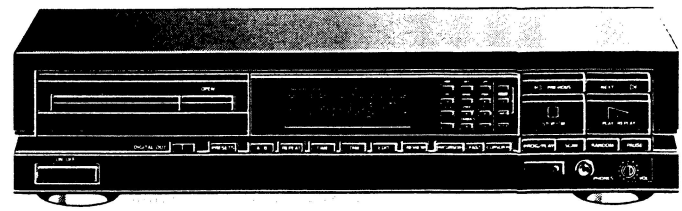
Compact disc player CD634/00B/05B/07B/10B
CD834/00B

Service
Service
Service



45 338 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 ricambiagoidentici 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.

(SF) Varo!
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

(S) Varning!
Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

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 agrees, seuls habilités à réparer votre appareil en panne".

Subject to modification
4822 725 22811
Printed in The Netherlands

PHILIPS

Published by Consumer Electronics
CS 30 102

TECHNICAL DATA

General

1. Mains voltage	: 220, 240 Volt (+/– 10%) 110, 117 V (+/– 10%)
2. Mains frequency	: 50-60 Hz
3. Mains voltage selection	: By soldering (220/240 Volt-version) By changing transformer (110/117 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 (Fixed)

1. Number of channels	: 2
2. Output voltage	: 2 Vrms +/– 2 dB
3. Unbalance Left-Right	: max. +/– 0,25 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 90 dB from 20 Hz to 20 kHz
8. Dynamic range (–60 dB)	: min 88 dB from 20 Hz to 20 kHz
9. Total harmonic distortion + noise	: min -84 dB from 20 Hz to 20 kHz
10. Intermodulation distortion	: max. 0.0064% (min -84 dB) from 20 Hz to 20 kHz
11. Out-band attenuation	: min 60 dB
12. Channel separation	: min 86 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

Line output (Variable)

1. Number of channels	: 2
2. Output voltage	: 0-2 Vrms
3. Output resistance	: 200 Ω
4. Amplitude linearity	: max. 0,2 dB from 20 Hz to 20 kHz
5. Phase non-linearity	: max. 2° from 20 Hz to 20 kHz
6. Signal to noise ratio	: min. 85 dB from 20 Hz to 20 kHz
7. Dynamic Range (–60 dB)	: min. 80 dB from 20 Hz to 20 kHz
8. Total harmonic distortion + noise	: min. 82 dB from 20 Hz to 20 kHz
9. Intermodulation distortion	: min. 82 dB from 20 Hz to 20 kHz
10. Outband attenuation	: min. 60 dB
11. Channel separation	: min. 84 dB
12. Muting during random access	: min. 90 dB from 20 Hz to 20 kHz
13. Automatic switched deemphasis with time constants	15/50 µs

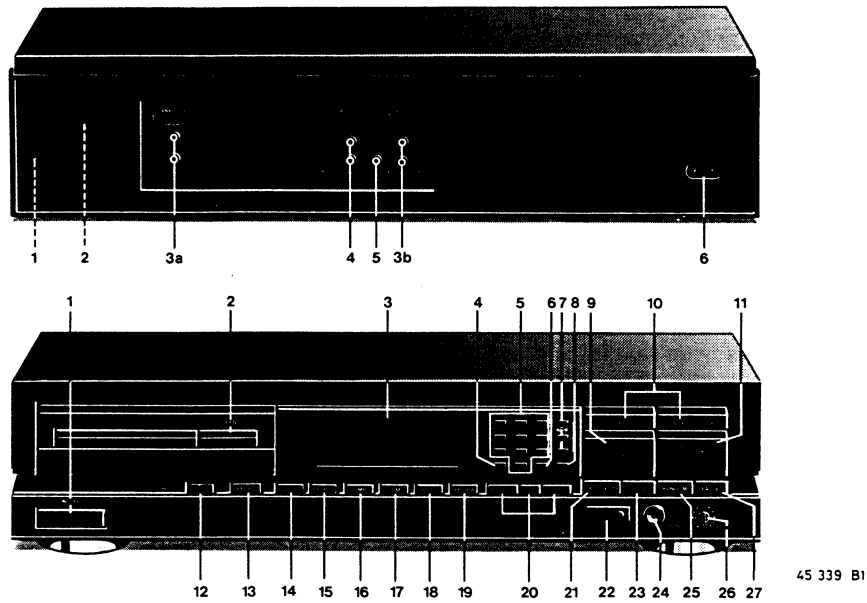
Headphone (Variable)

1. Output voltage	: Max. 7 Vrms +/– 2 dB
2. Output resistance	: 150 Ohm
3. Load impedance range	: 30 Ohm tp 600 kOhm
4. Output power	: 0 to 50 mW into 30 Ohm load 0 to 90 mW into 150 Ohm load 0 to 50 mW into 600 Ohm load
5. Signal to noise ratio	: Min 85 dB from 20 Hz to 20 kHz
6. Dynamic range	: Min 85 dB from 20 Hz to 20 kHz
7. Total harmonic distortion + noise	: 80 dB from 20 Hz to kHz
8. Intermodulation distortion	: 80 dB from 20 Hz to 20 kHz
9. Channel separation	: min 70 dB from 20 Hz to 20 kHz

Dimensions and 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 kg

CONTROLS AND CONNECTIONS



front of player :

1. **ON/OFF** : Switching the set on and off.
2. **OPEN** : To open the loading. The loading closes when the front is pressed briefly.
3. **display**
4. **C**(lear) :
   - Erasing track numbers from a program.
   - Erasing FTS selections.
   - Erasing names from the title memory.
5. **Digit/alphabet keys** :
   - Selecting another track during play.
   - Selecting a track to start play with.
   - Selecting tracks when compiling a program.
   - Entering the recording time when making a tape recording.
   - Naming CDs and track numbers.
6. **S**(tore) :
   - Storing tracks in a program.
   - Storing a program in the FTS memory.
   - Storing personal preferred settings.
   - Storing names in the title memory.
7. **FTS 1 & 2** (Favourite Track Selection) : activating the FTS memory.
8. **TITLE** :
   - Naming discs and track numbers.
   - Calling up a name you have entered.
9. **STOP/CM** :
   - Stopping play.
   - Erasing a program (CM = Clear Memory).
10. **PREVIOUS** and **NEXT** :
    - Selecting another track during play.
    - Selecting a track to start play with.
    - Entering the record time when making a tape recording.
11. **PLAY/REPLAY** :
    - Starting play.
    - Returning to the beginning if a disc.
12. **DIGITAL OUT** :
    For switching the digital output (DIGITAL OUTPUT COAX) on and off.
    Only use this key when you connect the player to other digital equipment via this output.
13. **PRESETS** : Entering personal preferred settings.
14. **A-B** : Setting the starting and the stopping point of a passage to be repeated.
15. **REPEAT** : Repeating play.
16. **TIME** : Selecting the time information you want to see.
17. **DIM** : Adjusting the brightness of the display.
18. **EDIT** : Entering the recording time when making a tape recording.
19. **REVIEW** : Checking a program.
20. **<<CURSOR** and **CURSOR>>** :
    - Fast search to a particular passage. When used in conjunction with **FAST**, the search speed is increased.
    - Moving the cursor when entering titles and presets.
21. **PROG**(ram)/**PLAY** : Direct programming or immediate selection and playback of track numbers.
22. **Remote eye** : Receives the signals from the remote control.
23. **SCAN** : Automatically plays the beginning of each track.
24. **PHONES** : Connecting headphones.
25. **RANDOM** : Playing in random order.
26. **VOL**(ume) : Adjusting the headphone volume.
27. **PAUSE** : Interrupting play.

Back of player :

1. **Mains fuse holder** (not for all versions)
2. **Voltage selector** (not for all versions)
3. **ANALOG OUTPUT** :
   - **Variable** : To connect te player to an amplifier or a HiFi system **without** its own remote control.
   - **Fixed** : To connect the player to a PHILIPS amplifier or a HiFi system **with** its own remote control.
4. **REMOTE CONTROL OUT IN** :
   Use this connection for :
   - Connecting up the equipement when you are incorporating the player in a HiFi system with its own remote control.
   - Connecting the remote control receiver EM2200, available as an accessory. (Not available in the U.K.)
5. **DIGITAL OUTPUT COAX** :
   For digital signal processing or future applications such as CD-I. This output supplies a digital signal an can therefore only be connected to an input suitable for this signal. Use here a lead with one plug on eiter end. **Never** connect this socket to a non digital input of an amplifier, such as AUX, CD, TAPE, PHONO, etc.
6. **Connection for the mains lead.**

SERVICING HINTS

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

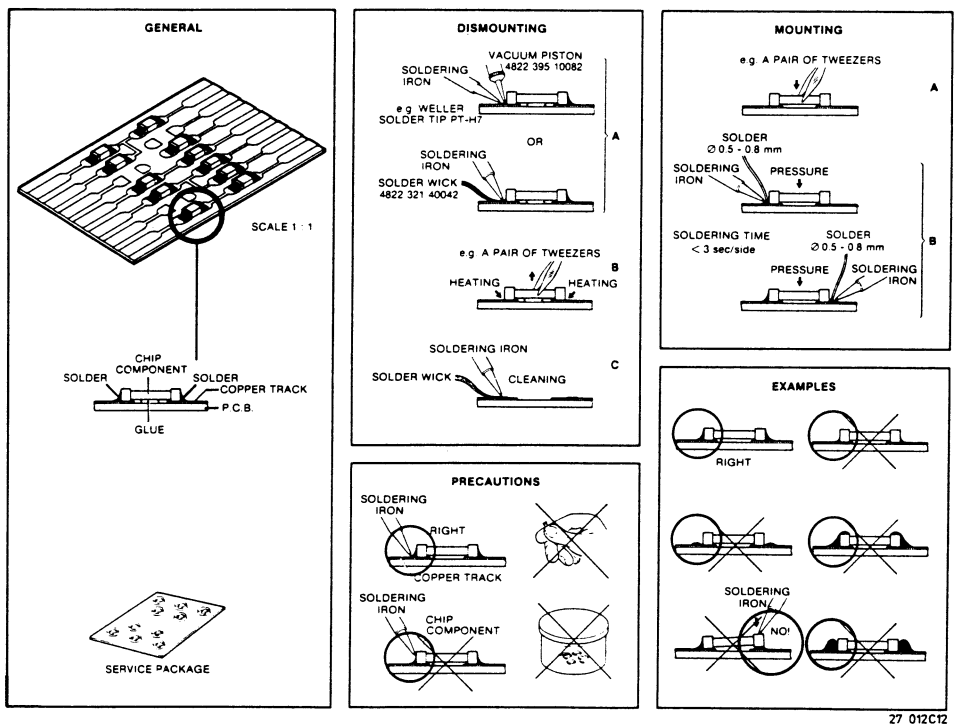
The disc should always rest properly on the turntable.
To achieve this a disc hold-down has been mounted in a bracket of the tray mechanism.
If the tray mechanism has to be disassembled for servicing, a seperate disc hold-down should be used.
(See drawing "Service disc hold-down")
The set can function 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 immediatly after pressing the play button in order to ensure normal operation.

To avoid electric shock during servicing, it is recomended 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

(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

(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.

(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.

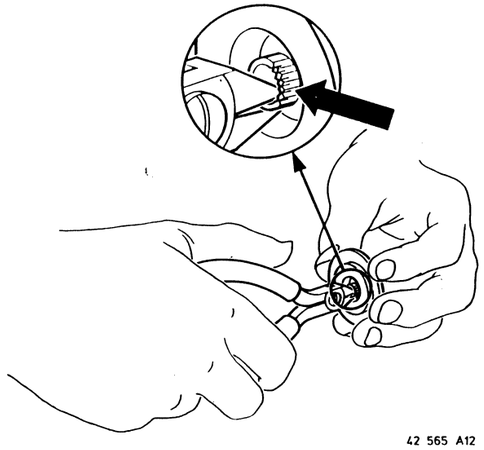
(D) WARNUNG

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

(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.

SERVICE DISC HOLDDOWN



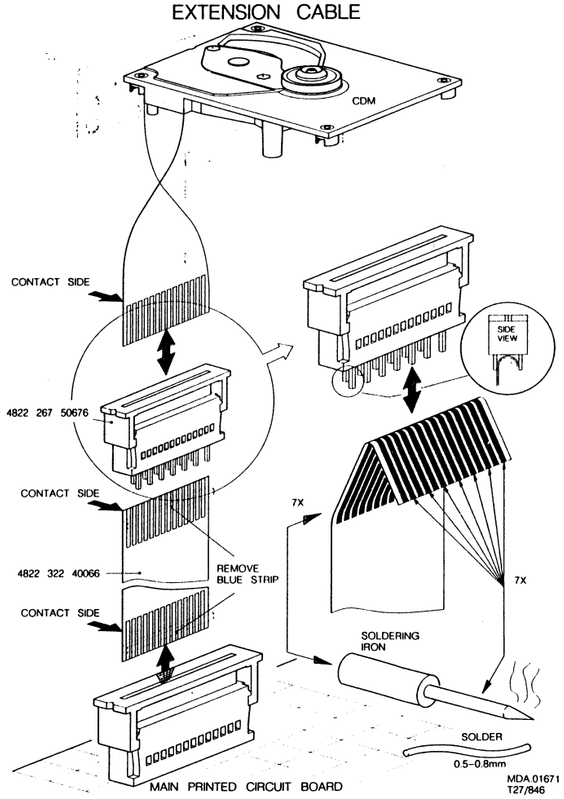
42 565 A12

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.

