

Service Manual

74 CDR630 /02M
CDR630 F_H, U_{BL}
Compact Disc Recorder

74 DR700 /02B
DR700 F_N, U_{BL}

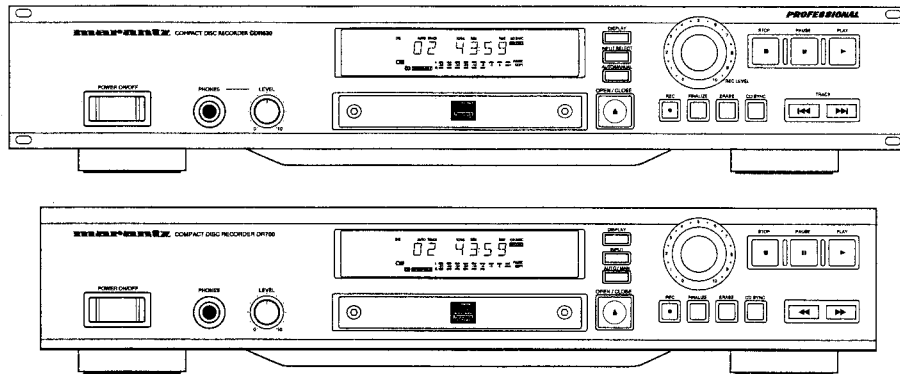


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Please use this service manual with referring to the user guide (D.F.U.) without fail.

修理の際は、必ず取扱説明書を準備し操作方法を確認の上作業を行ってください。

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MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, **MARANTZ** company has created the ultimate in stereo sound. Only original **MARANTZ** parts can insure that your **MARANTZ** product will continue to perform to the specifications for which it is famous.

Parts for your **MARANTZ** equipment are generally available to our National Marantz Subsidiary or Agent.

ORDERING PARTS :

Parts can be ordered either by mail or by Fax.. In both cases, the correct part number has to be specified.

The following information must be supplied to eliminate delays in processing your order :

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature : any order form or Fax. must be signed, otherwise such part order will be considered as null and void.

USA

MARANTZ AMERICA, INC.
440 MEDINAH ROAD
ROSELLE, ILLINOIS 60172
USA
PHONE : 630 - 307 - 3100
FAX : 630 - 307 - 2687

CANADA

LENBROOK INDUSTRIES LIMITED
633 GRANITE COURT,
PICKERING, ONTARIO L1W 3K1
CANADA
PHONE : 905 - 831 - 6333
FAX : 905 - 831 - 6936

EUROPE / TRADING

MARANTZ EUROPE B.V.
P.O.BOX 80002
BUILDING SFF2
5600 JB EINDHOVEN
THE NETHERLANDS
PHONE : +31 - 40 - 2732241
FAX : +31 - 40 - 2735578

PROFESSIONAL USA

SUPERSCOPE TECHNOLOGIES, INC.
MARANTZ PROFESSIONAL PRODUCTS
2640 WHITE OAK CIRCLE, SUITE A
AURORA, ILLINOIS 60504 USA
PHONE : 630 - 820 - 4800
FAX : 630 - 820 - 8103

PROFESSIONAL CANADA

TC ELECTRONICS CANADA LTD.
540 FIRING AVE.
BAIE D'URFÉ, QUEBEC H9X 3T2
CANADA
PHONE : 514 - 457 - 4044
FAX : 514 - 457 - 5524

KOREA

MK ENTERPRISES LTD.
2F SHINHAN BLDG., 247-17 SEOKYO-DONG
MAPO-KU, SEOUL
KOREA
PHONE : +82 - 2 - 323 - 2155
FAX : +31 - 2 - 323 - 2154

BRAZIL

MARANTZ BRAZIL
CAIXA POSTAL 21462
CEP 04698-970
SAO PAULO, SP, BRAZIL
PHONE : 0800 - 123123 (Discagem Direta Gratuita)
FAX : +55 11 534. 8988

THAILAND

MRZ STANDARD CO., LTD.
746 - 754 MAHACHAI RD.,
WANGBURAPAPIROM, PHRANAKORN,
BANGKOK, 10200 THAILAND
PHONE : +66 - 2 - 222 - 9181
FAX : +66 - 2 - 224 - 6795

HONG KONG

FORWARD INTERNATIONAL CORP., LTD.
3F, BLOCK-B WO KEE HONG BLDG., 585-609
CASTLE PEAK RD., KWAI CHUNG, N.T.
HONG KONG
PHONE : +852 24942033
FAX : +852 24101656

AUSTRALIA / NEW ZEALAND

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52 CROWN STREET, RICHMOND 3121
VICTORIA
AUSTRALIA
PHONE : +61 - 3 - 9429 - 2199
FAX : +61 - 3 - 9429 - 9309

TAIWAN

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6 TH FL NO, 148 SUNG KIANG ROAD,
TAIPEI, 10429, TAIWAN R.O.C.
PHONE : +886 (2) 5221304
FAX : +886 (2) 5630415

MALAYSIA

WO KEE HONG ELECTRONICS SDN. BHD.
NO. 102 JALAN SS 21/35, DAMANSARA
UTAMA, 47400 PETALING JAYA
SELANGOR DARUL EHSAN,
MALAYSIA
PHONE : +60 3 - 7184666
FAX : +60 3 - 7173828

JAPAN *Technical*

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35- 1, 7- CHOME, SAGAMIONO
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SINGAPORE

FORWARD MARKETING (S) PTE. LTD.
23, LORONG 8, TOA PAYOH,
SINGAPORE 319257.
PHONE : +65 2583640
FAX : +65 3564047

SHOCK, FIRE HAZARD SERVICE TEST :

CAUTION : After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or Front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before it is return to the user/customer.

Ref. UL Standard N0. 1492(DR700) and No. 813(CDR630).

In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

Servicing the DR700 and the CDR630

1. INTRODUCTION:

The DR700 is the consumer version of a CD recorder, this means that the SCMS (Serial Copy Management System) is included. The DR700 can only record on the Audio CDRs (Consumer Use).

The CDR630 is the professional version of a CD recorder (no SCMS). Besides the cinch input and outputs also XLR input and outputs are mounted on this product.

Both products are also suitable for recording and playback of CD-RW discs (CD-Re Writable disc).

Playback & Recording and Disc

Disc Player/Recorder	CD	CDR				CD-RW				SCMS
		Consumer Disc		Professional Disc		Consumer Disc		Professional Disc		
		Finalized	non Finalized	Finalized	non Finalized	Finalized	non Finalized	Finalized	non Finalized	
Audio CD Player Current products Ex:CD-17	P	P	no	P	no	no	no	no	no	-
Audio CD Player CD-RW playback Ex:CD-17MK II	P	P	no	P	no	P	no	P	no	-
CD Recorder For Professional Ex:CDR620	P	P	P/R	P	P/R	no	no	no	no	no
CD-RW Recorder For Consumer Ex:DR700	P	P	P/R	P	no	P/R	P/R	no	no	YES
CD-RW Recorder For Professional Ex:CDR630	P	P	P/R	P	P/R	P/R	P/R	P/R	P/R	no

Consumer: For Digital Audio

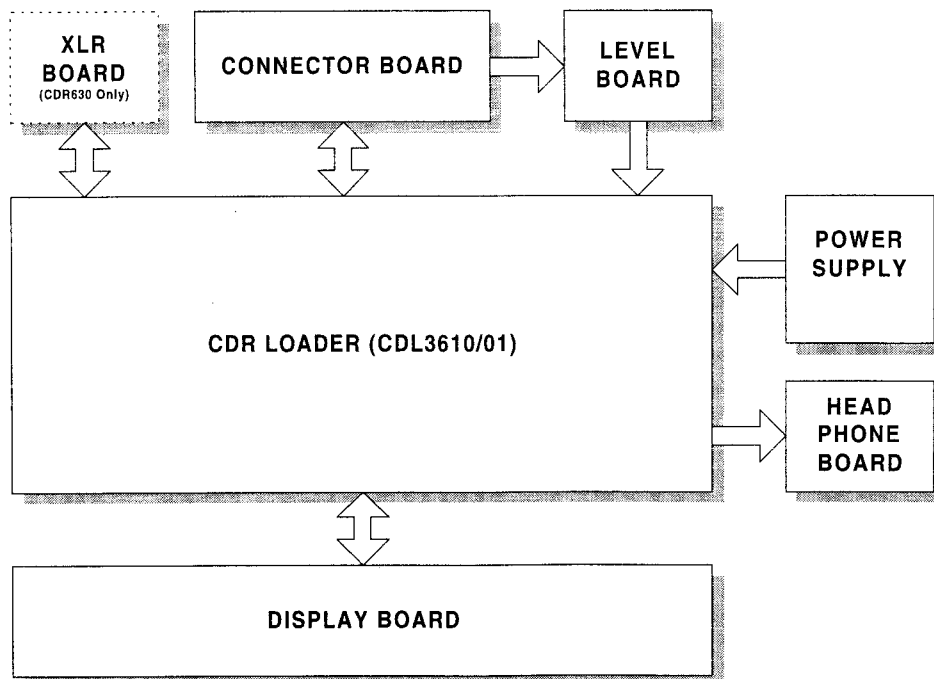
Professional: For General use (Including PC)

P: Playback

R: Recording

2. OPENING THE PRODUCT:

The product can be opened by removing the top cover (6 torxs). Once the product is opened one can have access to the several PCB's and the main module. To have access to the Display PCB, the Headphone PCB and the lever PCB first the front cover has to be removed (4 torx and 4 snap connections).



Below the several PCB's and it function and service policy will be discussed:

2.1 CDR loader (CDR main module CDL3610/01):

This complete CDR loader is considered as not repairable in the field, therefore this module will be repaired centrally. A module exchange procedure will be set up for this purpose. The module can be easily removed from the product by removing 5 torx (one torx has different size) and loosening the connectors.

This module is the complete CD recorder, it contains the following parts:

- CD Mechanism (CDM3610). Underneath this mechanism a PCB is mounted which is adjusted to the mechanism (laser current settings are stored in EEPROM).
 - Loader Assy. This mechanical assy takes care for the tray control.
 - Main PCB. This PCB takes care that the (analogue or digital) signal to be recorded is converted into a suitable signal which can be recorded on the disc.
Digital signals with a sampling frequency other than 44,1kHz will be converted in the sample rate converter (GDIN) to 44,1kHz.
Analogue signals will be first converted into a digital converter by the AD converter.
This PCB also takes care that the signal from the CD (playback) is converted into a suitable digital signal (or analogue via the DA converter).
- The main microprocessor controls the several functions of this PCB. The system software stored in a normal DIL EPROM(7322). This EPROM(7322) is mounted on a socket, so software updates can be easily done at the dealer or service agent.

2.2 Display Board

This PCB contains the Display, which informs the user about the status of the recording/playback process and it also takes care for scanning the keys on the front panel. The information from the keys is fed via a I²C connection to the main microprocessor on the CDR loader module. Information which needs to be displayed is also fed via this I²C line from the main microprocessor on the CDR loader module to the display controller.

The parts for this PCB are available as service parts so this PCB can be repairable up to component level.

2.3 Power Supply.

This PCB delivers the several voltages for the different PCB in the DR700/CDR630. On this power supply also the mains fuse (primary side) is mounted and seven other fuses (secondary side) are soldered on this PCB. All parts are available as spare part.

2.4 Headphone Board.

This PCB contains the headphone socket and potentiometer which controls the headphone volume. All parts are available as spare parts.

2.5 Level Board.

This PCB contains the potentiometer to adjust the level of the analogue input signal. All parts are available as spare parts.

2.6 Connector Board.

This PCB contains the output and input connectors. All parts are available as spare parts.

2.7 XLR Board (CDR630 only).

The XLR PCB contains the XLR inputs and outputs and the electronics to convert the signal to a balanced output signal and convert a balanced input signal to a single line input signal. All parts are available as spare parts.

3. TEST PROGRAMS.

The DR700 and CDR630 has two built in test programs. These are the “**Dealer Diagnostics**” and the “**Service Diagnostics**”. Both diagnostics can be used to determine which board or module is defect.

3.1 Dealer Diagnostics.

This test diagnostics the communication between the several ICs in the CDR module. To start the test press the buttons **<PLAY>+<STOP>** simultaneously and switch on the power.

During this diagnostics the message “BUSY” is blinking on the display (this can last for a couple of minutes). When an error is detected the message “ERROR” is displayed. For the meaning of this error the service diagnostics has to be ran. Since no CD is used for this test, the playback and record parts of the module are not tested thoroughly.

3.2 Service Diagnostics.

This Diagnostics tests the main board and CDM assembly (also known as Basic Engine) of the CDR module and the keyboard and display board.

If an error is detected, an error number is displayed which refers to the error.

The test is executed with a normal CD loaded, so the recording part of the CDM is not tested thoroughly.

To start the test press the keys **<PLAY>+<NEXT>** simultaneously and switch the power on.

See the attached sheet for a flowchart of the “**SERVICE TEST PROGRAM**”.

1.1 TECHNICAL SPECIFICATIONS

General	CDR630	DR700
System	: compact disc digital audio	: compact disc digital audio
Number of channels	: 2 (stereo)	: 2 (stereo)
Applicable discs	: CD, CD-R, CD-RW	: CD, CD-R (digital audio), CD-RW (digital audio)
Power supply	: AC 100/120/230/240 V (74CDR630/02M, CDR630F H)	: AC 230 V (74DR700/2B) : AC 120 V (DR700U BL) : AC 100 V (DR700F N)
Power consumption	: 15 W	: 15 W
Operating temperature	: 5 - 35 °C	: 5 - 35 °C
Weight	: 4.7 kg	: 4.2 kg
Dimensions	: 483(W) x 305(D) x 88(H) mm	: 435(W) x 305(D) x 88(H) mm

Audio		
Frequency response	: 20 Hz - 20 kHz	: 20 Hz - 20 kHz
Playback S/N	: 105 dB	: 105 dB
Playback dynamic range	: 98 dB	: 98 dB
Playback total harmonic distortion	: 85 dB	: 85 dB
Recording S/N	: 90 dB	: 90 dB
Recording dynamic range	: 95 dB	: 95 dB
Recording total harmonic distortion	: 85 dB	: 85 dB
Line output voltage	: 2 Vrms	: 2 Vrms
Digital coaxial output	: 0.5V(pp)/75 Ω	: 0.5V(pp)/75 Ω
Digital optical output	: -20 dBm	: -20 dBm
Headphones	: 0 - 5 Vrms/8 - 200 Ω	: 0 - 5 Vrms/8 - 2000 Ω

Recording values for line input/output

Digital coaxial input	: 32 - 48 kHz	: 32 - 48 kHz
(automatic sample rate conversion)		
Digital optical input	: 32 - 48 kHz	: 32 - 48 kHz
(automatic sample rate conversion)		
Analogue input Cinch	: 700 mVrms/50 kΩ	: 700 mVrms/50 kΩ
Analogue input XLR CDR630 only		
-sensitivity	: +4 dBu (max +16 dBu) : -10 dBu (max +2 dBu)	
-impedance	: 30 kΩ	

Recording functions CDR630 Only

Recording	
-Auto start recording (CD sync) only digital source	
-Start delay	: 150 - 400 ms
Auto Track increment	
-PQ timing deviation (digital source)	: < 6 frames (80 ms)
-Track detection level (analog source)	: < -50 dB for more than 3 sec
Manual track Increment	
Pause recording	
Erase last track (CD-RW disc)	
Erase disc (CD-RW disc)	
Remaining recording time display	
Finalize (writing TOC)	: 2 x speed

Playback functions CDR630 Only

Play	
Pause	
Stop	
Direct track selection	
Next/Previous track selection	
Search forward/reverse	
Fast search forward/reverse	
Repeat (all/1 track)	
Program play (20 tracks)	
Time display switching	

Accessories CDR630 Only

Remote control (+ batteries)
Audio cable (x 2)
Digital coaxial cable (x 1)
AC mains cable

1.2 WARNINGS

(GB) WARNING

All ICs and many other semiconductors 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 wristband with resistance. Keep components and tools at this potential.

(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 enfilez 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.

ESD



(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unvorsichtige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.

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.

(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 ridotta 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.

(GB) AVAILABLE ESD PROTECTION EQUIPMENT :

anti-static table mat large 1200x650x1.25mm
small 600x650x1.25mm

anti-static wristband

connection box (3 press stud connections, 1M)

extendible cable (2m, 2M, to connect wristband to connection box)

connecting cable (3m, 2M, to connect table mat to connection box)

earth cable (1M, to connect any product to mat or to connection box)

KIT ESD3 (combining all 6 prior products - small table mat)

wristband tester

4822 466 10953

4822 466 10958

4822 395 10223

4822 320 11307

4822 320 11305

4822 320 11306

4822 320 11308

4822 310 10671

4822 344 13999

(GB)

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

Safety components are marked by the symbol ▲

(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.

Les composants de sécurité sont marqués ▲

SAFETY



(D)

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Originalersatzteile zu verwenden.

Sicherheitsbauteile sind durch das Symbol ▲ markiert.

(NL)

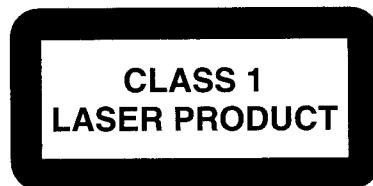
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast. De Veiligheidsonderdelen zijn aangeduid met het symbool ▲

(I)

Le norme di sicurezza estigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

Componenti di sicurezza sono marcati con ▲

(GB) DANGER: Invisible laser radiation when open.
AVOID DIRECT EXPOSURE TO BEAM.



(S) Varning !

Osynlig laserstrålning när apparaten är öppnad och spårren är urkopplad. Betrakta ej strålen.

(DK) Advarsel !

Usynlig laserstrålning ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

(SF) Varoitus !

Avatussa laitteessa ja suojauslaitteiden ohitettaessa olei alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen !

(GB)

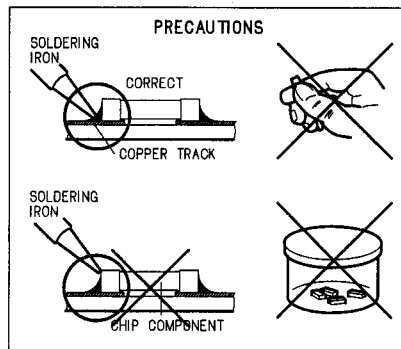
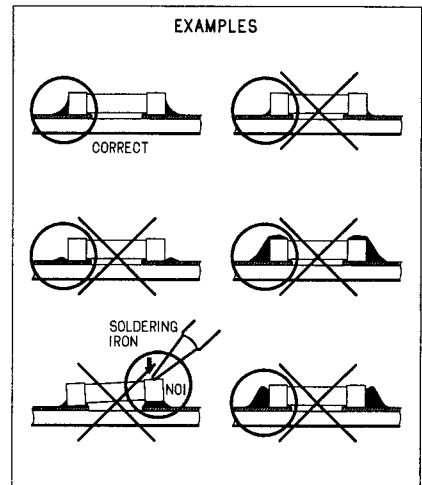
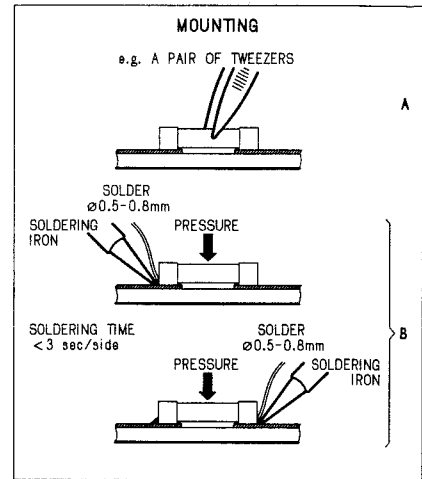
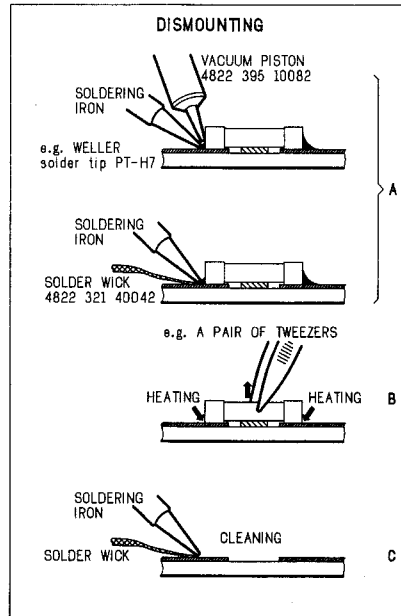
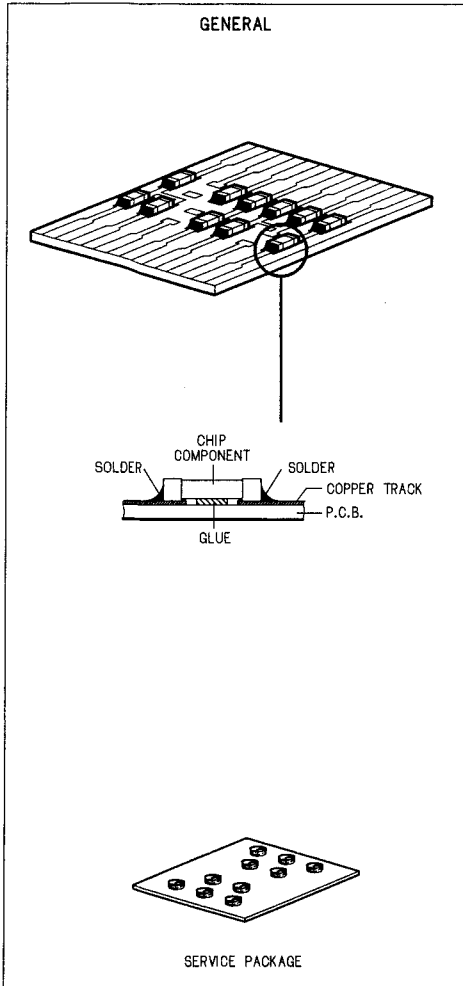
After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists.

The leakage current must not exceed 0.5mA.

