

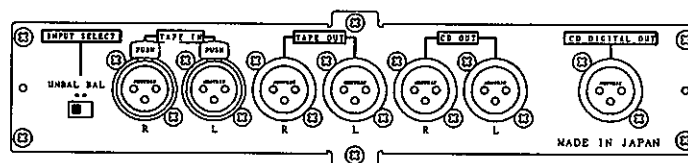
# Service Manual

PMD350U/F  
74 PMD350/02B  
XLR350PMD

Stereo cassette deck/Compact disc player



XLR kit



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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。

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

# marantz®

## model PMD350/XLR350 kit

## 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  
833 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 : +31-40-2732241  
FAX : +31-40-2735578

#### 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  
CANADA  
PHONE : 514-457-4044  
FAX : 514-457-5524

#### TRADING

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

#### AUSTRALIA

MARANTZ AUSTRALIA  
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.  
748-750 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,  
MALAYSIA  
PHONE : +60 3-7184666  
FAX : +60 3-7173828

#### SINGAPORE

FORWARD MARKETING (SINGAPORE) PTE. LTD.  
29, LENG KEE ROAD  
SINGAPORE 159099.  
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

#### 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.

1. TECHNICAL SPECIFICATIONS

TAPE DECK

Track System ..... 4 Track, 2 Channel  
 Record/Erase system ..... AC 105kHz Bias  
 Head System (Rotary type combination)  
 Rec/Play ..... Hard metal alloy  
 Erase ..... Dual gap ferrite

Motor System  
 Capstan ..... DC Servo Control  
 Reel ..... DC  
 Wow and flutter ..... 0.14% W-RMS

Frequency Characteristics  
 Frequency response (no Dolby NR)  
 type I (Normal position) ..... 30Hz-15kHz ±3dB  
 type II (High position) ..... 30Hz-16kHz ±3dB  
 type IV (Metal position) ..... 30Hz-16kHz ±3dB

Overall S/N(no Dolby NR,IEC-A WTD)  
 type I (Normal position) ..... 53dB  
 type II (High position) ..... 54dB  
 type IV (Metal position) ..... 55dB

Dolby NR effect (B/C S/N improvement, CCIR-ARM WTD) .....  
 Output level/Output impedance ..... 9dB/18dB  
 Output level/Output impedance ..... 500mV/1kΩ

Input  
 TAPE in ..... 100mV/47kΩ  
 MIC in ..... 0.5mV/10kΩ

CD

Channels ..... 2 channels  
 Sampling frequency ..... 44.1kHz  
 Quantization ..... 16-bit linear/channel  
 Error correction ..... Cross-interleave read solomon code (CIRC)  
 D/A conversion ..... 1-bit linear/channel  
 Wow & flutter ..... Precision of quartz

Optical Readout System  
 Laser ..... CaAlAs semiconductor  
 Wavelength ..... 780nm

Frequency Characteristics (Pitch control off)  
 Frequency response ..... 20Hz-20kHz ±0.3dB  
 Dynamic range ..... 90 dB  
 S/N ratio ..... 96 dB  
 Channel separation ..... 90 dB  
 Distortion (THD 1KHz) ..... 0.005 %  
 Analog output  
 Output level ..... 2 V RMS  
 Output impedance ..... < 1kΩ  
 Digital output  
 Coaxial output (75Ω loaded) ..... 0.5 Vp-p

COMMON PART:

Power supply  
 U VERSION ..... 120V AC60Hz  
 F VERSION ..... 100V AC50/60Hz  
 /02B VERSION ..... 230V AC50Hz

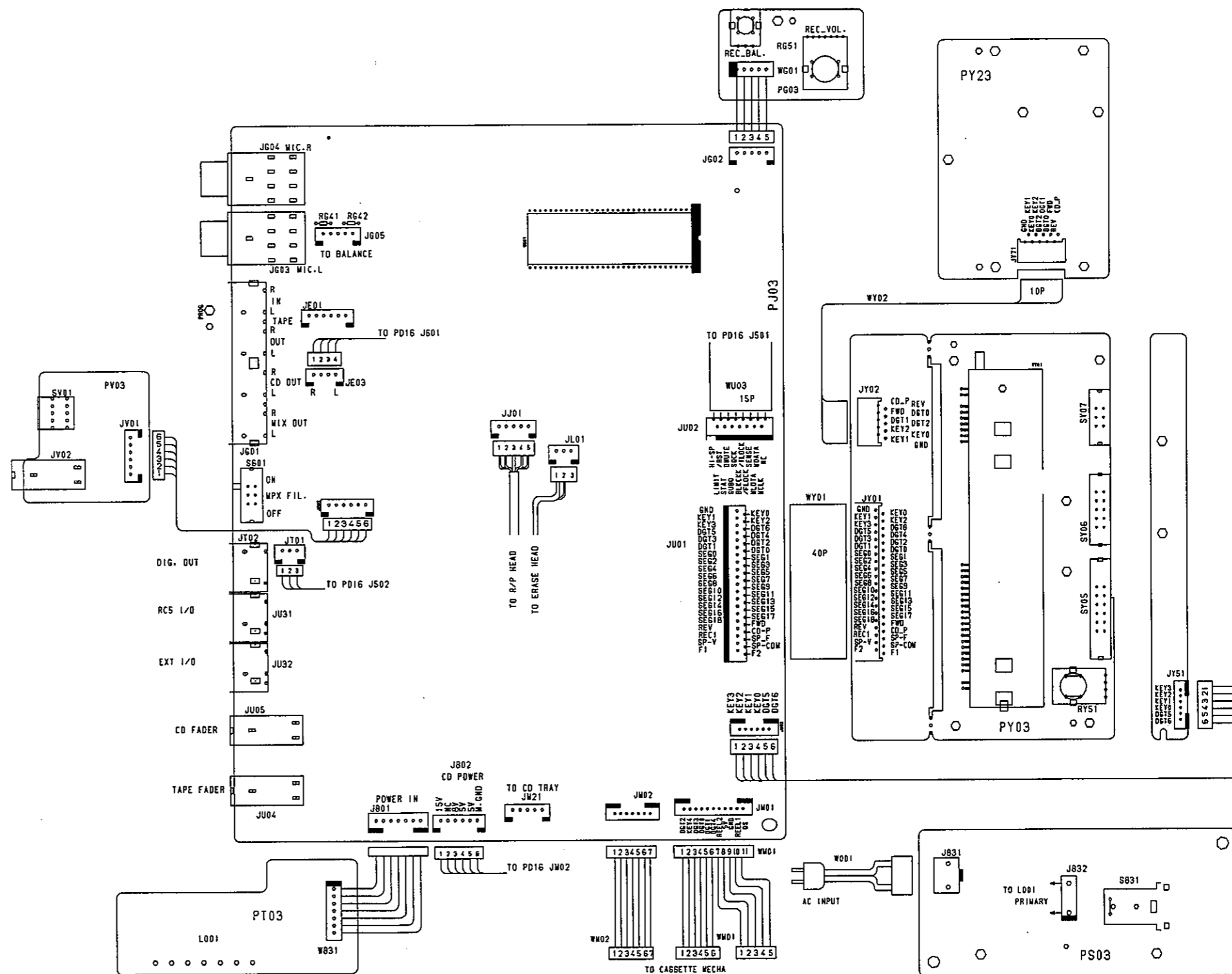
Dimensions  
 Width ..... 483mm  
 Height ..... 133mm  
 Depth ..... 280mm

Net Weight ..... 6.1kg

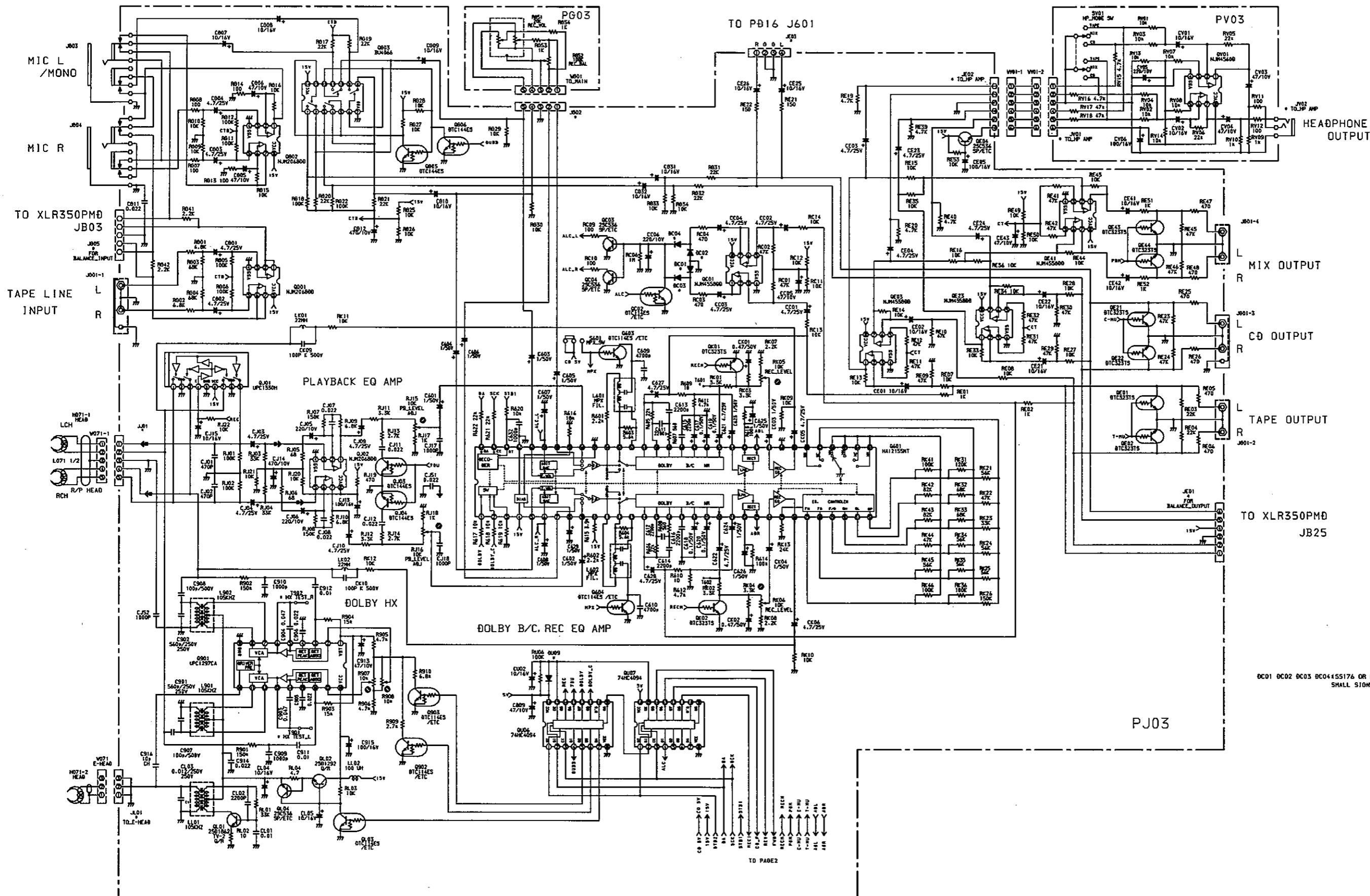
These specifications represent design standards. Higher levels of performance can be expected under most conditions.

\* Subject to change without prior notice.

2. CONNECTION DIAGRAM





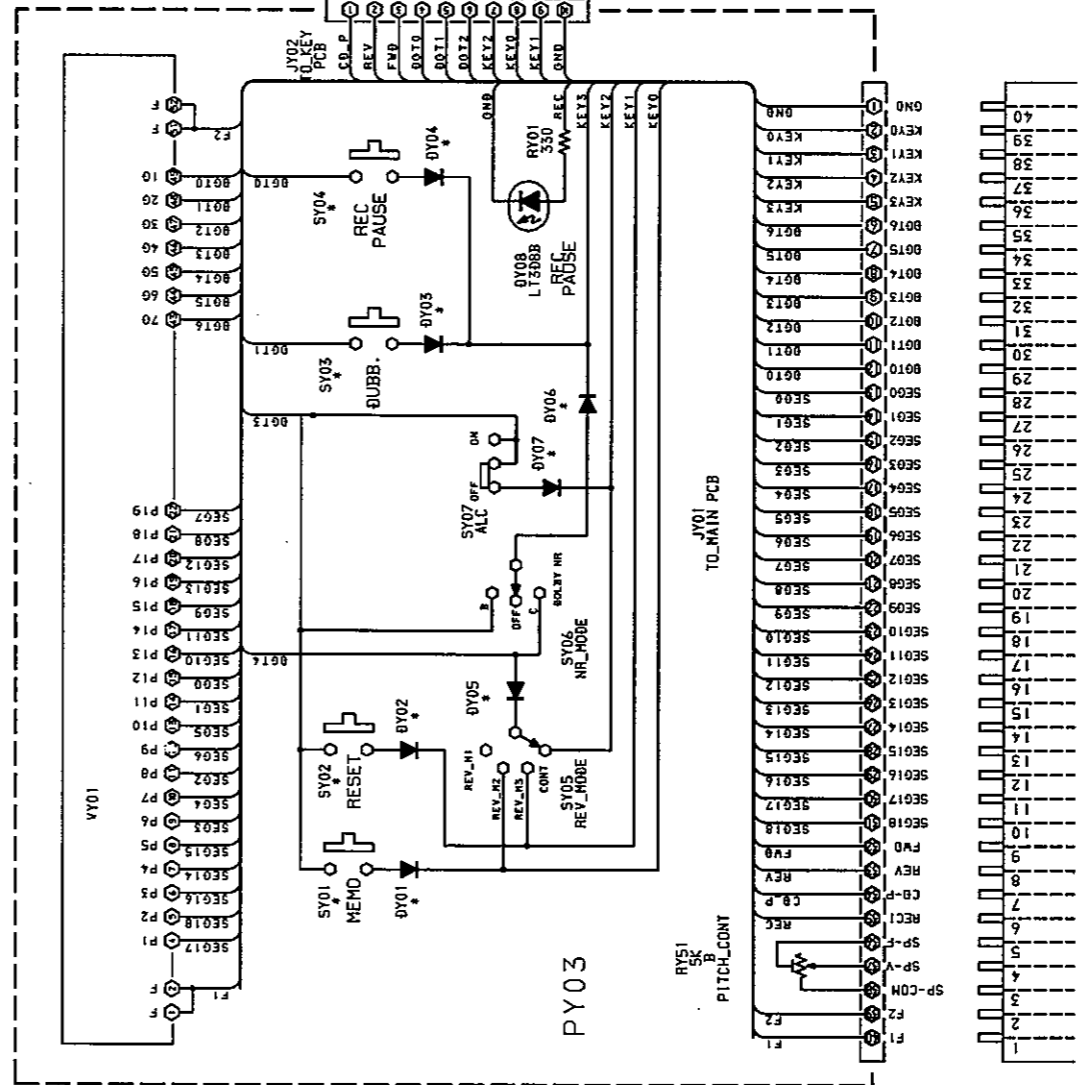
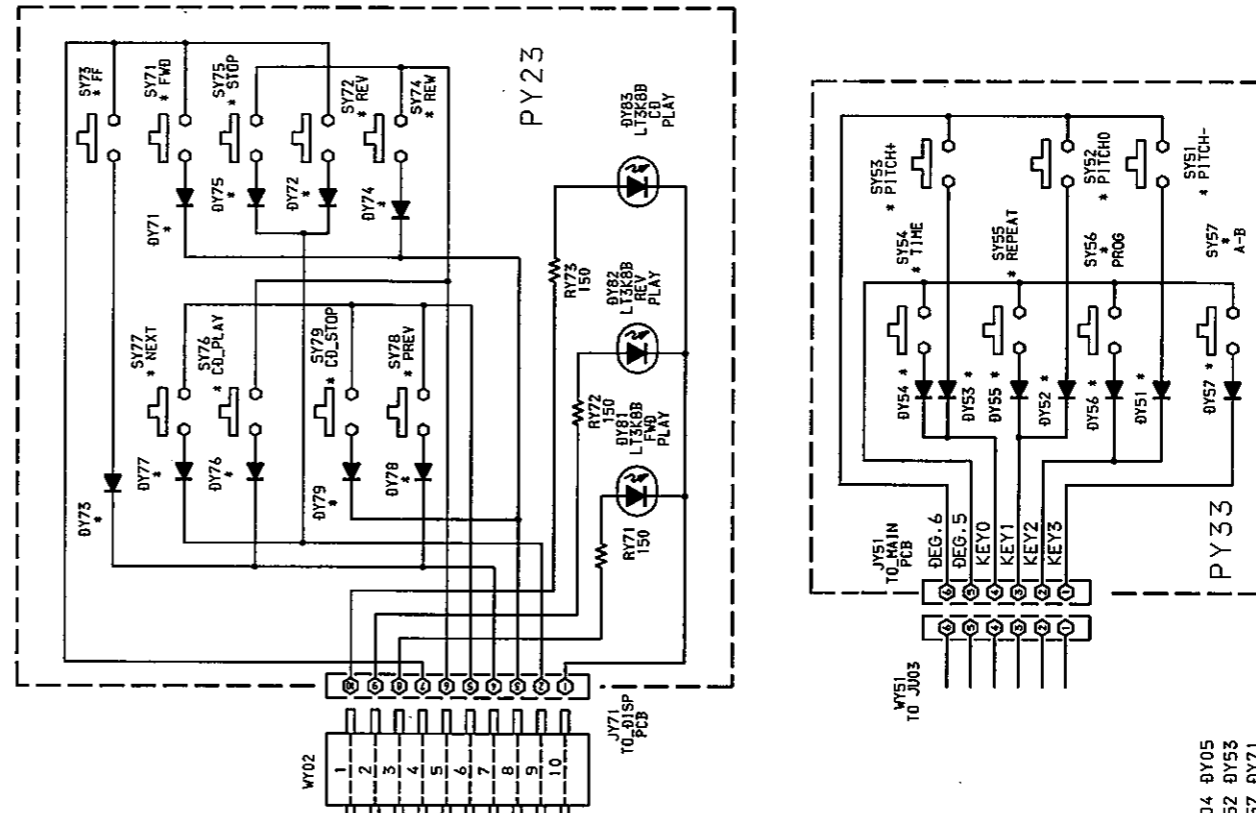