SERVICE FOIL FOR CDM

EXTENSION CABLE

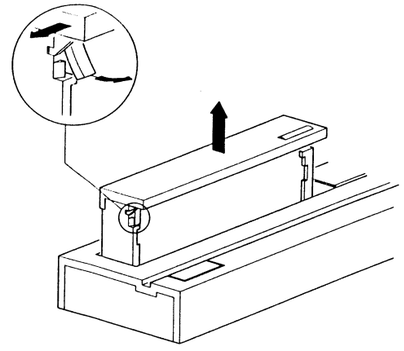


MDA.01671
T27/846

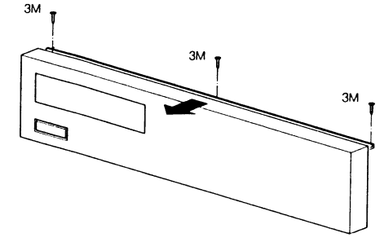
CABINET DISASSEMBLY HINTS

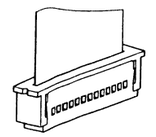
A Remove 2 front feet

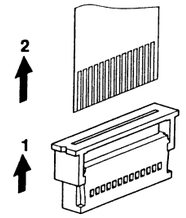
B



C

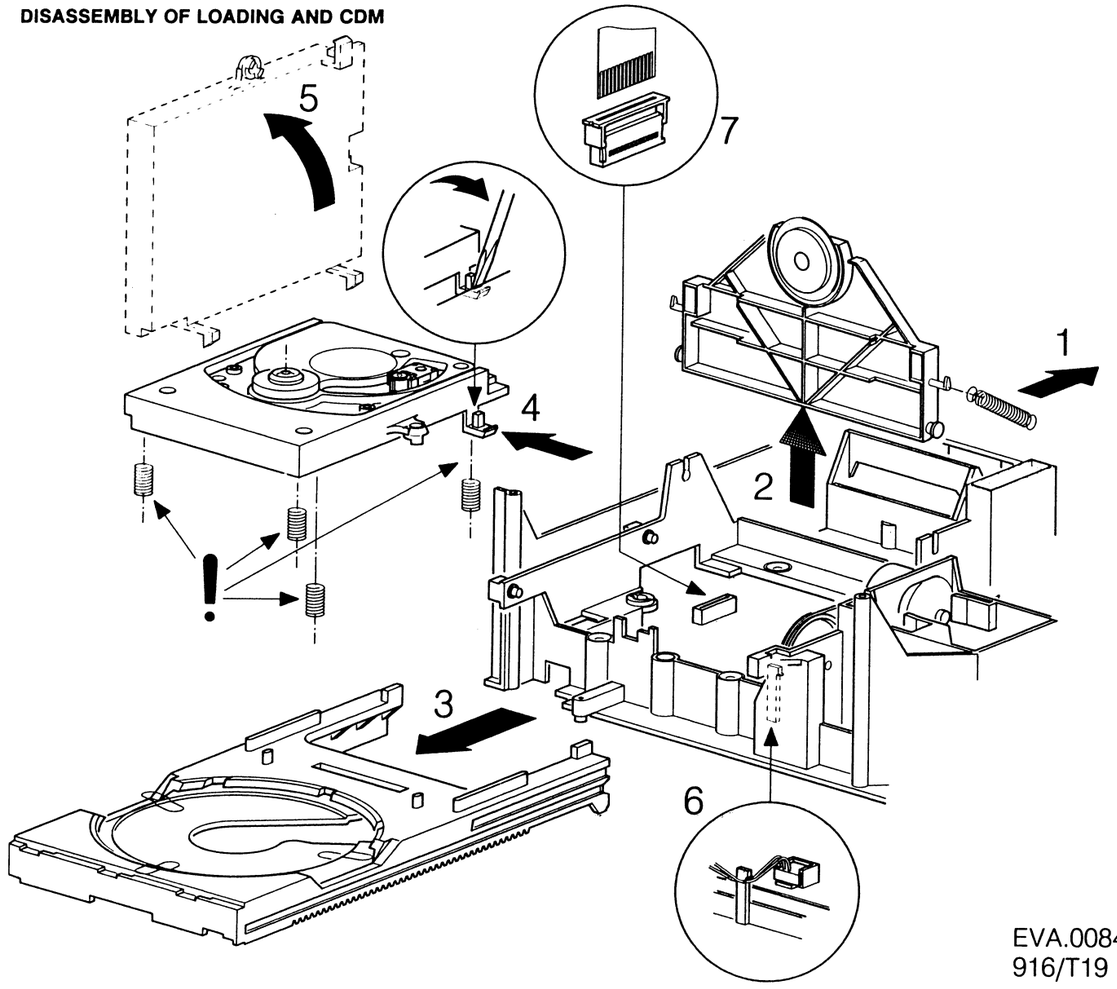






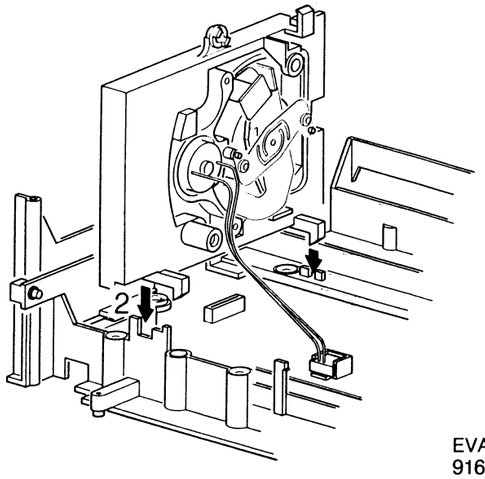
MDA.01406
T28/822

DISASSEMBLY OF LOADING AND CDM

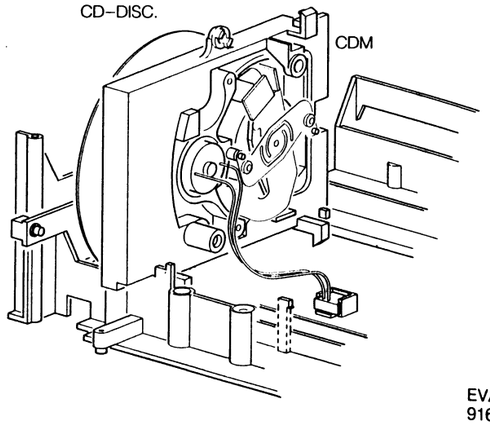


EVA.00846
916/T19

PLAY SERVICE POSITION

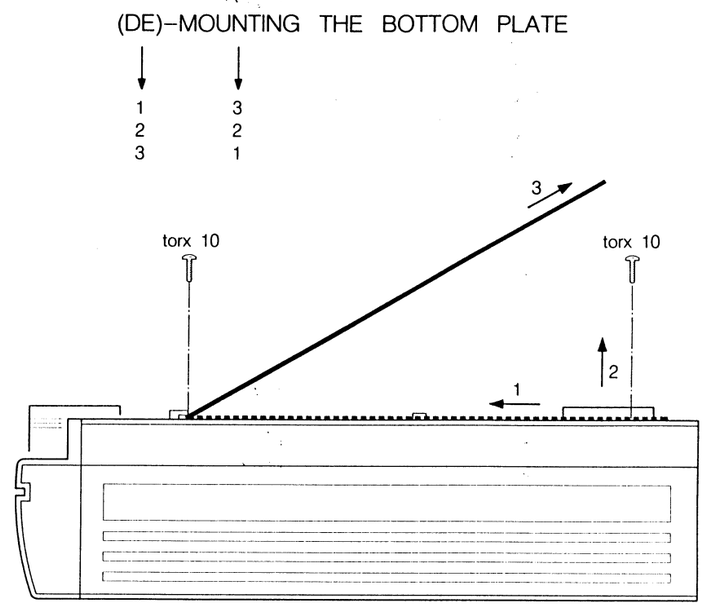


EVA.00848
916/T19



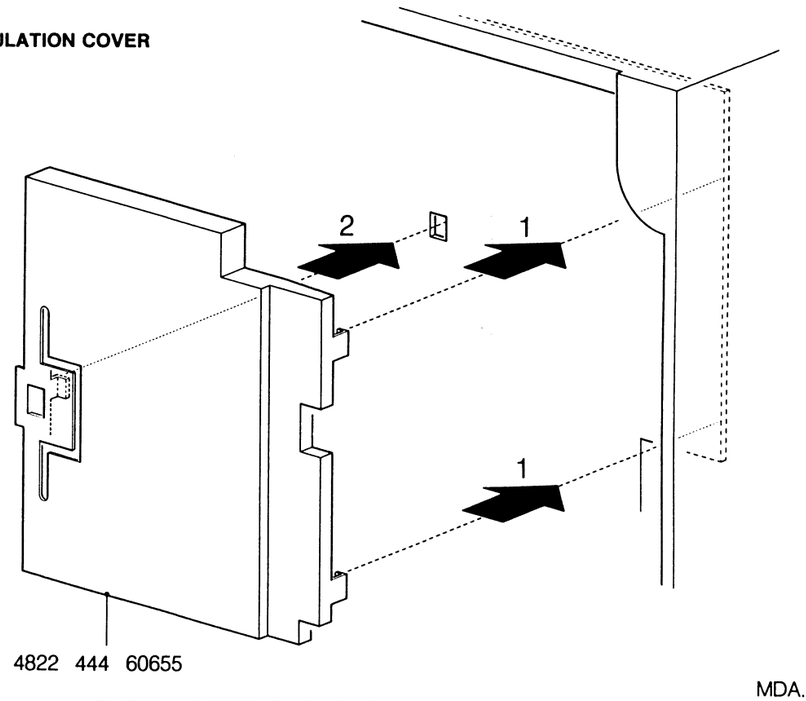
EVA.00849
916/T19

FOR ACCESS OF THE MAIN PCB, REMOVE THE BOTTOM PLATE



MDA.02161
T28/023

INSULATION COVER



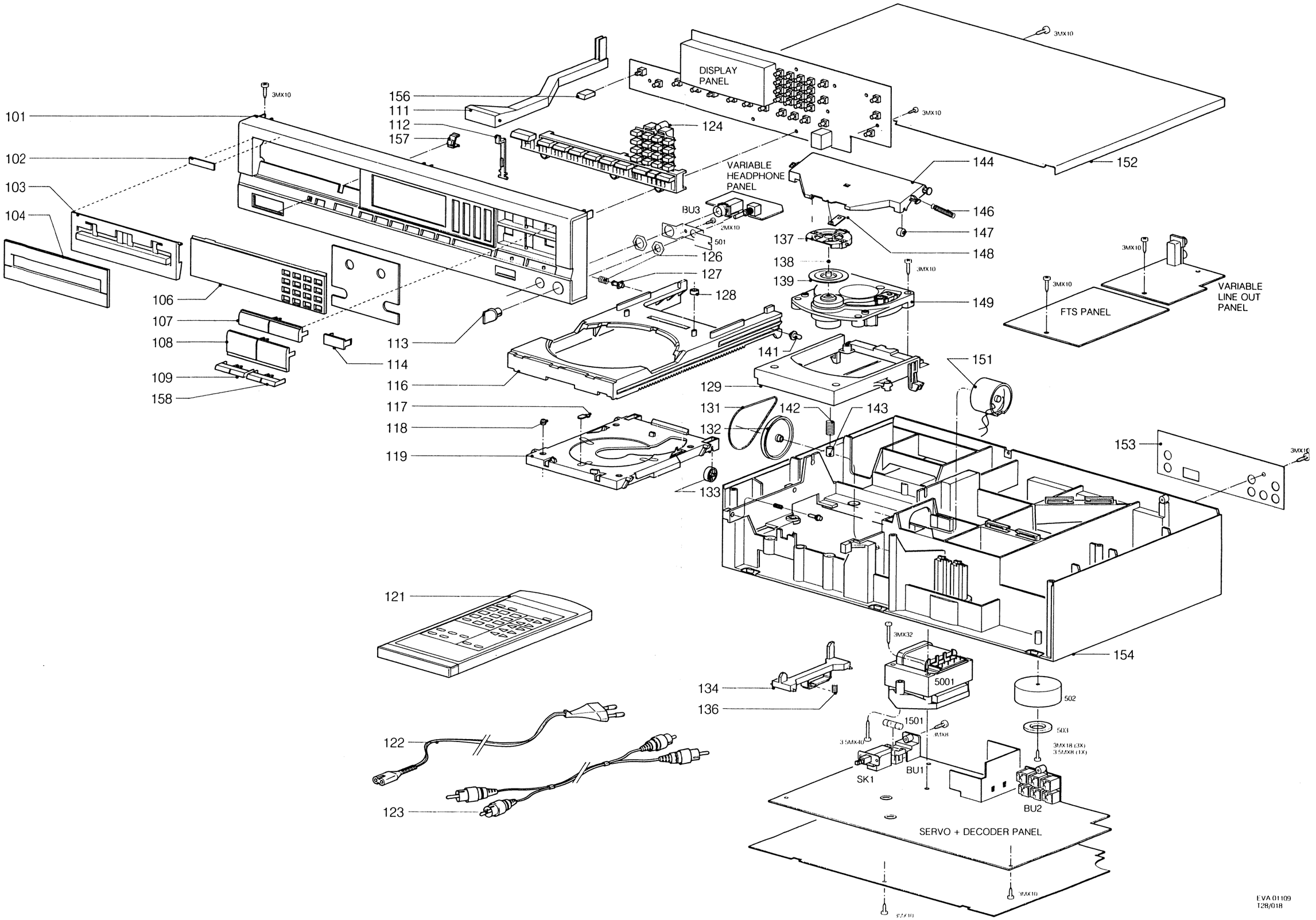
MDA.02548
T02/007

TO AVOID ELECTRIC SHOCK DURING SERVICING MOUNT INSULATION COVER OVER MAINS LEADS ON MAIN PANEL

MECHANICAL PARTSLIST

101	4822 444 40388	CD634
101	4822 444 40401	CD834
102	4822 459 10803	
103	4822 444 60626	
104	4822 444 40389	
106	4822 410 60101	
107	4822 410 60094	
108	4822 410 60095	
109	4822 410 60102	
111	4822 410 60105	
112	4822 402 61249	
113	4822 411 61674	
114	4822 381 11051	
116	4822 444 50603	
117	4822 325 50176	
118	4822 325 50177	
119	4822 466 92251	
121	4822 218 10287	
122	4822 321 10457	/00B
122	4822 321 10251	/05B
122	4822 321 10455	/07B
122	4822 321 10523	/10B
123	4822 321 22832	
124	4822 410 60098	
126	4822 492 52094	
127	4822 402 61252	
128	4822 532 51756	
129	4822 402 61196	
131	4822 358 10115	
132	4822 528 81329	
133	4822 528 90638	
134	4822 402 50276	
136	4822 492 52123	
137	4822 402 61207	
138	4822 520 40177	
139	4822 532 52234	
141	4822 402 61253	
142	4822 492 51902	
143	4822 466 61587	
144	4822 444 60568	
146	4822 492 32883	
147	4822 528 70651	
148	4822 466 92257	
149	4822 691 30209	
151	4822 361 21258	
152	4822 444 30417	
153	4822 444 30416	
154	4822 464 50805	
156	4822 410 60104	
157	4822 381 11052	
158	4822 410 60099	

EXPLODED VIEW

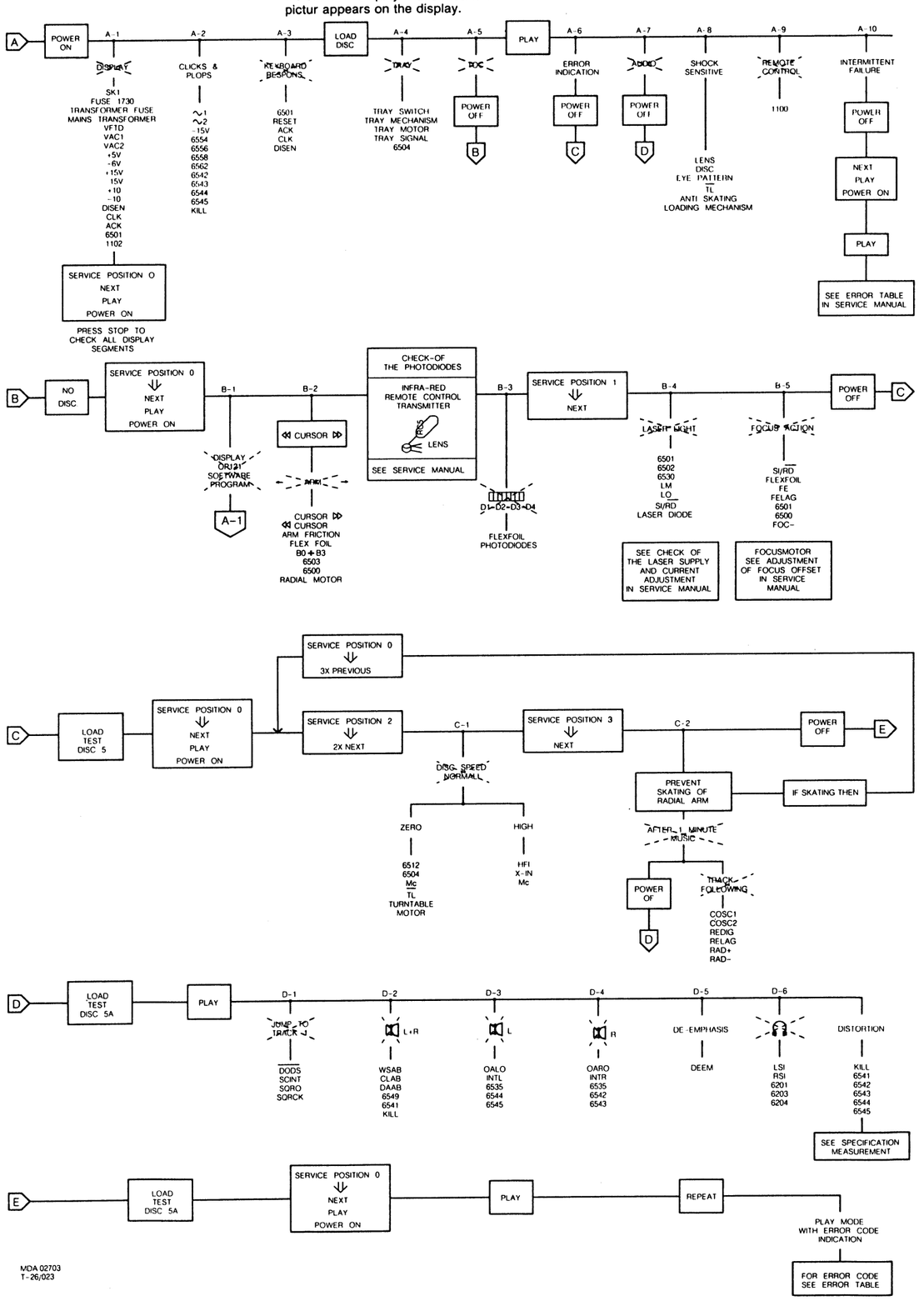


TROUBLE SHOOTING (FAULT FINDING TREE)

Start-up procedure

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 pictur 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 braches further reference is made to measurements you could carry out. These measurements are explained in several tables further on in this manual.



MDA 02703
T-26/023

B-3 CHECK OF THE PHOTODIODES

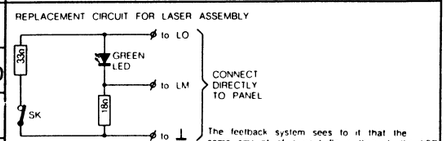
Step	Signal	Mode	◇	∠	▭	⎍	Remarks
1	D2 D1 D3 D4	power on	4 6 7 8	–	–	signal 4E6E7E8	Signal depends on Distance lens ↔ IR LED of remote control

T-22811A

B-4 CHECK OF LASER SUPPLY

The laser, the lasersupply plus 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 teh replacement circuit for laser assembly.

Step	Signal	Mode	◇	▭	Remarks
1	LO	serv. pos. 2 SK	9 V	1.8<V <2.3	REPLACEMENT CIRCUIT FOR LASER ASSEMBLY
	LM		1 V	170<mV <220	
2	LO	serv. pos. 2 SK	9 V	1.8<V <2.3	
	LM		11 V	170<mV <220	
3	LO	Power on	9 V	0V ± 0.2V	No light



The feetback system sees to it that the same amount of current flows through the LED When SK is open and when SK is closed the LED emits little light

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

T-22811B

B-4 LASER CURRENT ADJUSTMENT

STEP	SIGNAL	MODE	◇	∠	⎍	▭	REMARKS
1	--	POWER OFF	--	--	--	--	CHECK IF FLEX-FOIL IS PROPERLY CONNECTED
2	--	POWER OFF	11 Ω	R3520	1kΩ +10% -0	--	PRE ADJUSTMENT OHMIC VALUE
3	--	POWER OFF	--	R3568	--	--	SET TO MID-POSITION
4	LASER CURRENT VOLTAGE ACROSS R3500	TEST DISC 5A PLAY	1 V 2 mV DC	--	⩾15mV	--	IF < 15mV THEN GO TO STEP 3 AND SET R3515 TO 1/4 OR 3/4. TRY AGAIN
5	LASER CURRENT VOLTAGE ACROSS R3500	TEST DISC 5A PLAY	1 V 2 mV DC	R3520	50mV	--	--
6	FE-LAG	N TEST DISC 5A TRACK 1 PLAY	27 V mV DC	R3568	400mV	--	FINE ADJUSTMENT

MDA 02673
128/020

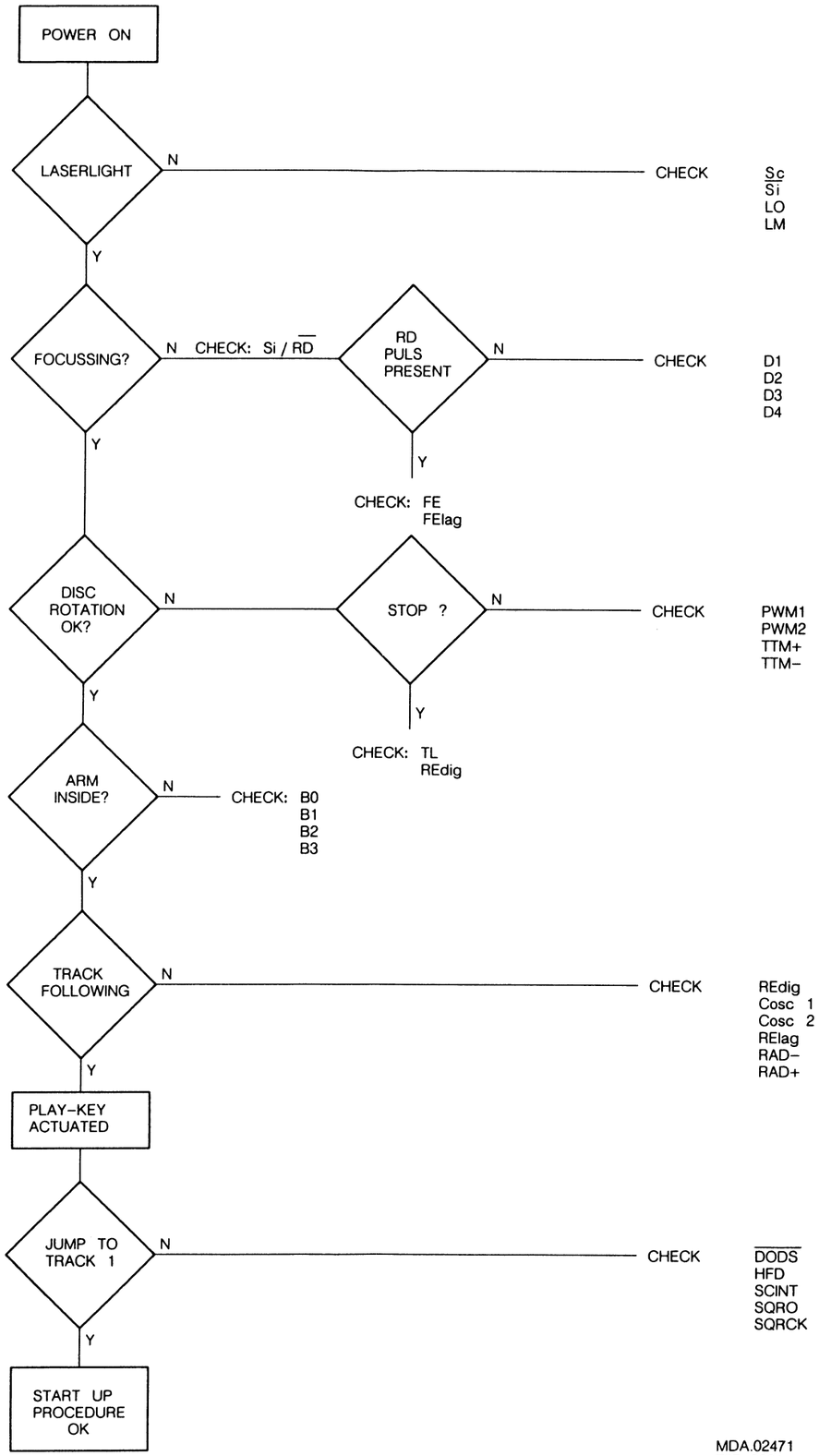
B-5 ADJUSTMENT OF FOCUS-OFFSET

Step	Signal	Mode	◇	∠	▭	⎍	Remarks
1	–	Power on no disc	–	R3568	–	–	adjust for optical mid-position of the focus motor
2	FE LAG	Play Test disc 5 Track 1	27	R3568	400mV ± 40 mV DC	–	fine adjustment