(F)

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

1.3 SERVICE HINTS

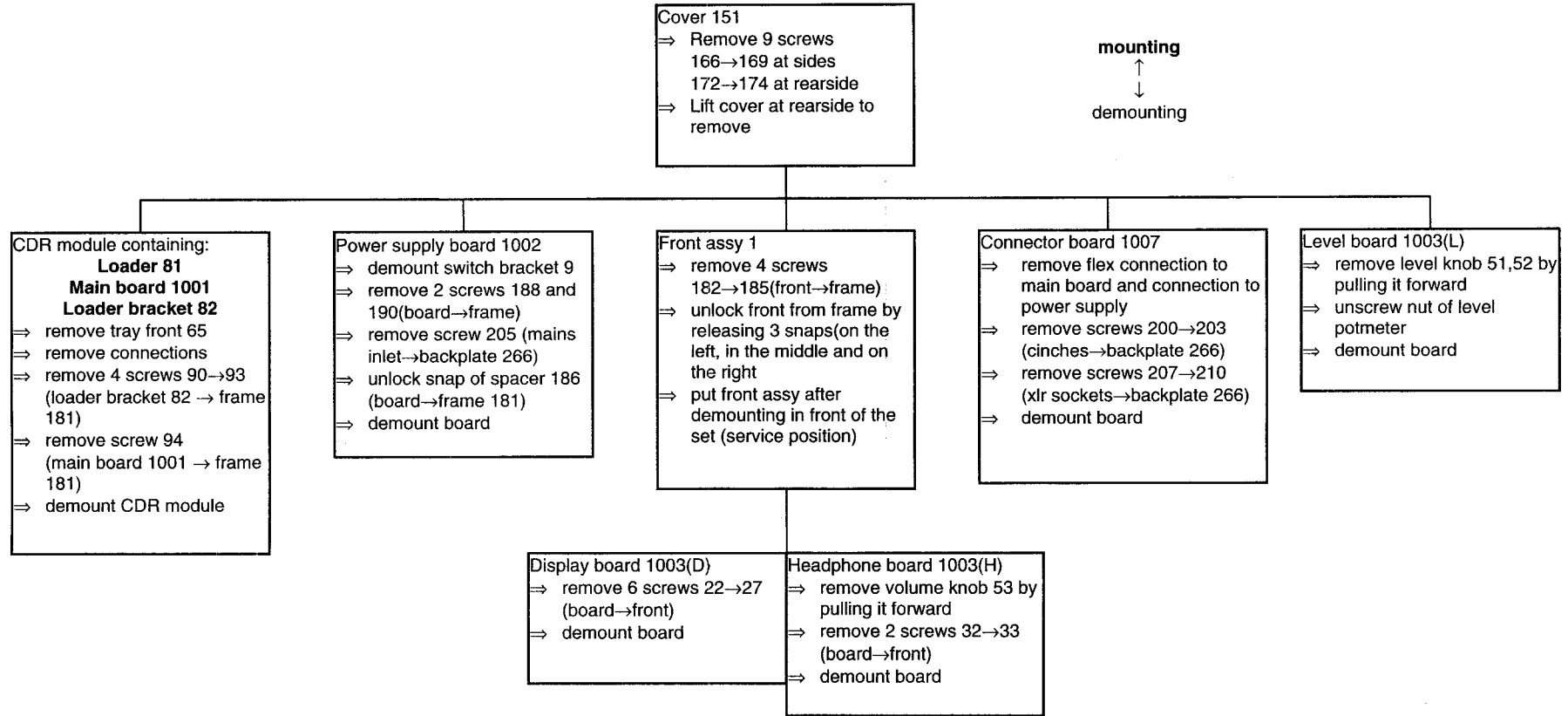


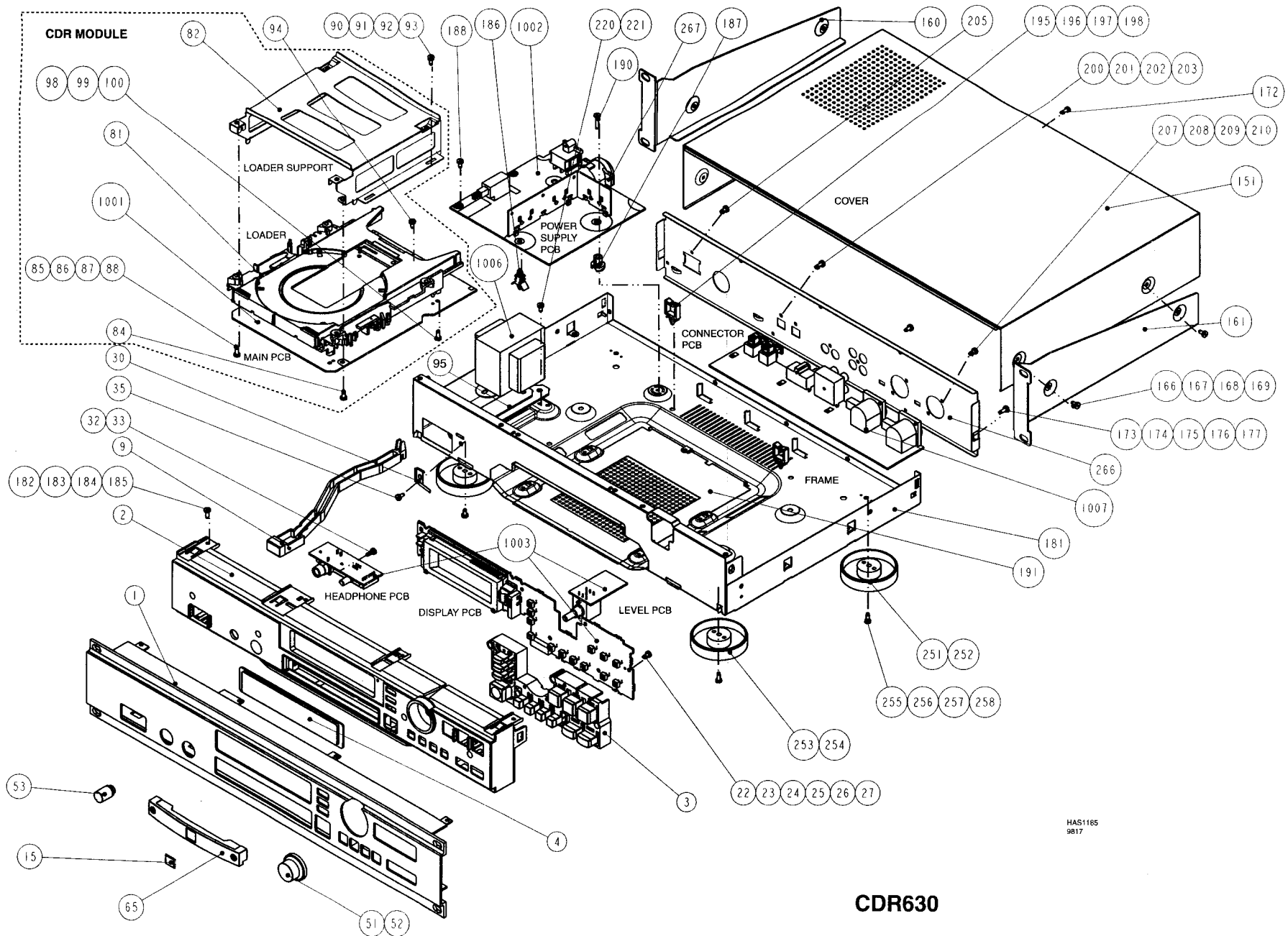
SERVICE TOOLS

Audio signals disc	4822 397 30184
Disc without errors (SBC444)+	
Disc with DO errors, black spots and fingerprints (SBC444A)	4822 397 30245
Disc (65 min 1kHz) without no 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
Hexagon socket screw button (No. 1.5)	