ØC01 ØC02 ØC03 ØC04 455176 OR M165 OR 153254  
SHALL SIGNAL Ø10Ø ØØV Ø.1A

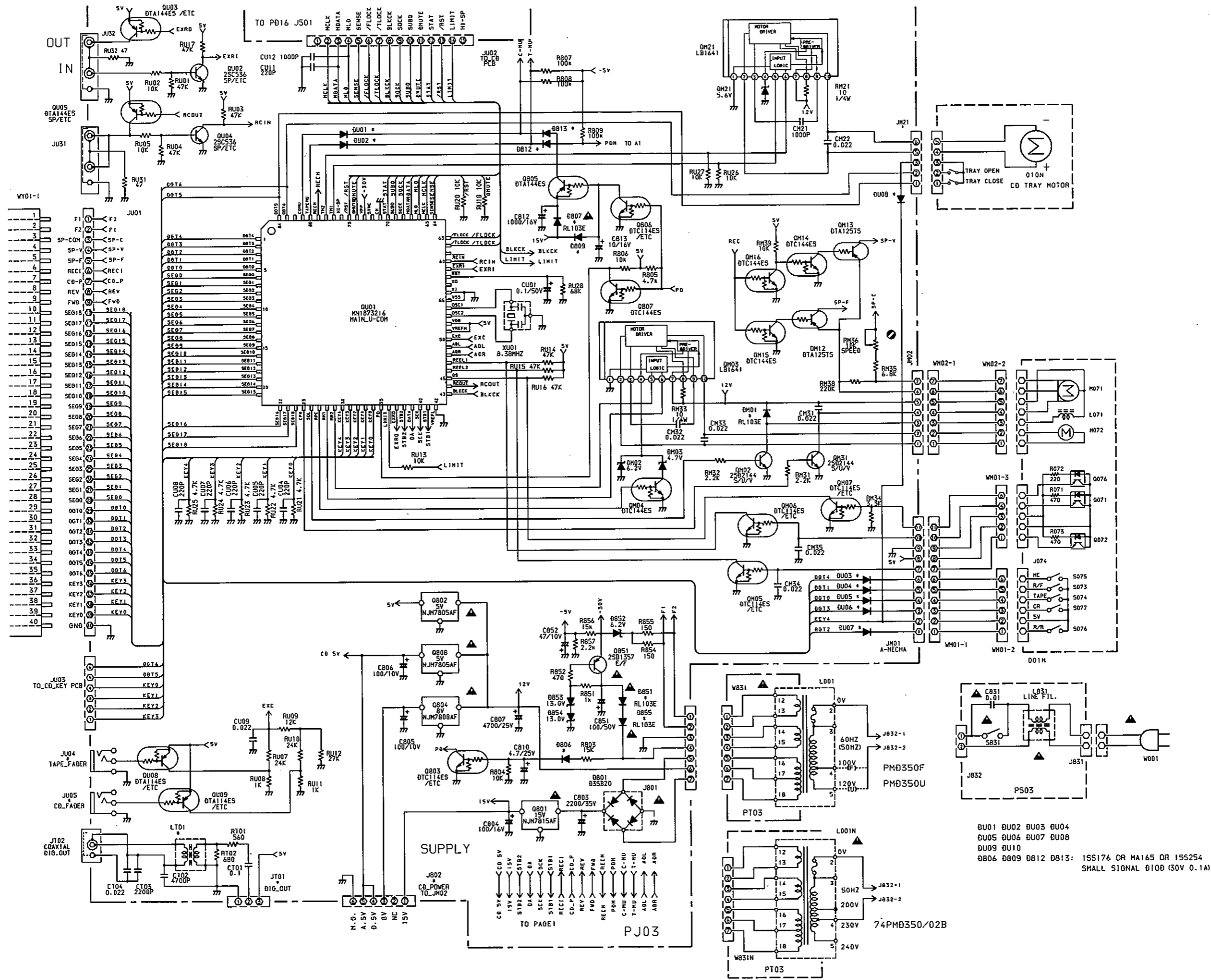
PJ03

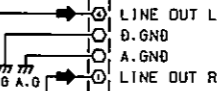
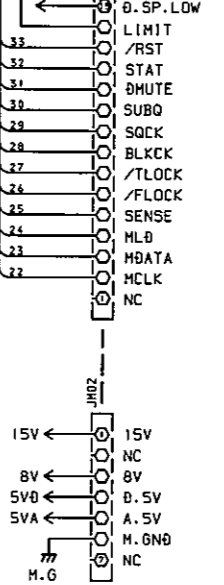
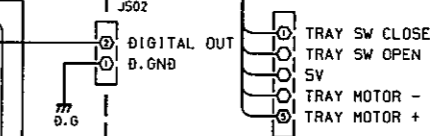
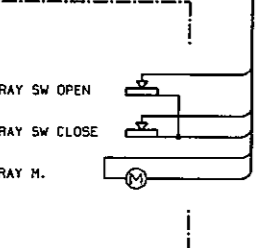
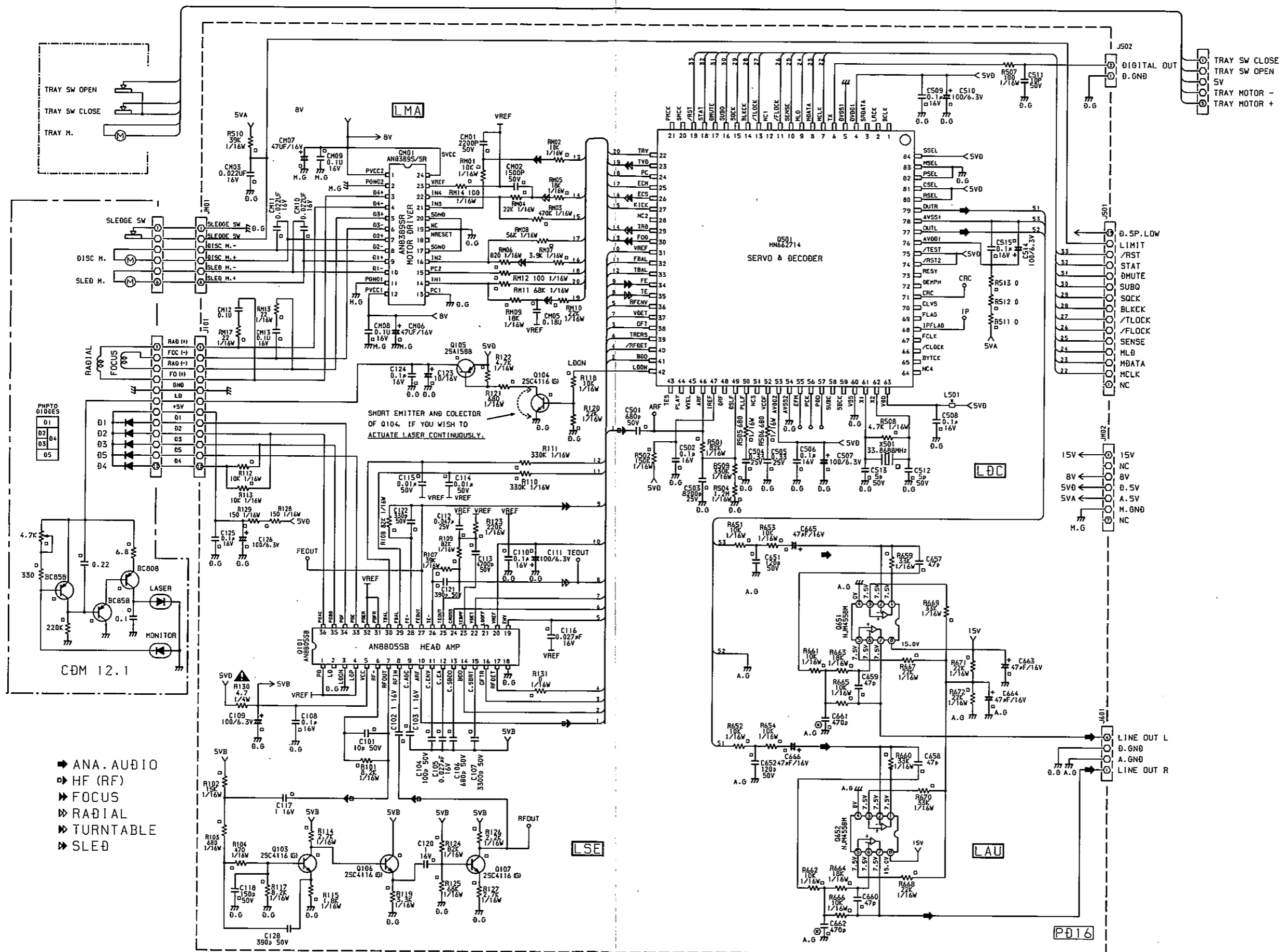
TD PAGE2

PIN	NAME	DESCRIPTION	PIN	NAME	DESCRIPTION
1	DGT4	O DIGIT AND KEY SCAN	43	BLKCK	I CD BLOCK CLOCK
2	DGT3	O DIGIT AND KEY SCAN	44	RCOUT	O RC5 OUTPUT
3	DGT2	O DIGIT AND KEY SCAN	45	QS	I QUICK REVERSE SENSE
4	DGT1	O DIGIT AND KEY SCAN	46	REEL2	I REEL PULSE INPUT2
5	DGT0	O DIGIT AND KEY SCAN	47	REEL1	I REEL PULSE INPUT1
6	SEG0	O FTD SEGMENT OUTPUT	48	ADR	I LEVEL METER INPUT R
7	SEG1	O FTD SEGMENT OUTPUT	49	ADL	I LEVEL METER INPUT L
8	SEG2	O FTD SEGMENT OUTPUT	50	FAC	I FADER CONTROL INPUT
9	SEG3	O FTD SEGMENT OUTPUT	51	VREFL	A/D REFERENCE H
10	SEG4	O FTD SEGMENT OUTPUT	52	VDD	+5V
11	SEG5	O FTD SEGMENT OUTPUT	53	OSC2	CLOCK OSC
12	SEG6	O FTD SEGMENT OUTPUT	54	OSC1	CLOCK OSC
13	SEG7	O FTD SEGMENT OUTPUT	55	VSS	GND
14	SEG8	O FTD SEGMENT OUTPUT	56	XI	GND
15	SEG9	O FTD SEGMENT OUTPUT	57	XO	NC
16	SEG10	O FTD SEGMENT OUTPUT	58	RST	I RESET INPUT
17	SEG11	O FTD SEGMENT OUTPUT	59	EXRI	I EXT. REMOTE INPUT
18	SEG12	O FTD SEGMENT OUTPUT	60	RCIN	I RC5 INPUT
19	SEG13	O FTD SEGMENT OUTPUT	61		I NC
20	SEG14	O FTD SEGMENT OUTPUT	62	/TLOCK	I CD TRACK LOCK DETECT
21	SEG15	O FTD SEGMENT OUTPUT	63	/FLOCK	I CD FOCUS LOCK DETECT
22	SEG16	O FTD SEGMENT OUTPUT	64	SENSE	I CD SENSE INPUT
23	SEG17	O FTD SEGMENT OUTPUT	65	MCLK	O CD CONTROL DATA CLOCK
24	SEG18	O FTD SEGMENT OUTPUT	66	MLD	O CD CONTROL DATA LOAD
25	CPM	O CAPSTAN MOTOR CONTROL	67	MDATA	O CD CONTROL DATA
26	SOL	O SOLENOID CONTROL	68	SQCK	O SUB Q CLOCK
27	RPC	O REEL MOTOR SPEED CONTROL	69	SUBQ	I SUB Q
28	RM1	O REEL MOTOR CONTROL1	70	STAT	I CD STATUS DATA
29	RM2	O REEL MOTOR CONTROL2	71	CM	I GND
30	KEY4	I KEY INPUT	72	SYNC	O NC
31	KEY3	I KEY INPUT	73	VPP	BIAS FOR FTD
32	KEY2	I KEY INPUT	74	DMUTE	O DIGITAL MUTE CONTROL
33	KEY1	I KEY INPUT	75	/RST	O CD DECODER RESET
34	KEY0	I KEY INPUT	76	-	NC
35	PD	I POWER DOWN DETECT	77	TM1	O CD TRAY CONTROL1
36	LIMIT	I CD SLED DETECT	78	TM2	O CD TRAY CONTROL2
37	EXRO	O EXT. REMOTE OUTPUT	79	RECM	O REC. MUTE CONTROL
38	STB2	O AUDIO CONTROL STROB2	80	T-MUTE	O TAPE OUTPUT MUTE CONTROL
39	DATA	O AUDIO CONTROL DATA	81	C-MUTE	O CD OUTPUT MUTE CONTROL
40	SCK	O AUDIO CONTROL DATA CLOCK	82	-	NC
41	STB1	O AUDIO CONTROL STROB1	83	DGT6	O DIGIT AND KEY SCAN
42	VREFL	A/D REFERENCE L	84	DGT5	O DIGIT AND KEY SCAN



DY01 DY02 DY03 DY04 DY05  
 DY06 DY07 DY51 DY52 DY53  
 DY54 DY55 DY56 DY57 DY71  
 DY72 DY73 DY74 DY75 DY76  
 DY77 DY78 DY79 :  
 1SS176 OR MA165 OR 1SS254  
 SMALL SIGNAL DIODE (30V 0.1A)