T-22811D

2-4

START UP PROCEDURE



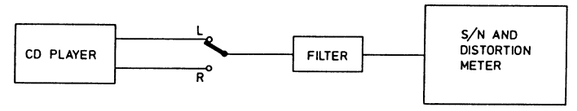
MDA.02471
T07–9001

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

T-22255C

SPECIFICATION MEASUREMENT



30 459 A12

ERROR CODE TABLE

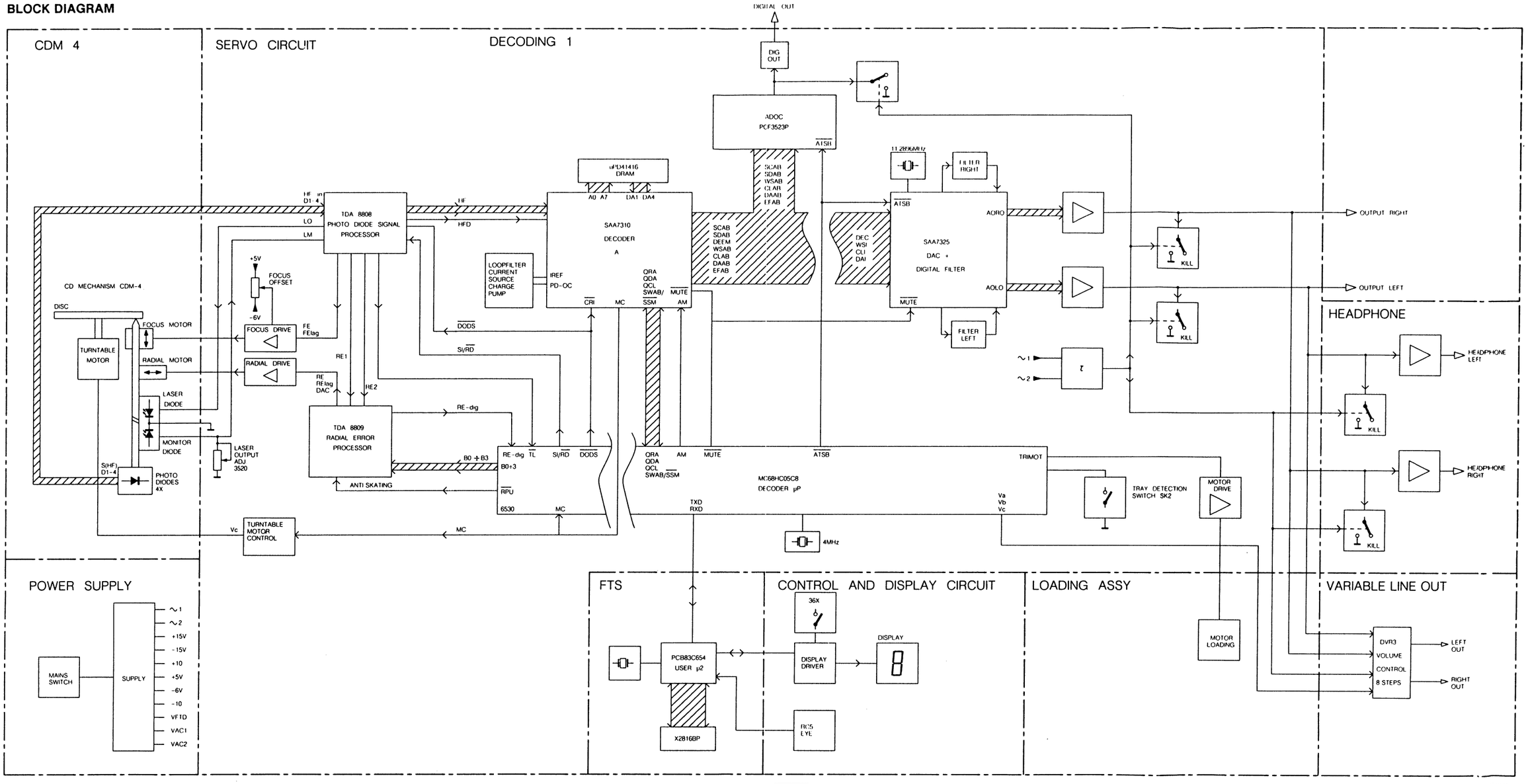
ERROR 01	Tray error
ERROR 02	Focus error
ERROR 03	Radial error
ERROR 04	Too many TL
ERROR 05	TL low to long
ERROR 06	Jump error
ERROR 07	Subcode error
ERROR 08	TOC error

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

3-1

BLOCK DIAGRAM

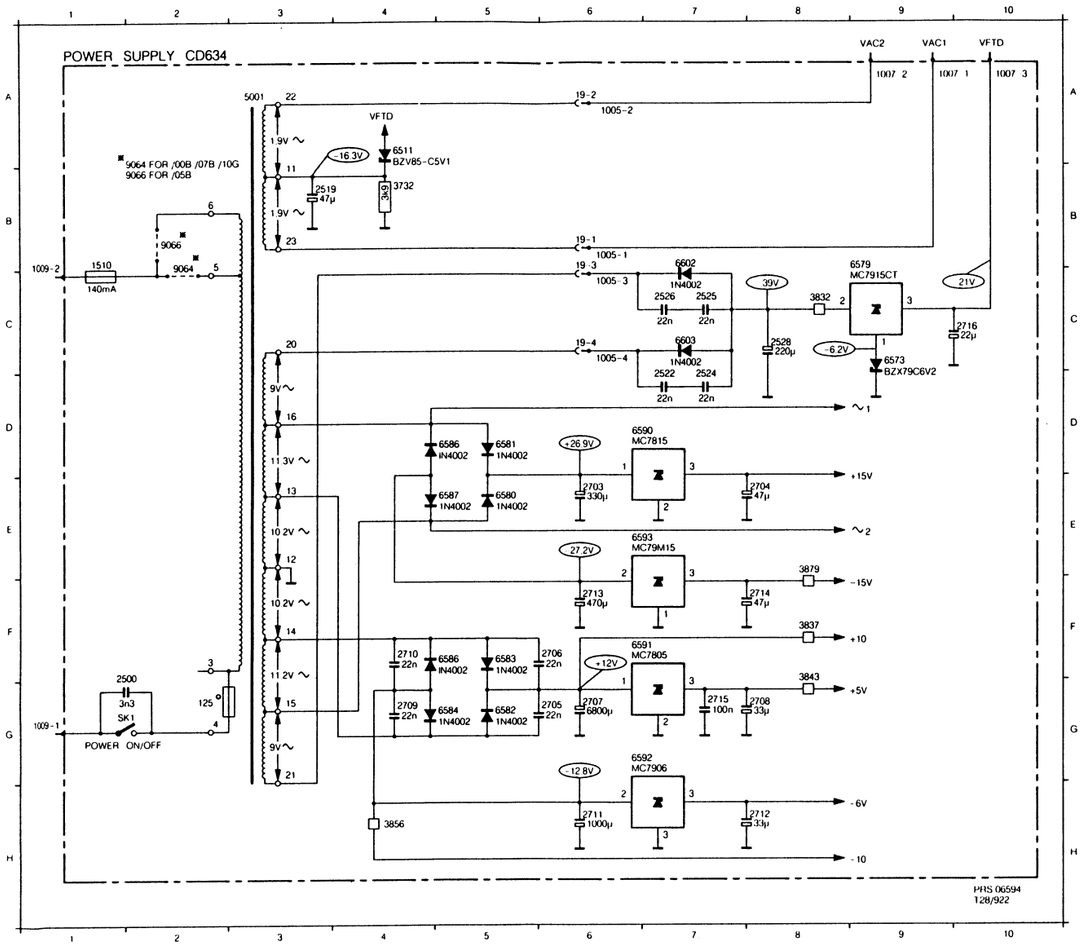


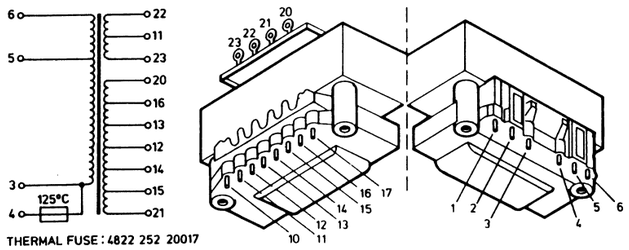
PRS 06691
1 - 26/023

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
ATSB	–	Attenuation of Audio level in Search position (Cueing)
ANI	–	Digital Data information on disc signal
CDL	–	Capacitor Damping Left
CDR	–	Capacitor Damping Right
CEFM	–	Clock Eight-to-Fourteen Modulator
CLAB	–	Clock signal Decoder-A to DAC
CLI	–	I²S Serial Clock Input of DAC
CRI	–	Counter Reset Inhibit
DAAB	–	Data signal Decoder-A to DAC
DAI	–	I²S Serial Data Input of DAC
DEC	–	Deemphasis Control of DAC
DEEM	–	Deemphasis
DEL	–	De-emphasis Left
DER	–	De-emphasis Right
DOBM	–	Digital out signal
EFAB	–	Error flag Decoder-A to ADOC
INTL	–	Integrator Left
INTR	–	Integrator Right
IREF	–	Reference Current
MUTE	–	Mute signal
OALO	–	Operational Amplifier Left Output
OARO	–	Operational Amplifier Right Output
OALI–	–	Operational Amplifier Left Input –
OALI+	–	Operational Amplifier Left Input +
OARI–	–	Operational Amplifier Right Input –
OARI+	–	Operational Amplifier Right Input +
PD/OC	–	Phase detector - oscillator control
QCL	–	Q-channel Clock signal
QDA	–	Q-channel Data signal
QRA	–	Q-channel Request Aknowledge
SCAB	–	Subcode clock Decoder-A to ADOC
SDAB	–	Subcode data Decoder-A to ADOC
SWAB/SSM	–	Subcode Word/Start-stop motor signal
WSAB	–	Word select Decoder-A to ADOC
WSI	–	I²S Word Select Input of DAC
XIN	–	Oscillator signal in Decoder-A
XSYS	–	Oscillator signal out DAC

POWER SUPLLY

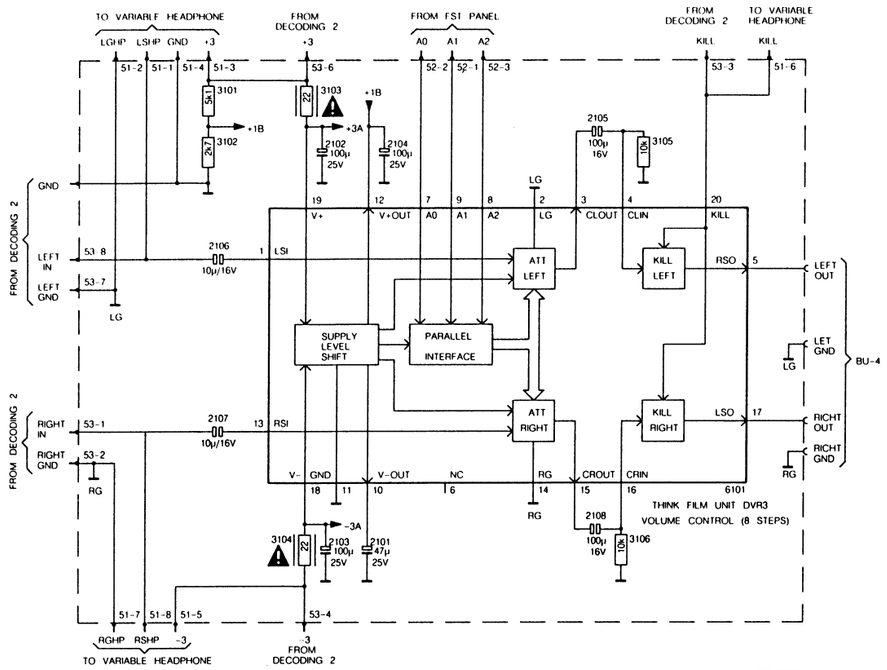
SK1 G2	2704 E8	2714 F8	6511 A4	6587 E5
1510 B1	2705 G6	2715 G7	6573 C9	6590 D6
2500 G2	2706 F6	2716 C10	6579 C9	6591 F6
2519 B3	2707 G6	3732 B4	6580 E5	6592 G6
2522 D7	2708 G8	3832 C8	6581 D5	6593 E6
2524 D7	2709 G4	3837 F8	6582 G5	6602 B7
2525 C7	2710 F4	3843 G8	6583 F5	6603 C7
2526 C7	2711 H6	3856 H4	6584 G5	9064 C2
2528 C8	2712 H8	3879 E8	6586 D5	9066 B2
2703 E6	2713 F6	5001 A3	6586 F5	



