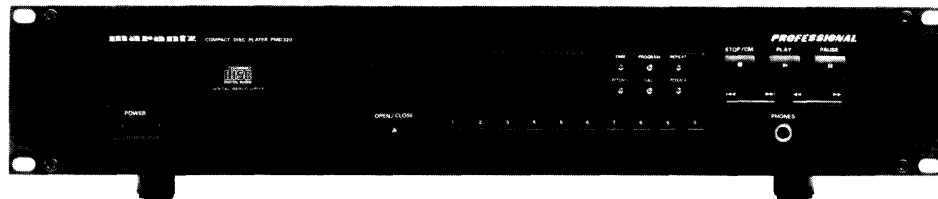


# Service Manual

74 PMD320/02B, U

74 PMD321/02B, U

Compact disc Player



COMPACT  
disc  
DIGITAL AUDIO

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

# marantz®

## model PMD320 / PMD321

First issue : 1995/6

313K855010

## 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 60172-2330  
USA  
PHONE : 708-307-3100  
FAX : 708-307-2687

#### CANADA

LENBROOK INDUSTRIES LIMITED  
633 GRANITE COURT,  
PICKERING, ONTARIO L1W 3K1  
CANADA  
PHONE : 416-831-6333  
FAX : 416-831-6936

#### EUROPE

MARANTZ EUROPE B.V.  
P.O.BOX 80002  
BUILDING SFF2  
5600 JB EINDHOVEN  
THE NETHERLANDS  
PHONE : +31-40-732241  
FAX : +31-40-735578

#### PROFESSIONAL-USA

SUPERSCOPE TECHNOLOGIES, INC.  
MARANTZ PROFESSIONAL PRODUCTS  
1000 CORPORATE BLVD., SUITE D  
AURORA, ILLINOIS 60504 USA  
PHONE : 708-820-4800  
FAX : 708-820-8103

#### PROFESSIONAL-CANADA

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

#### TRADING

MARANTZ EUROPE B.V.  
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PHONE : +31-40-732241  
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3 Figtree Drive  
Australia Centre  
Homebush, NSW2140 AUSTRALIA  
PHONE : +61 2 742.8311  
FAX : +61 2 7643074

#### HONG-KONG

FORWARD INTERNATIONAL CORP. LTD.  
15 TH FLOOR, REGENT CENTRE,  
88 QUEEN'S ROAD, CENTRAL, H. K.  
PHONE : +852 521-0883  
FAX : +852 521-7835

#### THAILAND

MRZ STANDARD CO., LTD.  
746-750 WANGBURAPA BANGKOK  
10200 THAILAND  
PHONE : +66 2222 9181  
FAX : +66 2225 8871

#### TAIWAN

PAI-YUING CO., LTD.  
6 TH FL NO. 148 SUNG KIANG RORD,  
TAIPEI, 10429, TAIWAN R.O.C.  
PHONE : +886 (2) 5221304-8  
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,  
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PHONE : +60 3-7184666  
FAX : +60 3-7173828

#### SINGAPORE

WO KEE HONG (SINGAPORE) PTE. LTD.  
29, LENG KEE ROAD  
SINGAPORE 0315,  
PHONE : +65 475-4555  
FAX : +65 475-8623

#### JAPAN-Technical

MARANTZ JAPN INC.  
35-1, 7-chome, Sagamiono  
Sagamihara-shi, Kanagawa  
Japan  
PHONE : +81 427 48 2181  
FAX : +81 427 48 0889

#### JAPAN-Parts Order

MARANTZ JAPN INC.  
35-1, 7-chome, Sagamiono  
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Japan  
PHONE : +81 427 48 1013  
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#### 日本マランツ株式会社

本社 〒228 神奈川県相模原市相模大野7丁目35番1号  
営業本部 〒150 東京都渋谷区恵比寿南1丁目11番9号

### 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 NO.1492.

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



## 2. CAUTION

### LASER NOTE:

**DANGER** — Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.

**CAUTION** — Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**CAUTION** — The use of optical instruments with this product will increase eye hazard.

THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPELY QUALIFIED SERVICE PERSONNEL.

### LASER BEAM RADIATION SPOT

Laser Diode Properties

Material: Al GaAs

Wavelength: 780nm  $\pm$  20nm

Laser Output: Continuous Wave max. 0.5mW

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

### ESD

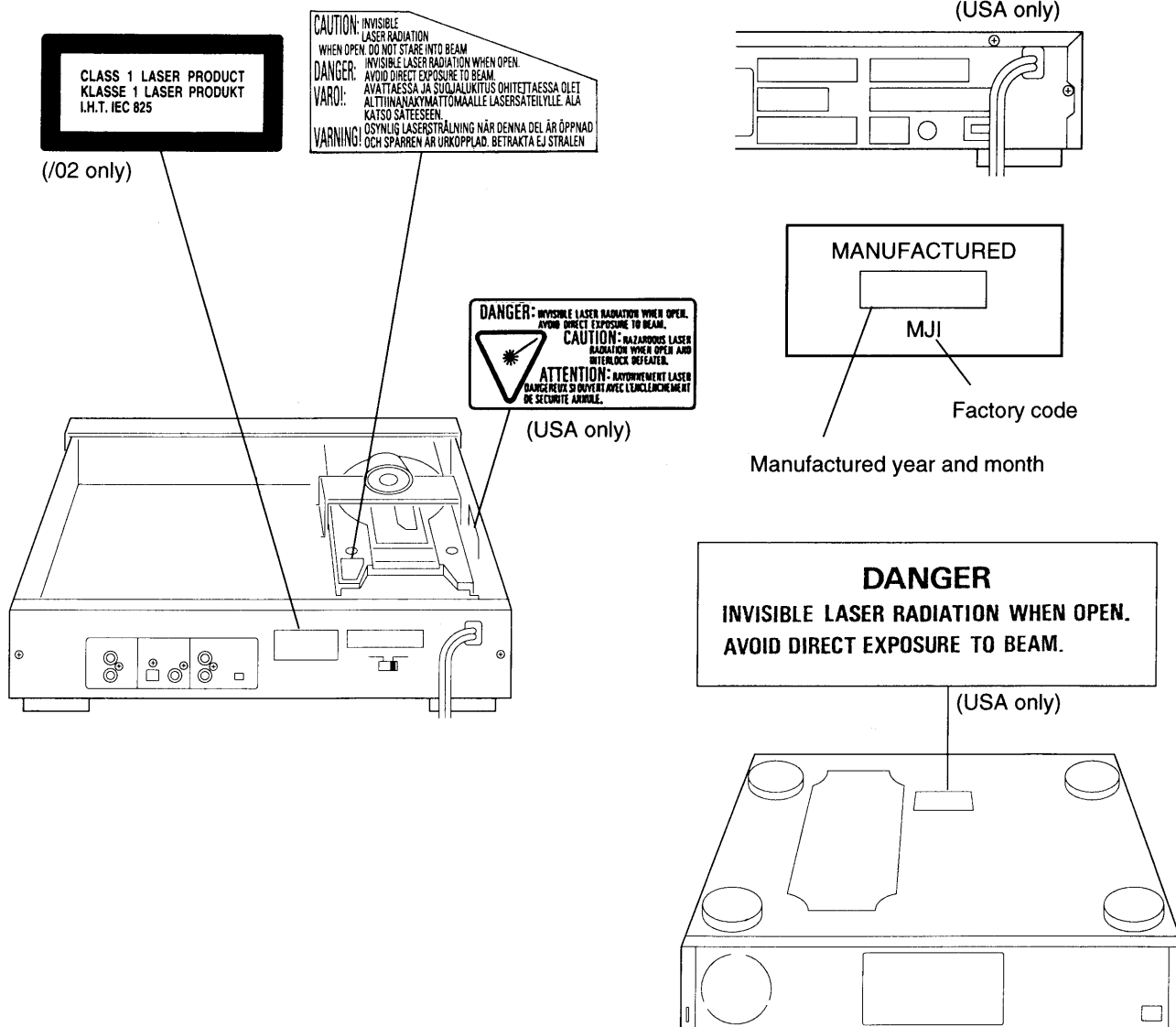


All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).

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.

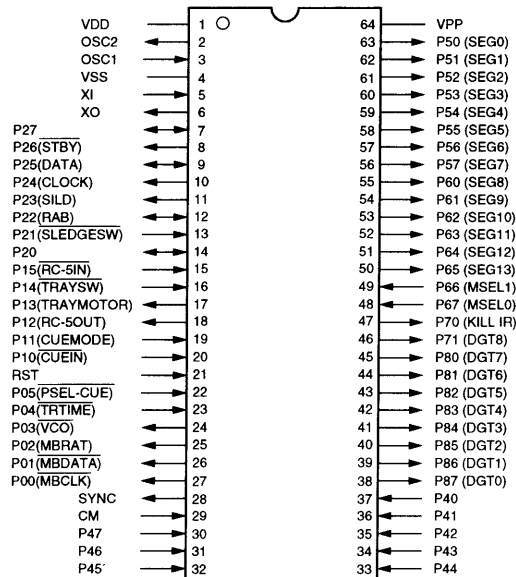
Keep components and tools also at this potential.