DISMANTLING INSTRUCTIONS CDR630

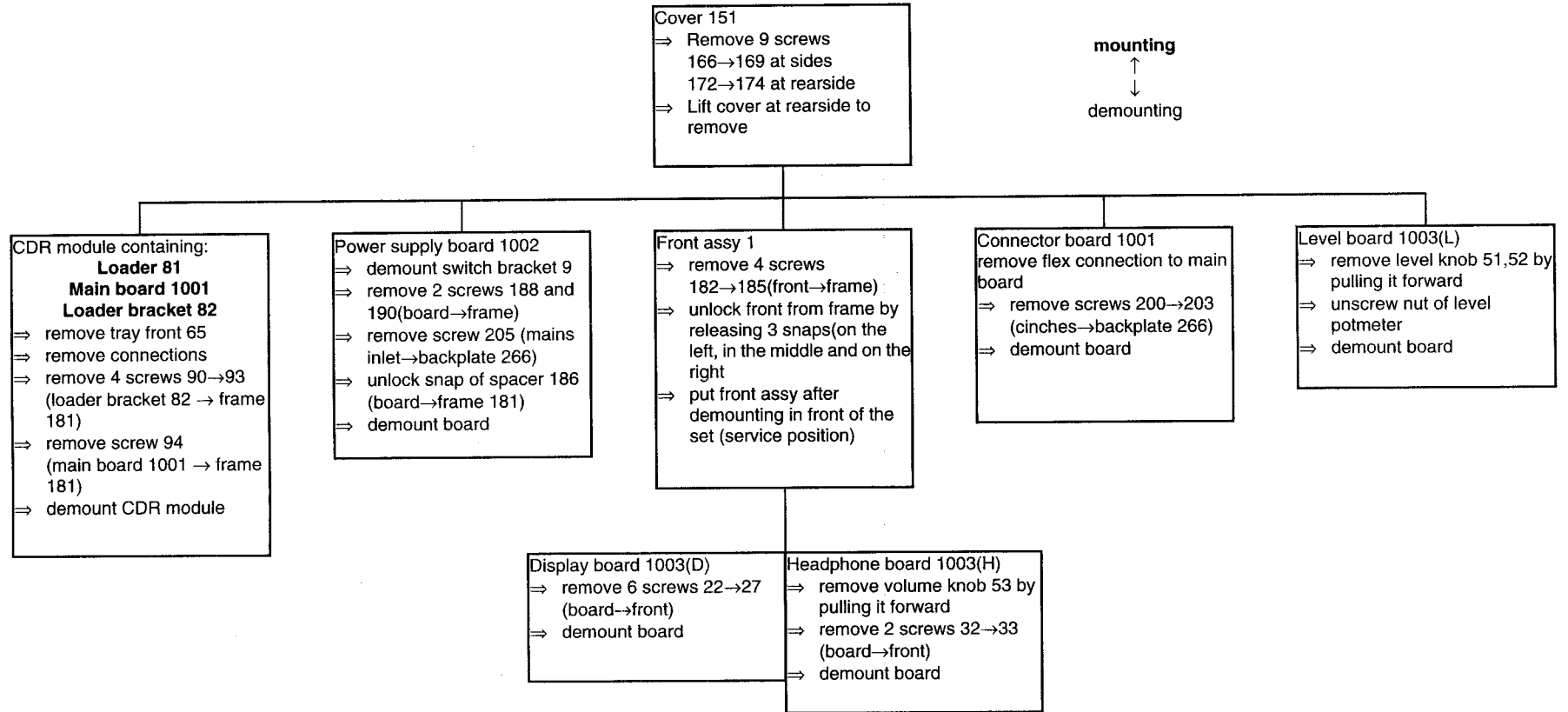
See exploded view for item numbers

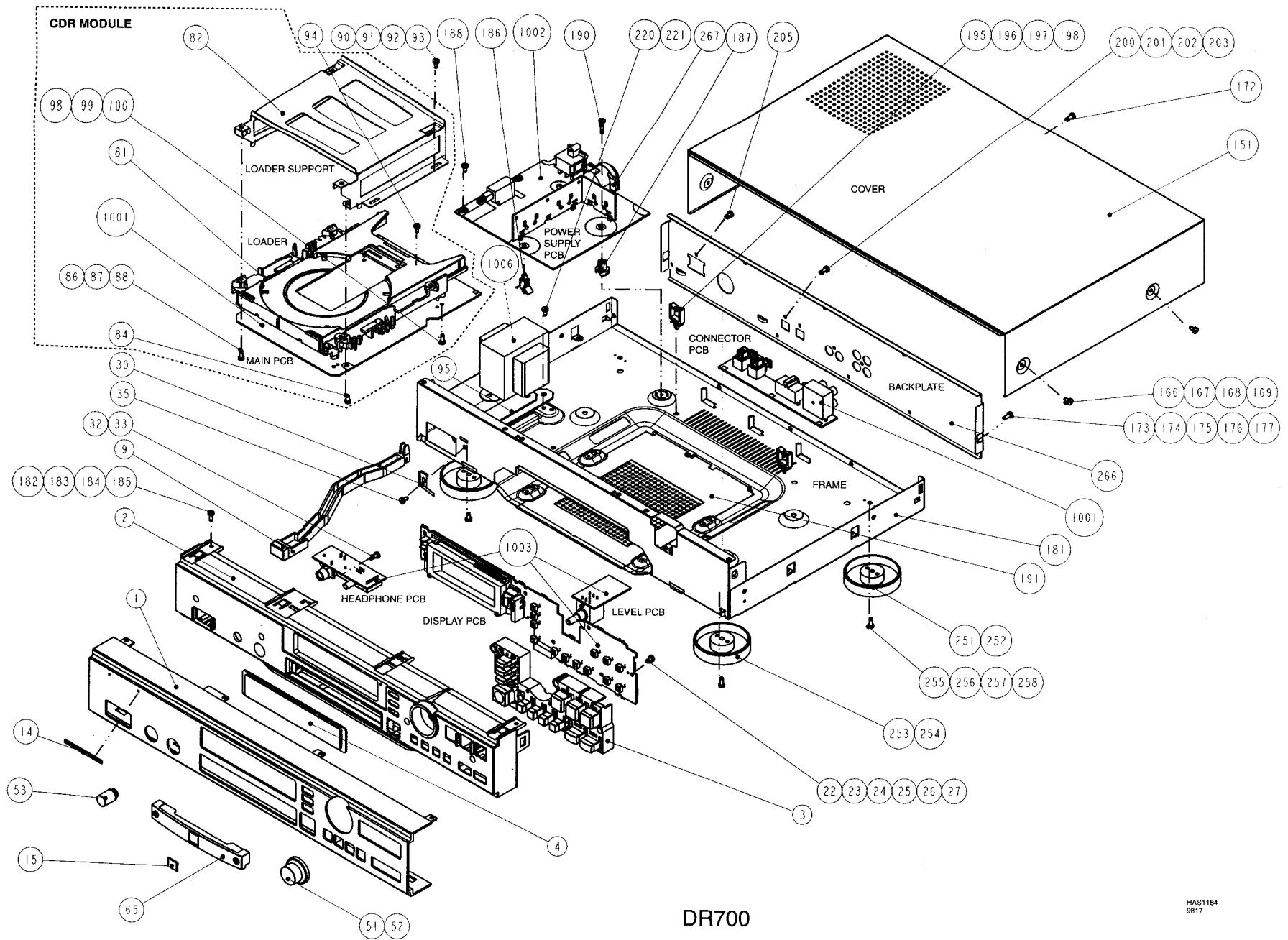




DISMANTLING INSTRUCTIONS DR700

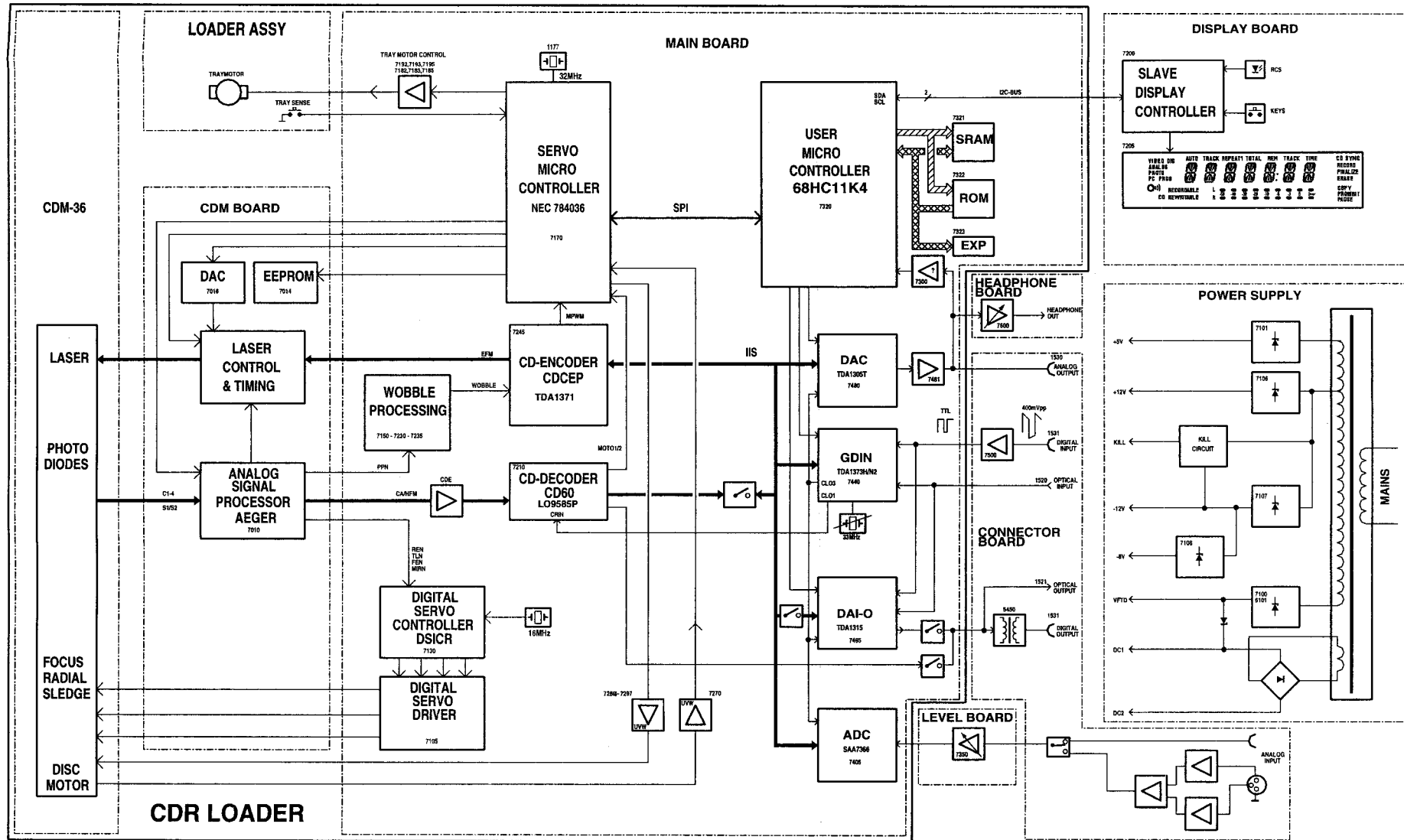
See exploded view for item numbers





DR700

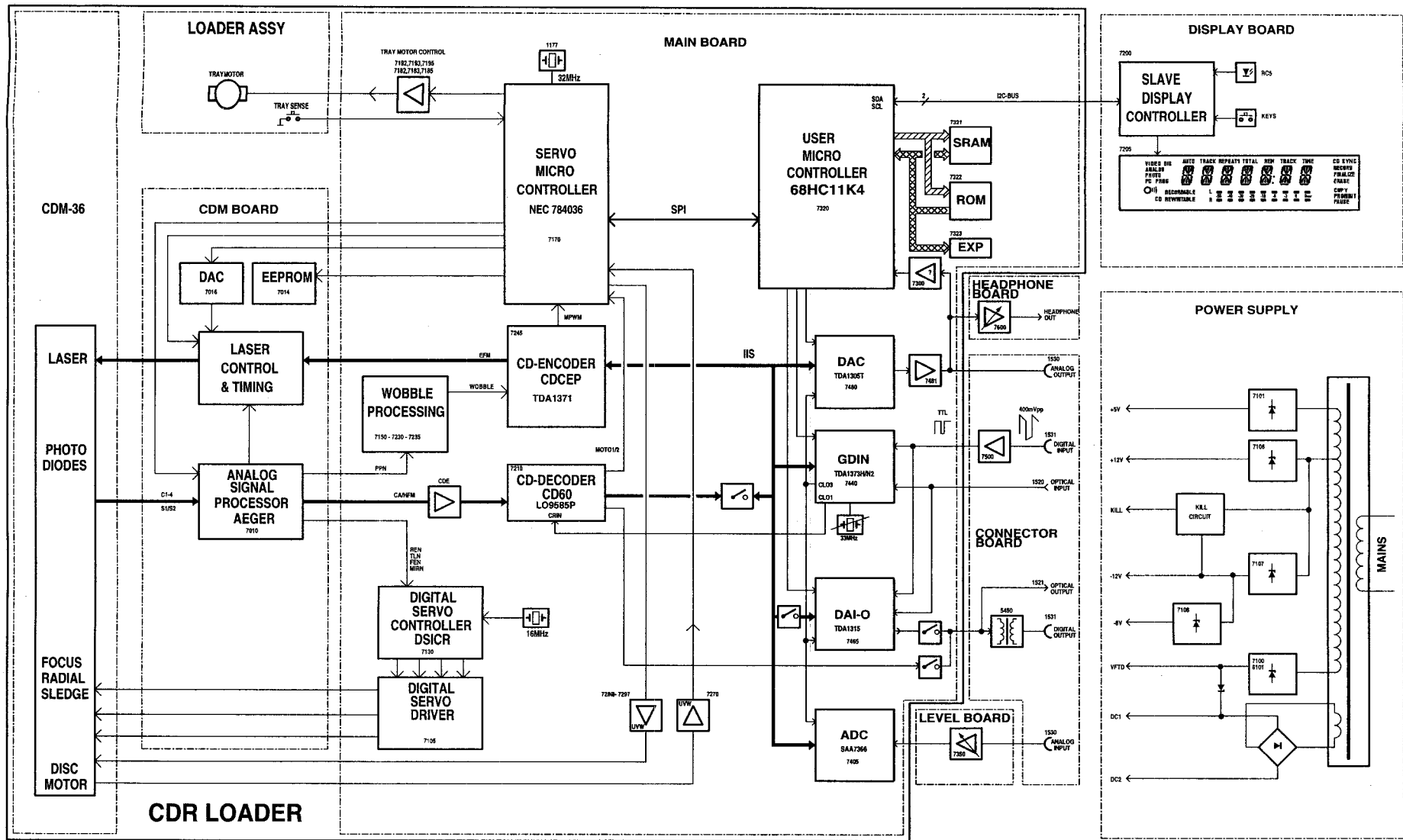
1.5 BLOCK DIAGRAM



CDR630

74CDP630 80016

1-11



DR700

12DR700 8616

1.6 SIGNAL NAMES AND ABBREVIATIONS

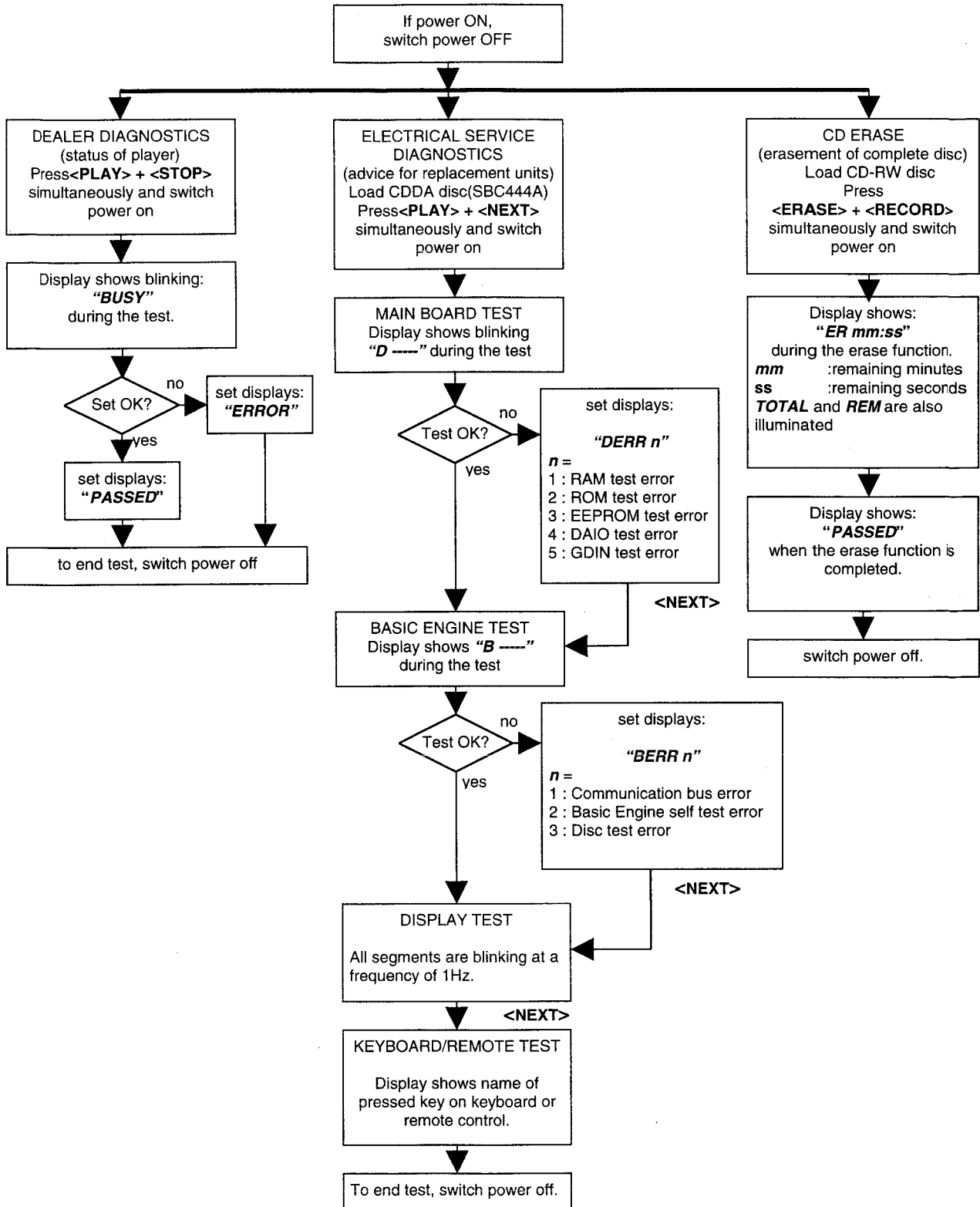
SIGNAL NAME	SIGNAL FLOW	FUNCTION AND DESCRIPTION
+12Va		Single power supply +12V for op-amps 7150, 7235
+12Vb		Power supply +12V for op-amps
+4V		Power supply +4V for servo microcontroller
+5Va		Analog power supply +5V
+5Vb		Digital power supply +5V
+5VDS		Power supply +5V for Connector Part
+5VM		Power supply turntable motor control circuit
+VP		Power supply User processor & memories
-12Vb		Power supply -12V for op-amps
-8V		Power supply -8V
A1A	IC7170→CONN.1101	Calculation β and HF0 Positive peak detector between CA and CALF
A2A	IC7170→CONN.1101	Beta = $(A1-A2)/(A1+A2)$ Negative peak detector between CA and CALF
ACK	IC7320↔R3904(IC7170) IC7320↔CONN.1300	Acknowledge serial communication user microprocessor
AD[0:17]	IC7320→IC7321 IC7320→IC7322	Address bus
ADC		Analog/Digital Converter
ATSB	IC7323→IC7480	Attenuation 12 dB of DAC(active low) during search
BS	IC7320→IC7440	Block synchronisation
CA	CONN.1101→R3299	Central Aperture(C1+C2+C3+C4)DC →for Mod. calculation
CALF	IC7170→CONN.1101	CA low frequency
CD60		Decoder
CDAICL	IC7320→IC7465 IC7320→CONN.1302	DAI-O interface clock
CDAIDA	IC7320↔IC7465 IC7320↔CONN.1302	DAI-O interface data
CDAILD	IC7320→IC7465 IC7320→CONN.1302	DAI-O interface mode
CDCEP		CD-Circ Efm Encoder Plus
CDE	IC7170→R3255	CD erase
CE_INT	IC7170←IC7245	CDCEP interrupt
CFLG	IC7210→CONN.1250	Correction flag output(CD60)
CLCE	IC7170→IC7245	μ P clock output encoder(CD60)
CLDE	IC7170→IC7210	μ P clock output decoder(CD60)
CLDS	IC7170→IC7130	μ P clock output DSICR
CLKQ	IC7245→IC7240 IC7245→IC7241	PLL clock output from encoder
CLKQD	IC7241→IC7240	CLKQ divided by 2
CLO3	IC7440→IC7405 IC7440→IC7465 IC7440→IC7480	GDIN clock3 out: system clock for ADC, DAC and DAI-O
CLWP	IC7170→IC7245	μ P clock Atip information CDCEP
COMCLK	IC7320↔R3165(IC7170) IC7320↔CONN.1300	Communication clock for data transfer from user microprocessor
COMSYNC	IC7320↔IC7170 IC7320↔CONN.1300	Communication synchronisation from user microprocessor
CRIN	IC7440→IC7210	GDIN clock1 out: system clock for decoder CD60
CSEXP	IC7320→IC7323	Chip Select Expander

CSRAM	IC7320→IC7321	Chip Select RAM
CSROM	IC7320→IC7322	Chip Select ROM
D[0:7]	IC7320↔IC7322 IC7320↔IC7323 IC7320↔IC7324	Data bus
DAC		Digital/Analog Converter
DACE	IC7170→IC7245	μP data I/O CPCEP
DACL	IC7170→CONN.1102	DAC clock
DADE	IC7170→IC7210	uP data CDLIP
DADI	IC7170→CONN.1102	DAC data in (CDM)
DADS	IC7170→IC7130	μP data I/O DSICR
DAI-O		Digital Audio Input/Output
DAIO_REC	IC7325→IC7403	high during recording from digital in source, low to prevent conflict in IIS bus during playback and analog recording
DAIN	IC7245↔IC7480 IC7245↔IC7403 IC7245↔IC7440	Data signal(CDCEP)
DALD	IC7170→CONN.1102	DAC load(CDM)
DAOUT	R3217(IC7210)→IC7403	I ² S data output(CD60)
DAWP	IC7170→IC7245	μP data Atip information(CDCEP)
DC1		Filament voltage for display
DC2		Filament voltage for display
DEEM1	IC7323→IC7480	Deemphasis active(44.1 kHz sample rate)
DIGIN	CONN.1400→IC7440 CONN.1400→C2465	Digital input
DIGOUT	IC7465→CONN.1400	Digital output
DSICR		Digital Servo IC Recordable
E	IC7320→IC7324	E-clock microcontroller
EECL	IC7170→CONN.1102	EEPROM clock
EEDA	IC7170↔CONN.1102	EEPROM data
EFM	IC7245→IC7205	Eight to Fourteen Modulation CDCEP output for monitoring (reduced voltage from CD60 to MONON)
EFMCLK	IC7245→CONN.1102	EFM clock 4.3218 or 8.6436 MHz
EFMM	IC7245→CONN.1102	EFM N-1
FEN	CONN.1101→IC7130	Focus Error Normalized = (C1 + C3 - C2 - C4)/(C1 + C2 + C3 + C4)
FEOfS	IC7170→R3133	Focus Error OFF Switch
FOC+	IC7105→CONN.1101	Focus actuator positive connection
FOC-	IC7105→CONN.1101	Focus actuator negative connection
FS	CONN.1102→R3152	FS = FS0 - DALFA(write power to laser control)
FSM	CONN.1102→D6155	Focused sense monitor
GDIN		General Digital INput
GDINCL	IC7320→IC7440 IC7320→CONN.1304	GDIN interface clock
GDINDA	IC7320↔IC7440 IC7320↔CONN.1304	GDIN interface data
GDINLD	IC7320→IC7440 IC7320→CONN.1304	GDIN interface mode
HALL_U, V, W	IC7170→IC7270 IC7170→IC7280	Hall element U, V, W of motor
HMSW	CONN.1101→IC7170	Home Switch

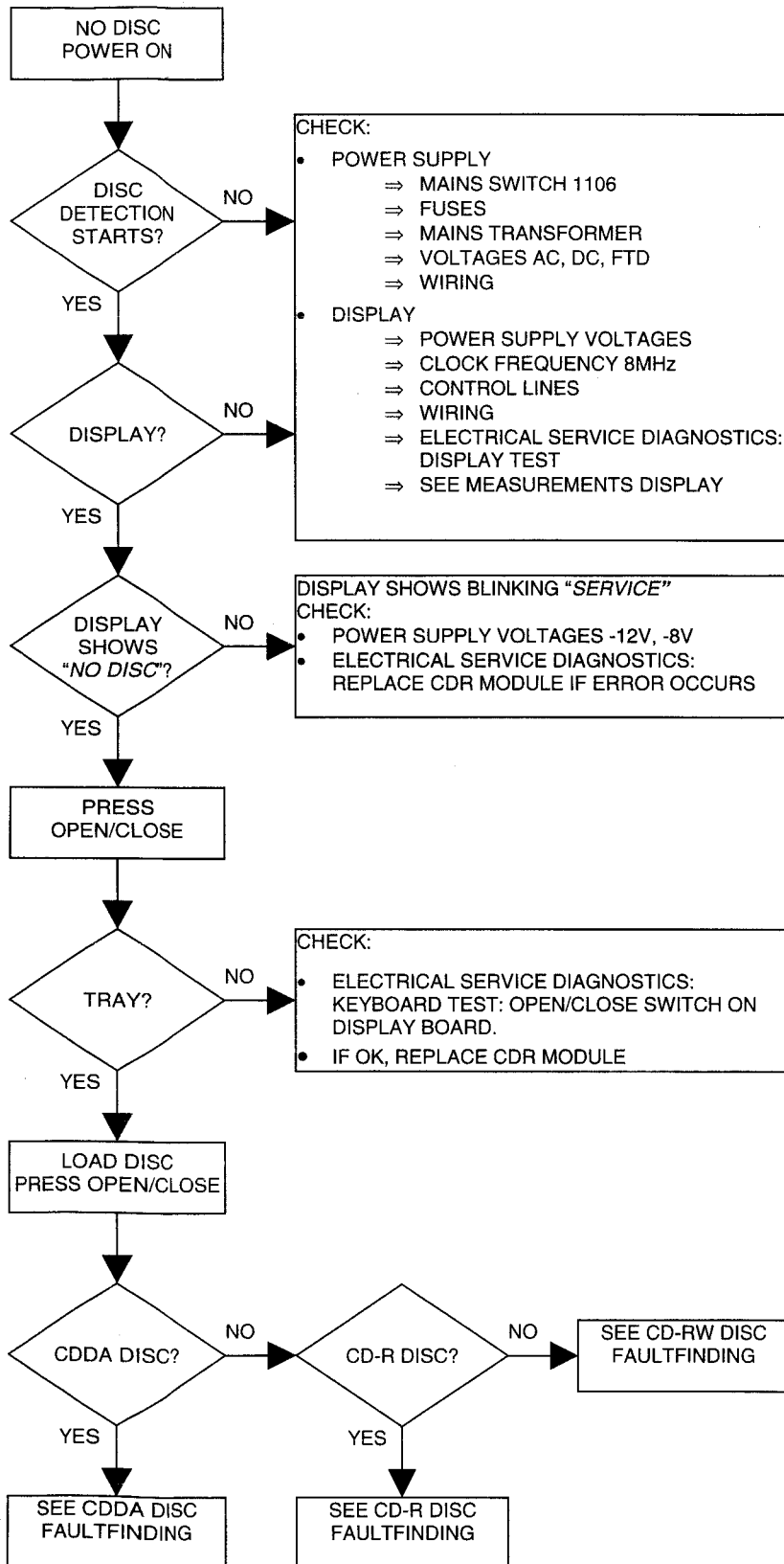
IISCLK	IC7460→IC7405 IC7460→IC7480 IC7460→IC7465 IC7460→IC7440	I ² S-BUS clock
IISDIR	IC7323→IC7403	I ² S-BUS direction, high during playback
IISWS	R3219(IC7210)→IC7403	I ² S-BUS word select
KILL	CONN1430→CONN1420 CONN1430→D6400	Kill signal to mute analog output signal
LDCE	IC7170←IC7245	μP load input(from CDCEP)
LDDE	IC7170→IC7210	μP load output decoder
LDDS	IC7170→IC7130	μP load output DSICR
LDON	IC7130→CONN.1102 IC7105→CONN.1102	Laser Diode ON(on read)
LEFTOUT	C2497→CONN.1400 C2497→CONN.1420 C2497→C2300	Analog left output
LWRT	IC7245→CONN.1102	Laser at writing power
MIRN	CONN.1101→IC7130	Mirror normalized
MISO	IC7320↔R3168(IC7170) IC7320↔CONN.1300	Master in, Slave out: data from Basic Engine to USER.
MONON	IC7170→IC7205	Monitoring EFM from CDCEP to CD60
MOSI	IC7320↔R3903(IC7170) IC7320↔CONN.1300	Master out, Slave in : data from USER to Basic Engine
MOTO1	IC7210→IC7170	Control signal for motor
MPWM	IC7170→IC7245	Motor Pulse Width Modulation
N2	IC7170→IC7240 IC7170→IC7205	N = high(double speed)
N4	IC7170→IC7205	N = high(fourfold speed)
NCLOSE	IC7170→R3196	Tray close
NIRQ	IC7170→IC7245	Interrupt request wobble processing(CDCEP)
NMUTE	IC7320→IC7480 IC7320→R3496, 3497	Mute signal (active low)
NOPEN	IC7170→R3181	Tray open
NRSMP	IC7245→CONN.1102	None read sample
OPTIN	CONN.1400→IC7440 CONN.1400→IC7465	Optical input
OTD	IC7130→IC7170	Off track detection DISCR
OVL	IC7405→IC7320	Overload flag input
PLAY/REC	IC7325→IC7407	high during recording (digital out from DAIO), low during playback (digital out from CD60).
PP	CONN.1101→C2231	XB or PPN(read or write)
PWM	IC7170→R3268	Pulse width modulation
R/W	IC7320→IC7324	μP read/write signal
RAD+	IC7105→CONN.1101	Radial actuator positive connection
RAD-	IC7105→CONN.1101	Radial actuator negative connection
RADINT	IC7170→R3111	Radial actuator integrator voltage.
REN	CONN.1101	Radial Error Normalized

RENSW	IC7170→R3124	Radial Error Normalized switch
RESEN	IC7170→IC7245 IC7170→IC7130	Reset encoder(CDCEP) and digital servo(DSICR)
RESET	IC7170→IC7210	Reset decoder CD60
RIGHTOUT	C2498→CONN.1400 C2498→CONN.1420 C2498→C2303	Analog right output
RSTIN	IC7320→IC7325	Reset microcontroller(from user μ P)
RSTHA	IC7325→IC7465	Reset high active, reset for DAIO
RSTLA	IC7325→IC7440 IC7325→R3908 IC7325→D6130 IC7325→CONN.1330	Reset low active, reset for GDIN, servo μ P, DSD3, DSICR and display.
RXD	IC7320↔IC7325	Receive data of serial interface
SCL	IC7320↔CONN.1303 IC7320↔L5300	I ² C-bus clock for communication
SDA	IC7320↔CONN.1303 IC7320↔L5300	I ² C-bus data to display driver
SDAUX	IC7405→IC7440	Analog to digital converted data from ADC to DAI-O
SL+	IC7105→CONN.1101	Sledge motor positive connection
SL-	IC7105→CONN.1101	Sledge motor negative connection
STROBE	IC7320→IC7465 IC7320→CONN.1302	Control signal for DAI-O : data strobe
SWRT	IC7245→CONN.1102	Start Write 9ms(one shot at start up LWRT)
SYSSYNC	IC7170→CONN.1135	System synchronization
TLN	CONN.1101→IC7130	Track Loss Normalized
TRS1N	IC7170→CONN.1103	Tray sense
TXD	IC7320↔IC7325	Transmit data serial interface
UDAVAIL	IC7320→IC7465	User-data available
UNLOCK	IC7465→IC7320	Not locked on incoming EBU-signal
UNLOCK_GDIN	IC7323→R3435	Unlock signal to GDIN
V4	IC7210→CONN.1250	Versatile pin 4
VFTD		Power supply for display
WCLK	IC7210→IC7245	Word clock