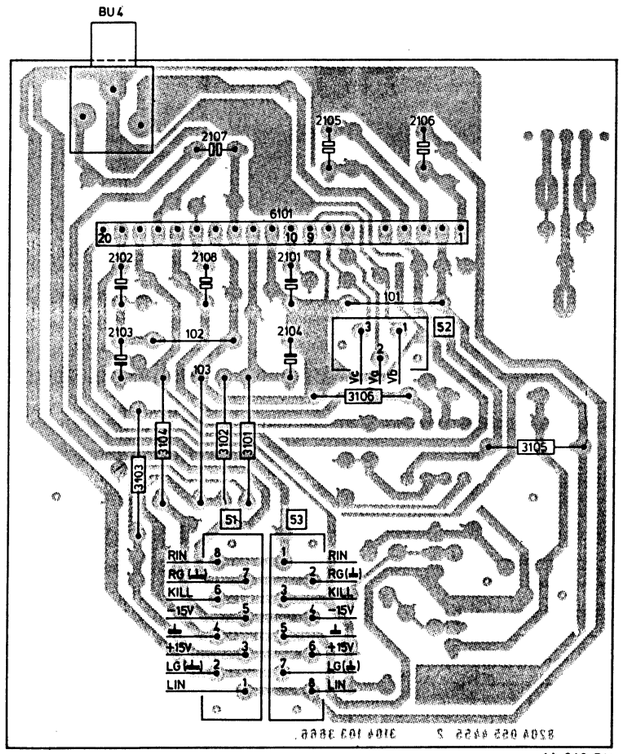


45 330 A11

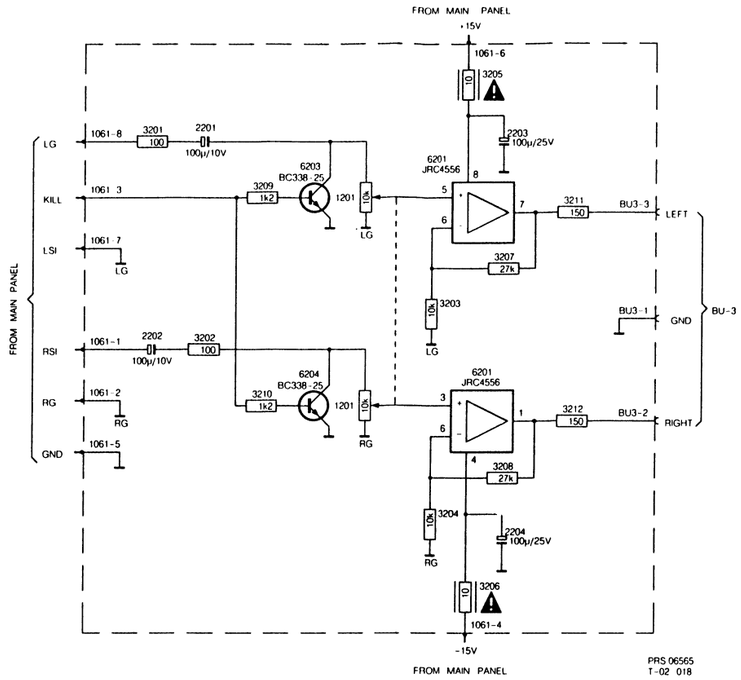
VARIABLE LINE OUT CIRCUIT DIAGRAM



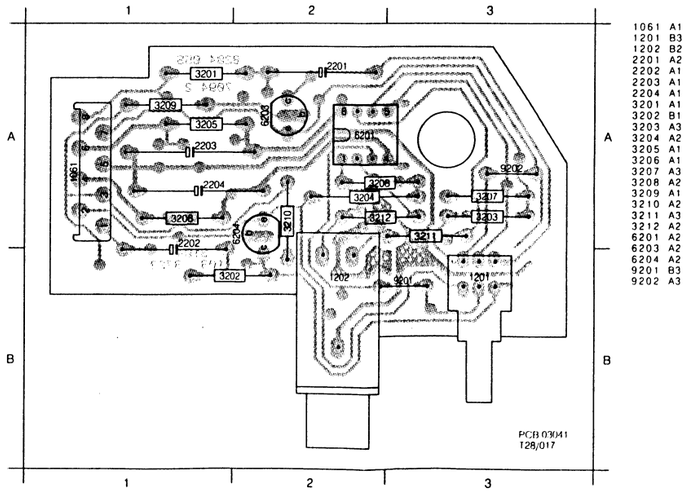
VARIABLE LINE OUT PANEL



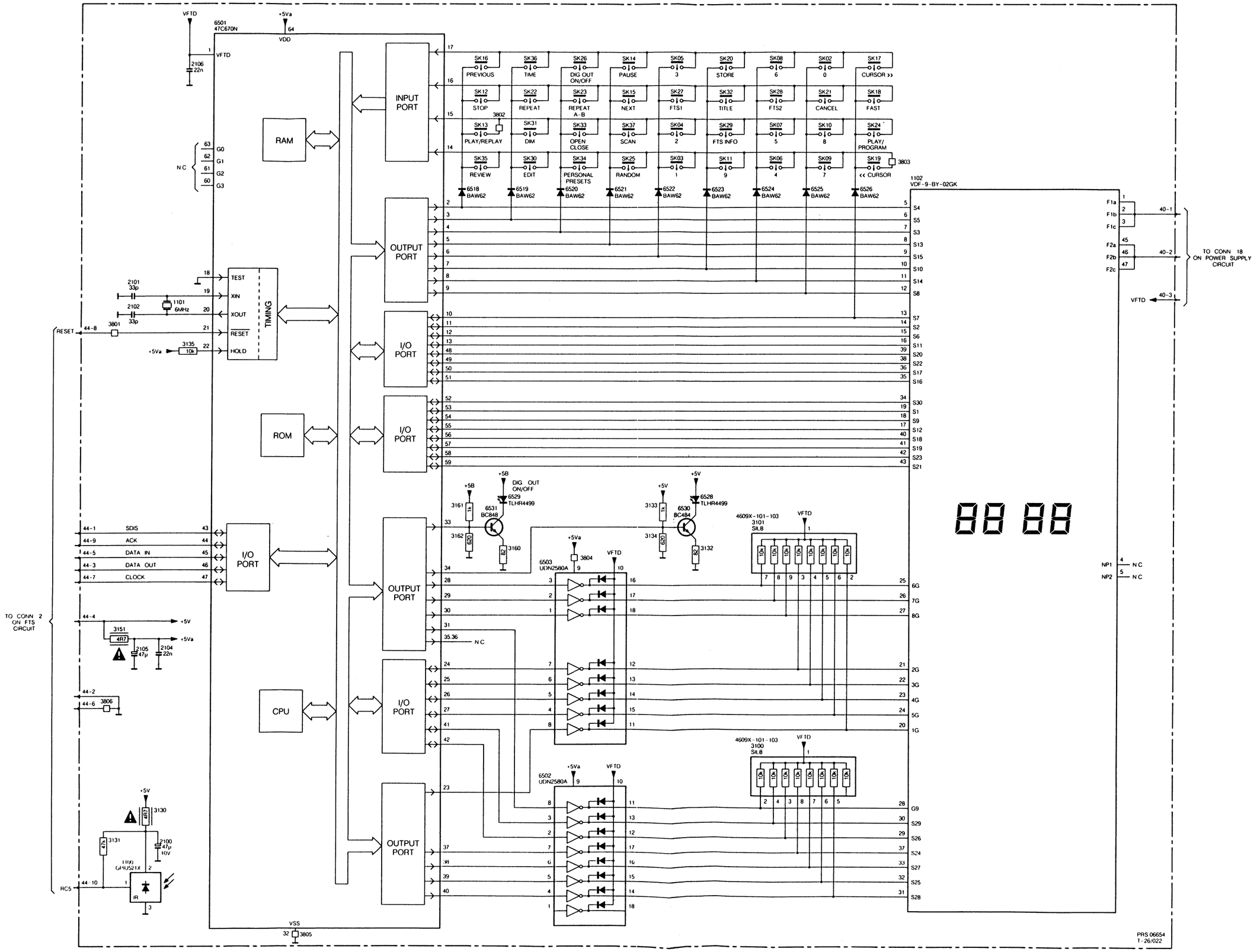
VARIABLE HEADPHONE CIRCUIT DIAGRAM



VARIABLE HEADPHONE PANEL

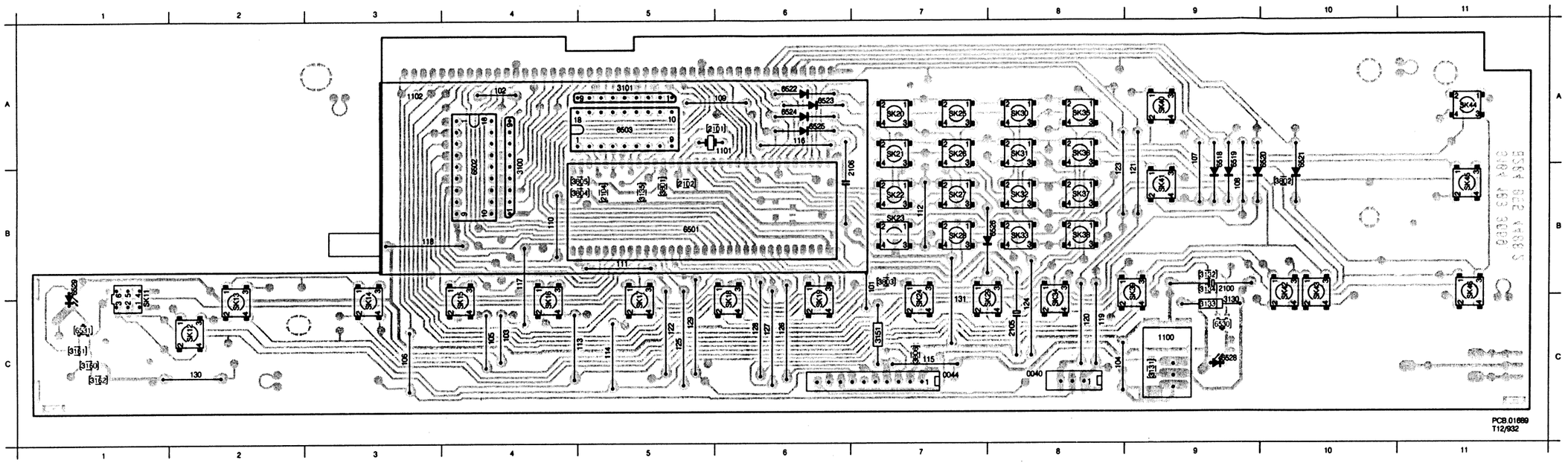


CONTROL & DISPLAY CIRCUIT DIAGRAM

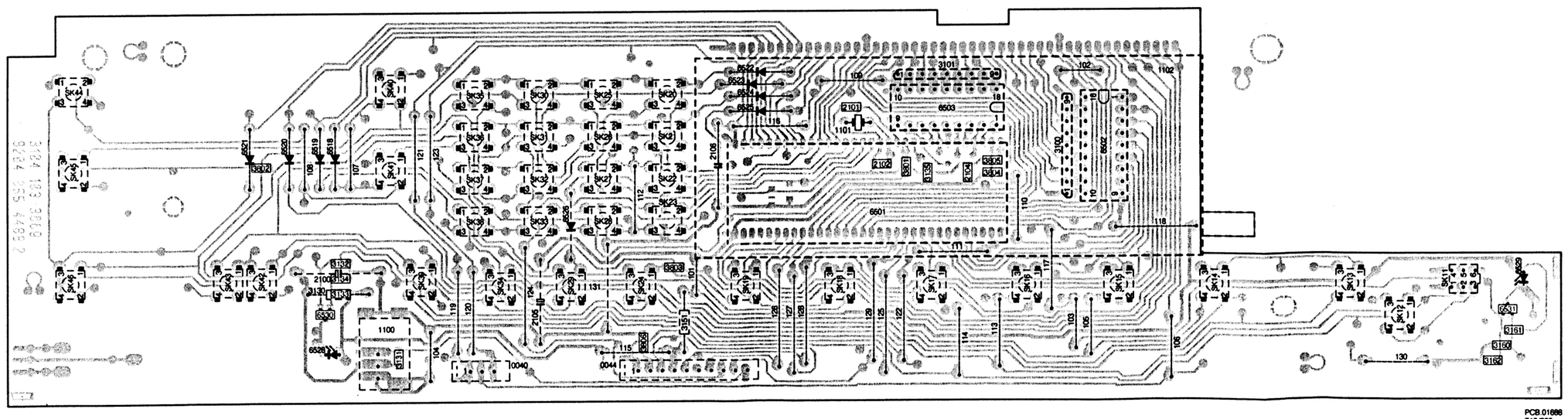


DISPLAY PANEL COMPONENT SIDE

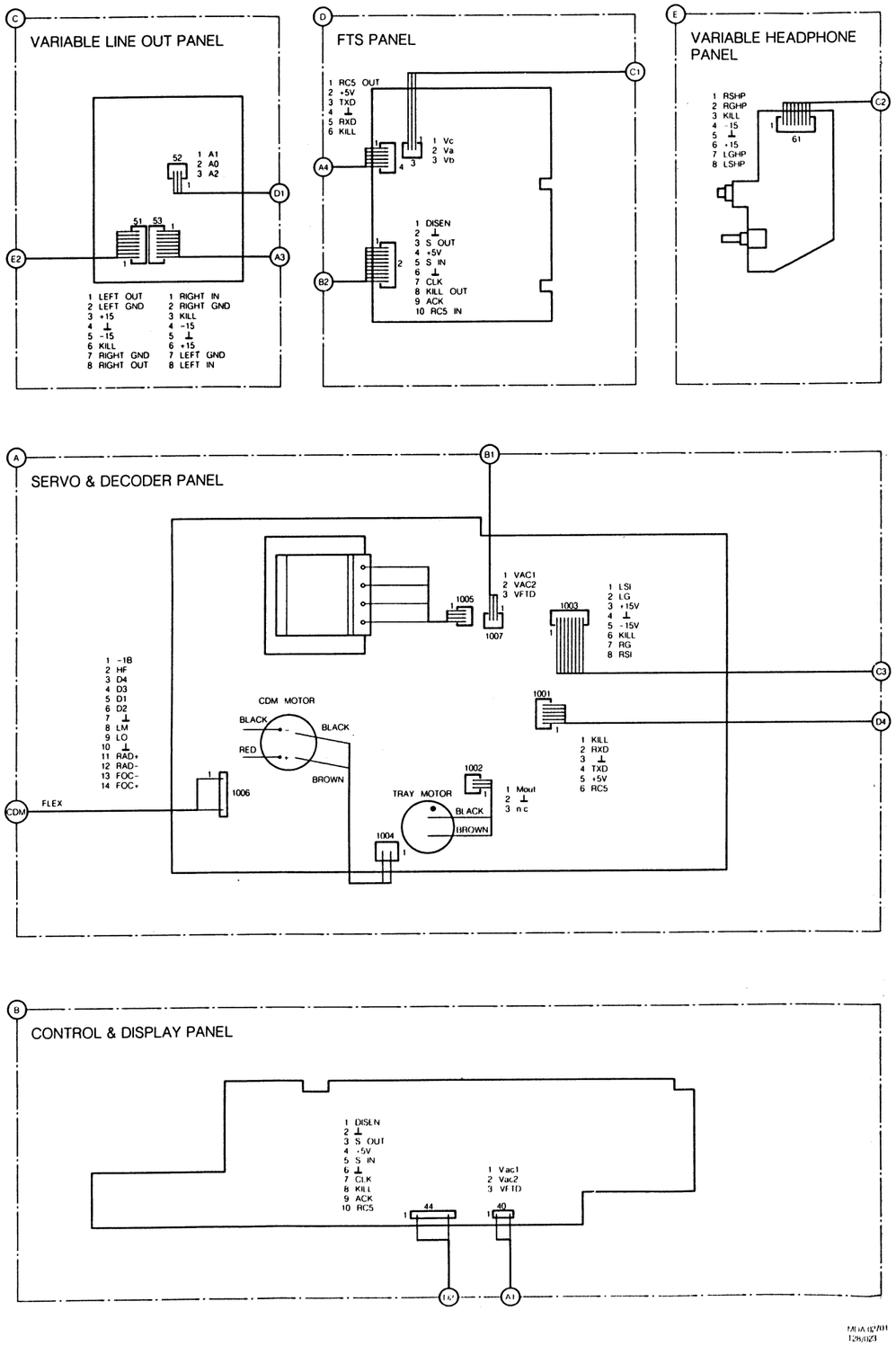
101	B 7	106	C 3	111	B 5	116	A 6	121	B 9	126	C 6	0040	C 8	131	C 7	2105	C 8	3131	C 9	3151	C 7	3802	B10	6501	B 5	6520	A10	6525	A 6	6531	C 1	SK15	C 4	SK20	A 7	SK25	A 7	SK30	A 8	SK35	A 8	SK40	A 9	SK45	B11
102	A 4	107	A 9	112	B 7	117	B 4	122	C 5	127	C 6	0044	C 7	2100	B 9	2106	A 6	3132	B 9	3160	C 1	3803	B 7	6502	A 4	6521	A10	6526	B 8	SK11	B 1	SK16	C 4	SK21	A 7	SK26	A 7	SK31	A 8	SK36	A 8	SK41	B 9	SK46	B11
103	C 4	108	B 9	113	C 5	118	B 3	123	B 8	128	C 6	1100	C 9	2101	A 6	3100	A 4	3133	C 9	3161	C 1	3804	B 5	6503	A 5	6522	A 6	6528	C 9	SK12	C 2	SK17	C 5	SK22	B 7	SK27	B 7	SK32	B 8	SK37	B 8	SK42	B10		
104	C 8	109	A 6	114	C 5	119	C 8	124	C 8	129	C 5	1101	A 6	2102	B 5	3101	A 5	3134	B 9	3162	C 1	3805	B 5	6518	A 9	6523	A 6	6529	B 1	SK13	C 2	SK18	C 6	SK23	B 7	SK28	B 7	SK33	B 8	SK38	B 8	SK43	B10		
105	C 4	110	B 4	115	C 7	120	C 8	125	C 5	130	C 2	1102	A 3	2104	B 5	3130	C 9	3135	B 5	3801	B 5	3806	C 7	6519	A 9	6524	A 6	6530	C 9	SK14	C 3	SK19	C 6	SK24	C 7	SK29	C 7	SK34	C 8	SK39	B 9	SK44	A11		



DISPLAY PANEL SOLDER SIDE



WIRING DIAGRAM



SERVO CIRCUIT DIAGRAM

SERVO

DECODER IC6549 HF DODS

6530A/2 MC68HC05C8P/SERVO µP CLOCK CPU I/O PORTS RESET Vdd XTAL1 XTAL2 IRQ D4 D6 INT/T0 TL RE-dig Vss

KILL FROM DECODER 2695 10µ 50V 3721 47k 3720 1k 6559 BC848 6550 1N4002 3830 3627 4k7 3628 200k 3831 2622 4µ7 2610 33µ 16V 2621 22n 1503 4 MHz 3629 220k

+5V 22k 3638 SK2 TRAY DETECTION

TO R3574 TO R3557

+5V 3646 22k +5V 3647 22k 3815

+5V 4k7 3503 -6V 4k7 3504 +5A -6A

ADJUST 3520 50mV DC SEE ALSO TABLE B4 +5A 4k7 3501 1k 3502 2501 22n 2504 470p

CDM FLEX PRINT (FOIL) 1006-2 DIODE ASSEMBLY D1 D2 D3 D4 1006-5 1006-6 1006-4 1006-3 SEE TABLE B3 G 1006-7 G 1006-1 GUARD RING PHOTODIODE

LASER ASSEMBLY 1003 10µ 1001 1k 47n 1002 LASER MONITOR LO 1006-9 LM 1006-8 1006-10

+10 18 3522 6502 BC338 3524 100 2521 22µ 40V 3523 12 2520 220p 3521 220 4k7 3520 LASER OUTPUT ADJ IN COMBINATION WITH 1 2 50mV SEE ALSO TABLE B4

3506 100 3507 1k 2511 1n 2509 100p 2503 22n 2506 22n 24k 3508 2507 2n2 2514 470n 12k 3505 3882 2510 10n

V_{DD} V_{BB} BGC CLPF GCtl TL BEQ HFout DET DEC

HF AMPLIFIER EQUALIZER HFin GCtl RE1 RE2 DODS HFD HFL DO GAIN CONTROL HF AMPLITUDE SLICERS ref 1 ref 2 ref 3 ref 4 2575 47n 2515 1n

6501 PHOTO DIODE SIGNAL PROCESSOR TDA 8808 © FLAT PACK

LASER SUPPLY ref 6 STARTING CIRCUIT Sc Si/RD FOCUS NORMALIZING CIRCUIT FE FS FElag 3509 5k6 3851 3561 150k 11k 3560 2560 4n7 3829 2561 470n

FOCUS DRIVE

6500 (1/2A) TCA0372 3545 +10A 2546 22n -10A 3546 2542 22n 3566 22 2563 100n 3565 27 3847 3567 82k 3562 120k 3569 680k +5V 22k 3568 6V FOCUS OFFSET IN COMBINATION WITH 27 400 mV

1006-13 FOC- 1006-14 FOC+ TO FOCUS MOTOR VIA FLEX PRINT

TURNTABLE MOTOR CONTROL

+5V 100k 3585 91k 3584 +10A 2693 22n 6512 (1/2A) NJM4560 -10A 2566 22n 3581 3k3 3582 5k6 3579 150k 2572 330n 2570 2n2 3576 200k 6504 -(1/2B) TCA0372 3578 82k 3814 3879 6547 IN4002 6548 IN4002 3589 4k7 3588 47k 2574 18n 3574 33k 3586 680k 6517 BC858 3575 4k7 3580 6516 BC858 3884 1k2 3591 3807 5k1 3555 18k 3552 1k8 2550 47n 3533 5k1 3557 22k PIN 11 IC6530 Vref

TO TURNTABLE MOTOR CIRCUIT 1004-4 +10 1004-3 +10 1004-2 GND 1004-1 Vc

RADIAL DRIVE

6503 TDA8809 FUNCTION DECODER 3 1/2-BIT DAC RADIAL LAG SHORT 2538 220n 3530 47k 3531 15k 2530 8n2 2531 8n2 3840 220k 3534 330n 2534 330n Cagc Rosc Rwob Cosc1 Cosc2 V_{EXT+} V_{EXT-} V_{DD} LAG

WOBBLE OSCILLATOR 650Hz 0° 45° 90° LAG HOLD U/I - RADIAL RE IN LAG SHORT RE LAG RE LEAD

6500-(1/2B) TCA0372 3543 6k8 6506 BZX55 5V6 6505 BZX55 5V6 3541 6k8 2540 µ68 /50V 2545 100n 33 3542 3540 47k 1006-11 RAD+ 1006-12 RAD- TO RADIAL MOTOR VIA FLEX PRINT