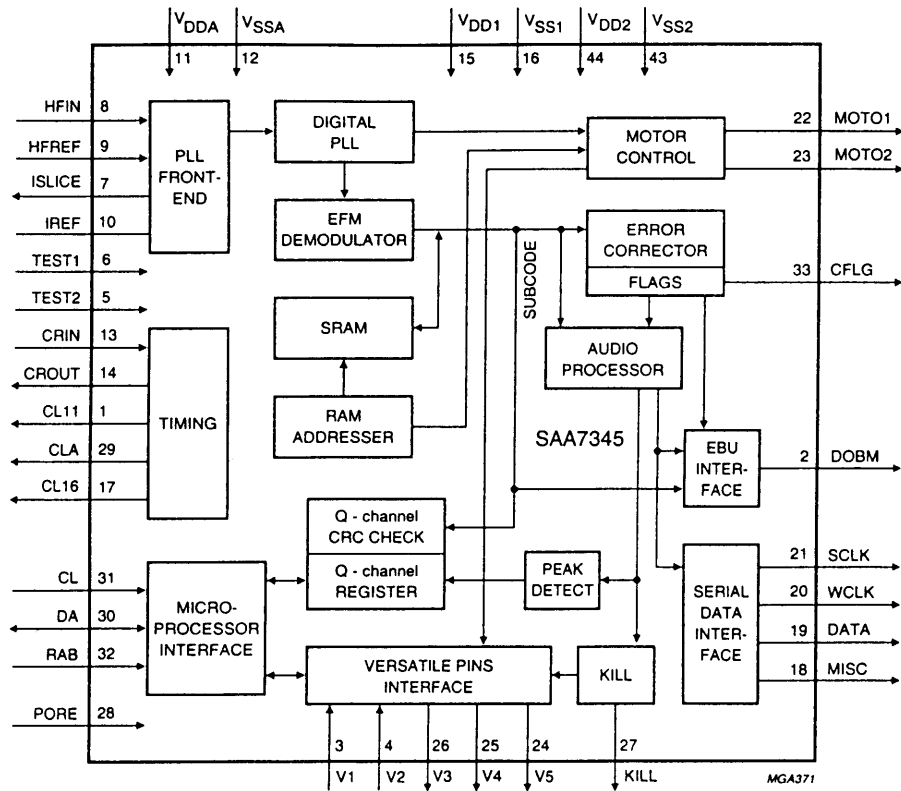
## 5. MICROPROCESSOR AND IC DATA

### MN187164 (MICROPROCESSOR)



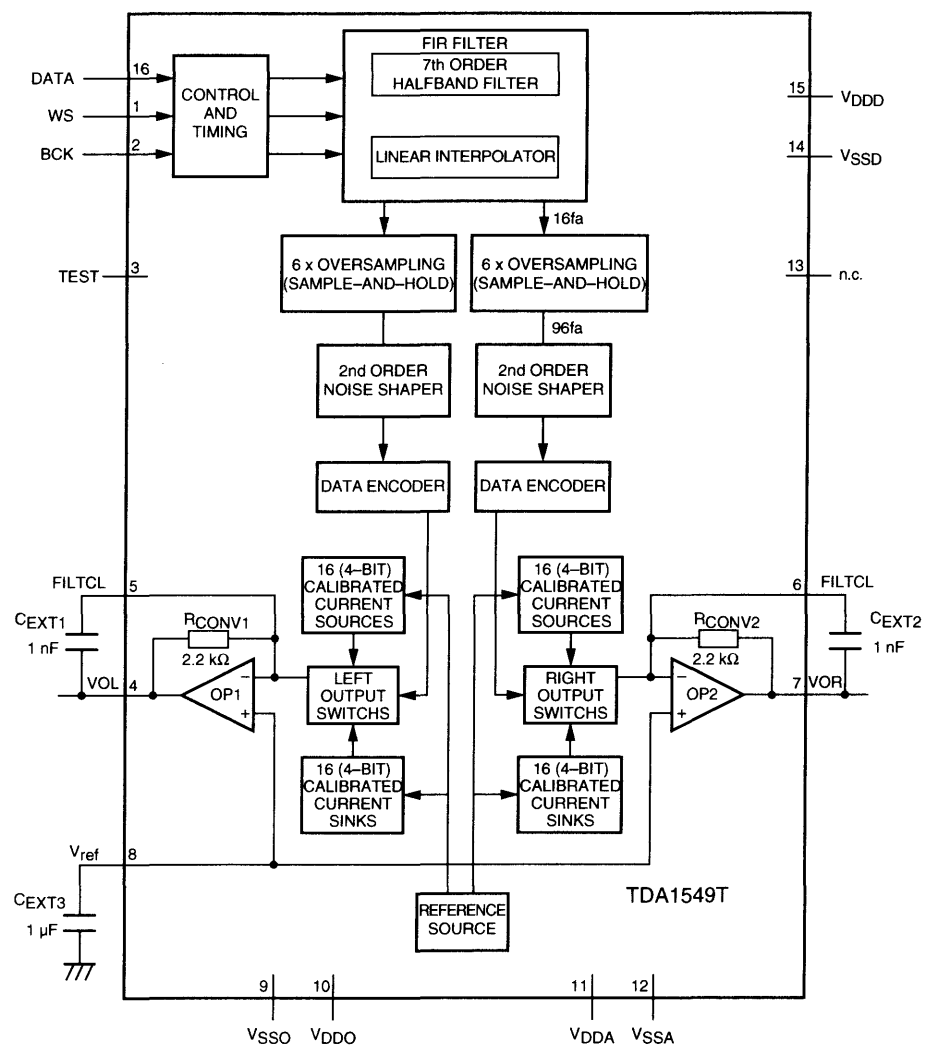
Pin Nbr	Pin Name	I/O	Function	Pin Nbr	Pin Name	I/O	Function
1	Vdd	-	Power Supply +5V	33	P44	I	Key Input, KEY 5
2	OSC2	O	Clock out (8.0MHz)	34	P43	I	Key Input, KEY 4
3	OSC1	I	Clock in (8.0MHz)	35	P42	I	Key Input, KEY 3
4	Vss	-	GND 0V	36	P41	I	Key Input, KEY 2
5	XI	I	0V	37	P40	I	Key Input, KEY 1
6	XO	O	Not Used	38	P87 (DGT0)	O	FL Digit Data, G9
7	P27	I/O	Not Used	39	P86 (DGT1)	O	FL Digit Data, G8
8	P26 STBY	O	TDA1301 RESET, NRST	40	P85 (DGT2)	O	FL Digit Data, G7
9	P25 DATA	I/O	Data Bus Data, SIDA	41	P84 (DGT3)	O	FL Digit Data, G6
10	P24 CLOCK	O	Data Bus Clock, SICK	42	P83 (DGT4)	O	FL Digit Data, G5
11	P23 SILD	O	TDA1301 SILD (latch)	43	P82 (DGT5)	O	FL Digit Data, G4
12	P22 RAB	I/O	SAA7345 RAB	44	P81 (DGT6)	O	FL Digit Data, G3
13	P21 SLEDGESW	I	Sledge SW, SLSW	45	P80 (DGT7)	O	FL Digit Data, G2
14	P20 MUTE	I/O	Not Used	46	P71 (DGT8)	O	FL Digit Data, G1
15	P15 RC5IN	I	RC-5 code Input	47	P70 KILL IR	O	Kill IR, N.C.
16	P14 TRAYSW	I	Tray In/Out SW, TRSW	48	P67 MSEL0	I	Model Select SW 0
17	P13 TRAYMOTOR	O	Tray Motor	49	P66 MSEL1	I	Model Select SW 1
18	P12 RC5OUT	O	RC-5 code Output	50	P65 (SEG13)	O	FL Segment Data, P1
19	P11 CUEMODE	I	CUE Mode Select	51	P64 (SEG12)	O	FL Segment Data, P2
20	P10 CUEIN	I	Not Used	52	P63 (SEG11)	O	FL Segment Data, P3
21	RST	I	RESET	53	P62 (SEG10)	O	FL Segment Data, P4
22	P05 PSEL-CUE	I	Pause Select CUE	54	P61 (SEG9)	O	FL Segment Data, P5
23	P04 TRTIME	I	Tray Time	55	P60 (SEG8)	O	FL Segment Data, P6
24	P03 VCO	O	VCO Select	56	P57 (SEG7)	O	FL Segment Data, P7
25	P02 MBRAT	O	MB87014 RAT	57	P56 (SEG6)	O	FL Segment Data, P8
26	P01 MBDATA	O	MB87014 DATA	58	P55 (SEG5)	O	FL Segment Data, P9
27	P00 MBCLK	O	MB87014 CLK	59	P54 (SEG4)	O	FL Segment Data, P10
28	SYNC	O	Not Used	60	P53 (SEG3)	O	FL Segment Data, P11
29	CM	I	0V	61	P52 (SEG2)	O	FL Segment Data, P12
30	P47	I	Key Input, KEY 8	62	P51 (SEG1)	O	FL Segment Data, P13
31	P46	I	Key Input, KEY 7	63	P50 (SEG0)	O	FL Segment Data, P14
32	P45	I	Key Input, KEY 6	64	Vpp	-	Power Supply -25V, VFTD

# SAA7345GP/M5 (DIGITAL DECODING IC WITH RAM)

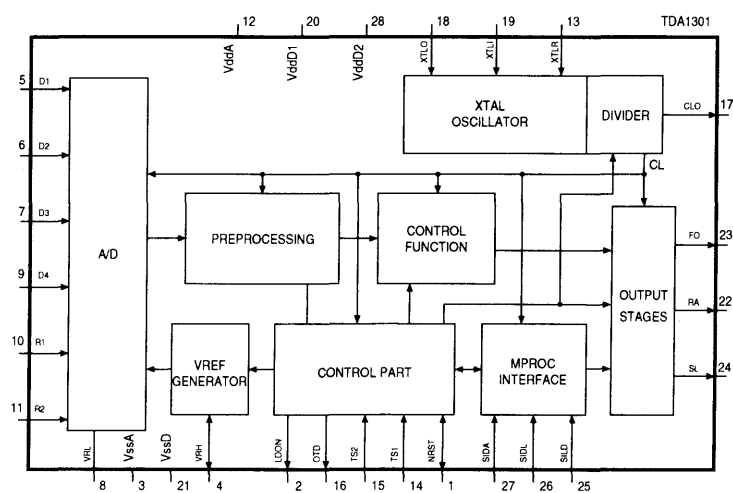


Pin Nbr	Pin Name	I/O	Function	Pin Nbr	Pin Name	I/O	Function
1	CL11	O	11.2896MHz clock output (3-state)	23	MOTO2	O	Motor output 2; versatile (3-state)
2	DOBM	O	Bi-phase mark output (externally buffered; 3-state)	24	V5	O	Versatile output pin
3	V1	I	Versatile input pin	25	V4	O	Versatile output pin
4	V2	I	Versatile input pin	26	V3	O	Versatile output pin (open-drain)
5	TEST2	I	Test input: this pin should be tied LOW	27	KILL	O	Kill output; programmable (open-drain)
6	TEST1	I	Test input; this pin should be tied LOW	28	PORE	I	Power-on reset enable input (active LOW)
7	ISLICE	O	Current feedback from data slicer	29	CLA	O	4.2336MHz microprocessor clock output
8	HFIN	I	Comparator signal input	30	DA	I/O	Interface data I/O line
9	HFREF	I	Comparator common-mode input	31	CL	I	Interface clock input line
10	IREF	-	Reference current pin (nominally VDD/2)	32	RAB	I	Interface R/W and acknowledge input
11	VDDA	-	Power supply (Analogue)	33	CFLG	O	Correction flag output (open-drain)
12	VSSA	-	GND (Analogue)	34	—	-	No internal connection
13	CRIN	I	Crystal/resonator input, 16.9344 MHz	35	—	-	
14	CROUT	O	Crystal/resonator output	36	—	-	
15	VDD1	-	Power supply 1 (Digital)	37	—	-	
16	VSS1	-	GND 1 (Digital)	38	—	-	
17	CL16	O	16.9344MHz system clock output	39	—	-	
18	MISC	O	General purpose DAC output (3-state)	40	—	-	
19	DATA	O	Serial data output (3-state)	41	—	-	
20	WCLK	O	Word clock output (3-state)	42	—	-	
21	SCLK	O	Serial bit clock output (3-state)	43	VSS2	-	GND 2 (Digital)
22	MOTO1	O	Motor output 1; versatile (3-state)	44	VDD2	-	Power supply 2 (Digital)

## TDA1549T/N1 (DAC)



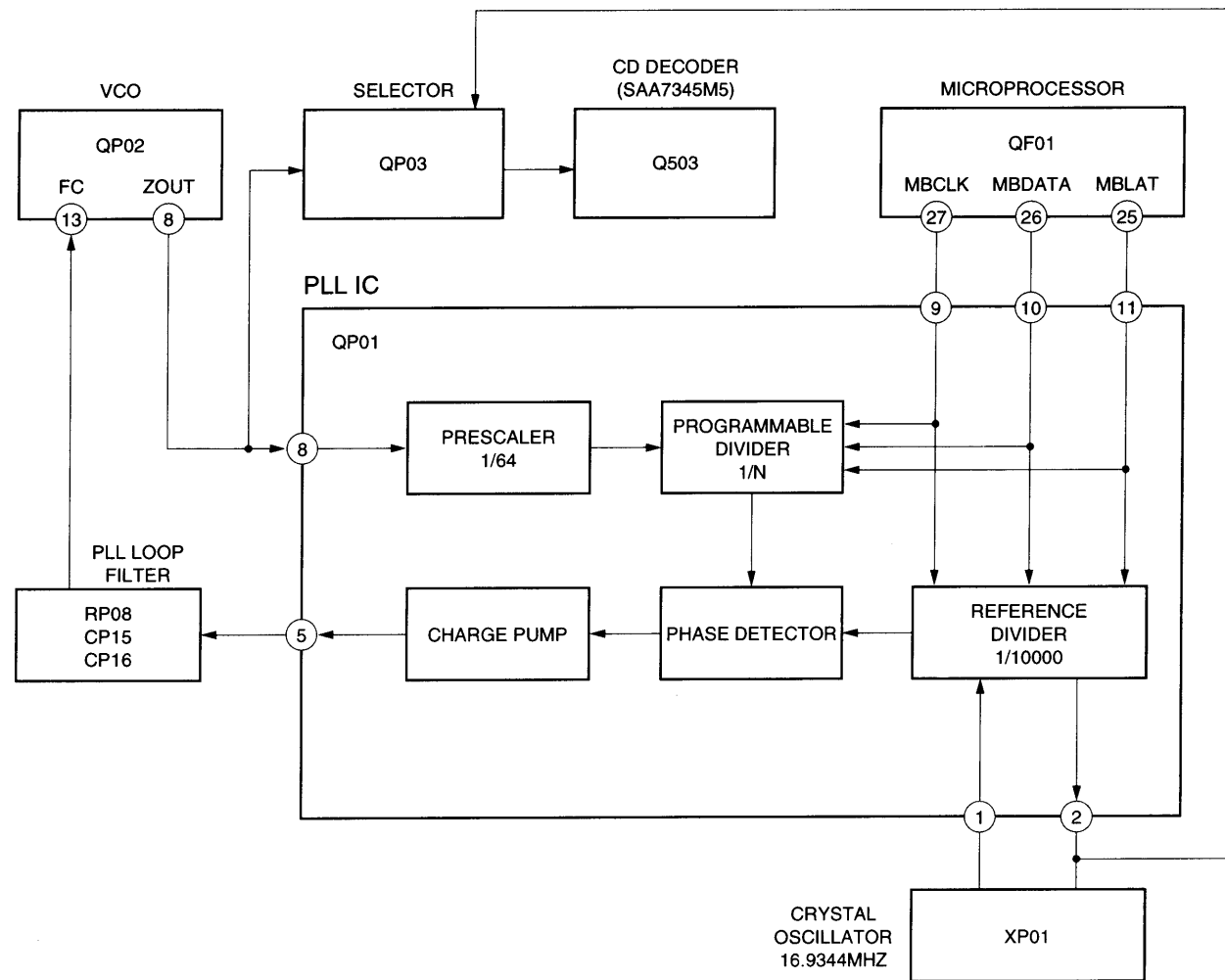
## TDA1301T (DIGITAL SERVO)





# 6. SERVICING HINTS (Pitch Control)

- The pitch of the PMD320 should be controlled by changing the clock frequency, which will be input to the CD Decoder Q503, with using PLL.
- PLL is composed of VCO QP02, Crystal Oscillator XP01, PLL IC QP01, PLL loop filter RP08, CP15 and CP16.
- At the beginning condition after switching ON, or when the 'CAL.' key is pressed, the clock data of the crystal oscillator will be input to the CD Decoder Q503 directly from Selector QP03.
- If either "PITCH +" key or "PITCH -" key is pressed, the clock data of VCO QP02 will be input to the CD Decoder Q503 directly from the Selector QP03.
- The PLL should be set into operation frequency by the microprocessor QF02 which located at pins 25, 26 and 27.



