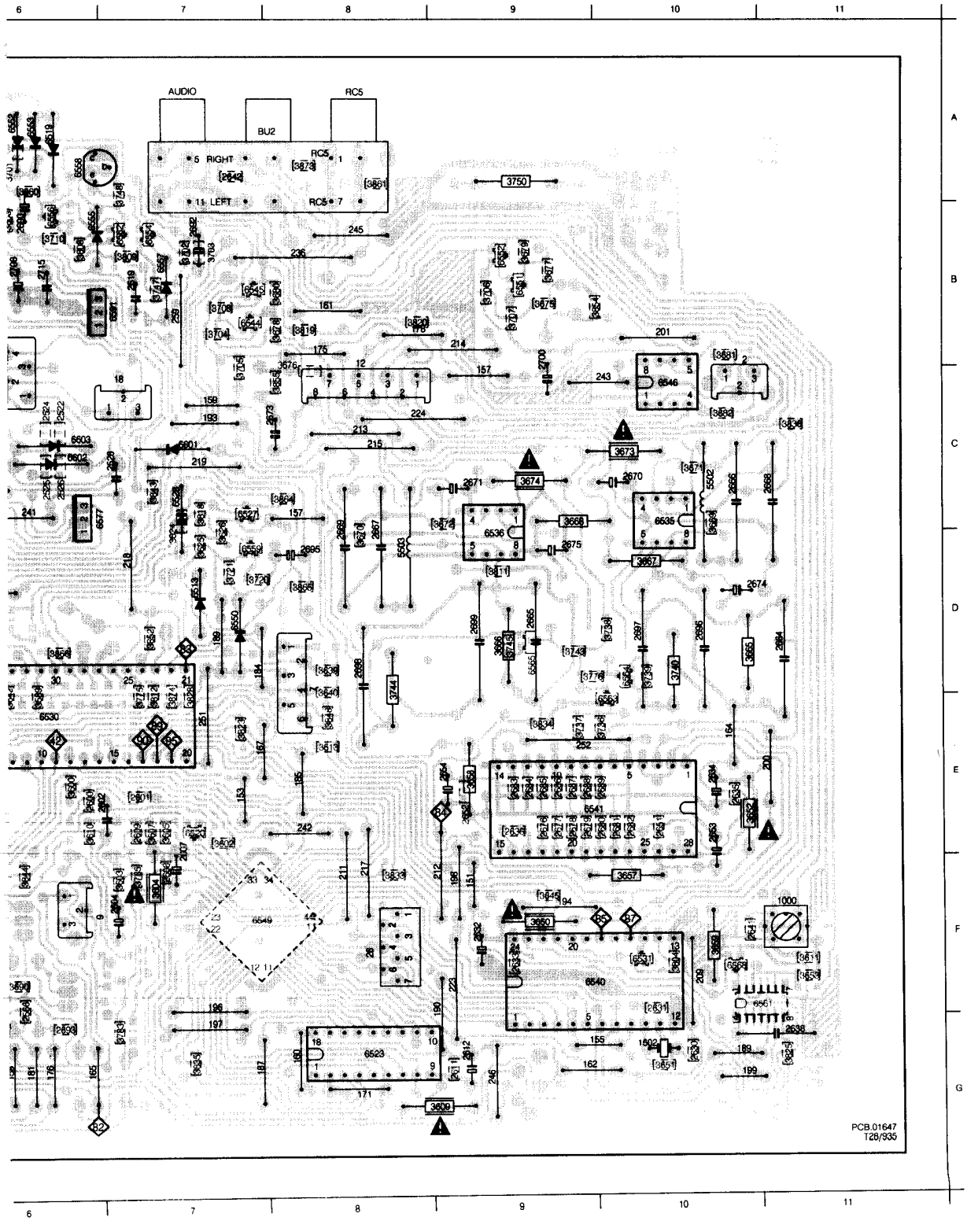

SERVO AND DECODING PANEL

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654	G 4	182	G 3	206	D 4	231	E 4	259	B 7	2501	E 2	2530	D 1	26	F 8	2634	E10	2674	D11	2698	D 8	3506	E 4	3552	D 3
151	F 9	184	D 7	207	D 5	232	E 3	1000	F11	2503	E 2	2531	D 1	26	F 8	2635	E10	2675	D 9	2699	D 9	3507	E 2	3555	E 3
153	E 7	185	E 8	208	D 5	233	E 3	11	F 2	2504	F 2	2532	D 2	2600	E 6	2636	E 9	2676	E 9	2700	B 9	3508	E 3	3557	D 4
157	C 9	187	G 7	209	F10	234	F 5	12	B 8	2506	E 2	2534	E 2	2601	E 7	2638	G11	2677	E 9	2703	A 5	3509	E 3	3560	F 3
158	G 6	188	E 4	210	E 4	235	D 4	14	G 5	2507	E 3	2535	D 2	2602	E 6	2641	F10	2678	E 9	2704	B 6	3510	E 2	3561	F 1
160	G 8	189	G10	211	F 8	236	B 8	15	C 6	2508	E 2	2536	E 2	2604	F 7	2642	A 7	2679	E 9	2705	C 5	3520	G 3	3562	F 1
164	E10	190	F 9	212	F 9	237	E 3	150	G 1	2509	E 2	2537	D 2	2607	E 7	2642	A 7	2680	E10	2706	B 5	3521	F 3	3563	E 1
165	G 6	191	F 3	213	C 8	240	G 5	1501	A 3	251	E 7	2538	D 2	2608	F 7	2645	G 4	2681	E10	2707	B 5	3522	G 2	3564	E 1
167	E 7	192	D 5	214	B 9	241	C 6	1502	G10	2510	E 2	2540	E 1	2609	E 7	2646	F 4	2682	E10	2708	B 6	3523	G 2	3565	F 2
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173	F 3	198	F 9	220	E 5	247	B 4	161	B 8	2521	G 1	2561	F 1	2621	D 5	2665	D 9	2688	E 9	2714	A 6	3535	D 2	3575	F 4
174	E 4	199	G10	223	F 9	248	E 1	162	G 9	2522	C 6	2562	E 1	2622	D 5	2666	C10	2689	E10	2715	B 6	3539	F 4	3576	G 3
175	B 8	200	E11	224	C 8	249	F 3	166	F 4	2524	C 6	2563	F 2	2623	D 5	2667	C 8	2690	B 6	2716	C 6	3540	F 1	3578	G 3
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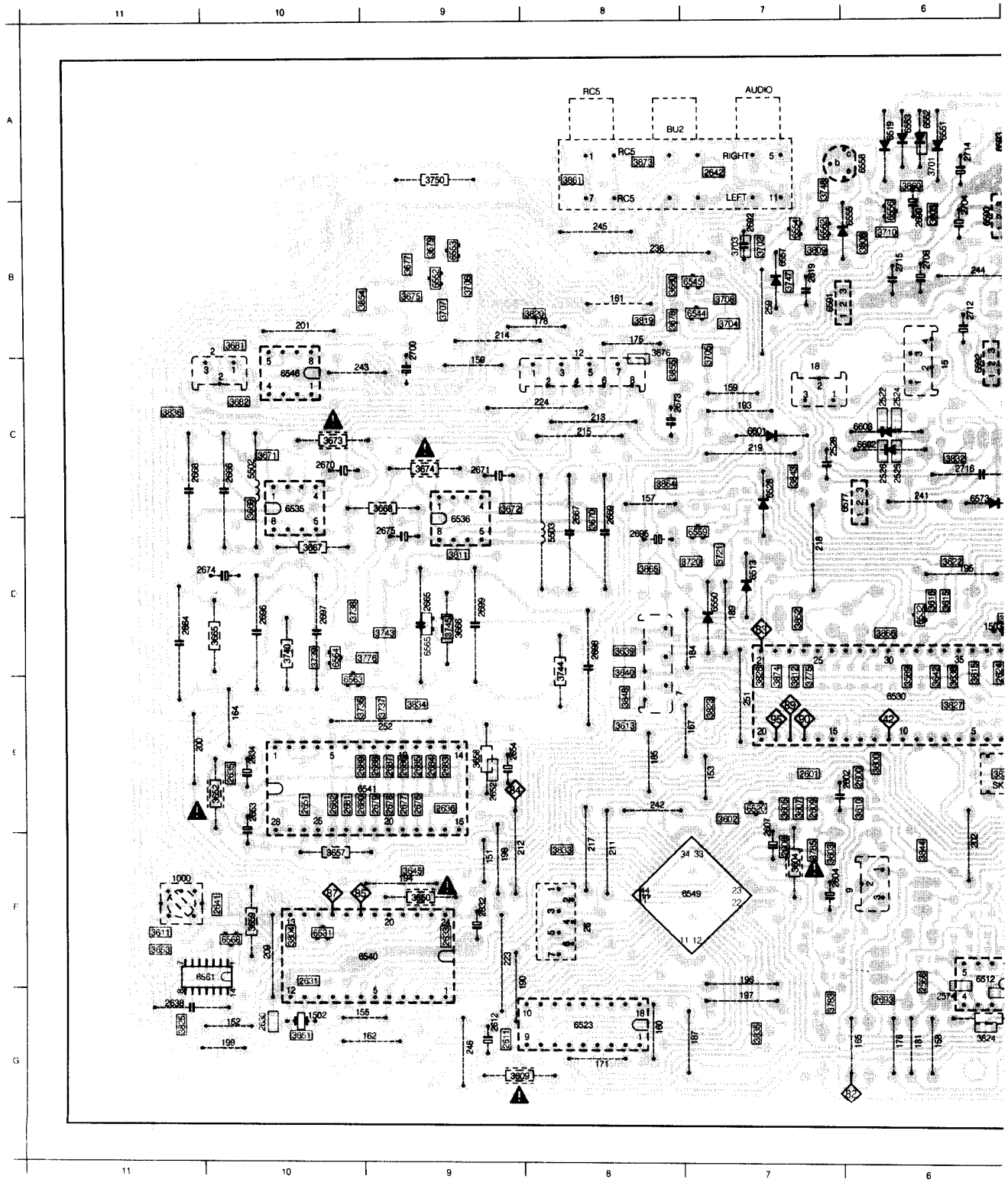
178	B 8	203	F 2	228	E 5	254	E 5	189	D 7	2528	C 7	2572	F 5	2631	F10	2670	C10	2695	D 8	3503	E 3	3543	G 1	3581	F 5
179	F 3	204	E 4	229	D 5	256	B 1	2	B10	2529	C 5	2574	G 6	2632	F 9	2671	C 9	2696	D10	3504	D 3	3545	G 3	3582	F 5