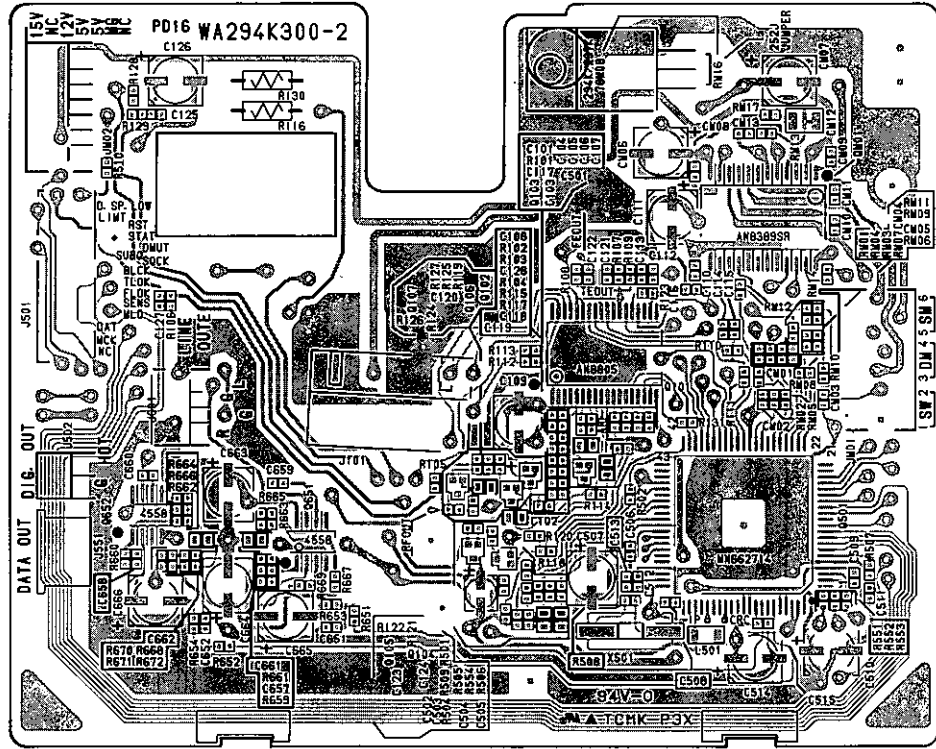
- ▶ ANA. AUDIO
- ▶ HF (RF)
- ▶ FOCUS
- ▶ RADIAL
- ▶ TURNTABLE
- ▶ SLED

VOLTAGE VALUE IS UNDER CONDITION OF STOP



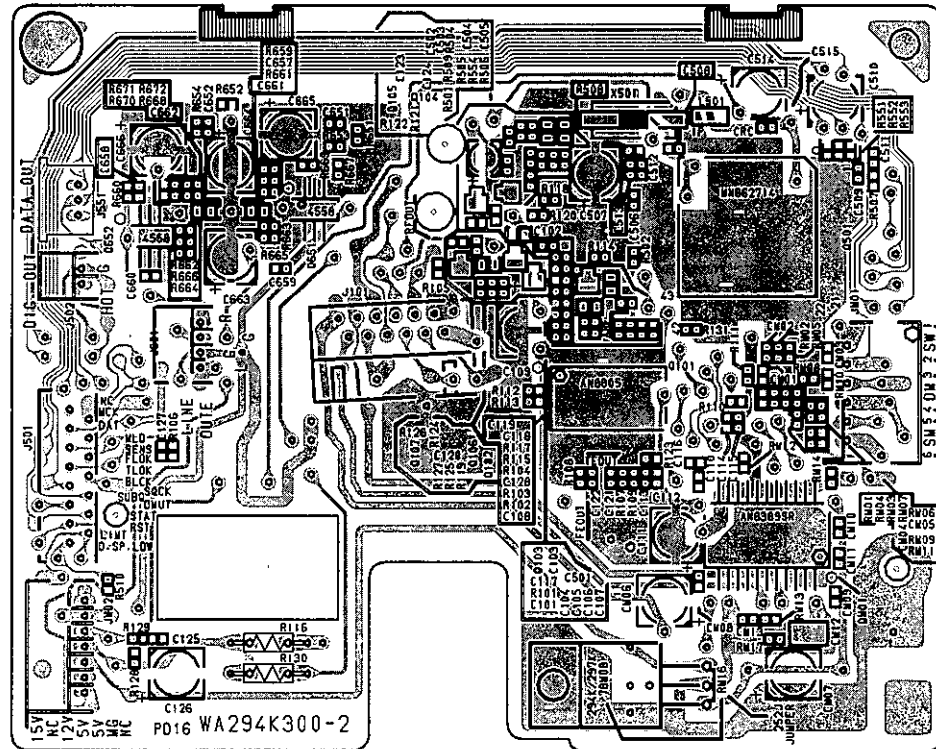
部品面

PD16



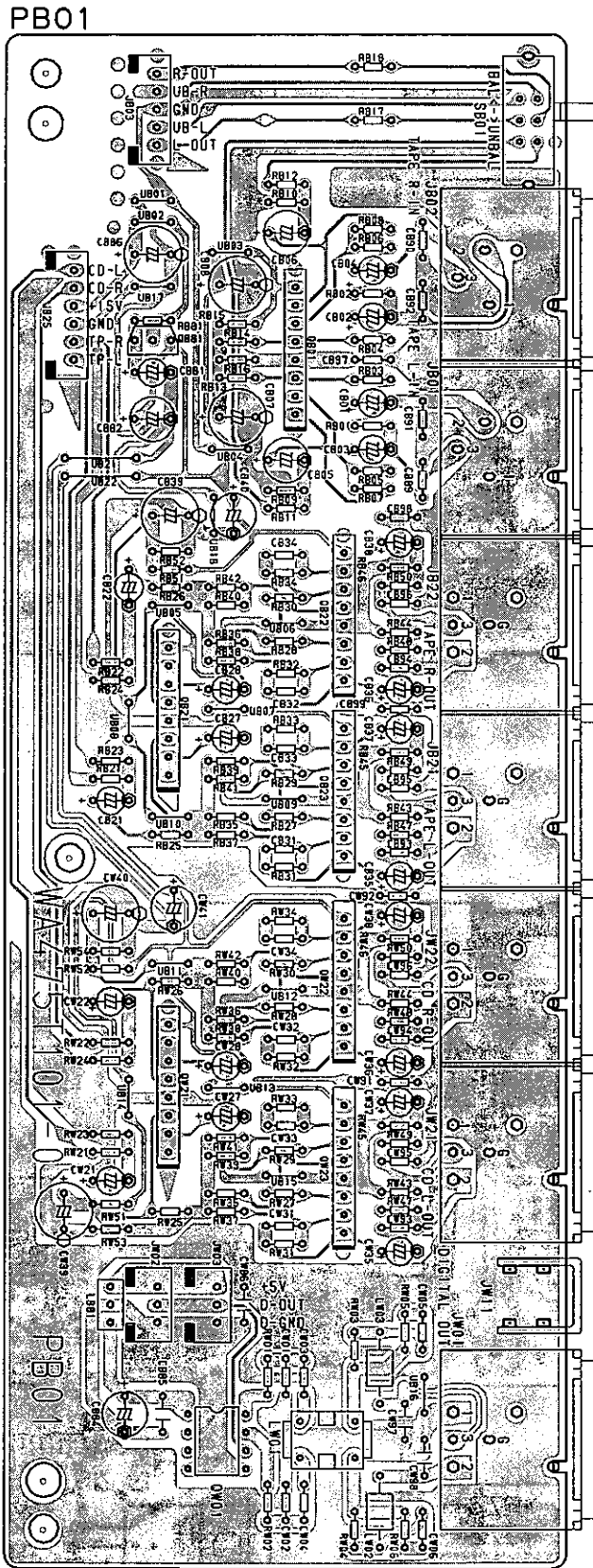
半田面

PD16

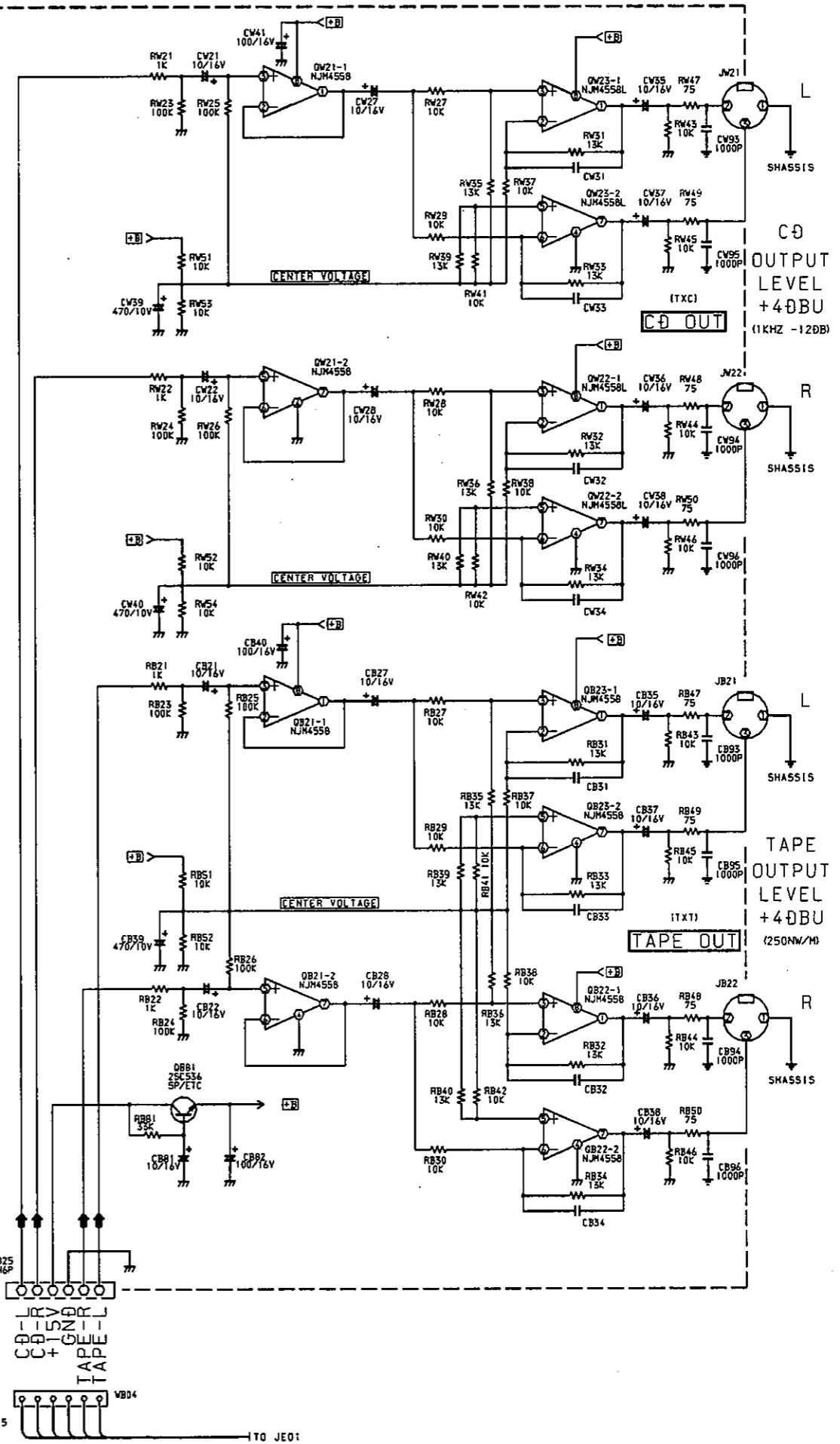
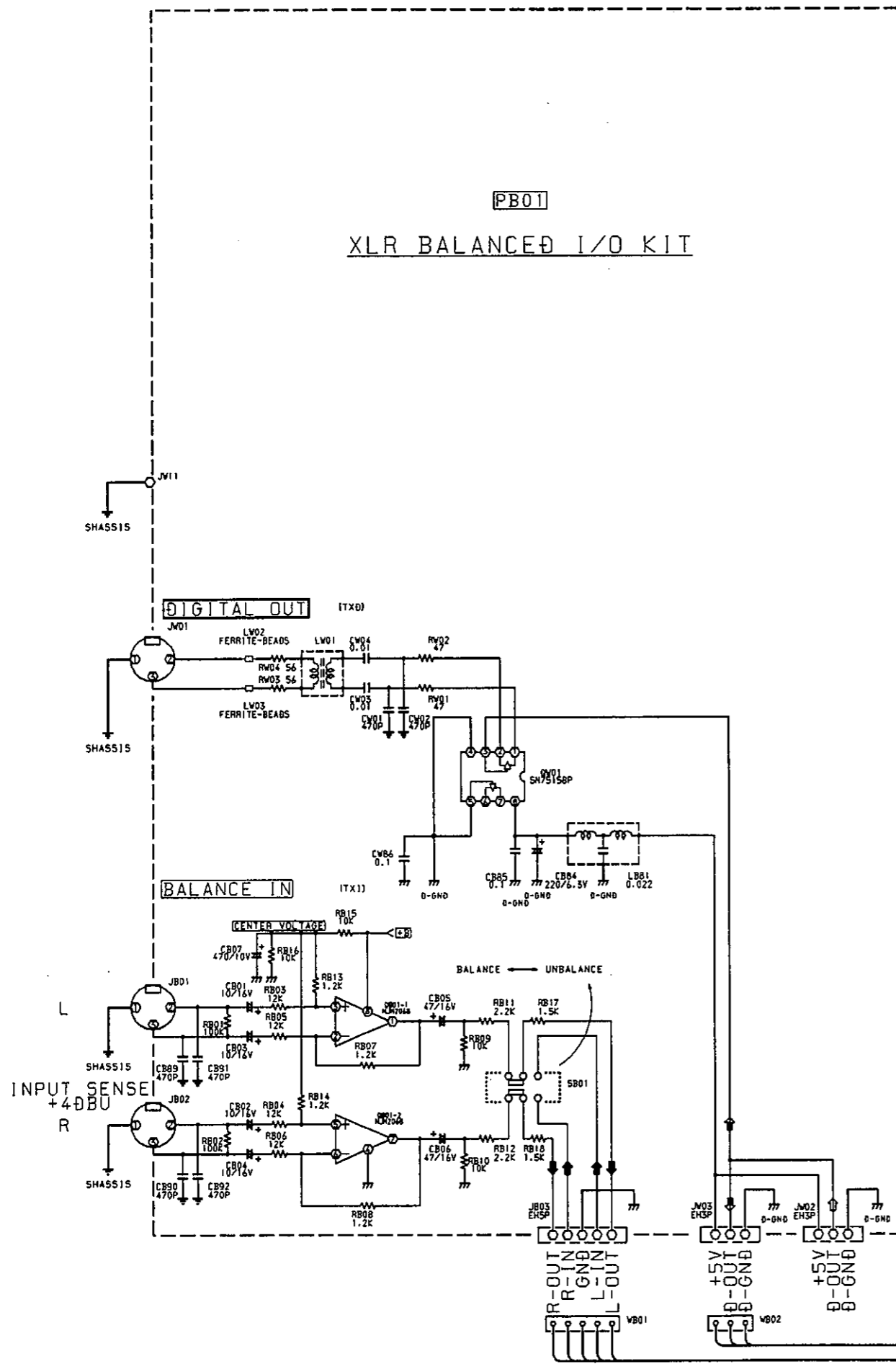