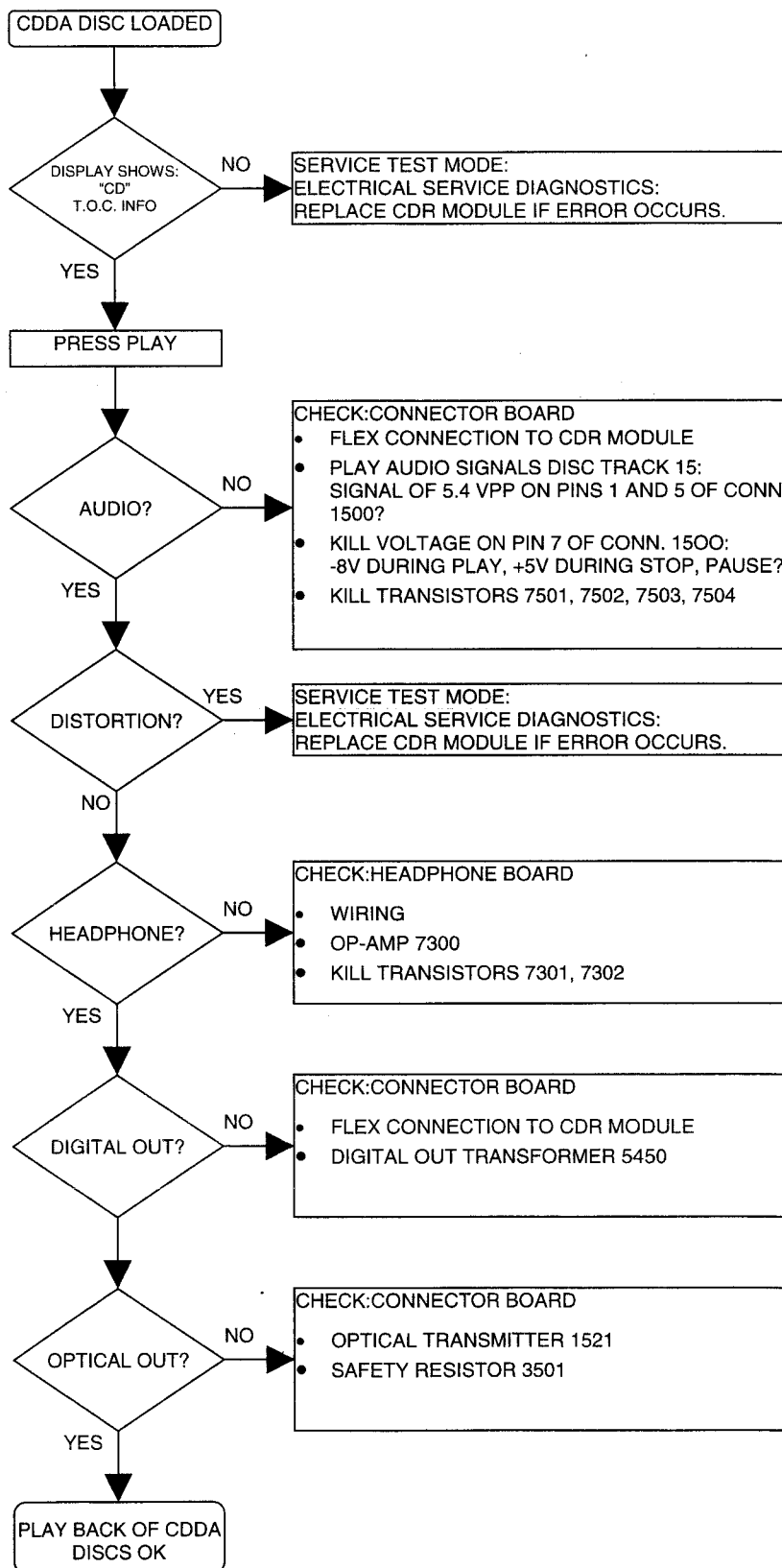
1.7 SERVICE TEST PROGRAM



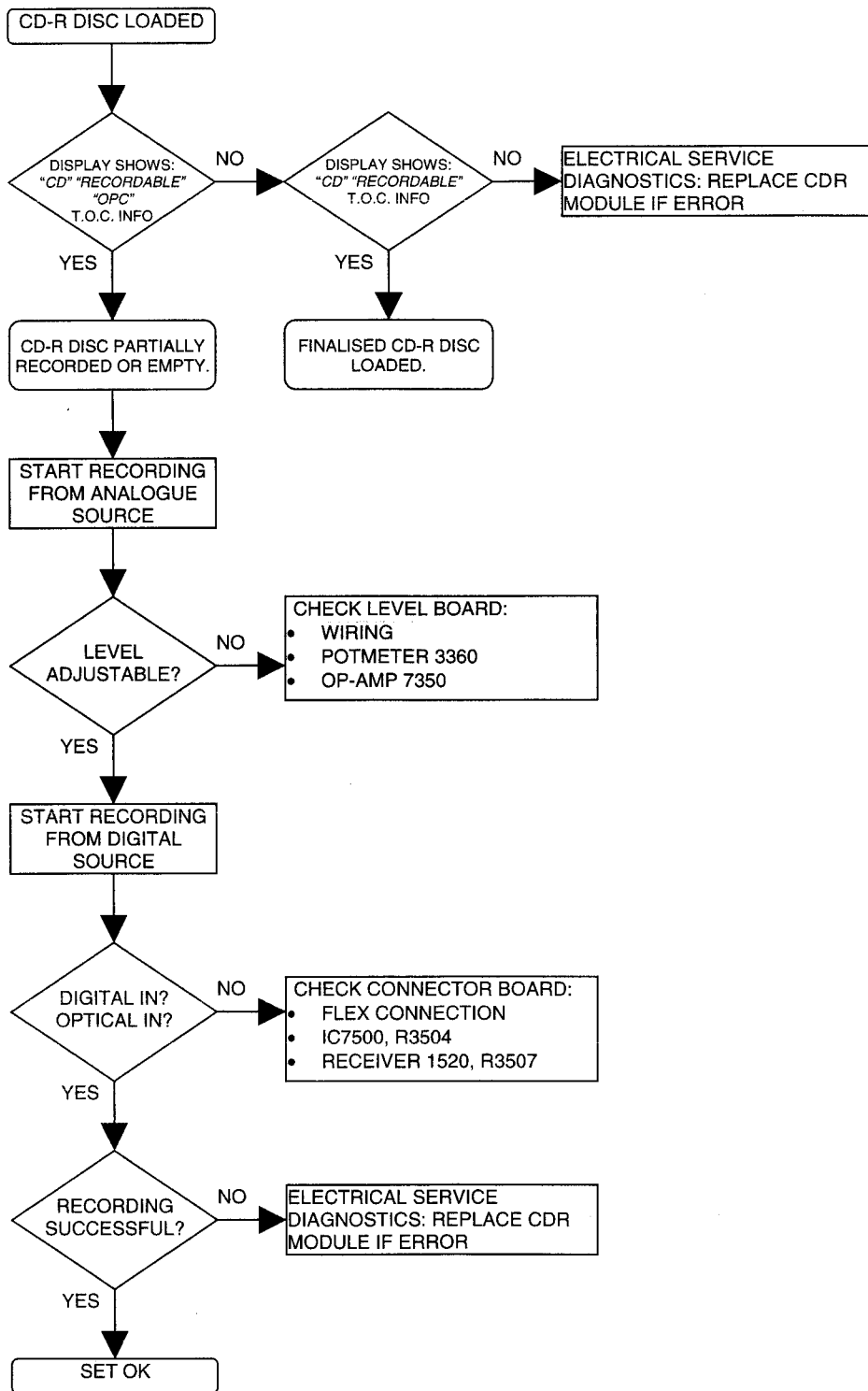
1.8 FAULTFINDING GUIDE



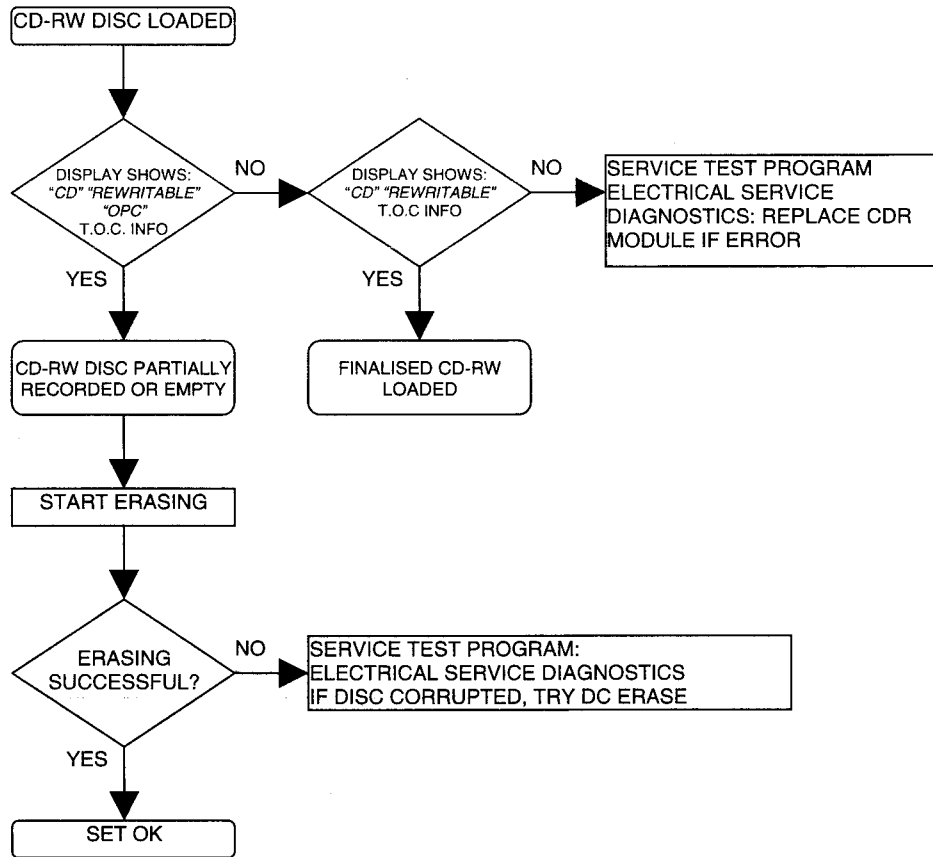
CDDA DISC FAULTFINDING GUIDE



CD-R DISC FAULTFINDING



CD-RW DISC FAULTFINDING



MEASUREMENTS DISPLAY PANEL

1. Measurement of voltage supplies.

Several voltages arrive at the display PCB.
Measurements and limits.

Voltage	Nominal value	Limits
VFTD	-26V	±5%
VDC1-DC2	3.5V	±10%
Vb	5V	±5%

2. Measurement of oscillator.

As clock driver for the display controller a resonator of 8MHz is used.
The clock frequency is available at pin 8 of the display controller.
Check the frequency of 8MHz±5%.

3. Checking the control lines.

There are several lines which are inputs to the display controller and others which are outputs, these lines have to be checked to guarantee basic functionality.

RESETN:

This line should be kept low during power up for at least 3 machine cycles, with supply voltage within the operating range and oscillation stable. 1 machine cycle = $12 \times 1/F_c$ (8MHz) Sec.

SDA and SCL:

The level on these two lines must be checked. When there is no communication they should have the 'High' level.

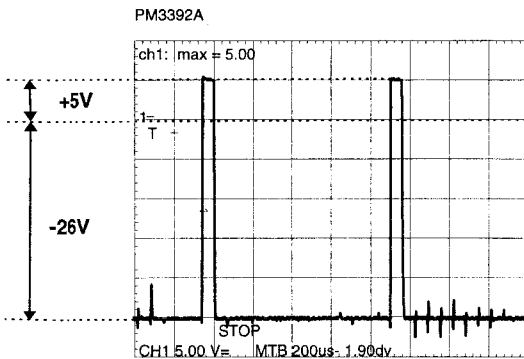
INTERRUPT:

The interrupt line is an output for the display controller. Check if this level is high after reset, no key pressed and no RC5 coming in.

Key matrix lines:

Check if at I/O port 4 of the controller all pins are high. (No keys pressed). (Pin 26 to 33). If not check respective pull-up resistors.

4. Operation of grid and segment control lines.



This figure shows the signal generated by the display processor on one of the grid lines. The level on the grid line changes from -26V to +5V.

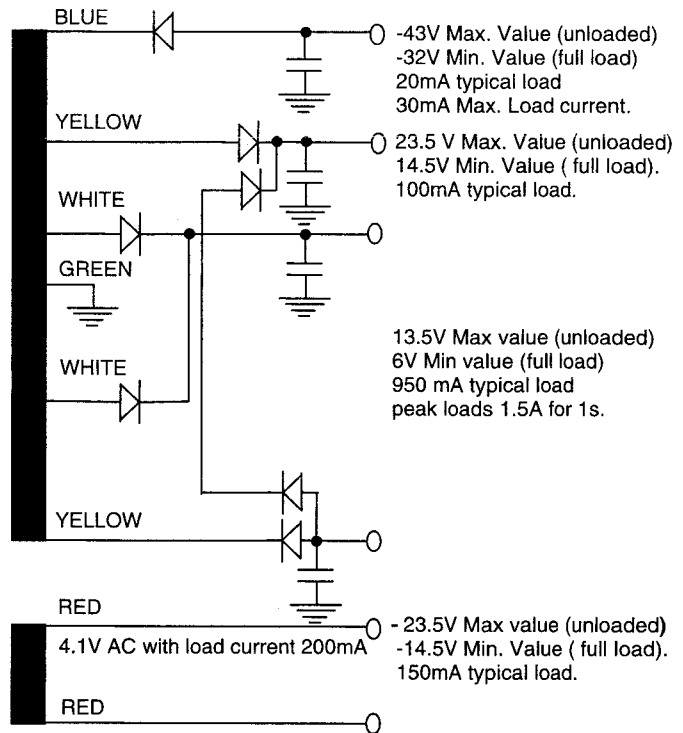
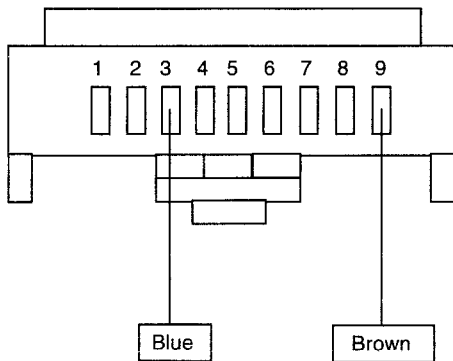
The grid lines are scanned successively about every 950 µsec.

Description of Mains Transformer

/02 version(230V), F version(100V) U version(117V)

Blue
 230V 50Hz for /02
 100V 50Hz for F
 117V 60Hz for U

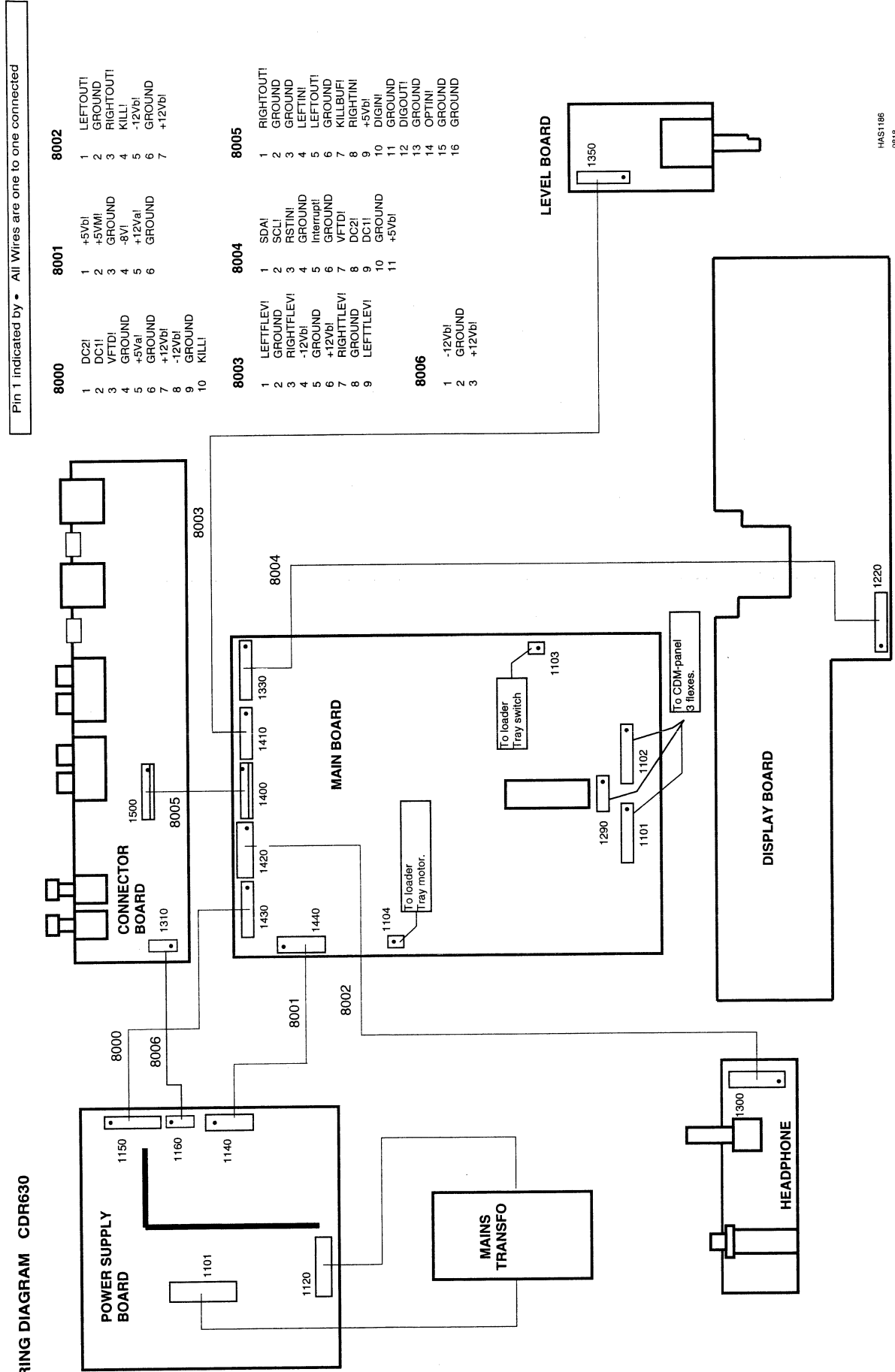
Brown 0V
 Thermal fuse
 not serviceable



Note

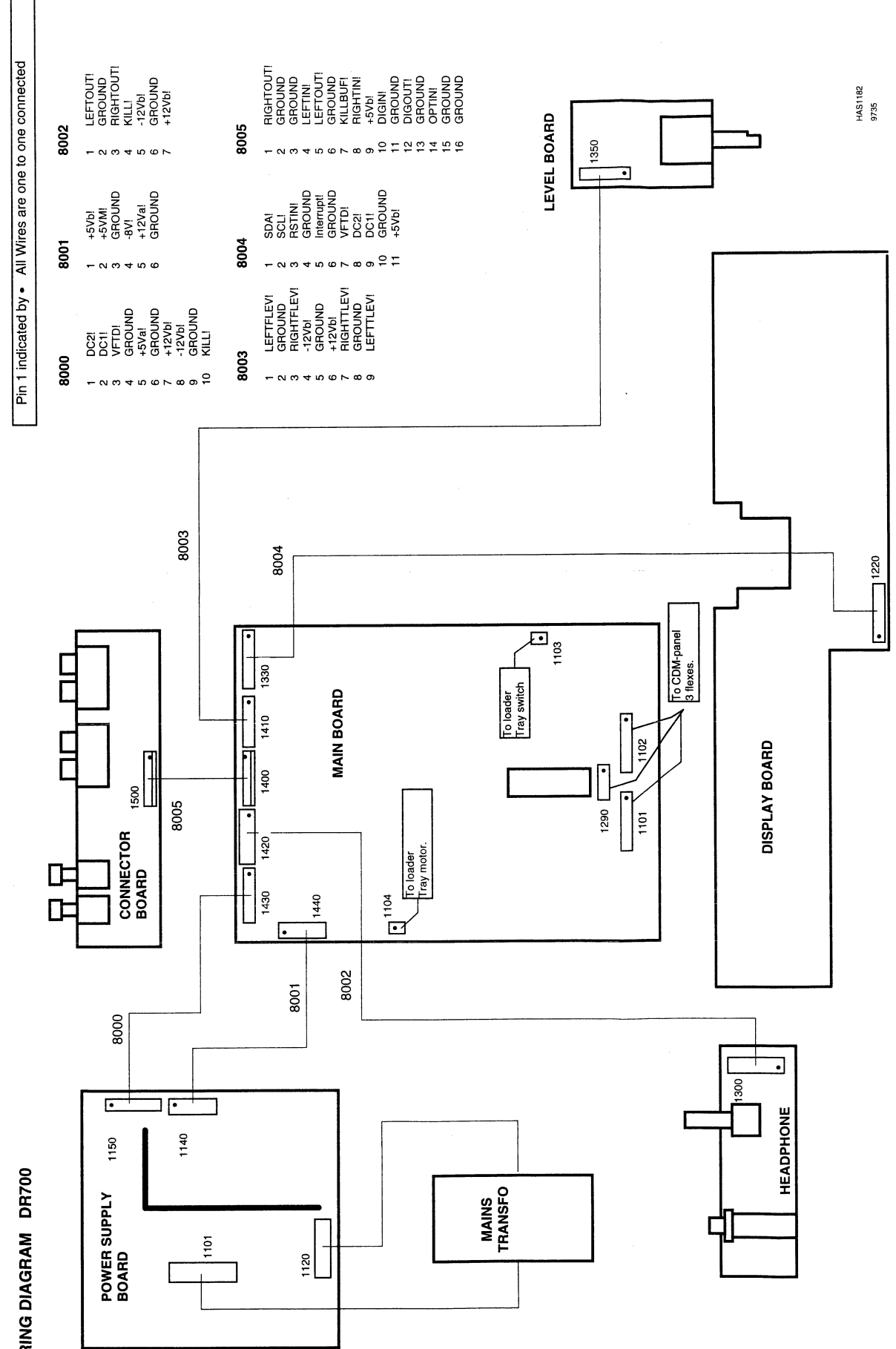
1.9 WIRING DIAGRAM

WIRING DIAGRAM CDR630



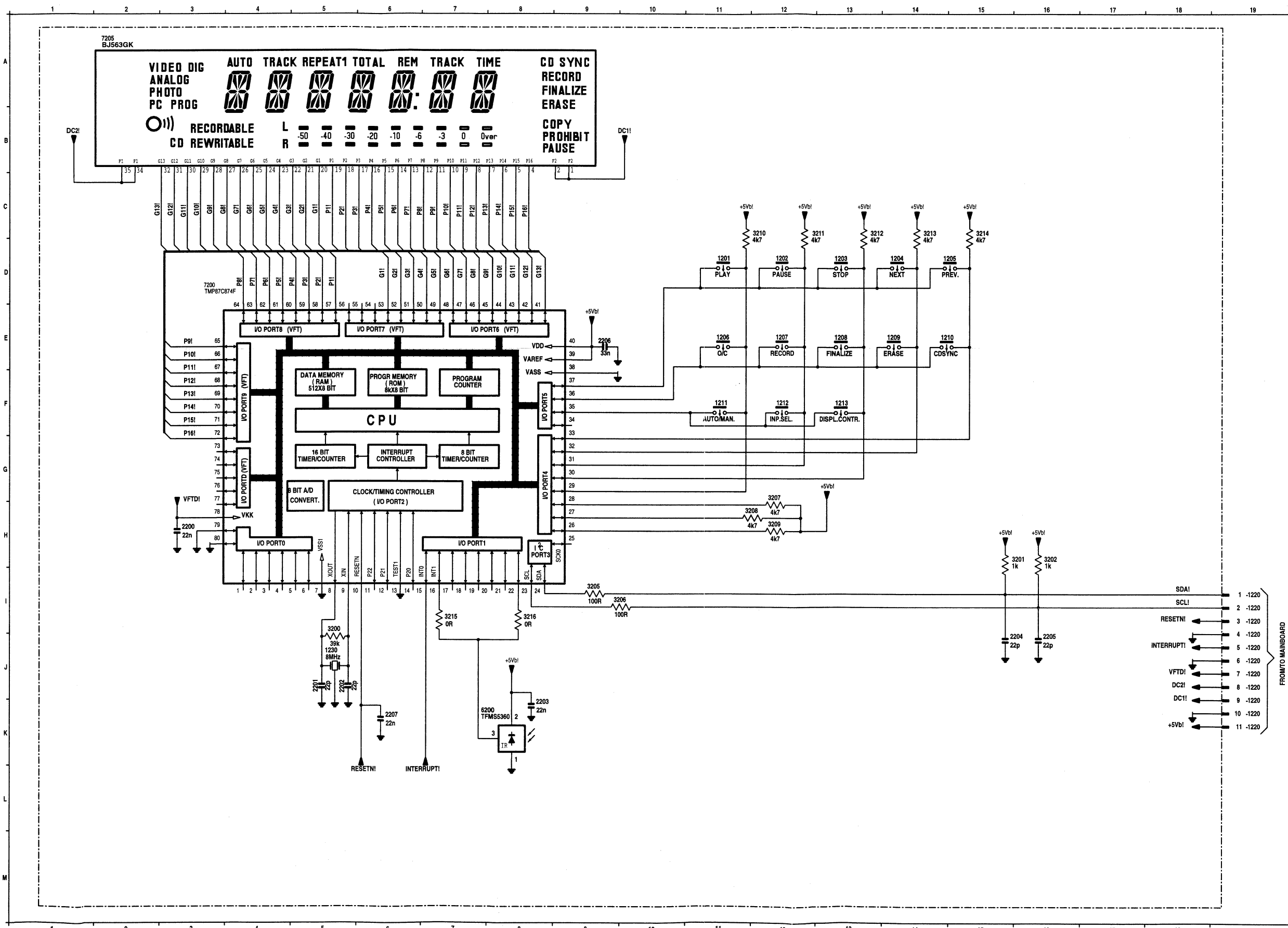
HAS1186
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WIRING DIAGRAM DR700