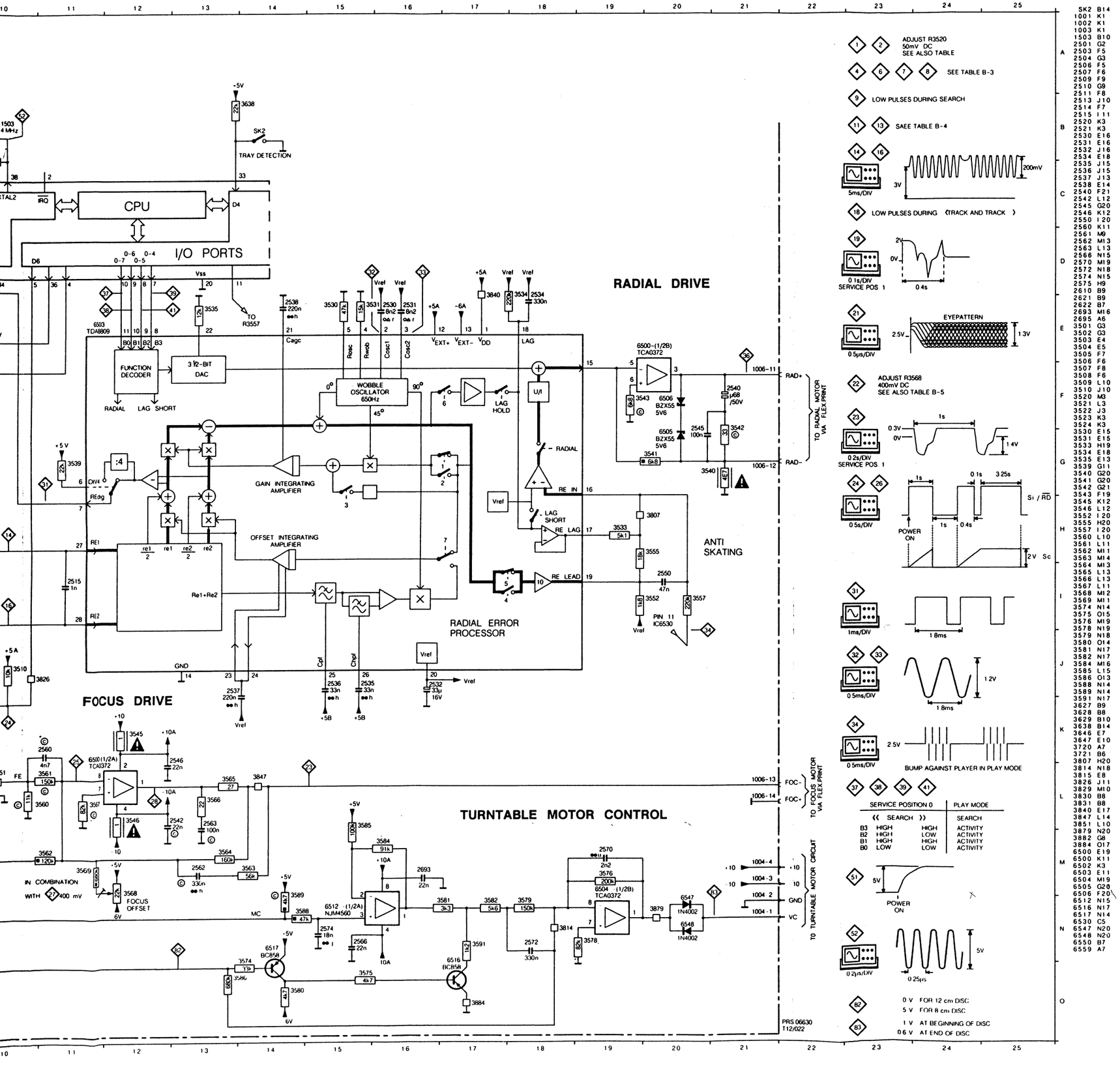
GAIN INTEGRATING AMPLIFIER OFFSET INTEGRATING AMPLIFIER Re1+Re2 RADIAL ERROR PROCESSOR ANTI SKATING

+5V 22k 3539 :4 DIV4 REdig 2515 1n 2536 33n 2535 33n 2532 33µ 16V 2537 220n +5B +5B Vref

CHIP JUMPER (0Ω)

RIS 06630 12022

CS 30 115



1 2 ADJUST R3520 50mV DC SEE ALSO TABLE

4 6 7 8 SEE TABLE B-3

9 LOW PULSES DURING SEARCH

11 13 SAEE TABLE B-4

14 16 5ms/DIV 3V 200mV

18 LOW PULSES DURING ‹TRACK AND TRACK ›

19 0 1s/DIV SERVICE POS. 1 2V 0V 0.4s

21 0.5µs/DIV 2.5V EYEPATTERN 1.3V

22 ADJUST R3568 400mV DC SEE ALSO TABLE B-5

23 0.2s/DIV SERVICE POS. 1 0.3V 0V 1s 1.4V

24 26 0.5s/DIV POWER ON 1s 0.1s 0.4s 3.25s SI / RD 2V Sc

31 1ms/DIV 1.8ms

32 33 0.5ms/DIV 1.2V 1.8ms

34 0.5ms/DIV 2.5V BUMP AGAINST PLAYER IN PLAY MODE

37 38 39 41

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

51 5V POWER ON

52 0.2µs/DIV 0.25µs 5V

82 0 V FOR 12 cm DISC
5 V FOR 8 cm DISC

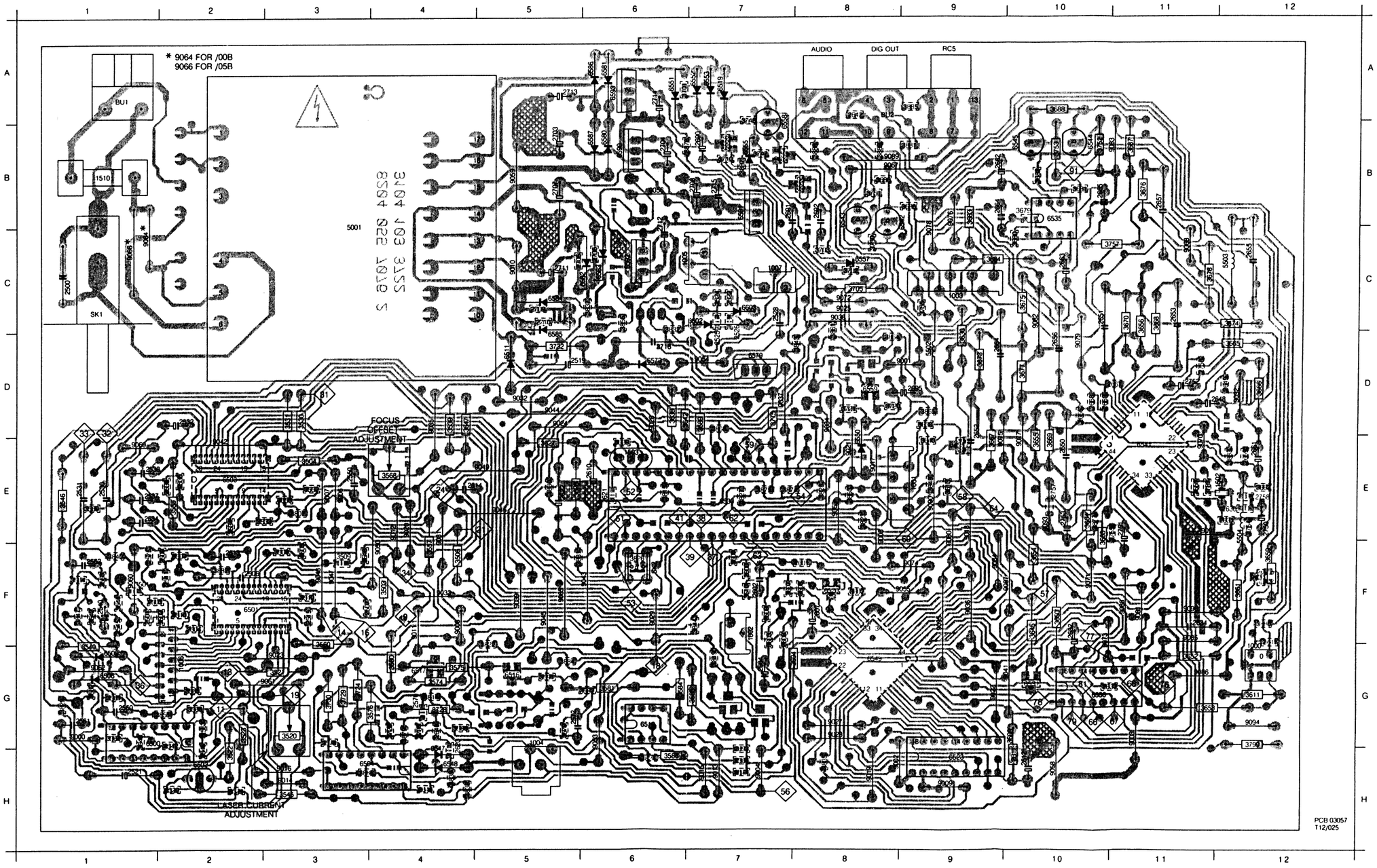
83 1 V AT BEGINNING OF DISC
0.6 V AT END OF DISC

	SK2	B14
	1001	K1
	1002	K1
	1003	K1
	1503	B10
A	2501	G2
	2503	F5
	2504	G3
	2506	F5
	2507	F6
	2509	F9
	2510	G9
	2511	F8
	2513	J10
	2514	F7
	2515	I 11
	2520	K3
B	2521	K3
	2530	E16
	2531	E16
	2532	J16
	2534	E18
	2535	J15
	2536	J15
	2537	J13
	2538	E14
C	2540	F21
	2542	L12
	2545	G20
	2546	K12
	2550	I 20
	2560	K11
	2561	M9
	2562	M13
	2563	L13
	2566	N15
D	2570	M19
	2572	N18
	2574	N15
	2575	H9
	2610	B9
	2621	B9
	2622	B7
	2693	M16
	2695	A6
E	3501	G3
	3502	G3
	3503	E4
	3504	E5
	3505	F7
	3506	F6
	3507	F8
	3508	F6
	3509	L10
	3510	J10
F	3520	M3
	3521	L3
	3522	J3
	3523	K3
	3524	K3
	3530	E15
	3531	E15
	3533	H19
	3534	E18
	3535	E13
G	3539	G11
	3540	G20
	3541	G20
	3542	G21
	3543	F19
	3545	K12
	3546	L12
	3552	I 20
	3555	H20
H	3557	I 20
	3560	L10
	3561	L11
	3562	M11
	3563	M14
	3564	M13
	3565	L13
	3566	L13
	3567	L11
	3568	M12
I	3569	M11
	3574	N14
	3575	O15
	3576	M19
	3578	N19
	3579	N18
	3580	O14
	3581	N17
	3582	N17
J	3584	M16
	3585	L15
	3586	O13
	3588	N14
	3589	N14
	3591	N17
	3627	B9
	3628	B8
	3629	B10
K	3638	B14
	3646	E7
	3647	E10
	3720	A7
	3721	B6
	3807	H20
	3814	N18
	3815	E8
	3826	J11
	3829	M10
L	3830	B8
	3831	B8
	3840	E17
	3847	L14
	3851	L10
	3879	N20
	3882	G8
	3884	O17
	6500	E19
M	6500	K11
	6502	K3
	6503	E11
	6504	M19
	6505	G20
	6506	F20
	6512	N15
	6516	N17
	6517	N14
N	6530	C5
	6547	N20
	6548	N20
	6550	B7
	6559	A7
O		

3-7

SERVO & DECODERPANEL SOLDER SIDE

BU1 A1	2509 F2	2538 E1	2609 F7	2653 C11	2704 B6	2758 E12	3539 D4	3575 G4	3611 G12	3661 F12	3684 C9	3750 C8	3831 F5	3878 B7	6505 G1	6549 G8	6586 A6	9013 H7	9034 D8	9059 B5	9080 F9
BU2 A8	2510 F2	2540 F1	2610 E6	2654 D9	2705 C5	3501 F1	3540 G1	3576 G4	3613 E9	3662 E12	3685 B9	3751 B8	3832 D6	3879 G4	6506 G1	6550 E8	6587 B6	9014 H3	9035 D4	9060 F1	9081 F11
SK1 C1	2511 F2	2542 H2	2611 H10	2655 C12	2706 C6	3502 F2	3541 F1	3578 G3	3627 E5	3663 F10	3686 B8	3752 B10	3835 H8	3880 F12	6511 D5	6551 A6	6590 B6	9015 H7	9036 F9	9061 G2	9082 C10
SK2 F6	2513 F2	2545 F1	2612 H10	2656 D10	2707 B5	3503 F4	3542 F1	3579 G5	3628 E5	3664 E10	3687 B11	3753 B10	3837 C6	3881 B9	6512 G6	6552 A7	6591 B7	9016 H3	9037 D7	9062 G1	9083 B11
1000 G12	2514 E4	2546 H2	2620 H4	2657 B11	2708 B7	3504 E3	3543 H1	3580 G4	3629 E6	3665 D12	3688 A10	3755 C9	3838 H4	3882 F2	6516 G5	6553 A7	6592 C6	9017 E8	9038 C8	9063 E8	9084 F9
1001 E9	2515 F3	2550 E3	2621 E6	2659 E12	2709 C5	3505 F3	3545 H3	3581 G6	3630 D9	3666 D12	3701 A6	3757 C10	3839 H4	3883 E12	6517 G4	6554 B7	6593 A6	9018 E9	9039 F5	9064 C1	9085 F11
1002 F7	2519 D5	2560 G1	2622 E5	2661 E12	2710 C5	3506 F4	3546 E1	3582 G5	3638 D6	3667 E9	3702 C8	3775 D7	3840 F1	3884 G5	6519 A7	6555 B7	6602 C7	9019 H8	9041 G10	9065 F5	9086 G11
1003 C9	2520 H2	2561 G1	2630 E12	2662 B9	2711 C5	3507 F2	3552 E3	3584 G6	3639 D9	3668 D11	3703 C8	3787 E11	3843 D8	3885 A9	6520 F8	6556 B7	6603 C7	9020 E4	9042 E2	9066 C1	9087 F10
1004 G5	2521 H1	2562 F1	2631 E12	2663 C10	2712 C6	3508 F3	3555 E3	3585 G7	3640 E9	3669 E10	3705 C8	3799 G12	3844 F7	3886 H3	6523 H9	6557 C8	9000 G1	9021 E8	9043 F6	9067 B8	9088 F11
1005 C6	2522 C7	2563 G2	2632 F10	2664 B9	2713 A5	3509 F3	3557 F4	3588 G4	3642 D7	3670 C11	3710 B7	3807 E3	3847 F1	3887 B7	6524 E9	6558 B7	9001 D8	9022 G9	9044 D5	9068 C11	9089 B8
1006 G2	2524 C7	2566 H7	2633 G10	2665 B10	2714 A6	3510 F3	3560 G3	3588 H6	3645 F10	3673 D9	3720 D8	3814 G4	3848 E9	3888 B8	6530 E7	6559 D8	9002 H8	9023 G3	9045 F5	9069 E1	9090 E9
1007 C7	2525 D7	2570 G4	2634 F11	2666 D10	2715 B7	3520 G3	3561 G1	3589 D7	3646 F3	3674 C12	3721 D8	3815 E6	3850 E8	3889 B8	6531 G10	6562 B8	9003 G11	9024 D5	9046 E5	9070 E11	9091 E11
1502 E12	2526 D7	2572 G5	2641 G12	2667 D10	2716 D6	3521 G3	3562 G1	3591 G5	3647 D4	3675 C10	3724 G3	3819 G7	3851 G1	5001 C3	6535 B10	6568 F12	9004 H7	9025 C8	9047 F3	9071 F10	9092 D12
1503 E6	2528 C7	2574 H7	2642 A8	2668 D10	2750 E12	3522 H2	3563 F1	3600 F7	3650 F10	3676 B11	3725 G4	3822 G5	3856 C6	5502 D9	6536 G10	6573 D6	9005 F8	9026 D6	9048 F3	9072 C8	9093 E10
1510 B1	2530 E1	2575 F1	2645 H4	2669 D10	2751 E11	3523 G2	3564 F1	3602 F8	3651 E11	3677 D10	3728 G4	3823 E8	3861 D8	5503 C12	6541 E11	6579 D7	9006 E3	9027 G8	9049 E4	9073 G10	9094 G12
2500 C1	2531 E1	2600 F7	2646 G4	2690 B7	2752 D11	3524 H2	3565 G2	3603 G7	3652 G11	3678 C11	3729 G3	3824 H6	3864 D8	5504 F12	6542 C9	6580 B6	9007 E3	9028 G8	9050 F4	9074 F9	9095 F9
2501 F1	2532 D2	2601 F8	2648 D11	2691 B7	2753 E10	3530 D3	3566 G2	3604 G8	3653 G11	3679 B10	3730 G3	3826 F6	3865 D9	6500 G1	6543 C8	6581 A6	9008 F4	9029 F6	9053 H6	9075 E9	9096 F11
2503 F1	2534 E1	2602 F7	2649 D12	2692 B8	2754 E12	3531 D3	3567 G1	3605 F8	3654 F10	3680 C10	3731 G4	3827 E7	3866 D7	6501 F2	6544 B10	6582 C6	9009 H9	9030 G2	9054 D7	9076 C9	
2504 F2	2535 E2	2604 G7	2650 E10	2693 H7	2755 F11	3533 E2	3568 E4	3607 F7	3655 E10	3681 B10	3732 D5	3828 E8	3874 E7	6502 H2	6545 B10	6583 C6	9010 C5	9031 F4	9055 F8	9077 E10	
2506 F2	2536 E2	2607 F8	2651 C10	2695 D9	2756 D11	3534 E2	3569 E1	3609 G10	3656 D11	3682 B10	3747 B7	3829 G1	3875 E7	6503 E2	6547 H4	6584 C5	9011 F4	9032 D5	9056 B6	9078 C9	
2507 F4	2537 E1	2608 G7	2652 E9	2703 B5	2757 E10	3535 E2	3574 G4	3610 F7	3659 F12	3683 B9	3748 B7	3830 E5	3877 E10	6504 H3	6548 H4	6585 D5	9012 E4	9033 F4	9058 H10	9079 D10	