4. SCHEMATIC DIAGRAM AND PARTS LOCATION (Pattern Side) XLR350 kit

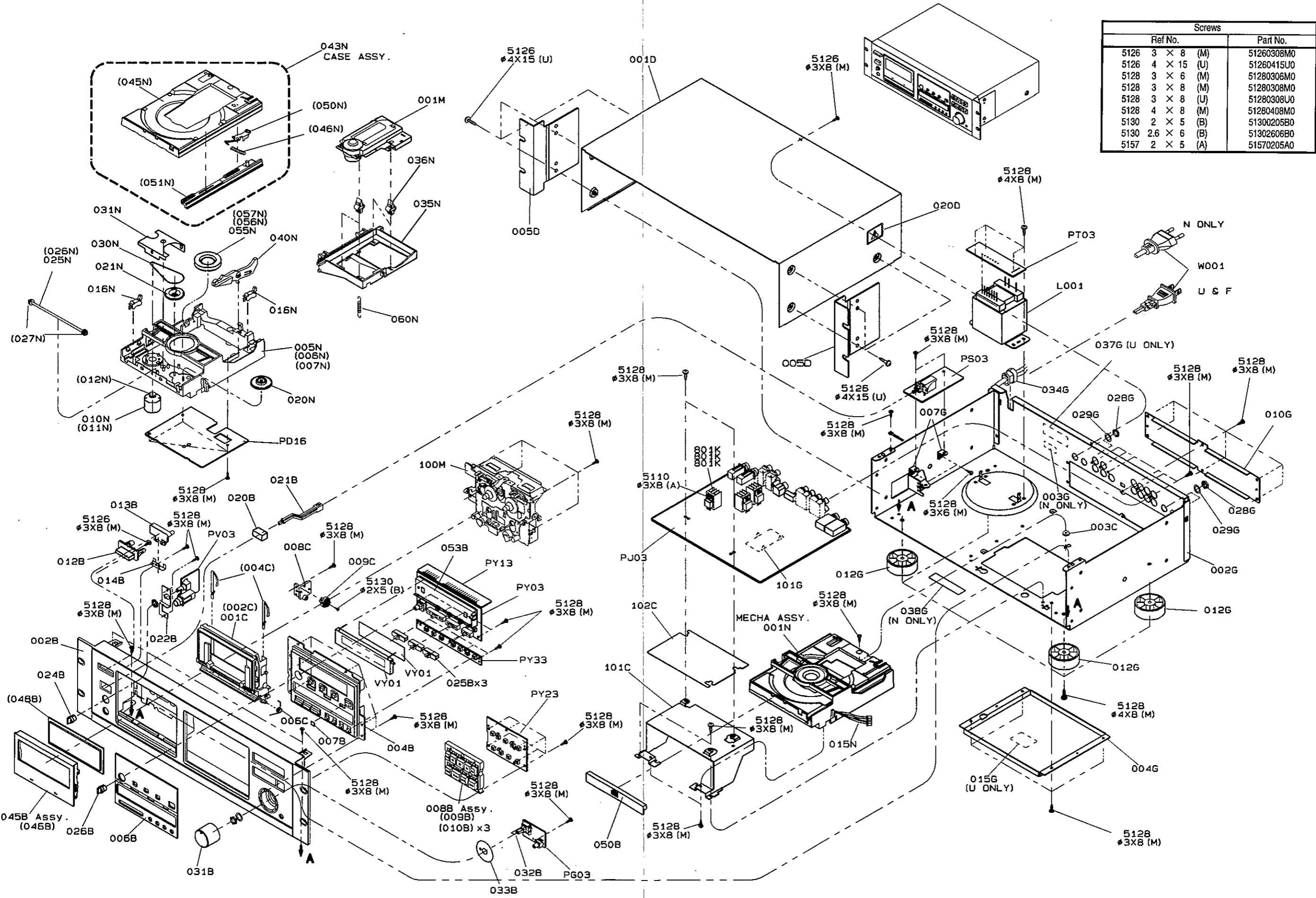
- QB81
- QB21
- QW21
- QB22
- QB23
- QW22
- QB01
- QW23



PB01  
XLR BALANCED I/O KIT



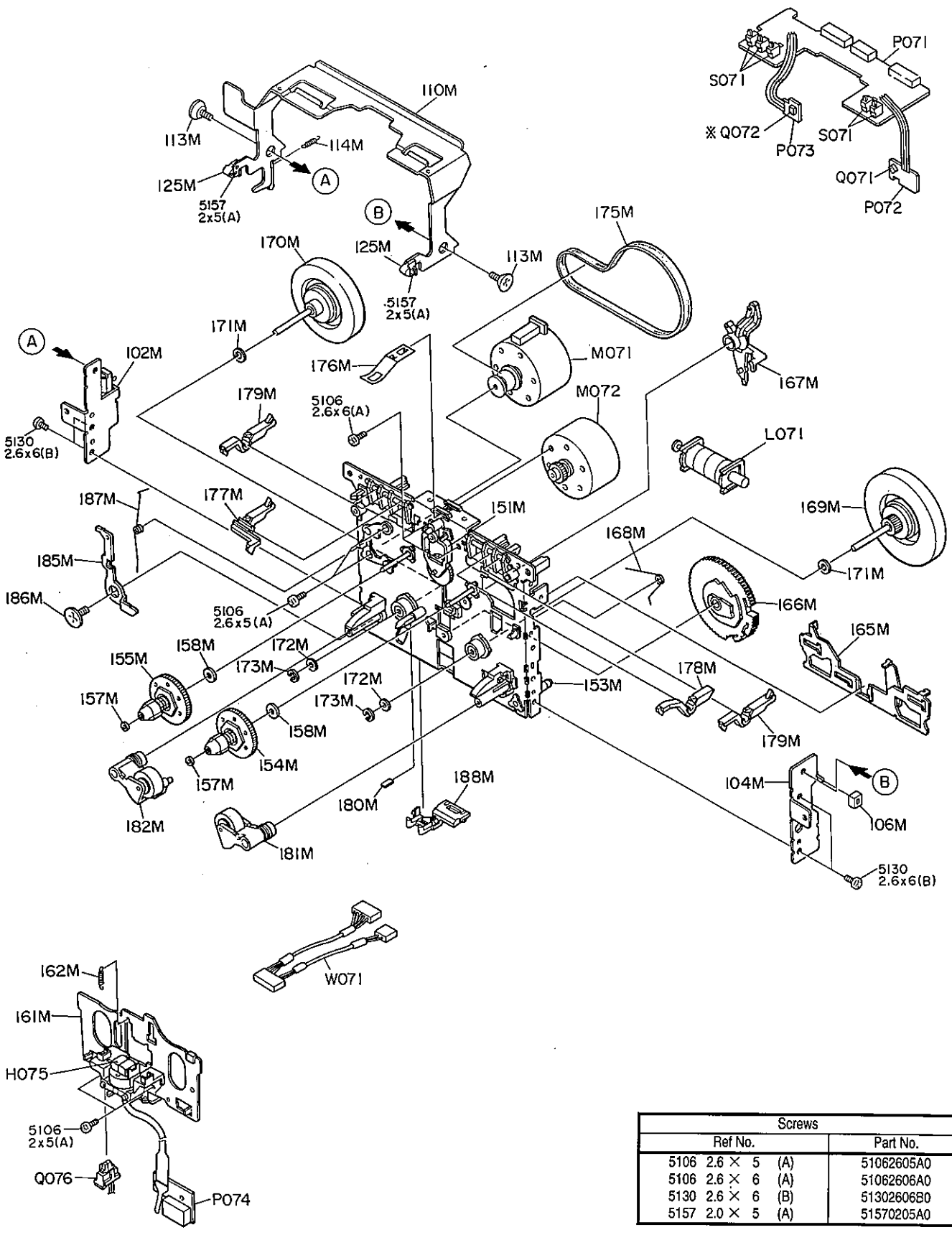
5. EXPLODED VIEW AND PARTS LIST



Screws		
Ref No.		Part No.
5126	3 × 8 (M)	51260308M0
5126	4 × 15 (U)	51260415U0
5128	3 × 6 (M)	51280306M0
5128	3 × 8 (M)	51280308M0
5128	3 × 8 (U)	51280308U0
5128	4 × 8 (M)	51280408M0
5130	2 × 5 (B)	51300205B0
5130	2.6 × 6 (B)	51302606B0
5157	2 × 5 (A)	51570205A0

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

POS. NO	VERS. COLOR	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (USA/JPN)	POS. NO	VERS. COLOR	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (USA/JPN)	
002B		4822 459 04258	FRONT PANEL	474T248010				<b>PACKING</b> PACKING CASE:BL CUSHION (L & R)		
004B		4822 442 00473	COVER	474T053010	001S	F			474T801110	
006B		4822 450 10171	WINDOW	474T158010	002S	F		457T809010		
007B			INTRODUCER	274H151010						
008B		4822 410 10636	MECHA BUTTON K	474T270500	001T	F	4822 736 14588	USER MANUAL	474T851110	
012B		4822 410 60397	EJECT BUTTON	416T270040	001T	/02B			USER MANUAL	474T851310
013B		4822 403 53866	EJECT LEVER	416T354010	001T	U			USER MANUAL	474T851250
016B		4822 502 12511	B.T.SCREW(W/W)	51260308M0						
020B		4822 410 63013	POWER BUTTON	023J270020						
021B		4822 403 53864	POWER SW LINK	416T121010						
024B		4822 411 20336	HP SW KNOB	284T154310						
025B		4822 413 41827	SLIDE KNOB	453T154010						
026B		4822 411 20336	PITCH KNOB	284T154310						
031B		4822 413 41912	REC LEVEL KNOB	431T154010						
045B		4822 443 64448	CASSETTE COVER K	457T053500						
050B		4822 454 12961	ESCUTCHEON CD	292K063010						
053B		4822 256 92126	FL.HOLDER	453T271020						
054B		4822 459 10942	STICKER ADHESIVE	056J122020						
001C		4822 256 91556	CASSETTE HOLDER K	416T271500						
006C		4822 492 70617	CASSETTE HOLDER OPEN SPRING	420T115030						
009C		4822 466 92367	GEAR DAMPER	415T130010						
001D			LID FOR TOP COVER	418T257030						
003D		4822 502 12511	B.T.SCREW(W/W)	51260308M0						
005D		4822 403 71258	SIDE BRACKET (L&R)	457T160110						
006D			B.T.SCREW(W/W)	51260415U0						
007D			B.T.SCREW(W/W)	51260415U0						
012G		4822 462 10312	LEG FOR MAIN CHASSIS	176H057040						
028G			NUT FOR JACK D:6.4	075S011010						
001M		4822 691 30278	CDM12.CD MECHANISM	292K304500						
001N			MECHANISM CD LOADER	305K304530						
005N		4822 464 10054	FRAME K	305K401500						
010N		4822 361 21741	D.C MOTOR K	MM0030002R						
016N		4822 271 30873	MINI SWITCH	SM01020620						
020N		4822 522 33521	GEAR	305K058030						
021N		4822 528 81537	PULLEY	305K262010						
025N		4822 522 33522	GEAR K	305K058500						
030N		4822 358 31314	BELT	305K264010						
035N		4822 443 51265	CASE	305K064110						
036N		4822 462 72118	BUFFER SUSPENSION	305K056010						
040N		4822 402 20104	ARM	305K002010						
043N		4822 444 50732	CASE K	305K064500						
045N			CASE	305K064010						
046N		4822 492 33494	SPRING	305K115010						
050N		4822 528 30429	CAM	305K054010						
051N		4822 522 33519	GEAR	305K058010						
055N		4822 401 11582	CLAMPER K	305K005500						
060N		4822 492 33495	SPRING	305K115020						
▲ L001	F, U		POWER TRANSF.	TS15724200						
▲ L001	/02B	4822 146 21812	POWER TRANSF.	TS15724210						
▲ W001	F		AC POWER CORD	YC01800800						
▲ W001	/02B		AC POWER CORD	YC01800790						
▲ W001	U		AC POWER CORD	YC01800780						
WU03			JUMPER LEAD 15PIN 240MM	YU15240500						
WY01			JUMPER LEAD 40X100	YU40100500						
WY02		4822 321 62965	JUMPER LEAD 10P 110mm	YU10110500						



Screws	
Ref No.	Part No.
5106 2.6 × 5 (A)	51062605A0
5106 2.6 × 6 (A)	51062606A0
5130 2.6 × 6 (B)	51302606B0
5157 2.0 × 5 (A)	51570205A0

### MECHANISM PARTS LIST

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

POS. NO	VERS. COLOR	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (USA/JPN)
100M		4822 691 21025	MECH. ASSY [CMAY2Z483A]	466T304500
102M			BRACKET L [FC53D-22]	415T160022
104M			BRACKET R [FC53E-12]	415T160032
106M			EJECT STOPPER [FD46H-12]	415T114010
110M			EJECT LEVER [FC49P-91]	415T258310
113M			SCREW [UG14M-31]	415T010010
114M			SPRING [FK23R-11]	415T115040
125M			MOLD HOOK [FD35W-11]	415T258020
151M		4822 528 81514	IDLER [F517-049]	456T001050
153M			MAIN CHASSIS [F612-180]	456T105050
154M		4822 528 10785	R-REEL BASE [F623-038]	420T352050
155M		4822 528 10785	L-REEL BASE [F623-038]	420T352050
157M		4822 532 11291	WASHER [FJ111-17]	59163202G0
158M		4822 532 11525	WASHER [UJ12V-11]	59020802G0
161M			HEAD BASE [FC52E-37]	456T160050
162M			SPRING [FK26N-14]	420T115070
165M			HEAD SHIFTER [FC52F-16]	456T110050
166M		4822 522 33445	CAM GEAR [FD45B-16]	456T054050
167M		4822 403 70092	REVERSE ARM [FD45G-12]	420T002050
168M		4822 492 70669	SPRING [FK28R-12]	420T115060
169M		4822 528 60371	FLY-WHEEL (R) [FR22D-11]	425T273100
170M		4822 528 60372	FLY-WHEEL (L) [FR22E-13]	425T273110
171M		4822 532 11398	WASHER [FJ111-30]	59264702G0
172M		4822 532 11399	WASHER [FJ111-14]	59264705G0
173M		4822 532 52213	E-RING [UG13U-15]	64001500L0
175M		4822 358 31286	MAIN BELT [FF17G-31]	456T264050
176M			SPRING [FC52H-13]	420T116050
177M		4822 403 70095	METAL LEVER [FD44V-12]	420T354070
178M		4822 403 70094	CASS. LEVER [FD44Y-12]	420T354060
179M		4822 403 70119	REC LEVER [FD44T-14]	424T354100
180M			REFLECTOR [UT11R-11]	420T274050
181M		4822 528 81515	PINCH ROL.(R) [FR20L-22]	456T358550
182M		4822 528 81516	PINCH ROL.(L) [FR20M-41]	456T358560
185M			ANTI EJECT ARM [FC39L-70]	424T002100
186M			SCREW [UG15S-11A]	424T010100
187M			SPRING [FK28R-15]	424T115100
188M			HOLDER [FD45H-15]	420T271050
H075		4822 249 10495	HEAD ASSY [HADKH5559C]	*LH500030R
L071		4822 281 50152	SOLENOID ASSY [765-263]	ME1035011R
M071		4822 361 30311	MAIN MOTOR [F525-256]	MM1120904R
M072		4822 361 30309	REEL MOTOR [564-288]	MM0075002R
PO71			MECHANISM BOARD ASSY.	***
PO72			SENSOR PC BOARD ASSY.	***
PO73			SENSOR PC BOARD ASSY.	***
PO74			HEAD PC BOARD ASSY.	***
Q071		4822 130 82274	PHOTO TAKE UP [AW13G-00]	HW1000100R
Q072		4822 130 82274	PHOTO SUPPLY [AW13G-00]	HW1000100R
Q076		4822 130 82275	QUICK SENSOR ASSY [AZ13P-00]	HW1000200R
S073				
I		4822 276 13475	SWITCH [UE16E-11]	*SP000130R
S077				

NOTE:\*\*\*=PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

## ◆サービス時に必要な試験器材

●このModelを測定又はチェックするのに次のものがが必要です。

- オーディオ発振器
- アッテネータ (600Ω)
- オーディオノイズメーター
- オシロスコープ
- ワウ、フラッターメーター
- トルクメーター (カセット型)
- デジタル周波数カウンター
- ブランクテープ  
(バルクイレーサーで完全に消去したもの)  
AC-225 (Normal) AC-713 (Metal)  
AC-514 (High Position)

注意：

測定値の異常がテープに起因すると考えられる場合は新しいものと交換し再測定して下さい。

- テストテープ  
TCC-112・MTT-111 ..... ワウ・フラッタ、テープスピード  
TCC-120・MTT-212N ..... S/N比  
TCC-130・MTT-150 ..... 出力レベル調整  
TCC-174A・MTT-255M ... アジマス調整  
(TCC-\*\*\*\*:A-BEX/MTT-\*\*\*\*:TEAC)
- ヘッドおよびガイドゲージ (M-300)  
THG-801 ..... ヘッド、ガイド調整

## ◆回路の調整と測定

### A. 調整上の注意点

- 1) テストテープは減衰しやすいので、使用する前にヘッド、キャプスタン等をイレーサーにて十分に消磁すること。
- 2) テストテープはトランス内蔵の計測機やイレーサーのすぐ近くには置かないこと。
- 3) 消磁の方法として、セットからやや離れた所でイレーサーのスイッチを入れヘッド、キャプスタンに近づけ上下に4~5回動かし、ゆっくり離し遠ざけてからスイッチを切ること。
- 4) 使用する工具は帯磁していないこと、時々バルクイレーサーで消磁すること。
- 5) 調整用半固定抵抗および可変コイル等は、極力最少の回転/回数で調整すること。
- 6) スピード、ワウ等は、セットの通常の姿勢で調整/チェックすること。
- 7) ボンドロックは少量にし、周辺に付着あるいは流れ出ることなど無いよう注意のこと。
- 8) AC電源電圧、低周波発振器出力電圧等は、1日2~3回規定どおりかチェックすること。

## 6. TEST EQUIPMENT REQUIRED FOR SERVICING

For measuring or checking a Cassette Deck, the following instruments and materials are necessary.