HAS1182
9735

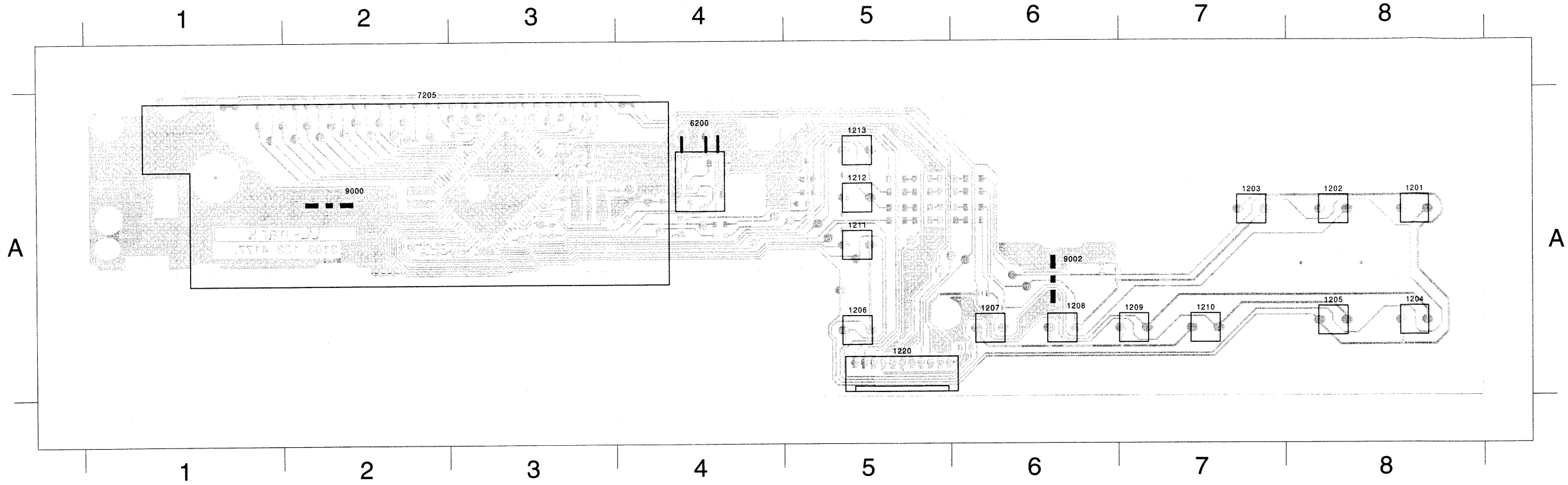
DISPLAY & CONTROL



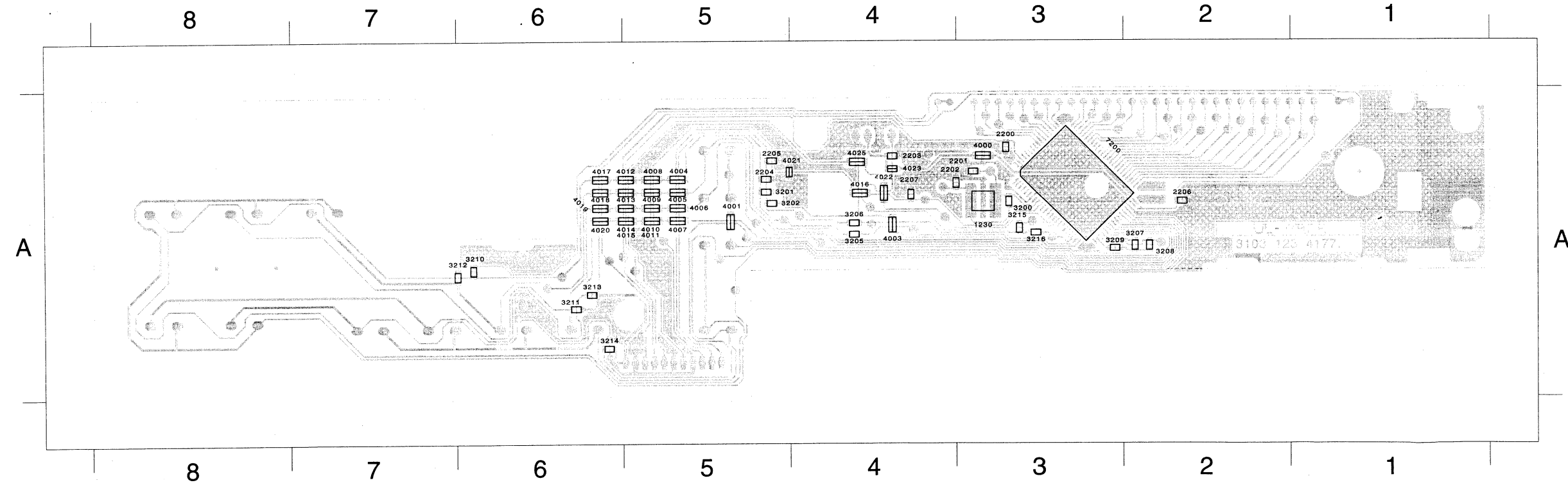
- 1201 D11
- 1202 D12
- 1203 D13
- 1204 D14
- 1205 D15
- 1206 E11
- 1207 E12
- 1208 E13
- 1209 E14
- 1210 E14
- 1211 F11
- 1212 F12
- 1213 F13
- 1220 J19
- 1220 J19
- 1220 J19
- 1220 J19
- 1220 J19
- 1220 J19
- 1220 J19
- 1220 K19
- 1220 K19
- 1230 J 5
- 2200 H 3
- 2201 J 5
- 2202 J 5
- 2203 K 8
- 2204 J16
- 2205 J16
- 2206 E 5
- 2207 K 6
- 3200 I 5
- 3201 H16
- 3202 H16
- 3205 I 9
- 3206 I10
- 3207 G12
- 3208 H12
- 3209 H12
- 3210 C12
- 3211 C13
- 3212 C13
- 3213 C15
- 3214 C15
- 3215 I 7
- 3216 I 9
- 6200 K 7
- 7200 D 3
- 7205 A 2

DISPLAY BOARD

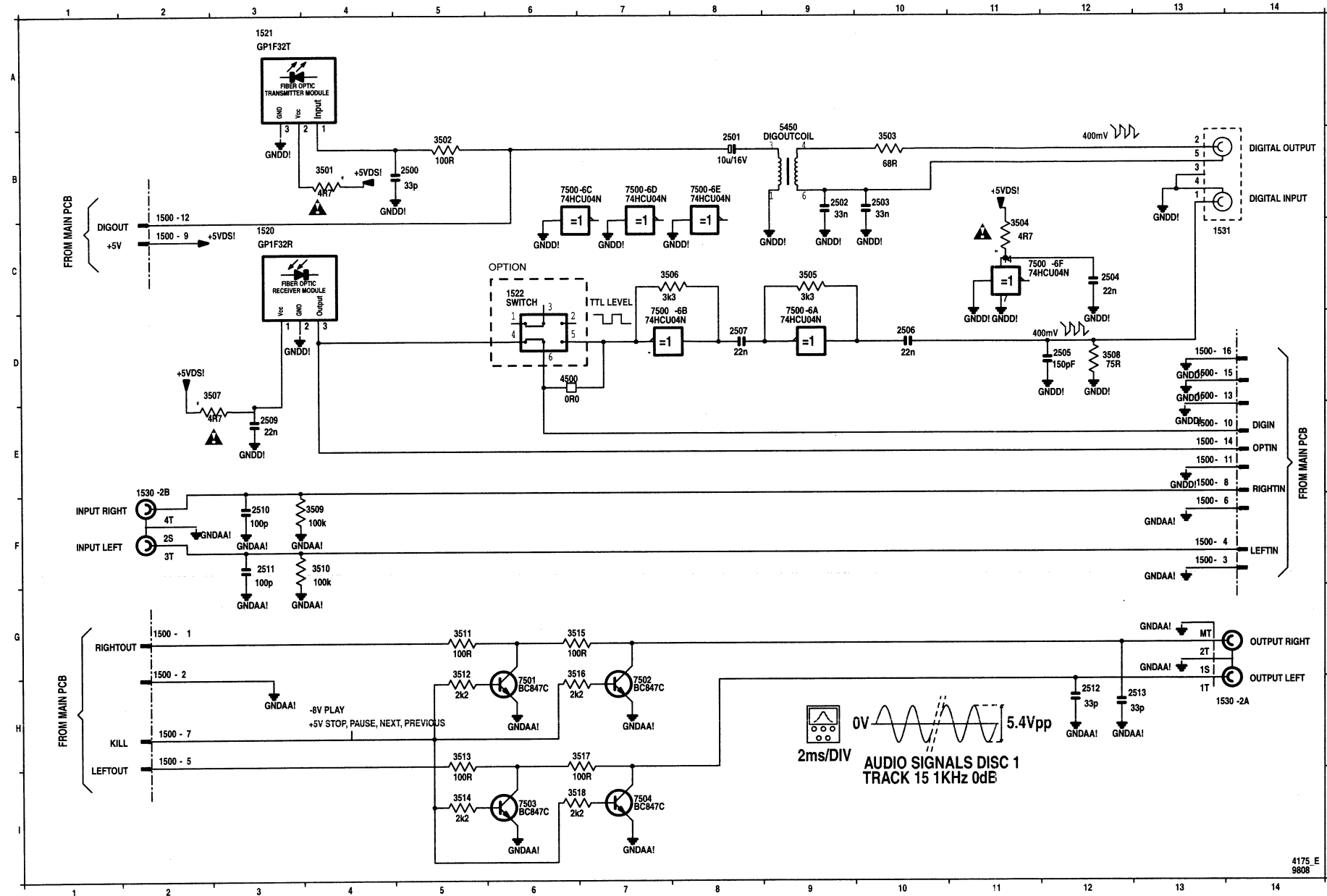
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2200 A 3 2202 A 4 2204 A 5 2206 A 2 3200 A 3 3202 A 5 3206 A 4 3208 A 2 3210 A 6 3212 A 6 3214 A 6 3216 A 3 4001 A 5 4004 A 5 4006 A 5 4008 A 5 4010 A 5 4012 A 5 4014 A 5 4016 A 4 4018 A 6 4020 A 6 4022 A 4 4025 A 4

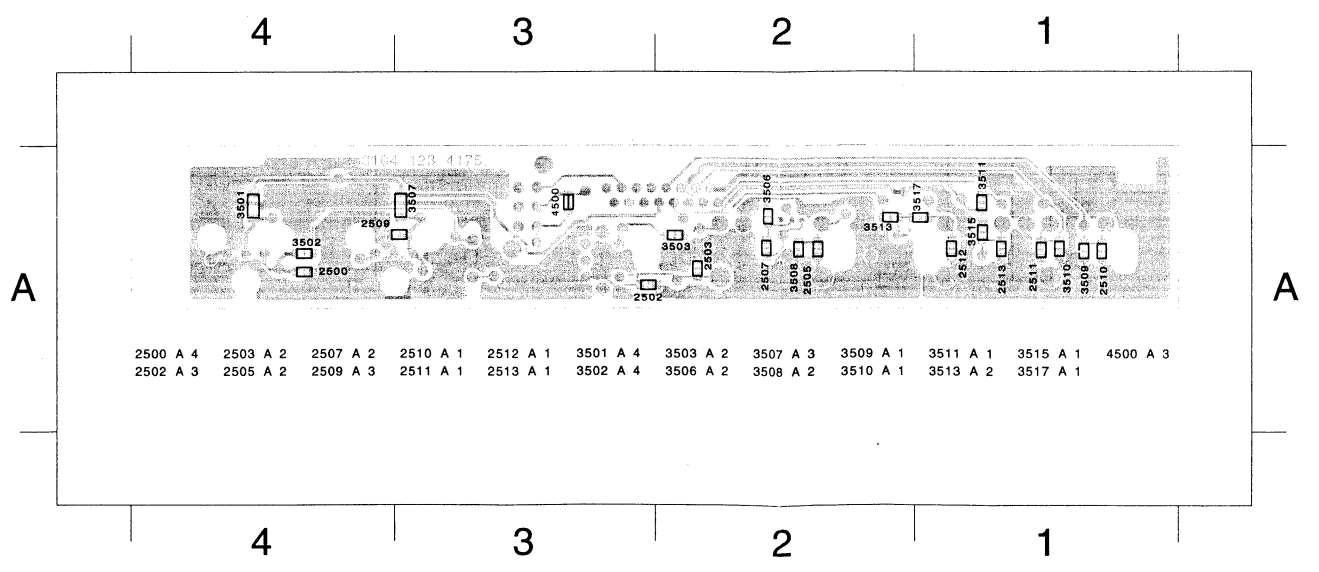
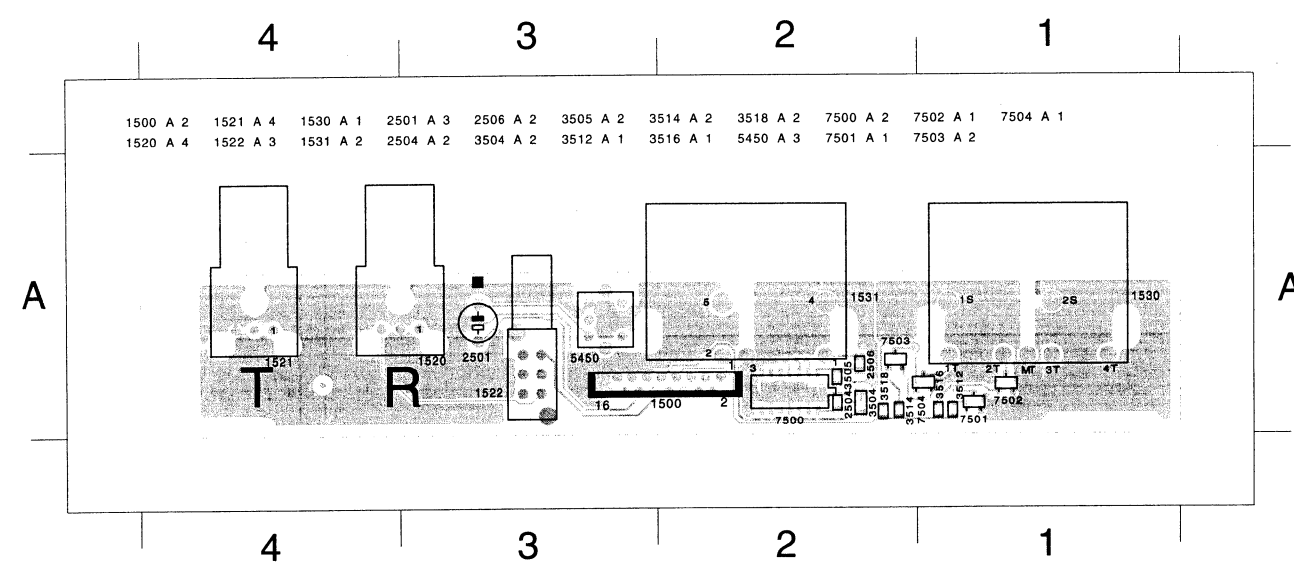


CONNECTOR (DR700 only)

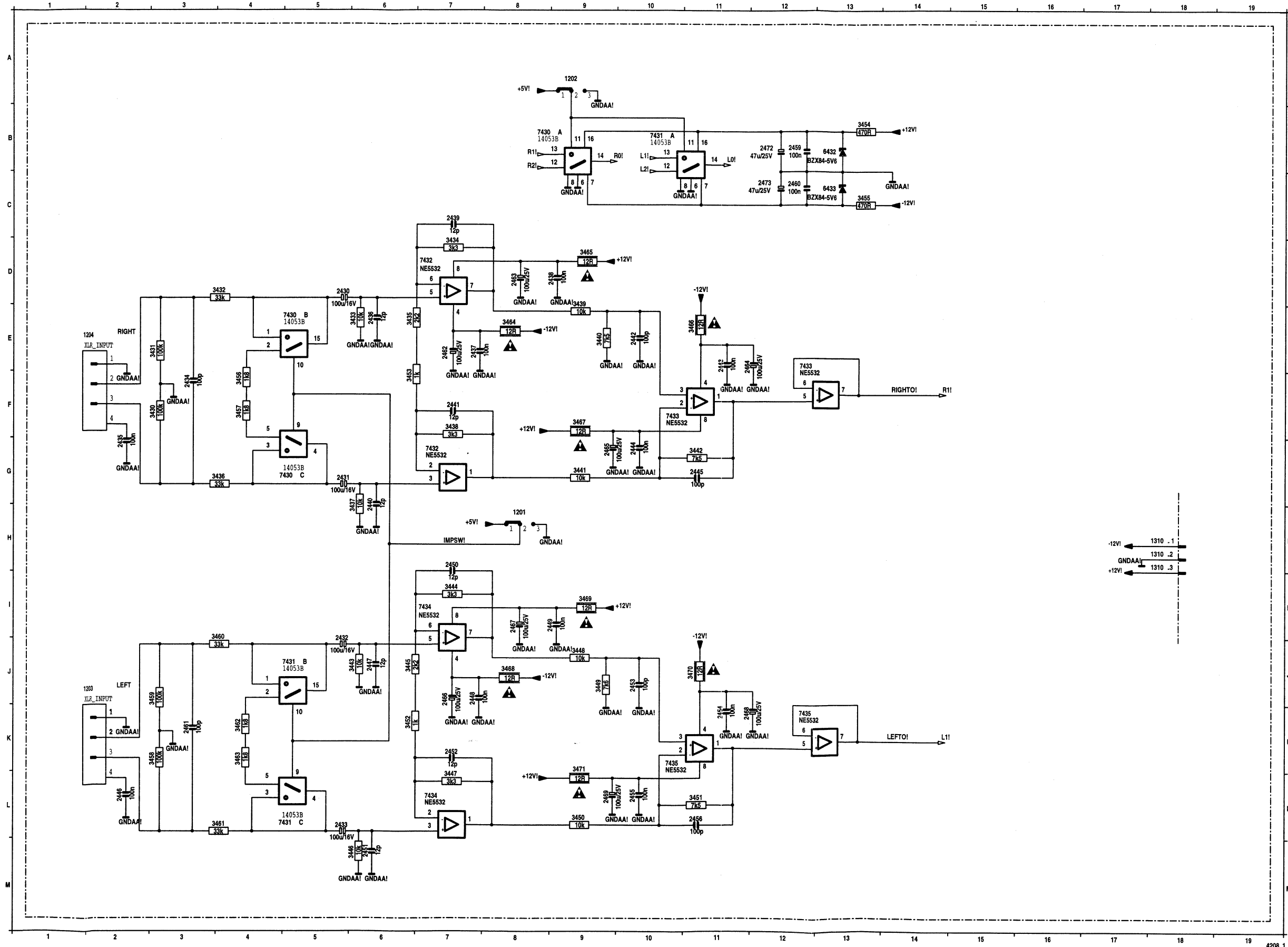


- 1500 G 2
- 1500 G 2
- 1500 F 13
- 1500 F 13
- 1500 H 2
- 1500 H 2
- 1500 F 13
- 1500 E 13
- 1500 C 2
- 1500 C 2
- 1500 E 13
- 1500 E 13
- 1500 B 2
- 1500 B 2
- 1500 D 13
- 1500 D 13
- 1500 D 13
- 1500 D 13
- 1500 D 13
- 1521 A 3
- 1522 C 6
- 1530 H 13
- 1530 E 2
- 1531 C 13
- 2500 B 5
- 2501 B 5
- 2502 B 9
- 2503 B 10
- 2504 C 12
- 2505 D 12
- 2506 D 10
- 2507 D 8
- 2508 E 3
- 2510 F 3
- 2511 F 3
- 2512 H 12
- 2513 H 13
- 3501 B 4
- 3502 B 5
- 3503 B 10
- 3504 C 11
- 3505 C 9
- 3506 C 8
- 3507 D 3
- 3508 D 12
- 3509 F 4
- 3510 F 4
- 3511 G 5
- 3512 G 5
- 3513 H 5
- 3514 I 5
- 3515 G 6
- 3516 G 6
- 3517 H 7
- 3518 I 6
- 4500 D 6
- 5450 B 9
- 7500 D 9
- 7500 D 7
- 7500 B 6
- 7500 B 7
- 7500 B 8
- 7500 C 11
- 7501 H 6
- 7502 H 7
- 7503 I 6
- 7504 I 7

CONNECTOR BOARD (DR700 only)



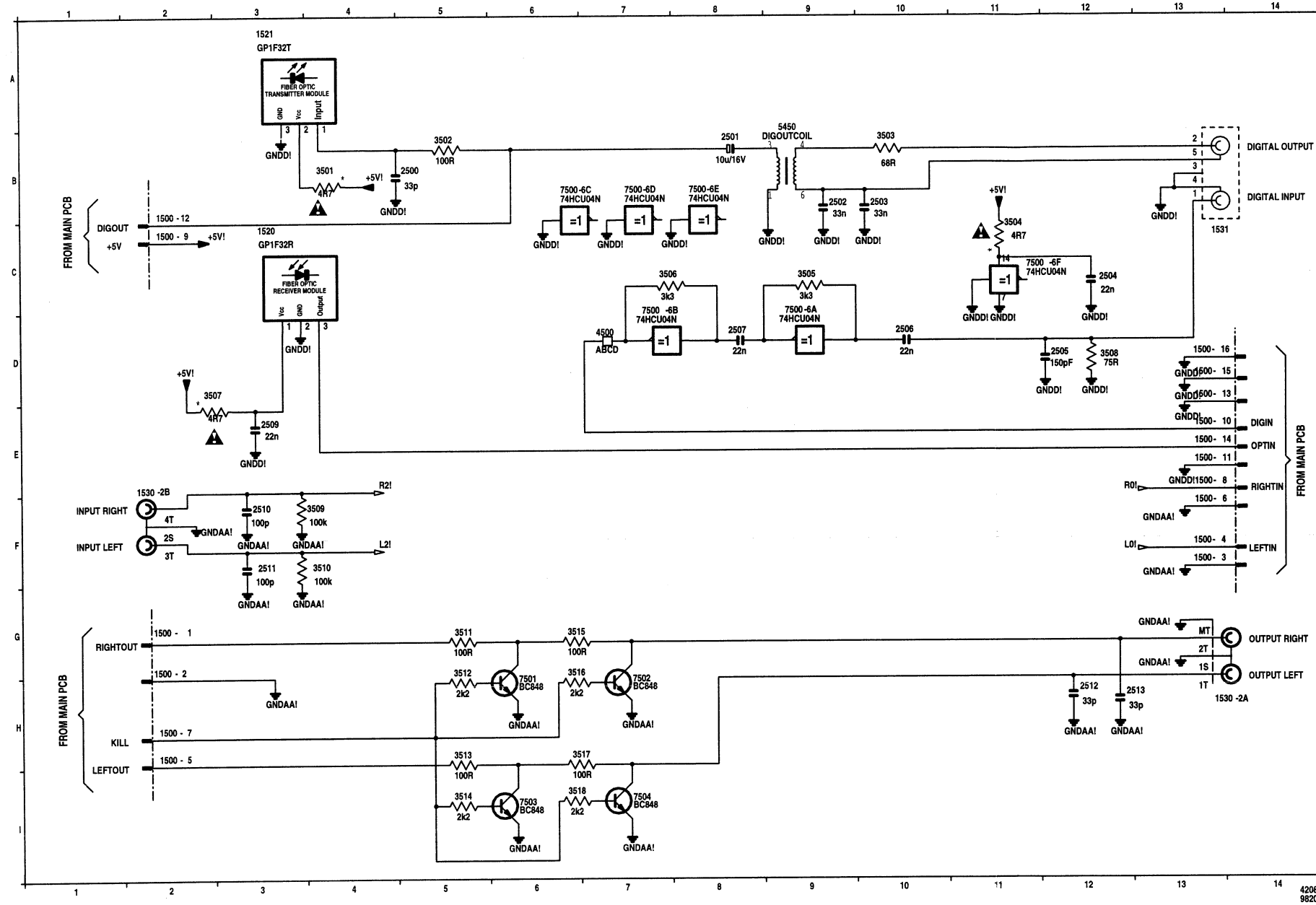
CONNECTOR BOARD XLR PART (CDR630 only)