## Pitch Control

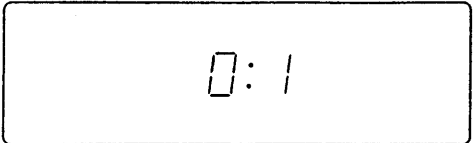
The CD playback speed and pitch can be varied by +/- 12%.

### Caution:

**When the CD playback speed is varied with the PMD320/PMD321 pitch control, the sample rate is varied and digital recording may not be possible.**

### Increasing up the CD playback speed.

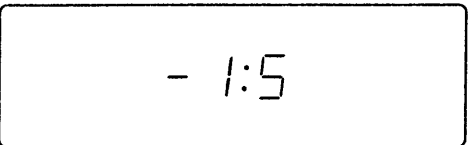
1. Press the **PITCH +** button. Display the current playback speed.  
(eg. the playback speed is +0.1%.)



2. Every time pressing the **PITCH +** button, the playback speed is 0.1% up.
3. After 1.5 seconds pressing the **PITCH +** button, the display returns to normal.

### Decreasing the CD playback speed.

1. Press the **PITCH -** button. Display the current playback speed.  
(eg. the playback speed is -1.5%.)



2. Every time pressing the **PITCH -** button, the playback speed is 0.1% down.
3. After 1.5 seconds pressing the **PITCH -** button, the display returns to normal.

### Returning to the normal speed

There are 2 ways to return the normal speed.

- a. Press the **CAL.** button.
  - b. Change the **PITCH +** or **PITCH -** button to set the playback speed to 0.0%.
- \* When the CD playback speed is varied (including the 0.0% speed), the indicator ":" on the display blinks. We recommend using the **CAL.** button to return to normal playback for higher clock accuracy.

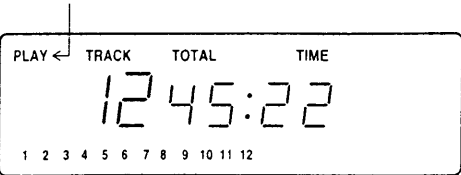
Digital audio equipment, such as a D/A converter, digital sound processor, etc., may not lock to the digital output signal, when you connect the digital output terminal to the digital audio equipment and change the pitch. Press the **CAL.** button to set the pitch to 0.0%.

## AUDIO CUE (only PMD321)

This function skips the silent passage at the beginning of a track and start playback just before the audio begins. Press the **CUE** button.

The "PLAY" indicator will blink, indicating the AUDIO CUE mode.

Blinking



You can now select a track with the PLAY and numeric (0-9) **◀** or **▶** buttons. The PMD321 will cue to the beginning of the audio of the selected track.

### Starting tracks

- Press the **PAUSE** button.

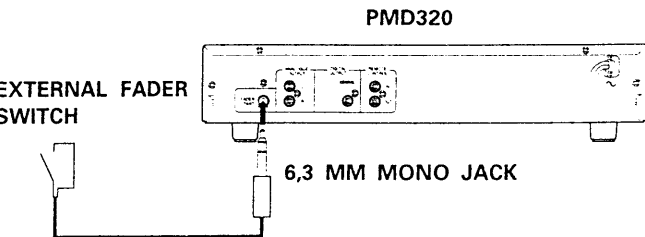
### Releasing the AUDIO CUE mode

- Press the **CUE** button.
- \* The sound detecting level is approx. -42.1 dB. Tracks which are not recorded over this level do not work correctly.
- \* The beginning of fade-in tracks may not be played back.

## FADER START REMOTE CONNECTION

The fader start connection will enable you to start and stop playback of a selected track by means of an external switch.

This can be the fader start switch, Built into a mixing desk.

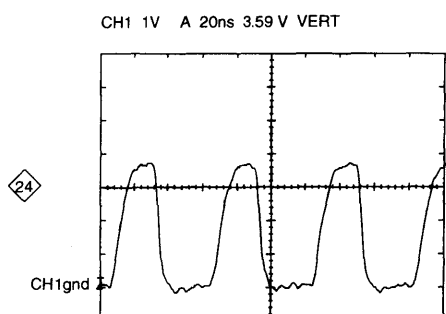
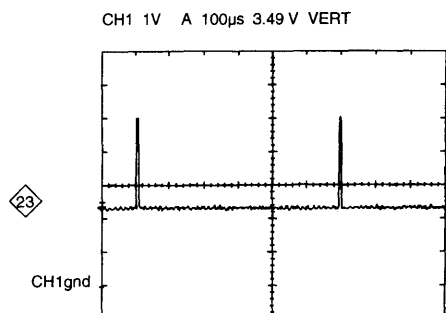
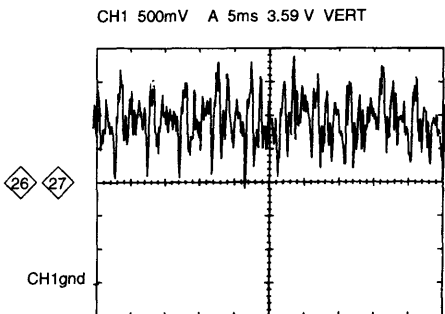
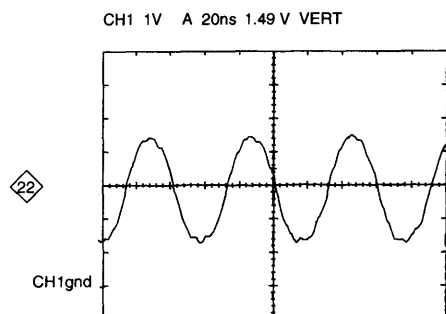
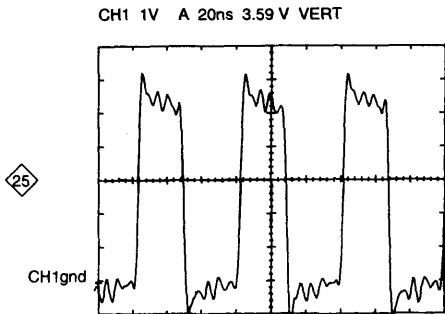
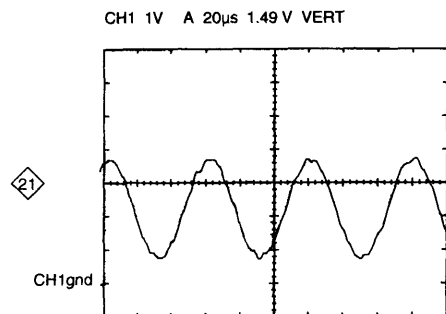
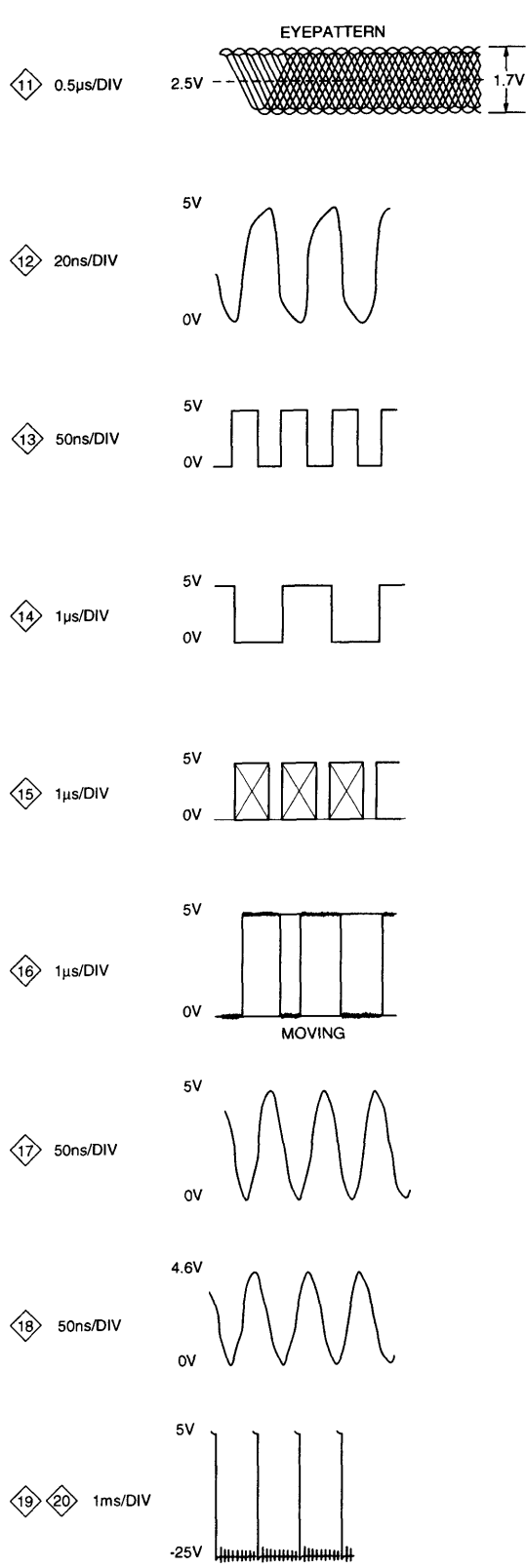
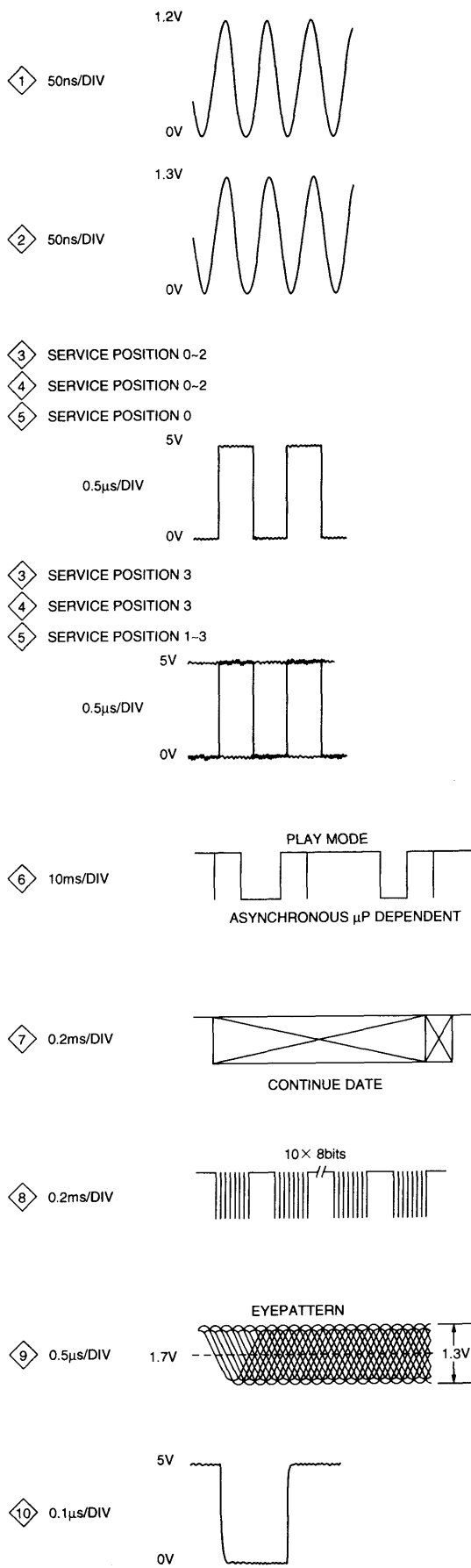