- Audio Oscillator (Audio Signal Generator)
- Attenuator (600 ohm)
- Audio Noise Meter
- Oscilloscope
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Test Tape  
TCC-112/MTT-111      Wow/Flutter, Tape Speed  
TCC-120/MTT-212N    Signal-to-Noise Ratio  
TCC-130/MTT-150    Dolby Level Adjustment  
TCC-174A/MTT-255M   Azimuth Adjustment  
(TCC-\*\*\*\*:A-BEX/MTT-\*\*\*\*:TEAC)
- Blank Tapes (Completely erased with bulk eraser)  
AC-225 (Normal)  
AC-514 (High Position)  
AC-713 (Metal)

### NOTE:

If any doubt is noted in a measured value, which is due to a tape. Re-measurement is necessary by use the new tape.

- Mirror cassette 12um padless  
TCC-902/MTT-902      Tape flowing check
- Head guide gauge (M-300)  
THG-801

## 7. ELECTRICAL ADJUSTMENTS

### (A) Remark for adjustment

- 1) Clean and de-magnetize the tape path part before measurement.
- 2) Keep cassette tapes away from equipments.
- 3) De-magnetize tools often.
- 4) Do not turn adjustment parts by strong force.
- 5) Keep a cassette deck horizontally while measuring.
- 6) Keep amount of glue in proper.
- 7) Confirm the mains voltage, output level of oscillator and etc. before adjustment and measurement.



B. S. R. L. (Standard Recording Level) 基準録音レベル

- テープ上に開回路磁束で、250nWb/mの磁束を記録出来るレベルのことであり、記録レベルとテストテープの関係は以下のとおりである。

TCC-120 (MTT-212)	(IEC REFERENCE LEVEL)	S. R. L.
開回路磁束 (nWb/m) .....	160 185 200 220 250	
閉回路磁束 (nWb/m) .....	160 185 200	
TCC-130 (MTT-150)	(DOLBY REFERENCE LEVEL)	

注意：開回路磁束 = 閉回路磁束 + 漏洩磁束

- PMD350ではドルビーレベルで再生出力を調整し、基準をIECリファレンスにしているが、便宜上以下のようにする。
  - LINE入りに1kHz、100mVの信号を加え録音状態とする。
  - RECボリュームを調整し、ドルビーテストポイントT601 (L), T601 (R)のレベルが300mVとなるようにする。
  - この状態から入力レベルを+1dBとした状態がすなわち、基準録音レベル(S. R. L.)での規定録音状態である。

注意：  
再生の基準レベルはその測定項目により異なり、使用指定のテストテープの記録レベルが基準レベルを決定することになる。

(B) S.R.L. (Standard Recording Level)

- The Standard Recording Level is a signal of 250nWb/m on a tape at \*OPEN CIRCUIT MAGNETIC FLUX. The relation between the recording level and a test tape is as follows.

• OPEN CIRCUIT MAGNETIC FLUX (nWb/m)	160	185	200	220	250
• CLOSED CIRCUIT MAGNETIC FLEX (nWb/m)		160	185	200	
				**	***

(\*): OPEN CIRCUIT MAGNETIC FLUX = CLOSED CIRCUIT MAGNETIC FLUX + LEAK MAGNETIC FLUX.

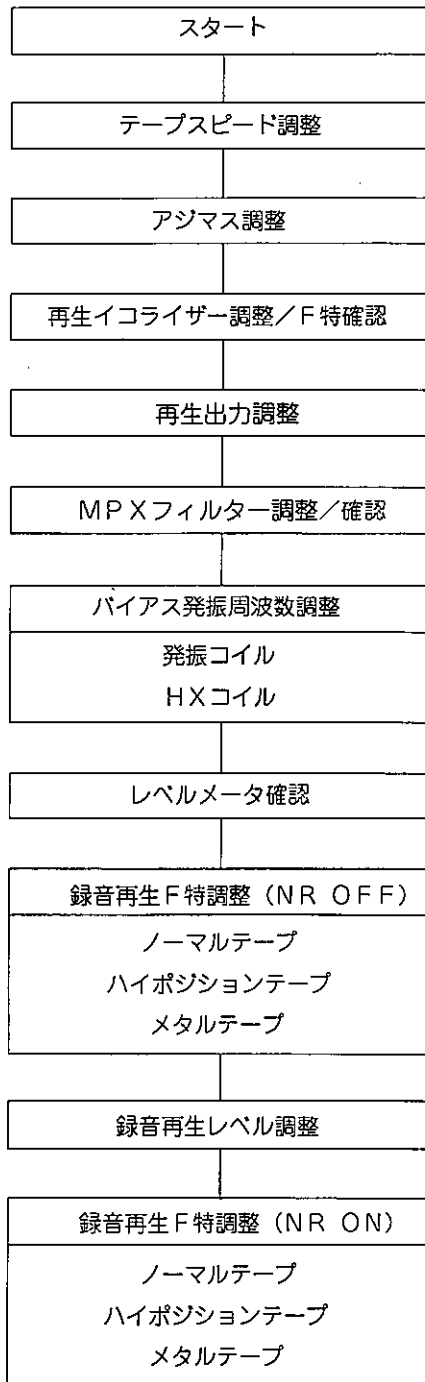
(\*\*): TCC-130 (DOLBY REFERENCE LEVEL) (MTT-150)

(\*\*\*): TCC-120 (IEC REFERENCE LEVEL) (S.R.L.) (MTT-212N)

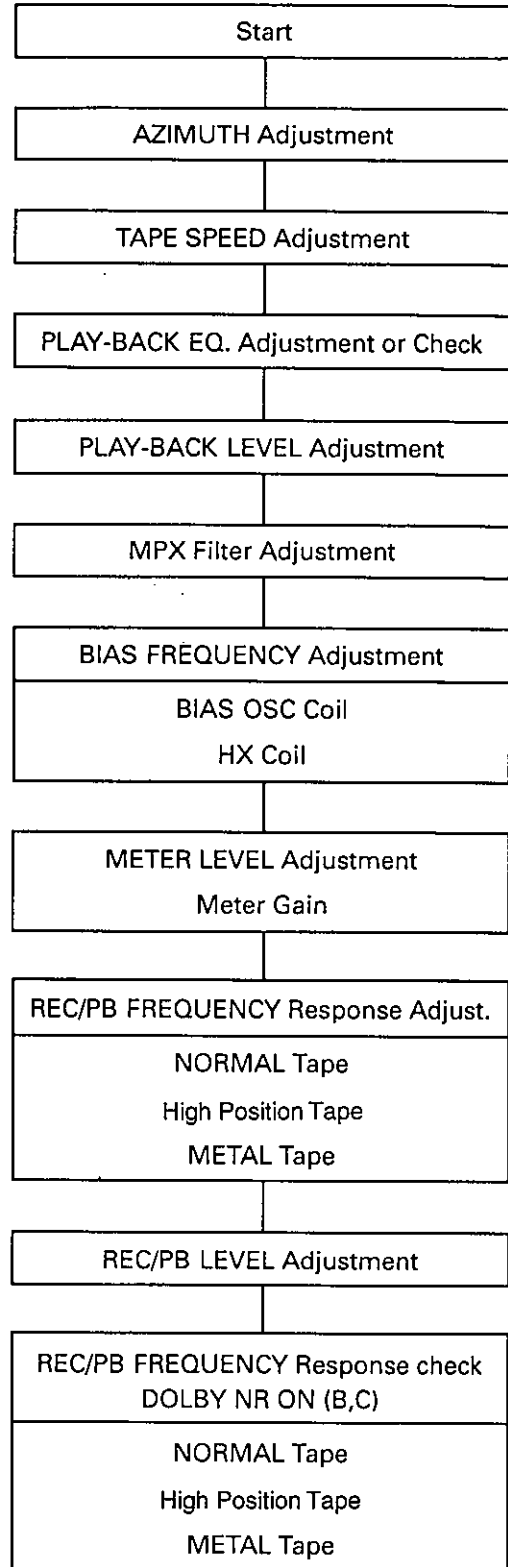
2. S.R.L. Setting

- Apply a 1kHz, 100mV to the LINE INPUT jacks.
- Put the unit in RECORD mode and adjust the REC LEVEL control to obtain the following level of signal at the DOLBY test points T601 (L), T602 (R) 300mV.
- Adjust the output of the audio oscillator applied to the LINE INPUT jacks to 112.2mV (+1dB). This is the rated recording condition for the STANDARD RECORDING LEVEL.

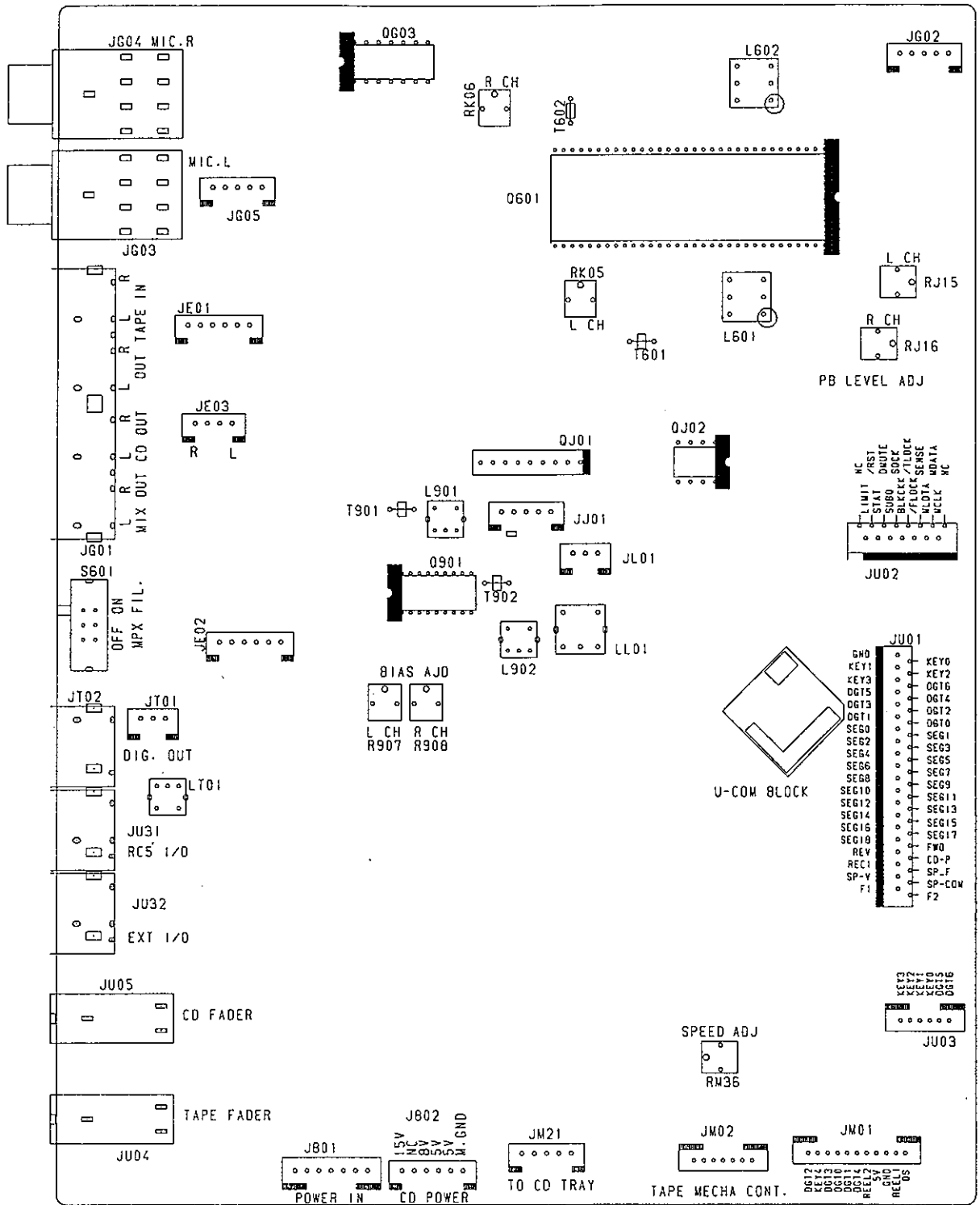
### 調整フローチャート



### ADJUSTMENT FLOW CHART



# ADJUSTMENT POINT COMPONENT SIDE



## ● テープスピード調整

調整は、FWD (PLAY ▷)で行い、REV (< PLAY) 再生は、スペック内であることを確認する。

- 1) テープの中間を再生し、半固定抵抗 (RM36) を調整し、3000Hz (2990~3010Hz) になるようにする。
- 2) 設定後、再度再生して範囲内であることを確認する。

注意：

- (1) 据置き姿勢で行なう。
- (2) メカニズムが常温と大きく異なる温度状態では、行なわないこと。

## ● ヘッドアジマス調整/再生 F 特調整

- 1) アジマス調整用テープの、12.5kHzの信号を再生する。アジマス調整ビスを回し、締め付け方向で出力最大点に合わせる。
- 2) L/Rピーク点が違う場合は、低いチャンネル側を最大にし、L/Rのバランスを取る。
- 3) 調整ビスをボンドロックする。
- 4) 次に、315Hzの信号を0dBとし、12.5kHzの信号のレベルを読む。無調整タイプのセットなので異常な値でないことを確認する。

## 7.1 TAPE SPEED ADJUSTMENT

- 1) Playback the middle part of the Wow & Flutter test tape.
- 2) Adjust the variable resistor.

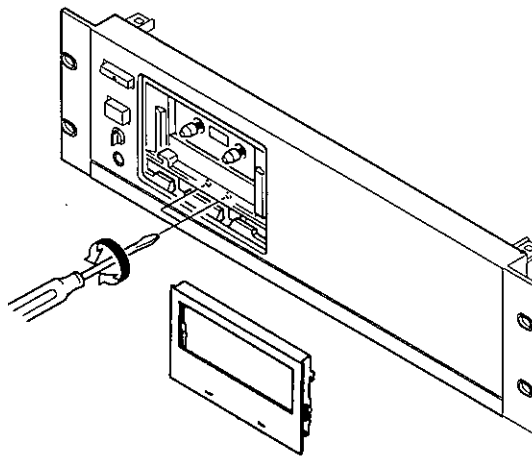
ADJUSTMENT POINT
RM36

for 3000Hz (2990Hz - 3010Hz).

- 3) Repeat 1) and 2) for both directions.