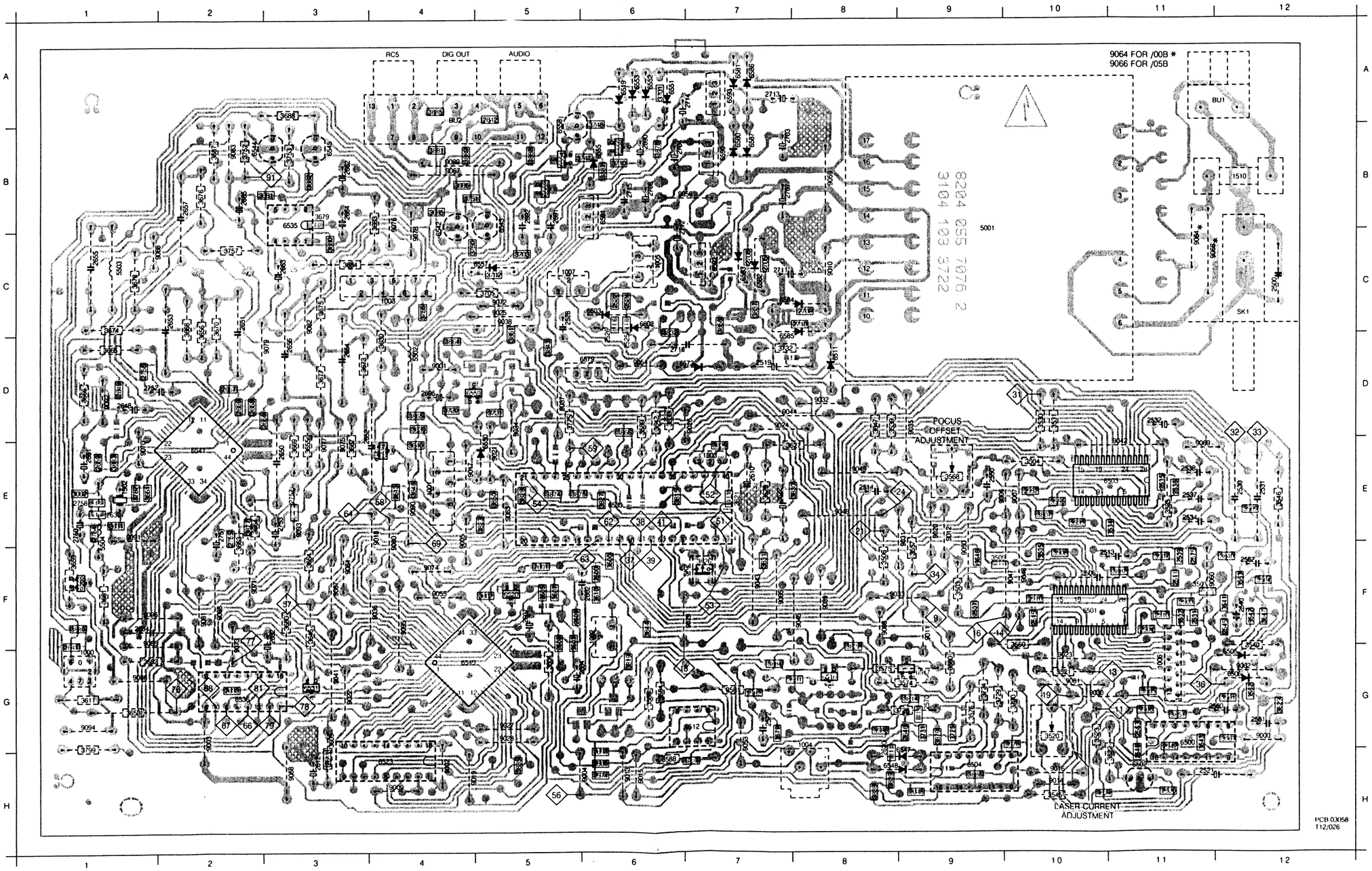


SERVO & DECODERPANEL COMPONENT SIDE

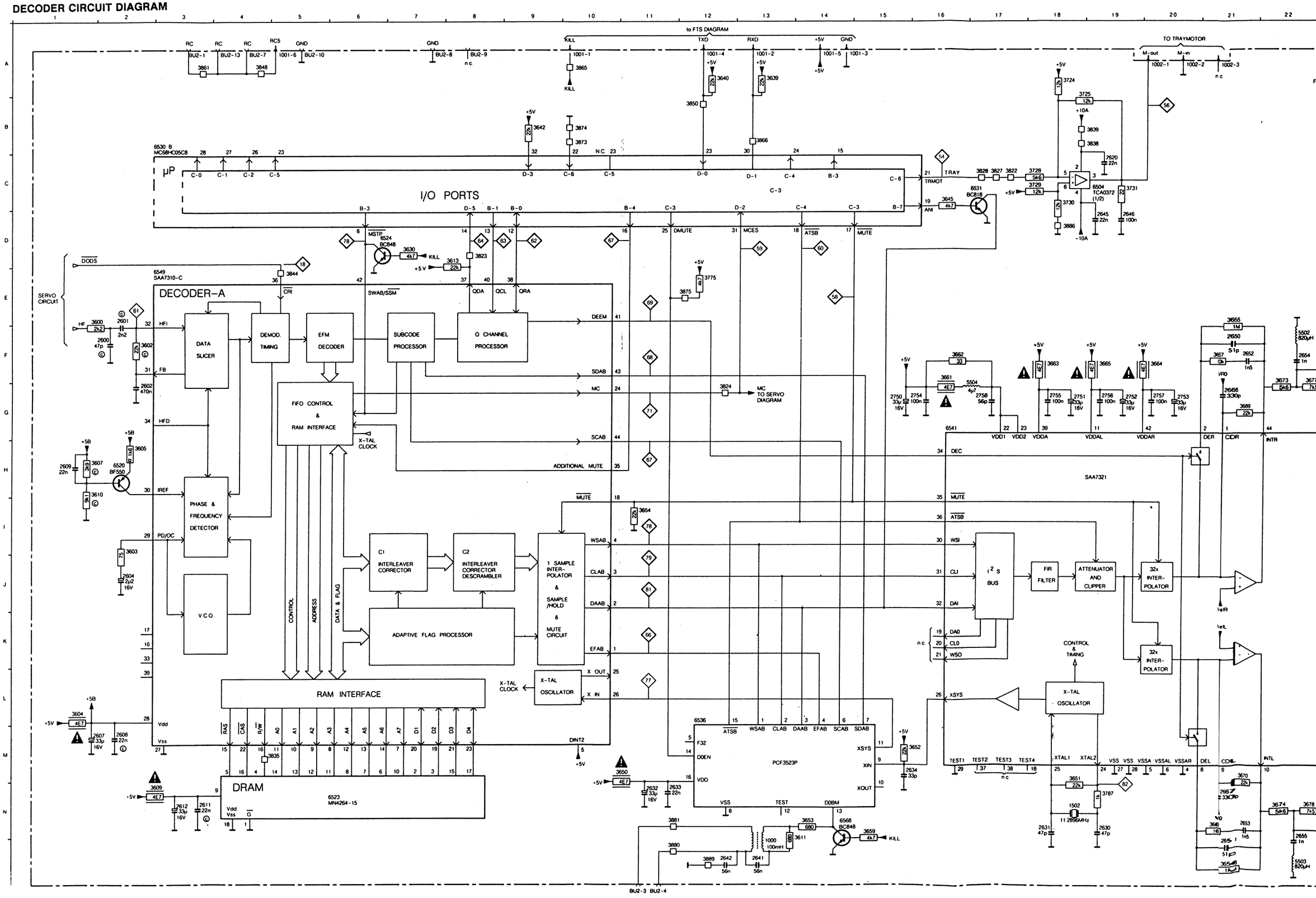
BU1	A11	2509	F11	2538	E11	2609	F5	2653	C2	2704	B6	2758	E1	3539	D8	3575	G8	3611	G1	3661	F1	3684	C3
BU2	A4	2510	F11	2540	F12	2610	E7	2654	D3	2705	C7	3501	F11	3540	G12	3576	G9	3613	E4	3662	E1	3685	B4
SK1	C12	2511	F11	2542	H11	2611	H3	2655	C1	2706	C7	3502	F11	3541	F12	3578	G10	3627	E7	3663	F2	3686	B4
SK2	F7	2513	F10	2545	F12	2612	H3	2656	D3	2707	B7	3503	F9	3542	F12	3579	G7	3628	E7	3664	E2	3687	B2
1000	G1	2514	E8	2546	H11	2620	H8	2657	B2	2708	B6	3504	E10	3543	H11	3580	G9	3629	E7	3665	D1	3688	A3
1001	E4	2515	F10	2550	E9	2621	E7	2659	E1	2709	C8	3505	F10	3545	H10	3581	G7	3630	D4	3666	D1	3701	A6
1002	F6	2519	D7	2560	G11	2622	E7	2661	E1	2710	C7	3506	F8	3546	E12	3582	G7	3638	D6	3667	E3	3702	C5
1003	C4	2520	H11	2561	G12	2630	E1	2662	B3	2711	C7	3507	F11	3552	E10	3584	G6	3639	D4	3668	D2	3703	C5
1004	G8	2521	H11	2562	F12	2631	E1	2663	C3	2712	C6	3508	F10	3555	E10	3585	G6	3640	E4	3669	E3	3705	C5
1005	C6	2522	C6	2563	G11	2632	F3	2664	B3	2713	A7	3509	F9	3557	F9	3586	G8	3642	D6	3670	C2	3710	B6
1006	G11	2524	C6	2566	H6	2633	G2	2665	B2	2714	A7	3510	F10	3560	G10	3588	H6	3645	F3	3673	D3	3720	D4
1007	C5	2525	D6	2570	G9	2634	F1	2666	D3	2715	B6	3520	G10	3561	G12	3589	D6	3646	F9	3674	C1	3721	D5
1502	E1	2526	D6	2572	G7	2641	G1	2667	D2	2716	D6	3521	G10	3562	G12	3591	G7	3647	D8	3675	C3	3724	G9
1503	E7	2528	C5	2574	H6	2642	A5	2668	D2	2750	E1	3522	H11	3563	F12	3600	F6	3650	F3	3676	B2	3725	G9
1510	B12	2530	E12	2575	F11	2645	H9	2669	D2	2751	E2	3523	G10	3564	F12	3602	F5	3651	E1	3677	D3	3728	C8
2500	C12	2531	E12	2600	F6	2646	G9	2690	B6	2752	D1	3524	H10	3565	G11	3603	G5	3652	G1	3678	C1	3729	G9
2501	F11	2532	D11	2601	F5	2648	D1	2691	B5	2753	E3	3530	D10	3566	G11	3604	G5	3653	G1	3679	B3	3730	G10
2503	F11	2534	E11	2602	F6	2649	D1	2692	B5	2754	E1	3531	D10	3567	G12	3605	F5	3654	F3	3680	C3	3731	G9
2504	F11	2535	E11	2604	G6	2650	E3	2693	H6	2755	F2	3533	E10	3568	E9	3607	F5	3655	E3	3681	B2	3732	D7
2506	F10	2536	E11	2607	F5	2651	C2	2695	D4	2756	D1	3534	E11	3569	E12	3656	D2	3682	B3	3747	B5	3829	G12
2507	F9	2537	E11	2608	G5	2652	E4	2703	B7	2757	E3	3535	E11	3574	G9	3610	F6	3659	F1	3683	B4	3748	B6

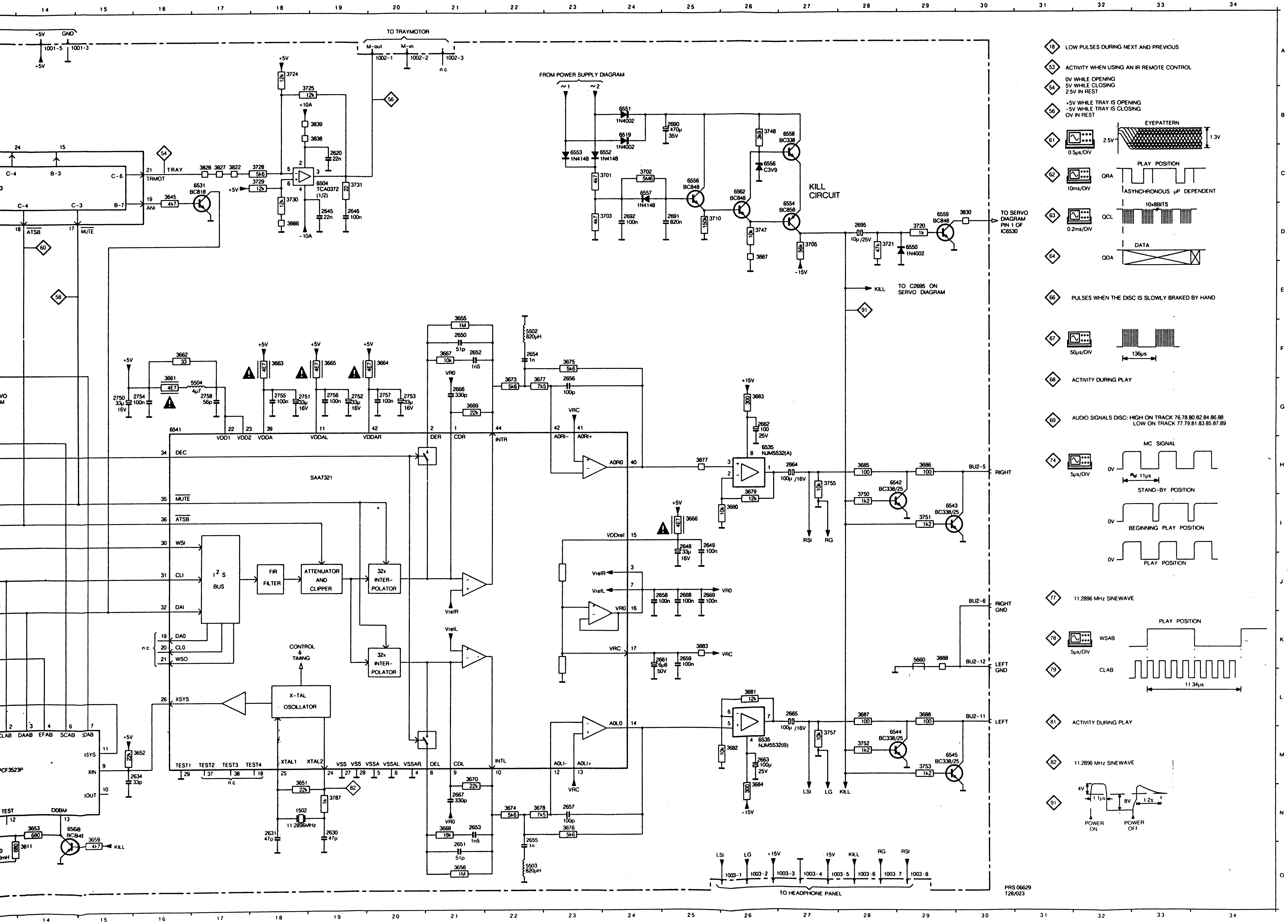
3685	B4	3751	B4	3832	D6	3835	H5	3837	C7	3838	H8	3839	H8	3840	F12	3843	D5	3844	F6	3847	F12	3848	E4
3686	B4	3752	B2	3753	B3	3755	C4	3757	C2	3775	D5	3787	E1	3799	G1	3807	E10	3814	G9	3819	G6	3822	G8
3687	B2	3753	B3	3755	C4	3757	C2	3775	D5	3787	E1	3799	G1	3807	E10	3814	G9	3819	G6	3822	G8	3823	E5
3688	A3	3755	C4	3838	H8	3839	H8	3840	F12	3843	D5	3844	F6	3847	F12	3848	E4	3851	G11	3856	C7	3861	D5
3701	A6	3757	C2	3775	D5	3787	E1	3799	G1	3807	E10	3814	G9	3848	E4	3850	E5	3851	G11	3856	C7	3864	D4
3702	C5	3775	D5	3787	E1	3799	G1	3807	E10	3814	G9	3848	E4	3850	E5	3851	G11	3856	C7	3861	D5	3865	D4
3703	C5	3787	E1	3799	G1	3807	E10	3814	G9	3819	G6	3822	G8	3823	E5	3824	H6	3826	F7	3827	E6	3828	E5
3705	C5	3799	G1	3807	E10	3814	G9	3819	G6	3822	G8	3823	E5	3824	H6	3826	F7	3827	E6	3828	E5	3829	G12
3710	B6	3807	E10	3814	G9	3819	G6	3822	G8	3823	E5	3824	H6	3826	F7	3827	E6	3828	E5	3829	G12	3830	E8
3720	D4	3814	G9	3819	G6	3822	G8	3823	E5	3824	H6	3826	F7	3827	E6	3828	E5	3829	G12	3830	E8	3831	F7
3721	D5	3815	E6	3819	G6	3822	G8	3823	E5	3824	H6	3826	F7	3827	E6	3828	E5	3829	G12	3830	E8	3831	F7
3724	G9	3819	G6	3822	G8	3823	E5	3824	H6	3826	F7	3827	E6	3828	E5	3829	G12	3830	E8	3831	F7	3832	D6
3725	G9	3822	G8	3823	E5	3824	H6	3826	F7	3827	E6	3828	E5	3829	G12	3830	E8	3831	F7	3832	D6	3835	H5
3728	C8	3823	E5	3824	H6	3826	F7	3827	E6	3828	E5	3829	G12	3830	E8	3831	F7	3832	D6	3835	H5	3837	C7
3729	G9	3824	H6	3826	F7	3827	E6	3828	E5	3829	G12	3830	E8	3831	F7	3832	D6	3835	H5	3837	C7	3838	H8
3730	G10	3826	F7	3827	E6	3828	E5	3829	G12	3830	E8	3831	F7	3832	D6	3835	H5	3837	C7	3838	H8	3839	H8
3731	G9	3827	E6	3828	E5	3829	G12	3830	E8	3831	F7	3832	D6	3835	H5	3837	C7	3838	H8	3839	H8	3840	F12
3732	D7	3828	E5	3829	G12	3830	E8	3831	F7	3832	D6	3835	H5	3837	C7	3838	H8	3839	H8	3840	F12	3843	D5
3747	B5	3829	G12	3830	E8	3831	F7	3832	D6	3835	H5	3837	C7	3838	H8	3839	H8	3840	F12	3843	D5	3844	F6
3748	B6	3830	E8	3831	F7	3832	D6	3835	H5	3837	C7	3838	H8	3839	H8	3840	F12	3843	D5	3844	F6	3847	F12

3878	B6	6505	G12	6549	G4	6586	A7	9013	H6	9034	D5	9059	B8	9080	F4								
3879	G9	6506	G12	6550	E5	6587	B7	9014	H10	9035	D9	9060	F11	9081	F2								
3880	F1	6511	D8	6551	A6	6590	B7	9015	H6	9036	F4	9061	G10	9082	C3								
3881	B4	6512	G6	6552	A6	6591	B6	9016	H10	9037	D5	9062	G12	9083	B2								
3882	F11	6516	G8	6553	A6	6592	C7	9017	E4	9038	C5	9063	E5	9084	F3								
3883	E1	6517	G9	6554	B5	6593	A7	9018	E4	9039	F8	9064	C11	9085	F1								
3884	G7	6519	A6	6555	B6	6602	C6	9019	H5	9041	G3	9065	F7	9086	G1								
3885	A4	6520	F5	6556	B6	6603	C6	9020	E9	9042	E11	9066	C12	9087	F3								
3886	H9	6523	H4	6557	C4	9000	G12	9021	E5	9043	F7	9067	B4	9088	F2								
3887	B6	6524	E4	6558	B5	9001	D4	9022	G3	9044	D7	9068	C2	9089	B4								
3888	B5	6530	E6	6559	D4	9002	H4	9023	G10	9045	F8	9069	E11	9090	E4								
3889	B4	6531	G3	6562	B5	9003	G2	9024	D7	9046	E8	9070	E1	9091	E1								
5001	C9	6535	B3	6568	F1	9004	H6	9025	C5	9047	F10	9071	F2	9092	D1								
5502	D4	6536	G2	6573	D6	9005	F4	9026	D7	9048	F10	9072	C5	9093	E3								
5503	C1	6541	E2	6579	D5	9006	E10	9027	G5	9049	E8	9073	G2	9094	G1								
5504	F1	6542	C4	6580	B7	9007	E10	9028	G5	9050	F9	9074	F4	9095	F4								
6500	G11	6543	C5	6581	A7	9008	F8	9029	F7	9053	H7	9075	E3	9096	F1								
6501	F10	6544	B2	6582	C7	9009	H4	9030	G10	9054	D6	9076	C4										
6502	H11	6545	B3	6583	C7	9010	C8	9031	F9	9055	F4	9077	E3										
6503	E10	6547	H8	6584	C7	9011	F9	9032	D8	9056	B6	9078	C4										
6504	H9	6548	H8	6585	D7	9012	E9	9033	F8	9058	H3	9079	D3										