### OPERATION

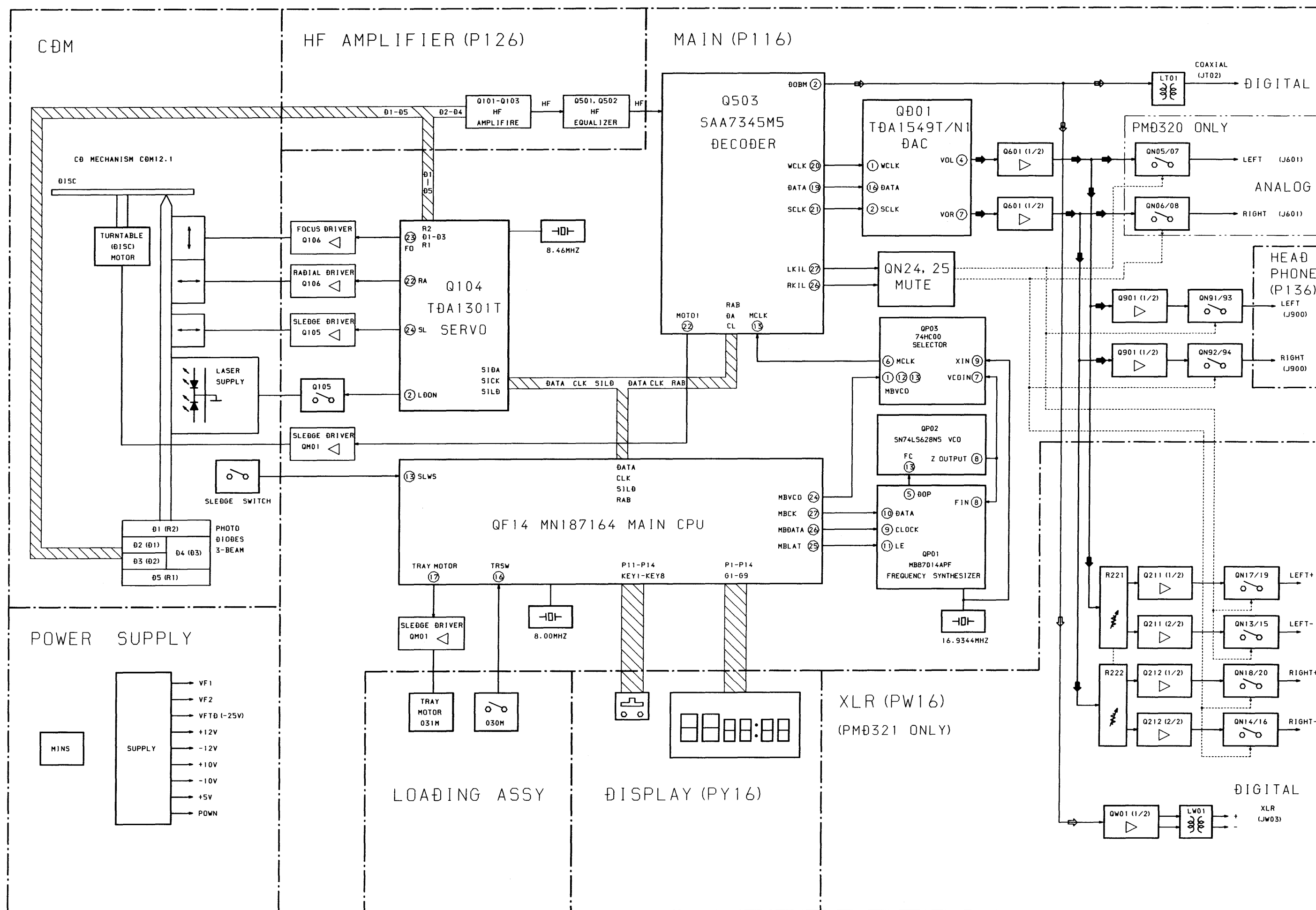
MODE	OPEN	CLOSE
PLAY	NO ACTION	GO TO PAUSE
PAUSE	START PLAYBACK	NO ACTION

Playback is started when opening the fader switch. When the fader switch is closed, the CD-player goes to pause mode.

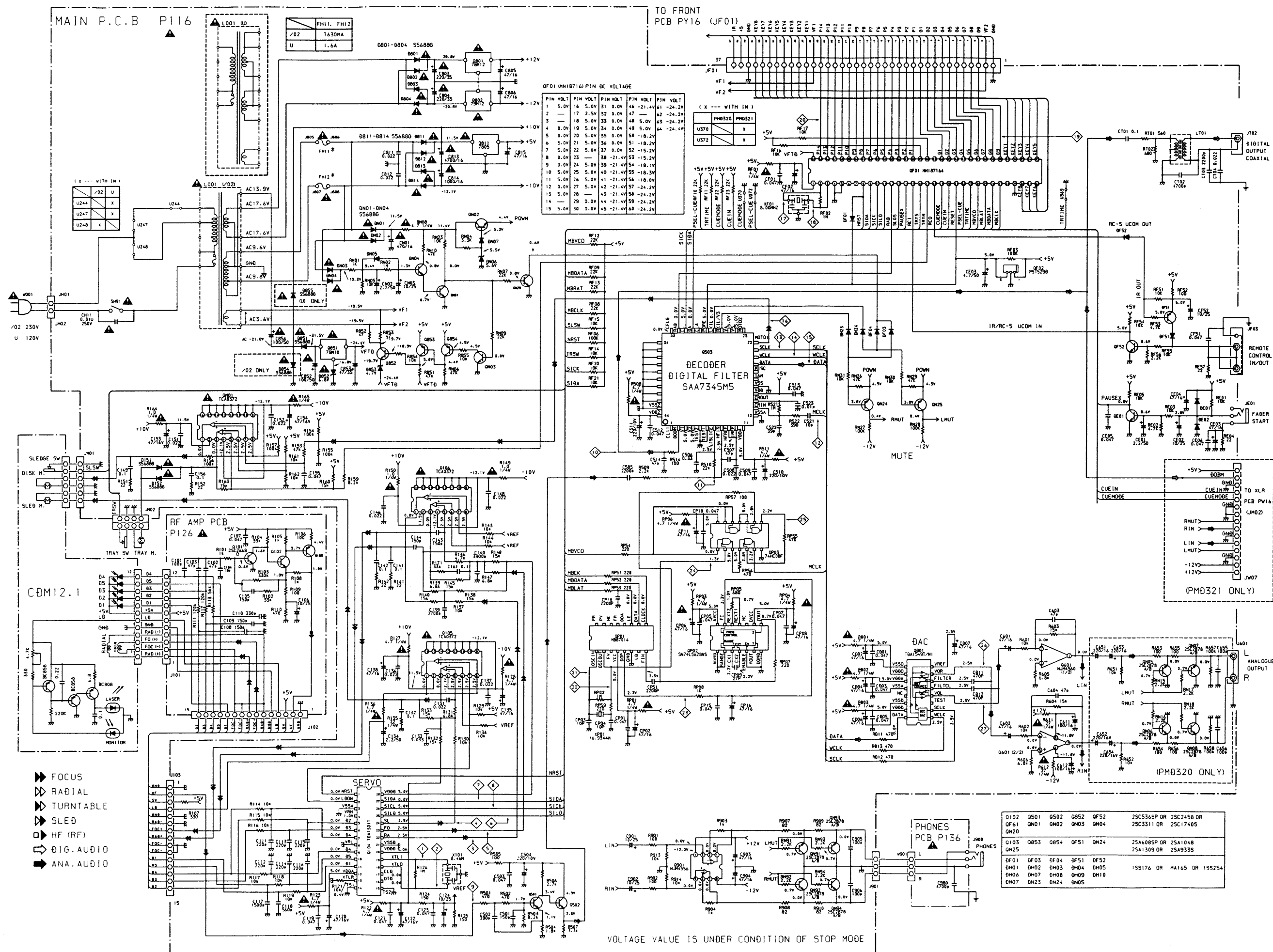
7. WAVE FORM



# 8. BLOCK DIAGRAM

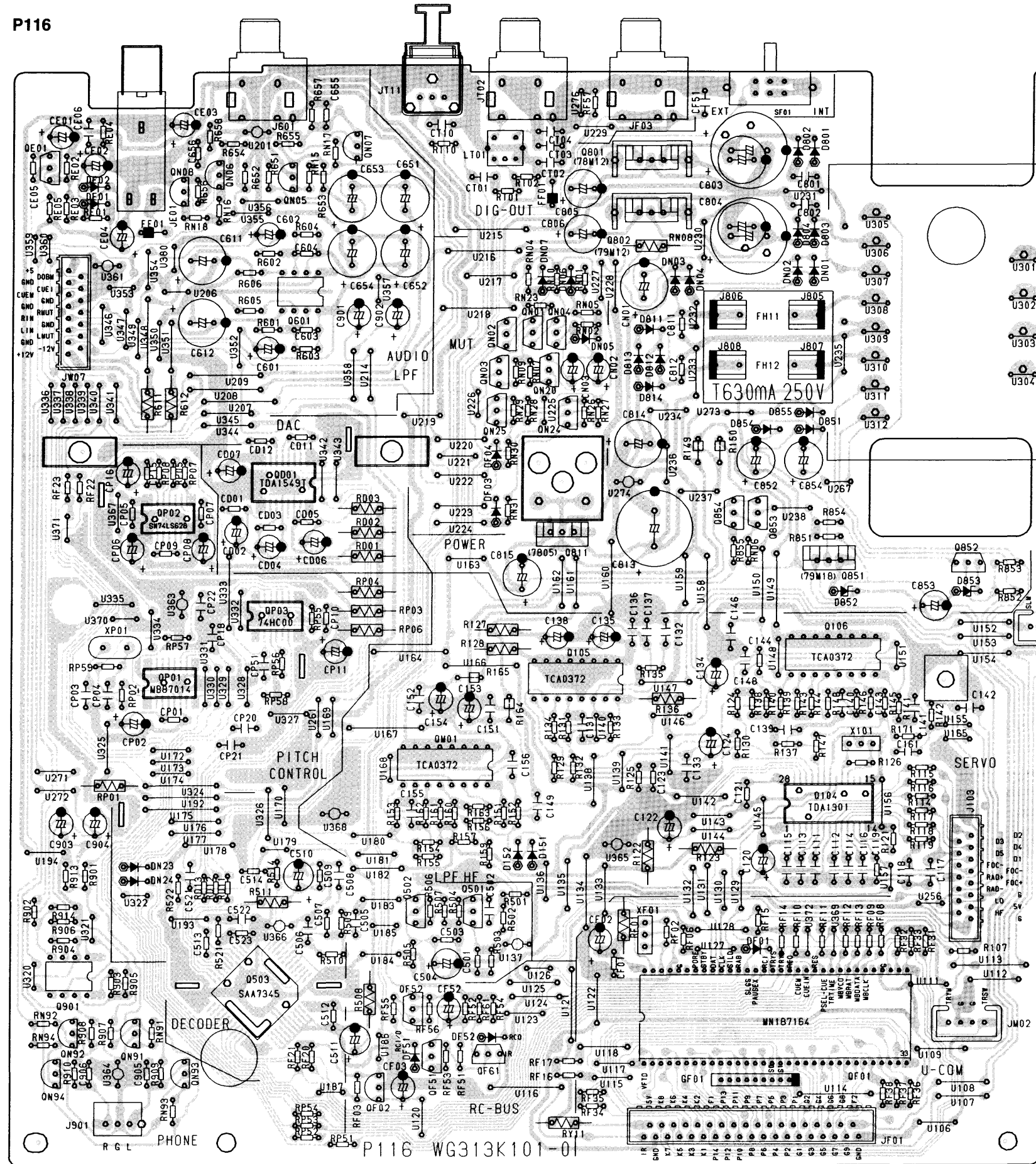


9. SCHEMATIC DIAGRAMS AND PARTS LOCATION (PATTERN SIDE)



QE01 QN08 QN06 QN05,Q601 QN07 QN01-QN04,QN25,QN20,QN24, Q801,Q802  
 QP01,QP02 QD01,QP03 QM01 Q811,Q105 Q854,Q853 Q106,Q851 Q852  
 QN94,Q901,QN92 QN91 QN93 Q503 QF02 QF52,Q502,QF51 Q501 QF61 QF01 Q104