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3589	D 6	3640	D 8	3675	B 9	3710	B 6	3780	B 5	3823	E 7	3847	F 1	6502	G 2	6545	B 7	6565	D 9	BU1	A 1
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3600	E 6	3645	F 9	3677	B 9	3721	D 7	3783	G 7	3825	G11	3851	F 2	6504	G 3	6548	G 4	6573	C 6	SK1	C 1
3602	E 7	3646	E 3	3678	B 8	3724	F 3	3785	F 7	3826	E 6	3852	D 7	6505	F 1	6549	F 7	6577	C 6	SK2	E 6
3603	F 7	3647	D 5	3679	B 9	3725	F 3	3801	F 5	3827	E 6	3854	B10	6506	F 1	6549	F 7	6580	A 5		
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3624	C 7	3667	D10	3701	A 6	3743	D 9	3813	F 4	3837	C 5	3869	D 4	6528	C 7	6557	B 7	6592	C 6		
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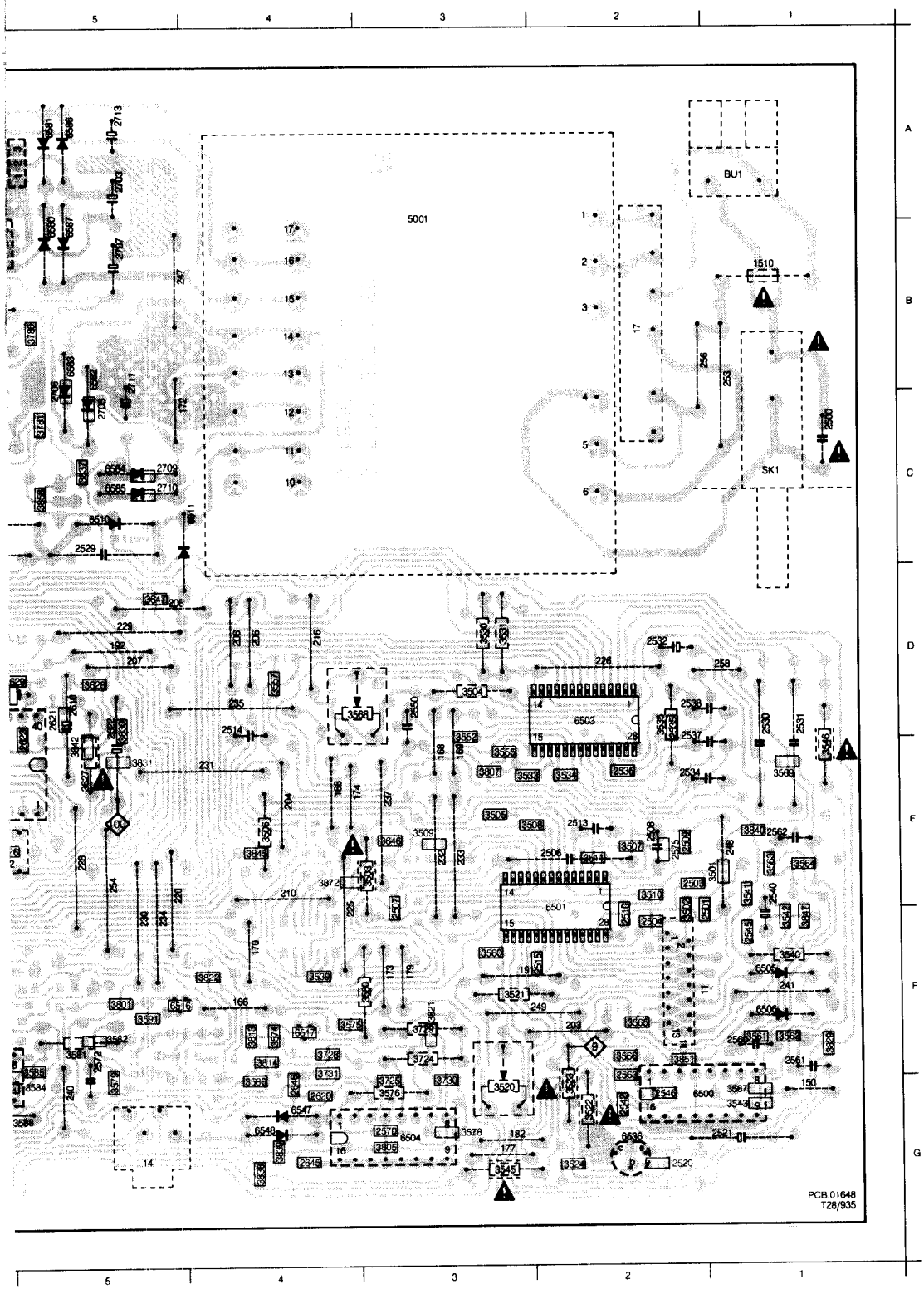
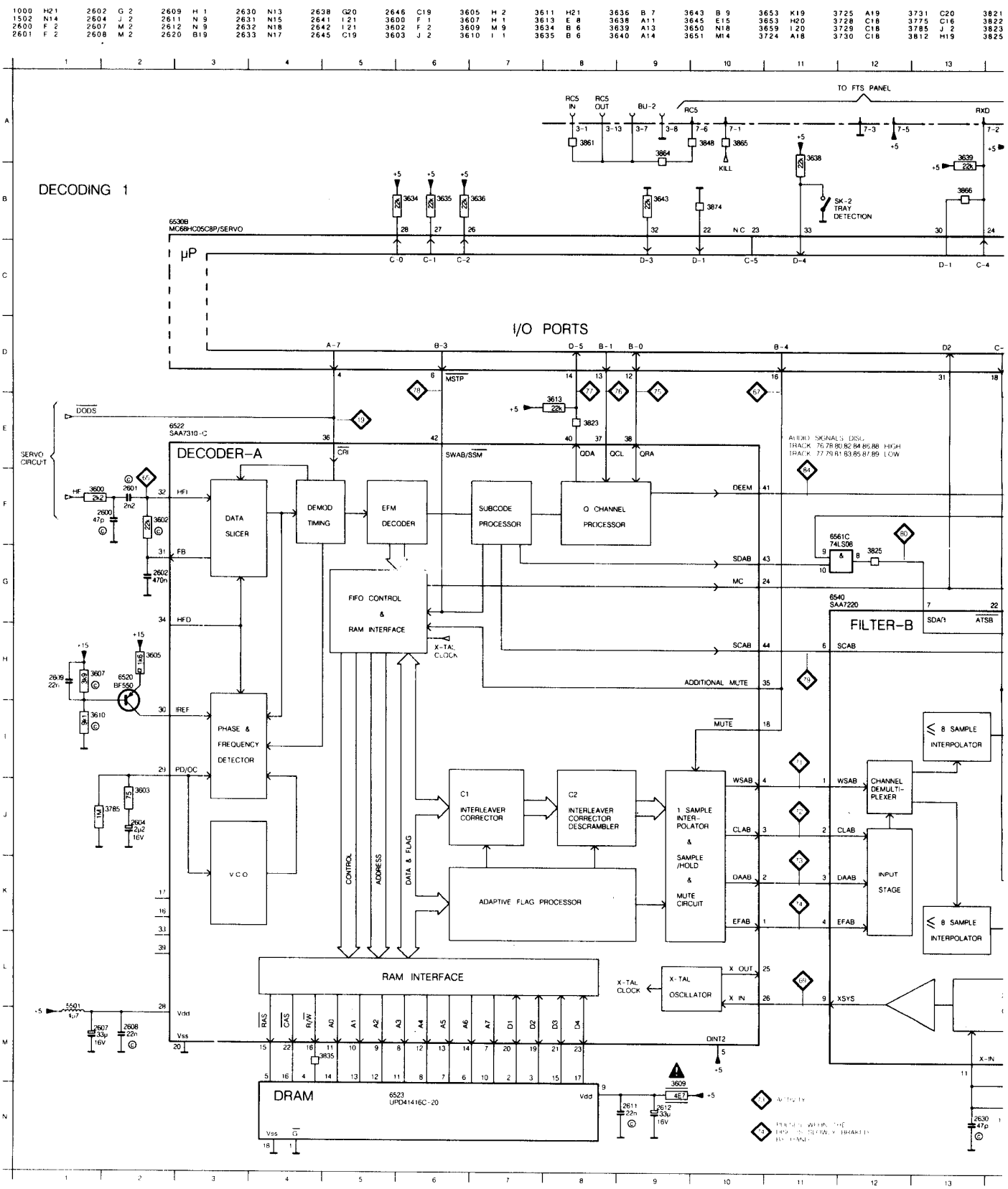
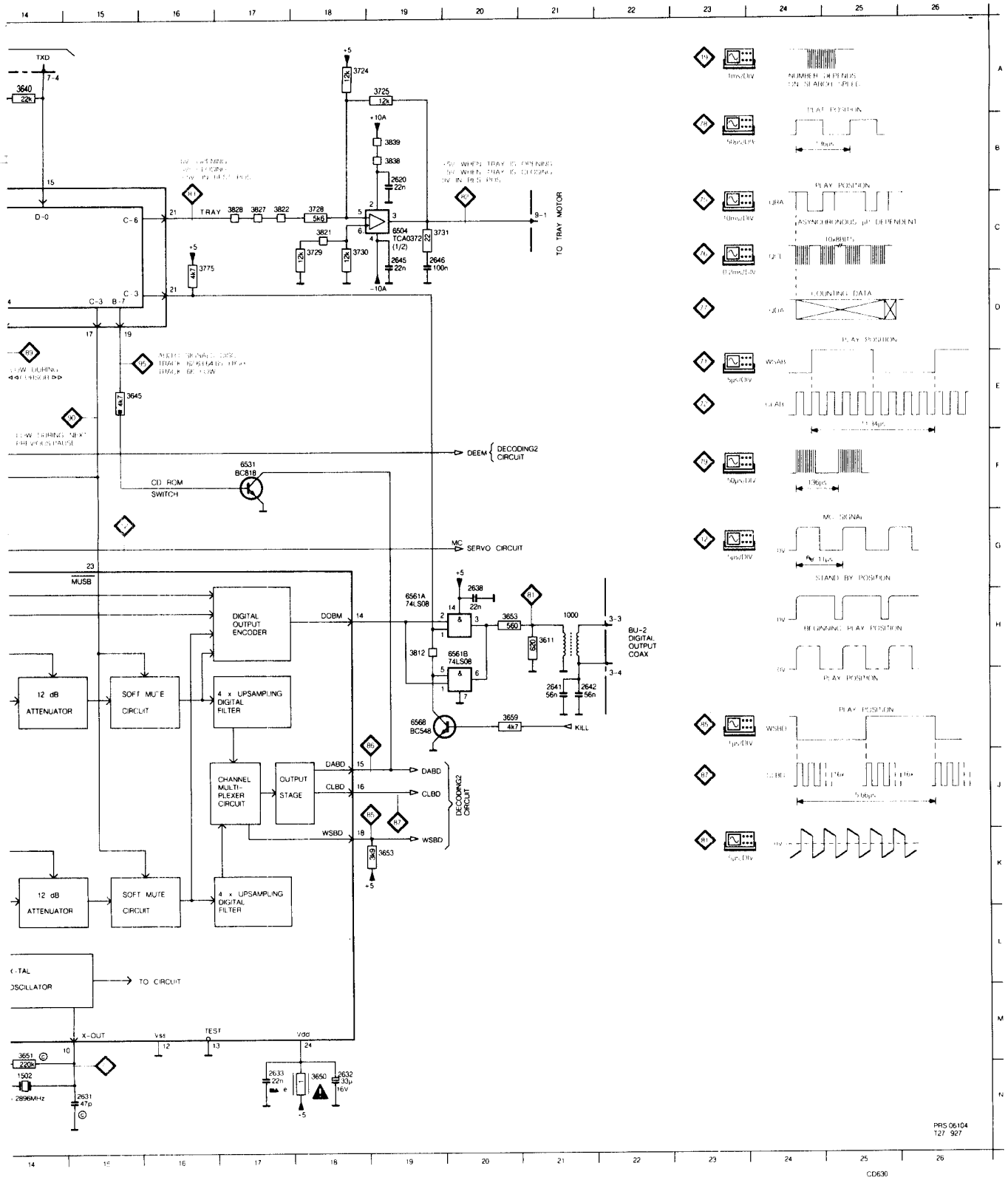
3626	C 7	3669	C10	3703	B 7	3745	D 9	3815	D 6	3839	G 4	3873	A 8	6531	F10	6559	D 7	6593	A 6		
3627	E 5	3670	C 8	3704	B 7	3747	B 7	3818	C 7	3840	E 1	3874	D 7	6535	C10	6561	F10	6601	C 7		