## 7.2 HEAD AZIMUTH ADJUSTMENT and FREQUENCY RESPONSE CHECK

- 1) Playback the 12.5 kHz part of the Azimuth test tape.
- 2) Adjust the proper azimuth screw in both directions for maximum output at the LINE OUTPUT jacks.
- 3) In case the L/R peak points are different, adjust the lower channel to the maximum.
- 4) Lock azimuth screws with glue.
- 5) Playback the 315 Hz part of the test tape and set a 0 dB ref., then playback the 12.5 kHz part of the test tape and confirm that the output is 0 dB,  $\pm 3$  dB.



## ● 再生出力調整

- 1) ドルビーレベルテストテープを再生し、テストポイントの電圧が300mVとなるように調整する。

MODEL	CH	測定点	調整点	調整値
PMD350	L	T601	RJ15	300mV
	R	T602	RJ16	

- 2) 調整後再度再生し、再確認する。

## 7.3 PLAYBACK LEVEL ADJUSTMENT

- 1) Playback the DOLBY test tape, adjust the following variable resistors to the values and the test points indicated below:

MODEL	CH	TEST POINT	ADJ. RES.	ADJUSTMENT VALUE
PMD350	L	T601	RJ15	300mV
	R	T602	RJ16	

- 2) After adjustment, replay and check it again.

Remark:

In case of drifting output during replay, check that the tape running and the test tape are ok, because they may be defective.

● MPXフィルター周波数調整/確認

- 1) ドルビーレベルで録音モニター状態とし、入力信号周波数が1kHzの時のレベルを0dBとする。
- 2) 入力信号周波数を19kHz(±10Hz以内)とし、MPXフィルタースイッチが「ON」の状態ではレベルが最小となるようにコイル調整する。

CH	調整点	調整値
L	L601	Minimum
R	L602	

● 録音バイアス周波数及びHXコイル共振調整

- 1) 録音状態にする。
- 2) バイアス発振周波数を105kHzとなるよう発振コイルを調整する。

測定点	調整点	調整値
R901	LL01	105kHz

\* 周波数カウンターへの接続は、ミリバルを通して行なう。調整/測定が終わったら接続を外すこと。

- 3) 次に、HXチェックポイントにオシロスコープを接続する。
- 4) HXチェックポイントの電圧が最小になる様にHXコイルを調整する。

CH	測定点	調整点	調整値
L	T901	L901	Minimum
R	T902	L902	

● レベルメータ感度確認

- 1) LINE入力1kHz 100mV(アッテネータ、-20dB)にて録音状態とする。次に、REC-LEVELボリュームを調整し、ドルビーテストポイントのレベルが300mVとなるようにする(●再生出力調整参照)。この状態から1dBレベルを上げる。
- 2) この状態で、レベルメータの0dBポイントが点燈していることを確認する。

注意:

- (1) NR OFF とする。

7.4 MPX FILTER ADJUSTMENT

- 1) Put the unit in REC mode with a S.R.L. input.
- 2) The MPX filter switch ON and change the input frequency to 19kHz(±10Hz).
- 3) Adjust L601(L), L602(R) for minimum output at the LINE OUTPUT jacks.

CH	ADJ. POINT	ADJ. TO
L	L601	Minimum
R	L602	

7.5 RECORDING BIAS FREQUENCY AND HX COIL ADJUSTMENT

- 1) Put the unit in REC mode.
- 2) Adjust the following bias oscillator coil for 105kHz at the ERASE HEAD (JL01).

TEST POINT	ADJ. POINT	ADJ. TO
R901	LL01	105kHz

Remark:

May have to connect FREQUENCY COUNTER through an AUDIO VOLT METER.

- 3) Next, connect the Oscilloscope to the HX test point (T901, T902).
- 4) Adjust the HX coils for minimum level.

CH	TEST POINT	COIL	ADJ. TO
L	T901	L901	Minimum
R	T902	L902	

7.6 LEVEL METER SENSITIVITY CHECK

- 1) Put the unit in REC mode with a 1kHz, 100mV signal to the LINE INPUT jacks.
- 2) Set the REC LEVEL at the test point T601, T602 as 300mV. And 1dB increase.
- 3) Check the VU LEVEL METER indicates 0dB.

Remark:

Dolby switch has to be OFF.

● 録音再生F特調整

- 1) 規定録音状態から入力レベルを5mV(-26dB)に減じ、400Hzと12.5kHzの信号をDolby-OFFポジションで録音する。(NORMALテープ)
- 2) 巻き戻し再生し、400Hzと12.5kHzの信号のレベル差を確認し、±1.0dB以上の場合は、半固定抵抗を調整し再度、録直し確認する。

MODEL	CH	調整点
PMD350	L	R907
	R	R908

- 3) High Position、METALでは確認のみを行なう。

● 録音再生レベル調整

- 1) NORMALテープにて規定録音状態とし、400Hzにおけるモニターレベルを0dBとする。
- 2) 巻き戻し再生し、400Hzのレベルが±0.5dB以内となるよう、半固定抵抗を調整する。

CH	調整点
L	RK05
R	RK06

- 3) High Position、METALでは確認のみを行なう。

● DOLBY NR録音再生F特確認

- 1) 規定録音状態から入力レベルを5mV(-26dB)に減じ、下記の信号をDolby-B、ポジションで録音する。(NORMALテープ)  
250Hz、1kHz、3kHz、6.3kHz、10kHz、12.5kHz
- 2) 巻き戻し再生し、各周波数のレベル差がスペックの範囲となることを確認する。
- 3) Dolby-Cポジションでも同様に確認する。
- 4) High Position、METALテープでも同様に行ない確認する。

7.7 REC/PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

- 1) Adjust the output level of the audio oscillator to 5.0mV (-26dB) from the S.R.L. recording condition. Record 400Hz and 12.5kHz signals with DOLBY OFF.
- 2) Playback the recorded part and confirm the level of differences between 400Hz and 12.5kHz are within ± 1.0dB. If the level difference is out of allowance, adjust the variable resistor and confirm the playback level of rerecording

MODEL	CH.	ADJUSTMENT
PMD350	L	R907
	R	R908

- 3) Repeat steps #1 and 2 with High Position and METAL type tapes for confirmation.

7.8 REC/PLAYBACK LEVEL ADJUSTMENT

- 1) Input the 400Hz signal and put the unit into record mode. Measure the output level to set the reference level of 0dB.
- 2) Playback the just recorded part and adjust proper variable resistor, until the REC/PB levels are within ±0.5dB.

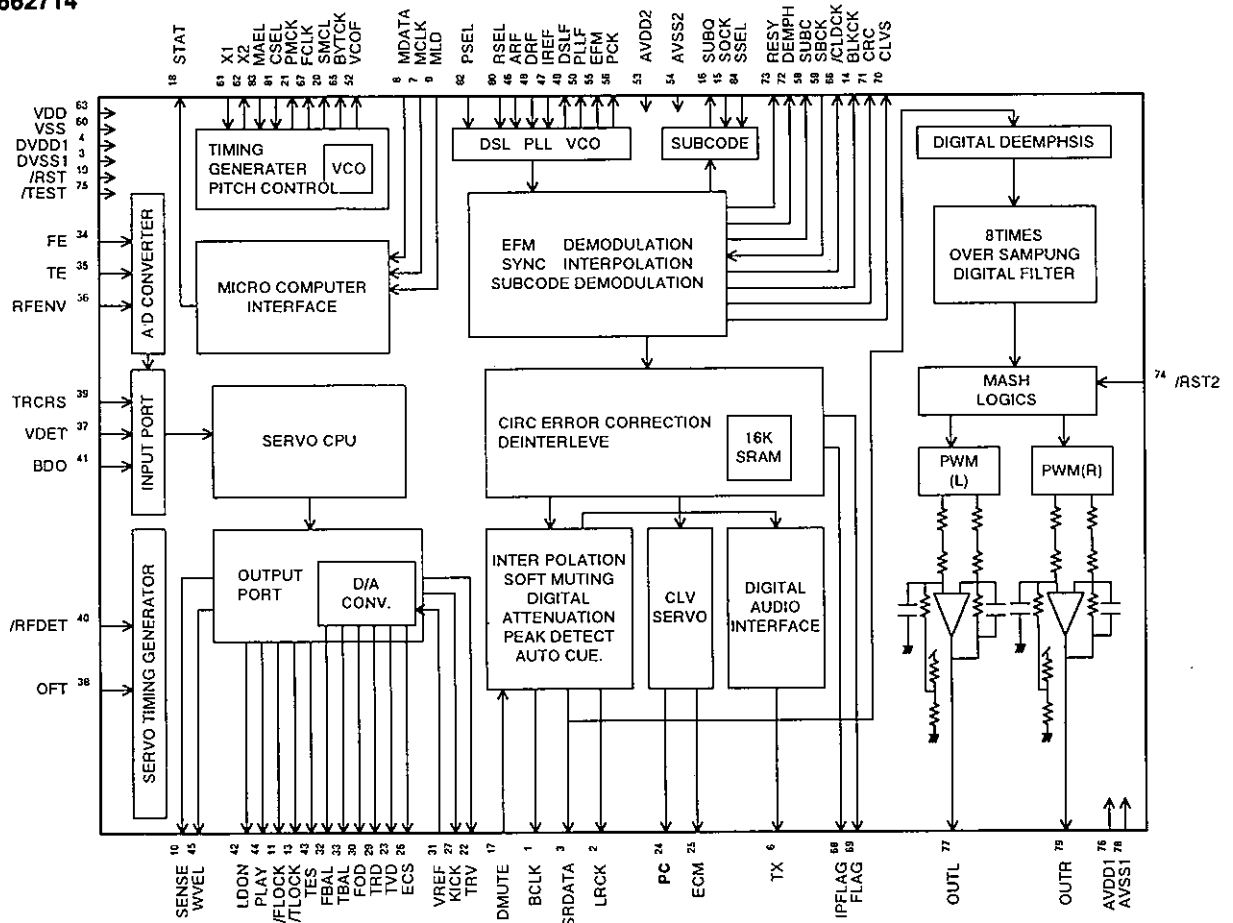
CH.	ADJUSTMENT
L	RK05
R	RK06

- 3) Repeat steps #1 and 2 with High Position and METAL type tapes for confirmation.

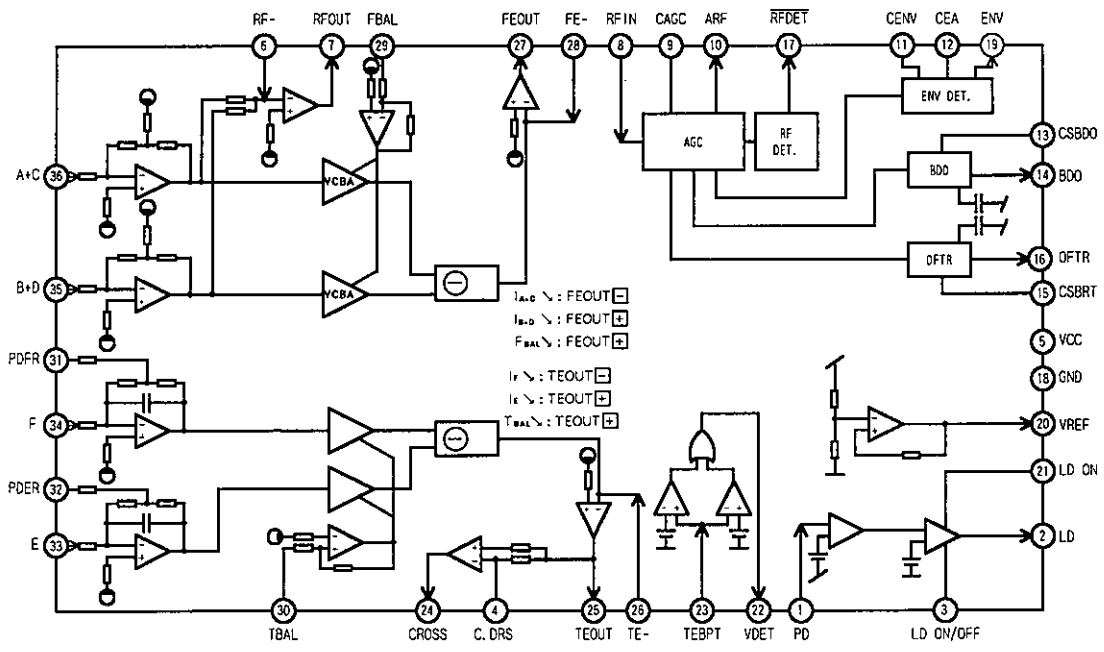
7.9 REC/PLAYBACK FREQUENCY RESPONSE CHECK DOLBY NR

- 1) Adjust the output level of the audio oscillator to 5.0mV (-26dB) from the S.R.L. recording condition. Record the following signals with DOLBY-B ON and Normal tape at 400Hz and 12.5kHz.
- 2) Playback the just recorded part and confirm the difference of levels are within ±1.0dB.
- 3) Repeat steps #1 and 2, with High Position and METAL type tapes.
- 4) Repeat steps #1 and 2, with Dolby-C ON.

## 8. MICROPROCESSOR I/O PINS AND THEIR FUNCTIONS MN662714



PIN NO.	PORT NAME	I/O	FUNCTION	PIN NO.	PORT NAME	I/O	FUNCTION
1	BCLK	O	NC	43	TES	O	NC
2	LRCK	O	NC	44	PLAY	O	NC
3	SRDATA	O	NC	45	WVEL	O	BC
4	DVDD1	I	+5V FOR DIGITAL	46	ARF	I	RF SIGNAL
5	DVSS1	I	GROUND FOR DIGITAL	47	IREF	I	REFERENCE CURRENT
6	TX	O	DIGITAL AUDIO INTERFACE	48	DRF	I	NC
7	MCLK	I	$\mu$ - COM COMMAND CLOCK SIGNAL	49	DSLIF	I/O	LOOP FILTER FOR DSL
8	MDATA	I	$\mu$ - COM COMMAND DATA SIGNAL	50	PLLF	I/O	LOOP FILTER FOR PLL
9	MLD	I	$\mu$ - COM COMMAND LOAD SIGNAL	51	NC3		NC
10	SENSE	O	SENSE SIGNAL	52	VCOF	I/O	LOOP FILTER FOR VCO
11	/FLOCK	O	FOCUS SERVO LOCK SIGNAL	53	AVDD2	I	+5V FOR ANALOG(DSL PLL DA)
12	NC1		NC	54	AVSS2	I	GROUND FOR ANALOG(DSL PLL DA)
13	/TLOCK	O	TRACKING SERVO LOCK SIGNAL	55	EFM	O	EFM SIGNAL
14	BLCK	O	SUB CODE BLOCK CLOCK SIGNAL	56	PCK	O	PLL CLOCK . 4.321MHz
15	SOCK	I	SUB CODE O RESISTER CLOCK	57	PDO	O	PHASE COMPARATOR FOREFM AND PCK
16	SUBO	I	SUB CODE O CODE	58	SUBC	O	NC
17	DMUTE	I	MUTE	59	SBCK	I	NC
18	STAT	O	STATUS SIGNAL	60	VSS	I	GROUND FOR OSCILLATOR
19	/RST	I	RESET	61	X1	I	CRYSTAL OSCILLATOR F=33.8688MHz
20	SMCK	O	NC	62	X2	O	CRYSTAL OSCILLATOR F=33.8688MHz
21	PMCK	O	NC	63	VDD	I	+5V SUPPLY VOLTAGE FOR OSCILLATOR
22	TRV	O	TRAVERSE	64	NC4		NC
23	TVD	O	TRAVERSE DRIVE	65	BYTCK	O	NC
24	PC	O	SPINDIE MOTOR ON SIGNAL L:ON	66	/CLDCK	O	NC
25	ECM	O	SPINDIE MOTOR	67	FCLK	O	NC
26	ECS	O	SPINDIE MOTOR DRIVE	68	IPFLAG	O	INTERPOLATION FLAG H:INTERPOLATION
27	KICK	O	KICK PULSE	69	FLAG	O	NC
28	NC2		NC	70	CLVS	O	NC
29	TRD	O	TRACKING DRIVE	71	CRC	O	SUB CODE CRC CHECK H:OK L:NG
30	FOD	O	FOCUS DRIVE	72	DEMPH	O	NC
31	VREF	I	REFERENCE VOLTAGE	73	RESY	O	NC
32	FBAL	O	FOCUS BALANCE ADJ.	74	/RST2	I	RESET FOR MSH L:RESET
33	TBAL	O	TRACKING BALANCE ADJ.	75	/TEST	I	TEST
34	FE	I	FOCUS ERROR SIGNAL	76	AVDD1	I	+5V FOR ANALOG(AUDIO)
35	TE	I	TRACKING ERROR SIGNAL	77	OUTL	O	ANALOG L CH
36	RFENV	I	RF ENVELOP	78	AVSS1	I	GROUND FOR ANALOG(AUDIO)
37	VDDET	I	VIBRATION DET.	79	OUTR	O	ANALOG R CH
38	OFT	I	OFF TRACK SIGNAL	80	RSEL	I	RF POLARITY SEL.
39	TRCRS	I	TRACK LOSS SIGNAL	81	CSEL	I	H:CSEL=33.8688MHz
40	/FDET	I	RF DETECTOR SIGNAL	82	PSEL	I	TEST
41	BDO	I	DROP - OUT SIGNAL	83	MSEL	I	L:SMCK=4.2336MHz
42	LDON	O	LASER ON SIGNAL	84	SSEL	I	RESY MODE