- 1201 H 8
- 1202 A 9
- 1203 J 2
- 1204 E 2
- 1310 H18
- 1310 H18
- 1310 H18
- 2430 D 5
- 2431 G 5
- 2432 J 5
- 2433 L 5
- 2434 F 3
- 2435 G 2
- 2436 E 9
- 2437 E 9
- 2438 D 9
- 2439 C 7
- 2440 G 6
- 2441 F 7
- 2442 E10
- 2443 E11
- 2444 G10
- 2445 G11
- 2446 L 2
- 2447 E 6
- 2448 J 7
- 2449 I 9
- 2450 H 7
- 2451 M 6
- 2452 K 7
- 2453 J10
- 2454 K11
- 2455 L10
- 2456 L11
- 2459 B12
- 2460 C12
- 2461 K 3
- 2462 E 7
- 2463 D 8
- 2464 E11
- 2465 G 9
- 2466 J 7
- 2467 I 8
- 2468 K11
- 2469 I 8
- 2472 B12
- 2473 C12
- 3430 F 3
- 3431 E 3
- 3432 D 4
- 3433 E 5
- 3434 D 7
- 3435 E 6
- 3436 G 6
- 3437 G 6
- 3438 F 7
- 3439 E 9
- 3440 E 9
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- 3462 K 4
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- 7435 K10
- 7435 K12

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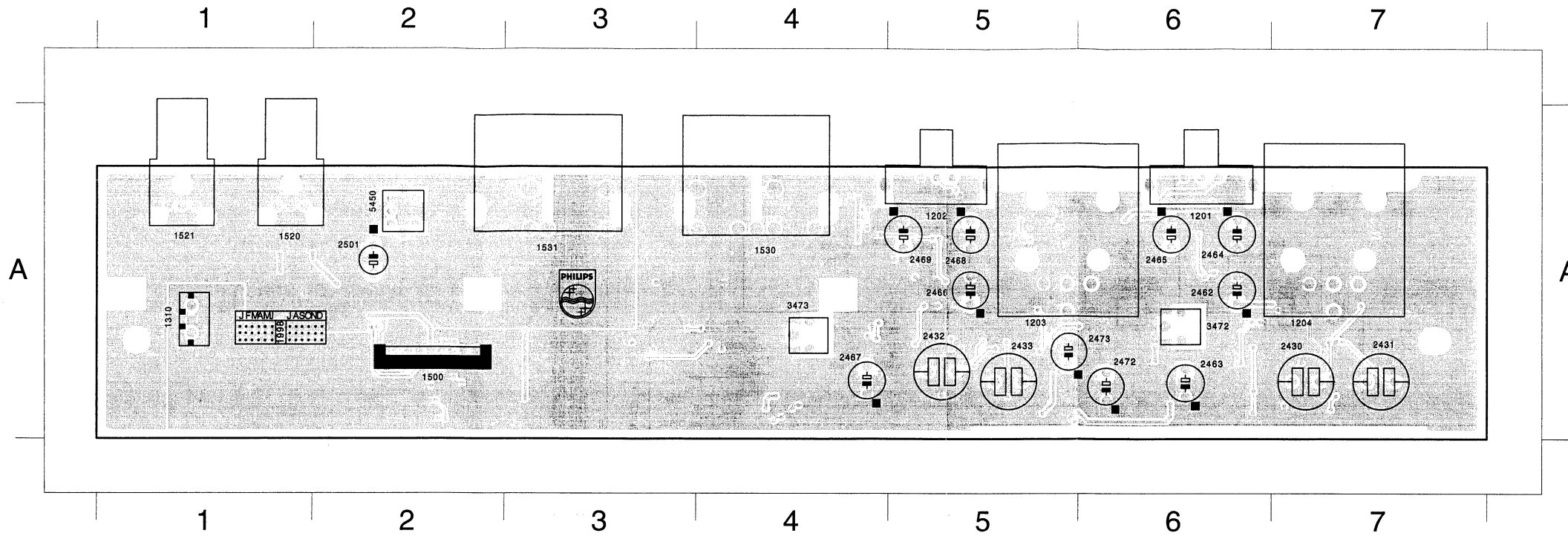
CONNECTOR BOARD CINCH PART (CDR630 only)



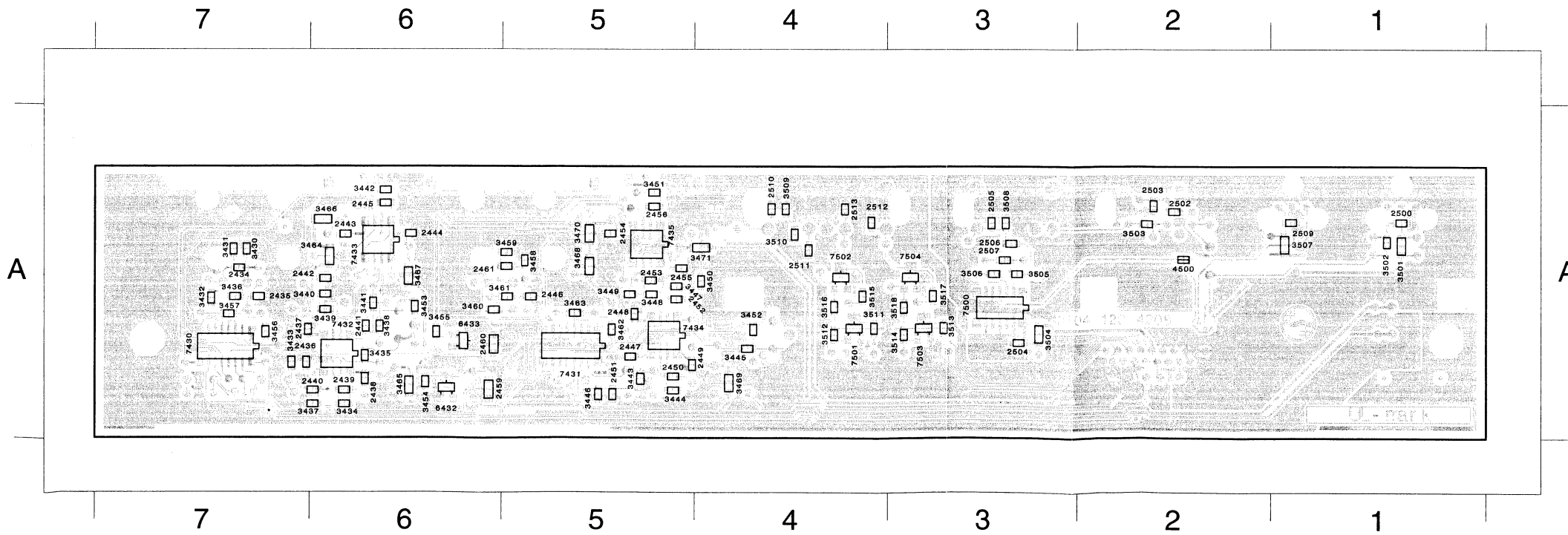
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- 1500 F13
- 1500 F13
- 1500 H 2
- 1500 E13
- 1500 C 2
- 1500 E13
- 1500 E13
- 1500 B 2
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- 1500 E13
- 1500 D13
- 1520 C 3
- 1521 A 3
- 1530 H13
- 1530 E 2
- 1531 C13
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- 3510 F 4
- 3511 G 5
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- 3513 H 5
- 3514 I 5
- 3515 G 6
- 3516 G 6
- 3517 H 7
- 3518 I 6
- 4500 D 6
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- 7500 D 9
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CONNECTOR BOARD (CDR630 only)

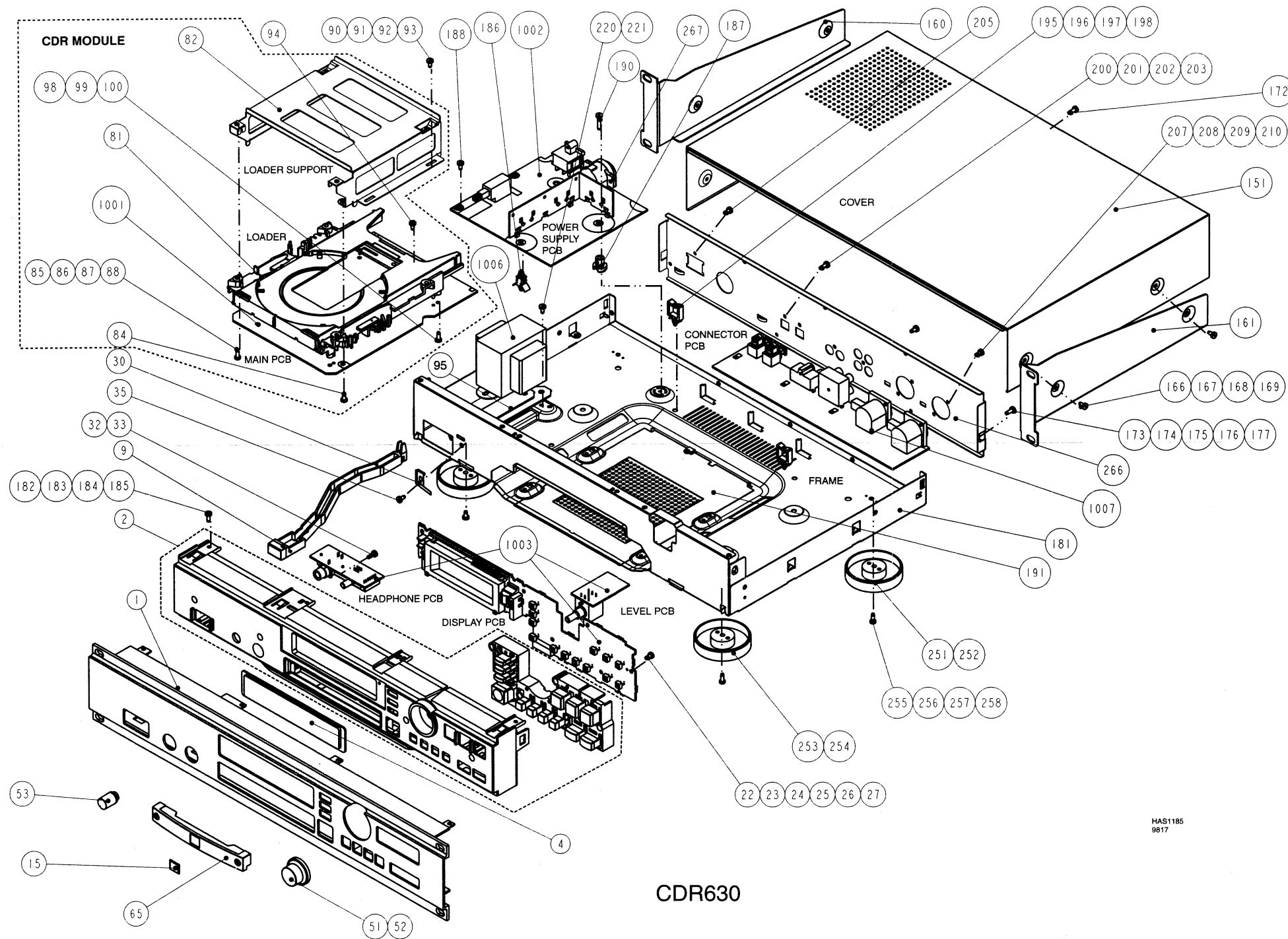
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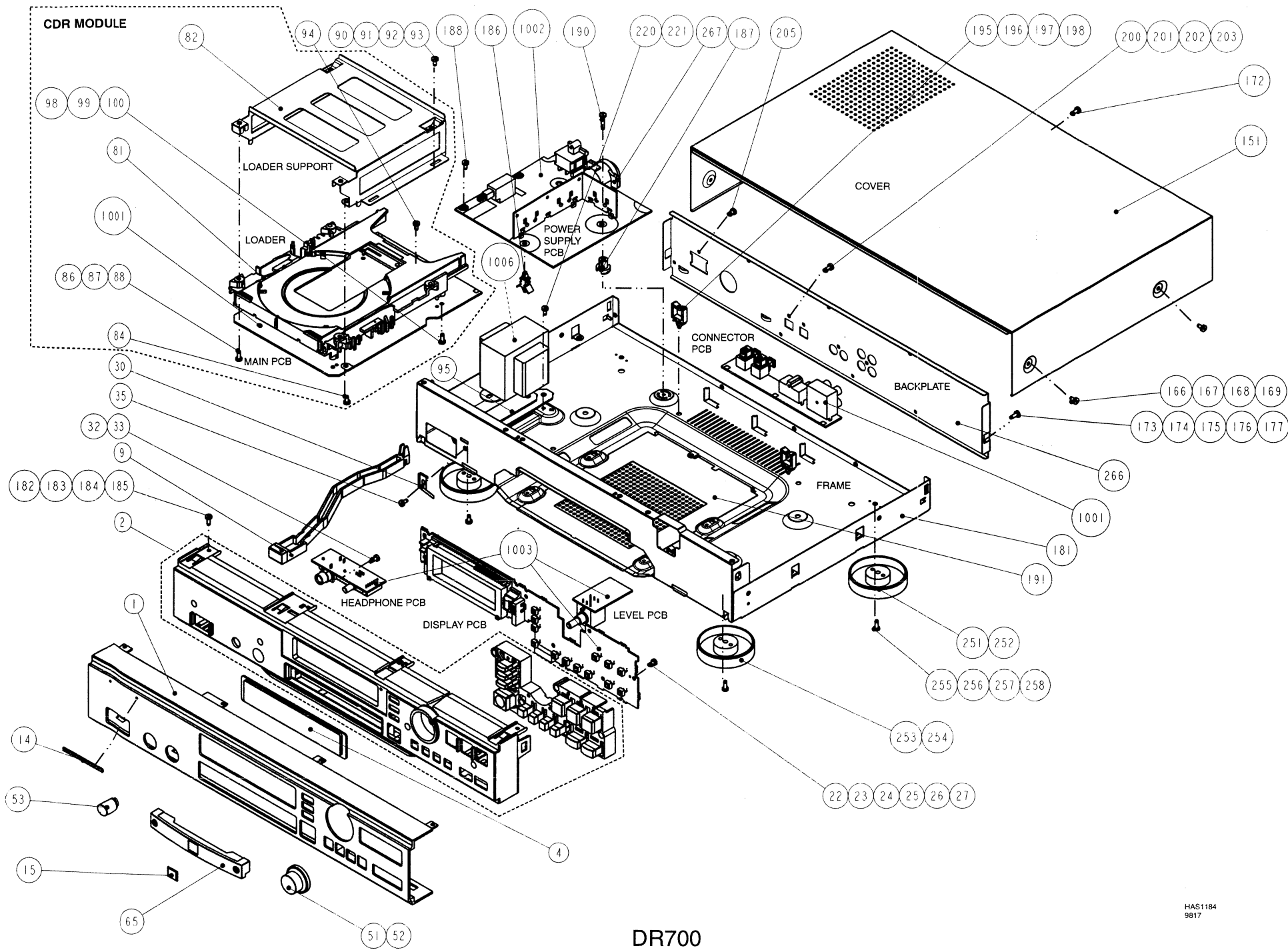
1.11 EXPLODED VIEW AND PARTS LIST



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(VERS. :VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, *:EUROPE)

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
1	F/02M	4822 459 05024	FRONT ALUMINIUM (WHITE)	QP45905024
1	U	4822 459 05026	FRONT ALUMINIUM (BLACK)	QP45905026
2	F/02M	4822 459 05025	FRONT PANEL PLASTIC (WHITE)	QP45905025
2	U	4822 459 05134	FRONT PANEL PLASTIC (BLACK)	QP45905134
4		4822 450 10547	WINDOW ASSY	QP45010547
9	F/02M	4822 402 11122	POWER ROD (GREY)	QP40211122
9	U	4822 402 11123	POWER ROD (BLACK)	QP40211123
15		4822 454 13357	CDRW-MARK	QP45413357
51	F/02M	4822 410 11897	LEVEL KNOB (GREY)	QP41011897
51	U	4822 410 11902	LEVEL KNOB (BLACK)	QP41011902
52		4822 492 51374	SPRING	QP49251374
53	F/02M	4822 410 11898	VOLUME KNOB (GREY)	QP41011898
53	U	4822 410 11903	VOLUME KNOB (BLACK)	QP41011903
65	F/02M	4822 418 10356	TRAY FRONT (GREY)	QP41810356
65	U	4822 418 10357	TRAY FRONT (BLACK)	QP41810357
151	U	4822 442 01095	TOP COVER NSP	
251		4822 462 42158	FOOT BLACK	QP46242158
252		4822 462 42158	FOOT BLACK	QP46242158
253		4822 462 42158	FOOT BLACK	QP46242158
254		4822 462 42158	FOOT BLACK	QP46242158
▲ 1006	F/02M	4822 146 10872	MAINS TRANSFORMER (4 voltage)	QP14610872
▲ 1006	U	4822 146 10873	MAINS TRANSFORMER (120V)	QP14610873
▲ 301	/02M	4822 321 10249	MAINS CABLE (SBC1201)	QP32110249
▲ 301	F	4822 321 10445	MAINS CORD JAPAN	QP32110445
▲ 301	U	4822 321 10939	MAINS CORD USA	QP32110939
309	/02M	4822 736 16239	USER GUIDE (E-F-G-I-D-S-P-SW)	QP73616239
309	F	4822 736 16241	USER GUIDE JPN	QP73616241
309	U	4822 736 16242	USER GUIDE USA (E-F-S-P)	QP73616242
312		4822 321 11357	AUDIO CORD SET	QP32111357
317		4822 321 61452	DIG OUT CABLE (RCA)	QP32161452
318		4822 219 10574	REMOTE CONTROL RC7925/02	QP21910574
▲ 62		4822 492 63076	SPRING CLIP	QP49263076
▲ 63		4822 492 63076	SPRING CLIP	QP49263076
▲ 64		4822 492 63076	SPRING CLIP	QP49263076



DR700

HAS1184
9817

(VERS.:VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, --:EUROPE)

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
1	/02B, U	4822 459 05027	FRONT ALUMINIUM (BLACK)	QP45905027
1	F	4822 459 05181	FRONT ALUMINIUM (GOLD)	QP45905181
2	/02B, U	4822 459 05028	FRONT PANEL PLASTIC (BLACK)	QP45905028
2	F	4822 459 05182	FRONT PANEL PLASTIC (GOLD)	QP45905182
4	/02B, U	4822 450 10547	WINDOW ASSY (BLACK)	QP45010547
4	F	4822 450 10589	WINDOW ASSY (GOLD)	QP45010589
9	/02B, U	4822 402 11123	POWER ROD (BLACK)	QP40211123
9	F	4822 402 11217	POWER ROD (GOLD)	QP40211217
14	/02B, U	4822 454 11825	BADGE MARANTZ (BLACK)	QP45411825
14	F	4822 454 13409	BADGE MARANTZ (GOLD)	QP45413409
15		4822 454 13339	CDRW-LOGO	QP45413339
51	/02B, U	4822 410 11902	LEVEL KNOB (BLACK)	QP41011902
51	F	4822 410 12154	LEVEL KNOB (GOLD)	QP41012154
52		4822 492 51374	SPRING	QP49251374
53	/02B, U	4822 410 11903	VOLUME KNOB (BLACK)	QP41011903
53	F	4822 410 12155	VOLUME KNOB (GOLD)	QP41012155
65	/02B, U	4822 418 10357	TRAY FRONT (BLACK)	QP41810357
65	F	4822 418 10396	TRAY FRONT (GOLD)	QP41810396
151	/02B, U	4822 442 01095	TOP COVER (BLACK)	NSP
151	F	4822 442 01625	TOP COVER (GOLD)	NSP
251		4822 462 42129	FOOT GOLD FRONT	QP46242129
252		4822 462 42129	FOOT GOLD FRONT	QP46242129
253		4822 462 42129	FOOT GOLD FRONT	QP46242129
254		4822 462 42129	FOOT GOLD FRONT	QP46242129
▲ 1006	/02B	4822 146 10871	MAINS TRANSFORMER (230V)	QP14610871
▲ 1006	U	4822 146 10873	MAINS TRANSFORMER (120V)	QP14610873
▲ 1006	F	4822 146 10977	MAINS TRANSFORMER (100V)	QP14610977
▲ 301	/02B	4822 321 10249	MAINS CORD (SBC1201)	QP32110249
▲ 301	U	4822 321 10882	MAINS CORD USA	QP32110882
▲ 301	F	4822 321 10445	MAINS CORD JAPAN	QP32110445
309	/02B	4822 736 16243	USER MANUAL EU	QP73616243
309	U	4822 736 16244	USER MANUAL USA	QP73616244
309	F	4822 736 16582	USER MANUAL JAPAN	QP73616582
312		4822 321 11357	AUDIO CORD SET	QP32111357
317		4822 321 61452	DIG OUT CABLE (RCA)	QP32161452
318		4822 219 10574	REMOTE CONTROL RC7925/02	QP21910574
▲ 62		4822 492 63076	SPRING CLIP	QP49263076
▲ 63		4822 492 63076	SPRING CLIP	QP49263076
▲ 64		4822 492 63076	SPRING CLIP	QP49263076