DECODING 1

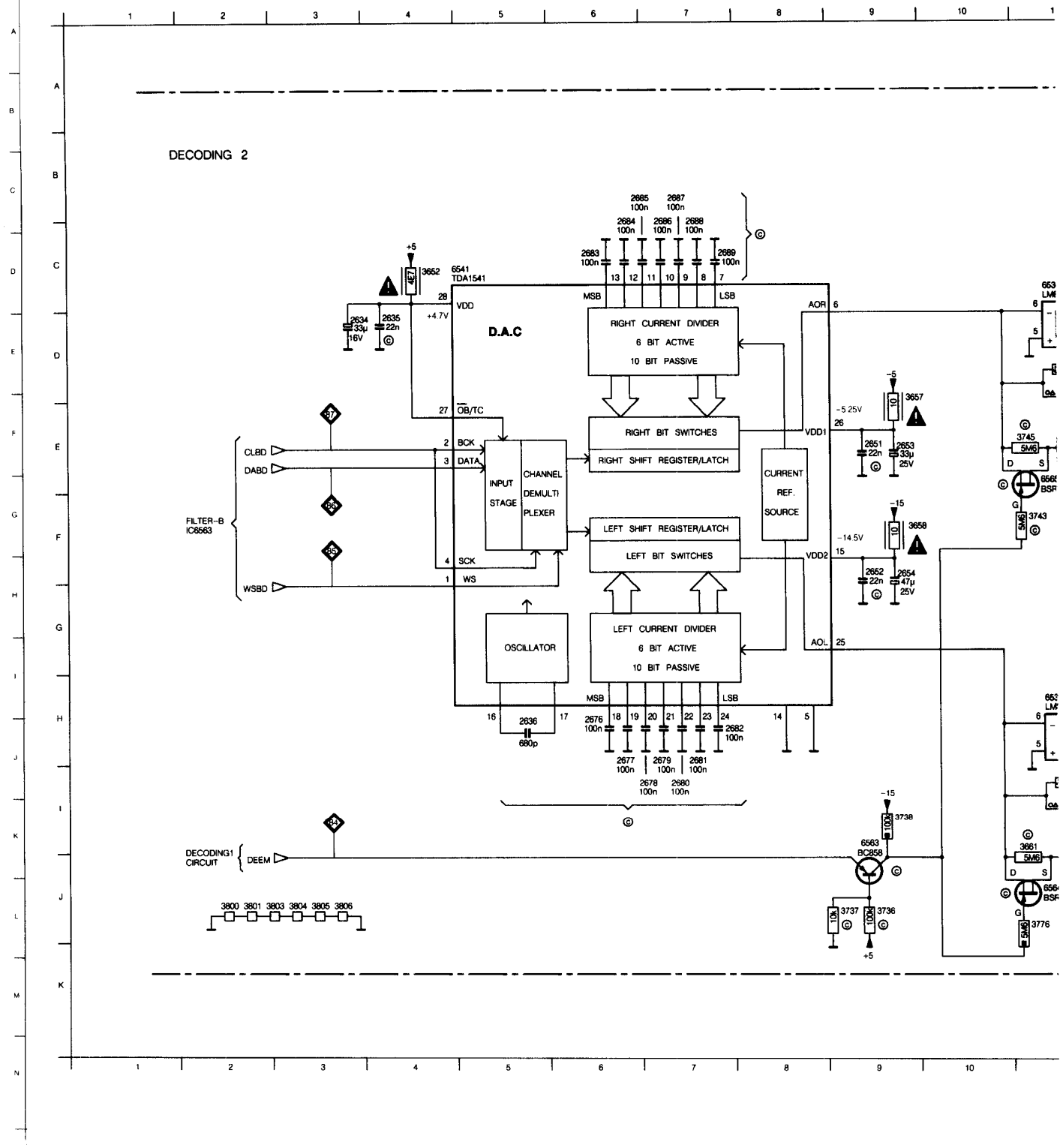

DECODING 1
TO FTS PANEL
RC5 IN
RC5 OUT
BU-2
RC5
RXD
KILL
SK-2 TRAY DETECTION
65309 MC68HC05C8P/SERVO
µP
I/O PORTS
SERVO CIRCUIT
DOOS
6522 SAA7310-C
DECODER-A
DATA SLICER
DEMOD TIMING
EFM DECODER
SUBCODE PROCESSOR
Q CHANNEL PROCESSOR
FIFO CONTROL & RAM INTERFACE
PHASE & FREQUENCY DETECTOR
VCO
C1 INTERLEAVER CORRECTOR
C2 INTERLEAVER CORRECTOR DESCRAMBLER
ADAPTIVE FLAG PROCESSOR
1 SAMPLE INTER-POLATOR & SAMPLE /HOLD & MUTE CIRCUIT
CONTROL
ADDRESS
DATA & FLAG
RAM INTERFACE
DRAM
6523 UPD41416C-20
X-TAL OSCILLATOR
X-TAL CLOCK
6540 SAA7220
FILTER-B
8 SAMPLE INTERPOLATOR
CHANNEL DEMULTI-PLEXER
INPUT STAGE
6561C 74LS08
ADDITIONAL MUTE
MUTE
MSTP
SWAB/SSM
AUDIO SIGNALS DSL:
TRACK 76 78 80 82 84 86 88 HIGH
TRACK 77 79 81 83 85 87 89 LOW

C18	3827	C17	3839	B19	3865	A10	6520	H 2	6531	F17	6561C F12
C17	3828	C17	3848	A10	3866	B13	6522	E 3	6540	G12	6568 I19
E 8	3835	M 5	3861	A 8	3874	B10	6523	N 6	6561A H19		SK-2 B12
G12	3838	B19	3864	A 9	5501	L 1	6530B B 3		6561B H20		

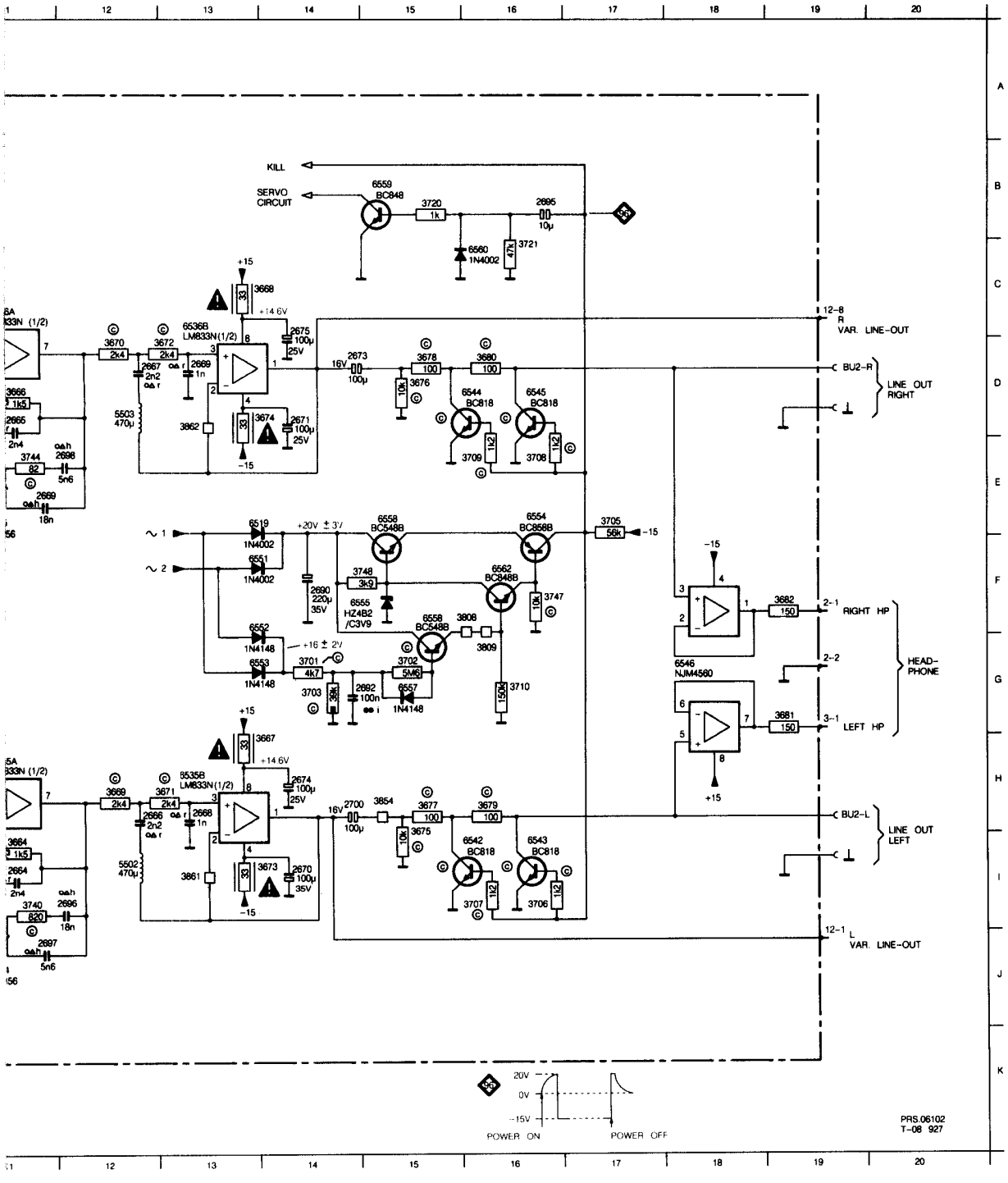


DECODING 2

2634	D 4	2654	F 9	2669	E11	2675	C14	2681	H 7	2687	B 7	2696	I 12	3658	F10	3669	H12	3675	H15	3681	G19	37
2635	D 4	2664	I 11	2669	D13	2676	H 6	2682	H 8	2688	C 7	2697	J 11	3661	I 11	3670	D12	3676	D15	3682	F19	37
2636	H 5	2665	D11	2670	I 14	2677	H 6	2683	C 6	2689	C 7	2698	E12	3664	I 11	3671	H13	3677	H15	3701	G14	37
2651	E 9	2666	H12	2671	D14	2678	I 7	2684	C 6	2690	F14	2700	H14	3666	D11	3672	D13	3678	D15	3702	G15	37
2652	F 9	2667	D12	2673	D14	2679	H 7	2685	B 7	2692	G15	3652	C 4	3667	H14	3673	I 14	3679	H16	3703	G14	37
2653	E 9	2668	H13	2674	H14	2680	I 7	2686	C 7	2695	B16	3657	D 9	3668	C14	3674	D14	3680	D16	3705	E17	37

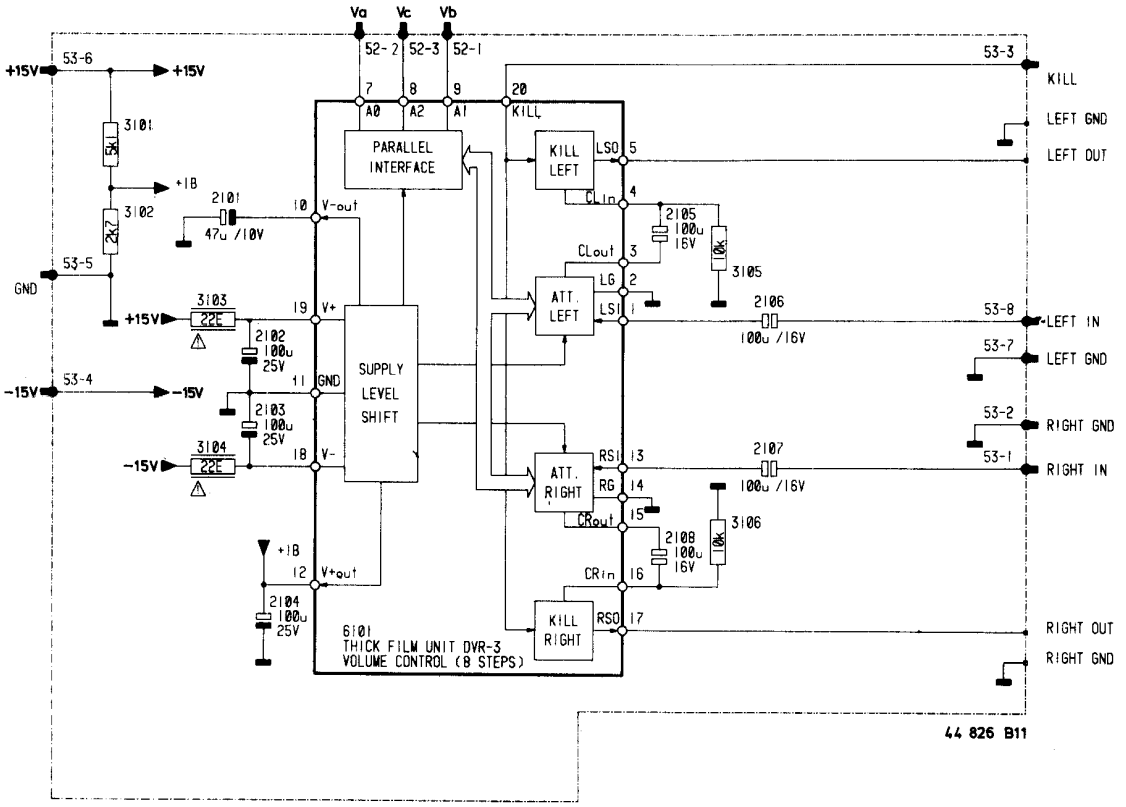


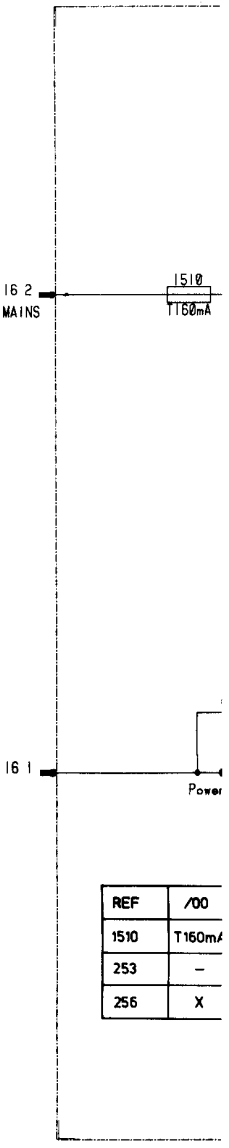
06	I 16	3721	C16	3744	E11	3801	J 2	3809	G16	6519	E14	6542	I 16	6552	F14	6558	F15	6565	E11				
07	I 16	3736	J 9	3745	E11	3803	J 3	3854	H15	6535A	H11	6543	I 16	6553	G14	6559	B15						
08	E16	3737	J 9	3747	F16	3804	J 3	3861	I 13	6535B	H13	6544	D16	6554	E16	6560	C16						
09	E16	3738	I 9	3748	F15	3805	J 3	3862	D13	6536A	C11	6545	D16	6555	F15	6562	F16						
10	G16	3740	I 11	3776	J11	3806	J 3	5502	I 12	6536B	C13	6546	G18	6557	G15	6563	I 9						
20	B15	3743	F11	3800	J 2	3808	F16	5503	D12	6541	C 5	6551	F14	6558	E15	6564	J11						