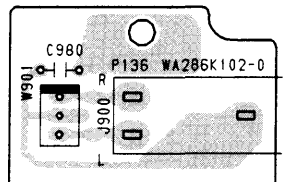
P116



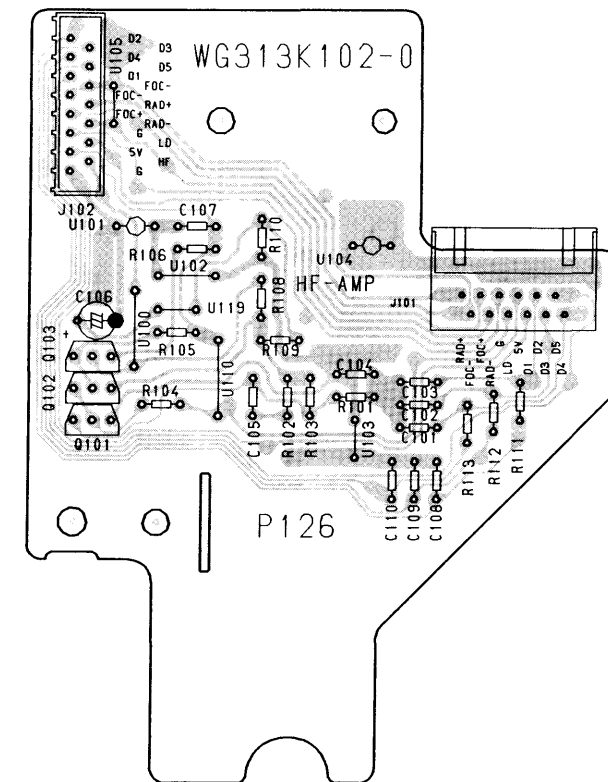
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE FUSE.

ATTENTION: AFIN D'ASSURER PERMANENTE UNE PROTECTION CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE FUSE.

P136

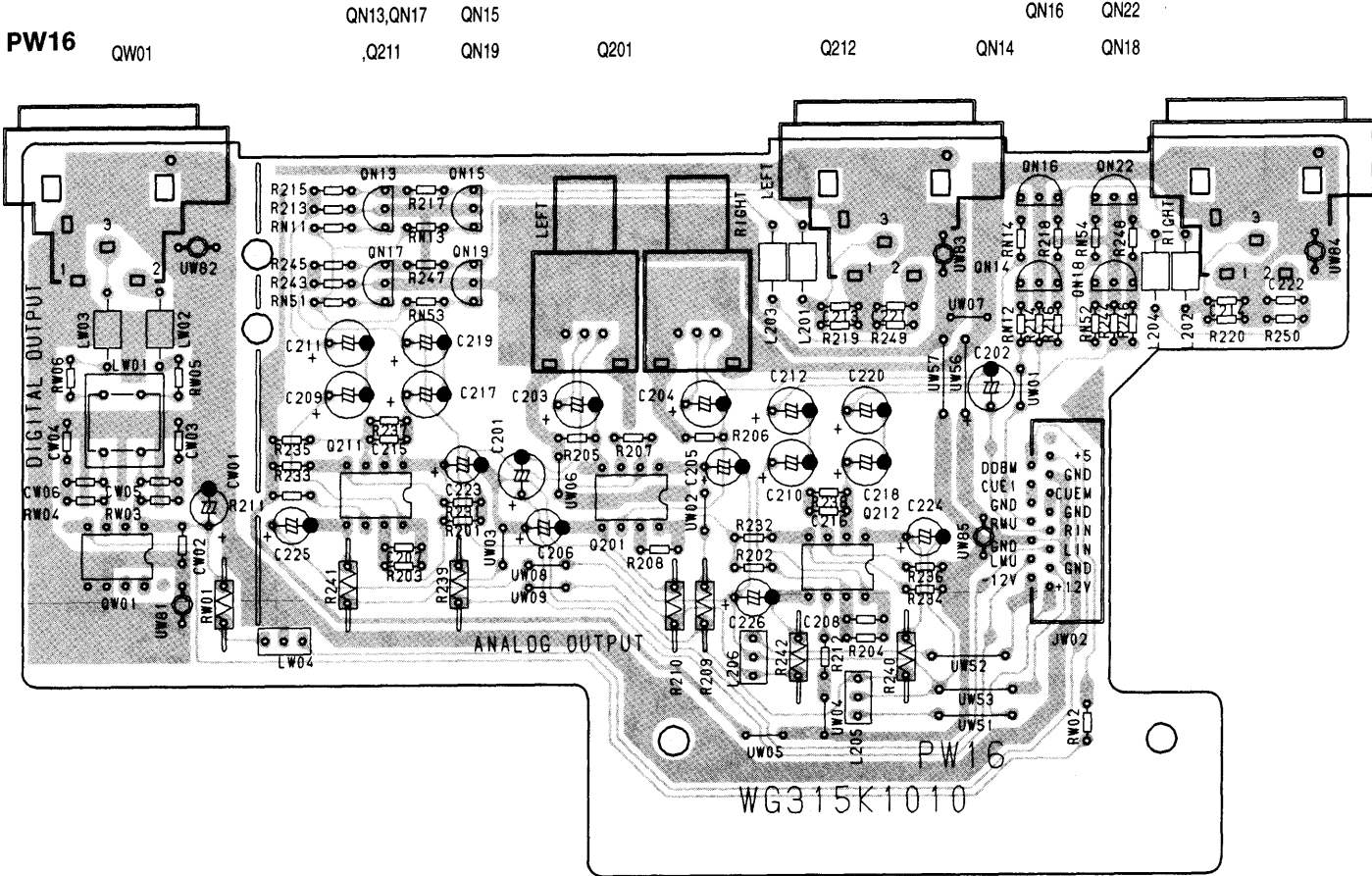
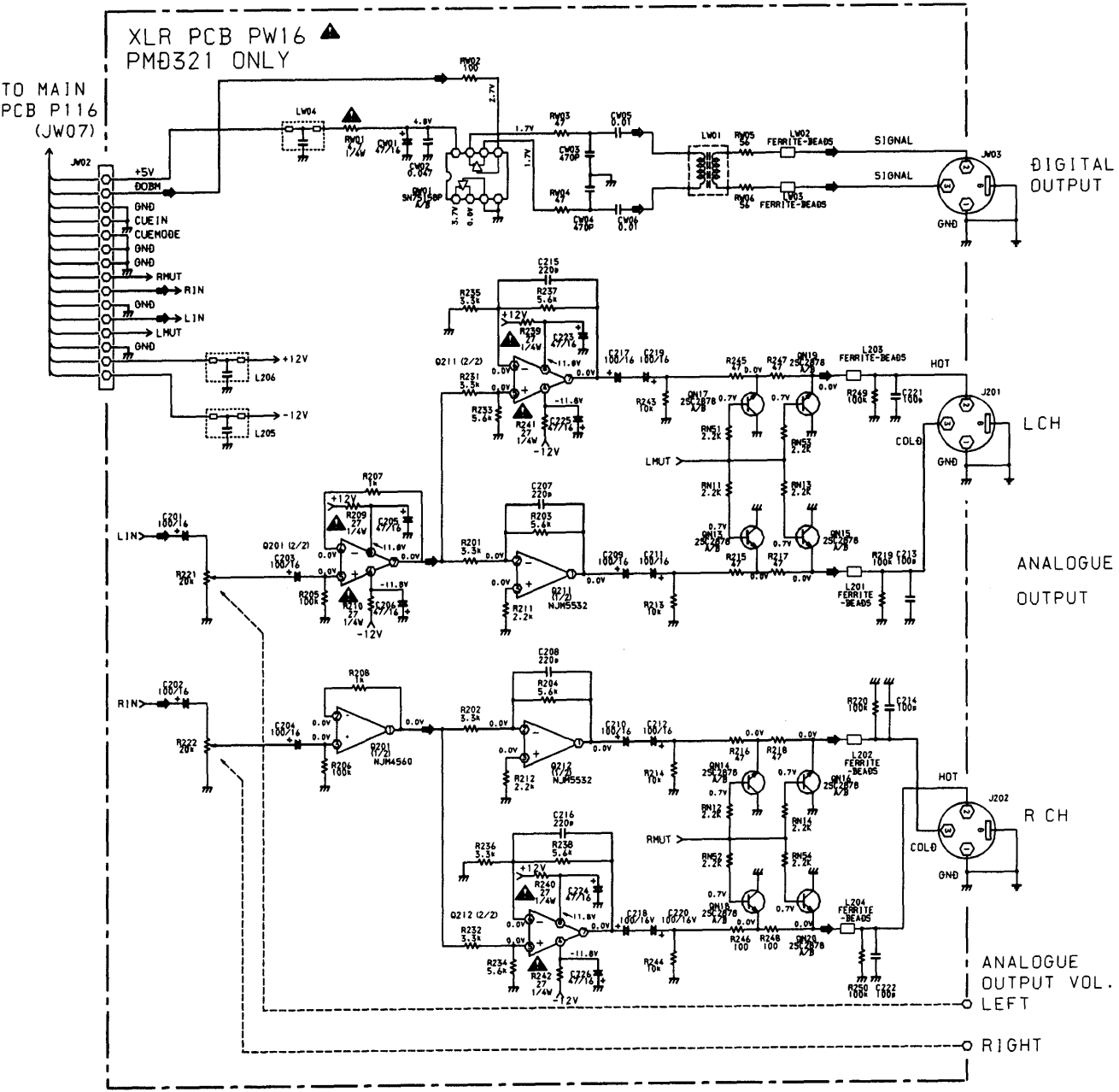