PIN NO.	PORT NAME	I/O	FUNCTION	PIN NO.	PORT NAME	I/O	FUNCTION
1	PD	I	APC AMP. (Auto,atic Power Control)	19	ENV	O	3TENV
2	LD	O	APC AMP.	20	VREF	O	VREF
3	LD ON		APC ON/OFF CONTROL	21	LD OFF		APC OFF CONTROL
4	C. CRS		CAP. FOR CROSS	22	VDET	O	VDET
5	VCC		VCC	23	TEBPF	I	VDET
6	RF -	I	RF AMP. INVERTING	24	CROSS	O	CROSS
7	RF OUT	O	RF AMP.	25	TE OUT	O	TE AMP.
8	RF IN	I	AGC	26	TE -	I	TE AMP. INVERTING
9	CAGC		LOOP FILTER FOR AGC	27	FE OUT	O	FE AMP.
10	ARF	O	AGC	28	FE -	I	EF AMP. INVERTING
11	CENV		CAP. FOR RF DET.	29	FBAL		F BAL CONTROL
12	CEA		CAP. FOR HPF - AMP.	30	TBAL		T BAL CONTROL
13	C. SBDO		CAP. FOR RF ENVELOP DARK DET.	31	PDR	I	I - V AMP. ADJ.
14	BDO	O	BDO	32	PDER	I	I - V AMP. ADJ.
15	C. SBRT		CAP. FOR RF ENVELOP BRIGHT DET.	33	PDE	I	I - V AMP. E
16	OFTR	O	OFTR	34	PDF	I	I - V AMP. F
17	RFDET	O	RFDET	35	PDBO	I	I - V AMP. B+D
18	GND		GND	36	PDAC	I	I - V AMP. A+C



# 9. ELECTRICAL PARTS LIST

## ASSIGNMENT OF COMMON PARTS CODES.

### RESISTOR

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

① — Resistance value

Examples :

① Resistance value  
 0.1Ω...001    10Ω...100    1kΩ...102    100kΩ...104  
 0.5Ω...005    18Ω...180    2.7kΩ...272    680kΩ...684  
 1Ω...010    100Ω...101    10kΩ...103    1MΩ...105  
 6.8Ω...068    390Ω...391    22kΩ...223    4.7MΩ...475

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

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

1) DD1 x x x 370, Ceramic capacitor  
 Disc type  
 Temp.coeff.P350~N1000,50V

① — Capacity value  
 ② — Tolerance

Examples

① Tolerance (Capacity deviation)  
 ± 0.25pF... 0  
 ± 0.5pF... 1  
 ± 5%... 5

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

0.5pF~ 5pF...± 0.25pF  
 6pF~ 10pF...± 0.5pF  
 12pF~ 560pF...± 5%

② Capacity value

0.5pF...005    3pF...030    100pF...101  
 1pF...010    10pF...100    220pF...221  
 1.5pF...015    47pF...470    560pF...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  
 100pF...101    1000pF...102    10000pF...103  
 470pF...471    2200pF...222

### C\*\*\* : ELECTROLY CAP. ( $\frac{\square}{\square}$ ), FILM CAP. ( $\frac{\square}{\square}$ )

1) EA x x x x x 10, Electrolytic capacitor  
 One-way lead type, Tolerance ± 20%

① — Working voltage  
 ② — Capacity value

Examples

① Capacity value  
 0.1μF...104    4.7μF...475    100μF...107  
 0.33μF...334    10μF...106    330μF...337  
 1μF...105    22μF...226    1100μF...118  
 2200μF...228

② Working voltage

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

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

① — Capacity value

Examples

① Capacity value  
 0.001μF(1000pF)...102    0.1μF...104  
 0.0018μF...182    0.56μF...564  
 0.01μF...103    1μF...105  
 0.015μF...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 the common parts on the parts list.  
 3) Refer to "Common Parts List" for the other common parts( RI05, DD4, DK4 ).

## NOTE ON SAFETY FOR FUSIBLE RESISTOR :

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

### 1. KOA Corporation

Part No.	Type No.	Description
NH05 x x x 140	RF25S x x x x ΩJ	( ± 5% 1/4W )
NH05 x x x 120	RF50S x x x x ΩJ	( ± 5% 1/2W )
NH85 x x x 110	RF73B2A x x x x ΩJ	( ± 5% 1/10W )
NH95 x x x 140	RF73B2E x x x x ΩJ	( ± 5% 1/4W )

\* Resistance value (0.1-10kΩ)

### 2. Matsushita Electronic Components Co., Ltd

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

\* Resistance value

Examples :

\* Resistance value  
 0.1Ω...001    10Ω...100    1kΩ...102    100kΩ...104  
 0.5Ω...005    18Ω...180    2.7kΩ...272    680kΩ...684  
 1Ω...010    100Ω...101    10kΩ...103    1MΩ...105  
 6.8Ω...068    390Ω...391    22kΩ...223    4.7MΩ...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 μ-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 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。

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

POS. NO	VERS. COLOR	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (USA/JPN)	POS. NO	VERS. COLOR	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (USA/JPN)
			<b>PD16-CD BLOCK CIRCUIT BOARD</b>						
			<b>PD16-CAPACITORS</b>						
C101		4822 122 33741	CER. 10pF ±0.5pF CHIP	DD91100300	CM07		4822 124 41842	TANTL. 47µF/16V CHIP	EY47601620
C102		4822 126 11678	CER. 1µF +80 -20% CHIP	DK58105200	CM08		4822 126 11687	CER. 0.1µF +80 -20% CHIP	DK98104200
C103		4822 126 11678	CER. 1µF +80 -20% CHIP	DK58105200	CM09		4822 126 11687	CER. 0.1µF +80 -20% CHIP	DK98104200
C104		4822 122 33744	CER. 100pF ±5% CHIP	DD95101300	CM10		4822 126 11567	CER. 0.022µF ±10% CHIP	DK96223200
C105		4822 125 60204	CER. 0.027µF 10% CHIP	DK96273200	CM11		4822 126 11567	CER. 0.022µF ±10% CHIP	DK96223200
C106		4822 126 11702	CER. 680pF ±10% CHIP	DK96681300	CM12		4822 123 30378	MICA 0.1µF ±5% CHIP	DF95104060
C107		5322 126 11579	CER. 3300pF ±10% CHIP	DK96332300	CM13		4822 126 11687	CER. 0.1µF +80 -20% CHIP	DK98104200
C108		4822 126 11687	CER. 0.1µF +80 -20% CHIP	DK98104200				<b>PD16-SEMICONDUCTORS</b>	
C109		4822 124 10772	TANTL. 100µF/6.3V CHIP	EY10700620	Q101		4822 209 33815	IC AN8805SB	HC10148020
C110		4822 126 11687	CER. 0.1µF +80 -20% CHIP	DK98104200	Q103		4822 130 61541	CHIP TR. 2SC4116	HX341162B0
C111		4822 124 10772	TANTL. 100µF/6.3V CHIP	EY10700620	Q104		4822 130 61541	CHIP TR. 2SC4116	HX341162B0
C112		4822 126 13396	CER. 0.047µF ±10% CHIP	DK96473200	Q105		4822 130 63609	CHIP TR. 2SA1588(Y)	HX115881A0
C113		4822 126 11685	CER. 4700pF ±10% CHIP	DK96472300	Q106		4822 130 61541	CHIP TR. 2SC4116	HX341162B0
C114		5322 126 11583	CER. 10000pF ±10% CHIP	DK96103200	Q107		4822 130 61541	CHIP TR. 2SC4116	HX341162B0
C115		5322 126 11583	CER. 10000pF ±10% CHIP	DK96103200	Q501		4822 209 33817	IC MN662714	HC10150020
C116		4822 125 60204	CER. 0.027µF ±10% CHIP	DK96273200	Q651		4822 209 71451	IC NJM4558M(Y)	HC10011090
C117		4822 126 11678	CER. 1µF +80 -20% CHIP	DK58105200	Q652		4822 209 71451	IC NJM4558M(Y)	HC10011090
C118		4822 122 33753	CER. 150pF ±5% CHIP	DD95151300	QM01		4822 209 33816	IC AN8389S	HC10149020
C120		4822 126 11678	CER. 1µF +80 -20% CHIP	DK58105200				<b>PD16-RESISTORS</b>	
C121		4822 126 13395	CER. 390P ±10% CHIP	DK96391300	R101		4822 116 83221	CHIP 8.2kΩ ±5% 1/16W	NN05822610
C122		4822 126 11695	CER. 330pF ±5% CHIP	DD95331300	R102		4822 051 30153	CHIP 15kΩ ±5% 1/16W	NN05153610
C123		4822 124 11074	TANTL. 10µF/16V CHIP	EY10601620	R103		4822 051 30684	CHIP 680Ω ±5% 1/16W	NN05681610
C124		4822 126 11687	CER. 0.1µF +80 -20% CHIP	DK98104200	R104		4822 051 30471	CHIP 470Ω ±5% 1/16W	NN05391610
C125		4822 126 11687	CER. 0.1µF +80 -20% CHIP	DK98104200	R107		4822 116 83214	CHIP 39kΩ 5% 1/16W	NN05393610
C126		4822 124 10772	TANTL. 100µF/6.3V CHIP	EY10700620	R108		4822 116 83222	CHIP 82kΩ ±5% 1/16W	NN05823610
C128		4822 126 11723	CER. 390pF ±5% CHIP	DD95391370	R109		4822 116 83222	CHIP 82kΩ ±5% 1/16W	NN05823610
C501		4822 126 11702	CER. 680pF ±10% CHIP	DK96681300	R110		4822 051 30334	CHIP 330kΩ ±5% 1/16W	NN05334610
C502		4822 126 11687	CER. 0.1µF +80 -20% CHIP	DK98104200	R111		4822 051 30334	CHIP 330kΩ ±5% 1/16W	NN05334610
C503		4822 126 13698	CER. 8200pF 10% CHIP	DK96822200	R112		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
C504		4822 126 13807	CER. 0.33µF ±10% CHIP	DK56334200	R113		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
C505		4822 126 13807	CER. 0.33µF ±10% CHIP	DK56334200	R114		4822 051 30272	CHIP 2.7kΩ ±5% 1/16W	NN05272610
C506		4822 126 11687	CER. 0.1µF +80 -20% CHIP	DK98104200	R115		4822 116 83211	CHIP 1.8kΩ ±5% 1/16W	NN05182610
C507		4822 124 10772	TANTL. 100µF/6.3V CHIP	EY10700620	R117		4822 116 83221	CHIP 8.2kΩ ±5% 1/16W	NN05822610
C508		4822 126 11687	CER. 0.1µF +80 -20% CHIP	DK98104200	R118		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
C509		4822 126 11687	CER. 0.1µF +80 -20% CHIP	DK98104200	R119		4822 051 30332	CHIP 3.3kΩ ±5% 1/16W	NN05332610
C510		4822 124 10772	TANTL. 100µF/6.3V CHIP	EY10700620	R120		4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610
C511		4822 122 33741	CER. 10pF ±0.5pF CHIP	DD91100300	R121		4822 051 30684	CHIP 680Ω ±5% 1/16W	NN05681610
C512		4822 126 11661	CER. 5pF ±0.25pF CHIP	DD90050300	R122		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
C513		4822 126 11661	CER. 5pF ±0.25pF CHIP	DD90050300	R123		4822 051 30224	CHIP 220kΩ ±5% 1/16W	NN05224610
C514		4822 124 10772	TANTL. 100µF/6.3V CHIP	EY10700620	R124		4822 116 83222	CHIP 82kΩ ±5% 1/16W	NN05823610
C515		4822 126 11687	CER. 0.1µF +80 -20% CHIP	DK98104200	R125		4822 051 30683	CHIP 68kΩ ±5% 1/16W	NN05683610
C651		4822 122 33751	CER. 120pF ±5% CHIP	DD95121300	R126		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
C652		4822 122 33751	CER. 120pF ±5% CHIP	DD95121300	R127		4822 051 30272	CHIP 2.7kΩ ±5% 1/16W	NN05272610
C657					R128		4822 051 30151	CHIP 150Ω ±5% 1/16W	NN05151610
C660		4822 122 33777	CER. 47pF ±5% CHIP	DD95470300	R129		4822 051 30151	CHIP 150Ω ±5% 1/16W	NN05151610
C661		4822 123 30409	MICA 470pF ±5% CHIP	DF95471040	R130		4822 111 90967	FUSE 4.7Ω ±5% 1/4W	NF05047140
C662		4822 123 30409	MICA 470pF ±5% CHIP	DF95471040	R131		4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610
C663					R501		4822 116 83222	CHIP 82kΩ ±5% 1/16W	NN05823610
C666		4822 124 41842	TANTL. 47µF/16V CHIP	EY47601620	R502		4822 051 30154	CHIP 150kΩ ±5% 1/16W	NN05154610
CM01		4822 126 11566	CER. 2200pF ±10% CHIP	DK96222300	R504			CHIP 1.2MΩ ±5% 1/16W	NN05125610
CM02		4822 126 12495	CER. 1500pF ±10% CHIP	DK96152300	R505		4822 051 30684	CHIP 680Ω ±5% 1/16W	NN05681610
CM03		4822 126 11567	CER. 0.022µF ±10% CHIP	DK96223200	R506		4822 051 30684	CHIP 680Ω ±5% 1/16W	NN05681610
CM05		4822 126 13394	CER. 0.018µF ±10% CHIP	DK96183200	R507		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610
CM06		4822 124 41842	TANTL. 47µF/16V CHIP	EY47601620	R508		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
					R509		4822 051 30334	CHIP 330kΩ ±5% 1/16W	NN05334610
					R510		4822 116 83214	CHIP 39kΩ ±5% 1/16W	NN05393610
					R651				
					R654		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610