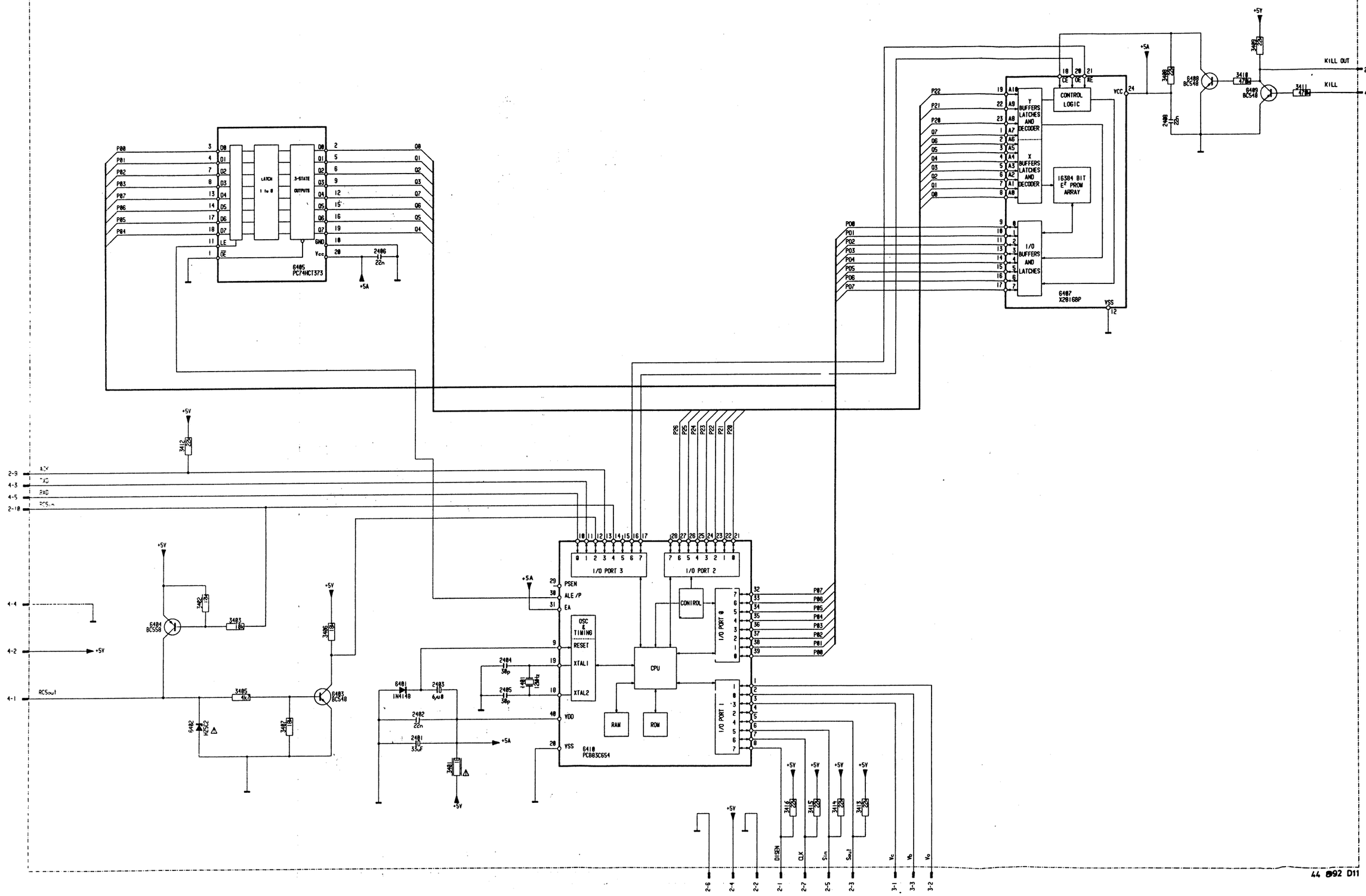


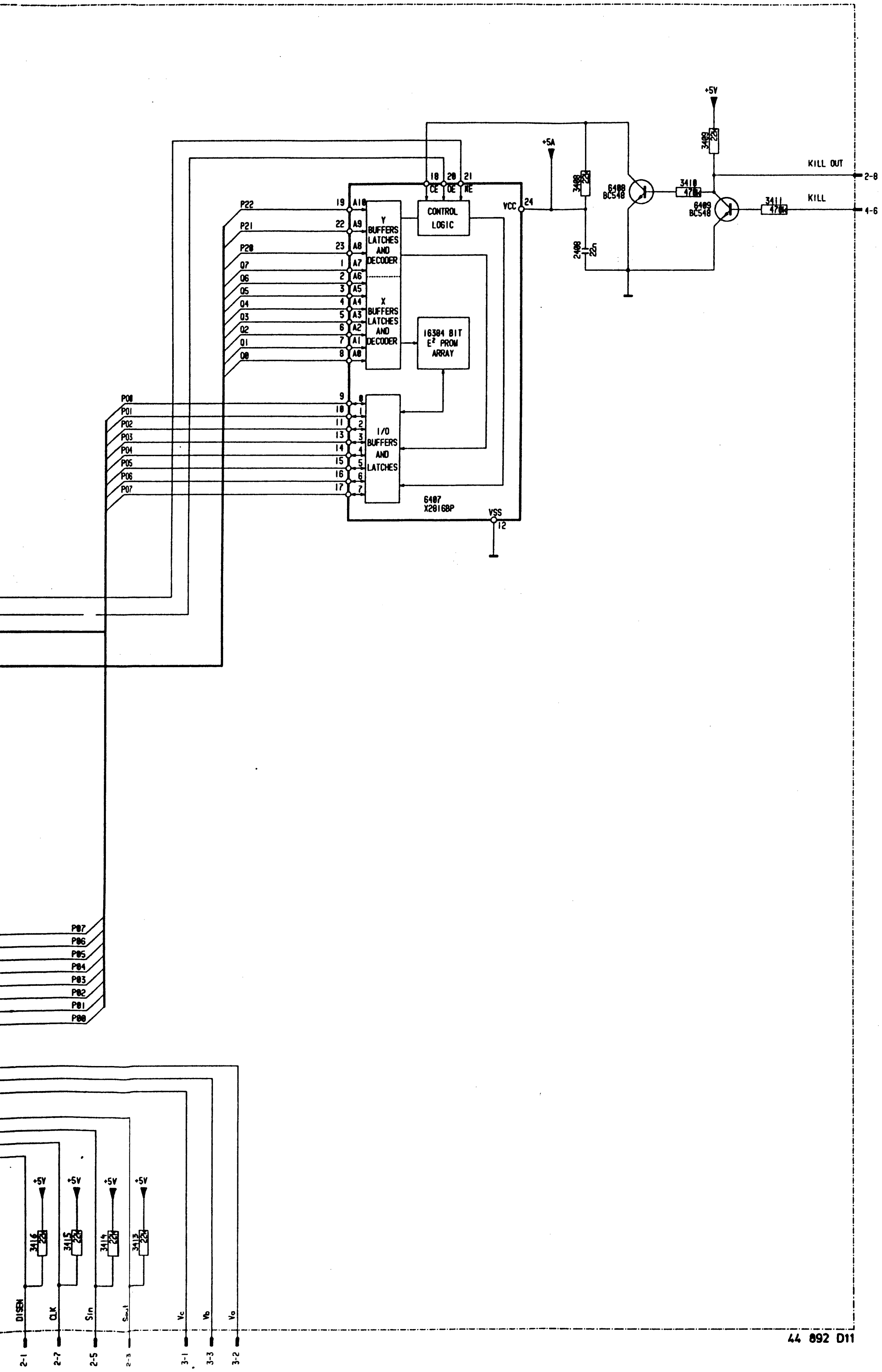
DECODER CIRCUIT DIAGRAM



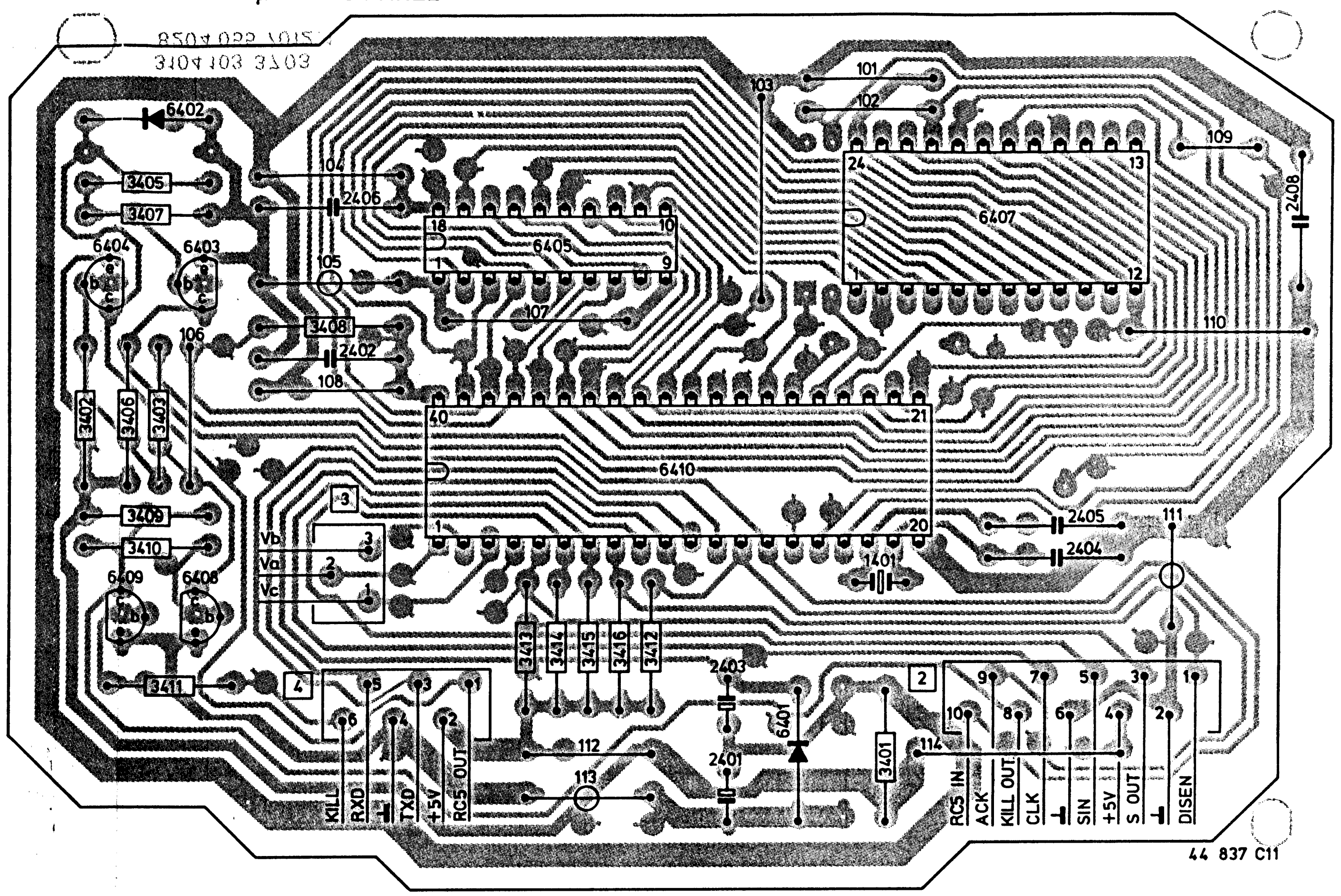

TO TRAYMOTOR
FROM POWER SUPPLY DIAGRAM
KILL CIRCUIT
TO SERVO DIAGRAM PIN 1 OF IC6530
TO C2695 ON SERVO DIAGRAM
SAA7321
I²S BUS
FIR FILTER
ATTENUATOR AND CLIPPER
32x INTER-POLATOR
CONTROL & TIMING
X-TAL OSCILLATOR
TO HEADPHONE PANEL
RIGHT
RIGHT GND
LEFT GND
LEFT
LOW PULSES DURING NEXT AND PREVIOUS
ACTIVITY WHEN USING AN IR REMOTE CONTROL
0V WHILE OPENING
5V WHILE CLOSING
2.5V IN REST
+5V WHILE TRAY IS OPENING
-5V WHILE TRAY IS CLOSING
0V IN REST
EYEPATTERN
PLAY POSITION
ASYNCHRONOUS µP DEPENDENT
PULSES WHEN THE DISC IS SLOWLY BRAKED BY HAND
ACTIVITY DURING PLAY
AUDIO SIGNALS DISC: HIGH ON TRACK 76.78.80.82.84.86.88
LOW ON TRACK 77.79.81.83.85.87.89
MC SIGNAL
STAND-BY POSITION
BEGINNING PLAY POSITION
11.2896 MHz SINEWAVE
POWER ON
POWER OFF
PRS 06629
T28/023

1000	O13
1502	N18
2600	F2
2601	E2
2602	G2
2604	J2
2607	M1
2608	M2
2609	H1
2611	N3
2612	N3
2620	C19
2630	N19
2631	N18
2632	N11
2633	N11
2634	M15
2641	O13
2642	O12
2645	D19
2646	D19
2648	I25
2649	I25
2650	F21
2651	O21
2652	F21
2653	N21
2654	F22
2655	N22
2656	G23
2657	N23
2658	J24
2659	K25
2661	K24
2662	G26
2663	M26
2664	H27
2665	L27
2666	G21
2667	N21
2668	J25
2669	J25
2690	B25
2691	D25
2692	D24
2695	D28
2750	G15
2754	G16
2755	G18
2756	G19
2757	G20
2758	G17
3600	E1
3602	F2
3603	I2
3604	L1
3605	H2
3607	H1
3609	N3
3610	H1
3611	O14
3613	D8
3630	D7
3639	A13
3640	A12
3642	B9
3645	C16
3650	M11
3651	M18
3652	M16
3653	N14
3654	I11
3655	E21
3656	O21
3659	N15
3661	F16
3662	F16
3663	F18
3664	F20
3665	F19
3666	I25
3667	F21
3668	N21
3669	G21
3670	M21
3673	G22
3674	N22
3675	F23
3676	N23
3677	G22
3678	N22
3679	H26
3680	I26
3681	L26
3682	M26
3683	G26
3684	N26
3685	H28
3686	H29
3687	L28
3688	L29
3701	C23
3702	C24
3703	D23
3705	D27
3710	D25
3720	D29
3721	D28
3724	A18
3725	B18
3728	C18
3729	C18
3730	C18
3731	C19
3747	D26
3748	B26
3750	I28
3751	I29
3752	M28
3753	M29
3755	H27
3757	M27
3775	E12
3787	N19
3822	C17
3823	D8
3824	G12
3827	C17
3828	C17
3830	D30
3835	M6
3838	B19
3839	B19
3844	E5
3848	A4
3850	B12
3861	A3
3865	A10
3866	B13
3873	B10
3874	B10
3875	E12
3877	H25
3880	O11
3881	N11
3883	K25
3886	D18
3887	D26
3888	K29
3889	O12
5502	F22
5503	O22
5504	G17
5660	K29
6519	B24
6520	H2
6523	N6
6524	D6
6530	B2
6531	C17
6535	H26
6535	M26
6536	L12
6541	G16
6542	H28
6543	I29
6544	M28
6545	M29
6549	E2
6550	D29
6551	B24
6552	C23
6553	C23
6554	D27
6556	C25
6556	C26
6557	C24
6558	B27
6559	D29
6562	C26
6568	N14


6405
PC74HCT373
LATCH
3-STATE
OUTPUTS
6418
PCB83C654
I/O PORT 3
I/O PORT 2
I/O PORT 1
I/O PORT 0
CPU
RAM
ROM
OSC & TIMING
CONTROL
6407
X28168P
16384 BIT E² PROM ARRAY
Y BUFFERS LATCHES AND DECODER
X BUFFERS LATCHES AND DECODER
CONTROL LOGIC
I/O BUFFERS AND LATCHES
KILL OUT
KILL
6408 BC548
6409 BC548
6404 BC558
6403 BC548
6401 IN4148
6402 HS52
PSEN
ALE /P
EA
RESET
XTAL1
XTAL2
VDD
VSS
VCC
VSS
RCSout
TXD
RXD
DISEN
CLK
Sin
Sout
+5V
+5A


KILL OUT
KILL
CONTROL LOGIC
Y BUFFERS LATCHES AND DECODER
X BUFFERS LATCHES AND DECODER
16384 BIT E² PROM ARRAY
I/O BUFFERS AND LATCHES
6407 X2816BP
BC548
DISEN
CLK
Sin
Vc
Vb
Va
44 892 D11

µP + FTS PANEL


6405
6407
6410
KILL
RXD
TXD
+5V
RC5 OUT
RC5 IN
ACK
KILL OUT
CLK
SIN
+5V
S OUT
DISEN
44 837 C11

Servo & decoder panel partslist

2500	4822 126 10454	3,3nF 20% 400V
2501	4822 122 33809	22nF 20% 50V
2503	4822 122 33809	22nF 20% 50V
2504	5322 122 34099	470pF 10% 63V
2506	4822 122 10166	22nF 30% 16V
2507	4822 122 33175	2,2nF 20% 50V
2509	5322 122 32531	100pF 5% 50V
2510	4822 122 33177	10nF 20% 50V
2511	4822 122 31746	1nF 5% 50V
2513	4822 121 43375	220nF 63V
2514	4822 121 51252	470nF 5% 63V
2515	4822 122 31746	1nF 5% 50V
2519	4822 124 22027	47µF 20% 25V
2520	5322 126 10794	220pF 10%
2521	5322 124 21643	22µF 20% 40V
2522	4822 122 33809	22nF 20% 50V
2524	4822 122 33809	22nF 20% 50V
2525	4822 122 33809	22nF 20% 50V
2526	4822 122 33809	22nF 20% 50V
2528	4822 124 41799	220µF 20% 63V
2530	4822 121 51321	8,2nF 1% 63V
2531	4822 121 51321	8,2nF 1% 63V
2532	4822 124 40272	33µF 20% 16V
2534	5322 121 42661	330nF 5% 63V
2535	4822 122 33342	33nF 10% 63V
2536	4822 122 33342	33nF 10% 63V
2537	4822 121 43375	220nF 63V
2538	4822 121 43375	220nF 63V
2540	4822 124 41583	0,68µF 50V Bipolar
2542	4822 122 33809	22nF 20% 50V
2545	4822 122 33496	100nF 10% 63V
2546	4822 122 33809	22nF 20% 50V
2550	5322 121 42604	47nF 5% 63V
2560	4822 121 51314	4,7nF 5% 50V
2561	4822 121 51252	470nF 5% 63V
2562	5322 121 42661	330nF 5% 63V
2563	4822 122 33496	100nF 10% 63V
2566	4822 122 33809	22nF 20% 50V
2570	4822 122 33175	2,2nF 20% 50V
2572	5322 121 42661	330nF 5% 63V
2574	4822 122 33893	18nF 10% 63V
2575	4822 122 32542	47nF 10% 63V
2600	5322 122 32452	47pF 5% 50V
2601	4822 122 31644	2,2nF 10% 63V
2602	4822 121 51252	470nF 5% 63V
2604	4822 124 41576	2,2µF 20% 50V
2607	4822 124 40272	33µF 20% 16V
2608	4822 122 33809	22nF 20% 50V
2609	4822 122 33809	22nF 20% 50V
2610	4822 124 20688	33µF 50% 16V
2611	4822 122 33809	22nF 20% 50V
2612	4822 124 40272	33µF 20% 16V
2620	4822 122 33809	22nF 20% 50V
2621	4822 122 33809	22nF 20% 50V
2622	4822 124 22031	4,7µF 20% 63V
2630	5322 122 32452	47pF 5% 50V
2631	5322 122 32452	47pF 5% 50V
2632	4822 124 40272	33µF 20% 16V
2633	4822 122 33809	22nF 20% 50V
2634	4822 122 10179	33pF 5% 50V
2641	4822 122 33485	56nF 10% 63V
2642	4822 122 33485	56nF 10% 63V
2645	4822 122 33809	22nF 20% 50V
2646	4822 122 33496	100nF 10% 63V
2648	4822 124 40272	33µF 20% 16V
2649	4822 122 33496	100nF 10% 63V