P126

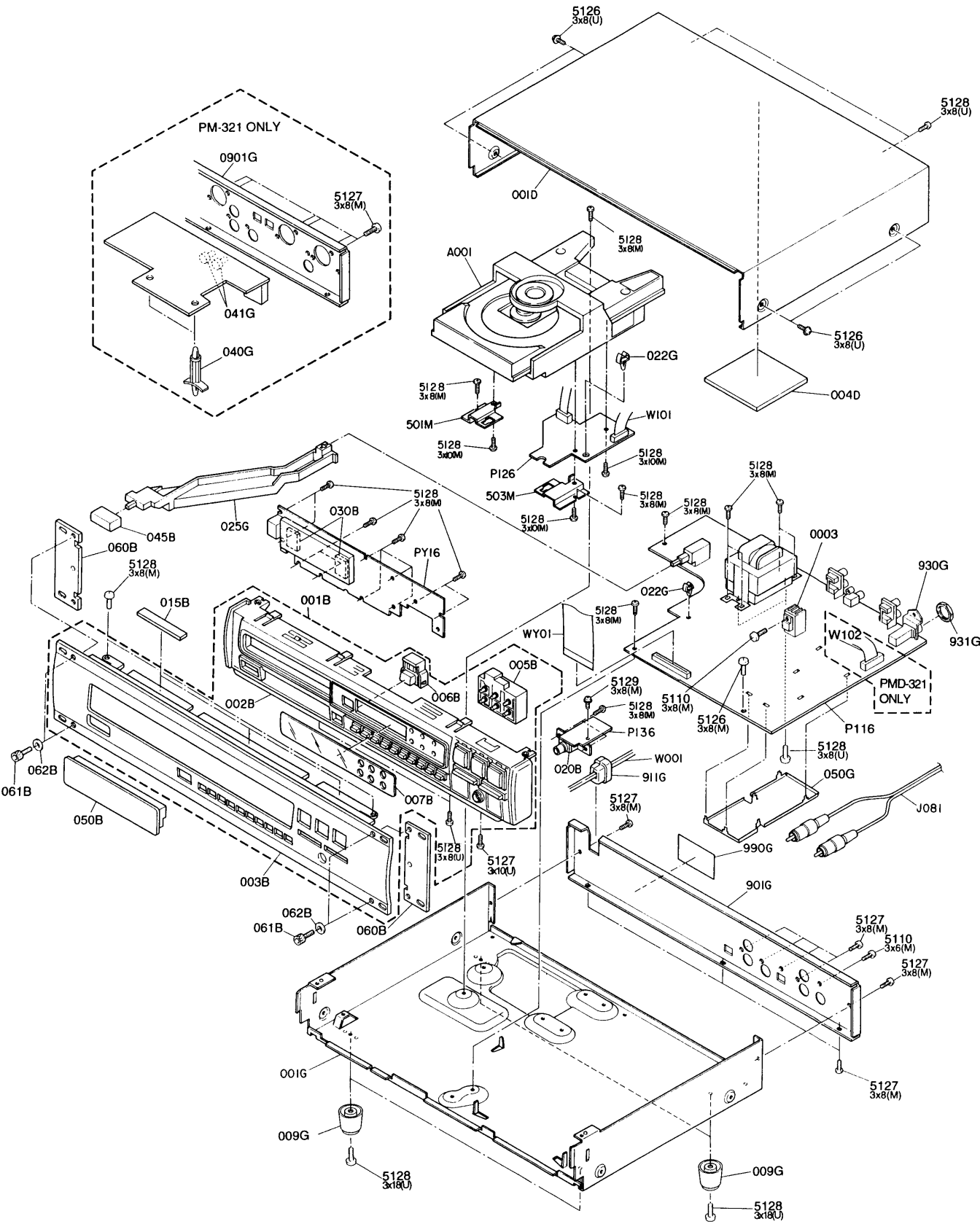








## 10. EXPLODED VIEW AND PARTS LIST



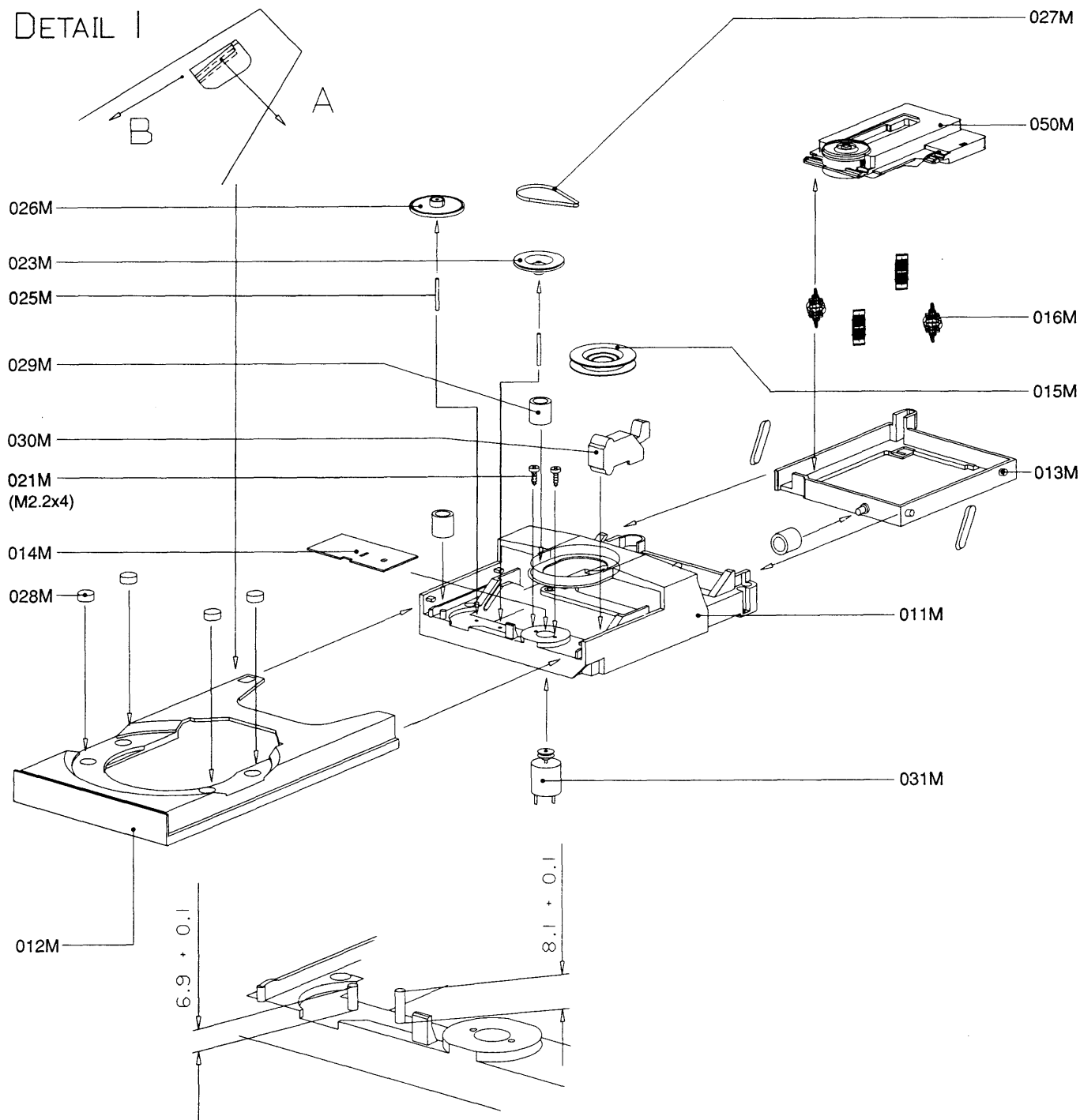
[VERS.:VERSION, U:U.S.A, F:Japan, K:Far East, /XX:Europe]

POS. NO.	VERS. COLOR	PART NO. ( For EUROPE )	DESCRIPTION	PART NO. ( For U / K / F )
002B	/02		CHASSIS, FRONT PL	285K105210
002B	U		CHASSIS, FRONT PL	285K105020
003B			FRONT PANEL, AL [PMD320]	313K248010
003B			FRONT PANEL, AL [PMD321]	315K248010
005B		4822 410 62898	BUTTON, D3 GOLD HOT STAMPED	285K270020
006B	U		BUTTON, OPEN/CLOSE	285K270030
006B	/02		BUTTON, OPEN/CLOSE	285K270230
007B			WINDOW [PMD320]	313K158010
045B		4822 410 62744	BUTTON, POWER	285K270010
050B		4822 454 30491	ESCUTCHEON, DISC TRAY FRONT	285K063010
060B			BRACKET, RACK MOUNT	313K160010
061B			H.S. HEAD BOLT	52730408U0
062B		4822 532 11287	WASHER	59046502G0
001D			LID, TOP COVER	285K257010
009G		4822 462 41771	LEG (BLACK MOLD)	229K057010
025G		4822 403 70989	LINK, POWER SW.	285K121010
911G		4822 532 60948	BUSHING, A/C CORD BUSH	450H259010
▲W001	U		A.C.POWER CORD	YC01800330
▲W001	/02	4822 321 10428	A.C.POWER CORD	YC01800340
W102		4822 321 63052	JUMPER LEAD SUMI CARD 15P 60MM [PMD321]	YU15060520
WY01	/02		JUMPER LEAD SUMI CARD 37P 120MM	YU37120500
WY01	U		JUMPER LEAD SUMI CARD 37P 120MM	YU37120520
001T	U		<b>PACKING</b> USER MANUAL [PMD320/321]	313K851250
001T	/02		USER MANUAL [PMD320/321]	313K851310
J081		4822 321 21438	CONNECTIVE CORD, RCA [PMD320]	ZD01000330



# LOADER

## DETAIL I



[VERS.:VERSION, U:U.S.A, F:Japan, K:Far East, /XX:Europe]

POS. NO.	VERS. COLOR	PART NO. ( For EUROPE )	DESCRIPTION	PART NO. ( For U / K / F )
011M		4822 444 50678	CHASSIS	271K105030
012M		4822 444 50679	TRAY, SLIDE	271K163010
013M		4822 464 50895	SUBCHASSIS	271K105040
015M		4822 402 61412	CLAMPER ASSY	271K005010
016M		4822 325 50215	BUFFER, SUSPENSION	271K056010
021M		4822 502 12001	SCREW	271K010010
023M		4822 528 81465	PULLEY	271K262010
026M		4822 528 81464	GEAR, DRIVE PINION	271K058010
027M		4822 358 31168	BELT, DRIVE	271K264010
028M		4822 325 80511	BUFFER, ORNAMENTAL TULE	271K056030
029M		4822 325 60379	BUFFER, DAMPING GROMMET	271K056020
030M		4822 276 13222	MINI SW, SINMEI QAS12299	*SM000300R
031M		4822 361 21492	D.C.MOTOR	*MM000660R
050M		4822 691 30278	MECHANISM, CDM12.1	271K304560

## 11. ELECTRICAL PARTS LIST

### ASSIGNMENT OF COMMON PARTS CODES.

#### RESISTOR

**R\*\*\*** : (1) GD05 x x x 140, Carbon film fixed resistor,  $\pm 5\%$  1/4W  
**R\*\*\*** : (2) GD05 x x x 160, Carbon film fixed resistor,  $\pm 5\%$  1/6W

① ——— Resistance value

Examples ;

① Resistance value			
0.1 $\Omega$ .....001	10 $\Omega$ .....100	1 k $\Omega$ .....102	100 k $\Omega$ .....104
0.5 $\Omega$ .....005	18 $\Omega$ .....180	2.7 k $\Omega$ .....272	680 k $\Omega$ .....684
1 $\Omega$ .....010	100 $\Omega$ .....101	10 k $\Omega$ .....103	1 M $\Omega$ .....105
6.8 $\Omega$ .....068	390 $\Omega$ .....391	22 k $\Omega$ .....223	4.7 M $\Omega$ .....475

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

**C\*\*\*** : CERAMIC CAP.

(1) DD1x x x x 370, Ceramic capacitor  
 Disc type  
 Temp. coeff. P350 ~ N1000, 50V

① ——— Capacity value  
 ② ——— Tolerance

Examples ;

① Tolerance (Capacity deviation)	
$\pm 0.25\text{pF}$ ..... 0	
$\pm 0.5\text{pF}$ ..... 1	
$\pm 5\%$ ..... 5	

\*Tolerance of COMMON PARTS handled here are as follows :

0.5pF ~ 5pF	$\pm 0.25\text{pF}$
6pF ~ 10pF	$\pm 0.5\text{pF}$
12pF ~ 560pF	$\pm 5\%$

② Capacity value		
0.5 pF .....005	3 pF .....030	100 pF .....101
1 pF .....010	10 pF .....100	220 pF .....221
1.5 pF .....015	47 pF .....470	560 pF .....561

**C\*\*\*** : CERAMIC CAP.

(1) DK16 x x x 300, High dielectric constant ceramic capacitor  
 Disc type  
 Temp. chara. 2B4, 50V

① ——— Capacity value

Examples ;

① Capacity value		
100 pF .....101	1000 pF .....102	10000 pF .....103
470 pF .....471	2200 pF .....222	

**C\*\*\*** : ELECTROLY CAP. (  $\neq$  ), FILM CAP. (  $\neq$  )

(1) EA x x x x x 10, Electrolytic capacitor  
 One-way lead type, Tolerance  $\pm 20\%$

① ——— Working voltage  
 ② ——— Capacity value

Examples ;

① Capacity value		
0.1 $\mu\text{F}$ .....104	4.7 $\mu\text{F}$ .....475	100 $\mu\text{F}$ .....107
0.33 $\mu\text{F}$ .....334	10 $\mu\text{F}$ .....106	330 $\mu\text{F}$ .....337
1 $\mu\text{F}$ .....105	22 $\mu\text{F}$ .....226	1100 $\mu\text{F}$ .....118
		2200 $\mu\text{F}$ .....228

② Working voltage	
6.3 V .....006	25 V .....025
10 V .....010	35 V .....035
16 V .....016	50 V .....050

(2) DF15 x x x 350 ——— Plastic film capacitor  
 DF15 x x x 310 ——— One-way type, Mylar  $\pm 5\%$  50V  
 DF16 x x x 310 ——— Plastic film capacitor  
 One-way type, Mylar  $\pm 10\%$  50V

① ——— Capacity value

Examples ;

① Capacity value		
0.001 $\mu\text{F}$ (1000pF) .....102	0.1 $\mu\text{F}$ .....104	
0.0018 $\mu\text{F}$ .....182	0.56 $\mu\text{F}$ .....564	
0.01 $\mu\text{F}$ .....103	1 $\mu\text{F}$ .....105	
0.015 $\mu\text{F}$ .....153		

**NOTE** : 1) The above CODES (**R\*\*\***, **R\*\*\***, **C\*\*\***, **C\*\*\*** and **C\*\*\***) are omitted on the schematic diagram in some case.  
 2) On the occasion, be confirmed common parts on the parts list.  
 3) Refer to "Common Parts List" for the other common parts ( **R105**, **DD4**, **DK4** ).

### NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors aer as follows :

1. KOA Corporation

Part No.	Type No.	Description
NH05 x x x 140	RF25S x x x x $\Omega$ J	( $\pm 5\%$ 1/4W )
NH05 x x x 120	RF50S x x x x $\Omega$ J	( $\pm 5\%$ 1/2W )
NH85 x x x 110	RF73B2A x x x x $\Omega$ J	( $\pm 5\%$ 1/10W )
NH85 x x x 140	RF73B2E x x x x $\Omega$ J	( $\pm 5\%$ 1/4W )

\* Resistance value (0.1 - 10k $\Omega$ )

2. Matsushita Electronic Components Co., Ltd

Part No.	Type No.	Description
NF05 x x x 140	ERD-2FCJ x x x	( $\pm 5\%$ 1/4W )
RF05 x x x 140		
NF02 x x x 140	ERD-2FCG x x x	( $\pm 2\%$ 1/4W )
RF02 x x x 140		

\* Resistance value

Examples :

* Resistance value			
0.1 $\Omega$ .....001	10 $\Omega$ .....100	1 k $\Omega$ .....102	100 k $\Omega$ .....104
0.5 $\Omega$ .....005	18 $\Omega$ .....180	2.7 k $\Omega$ .....272	680 k $\Omega$ .....684
1 $\Omega$ .....010	100 $\Omega$ .....101	10 k $\Omega$ .....103	1 M $\Omega$ .....105
6.8 $\Omega$ .....068	390 $\Omega$ .....391	22 k $\Omega$ .....223	4.7 M $\Omega$ .....475

### ABBREVIATION AND MARKS

1	ANT. : ANTENNA	2	BATT. : BATTERY
3	CAP. : CAPACITOR	4	CER. : CERAMIC
5	CONN. : CONNECTING	6	DIG. : DIGITAL
7	HP : HEADPHONE	8	MIC. : MICROPHONE
9	$\mu$ -PRO : MICROPROCESSOR	10	REC. : RECORDING
11	RES. : RESISTOR	12	SPK : SPEAKER
13	SW : SWITCH	14	TRANSF. : TRANSFORMER
15	TRIM. : TRIMMING	16	TRS. : TRANSISTOR
17	VAR. : VARIABLE	18	X'TAL : CRYSTAL
19		20	
21		22	
23		24	
25		26	
27		28	
29		30	

### NOTE ON SAFETY :

Symbol **▲** Fire or electrical shock hazard. Only original parts should be used to replace 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。

POS. NO.	VERS. COLOR	PART NO. ( For EUROPE )	DESCRIPTION	PART NO. ( For U / K / F )	POS. NO.	VERS. COLOR	PART NO. ( For EUROPE )	DESCRIPTION	PART NO. ( For U / K / F )
			<b>PW16-XLR CIRCUIT BOARD [PMD321 ONLY]</b>					<b>PY16-FRONT CIRCUIT BOARD</b>	
CW01		4822 124 41539	ELECT 47 $\mu$ F 16V RA-2	OA47601620	CY01			<b>PY16-CAPACITOR</b>	
CW02			CER. 0.047 $\mu$ F +80%-20%	DA17473110				CER. 0.047 $\mu$ F +80%-20%	DA17473110
CW03			CER. 470 PF $\pm$ 10%	DA16471110				<b>PY16-RESISTOR (COMMON)</b>	
CW04			CER. 470 PF $\pm$ 10%	DA16471110				CARBON FILM FIXED RESISTOR,	
CW05			CER. 0.01 $\mu$ F $\pm$ 20%	DA17103110				$\pm$ 5% 1/6W:	
CW06			CER. 0.01 $\mu$ F $\pm$ 20%	DA17103110				PY01	
C201		4822 124 90354	ELECT 100 $\mu$ F 16V RA-2	OA10701620				<b>PY16-SEMICONDUCTORS</b>	
C204									
C205		4822 124 41539	ELECT 47 $\mu$ F 16V RA-2	OA47601620	DY01		4822 130 32362	DIODE, 1SS176,MA165,1SS254	HD20002000
C206		4822 124 41539	ELECT 47 $\mu$ F 16V RA-2	OA47601620				30V 0.1A	
C207			CER. 270 PF $\pm$ 10%	DA16221110	DY04				
C208			CER. 270 PF $\pm$ 10%	DA16221110				<b>PY16-MISCELLANEOUS</b>	
C209		4822 124 90354	ELECT 100 $\mu$ F 16V RA-2	OA10701620				JACK, 37 PIN FFC (L-TYPE)	YJ06011470
C212									
C213			CER. 100 PF $\pm$ 10%	DA16101110	JY01				
C214			CER. 100 PF $\pm$ 10%	DA16101110					
C215			CER. 270 PF $\pm$ 10%	DA16221110	SY01		4822 276 20508	PUSH SW, TACT SW	SP01011280
C216			CER. 270 PF $\pm$ 10%	DA16221110					
C217		4822 124 90354	ELECT 100 $\mu$ F 16V RA-2	OA10701620	SY14				
C220					SY15		4822 276 13296	PUSH SW, TACT SW (100GF)	SP01011880
C221			CER. 100 PF $\pm$ 10%	DA16101110					
C222			CER. 100 PF $\pm$ 10%	DA16101110	SY24				
C223		4822 124 41539	ELECT 47 $\mu$ F 16V RA-2	OA47601620			4822 130 91287	DISPLAY UNIT, 9MT131GK FTD	HQ3091441
C226									
▲RW01		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140				<b>P116-MAIN CIRCUIT BOARD</b>	
▲R209		4822 052 10279	FUSE 27 $\Omega$ $\pm$ 2% 1/4W	NF02270140				<b>P116-CAPACITORS</b>	
▲R210		4822 052 10279	FUSE 27 $\Omega$ $\pm$ 2% 1/4W	NF02270140	CD01		4822 124 41539	CER. 0.047 $\mu$ F +80%-20%	DA17473110
R221		4822 101 30882	VARIABLE RESIST RK09L1120 20K $\Omega$	RB02030350	CD02			ELECT 47 $\mu$ F 10V	OA47601620
R222		4822 101 30882	VARIABLE RESIST RK09L1120 20K $\Omega$	RB02030350	CD03		4822 124 41539	CER. 0.047 $\mu$ F +80%-20%	DA17473110
▲R239		4822 111 31049	FUSE 27 $\Omega$ $\pm$ 2% 1/4W	NF02270140	CD04			ELECT 47 $\mu$ F 16V	OA47601620
▲R242					CD05		4822 124 41539	CER. 0.047 $\mu$ F +80%-20%	DA17473110
					CD06		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620
					CD07		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620
					CD11			FILM 470 PF $\pm$ 5% 50V	DF15471350
					CD12			FILM 470 PF $\pm$ 5% 50V	DF15471350
					CE01		4822 124 90357	ELECT 2.2 $\mu$ F 50V	OA22505020
					CE02		4822 124 41534	ELECT 10 $\mu$ F 25V	OA10602520
					CE03		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620
					CE04		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620
					CE05			CER. 0.047 $\mu$ F +80%-20%	DA17473110
					CE06			CER. 0.047 $\mu$ F +80%-20%	DA17473110
					CF01			CER. 0.047 $\mu$ F +80%-20%	DA17473110
					CF02		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620
					CF03		4822 124 22274	ELECT 4.7 $\mu$ F 50V	OA47505020
					CF51			CER. 0.047 $\mu$ F +80%-20%	DA17473110
					CF52		4822 124 41534	ELECT 10 $\mu$ F 25V	OA10602520
					▲CH11			FILM 0.01 $\mu$ F $\pm$ 20% 250V	DF77103500
					▲CN01		4822 124 22277	ELECT 470 $\mu$ F 16V	OA47701620
					CN02		4822 124 90357	ELECT 2.2 $\mu$ F 50V	OA22505020
					CN03		4822 124 41534	ELECT 10 $\mu$ F 25V	OA10602520
					CP01			CER. 0.047 $\mu$ F +80%-20%	DA17473110
					CP02		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620
					CP03			CER. 10 PF $\pm$ 0.5PF	DD11100300
					CP04			CER. 10 PF $\pm$ 0.5PF	DD11100300
					CP05			CER. 0.047 $\mu$ F +80%-20%	DA17473110
					CP06		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620
					CP07			CER. 0.047 $\mu$ F +80%-20%	DA17473110
					CP08		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620
					CP09			CER. 27 PF $\pm$ 5%	DA15270110
					CP10			CER. 0.047 $\mu$ F +80%-20%	DA17473110
					CP11		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620
					CP15			CER. 0.047 $\mu$ F +80%-20%	DA17473110
					CP16		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620
					CT02			CER. 4700 PF +80%-20%	DK18472310
					CT04			CER. 0.022 $\mu$ F +80%-20%	DK18223310
					C111				
								CER. 220 PF $\pm$ 5%	DD15221300
					C116				
					C119			CER. 0.047 $\mu$ F +80%-20%	DA17473110
					C120		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)	POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
C121			CER. 0.047 $\mu$ F +80%-20%	DA17473110	C***			PLASTIC FILM CAPACITOR	
C122		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620				ONE WAY TYPE, MYLAR $\pm$ 5% 50V	
C123			CER. 0.047 $\mu$ F +80%-20%	DA17473110				CT101, C131-C133, C139-C142, C149,	
C124		4822 124 41534	ELECT 10 $\mu$ F 25V	OA10602520				C155, C156, C161, C506	
C134		4822 124 90357	ELECT 2.2 $\mu$ F 50V	OA22505020				<b>P116-RESISTORS</b>	
C135		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620	RD01				
C136			CER. 0.022 $\mu$ F +80%-20%	DK18223310	S		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C137			CER. 0.022 $\mu$ F +80%-20%	DK18223310	RD03				
C138		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620	RF01		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C143			CER. 150 PF $\pm$ 10%	DA16151110	RN08		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C144			CER. 150 PF $\pm$ 10%	DA16151110	RP01		4322 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C146			CER. 0.022 $\mu$ F +80%-20%	DK18223310	RP03		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C148			CER. 0.022 $\mu$ F +80%-20%	DK18223310	RP04		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C151			CER. 0.022 $\mu$ F +80%-20%	DK18223310	RP06		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C152			CER. 0.022 $\mu$ F +80%-20%	DK18223310	R122		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C153		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620	R123		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C154		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620	R127		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C501			CER. 150 PF $\pm$ 10%	DA16151110	R128		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C503			CER. 0.047 $\mu$ F +80%-20%	DA17473110	R136		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C504		4822 124 90363	ELECT 220 $\mu$ F 10V	OA22701020	R149		4822 116 60307	FUSE 1 $\Omega$ $\pm$ 5% 1/4W	NH05010140
C507			CER. 47 PF $\pm$ 5%	DA15470110	R150		4822 116 60307	FUSE 1 $\Omega$ $\pm$ 5% 1/4W	NH05010140
C508			CER. 0.022 $\mu$ F +80%-20%	DK18223310	R164		4822 116 60307	FUSE 1 $\Omega$ $\pm$ 5% 1/4W	NH05010140
C509			CER. 0.047 $\mu$ F +80%-20%	DA17473110	R165		4822 116 60307	FUSE 1 $\Omega$ $\pm$ 5% 1/4W	NH05010140
C510		4822 124 90363	ELECT 220 $\mu$ F 10V	OA22701020	R508		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C511		4822 124 90363	ELECT 220 $\mu$ F 10V	OA22701020	R511		4822 111 90967	FUSE 4.7 $\Omega$ $\pm$ 5% 1/4W	NF05047140
C512			CER. 0.047 $\mu$ F +80%-20%	DA17473110	R611		4822 052 10279	FUSE 27 $\Omega$ $\pm$ 2% 1/4W	NF02270140
C513			CER. 0.047 $\mu$ F +80%-20%	DA17473110	R612		4822 052 10279	FUSE 27 $\Omega$ $\pm$ 2% 1/4W	NF02270140
C514			CER. 47 PF $\pm$ 5%	DA15470110				<b>P116-RESISTORS (COMMON)</b>	
C521			CER. 10 PF $\pm$ 5%	DD11100300				CARBON FILM FIXED RESISTOR,	
C522			CER. 39 PF $\pm$ 5% [PMD320]	DD15390300				$\pm$ 5% 1/6W:	
C522			CER. 10 PF $\pm$ 5% [PMD321]	DD11100300				RD11-RD13, RE01-RE05, RF02, RF03,	
C523			CER. 0.01 $\mu$ F +80%-20%	DA17103110				RF06, RF08-RF17, RF20-RF23,	
C601		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620				RF51-RF57, RN01, RN02, RN04-RN07,	
C602		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620				RN09, RN10, RN15-RN18 [PMD320],	
C603			CER. 47 PF $\pm$ 5%	DA15470110				RN23, RN26-RN31, RN91-RN94,	
C604			CER. 47 PF $\pm$ 5%	DA15470110				RP02, RP05, RP07, RP08, RP51-RP57,	
C611		4822 124 90354	ELECT 100 $\mu$ F 16V	OA10701620				RP59, RT01, RT02, R107, R114-R119,	
C612		4822 124 90354	ELECT 100 $\mu$ F 16V	OA10701620				R121, R124-R126, R129-R135,	
C651		4822 124 90364	ELECT 220 $\mu$ F 16V [PMD320]	OA22701620				R137-R148, R510, R514, R151-R163,	
C652		4822 124 90364	ELECT 220 $\mu$ F 16V [PMD320]	OA22701620				R171, R501-R507, R509, R521, R522,	
C653		4822 124 90364	ELECT 220 $\mu$ F 16V [PMD320]	OA22701620				R601-R606, R651-R658 [PMD320],	
C654		4822 124 90364	ELECT 220 $\mu$ F 16V [PMD320]	OA22701620				R851-R855, R901-R904, R907-R919,	
C655			CER. 100 PF $\pm$ 10% [PMD320]	DA16101110				R913, R914	
C656			CER. 100 PF $\pm$ 10% [PMD320]	DA16101110				<b>P116-SEMICONDUCTORS</b>	
C803		4822 124 41538	ELECT 220 $\mu$ F 35V	OA22703520	DE01		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C804		4822 124 41538	ELECT 220 $\mu$ F 35V	OA22703520	DE02		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C805		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620	DF01		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C806		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620	DF03		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C812			CER. 0.047 $\mu$ F +80%-20%	DA17473110	DF04		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C813		4822 124 80582	ELECT 47 $\mu$ F 16V	OA47601620	DF51		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C814		4822 124 22722	ELECT 1000 $\mu$ F 16V	OA10801620	DF52		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C815		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620				DIODE, S5688G VRM=400V IO=1A	HD20029050
C852		4822 124 90355	ELECT 100 $\mu$ F 50V	OA10705020	DN01		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C853			ELECT 47 $\mu$ F 35V	OA47603520	DN04		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C854		4822 124 90355	ELECT 100 $\mu$ F 50V	OA10705020	DN05		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C901		4822 124 41534	ELECT 10 $\mu$ F 25V	OA10602520	DN06		4822 130 33948	ZENER DIODE, 5.6V MTZJ5.6B	HD30561000
C902		4822 124 41534	ELECT 10 $\mu$ F 25V	OA10602520	DN07		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C903		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620	DN23		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C904		4822 124 41539	ELECT 47 $\mu$ F 16V	OA47601620	DN24		4822 130 32362	DIODE, 1SS176, MA165, 1SS254	HD20002000
C905			CER. 100 PF $\pm$ 10%	DA16101110	D151		4822 130 80839	DIODE, S5688G VRM=400V IO=1A	HD20029050
C906			CER. 100 PF $\pm$ 10%	DA16101110	D152		4822 130 80839	DIODE, S5688G VRM=400V IO=1A	HD20029050
C***			<b>P116-CAPACITORS (COMMON)</b>						
			CER. CAPACITOR						
			DISC TYPE,						
			TEMP. COEFF. P350-N1000, 50V:						
			C502						
C***			HIGH DELECTRIC CONSTANT						
			CER. CAPACITOR						
			DISC TYPE, TEMP CHARA. 2B4 50V:						
			CP18, CP51, CT03, C117, C118, C505						