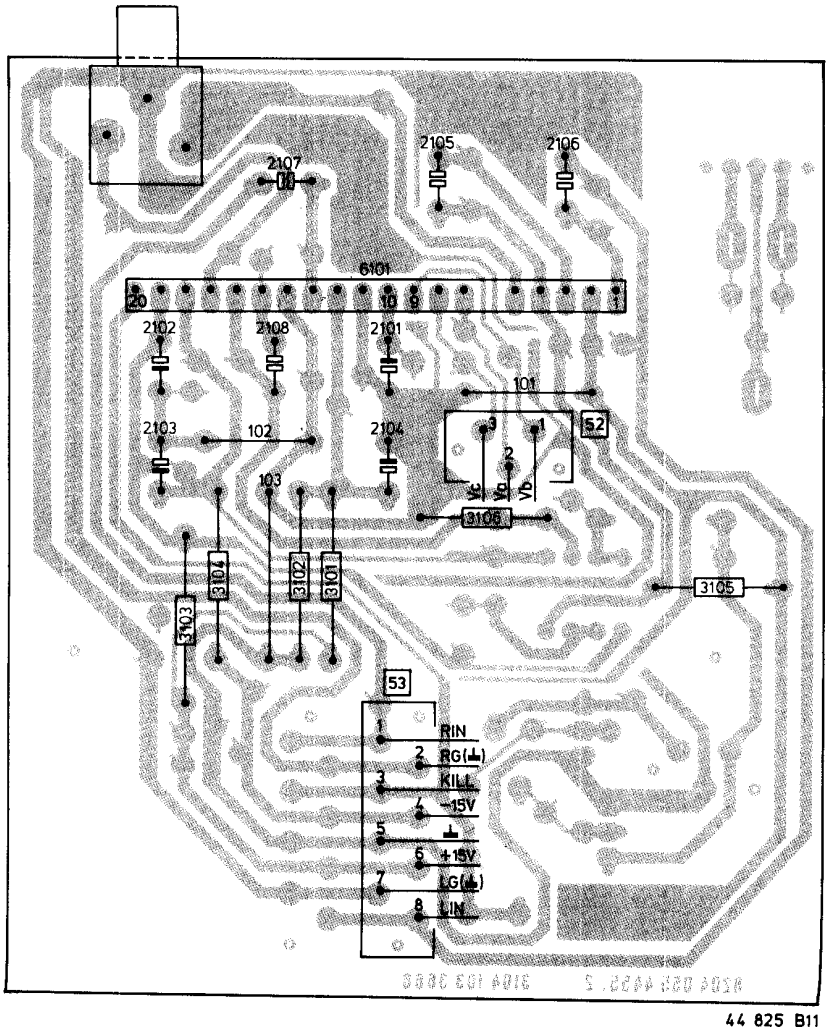
CD630

VARIABLE LINE OUT

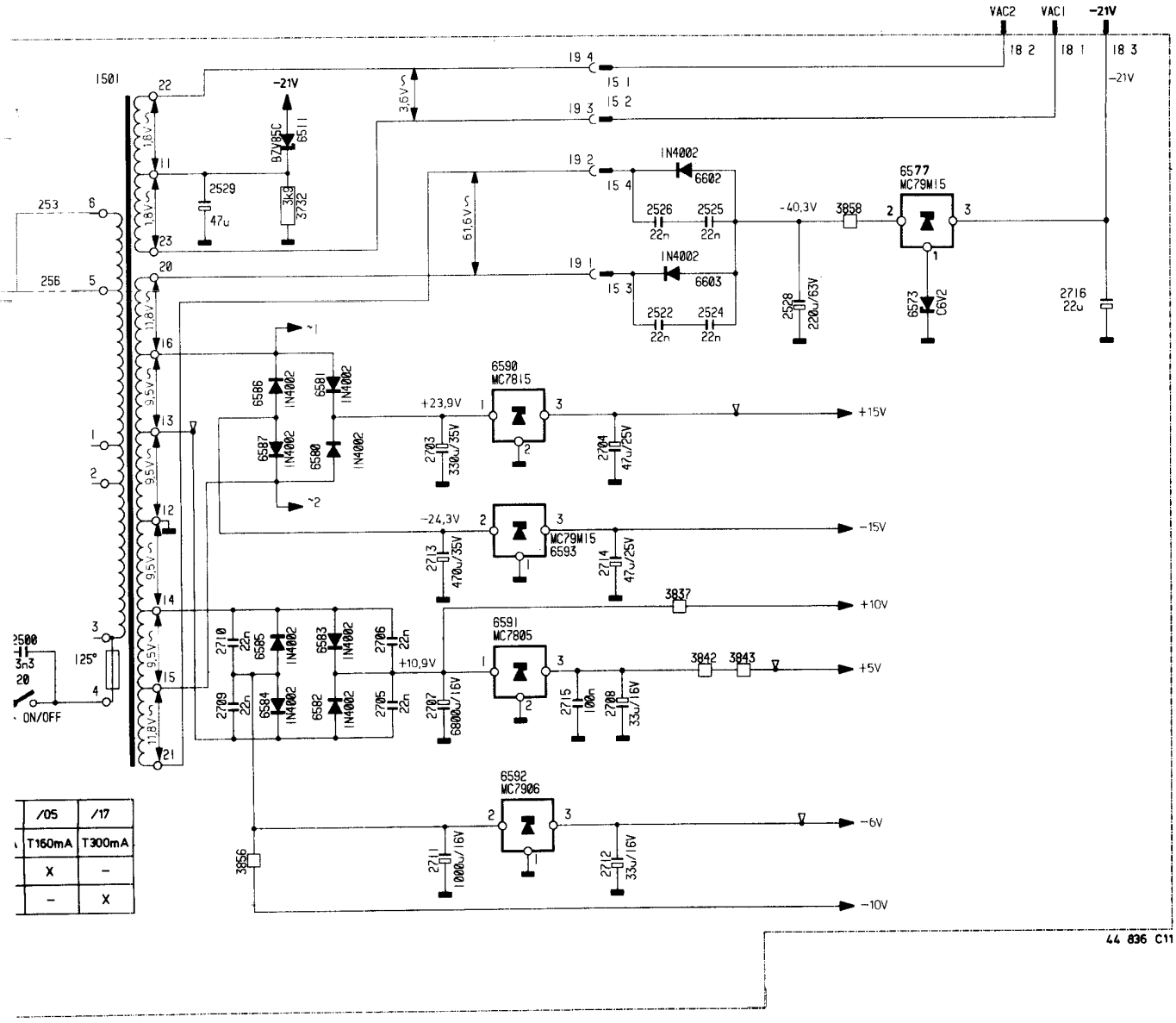




REF	/00
1510	T160mA
253	–
256	X

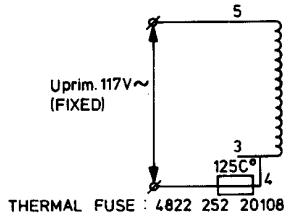


POWER SUPPLY



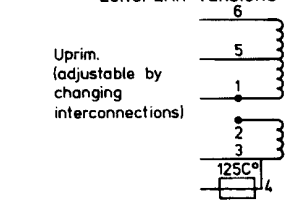
	/05	/17
	T160mA	T300mA
	X	-
	-	X

U.S. VERSIONS:

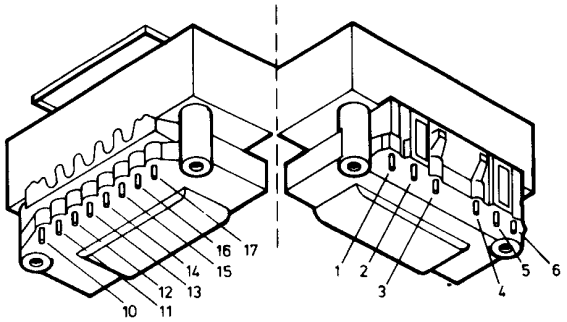


THERMAL FUSE : 4822 252 20108

EUROPEAN VERSIONS:



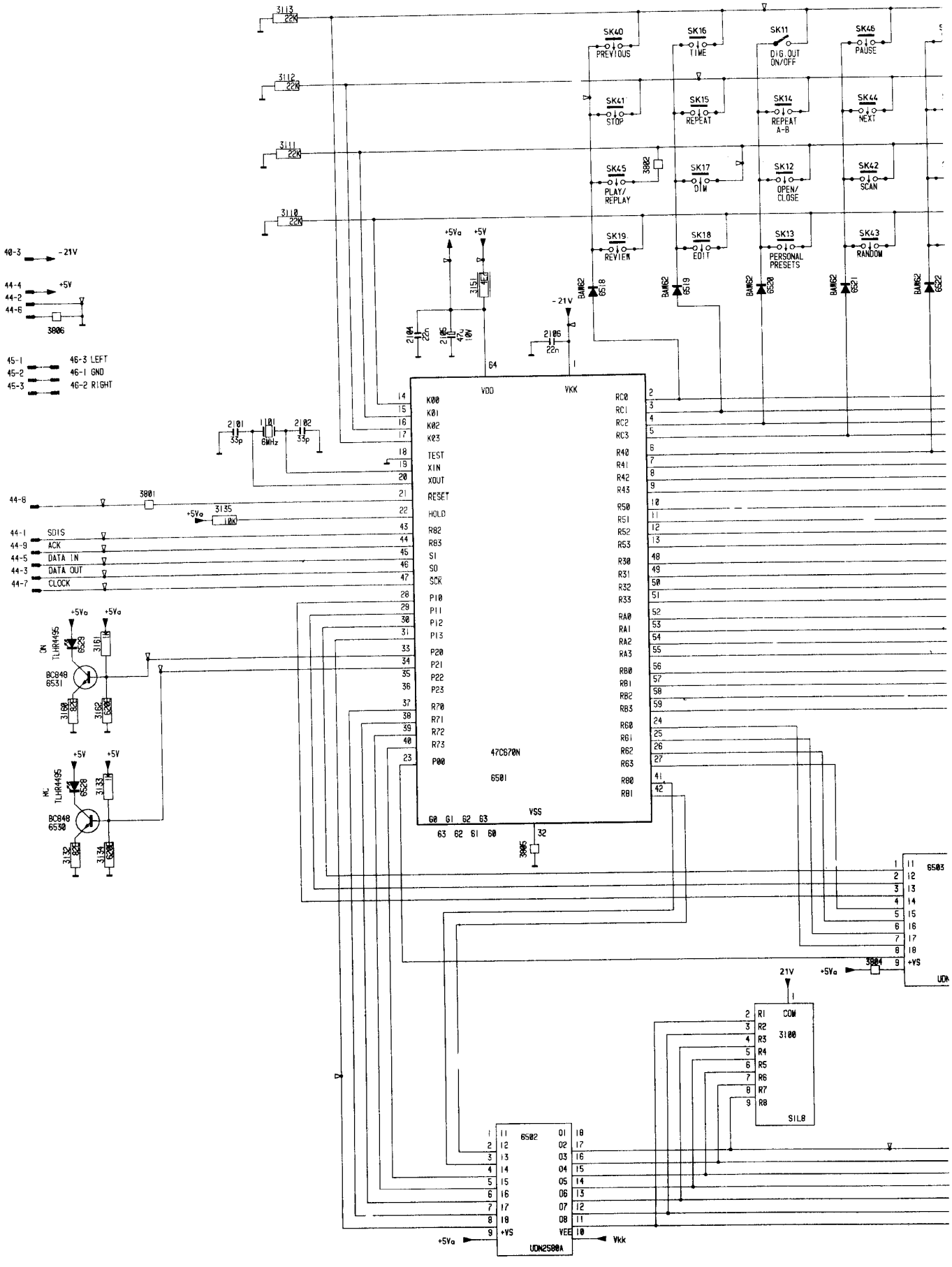
THERMAL FUSE : 4822 252 20017

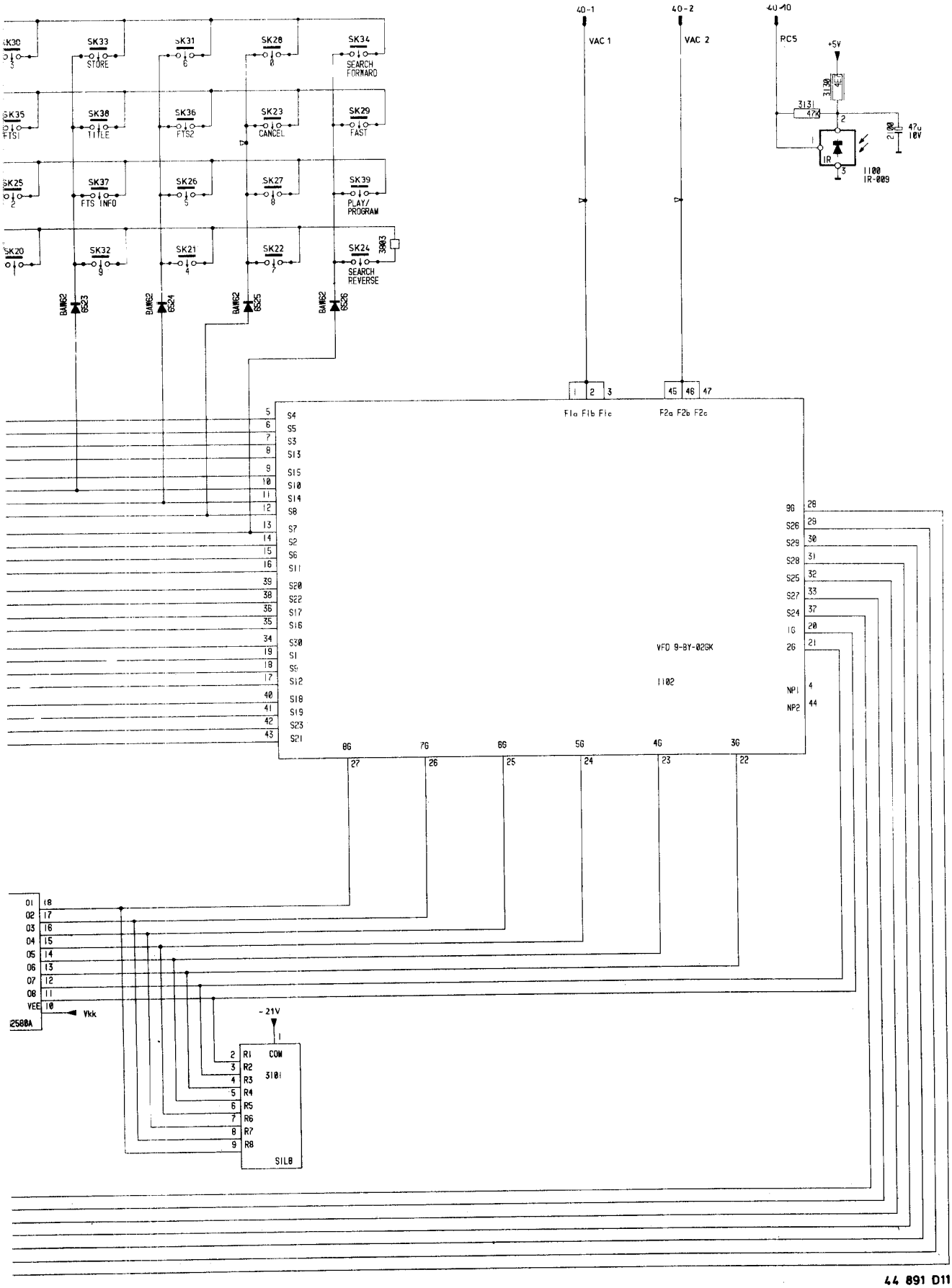


44 577 A11

Uprim. (V) ~	Winding	Inter-connect
110	4-1	3-1/5-2
127	4-6	3-1/5-2
220	4-5	1-2
240	4-6	1-2

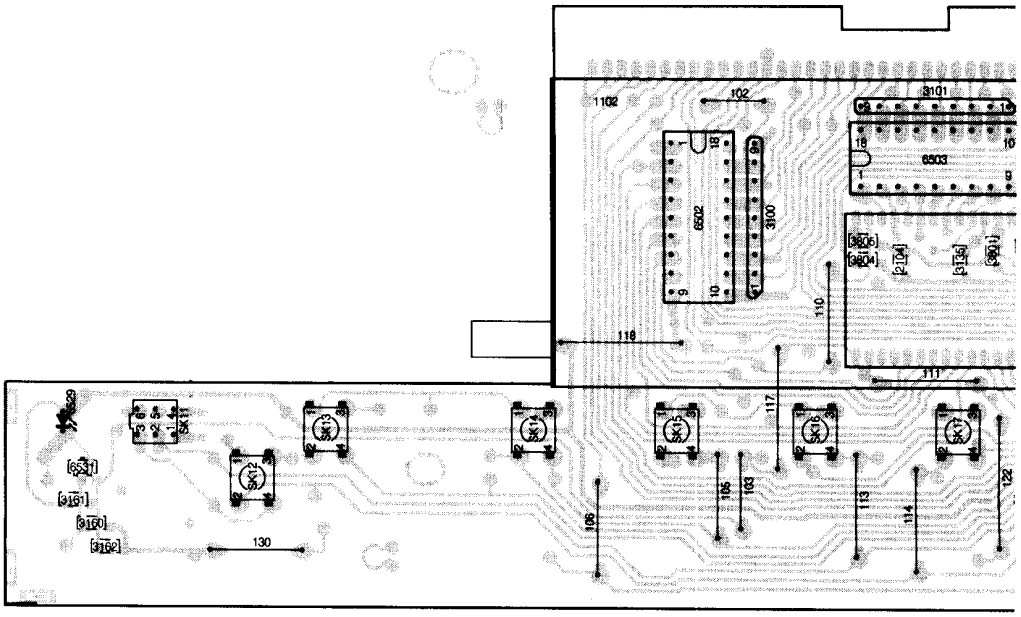
CONTROL AND DISPLAY PANEL

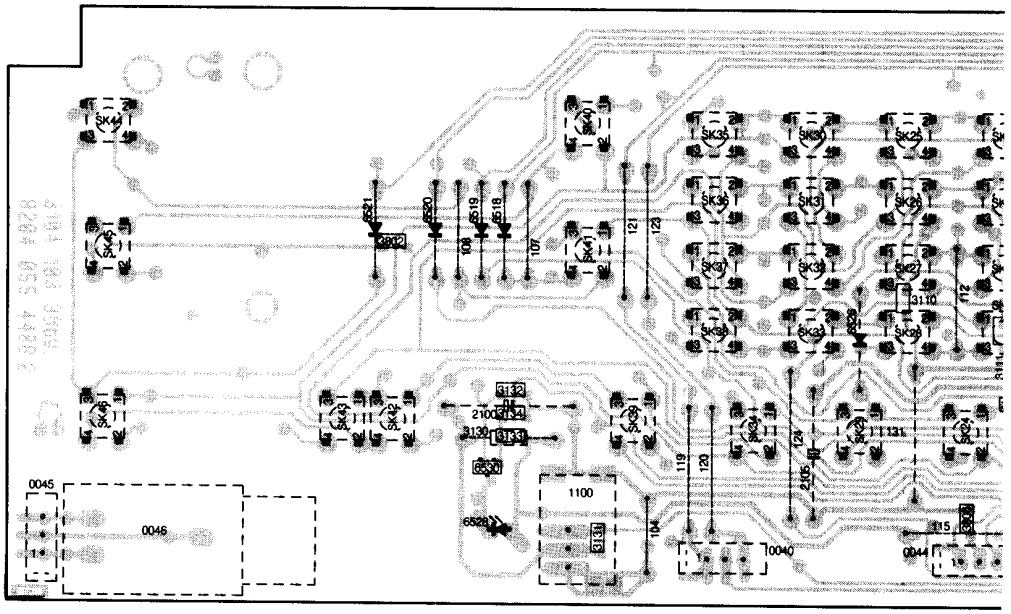


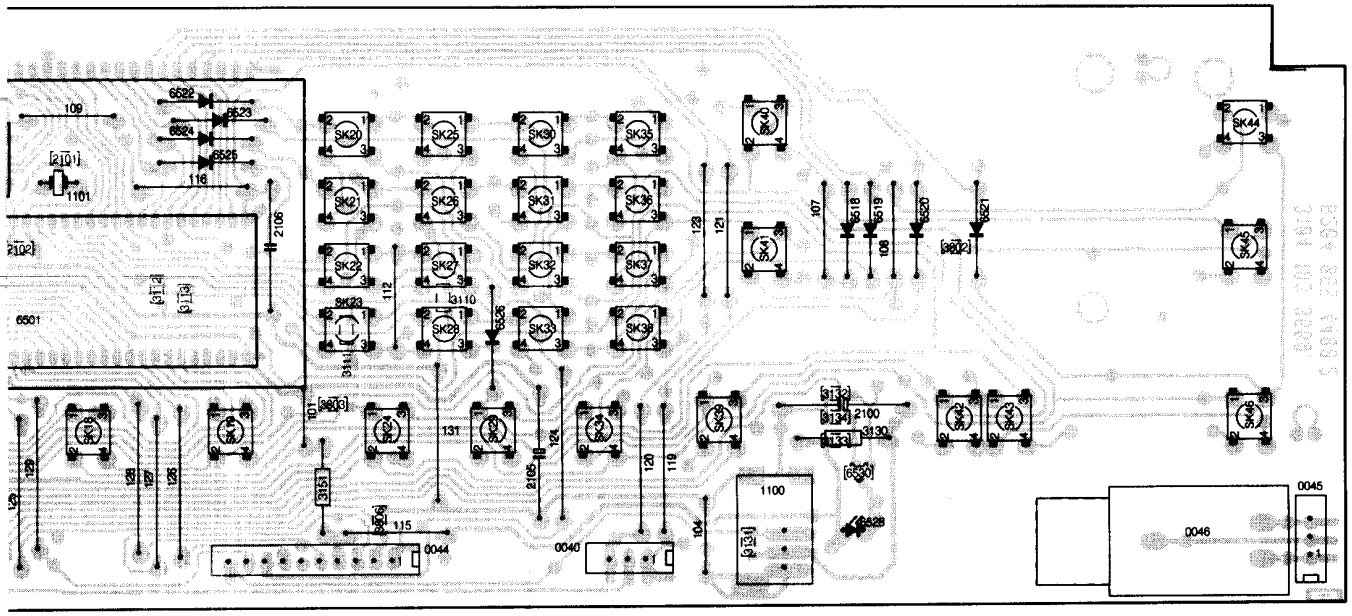

SK33 STORE
SK31 6
SK28 0
SK34 SEARCH FORWARD
SK35 FTS1
SK30 3
SK38 TITLE
SK36 FTS2
SK23 CANCEL
SK29 FAST
SK25 2
SK37 FTS INFO
SK26 5
SK27 8
SK39 PLAY/ PROGRAM
SK20
SK32 9
SK21 4
SK22 7
SK24 SEARCH REVERSE
3983
BAW62 6523
BAW62 6524
BAW62 6525
BAW62 6526
40-1 VAC 1
40-2 VAC 2
40-10 PC5
+5V
3139 4K3
3131 470
47u 10V
IR
1100 IR-009
F1a F1b F1c
F2a F2b F2c
S4 S5 S3 S13 S15 S10 S14 S8 S7 S2 S6 S11 S20 S22 S17 S16 S30 S1 S9 S12 S18 S19 S23 S21
VFD 9-BY-02GK
1102
9G S26 S29 S28 S25 S27 S24 1G 2G NP1 NP2
8G 7G 6G 5G 4G 3G
01 02 03 04 05 06 07 08 VEE
2588A
Vkk
-21V
R1 R2 R3 R4 R5 R6 R7 R8 COM
3101
SIL8