1.12 ELECTRICAL PARTSLIST

(VERS.:VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, *:EUROPE)

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			DISPLAY BOARD						
1003		4822 256 10401	FTD-HOLDER	NSP	▲ 4019		4822 051 10008	0R00 5% 0.25W	QP05110008
1201		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114	▲ 4020		4822 051 10008	0R00 5% 0.25W	QP05110008
1202		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114	▲ 4021		4822 051 20008	0R00 JUMP. (0805)	QP05120008
1203		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114	▲ 4022		4822 051 10008	0R00 5% 0.25W	QP05110008
1204		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114	▲ 4023		4822 051 20008	0R00 JUMP. (0805)	QP05120008
1205		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114	▲ 4025		4822 051 10008	0R00 5% 0.25W	QP05110008
1206		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114	6200		4822 212 30842	TSOP1736SB1	QP21230842
1207		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114	7200		4822 209 16055	TMP87PM74ZF	QP20916055
1208		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114	7205		4822 135 00149	BJ563GK	QP13500149
1209		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114				HEAD PHONE BOARD	
1210		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114	1301		4822 267 31453	CON BM PHONE H 1P F 6.3 STB	QP26731453
1211		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114	2300		4822 122 33325	470nF 16V	QP12233325
1212		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114	2301		4822 122 33325	470nF 16V	QP12233325
1213		4822 276 13114	SWI TACT 1P 20MA 15V EVQ21A	QP27613114	▲ 2302		5322 122 34123	1nF 10% X7R 50V	QQ12234123
1230		4822 242 10753	CSTCS8.00MT-TC	QP24210753	▲ 2303		5322 122 34123	1nF 10% X7R 50V	QQ12234123
▲ 2200		5322 122 32654	22nF 10% X7R 63V	QQ12232654	3300		4822 117 11383	12k 1% 0.1W	QP11711383
2201		5322 122 32658	22pF 5% 50V	QQ12232658	3301		4822 117 11383	12k 1% 0.1W	QP11711383
2202		5322 122 32658	22pF 5% 50V	QQ12232658	3302		4822 051 20273	27K00 5% 0.1W	QP05120273
▲ 2203		5322 122 32654	22nF 10% X7R 63V	QQ12232654	3303		4822 051 20273	27K00 5% 0.1W	QP05120273
2204		5322 122 32658	22pF 5% 50V	QQ12232658	▲ 3304		4822 051 20121	120R00 5% 0.1W	QP05120121
2205		5322 122 32658	22pF 5% 50V	QQ12232658	▲ 3305		4822 051 20121	120R00 5% 0.1W	QP05120121
2206		4822 126 12105	33nF 5% X7R 63V	QP12612105	3306		4822 051 20122	1K20 5% 0.1W	QP05120122
▲ 2207		5322 122 32654	22nF 10% X7R 63V	QQ12232654	3307		4822 051 20122	1K20 5% 0.1W	QP05120122
3200		4822 051 20393	39K00 5% 0.1W	QP05120393	3310		4822 101 21199	10k X2 20% 0.025W	QP10121199
3201		4822 051 10102	1K00 2% 0.25W	QP05110102	▲ 4300		4822 051 20008	0R00 JUMP. (0805)	QP05120008
3202		4822 051 10102	1K00 2% 0.25W	QP05110102	▲ 4301		4822 051 20008	0R00 JUMP. (0805)	QP05120008
▲ 3205		4822 051 20101	100R00 5% 0.1W	QP05120101	5300		4822 242 10805	NF M41R10C102T3	QP24210805
▲ 3206		4822 051 20101	100R00 5% 0.1W	QP05120101	5301		4822 157 11402	100V 1N 20%	QP15711402
▲ 3207		4822 051 20472	4K70 5% 0.1W	QP05120472	7300		4822 209 82362	NJM4556D	QP20982362
▲ 3208		4822 051 20472	4K70 5% 0.1W	QP05120472	7301		5322 130 42755	BC847C	QQ13042755
▲ 3209		4822 051 20472	4K70 5% 0.1W	QP05120472	7302		5322 130 42755	BC847C	QQ13042755
▲ 3210		4822 051 20472	4K70 5% 0.1W	QP05120472				LEVEL BOARD	
▲ 3211		4822 051 20472	4K70 5% 0.1W	QP05120472	2350		4822 124 22339	100UE 16V	QP12422339
▲ 3212		4822 051 20472	4K70 5% 0.1W	QP05120472	2351		4822 124 22339	100UE 16V	QP12422339
▲ 3213		4822 051 20472	4K70 5% 0.1W	QP05120472	▲ 2352		5322 122 32654	22nF 10% X7R 63V	QQ12232654
▲ 3214		4822 051 20472	4K70 5% 0.1W	QP05120472	▲ 2353		5322 122 32654	22nF 10% X7R 63V	QQ12232654
▲ 3215		4822 051 20008	0R00 JUMP. (0805)	QP05120008	2354		4822 124 81029	100μF 20% 25V	QP12481029
▲ 3216		4822 051 20008	0R00 JUMP. (0805)	QP05120008	2355		4822 124 81029	100μF 20% 25V	QP12481029
▲ 4000		4822 051 10008	0R00 5% 0.25W	QP05110008	3350		4822 117 10833	10k 1% 0.1W	QP11710833
▲ 4001		4822 051 10008	0R00 5% 0.25W	QP05110008	3351		4822 117 10833	10k 1% 0.1W	QP11710833
▲ 4003		4822 051 10008	0R00 5% 0.25W	QP05110008	3352		4822 117 10833	10k 1% 0.1W	QP11710833
▲ 4004		4822 051 10008	0R00 5% 0.25W	QP05110008	3353		4822 117 10833	10k 1% 0.1W	QP11710833
▲ 4005		4822 051 10008	0R00 5% 0.25W	QP05110008	▲ 3354		4822 117 11747	12R 1206 5% FUSE	QP11711747
▲ 4006		4822 051 10008	0R00 5% 0.25W	QP05110008	▲ 3355		4822 117 11747	12R 1206 5% FUSE	QP11711747
▲ 4007		4822 051 10008	0R00 5% 0.25W	QP05110008	3360		4822 101 11821	20Kx2 RK18112AO	QP10111821
▲ 4008		4822 051 10008	0R00 5% 0.25W	QP05110008	▲ 4310		4822 051 20008	0R00 JUMP. (0805)	QP05120008
▲ 4009		4822 051 10008	0R00 5% 0.25W	QP05110008	7350		4822 209 30095	LM833D	QP20930095
▲ 4010		4822 051 10008	0R00 5% 0.25W	QP05110008				POWER SUPPLY BOARD	
▲ 4011		4822 051 10008	0R00 5% 0.25W	QP05110008	▲ 1100	F/02M	4822 265 31015	MAINS INLET	QP26531015
▲ 4012		4822 051 10008	0R00 5% 0.25W	QP05110008	▲ 1100	/06B	4822 265 31016	MAINS INLET	QP26531016
▲ 4013		4822 051 10008	0R00 5% 0.25W	QP05110008	▲ 1105	F/02M (630)	4822 277 11483	VOLTAGE SELECTOR	QP27711483
▲ 4014		4822 051 10008	0R00 5% 0.25W	QP05110008	▲ 1106		4822 276 13224	MAINS SWITCH	QP27613224
▲ 4015		4822 051 10008	0R00 5% 0.25W	QP05110008	▲ 1109		4822 256 30274	FUSE HOLDER	QP25630274
▲ 4016		4822 051 10008	0R00 5% 0.25W	QP05110008	▲ 1110		4822 070 33151	FUSE 218.315(315MA)	QP07033151
▲ 4017		4822 051 10008	0R00 5% 0.25W	QP05110008	▲ 1113		4822 071 52002	FUSE 19372(2A)	QP07152002
▲ 4018		4822 051 10008	0R00 5% 0.25W	QP05110008	▲ 1114		4822 071 52002	FUSE 19372(2A)	QP07152002
					▲ 1130		4822 252 51185	FUSE 19398E1(0.630A)	QP25251185
					▲ 1131		4822 252 51185	FUSE 19398E1(0.630A)	QP25251185
					▲ 1132		4822 252 51185	FUSE 19398E1(0.630A)	QP25251185
					▲ 1133		4822 252 51185	FUSE 19398E1(0.630A)	QP25251185
					▲ 1134		4822 252 51185	FUSE 19398E1(0.630A)	QP25251185
					▲ 2100		4822 126 10454	3.3nF 20% 400V	QP12610454
					▲ 2101		5322 122 32654	22nF 10% X7R 63V	QQ12232654
					▲ 2102		5322 122 32654	22nF 10% X7R 63V	QQ12232654
					2103		4822 124 23172	470μF 20% 50V	QP12423172

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJJ)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJJ)
▲ 2104		5322 122 32654	22nF 10%X7R 63V	QQ12232654	7107		4822 209 73492	L7912CV	QP20973492
2105		4822 124 22427	47µF 20% 40V	QP12422427	7108		4822 209 82112	MC7908CT	QP20982112
▲ 2106		5322 122 32654	22nF 10%X7R 63V	QQ12232654					
▲ 2107		5322 122 32654	22nF 10%X7R 63V	QQ12232654					
▲ 2108		5322 122 32654	22nF 10%X7R 63V	QQ12232654					
2109		4822 124 40784	3300µF 20% 16V	QP12440784					
▲ 2110		5322 122 32654	22nF 10%X7R 63V	QQ12232654					
2111		4822 124 22427	47µF 20% 40V	QP12422427	1201	630	4822 276 12339	SWITCH RCA/XLR	QP27612339
2112		4822 121 42408	220nF 5% 63V	QP12142408	1202	630	4822 276 12339	SWITCH RCA/XLR	QP27612339
2113		4822 121 51252	470nF 5% 63V	QP12151252	1203	630	4822 265 11505	XLR CONNECTOR	QP26511505
2114		4822 124 23172	470µF 20% 50V	QP12423172	1204	630	4822 265 11505	XLR CONNECTOR	QP26511505
▲ 2115		5322 122 32654	22nF 10%X7R 63V	QQ12232654	1500	630	4822 265 11103	FCC CONNECTOR (16P)	QP26511103
▲ 2116		5322 122 32654	22nF 10%X7R 63V	QQ12232654	1520		4822 218 11487	OPT.IN GP1F32R	QP21811487
▲ 2117		5322 122 32654	22nF 10%X7R 63V	QQ12232654	1521		4822 130 10845	OPT.OUT GP1F32T	QP13010845
▲ 2118		5322 122 32654	22nF 10%X7R 63V	QQ12232654	1530		4822 265 11287	RCA JACk 4P	QP26511287
2119		4822 124 12056	1000µF 20% 35V 85C 12.5X20MM	QP12412056	1531		4822 267 41064	RCA JACk 2P	QP26741064
▲ 2120		5322 122 32654	22nF 10%X7R 63V	QQ12232654	2430	630	4822 124 22339	100UE 16V	QP12422339
2121		4822 124 22427	47µF 20% 40V	QP12422427	2431	630	4822 124 22339	100UE 16V	QP12422339
▲ 2122		5322 122 32654	22nF 10%X7R 63V	QQ12232654	2432	630	4822 124 22339	100UE 16V	QP12422339
2123		4822 124 23172	470µF 20% 50V	QP12423172	2433	630	4822 124 22339	100UE 16V	QP12422339
▲ 2124		5322 122 32654	22nF 10%X7R 63V	QQ12232654	2434	630	5322 122 32531	100pF 5%NP0 50V	QQ12232531
2125		4822 124 22427	47µF 20% 40V	QP12422427	2435	630	4822 126 13296	100nF 10% X7R 16V	QP12613296
▲ 2126		5322 122 32654	22nF 10%X7R 63V	QQ12232654	2436	630	4822 122 32139	12pF 2%NP0 63V	QP12232139
2127		4822 124 23172	470µF 20% 50V	QP12423172	2437	630	4822 126 13296	100nF 10% X7R 16V	QP12613296
▲ 2128		5322 122 32654	22nF 10%X7R 63V	QQ12232654	2438	630	4822 126 13296	100nF 10% X7R 16V	QP12613296
2129		4822 124 22427	47µF 20% 40V	QP12422427	2439	630	4822 122 32139	12pF 2%NP0 63V	QP12232139
▲ 2130		5322 122 32654	22nF 10%X7R 63V	QQ12232654	2440	630	4822 122 32139	12pF 2%NP0 63V	QP12232139
▲ 2131		5322 122 32654	22nF 10%X7R 63V	QQ12232654	2441	630	4822 122 32139	12pF 2%NP0 63V	QP12232139
▲ 2132		5322 122 32654	22nF 10%X7R 63V	QQ12232654	2442	630	5322 122 32531	100pF 5%NP0 50V	QQ12232531
▲ 2133		5322 122 32654	22nF 10%X7R 63V	QQ12232654	2443	630	4822 126 13296	100nF 10% X7R 16V	QP12613296
▲ 2134		5322 122 32654	22nF 10%X7R 63V	QQ12232654	2444	630	4822 126 13296	100nF 10% X7R 16V	QP12613296
2135		4822 124 40723	2200µF 20% 16V	QP12440723	2445	630	5322 122 32531	100pF 5%NP0 50V	QQ12232531
2136		4822 124 40784	3300µF 20% 16V	QP12440784	2446	630	4822 126 13296	100nF 10% X7R 16V	QP12613296
▲ 2501		5322 122 32654	22nF 10%X7R 63V	QQ12232654	2447	630	4822 122 32139	12pF 2%NP0 63V	QP12232139
3100		4822 117 11449	2K2 1% 0.1W	QP11711449	2448	630	4822 126 13296	100nF 10% X7R 16V	QP12613296
▲ 3101		4822 051 20472	4K70 5% 0.1W	QP05120472	2449	630	4822 126 13296	100nF 10% X7R 16V	QP12613296
3102		4822 051 20475	4M70 5% 0.1W	QP05120475	2450	630	4822 122 32139	12pF 2%NP0 63V	QP12232139
3103		4822 117 10834	47k 1% 0.1W	QP11710834	2451	630	4822 122 32139	12pF 2%NP0 63V	QP12232139
3104		4822 051 20154	150K00 5% 0.1W	QP05120154	2452	630	4822 122 32139	12pF 2%NP0 63V	QP12232139
3105		4822 051 20392	3K90 5% 0.1W	QP05120392	2453	630	5322 122 32531	100pF 5%NP0 50V	QQ12232531
3106		4822 117 10833	10k 1% 0.1W	QP11710833	2454	630	4822 126 13296	100nF 10% X7R 16V	QP12613296
3107		4822 051 20104	100K00 5% 0.1W	QP05120104	2455	630	4822 126 13296	100nF 10% X7R 16V	QP12613296
▲ 5100		4822 214 51841	MAINS FILTER ZUS U15D	QP21451841	2456	630	5322 122 32531	100pF 5%NP0 50V	QQ12232531
▲ 6100		4822 130 31878	1N4003G	QP13031878	▲ 2459	630	4822 122 33496	100nF 10%X7R 63V	QP12233496
6101		4822 130 34488	BZX79-B11	QP13034488	▲ 2460	630	4822 122 33496	100nF 10%X7R 63V	QP12233496
6102		4822 130 82714	BZX79-B2V7	QP13082714	2461	630	5322 122 32531	100pF 5%NP0 50V	QQ12232531
▲ 6103		4822 130 31878	1N4003G	QP13031878	2462	630	4822 124 41528	100µF 25V	QP12441528
▲ 6104		4822 130 31878	1N4003G	QP13031878	2463	630	4822 124 41528	100µF 25V	QP12441528
▲ 6105		4822 130 31878	1N4003G	QP13031878	2464	630	4822 124 41528	100µF 25V	QP12441528
▲ 6106		4822 130 31878	1N4003G	QP13031878	2465	630	4822 124 41528	100µF 25V	QP12441528
▲ 6107		4822 130 30621	1N4148	QP13030621	2466	630	4822 124 41528	100µF 25V	QP12441528
▲ 6108		4822 130 30621	1N4148	QP13030621	2467	630	4822 124 41528	100µF 25V	QP12441528
▲ 6109		4822 130 30621	1N4148	QP13030621	2468	630	4822 124 41528	100µF 25V	QP12441528
6110		4822 130 31981	BZX79-B3V9	QP13031981	2469	630	4822 124 41528	100µF 25V	QP12441528
▲ 6111		4822 130 31878	1N4003G	QP13031878	▲ 2472	630	4822 124 40433	47µF 20% 25V	QP12440433
▲ 6112		4822 130 31878	1N4003G	QP13031878	▲ 2473	630	4822 124 40433	47µF 20% 25V	QP12440433
▲ 6113		4822 130 31878	1N4003G	QP13031878	2500		5322 122 32659	33pF 5% 50V	QQ12232659
▲ 6114		4822 130 31878	1N4003G	QP13031878	▲ 2501		4822 124 41579	10µF 20% 50V	QP12441579
▲ 6115		4822 130 31878	1N4003G	QP13031878	2502		4822 126 12105	33nF 5%X7R 63V	QP12612105
▲ 6116		4822 130 31878	1N4003G	QP13031878	2503		4822 126 12105	33nF 5%X7R 63V	QP12612105
▲ 6117		4822 130 31878	1N4003G	QP13031878	▲ 2504		5322 122 32654	22nF 10%X7R 63V	QQ12232654
▲ 6118		4822 130 31878	1N4003G	QP13031878	2505		5322 122 33538	150pF 2%NP0 63V	QQ12233538
7100		4822 209 12715	L7915CV	QP20912715	▲ 2506		5322 122 32654	22nF 10%X7R 63V	QQ12232654
7101		4822 209 13061	L4940V5	QP20913061	▲ 2507		5322 122 32654	22nF 10%X7R 63V	QQ12232654
7102		4822 130 60511	BC847B	QP13060511	▲ 2509		5322 122 32654	22nF 10%X7R 63V	QQ12232654
7103		4822 130 60511	BC847B	QP13060511	2510		5322 122 32531	100pF 5%NP0 50V	QQ12232531
7104		4822 130 60511	BC847B	QP13060511	2511		5322 122 32531	100pF 5%NP0 50V	QQ12232531
7105		5322 130 60508	BC857B	QQ13060508	2512		5322 122 32659	33pF 5% 50V	QQ12232659
▲ 7106		4822 209 81726	MC7812CT	QP20981726	2513		5322 122 32659	33pF 5% 50V	QQ12232659
					3430	630	4822 117 10837	100k 1% 0.1W	QP11710837

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
3431	630	4822 117 10837	100k 1% 0.1W	QP11710837
3432	630	4822 117 12367	33k 1% 0.10W	QP11712367
3433	630	4822 117 10833	10k 1% 0.1W	QP11710833
▲ 3434	/02M (630)	4822 051 20332	3K30 5% 0.1W	QP05120332
3435	630	4822 117 11449	2K2 1% 0.1W	QP11711449
3436	630	4822 117 12367	33k 1% 0.10W	QP11712367
3437	630	4822 117 10833	10k 1% 0.1W	QP11710833
▲ 3438	/02M (630)	4822 051 20332	3K30 5% 0.1W	QP05120332
3439	630	4822 117 10833	10k 1% 0.1W	QP11710833
3440	630	4822 117 10362	7K5 1% 0.1W	QP11710362
3441	630	4822 117 10833	10k 1% 0.1W	QP11710833
3442	630	4822 117 10362	7K5 1% 0.1W	QP11710362
3443	630	4822 117 10833	10k 1% 0.1W	QP11710833
▲ 3444	/02M (630)	4822 051 20332	3K30 5% 0.1W	QP05120332
3445	630	4822 117 11449	2K2 1% 0.1W	QP11711449
3446	630	4822 117 10833	10k 1% 0.1W	QP11710833
▲ 3447	630	4822 051 20332	3K30 5% 0.1W	QP05120332
3448	630	4822 117 10833	10k 1% 0.1W	QP11710833
3449	630	4822 117 10362	7K5 1% 0.1W	QP11710362
3450	630	4822 117 10833	10k 1% 0.1W	QP11710833
3451	630	4822 117 10362	7K5 1% 0.1W	QP11710362
3452	630	5322 117 12487	1k RC12G 1% 0.125W	QQ11712487
3453	630	5322 117 12487	1k RC12G 1% 0.125W	QQ11712487
▲ 3454	630	4822 051 20471	470R00 5% 0.1W	QP05120471
▲ 3455	630	4822 051 20471	470R00 5% 0.1W	QP05120471
3456	630	4822 117 11141	1K80 1% 0.1W	QP11711141
3457	630	4822 117 11141	1K80 1% 0.1W	QP11711141
3458	630	4822 117 10837	100k 1% 0.1W	QP11710837
3459	630	4822 117 10837	100k 1% 0.1W	QP11710837
3460	630	4822 117 12367	33k 1% 0.10W	QP11712367
3461	630	4822 117 12367	33k 1% 0.10W	QP11712367
3462	630	4822 117 11141	1K80 1% 0.1W	QP11711141
3463	630	4822 117 11141	1K80 1% 0.1W	QP11711141
▲ 3464	630	4822 117 11747	12R 1206 5% FUSE	QP11711747
▲ 3465	630	4822 117 11747	12R 1206 5% FUSE	QP11711747
▲ 3466	630	4822 117 11747	12R 1206 5% FUSE	QP11711747
▲ 3467	630	4822 117 11747	12R 1206 5% FUSE	QP11711747
▲ 3468	630	4822 117 11747	12R 1206 5% FUSE	QP11711747
▲ 3469	630	4822 117 11747	12R 1206 5% FUSE	QP11711747
▲ 3470	630	4822 117 11747	12R 1206 5% FUSE	QP11711747
▲ 3471	630	4822 117 11747	12R 1206 5% FUSE	QP11711747
▲ 3501		4822 117 11152	4R7 5%	QP11711152
▲ 3502		4822 051 20101	100R00 5% 0.1W	QP05120101
3503		4822 051 20689	68R00 5% 0.1W	QP05120689
▲ 3504		4822 117 11152	4R7 5%	QP11711152
▲ 3505		4822 051 20332	3K30 5% 0.1W	QP05120332
▲ 3506		4822 051 20332	3K30 5% 0.1W	QP05120332
▲ 3507		4822 117 11152	4R7 5%	QP11711152
3508		4822 051 20759	75R00 5% 0.1W	QP05120759
3509		4822 051 20104	100K00 5% 0.1W	QP05120104
3510		4822 051 20104	100K00 5% 0.1W	QP05120104
3511		4822 117 11373	100R 1% RC12H 0805	QP11711373
3512		4822 117 11449	2K2 1% 0.1W	QP11711449
3513		4822 117 11373	100R 1% RC12H 0805	QP11711373
3514		4822 117 11449	2K2 1% 0.1W	QP11711449
3515		4822 117 11373	100R 1% RC12H 0805	QP11711373
3516		4822 117 11449	2K2 1% 0.1W	QP11711449
3517		4822 117 11373	100R 1% RC12H 0805	QP11711373
3518		4822 117 11449	2K2 1% 0.1W	QP11711449
▲ 4500		4822 051 10008	0R00 5% 0.25W	QP05110008
6432	630	4822 130 80125	BZX84-C5V6	QP13080125
6433	630	4822 130 80125	BZX84-C5V6	QP13080125
7430	630	4822 209 60792	74HC4053D	QP20960792
7431	630	4822 209 60792	74HC4053D	QP20960792
7432	630	4822 209 32002	NJM5532MD	QP20932002
7433	630	4822 209 32002	NJM5532MD	QP20932002
7434	630	4822 209 32002	NJM5532MD	QP20932002