2650	4822 121 51556	51pF 1% 630V
2651	4822 121 51556	51pF 1% 630V
2652	4822 121 42729	1,5nF 1% 250V
2653	4822 121 42729	1,5nF 1% 250V
2654	4822 121 50591	1nF 1% 630V
2655	4822 121 50591	1nF 1% 630V
2656	4822 121 51288	100pF 630V
2657	4822 121 51288	100pF 630V
2658	4822 122 33496	100nF 10% 63V
2659	4822 122 33496	100nF 10% 63V
2661	4822 124 41578	6,8µF 20% 50V
2662	4822 124 41525	100µF 20% 25V
2663	4822 124 41525	100µF 20% 25V
2664	4822 124 22339	100µF 16V Bipolar
2665	4822 124 22339	100µF 16V Bipolar
2666	5322 122 31842	330pF 5% 63V
2667	5322 122 31842	330pF 5% 63V
2668	4822 122 33496	100nF 10% 63V
2669	4822 122 33496	100nF 10% 63V
2690	4822 124 41334	470µF 20% 35V
2691	4822 121 51436	820nF 10% 63V
2692	5322 121 42386	100nF 5% 63V
2693	4822 122 33809	22nF 20% 50V
2695	4822 124 41558	10µF 25V Bipolar
2703	4822 124 41859	330µF 20% 35V
2704	4822 124 40433	47µF 20% 25V
2705	4822 122 33809	22nF 20% 50V
2706	4822 122 33809	22nF 20% 50V
2707	4822 124 41591	6800µF 20% 16V
2708	4822 124 40272	33µF 20% 16V
2709	4822 122 33809	22nF 20% 50V
2710	4822 122 33809	22nF 20% 50V
2711	4822 124 41853	1000µF 16V
2712	4822 124 40272	33µF 20% 16V
2713	4822 124 41334	470µF 20% 35V
2714	4822 124 40433	47µF 20% 25V
2715	5322 121 42386	100nF 5% 63V
2716	5322 124 21643	22µF 20% 40V
2750	4822 124 40272	33µF 20% 16V
2751	4822 124 40272	33µF 20% 16V
2752	4822 124 40272	33µF 20% 16V
2753	4822 124 40272	33µF 20% 16V
2754	4822 122 33496	100nF 10% 63V
2755	4822 122 33496	100nF 10% 63V
2756	4822 122 33496	100nF 10% 63V
2757	4822 122 33496	100nF 10% 63V

3501	4822 051 20472	4,7kΩ 5% 0,1W
3502	4822 051 20104	100kΩ 5% 0,1W
3503	4822 052 10478	4,7Ω 5% 0,33W
3504	4822 052 10478	4,7Ω 5% 0,33W
3505	4822 051 20163	16kΩ 5% 0,1W
3506	4822 051 10101	100Ω 2% 0.25W
3507	4822 050 21002	1kΩ 1% 0,6W
3508	4822 051 20243	24kΩ 5% 0,1W
3509	4822 051 20562	5,6kΩ 5% 0,1W
3510	4822 051 20103	10kΩ 5% 0,1W
3520	4822 101 10685	4,7kΩ 20% 0,05W Potmtr Lin.
3521	4822 051 10221	220Ω 2% 0,25W
3522	4822 052 10189	18Ω 5% 0,33W
3523	4822 052 10129	12Ω 5% 0,33W
3524	4822 051 20101	100Ω 5% 0,1W
3530	4822 050 24703	47kΩ 1% 0,6W
3531	4822 050 21503	15kΩ 1% 0,6W

3533	4822 051 20512	5,1kΩ 5% 0,1W
3534	4822 051 20224	220kΩ 5% 0,1W
3535	4822 050 21203	12kΩ 1% 0,6W
3539	4822 051 10223	22kΩ 2% 0,25W
3540	4822 052 10478	4,7Ω 5% 0,33W
3541	4822 051 20682	6,8kΩ 5% 0,1W
3542	4822 051 20339	33Ω 5% 0,1W
3543	4822 051 20682	6,8kΩ 5% 0,1W
3545	4822 111 30483	1Ω 5% 0,33W
3546	4822 111 30483	1Ω 5% 0,33W
3552	4822 051 20182	1,8kΩ 5% 0,1W
3555	4822 051 20183	18kΩ 5% 0,1W
3557	4822 050 22004	200kΩ 1% 0,6W
3560	4822 050 21103	11kΩ 1% 0,6W
3561	4822 051 20154	150kΩ 5% 0,1W
3562	4822 051 20124	120kΩ 5% 0,1W
3563	4822 051 20563	56kΩ 5% 0,1W
3564	4822 051 20164	160kΩ 5% 0,1W
3565	4822 051 20279	27Ω 5% 0,1W
3566	4822 051 20229	22Ω 5% 0,1W
3567	4822 051 20829	82Ω 5% 0,1W
3568	4822 100 11193	22kΩ 20% 0,05W Potmtr Lin.
3569	4822 051 20684	680kΩ 5% 0,1W
3574	4822 050 13303	33kΩ 1% 0,4W
3575	4822 116 52921	4,7kΩ 1% 0,6W
3576	4822 050 22004	200kΩ 1% 0,6W
3578	4822 051 20823	82kΩ 5% 0,1W
3579	4822 051 20154	150kΩ 5% 0,1W
3580	4822 116 52921	4,7kΩ 1% 0,6W
3581	4822 050 23302	3,3kΩ 1% 0,6W
3582	4822 051 20562	5,6kΩ 5% 0,1W
3584	5322 116 53658	91kΩ 1% 0,6W
3585	4822 050 21004	100kΩ 1% 0,6W
3586	4822 051 20684	680kΩ 5% 0,1W
3588	4822 050 24703	47kΩ 1% 0,6W
3589	4822 116 52921	4,7kΩ 1% 0,6W
3591	4822 051 20122	1,2kΩ 5% 0,1W
3600	4822 051 20222	2,2kΩ 5% 0,1W
3602	4822 051 20223	22kΩ 5% 0,1W
3603	4822 051 20759	75Ω 5% 0,1W
3604	4822 052 10478	4,7Ω 5% 0,33W
3605	4822 051 20162	1,6kΩ 5% 0,1W
3607	4822 051 20392	3,9kΩ 5% 0,1W
3609	4822 052 10478	4,7Ω 5% 0,33W
3610	4822 051 20912	9,1kΩ 5% 0,1W
3611	4822 050 26801	680Ω 1% 0,6W
3613	4822 051 20223	22kΩ 5% 0,1W
3624	4822 051 20222	2,2kΩ 5% 0,1W
3627	4822 052 10478	4,7Ω 5% 0,33W
3628	4822 050 22004	200kΩ 1% 0,6W
3629	4822 051 20224	220kΩ 5% 0,1W
3630	4822 116 52921	4,7kΩ 1% 0,6W
3638	4822 051 10223	22kΩ 2% 0,25W
3639	4822 051 20223	22kΩ 5% 0,1W
3640	4822 051 20223	22kΩ 5% 0,1W
3642	4822 051 10223	22kΩ 2% 0,25W
3645	4822 116 52921	4,7kΩ 1% 0,6W
3646	4822 051 20223	22kΩ 5% 0,1W
3647	4822 051 10223	22kΩ 2% 0,25W
3651	4822 051 20224	220kΩ 5% 0,1W
3652	4822 051 10223	22kΩ 2% 0,25W
3653	4822 050 26801	680Ω 1% 0,6W
3654	4822 051 10223	22kΩ 2% 0,25W
3655	4822 116 52235	1MΩ 5% 0,5W
3656	4822 116 52235	1MΩ 5% 0,5W
3659	4822 116 52921	4,7kΩ 1% 0,6W

3663	4822 052 10478	4,7Ω 5% 0,33W
3664	4822 052 10478	4,7Ω 5% 0,33W
3665	4822 052 10478	4,7Ω 5% 0,33W
3666	4822 052 10478	4,7Ω 5% 0,33W
3667	4822 050 21003	10kΩ 1% 0,6W
3668	4822 050 21003	10kΩ 1% 0,6W
3669	4822 050 22203	22kΩ 1% 0,6W
3670	4822 050 22203	22kΩ 1% 0,6W
3673	4822 050 25602	5,6kΩ 1% 0,6W
3674	4822 050 25602	5,6kΩ 1% 0,6W
3675	4822 050 25602	5,6kΩ 1% 0,6W
3676	4822 050 25602	5,6kΩ 1% 0,6W
3677	4822 050 27502	7,5kΩ 1% 0,6W
3678	4822 050 27502	7,5kΩ 1% 0,6W
3679	4822 051 20163	16kΩ 5% 0,1W
3680	4822 051 20103	10kΩ 5% 0,1W
3681	4822 051 20163	16kΩ 5% 0,1W
3682	4822 051 20103	10kΩ 5% 0,1W
3683	4822 052 10339	33Ω 5% 0,33W
3684	4822 052 10339	33Ω 5% 0,33W
3685	4822 051 20101	100Ω 5% 0,1W
3686	4822 051 20101	100Ω 5% 0,1W
3687	4822 051 10101	100Ω 2% 0,25W
3688	4822 051 10101	100Ω 2% 0,25W
3701	4822 051 20472	4,7kΩ 5% 0,1W
3702	4822 116 82595	5,6MΩ 10% 0,1W
3703	4822 051 20473	47kΩ 5% 0,1W
3705	4822 050 25603	56kΩ 1% 0,6W
3710	4822 051 20154	150kΩ 5% 0,1W
3720	4822 051 10102	1kΩ 2% 0,25W
3721	4822 051 20473	47kΩ 5% 0,1W
3724	4822 050 21203	12kΩ 1% 0,6W
3725	4822 051 20163	16kΩ 5% 0,1W
3728	4822 050 15602	5,6kΩ 1% 0,4W
3729	4822 050 21203	12kΩ 1% 0,6W
3730	4822 050 21203	12kΩ 1% 0,6W
3731	4822 051 20229	22Ω 5% 0,1W
3732	4822 050 23902	3,9kΩ 5% 0,1W
3747	4822 051 20103	10kΩ 5% 0,1W
3748	4822 051 20392	3,9kΩ 5% 0,1W
3750	4822 051 20122	1,2kΩ 5% 0,1W
3751	4822 051 20122	1,2kΩ 5% 0,1W
3752	4822 051 10122	1,2kΩ 2% 0,25W
3753	4822 051 10122	1,2kΩ 2% 0,25W
3755	4822 051 20103	10kΩ 5% 0,1W
3757	4822 051 10103	10kΩ 2% 0,25W
3775	4822 116 52921	4,7kΩ 1% 0,6W
3787	4822 051 10102	1kΩ 2% 0,25W
38..	4822 051 10008	Chip jumper

5502	4822 157 51238	0,820µH
5503	4822 157 51238	0,820µH
5504	4822 157 51235	4,7µH 10%
5505	4822 157 51193	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-C5V6
6506	4822 130 34173	BZX79-C5V6

Control and display panel partslist

6511	4822 130 31456	BZV85-C5V1
6512	4822 209 83274	NJM4560D
6516	5322 130 42012	BC858A
6517	5322 130 42012	BC858A
6519	5322 130 30684	1N4002
6520	4822 130 42131	BF550
6523	4822 209 70422	MN4264-15
6524	4822 130 61207	BC848
6530	4822 209 61957	MC68HC05C8P/ZC99702
6531	4822 130 42675	BC818
6535	4822 209 83662	NJM5532DD
6536	4822 209 62588	PCF3523P
6541	4822 209 61708	SAA7321GP
6542	4822 130 40958	BC338-25
6543	4822 130 40958	BC338-25
6544	4822 130 40958	BC338-25
6545	4822 130 40958	BC338-25
6547	5322 130 30684	1N4002
6548	5322 130 30684	1N4002
6549	4822 209 61759	SAA7310GP/S5
6550	5322 130 30684	1N4002
6551	5322 130 30684	1N4002
6552	4822 130 30621	1N4148
6553	4822 130 30621	1N4148
6554	4822 130 42513	BC858C
6555	4822 130 31981	BZX79-C3V9
6556	5322 130 41981	BC848A
6557	4822 130 30621	1N4148
6558	4822 130 44121	BC338
6559	4822 130 61207	BC848
6562	4822 130 61207	BC848
6568	4822 130 61207	BC848
6573	4822 130 34167	BZX79-C13
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	TY40408
6592	4822 209 82056	MC7906CT
6593	5322 130 41899	MC7915CT

MISCELLANEOUS

0021	4822 256 30274	Fuse holder
1000	4822 148 80281	Transformer for Dig. Out
1008	4822 267 40863	Cinch socket
1010	4822 276 11309	Mains switch
1011	4822 276 12523	Tray tact switch
1502	4822 242 71349	11,2896MHz Crystal
1503	4822 242 72527	4MHz Resonator

2100	4822 124 22027	47µF 20% 25V
2101	4822 122 32444	33pF 5% 50V
2102	4822 122 32444	33pF 5% 50V
2104	4822 122 32863	22nF 80% 50V
2105	4822 124 22027	47µF 20% 25V
2106	4822 122 10166	22nF 30% 16V

3100	5322 111 91484	10 X 10kΩ
3101	5322 111 91484	10 X 10kΩ
3130	4822 052 10478	4,7Ω 5% 0,33W
3131	4822 051 10473	47kΩ 2% 0,25W
3132	4822 051 10829	82Ω 2% 0,25W
3133	4822 051 10102	1kΩ 2% 0,25W
3134	4822 051 10621	620Ω 2% 0,25W
3135	4822 051 10103	10kΩ 2% 0,25W
3151	4822 052 10478	4,7Ω 5% 0,33W
3160	4822 051 10829	82Ω 2% 0,25W
3161	4822 051 10102	1kΩ 2% 0,25W
3162	4822 051 10621	620Ω 2% 0,25W
38..	4822 051 10008	chip jumper

6501	4822 209 61191	TMP47C670N-1364
6502	4822 209 60886	UDN-2580A
6503	4822 209 60886	UDN-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	TLHR4499
6529	4822 130 80849	TLHR4499
6530	4822 130 61207	BC848
6531	4822 130 61207	BC848

Miscellaneous

1100	4822 214 51772	GP1U521X
1101	4822 242 71508	CSA6,00MG
1102	4822 130 90667	9-BY-02GK
00..	4822 276 12276	Tact switch
0026	4822 276 20463	Switch

Microprocessor and FTS panel partslist

2401	4822 124 40272	33µF 20% 16V
2402	4822 122 10166	22nF 30% 16V
2403	4822 124 41578	6,8µF 20% 50V
2404	4822 122 10179	33pF 5% 50V
2405	4822 122 10179	33pF 5% 50V
2406	4822 122 10166	22nF 30% 16V
2408	4822 122 10166	22nF 30% 16V
3401	4822 111 30483	1Ω 5% 0,33W
3402	4822 050 21003	10kΩ 1% 0,6W
3403	4822 050 21003	10kΩ 1% 0,6W
3405	4822 116 52921	4,7kΩ 1% 0,6W
3406	4822 116 53084	18kΩ 1% 0,6W
3407	4822 116 53084	18kΩ 1% 0,6W
3408	4822 050 22203	22kΩ 1% 0,6W
3409	4822 050 22203	22kΩ 1% 0,6W
3410	4822 050 24704	470kΩ 1% 0,6W
3411	4822 050 24704	470kΩ 1% 0,6W
3412	4822 050 22203	22kΩ 1% 0,6W
3413	4822 050 22203	22kΩ 1% 0,6W
3414	4822 050 22203	22kΩ 1% 0,6W
3415	4822 050 22203	22kΩ 1% 0,6W
3416	4822 050 22203	22kΩ 1% 0,6W
6401	4822 130 30621	1N4148
6402	4822 130 34233	BZX55-C5V1
6403	4822 130 40938	BC548
6404	4822 130 40941	BC558
6405	5322 209 11118	PC74HCT373P
6407	4822 209 72102	X2816BP
6408	4822 130 40938	BC548
6409	4822 130 40938	BC548
6410	4822 209 62668	PCB83C654P/AC009

Miscellaneous

1401	4822 242 71222	Crystal 12MHz

Headphone panel partslist

2201	5322 124 21762	100µF 20% 10V
2202	5322 124 21762	100µF 20% 10V
2203	5322 124 21711	100µF 20% 25V
2204	5322 124 21711	100µF 20% 25V
3201	4822 051 10101	100Ω 2% 0,25W
3202	4822 051 10101	100Ω 2% 0,25W
3203	4822 051 10103	10kΩ 2% 0,25W
3204	4822 051 10103	10kΩ 2% 0,25W
3205	4822 111 30508	10Ω 5% 0,33W
3206	4822 111 30508	10Ω 5% 0,33W
3207	4822 116 52264	27kΩ 5% 0,5W
3208	4822 116 52264	27k 5% 0,5W
3209	4822 051 10122	1,2kΩ 2% 0,25W
3210	4822 051 10122	1,2kΩ 2% 0,25W
3211	4822 050 21501	150Ω 1% 0,6W
3212	4822 050 21501	150Ω 1% 0,6W
6201	4822 209 82362	NJM4556D
6203	4822 130 40958	BC338-25
6204	4822 130 40958	BC338-25

Miscellaneous

1201	4822 102 10398	Potmeter 2 X 10kΩ Log.
1202	4822 267 31065	Headphone socket
	4822 505 10571	Hex Nut M12 X 1

Variable line out panel partslist

2101	4822 124 41527	47µF 20% 25V
2102	4822 124 41528	100µF 20% 25V
2103	4822 124 41528	100µF 20% 25V
2104	4822 124 41528	100µF 20% 25V
2105	4822 124 22339	100µF 20% 25V bipolar
2106	4822 124 41558	10µF 20% 25V bipolar
2107	4822 124 41558	10µF 20% 25V bipolar
2108	4822 124 22339	100µF 20% 25V bipolar
3101	4822 116 52437	5,1kΩ 5% 0,5W
3102	4822 050 22702	2,7kΩ 1% 0,6W
3103	4822 052 10229	22Ω 5% 0,33W
3104	4822 052 10229	22Ω 5% 0,33W
3105	4822 050 21003	10kΩ 1% 0,6W
3106	4822 050 21003	10kΩ 1% 0,6W

Miscellaneous

6101	4822 214 51724	DVR-3
BU4	4822 267 30878	Cinch socket

Miscellaneous

1501	4822 253 30009	Fuse 160 mA /00B /05B /10B
1501	4822 253 30217	Fuse 300 mA /07B
5001	4822 146 30898	Mains transf. /00B /05B /10B
5001	4822 146 30914	Mains transf. /07B

Tools

4822 444 60655	Insulation cover
4822 397 30184	CD audio signals
4822 397 30096	Audio test disc 5+5A
4822 397 30155	Audio test disk 1kHZ
4822 397 60141	Audio test max diam
4822 395 50145	Torx screwdriver set
4822 395 50132	Screwdriver square
4822 395 30204	13th order filter
4822 322 40066	Service cable (14P)
4822 267 50676	Service connector (14)P
5322 130 32182	Led green CQYG11
4822 321 21284	Service cable (4P)