44 891 D11

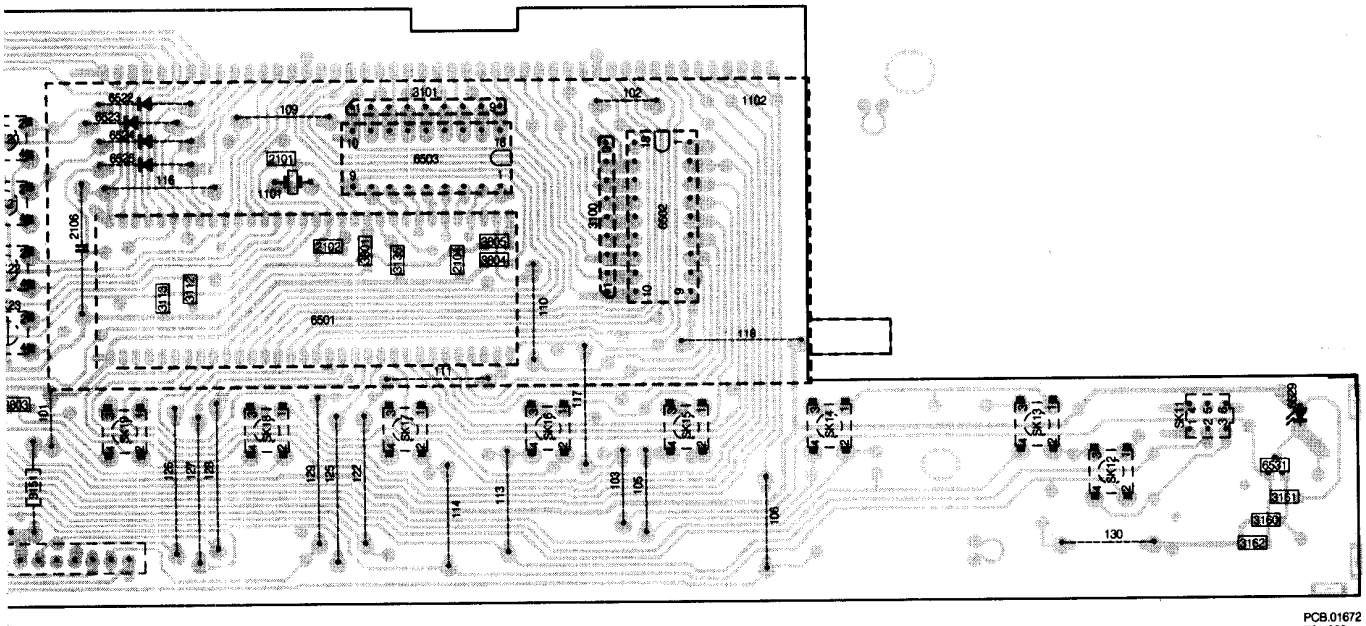
CONTROL AND DISPLAY PANEL





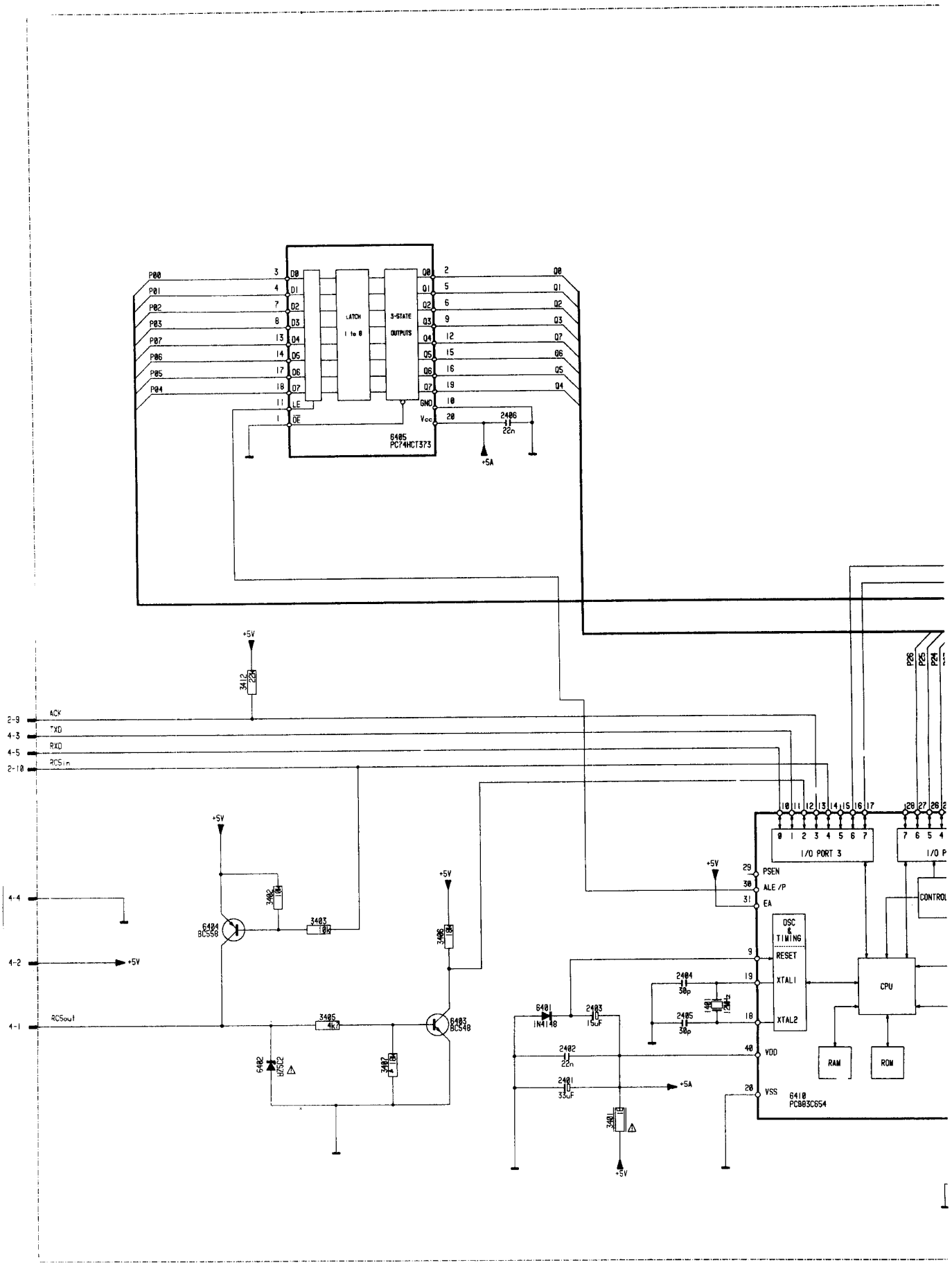


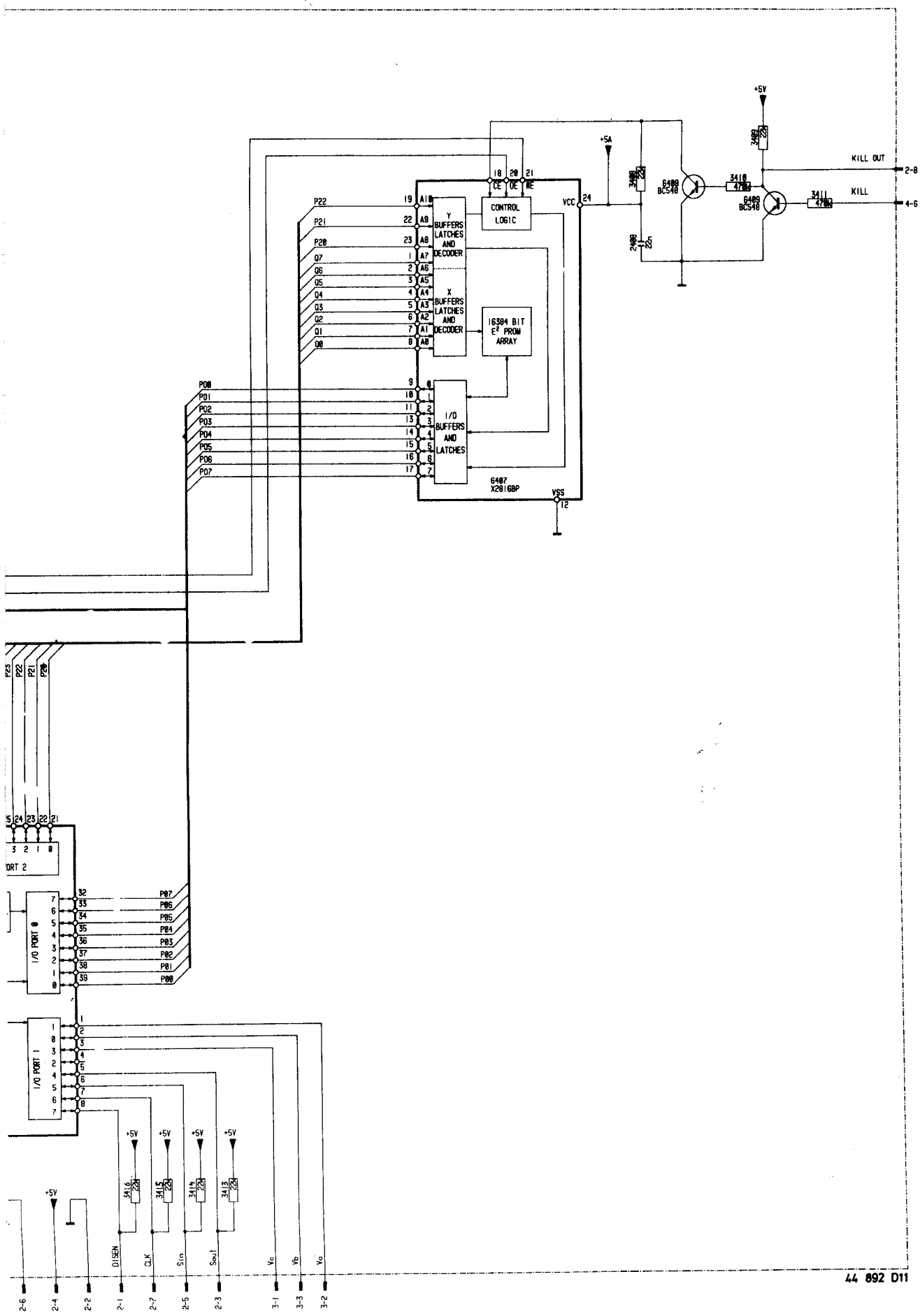
PCB.01631
T21/929



PCB.01672
T21/929

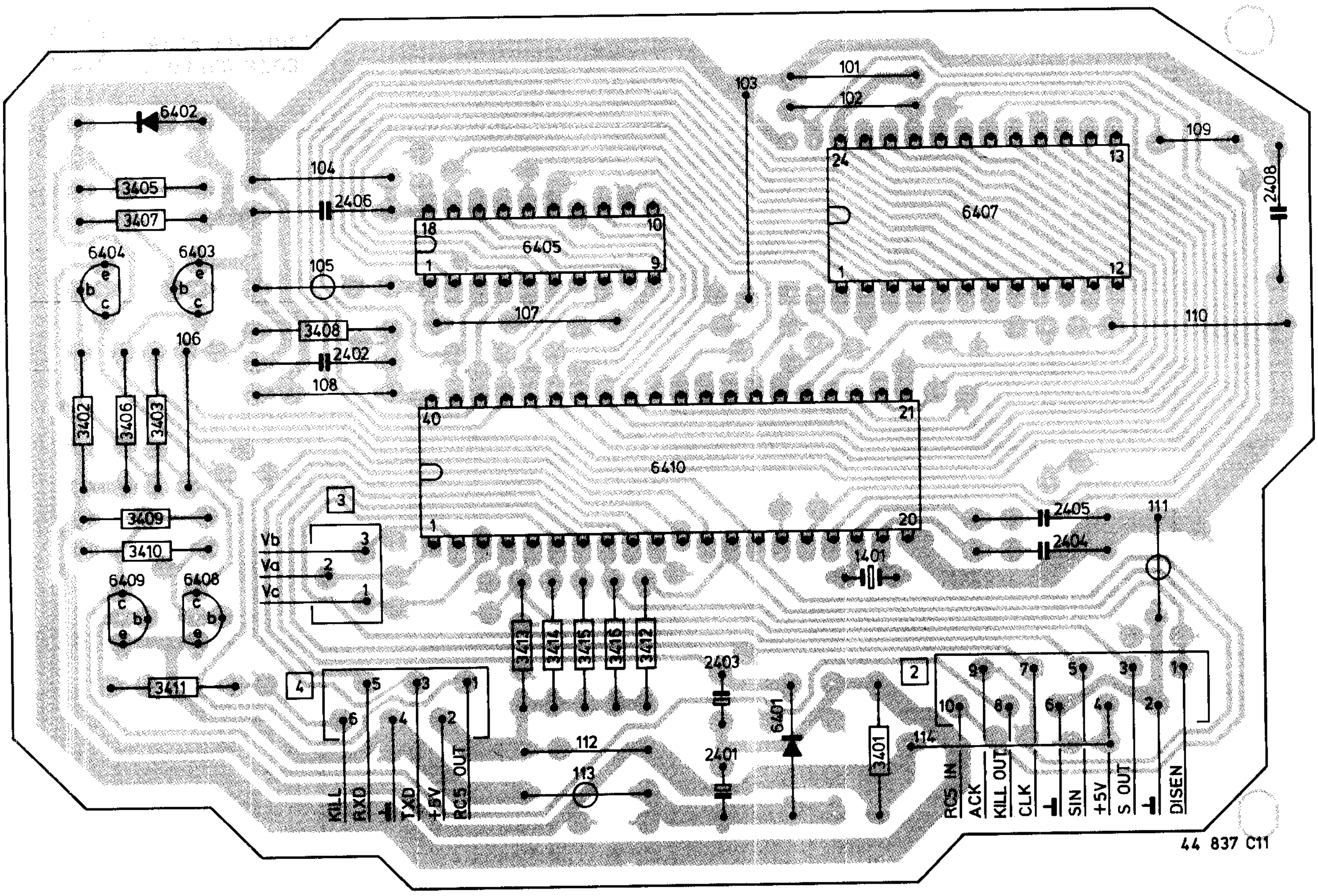
µP + FTS PANEL


P00
P01
P02
P03
P07
P06
P05
P04
LATCH
3-STATE
OUTPUTS
LE
OE
GND
Vcc
6405
PC74HCT373
2406
22n
+5A
+5V
3412
220
ACK
TXD
RXD
RCSin
2-9
4-3
4-5
2-10
4-4
4-2
4-1
RCSout
6404
BC558
3402
10k
3403
10k
3406
10k
3405
4k7
6403
BC548
6402
BZX12
3407
10k
I/O PORT 3
PSEN
ALE /P
EA
OSC
&
TIMING
RESET
XTAL1
XTAL2
VDD
VSS
6410
PC883C654
CPU
RAM
ROM
2404
30p
2405
30p
12MHz
6401
IN4148
2403
15uF
2402
22n
2401
33uF
3401
10k
CONTROL