POS. NO.	VERS. COLOR	PART NO. ( For EUROPE )	DESCRIPTION	PART NO. ( For U / K / F )	POS. NO.	VERS. COLOR	PART NO. ( For EUROPE )	DESCRIPTION	PART NO. ( For U / K / F )
▲D801 S		4822 130 80839	DIODE, S5688G VRM=400V IO=1A	HD20029050	JT02			TERMINAL, 1P RCA DIG. OUT	YT02010780
▲D804					JW07		4822 265 41351	JACK, ZC-015 15P [PMD321]	YJ07007960
▲D811 S		4822 130 80839	DIODE, S5688G VRM=400V IO=1A	HD20029050	J103 J601		4822 265 41351	JACK, 15P TERMINAL, 2P RCA ANA. OUT [PMD320]	YJ07007960 YT02021210
▲D814					LT01		4822 142 60388	PULSE TRANSF.	TP41042010
▲D851		4822 130 80839	DIODE, S5688G VRM=400V IO=1A	HD20029050	▲L001 U			POWER TRANSF.	TS15734030
▲D852		4822 130 80318	ZENER DIODE, 6.8V MTZJ6.8C	HD30681000	▲L001 /02		4822 146 21749	POWER TRANSF.	TS15734010
D853		4822 130 33759	ZENER DIODE, 4.7V MTZJ4.7B	HD30471000	▲SH91		4822 276 13364	PUSH SW, POWER SW	SP01011990
▲D854	/02	4822 130 80839	DIODE, S5688G VRM=400V IO=1A	HD20029050	XF01		4822 242 72066	CER. VIB., 8.0MHZ	FQ08004010
▲D855	U	4822 130 80839	DIODE, S5688G VRM=400V IO=1A	HD20029050	XP01		4822 242 72334	X'TAL 16.9344MHZ	JX16002260
QD01		4822 209 33252	IC, DAC TDA1549/N1	HC10130490	X101		4822 242 81536	CER. VIB. 8.46MTW	FQ08464010
QE01		4822 130 42298	TRS. 2SC536SP, 2SC2458, 2SC3311, 2SC1740S	HT30001000				<b>P126-HF CIRCUIT BOARD</b>	
QF01			MAIN CPU MN187164	HU313KA000				<b>P126-CAPACITORS</b>	
QF02		4822 209 73951	IC, RESET IC PST523D	HC10010550	C101			CER. 100 PF ± 10%	DA16101110
QF51		4822 130 42715	TRS. 2SA608SP, 2SA1048, 2SA1309, 2SA933	HT10001000	C102			CER. 47 PF ± 5%	DA15470110
QF52		4822 130 42298	TRS. 2SC536SP, 2SC2458, 2SC3311, 2SC1740S	HT30001000	C103			CER. 47 PF ± 5%	DA15470110
QM01		4822 209 72587	IC, DUAL POWER OP AMP TCA0372	HC10034170	C104			CER. 18 PF ± 5%	DA15180120
QN01 S		4822 130 42298	TRS. 2SC536SP, 2SC2458, 2SC3311, 2SC1740S	HT30001000	C105		4822 124 41534	CER. 150 PF ± 10%	DA16151110
QN04					C106			ELECT 10 µF 25V	OA10602520
QN05 S		4822 130 43818	TRS. 2SC2878 (A OR BRANK) [PMD320]	HT328782A0	C107			CER. 0.047 µF +80%-20%	DA17473110
QN08					C108			CER. 150 PF ± 10%	DA16151110
QN20		4822 130 42298	TRS. 2SC536SP, 2SC2458, 2SC3311, 2SC1740S	HT30001000	C109			CER. 150 PF ± 10%	DA16151110
QN24		4822 130 42715	TRS. 2SA608SP, 2SA1048, 2SA1309, 2SA933S	HT10001000	C110			CER. 330 PF ± 10%	DA16331110
QN25		4822 130 42715	TRS. 2SA608SP, 2SA1048, 2SA1309, 2SA933S	HT10001000	R***			<b>P126-RESISTORS (COMMON)</b> CARBON FILM FIXED RESISTOR, ± 5% 1/6W: R101-R106	
QN91 S		4822 130 43818	TRS. 2SC2878 (A OR BRANK)	HT328782A0	Q101		4822 130 61748	<b>P126-SEMICONDUCTORS</b> TRS. 2SC2668-O	HT32668100
QN94					Q102		4822 130 42298	TRS. 2SC536SP, 2SC2458, 2SC3311, 2SC1740S	HT30001000
QP01			IC, PF-G-BND MB87014A -TF	HC10103180	Q103		4822 130 42715	TRS. 2SA608SP, 2SA1048, 2SA1309, 2SA933S	HT10001000
QP02			IC, SN74LS628NS	HC762837Z0				<b>P126-MISCELLANEOUS</b>	
QP03		4822 209 30426	IC, 74HC00	HC700000Z0	J101		4822 265 41349	JACK, TOC-L12X-A1 12P	YJ07007950
Q104		4822 209 32763	IC, DIG. SERVO TDA1301T	HC10106490	J102		4822 265 41351	JACK, ZC-015 15P	YJ07007960
Q105		4822 209 72587	IC, DUAL POWER OP AMP CA0372	HC10034170				<b>P136-H.P CIRCUIT BOARD</b>	
Q106		4822 209 72587	IC, DUAL POWER OP AMP TCA0372	HC10034170				<b>P136-CAPACITOR</b>	
Q501		4822 130 42298	TRS. 2SC536SP, 2SC2458, 2SC3311, 2SC1740S	HT30001000	C980			CER. 0.022 µF +80%-20%	DK18223310
Q502		4822 130 42298	TRS. 2SC536SP, 2SC2458, 2SC3311, 2SC1740S	HT30001000	J900		4822 267 31691	<b>P136-MISCELLANEOUS</b> JACK, HEAD PHONE	YJ01003870
Q503		4822 209 33339	IC, CD DECODER SAA7345GP/M5X	HC10128490					
Q601		4822 209 83274	IC, NJM4560D	HC10007090					
▲Q801		4822 209 31712	IC, NJM78M12FA	HC38512090					
▲Q802		4822 209 63641	IC, NJM79M12FA	HC39512090					
▲Q811		4822 209 31631	IC, NJM7805FA	HC38905090					
▲Q851		4822 209 83829	IC, REG. NJM79M18FA	HC39518090					
Q852		4822 130 42298	TRS. 2SC536SP, 2SC2458, 2SC3311, 2SC1740S	HT30001000					
Q853		4822 130 42715	TRS. 2SA608SP, 2SA1048, 2SA1309, 2SA933S	HT10001000					
Q854		4822 130 42715	TRS. 2SA608SP, 2SA1048, 2SA1309, 2SA933S	HT10001000					
Q901		4822 209 82362	IC, NJM4556D	HC10016090					
▲FH11 U			<b>P116-MISCELLANEOUS</b>						
▲FH11 /02		4822 070 36301	FUSE, 1.6A 125V FBM	FS10160360					
▲FH12 U			FUSE, 630MA 250V BS LISTED	FS10063850					
▲FH12 /02		4822 070 36301	FUSE, 1.6A 125V FBM	FS10160360					
			FUSE, 630MA 250V BS LISTED	FS10063850					
JE01		4822 267 31691	JACK, FADER	YJ01003870					
JF01			JACK, 37 PIN FCC	YJ06011070					
JF03		4822 267 41009	TERMINAL, 2P RCA (RC-5 IN/OUT)	YT02020890					
JM01		4822 265 30473	PLUG, 6P	YP06003420					
JM02		4822 265 30482	PLUG, 4P	YP06003440					