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
7435	630	4822 209 32002	NJM5532MD	QP20932002
7500		5322 209 11517	PC74HCU04T	QQ20911517
7501		4822 130 60511	BC847B	QP13060511
7502		4822 130 60511	BC847B	QP13060511
7503		4822 130 60511	BC847B	QP13060511
7504		4822 130 60511	BC847B	QP13060511

NOTE ON SAFETY :

Symbol ▲ Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol ▲. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

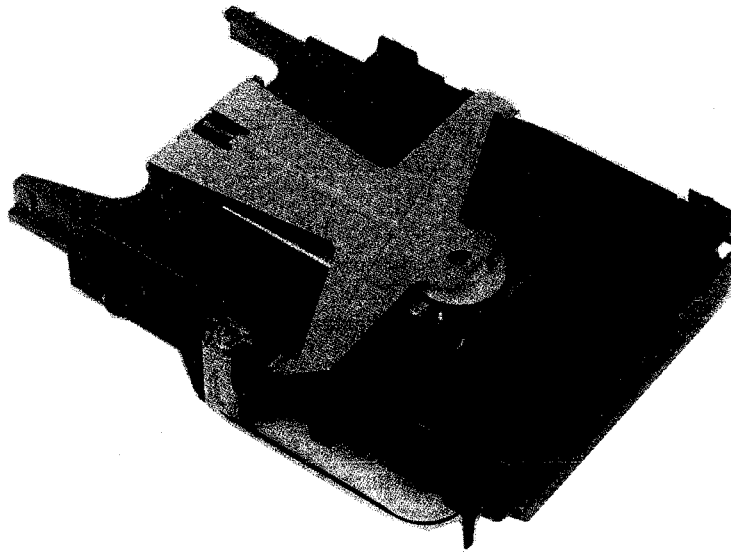
安全上の注意 :

▲ がついている部品は、安全上重要な部品です。必ず指定されている部品番号の部品を使用して下さい。

Service Manual

CDL3610 /01

CDR Module



CAUTION : This part is instruction for Central repair center only.

Do not repair at local Service agent.

Please contact to MARANTZ JAPAN INC., MARANTZ EUROPE B.V.,
MARANTZ AMERICA,INC. or SUPERSCOPE TECHNOLOGIES,INC.
FOR Central repair procedure.

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marantz®

model CDL3610

[REMARK]

CDL3610/01 unit (CDR Module) and CDM3610' are not standard spare parts. The repairing of component level for those units is not allowed at local service agents also, except loader mechanical parts and EPROM (7322).

Rejected CDL3610/01 unit (CDR Module) should replace by Central Repair Procedure. Please contact to following MARANTZ regional office or your local MARANTZ national organization about the Central Repair Procedure.

USA
MARANTZ AMERICA, INC.
440 MEDINAH ROAD
ROSELLE, ILLINOIS 60172
USA
PHONE : 630 - 307 - 3100
FAX : 630 - 307 - 2687

EUROPE / TRADING
MARANTZ EUROPE B. V.
P.O.BOX 80002
BUILDING SFF2
5600 JB EINDHOVEN
THE NETHERLANDS
PHONE : +31 - 40 - 2732241
FAX : +31 - 40 - 2735578

JAPAN Technical
MARANTZ JAPAN, INC.
35-1, 7- CHOME, SAGAMIONO
SAGAMIHARA - SHI, KANAGAWA
JAPAN 228-8505
PHONE : +81 427 48 1013
FAX : +81 427 41 9190

PROFESSIONAL USA
SUPERSCOPE TECHNOLOGIES, INC.
MARANTZ PROFESSIONAL PRODUCTS
2640 WHITE OAK CIRCLE, SUITE A
AURORA, ILLINOIS 60504 USA
PHONE : 630 - 820 - 4800
FAX : 630 - 820 - 8103

EPROM (7322)

This USER SOFTWARE has been stored in EPROM (7322) . This EPROM, situated on the upper side of the Main Board of the CDR module, is in easy reach, once the tray is open. On the EPROM, you will find a sticker with the following indications:

MAIN CDR880
V.1.xx
7322

DR700

MAIN CDR680
V.1.xx
7322

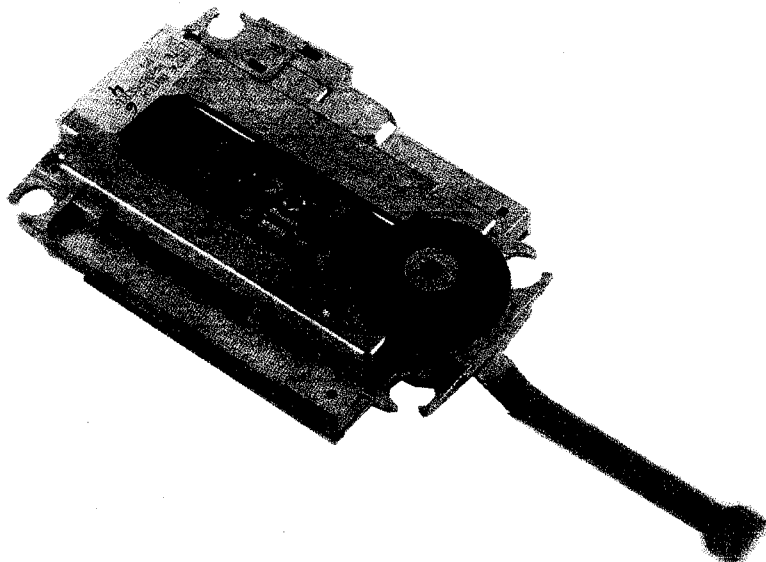
CDR630

V. 1.xx is the software version.

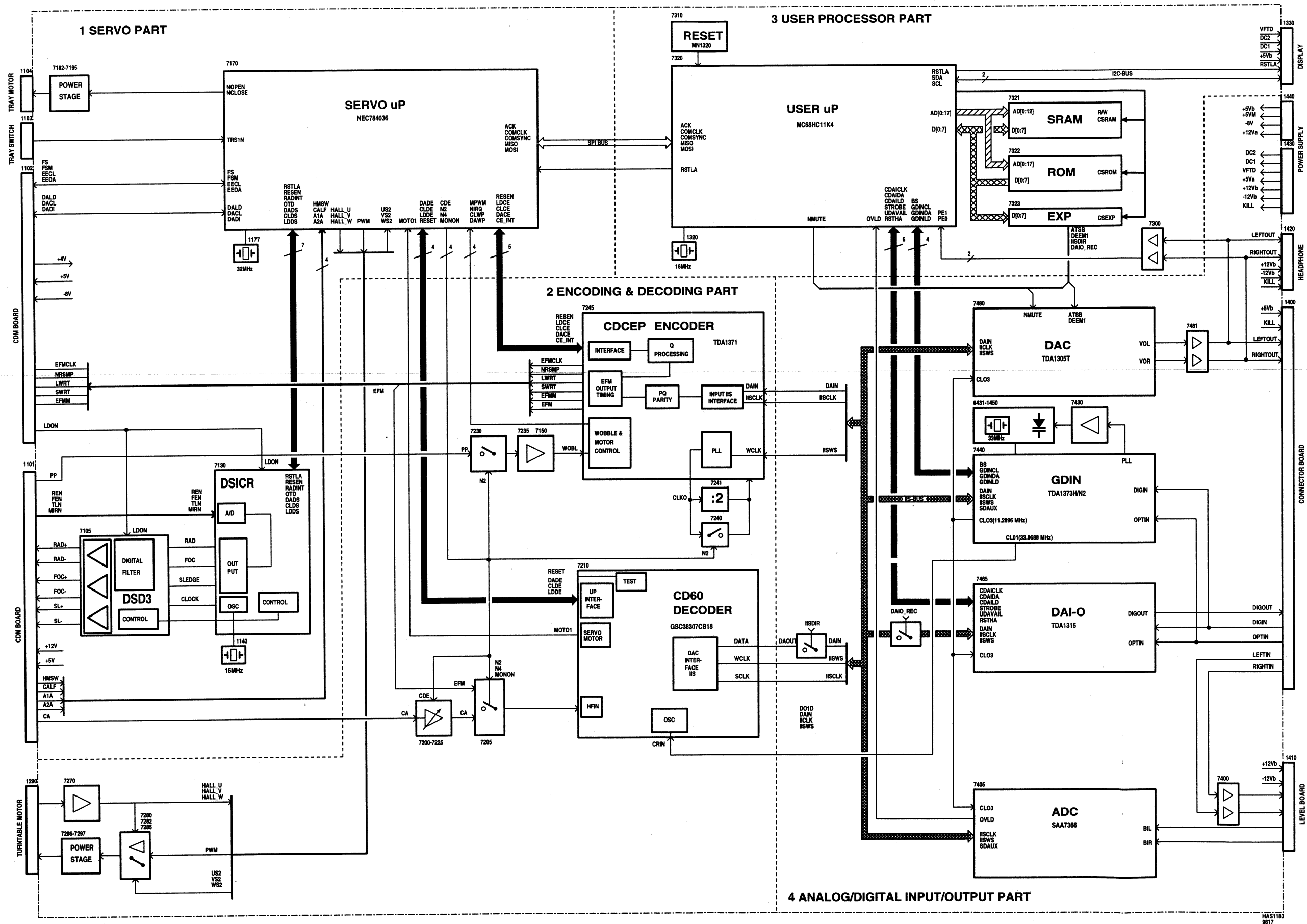
As this IC is mounted on a socket, it can easily be replaced an EPROM containing the last software version. This EPROM can be ordered with service code number ;

DR700 : 4822 900 11271
CDR630 : 4822 900 11272

The latest software update information will be reported by the **SERVICE BULLETIN**.
(latest version EPROM will be supplied with same service code number always)

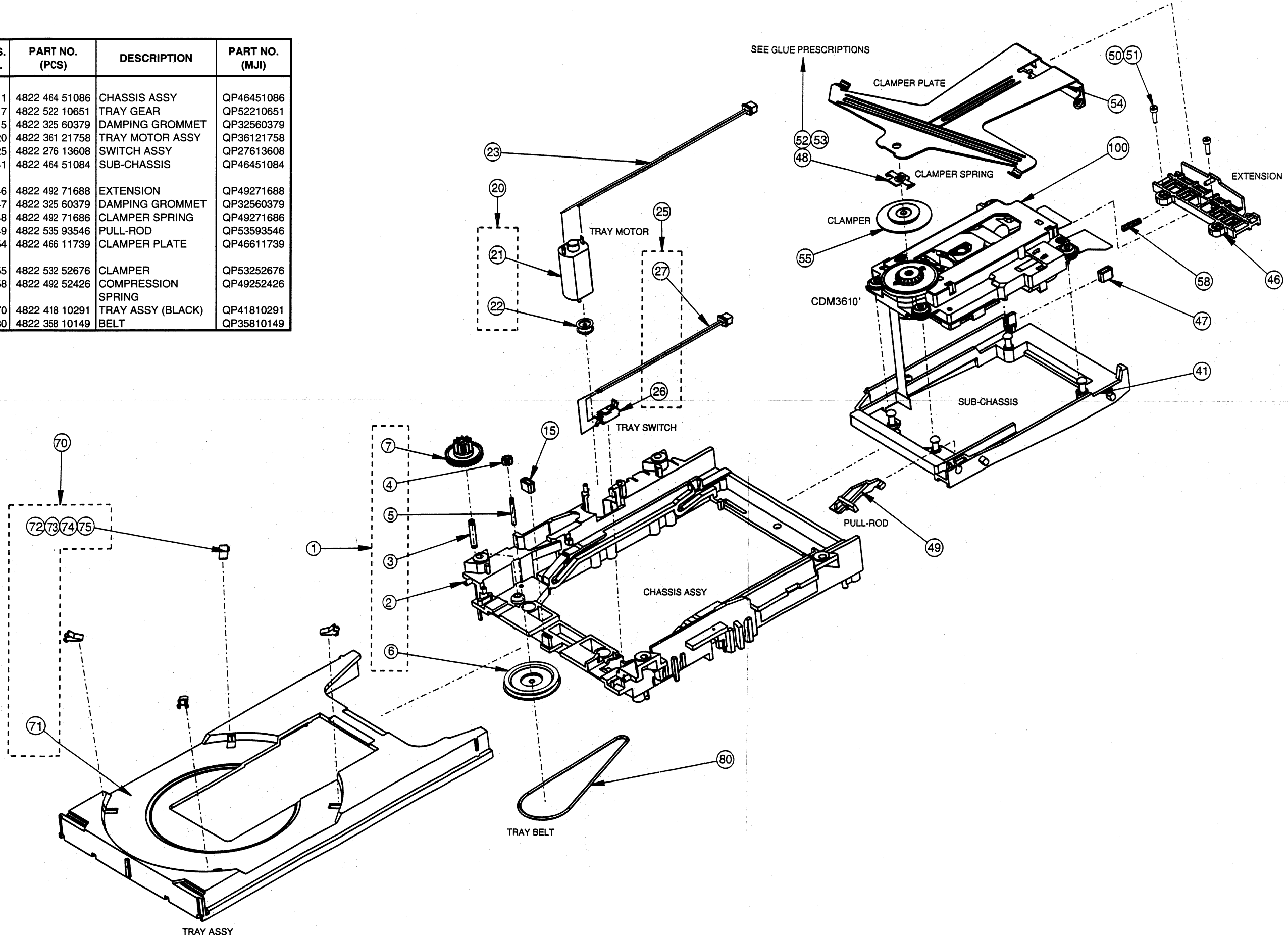


2.1 BLOCK DIAGRAM MAIN BOARD



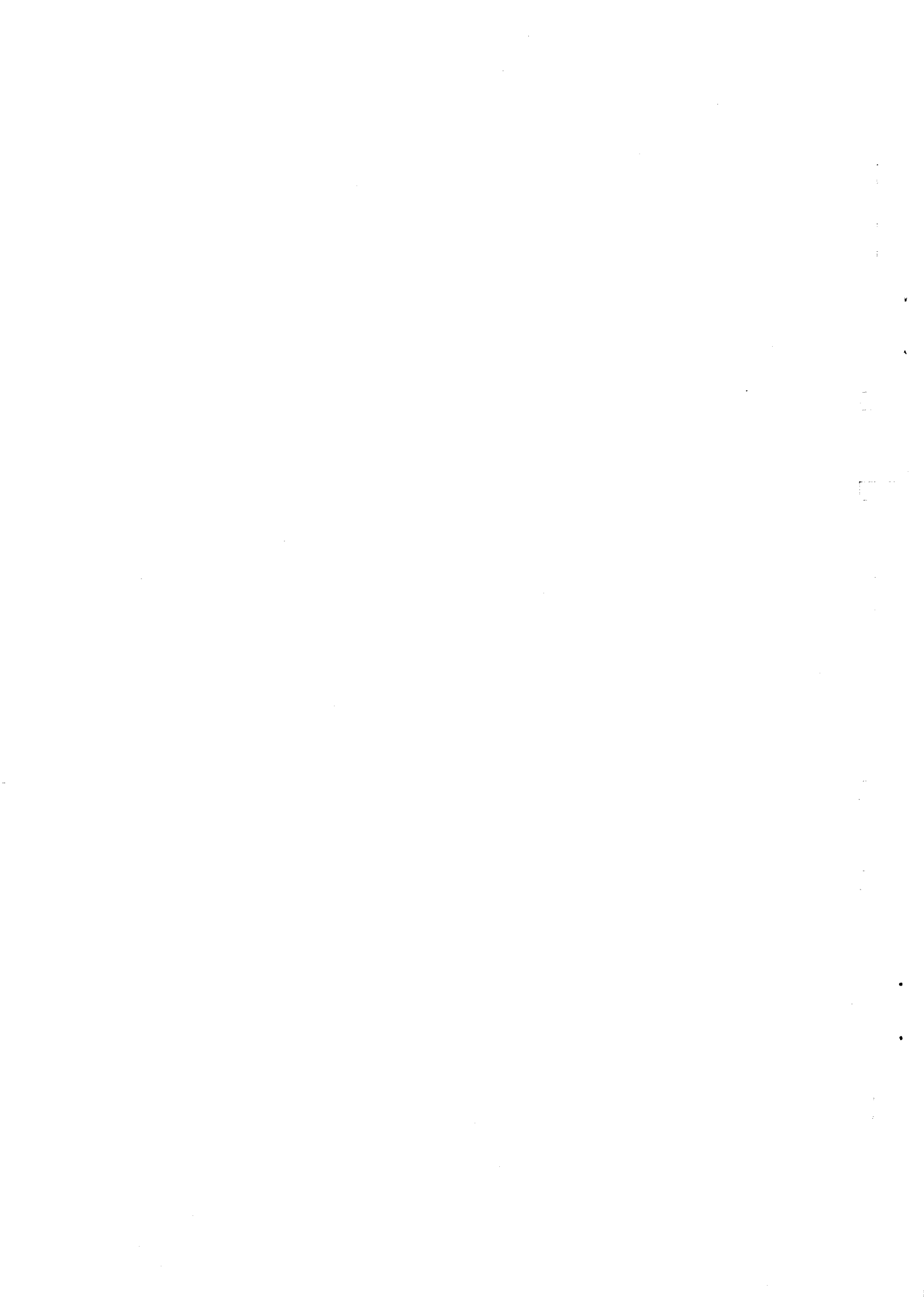
2.3 EXPLODED VIEW AND PARTS LIST

POS. NO.	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)
1	4822 464 51086	CHASSIS ASSY	QP46451086
7	4822 522 10651	TRAY GEAR	QP52210651
15	4822 325 60379	DAMPING GROMMET	QP32560379
20	4822 361 21758	TRAY MOTOR ASSY	QP36121758
25	4822 276 13608	SWITCH ASSY	QP27613608
41	4822 464 51084	SUB-CHASSIS	QP46451084
46	4822 492 71688	EXTENSION	QP49271688
47	4822 325 60379	DAMPING GROMMET	QP32560379
48	4822 492 71686	CLAMPER SPRING	QP49271686
49	4822 535 93546	PULL-ROD	QP53593546
54	4822 466 11739	CLAMPER PLATE	QP46611739
55	4822 532 52676	CLAMPER	QP53252676
58	4822 492 52426	COMPRESSION SPRING	QP49252426
70	4822 418 10291	TRAY ASSY (BLACK)	QP41810291
80	4822 358 10149	BELT	QP35810149



Repair Procedure

When you return the reject complete CDR loader for **Central Repair Procedure** (module exchange procedure). Please make a copy of attached sheet "**GUIDANCE FORM REPAIRABLE UNIT**" and fill in required contents. It is necessary to attach the sheet "**GUIDANCE FORM REPAIRABLE UNIT**" with each reject CDR loaders one by one.



GUIDANCE FORM
REPAIRABLE UNIT 4822 691 10749 (CDR630)
4822 691 10751 (DR700)

Please fill in this form and return it with the defective unit.

Typenumber (unit demounted from set) : **CDR630**/.....
 or : **DR700**/.....
Serial number :
Unit serial number (CDR Module) : **CDL3610/01; ...VO**.....

WARNING: Dismantling of the CDR Module is not allowed.
Guarantee will be invalidated.

INFORMATION GATHERED VIA SERVICE TEST MODE

Switch POWER ON,
 OPEN/CLOSE,
 Insert test disc SBC444A, or any other CD-Digital Audio disc;
 switch POWER OFF,
 <PLAY>+<NEXT>+<POWER ON>
 During test:
 Blinking 'D' on display;
 Blinking 'B' on display.

ERROR INDICATION (on display) according to table below: Y / N

	ON DISPLAY	IRIS SYMPTOM CODE	YES *)
DISPLAY TEST RESULT			
RAM error	DERR 1	15....	
ROM error	DERR 2	16....	
EEPROM error	DERR 3	16....	
DAIO error	DERR 4	15....	
GDIN error	DERR 5	15....	
BASIC ENGINE TEST RESULT			
Communication bus error	BERR 1	15....	
Basic Engine error	BERR 2	15....	
Disc test error	BERR 3	16....	

*) insert cross at seen display result.

**OTHER COMPLAINT DESCRIPTION :
(IRIS SYMPTOM CODE:)**

Return the defective unit complete assembled in original package to:

Invoice to:
Philips Consumer Electronics B.V. 670005
Philips Consumer Service - F&A Reporting
Glaslaan 2
Building SBP5
5616 LW Eindhoven
The Netherlands

Ship to:
Philips Consumer Electronics B.V. 676723
LO PCS WAREHOUSING
Glaslaan 2,
Building SBI p
5616 LW Eindhoven
The Netherlands
ATT: Mr. C. Lieberwirth

CORRECTIVE ACTION/SOLUTION

(to be filled in at central repair workshop):

Report number:.....

Iris repair code:.....