+5V
KILL OUT
2-8
KILL
4-6
+5A
VCC
24
CONTROL LOGIC
Y BUFFERS LATCHES AND DECODER
X BUFFERS LATCHES AND DECODER
16384 BIT E² PROM ARRAY
I/O BUFFERS AND LATCHES
6407
X2816BP
VSS
12
P22
P21
P20
P00
P01
P02
P03
P04
P05
P06
P07
I/O PORT 0
I/O PORT 1
DISEN
CLK
Sin
Sout
Ve
Vb
Vo
2-6
2-4
2-2
2-1
2-7
2-5
2-3
3-1
3-3
3-2

44 892 D11

µP + FTS PANEL


6402
3405
3407
6404
6403
104
2406
105
3408
2402
108
106
3402
3406
3403
3409
3410
6409
6408
3411
6405
107
103
101
102
6407
109
2408
110
6410
3
Vb
Va
Vc
2405
2404
111
1401
3413
3414
3415
3416
3412
2403
6401
2401
112
113
4
KILL
RXD
TXD
+5V
RC5 OUT
2
3401
114
RC5 IN
ACK
KILL OUT
CLK
SIN
+5V
S OUT
DISEN
44 837 C11

Miscellaneous

BU–1	4822 265 20291	Mains inlet
BU–2	4822 267 20368	Cinch socket 5P
SK–1	4822 276 11309	Mains switch
SK–2	4822 276 12523	Tact switch (4.3mm)
	4822 256 30274	Fuse holder
	4822 492 63076	Clamping spring

HF–transformer

1000	4822 148 80281	HF–transformer for Digital Output

Crystal

1502	4822 242 71349	11,289600 MHz Quartz Crystal
1503	4822 242 70831	4.00 MHz Ceramic Ceramic Resonator

⊣⊢

2500	4822 126 10005	3n3 400V 20% Ceramic disc cap.
2501	4822 122 33147	22nF 20% for /05R
2501	4822 122 32863	22nF 20% for /00R
2503	4822 122 33147	22nF 20% for /05R
2503	4822 122 32863	22nF 20% for /00R
2504	4822 122 31727	470pF 5% 63V
2506	4822 122 10166	22nF 30% 16V
2507	4822 122 31644	2n2 10% 63V
2509	4822 122 31765	100pF 5% 50V
2510	4822 122 32442	10nF 50V
2511	4822 122 31746	1000pF 5% 50V
2513	4822 121 42245	220nF 10% 63V
2514	4822 121 51252	470nF 5% 100V
2515	4822 122 31746	1000pF 5% 50V
2520	4822 122 31965	220pF 5% 63V
2521	4822 124 41527	47µF 25V
2522	4822 122 33147	22nF 20%
2524	4822 122 33147	22nF 20%
2525	4822 122 33147	22nF 20%
2526	4822 122 33147	22nF 20%
2528	4822 124 41799	220µF 63V for /05R
2530	4822 121 51321	8µ2 1% 63V
2531	4822 121 51321	8µ2 1% 63V
2532	4822 124 40272	33µF 20% 16V
2534	5322 121 42661	330nF 5% 63V
2535	5322 122 31848	33nF 10% 63V
2536	5322 122 31848	33nF 10% 63V
2537	4822 121 42245	220nF 10% 63V
2538	4822 121 42245	220nF 10% 63V
2540	4822 124 41583	0µ68 Bipolar Elco
2542	4822 122 33147	22nF 20%
2545	4822 122 33104	100nF 10% 63V
2546	4822 122 33147	22nF 20%
2550	5322 121 42491	47nF 5% 100V
2560	4822 121 51314	4n7 5% 50V
2561	4822 121 51252	470nF 5% 100V
2562	5322 121 42661	330nF 5% 63V
2563	4822 122 33104	100nF 10% 63V
2566	4822 122 33147	22nF 20%
2570	4822 122 31644	2n2 10% 63V
2572	5322 121 42661	330nF 5% 63V
2574	4822 122 31759	18nF 10%
2600	4822 122 31772	47pF 5% 50V
2601	4822 122 31644	2n2 10% 63V
2602	4822 121 51252	470nF 5% 100V
2604	4822 124 41576	2µ2 20% 50V
2607	4822 124 40272	33µF 20% 16V

⊣⊢

2608	4822 122 33147	22nF 20%
2609	4822 122 33147	22nF 20%
2610	4822 124 20688	33µF 50% 16V
2611	4822 122 33147	22nF 20%
2612	4822 124 40272	33µF 20% 16V
2620	4822 122 33147	22nF 20%
2621	4822 122 33147	22nF 20%
2622	4822 124 22031	4µ7 20% 63V
2623	4822 122 31772	47pF 5% 50V
2624	4822 122 31772	47pF 5% 50V
2630	4822 122 31772	47pF 5% 50V
2631	4822 122 31772	47pF 5% 50V
2632	4822 124 40272	33µF 20% 16V
2633	4822 122 33147	22nF 20%
2634	4822 124 40272	33µF 20% 16V
2635	4822 122 33147	22nF 20%
2636	4822 122 31775	680pF 5% 50V
2638	4822 122 10166	22nF 30% 16V
2641	4822 122 32183	56nF 10% 50V
2642	4822 122 32183	56nF 10% 50V
2645	4822 122 33147	22nF 20%
2646	4822 122 33104	100nF 10% 63V
2651	4822 122 33147	22nF 20%
2652	4822 122 33147	22nF 20%
2653	4822 124 40272	33µF 20% 16V
2654	4822 124 41527	47µF 25V
2664	4822 121 51111	2n4 2% 250V
2665	4822 121 51111	2n4 2% 250V
2666	4822 121 42783	2n2 2%
2667	4822 121 42783	2n2 2%
2668	4822 121 43066	1nF 1% 400V
2669	4822 121 43066	1nF 1% 400V
2670	4822 124 41528	100µF 25V
2671	4822 124 41528	100µF 25V
2673	4822 124 22339	100µF 20% 16V Bipolar
2674	4822 124 41528	100µF 25V
2675	4822 124 41528	100µF 25V
2676	4822 122 33104	100nF 10% 63V
2677	4822 122 33104	100nF 10% 63V
2678	4822 122 33104	100nF 10% 63V
2679	4822 122 33104	100nF 10% 63V
2680	4822 122 33104	100nF 10% 63V
2681	4822 122 33104	100nF 10% 63V
2682	4822 122 33104	100nF 10% 63V
2683	4822 122 33104	100nF 10% 63V
2684	4822 122 33104	100nF 10% 63V
2685	4822 122 33104	100nF 10% 63V
2686	4822 122 33104	100nF 10% 63V
2687	4822 122 33104	100nF 10% 63V
2688	4822 122 33104	100nF 10% 63V
2689	4822 122 33104	100nF 10% 63V
2690	4822 124 41573	470µF 20% 35V
2691	4822 121 51252	470nF 5% 100V for /05R
2691	5322 121 42498	680nF 10% 63V for /00R
2692	5322 121 42386	100nF 5% 63V
2693	4822 122 33147	22nF 20%
2695	4822 124 41558	10µF 20% 25V Bipolar
2696	4822 121 51225	18nF 2% 63V
2697	4822 121 51361	5n6 2% 160V
2698	4822 121 51361	5n6 2% 160V
2699	4822 121 51225	18nF 2% 63V
2700	4822 124 22339	100µF 20% 16V Bipolar
2703	4822 124 41594	330µF 20% 35V
2704	4822 124 41527	47µF 25V
2705	4822 122 33147	22nF 20%
2706	4822 122 33147	22nF 20%
2707	4822 124 41591	6800µF 20% 16V

2708	4822 124 40272	33µF 20% 16V
2709	4822 122 33147	22nF 20%
2710	4822 122 33147	22nF 20%
2711	4822 124 41571	1000µF 20% 16V
2712	4822 124 40272	33µF 20% 16V
2713	4822 124 41573	470µF 20% 35V
2714	4822 124 41527	47µF 25V
2715	5322 121 42386	100nF 5% 63V

3501	5322 111 90111	4k7 2% 0,25W
3502	4822 111 90214	100k 2% 0,25W
3503	4822 111 30499	4Ω7 5% 0,33W
3504	4822 111 30499	4Ω7 5% 0,33W
3505	4822 111 90253	12k 2% 0,25W
3506	4822 116 52389	100Ω 5% 0,5W
3507	5322 111 90092	1k 2% 0,25W
3508	4822 111 90512	24k 2% 0,25W
3509	4822 111 90572	5k6 2% 0,25W
3510	4822 111 90249	10k 2% 0,25W
3520	4822 101 10685	4k7 20%LIN 0,05W trimpot
3521	4822 116 52849	220Ω 1% 0,5W
3522	4822 111 30515	18Ω 5% 0,33W
3523	4822 111 30511	12Ω 5% 0,33W
3524	5322 111 90091	100Ω 2% 0,25W
3530	4822 116 52857	MRS25 47k 1%
3531	4822 116 53083	MRS25 15k 1%
3533	5322 111 90268	5k1 2% 0,25W
3534	4822 111 90197	220k 2% 0,25W
3535	4822 116 53081	12k 1% 0,6W
3539	4822 111 90251	22k 2% 0,25W
3540	4822 111 30499	4Ω7 5% 0,33W
3541	4822 111 90544	6k8 2% 0,25W
3542	4822 111 90357	33Ω 2% 0,25W
3543	4822 111 90544	6k8 2% 0,25W
3545	4822 111 30483	1Ω 5% 0,33W
3546	4822 111 30483	1Ω 5% 0,33W
3552	5322 111 90101	1k8 2% 0,25W
3555	4822 111 90238	180k 2% 0,25W
3557	4822 111 90197	220k 2% 0,25W
3560	4822 111 91494	11k 2%
3561	4822 116 90417	150k 2%
3562	4822 111 90568	120k 2% 0,25W
3563	4822 111 90573	56k 2% 0,25W
3564	4822 111 91495	160k 2%
3565	5322 111 90105	27Ω 2% 0,25W
3566	4822 111 90186	22Ω 2% 0,25W
3567	4822 111 90575	82k 2% 0,25W
3568	4822 100 20522	22k 20%LIN 0,05W trimpot
3569	4822 111 90368	680k 2% 0,125W
3574	5322 111 90267	33k 2% 0,25W
3575	5322 111 90111	4k7 2% 0,25W
3576	4822 116 52848	200k 1% 0,6W
3578	4822 111 90575	82k 2% 0,25W
3579	4822 116 90417	150k 2%
3580	4822 116 52426	4k7 5% 0,5W
3581	4822 116 53105	3k3 1% 0,6W
3582	4822 111 90572	5k6 2% 0,25W
3584	4822 111 91492	91k 2%
3585	4822 111 90214	100k 2% 0,25W
3586	4822 111 90368	680k 2% 0,125W
3588	4822 116 52472	47k 5% 0,5W
3589	5322 111 90111	4k7 2% 0,25W
3591	5322 111 90096	1k2 2% 0,25W
3600	4822 111 90248	2k2 2% 0,25W
3602	4822 111 90251	22k 2% 0,25W
3603	4822 111 90371	75Ω 2% 0,25W

3604	4822 111 30499	4Ω7 5% 0,33W
3605	5322 111 90265	1k6 2% 0,25W
3607	4822 111 90571	3k9 2% 0,25W
3609	4822 111 30499	4Ω7 5% 0,33W
3610	4822 111 90373	9k1 2% 0,25W
3611	4822 111 90366	620Ω 2% 0,25W
3613	4822 111 90251	22k 2% 0,25W
3627	4822 111 30499	4Ω7 5% 0,33W
3628	4822 111 90251	22k 2% 0,25W
3629	4822 111 90197	220k 2% 0,25W
3638	4822 111 90251	22k 2% 0,25W
3639	4822 111 90251	22k 2% 0,25W
3640	4822 111 90251	22k 2% 0,25W
3642	4822 111 90251	22k 2% 0,25W
3645	5322 111 90111	4k7 2% 0,25W
3646	4822 111 90251	22k 2% 0,25W
3647	4822 111 90251	22k 2% 0,25W
3650	4822 111 30483	1Ω 5% 0,33W
3651	4822 111 90197	220k 2% 0,25W
3652	4822 111 30499	4Ω7 5% 0,33W
3653	4822 116 52428	560Ω 5% 0,5W
3657	4822 111 30499	4Ω7 5% 0,33W
3658	4822 111 30508	10Ω 5% 0,33W
3659	4822 116 52426	4k7 5% 0,5W
3665	5322 116 53478	1k5 1% 0,6W
3666	5322 116 53478	1k5 1% 0,6W
3667	4822 111 30511	12Ω 5% 0,33W
3668	4822 111 30511	12Ω 5% 0,33W
3669	4822 116 90271	2k4 2%
3670	4822 116 90271	2k4 2%
3671	4822 116 90271	2k4 2%
3672	4822 116 90271	2k4 2%
3673	4822 111 30511	12Ω 5% 0,33W
3674	4822 111 30511	12Ω 5% 0,33W
3675	4822 111 90249	10k 2% 0,25W
3676	4822 111 90249	10k 2% 0,25W
3677	5322 111 90091	100Ω 2% 0,25W
3678	5322 111 90091	100Ω 2% 0,25W
3679	5322 111 90091	100Ω 2% 0,25W
3680	5322 111 90091	100Ω 2% 0,25W
3681	5322 116 80431	150Ω 5% 0,25W
3682	5322 116 80431	150Ω 5% 0,25W
3701	5322 111 90111	4k7 2% 0,25W
3702	4822 111 90425	5M6 5% 0,25W
3703	5322 111 90108	39k 2% 0,25W
3704	5322 111 90096	1k2 2% 0,25W
3705	4822 111 90573	56k 2% 0,25W
3706	5322 111 90096	1k2 2% 0,25W
3707	5322 111 90096	1k2 2% 0,25W
3708	5322 111 90096	1k2 2% 0,25W
3710	5322 111 90099	150k 2% 0,25W
3720	5322 111 90092	1k 2% 0,25W
3721	4822 111 90543	47k 2% 0,25W
3724	4822 116 53081	12k 1% 0,6W
3725	4822 111 90253	12k 2% 0,25W
3728	4822 111 90572	5k6 2% 0,25W
3729	4822 116 53081	12k 1% 0,6W
3730	4822 111 90253	12k 2% 0,25W
3731	4822 111 90186	22Ω 2% 0,25W
3732	4822 116 52422	3k9 5% 0,33W
3732	4822 116 52849	220Ω 1% 0,6W
3736	4822 111 90214	100k 2% 0,25W
3737	4822 111 90249	10k 2% 0,25W
3738	4822 111 90214	100k 2% 0,25W
3739	4822 111 90425	5M6 5% 0,25W
3740	4822 116 52864	820Ω 1% 0,6W
3743	4822 111 90425	5M6 5% 0,25W
3744	4822 116 52864	820Ω 1% 0,6W
3745	4822 111 90425	5M6 5% 0,25W

3747	4822 111 90249	10k 2% 0,25W
3748	4822 111 90571	3k9 2% 0,25W
3775	5322 111 90111	4k7 2% 0,25W
3776	4822 111 90425	5M6 5% 0,25W
3785	4822 116 52493	1M 5% 0,33W

3801	4822 111 90163	jumper
3802	4822 111 90163	jumper
3803	4822 111 90163	jumper
3804	4822 111 90163	jumper
3805	4822 111 90163	jumper
3808	4822 111 90163	jumper
3809	4822 111 90163	jumper
3811	4822 111 90163	jumper
3812	4822 111 90163	jumper
3813	4822 111 90163	jumper
3814	4822 111 90163	jumper
3819	4822 111 90163	jumper
3820	4822 111 90163	jumper
3821	4822 111 90163	jumper
3822	4822 111 90163	jumper
3823	4822 111 90163	jumper
3824	4822 111 90163	jumper
3825	4822 111 90163	jumper
3826	4822 111 90163	jumper
3827	4822 111 90163	jumper
3828	4822 111 90163	jumper
3829	4822 111 90163	jumper
3830	4822 111 90163	jumper
3831	4822 111 90163	jumper
3833	4822 111 90163	jumper
3834	4822 111 90163	jumper
3835	4822 111 90163	jumper
3836	4822 111 90163	jumper
3837	4822 111 90163	jumper
3838	4822 111 90163	jumper
3839	4822 111 90163	jumper
3840	4822 111 90163	jumper
3841	4822 111 90163	jumper
3842	4822 111 90163	jumper
3843	4822 111 90163	jumper
3844	4822 111 90163	jumper
3845	4822 111 90163	jumper
3847	4822 111 90163	jumper
3848	4822 111 90163	jumper
3852	4822 111 90163	jumper
3854	4822 111 90163	jumper
3855	4822 111 90163	jumper
3856	4822 111 90163	jumper
3857	4822 111 90163	jumper
3858	4822 111 90163	jumper
3859	4822 111 90163	jumper
3860	4822 111 90163	jumper
3861	4822 111 90163	jumper
3862	4822 111 90163	jumper
3864	4822 111 90163	jumper
3865	4822 111 90163	jumper
3866	4822 111 90163	jumper

5502	4822 157 53141	coil 470µH
5503	4822 157 53141	coil 470µH

6500	4822 209 72587	TCA0372DP2
6501	4822 209 73234	TDA8808T/C3
6502	4822 130 44121	BC338
6503	4822 209 73235	TDA8809T/C2
6504	4822 209 72587	TCA0372DP2
6505	4822 130 34173	BZX79-B5V6
6506	4822 130 34173	BZX79-B5V6
6511	4822 130 31456	BZV85-C5V1
6512	4822 209 83274	NJM4560D
6516	5322 130 42012	BC858
6517	5322 130 42012	BC858
6519	5322 130 30684	1N4002
6520	4822 130 42131	BF550
6523	4822 209 70422	MN4264-15
6530	4822 209 60801	MC68HC05C9P/SC409009 for /00R
6530	4822 209 61428	MC68HC05C9P/409010 for /05R
6531	4822 130 42675	BC818
6535	5322 209 86234	NE5532N
6535	4822 209 83163	LM833N
6536	5322 209 86234	NE5532N
6536	4822 209 83163	LM833N
6537	5322 130 30684	1N4002
6538	5322 130 30684	1N4002
6540	4822 209 72545	SAA7220
6541	4822 209 72544	TDA1541
6542	4822 130 42675	BC818
6543	4822 130 42675	BC818
6544	4822 130 42675	BC818
6545	4822 130 42675	BC818
6547	5322 130 30684	1N4002
6548	5322 130 30684	1N4002
6549	4822 209 60775	SAA7310
6550	5322 130 30684	1N4002
6551	5322 130 30684	1N4002
6552	4822 130 30621	1N4148 (FSC)
6553	4822 130 30621	1N4148 (FSC)
6554	4822 130 42513	BC858C
6555	4822 130 31981	BZX55-C3V9
6556	4822 130 61207	BC848
6557	4822 130 30621	1N4148 (FSC)
6558	4822 130 44121	BC338
6559	4822 130 61207	BC848
6561	4822 209 60803	SN74LS08D (MTLA)
6562	4822 130 61207	BC848
6563	5322 130 42012	BC858
6564	4822 130 42633	BSR56
6565	4822 130 42633	BSR56
6568	4822 130 61207	BC848
6573	4822 130 34167	BZX55-C6V2
6573	4822 130 34167	BZX55-C6V2
6577	5322 130 41899	MC7915CT
6580	5322 130 30684	1N4002
6581	5322 130 30684	1N4002
6582	5322 130 30684	1N4002
6583	5322 130 30684	1N4002
6584	5322 130 30684	1N4002
6585	5322 130 30684	1N4002
6586	5322 130 30684	1N4002
6587	5322 130 30684	1N4002
6590	4822 209 80808	MC78M15CT
6591	4822 209 71579 selected	TY40408 = MC7805CT
6592	5322 209 11222	MC7905CT
6593	5322 130 41899	MC7915CT

Switch

SK..	4822 276 12276	TACT SWITCH 9,5MM
SK11	4822 276 20463	SWITCH ASSY SPPH2136

Miscellaneous

BU3	4822 267 30743	PHONE SOCKET
1100	4822 214 51772	IR RECEIVER GP1U521X
1101	4822 242 71508	CER RESONATOR 6MHz
1102	4822 130 90667	FL DISPLAY 9BY-02GK

2100	4822 124 22027	47µF 25V
2101	4822 122 32444	33pF
2102	4822 122 32444	33pF
2104	4822 122 33147	22nF 20%
2105	4822 124 22027	47µF 25V
2106	4822 122 10166	22nF 30% 16V

3100	5322 111 91484	RST NETWORKS 4609X
3101	5322 111 91484	560Ω 1% 0,2W
3130	4822 111 30499	4Ω7 5% 0,33W
3131	5322 116 80446	47kΩ
3132	4822 111 90124	82Ω 5% 0,33W
3133	5322 116 80427	1kΩ
3134	4822 111 90366	620Ω 5% 0,33W
3135	4822 111 90249	10kΩ 2% 0,33W
3151	4822 111 30499	4Ω7 5% 0,33W
3160	4822 111 90124	82Ω 5% 0,33w
3161	5322 116 80427	1kΩ
3162	4822 111 90366	620Ω 5% 0,33W

3801	4822 111 90163	jumper
3802	4822 111 90163	jumper
3803	4822 111 90163	jumper
3804	4822 111 90163	jumper
3805	4822 111 90163	jumper
3806	4822 111 90163	jumper

6501	4822 209 61191	MUP TMP47C670N/,,,
6502	4822 209 60886	UND-2580A
6503	4822 209 60886	UND-2580A
6518	4822 130 30613	BAW62
6519	4822 130 30613	BAW62
6520	4822 130 30613	BAW62
6521	4822 130 30613	BAW62
6522	4822 130 30613	BAW62
6523	4822 130 30613	BAW62
6524	4822 130 30613	BAW62
6525	4822 130 30613	BAW62
6526	4822 130 30613	BAW62
6528	4822 130 80849	LED TLHR4499 (RED)
6529	4822 130 80848	LED TLHR4499 (GREEN)
6530	4822 130 61207	BC848
6531	4822 130 61207	BC848

F.T.S. PANEL

Miscellaneous

1401	4822 242 71222	12 MHz Crystal

2401	4822 124 22027	47µF 25V
2402	4822 122 10166	22nF 16V
2403	4822 124 22187	15µF 63V
2404	4822 122 32444	33pF
2405	4822 122 32444	33pF
2406	4822 122 10166	22nF 16V
2407	4822 122 10166	22nF 16V
2408	4822 122 10166	22nF 16V

3401	4822 111 30483	1Ω0 5% 0,33W
3402	4822 111 90249	10kΩ 2% 0,33W
3403	4822 116 52452	10kΩ 2% 0,33W
3404	4822 111 90248	2k2 5% 0,33W
3405	5322 116 80445	4k7
3406	4822 111 90238	18kΩ 5% 0,33W
3407	4822 111 90238	18kΩ 5% 0,33W
3408	4822 111 90251	22kΩ 5% 0,33W
3409	4822 111 90251	22kΩ 5% 0,33W
3410	5322 116 80447	470kΩ
3411	5322 116 80447	470kΩ

6401	4822 130 30621	DIODE 1N4148
6402	4822 130 34233	BZX55-C5V1
6403	4822 130 61207	TRANS SMD BC848
6404	5322 130 42012	TRANS SMD BC858
6405	5322 209 11118	PC74HCT373P
6406	4822 209 60857	EPROM M27128A-2F1
6407	4822 209 72102	EEPROM X2816BP
6408	4822 130 61207	TRANS SMD BC848
6409	4822 130 61207	TRANS SMD BC848
6410	4822 209 60858	UP PCB83C654P/CD630

VARIABLE LINE OUT PANEL

Miscellaneous

BU4	4822 267 30878	CINCH SOCKET 2P

2101	4822 124 41527	47µF 25V
2102	4822 124 41528	100µF 25V
2103	4822 124 41528	100µF 25V
2104	4822 124 41528	100µF 25V
2105	4822 124 22339	100µF 20% 25V
2106	4822 124 22339	100µF 20% 25V
2107	4822 124 22339	100µF 20% 25V
2108	4822 124 22339	100µF 20% 25V

3101	4822 116 52437	5k1 5% 0,33W
3102	4822 116 52413	2k7 5% 0,33W
3103	4822 111 30517	22Ω 5% 0,33W
3104	4822 111 30517	22Ω 5% 0,33W
3105	4822 116 52452	10k 5% 0,33W
3106	4822 116 52452	10k 5% 0,33W

6101	4822 214 51724	DVR-3

MISCELLANEOUS

1501	4822 253 30009	FUSE T 160 mA
1501	4822 253 30217	FUSE T 300mA
5001	4822 146 21441	MAINSTRANSFORMER

TOOLS	4822 397 60141	AUDIO TEST MAX DIAM
TOOLS	4822 397 30184	CD AUDIO SIGNALS
TOOLS	4822 395 50145	TORX SCREWDRIVERSET
TOOLS	4822 397 30096	AUDIO TEST DISC 5 + 5A
TOOLS	4822 395 50132	TORX SCREW SQUARE
TOOLS	4822 395 30204	13TH ORDER TER
TOOLS	4822 322 40066	SERVICE CABLE (14P)
TOOLS	4822 267 50676	SERVICE CONN (14P)
TOOLS	5322 130 32182	LED GREEN CQYG11
TOOLS	4822 321 21284	SERVICE CABLE (4P)
TOOLS	4822 397 30155	AUDIO TEST DISC 1kHz