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POS. NO	VERS. COLOR	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (USA/JPN)	POS. NO	VERS. COLOR	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (USA/JPN)
R659		4822 051 30333	CHIP 33kΩ ±5% 1/16W	NN05333610	C626		4822 124 23053	ELECT 1μF/50V	EJ10505010
R660		4822 051 30333	CHIP 33kΩ ±5% 1/16W	NN05333610	C627		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
R661		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610	C628		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
R662		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610	C629		4822 124 23053	ELECT 1μF/50V	EJ10505010
R663		4822 116 83212	CHIP 18kΩ ±5% 1/16W	NN05183610	C810		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
R664		4822 116 83212	CHIP 18kΩ ±5% 1/16W	NN05183610	C813		4822 124 21894	ELECT 10μF/16V	EJ10601610
R665		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610	C901		4822 121 43775	FILM 560pF ±10%	DF76561530
R666		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610	C902		4822 121 43775	FILM 560pF ±10%	DF76561530
R667		4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610	C907		4822 122 31211	CER. 100pF ±10%	DK16101550
R668		4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610	C908		4822 122 31211	CER. 100pF ±10%	DK16101550
R669		4822 051 30333	CHIP 33kΩ ±5% 1/16W	NN05333610	C914		4822 122 30103	CER. 0.022μF +80 -20%	DK18223310
R670		4822 051 30333	CHIP 33kΩ ±5% 1/16W	NN05333610	C916		4822 122 32185	CER. 10pF ±0.5pF	DD11100300
R671		4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610	CC01				
R672		4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610	I		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
RM01		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610	CC04				
RM02		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610	CE01		4822 124 21894	ELECT 10μF/16V	EJ10601610
RM03		4822 051 30474	CHIP 470kΩ ±5% 1/16W	NN05474610	CE02		4822 124 21894	ELECT 10μF/16V	EJ10601610
RM04		4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610	CE03		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
RM05		4822 116 83212	CHIP 18kΩ ±5% 1/16W	NN05183610	CE04		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
RM06		4822 116 83219	CHIP 820Ω ±5% 1/16W	NN05821610	CE21		4822 124 21894	ELECT 10μF/16V	EJ10601610
RM07		4822 051 30392	CHIP 3.9kΩ ±5% 1/16W	NN05392610	CE22		4822 124 21894	ELECT 10μF/16V	EJ10601610
RM08		4822 116 83216	CHIP 56kΩ ±5% 1/16W	NN05563610	CE23		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
RM09		4822 116 83212	CHIP 18kΩ ±5% 1/16W	NN05183610	CE24		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
RM10		4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610	CE25		4822 124 21894	ELECT 10μF/16V	EJ10601610
RM11		4822 051 30683	CHIP 68kΩ ±5% 1/16W	NN05683610	CE26		4822 124 21894	ELECT 10μF/16V	EJ10601610
RM12		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610	CE41		4822 124 21894	ELECT 10μF/16V	EJ10601610
RM13		4822 051 30229	CHIP 22Ω ±5% 1/16W	NN05220610	CE42		4822 124 21894	ELECT 10μF/16V	EJ10601610
RM14		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610	CG01				
RM17		4822 051 30229	CHIP 22Ω ±5% 1/16W	NN05220610	I		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
			<b>PD16-MISCELLANEOUS</b>		CG04				
J101		4822 265 41349	JACK TOC-L12X-A1 12P FFC	YJ07007950	CG07				
J501			JACK HLEM15R-1 FFC CONN.	YJ06011250	I		4822 124 21894	ELECT 10μF/16V	EJ10601610
L501		4822 158 60654	FERRITE CORE BLM31A02	FC90030070	CG10				
X501		4822 242 81864	XTAL 33.8688MHZ	JX33001350	CG11		4822 122 30103	CER. 0.022μF +80 -20%	DK18223310
			<b>PG03-REC.VOL. CIRCUIT BOARD</b>		CG31		4822 124 21894	ELECT 10μF/16V	EJ10601610
			<b>PG03-RESISTORS</b>		CG32		4822 124 21894	ELECT 10μF/16V	EJ10601610
RG51		4822 101 30724	VAR. 20K-A	RM02030360	CJ03		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
RG52		4822 101 30837	VAR. 100KB RK09K113C	RK01040660	CJ04		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
			<b>PG03-RESISTORS (COMMON)</b>		CJ09		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
<u>R***</u>			Carbon Film Fixed Resistor, ±5% 1/6W		CJ10		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
			RG53, RG54		CJ15		4822 124 21894	ELECT 10μF/16V	EJ10601610
			<b>PG03-MISCELLANEOUS</b>		CJ51		4822 122 30103	CER. 0.022μF +20 -20%	DK18223310
WG01			5P EH-SUN UL1430 AWG26	YB00121820	CK01		4822 124 23054	ELECT 0.47μF/50V	EJ47405010
			<b>PJ03-MAIN CIRCUIT BOARD</b>		CK02		4822 12423054	ELECT 0.47μF/50V	EJ47405010
			<b>PJ03-CAPACITORS</b>		CK03		4822 124 23053	ELECT 1μF/50V	EJ10505010
C601					CK04		4822 124 23053	ELECT 1μF/50V	EJ10505010
I		4822 124 23053	ELECT 1μF/50V	EJ10505010	CK05		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
C608					CK06		4822 124 21899	ELECT 4.7μF/25V	EJ47502510
C617					CK09		4822 122 31211	CER. 100pF ±10%	DK16101550
I		4822 124 41604	ELECT 0.1μF/50V	EJ10405010	CK10		4822 122 31211	CER. 100pF ±10%	DK16101550
C620					CL03		4822 121 43774	FILM 0.012μF ±10%	DF76123530
					CL04		4822 124 21894	ELECT 10μF/16V	EJ10601610
C621		4822 124 21899	ELECT 4.7μF/25V	EJ47502510	CL05		4822 124 21894	ELECT 10μF/16V	EJ10601610
C622		4822 124 21899	ELECT 4.7μF/25V	EJ47502510	CM22		4822 122 30103	CER. 0.022μF +80 -20%	DK18223310
C623					CM31				
I		4822 124 23053	ELECT 1μF/50V	EJ10505010	I		4822 122 30103	CER. 0.022μF +80 -20%	DK18223310
C625					CM35				
					CT04		4822 122 30103	CER. 0.022μF +80 -20%	DK18223310
					CU01		4822 124 41604	ELECT 0.1μF/50V	EJ10405010
					CU02		4822 124 21894	ELECT 10μF/16V	EJ10601610
					CU09		4822 122 30103	CER. 0.022μF +80 -20%	DK18223310

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POS. NO	VERS. COLOR	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (USA/JPN)
C***			<b>PJ03-CAPACITORS (COMMON)</b> High Dielectric Constant Ceramic Capacitor, ±5% 50V: C632, C909, C910, CJ17, CJ18, CJ52, CM21, CU04-CU08, CU11, CU12	
C***			Electrolytic Capacitor, ±20%: C803-C807, C809, C812, C851, C852, C913, C915, CC05, CC06, CE05, CE43, CG05, CG06, CG12, CJ05, CJ06, CJ13, CJ14	
C***			Plastic Film Capacitor, ±5% 50V: C609-C616, C903-C906, C911-C912, CJ01, CJ02, CJ07, CJ08, CJ11, CJ12, CL01, CL02, CT01-CT03	
			<b>PJ03-SEMICONDUCTORS</b>	
▲ D801		4822 130 83067	DIODE D3SB20	HE20020290
D806		4822 130 32362	DIODE 1SS176,MA165,1SS254	HD20002000
D807		4822 130 32508	DIODE RL103E/DSF10C	HD20003000
D809		4822 130 32362	DIODE 1SS176,MA165,1SS254	HD20002000
D812		4822 130 32362	DIODE 1SS176,MA165,1SS254	HD20002000
D813		4822 130 32362	DIODE 1SS176,MA165,1SS254	HD20002000
D851		4822 130 32508	DIODE RL103E/DSF10C	HD20003000
D852		4822 130 83142	ZENER DIODE 6.2V 04AZ6.2-Z, RD6.2ESB2, MTZJ6.2B	HD30621000
D853		4822 130 80623	ZENER DIODE 13V 04AZ13-Z, RD13ESB2, MTZJ13B	HD31301000
D854		4822 130 80623	ZENER DIODE 13V 04AZ13-Z, RD13ESB2, MTZJ13B	HD31301000
D855		4822 130 32508	DIODE RL103E/DSF10C	HD20003000
DC01   DC04		4822 130 32362	DIODE 1SS176,MA165,1SS254	HD20002000
DM01		4822 130 32508	DIODE RL103E/DSF10C	HD20003000
DM02		4822 130 83142	ZENER DIODE 6.2V 04AZ6.2-Z, RD6.2ESB2, MTZJ6.2B	HD30621000
DM03		4822 130 33759	ZENER DIODE NTJ4.7B 4.7V	HD30471000
DM21		4822 130 33948	ZENER DIODE 5.6V 04AZ5.6-Z, RD5.6ESB2, MTZJ5.6B	HD30561000
DU01   DU09		4822 130 32362	DIODE 1SS176,MA165,1SS254	HD20002000
Q601		4822 209 32748	IC HA12155NT	HC10101010
Q603		4822 130 60588	DIG.TR DTC114ES/UN4211	BA20001000
Q604		4822 130 60588	DIG.TR DTC114ES/UN4211	BA20001000
▲ Q801		4822 209 83317	IC NJM7815FA 15V 1A	HC38915090
▲ Q802		4822 209 31631	IC NJM7805FA 5V 1A	HC38905090
Q803		4822 130 60588	DIG.TR DTC114ES/UN4211	BA20001000
▲ Q804		4822 130 42682	DIG.TR DTA144ES/UN4113	BA10002000
Q805		4822 130 42682	DIG.TR DTA144ES/UN4113	BA10002000
Q806		4822 130 60588	DIG.TR DTC114ES/UN4211	BA20001000
Q807		4822 130 42594	DIG.TR DTC144ES/UN4213	BA20002000
▲ Q808		4822 209 31631	IC NJM7805FA 5V 1A	HC38905090
Q851		4822 130 61176	TRS. 2SB1357 E OR F 50V 1.8W	HT213572B0
Q901		4822 209 72874	IC μPC1297CA	HC10200060
Q902		4822 130 60588	DIG.TR DTC114ES/UN4211	BA20001000
Q903		4822 130 60588	DIG.TR DTC114ES/UN4211	BA20001000

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QC01		4822 209 83631	IC NJM4558DD	HC10008090
QC02		4822 130 60588	DIG.TR DTC114ES/UN4211	BA20001000
QC03		4822 130 42298	TRS. 2SC536SP,2SC2458, 2SC3311,2SC1740S	HT30001000
QC04		4822 130 42298	TRS. 2SC536SP,2SC2458, 2SC3311,2SC1740S	HT30001000
QE01		4822 130 61723	DIG.TR DTC323TS 2.2K	BA20028210
QE02		4822 130 61723	DIG.TR DTC323TS 2.2K	BA20028210
QE03		4822 209 83631	IC NJM4558DD	HC10008090
QE04		4822 130 42298	TRS. 2SC536SP,2SC2458, 2SC3311,2SC1740S	HT30001000
QE21		4822 130 61723	DIG.TR DTC323TS 2.2K	BA20028210
QE22		4822 130 61723	DIG.TR DTC323TS 2.2K	BA20028210
QE23		4822 209 83631	IC NJM4558DD	HC10008090
QE41		4822 209 83631	IC NJM4558DD	HC10008090
QE43		4822 130 61723	DIG.TR DTC323TS 2.2K	BA20028210
QE44		4822 130 61723	DIG.TR DTC323TS 2.2K	BA20028210
QG01		4822 209 73064	IC NJM2068DD	HC10053090
QG02		4822 209 73064	IC NJM2068DD	HC10053090
QG03		4822 209 61973	IC BU4066B	HC406621B0
QG05		4822 130 42594	DIG.TR DTC144ES/UN4213	BA20002000
QG06		4822 130 42594	DIG.TR DTC144ES/UN4213	BA20002000
QJ01		4822 209 61667	IC μPC1330HA	HC10206060
QJ02		4822 209 73064	IC NJM2068DD	HC10053090
QJ03		4822 130 42594	DIG.TR DTC144ES/UN4213	BA20002000
QJ04		4822 130 42594	DIG.TR DTC144ES/UN4213	BA20002000
QK01		4822 130 61723	DIG.TR DTC323TS 2.2K	BA20028210
QK02		4822 130 61723	DIG.TR DTC323TS 2.2K	BA20028210
QL01		4822 130 61441	TRS. 2SD1862 TV-2 NPN Q,R	HT418622A0
QL02		4822 130 61886	TRS. 2SD1292 Q OR R	HT412922A0
QL03		4822 130 60588	DIG.TR DTC114ES/UN4211	BA20001000
QL04		4822 130 42298	TRS. 2SC536SP,2SC2458, 2SC3311,2SC1740S	HT30001000
QM02		4822 130 61892	TRS. 2SD2144S U OR V	HT421442A0
QM03		4822 209 30193	IC LB1641	HC10279030
QM04		4822 130 42594	DIG.TR DTC144ES/UN4213	BA20002000
QM05   QM07		4822 130 60588	DIG.TR DTC114ES/UN4211	BA20001000
QM12		4822 130 63042	DIG.TR DTA125TS	BA10032210
QM13		4822 130 63042	DIG.TR DTA125TS	BA10032210
QM14   QM16		4822 130 42594	DIG.TR DTC144ES/UN4213	BA20002000
QM21		4822 209 30193	IC LB1641	HC10279030
QM31		4822 130 61892	TRS. 2SD2144S U OR V	HT421442A0
QU01			μ-PRO MN1873216	HU474TA020
QU02		4822 130 42298	TRS. 2SC536SP,2SC2458, 2SC3311,2SC1740S	HT30001000
QU03		4822 130 42682	DIG.TR DTA144ES/UN4113	BA10002000
QU04		4822 130 42298	TRS. 2SC536SP,2SC2458, 2SC3311,2SC1740S	HT30001000
QU05		4822 130 42682	DIG.TR DTA144ES/UN4113	BA10002000
QU06		4822 209 30307	IC 74HC4094	HC709449B0
QU07		4822 209 30307	IC 74HC4094	HC709449B0
QU08		4822 130 61227	DIG.TR DTA114ES/UN4111	BA10001000
QU09		4822 130 61227	DIG.TR DTA114ES/UN4111	BA10001000
R907		4822 100 11351	TRIM. 10k Ω RH0638C14R	RA01030780
R908		4822 100 11351	TRIM. 10k Ω RH0638C14R	RA01030780
RJ15		4822 100 11351	TRIM. 10k Ω RH0638C14R	RA01030780
RJ16		4822 100 11351	TRIM. 10k Ω RH0638C14R	RA01030780
RK05		4822 100 11351	TRIM. 10k Ω RH0638C14R	RA01030780

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POS. NO	VERS. COLOR	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (USA/JPN)	POS. NO	VERS. COLOR	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (USA/JPN)
RK06 RM21 RM33 RM36		4822 100 11351 4822 116 60314 4822 116 60314 4822 100 11351	TRIM. 10kΩ RH0638C14R FUSIBLE 10Ω 5% 1/4W FUSIBLE 10Ω 5% 1/4W TRIM. 10kΩ RH0638C14R	RA01030780 NH05100140 NH05100140 RA01030780	R***			<b>PV03-RESISTORS (COMMON)</b> Carbon Film Fixed Resistor, ±5% 1/6W RV01-RV18	
R***			<b>PJ03-RESISTORS (COMMON)</b> Carbon Film Fixed Resistor, ±5% 1/6W R601-R622, R803-R809, R851, R852, R854-R857, R901-R906, R909, R910, RC01-RC04, RC06, RC09-RC14, RE01-RE16, RE19-RE36, RE39-RE53, RG01-RG22, RG25-RG34, RG41, RG42, RJ01-RJ14, RJ17-RJ22, RK01-RK04, RK07-RK13, RK21-RK26, RK31-RK36, RK41-RK46, RL01-RL04, RM31, RM32, RM34, RM35, RM38, RM39, RT01, RT02, RU01-RU18, RU20-RU28, RU31, RU32		JV02		4822 267 31126	<b>PV03-MISCELLANEOUS</b> JACK PHONE JACKS	YJ01003020
JG01 JG03 JG04 JT02 JU01		4822 267 31451 4822 267 31897 4822 267 31897 4822 265 10328 4822 265 61275	8P CINCH YKC21-3052 JACK HLJ5305-01-3010 (GOLD) JACK HLJ5305-01-3010 (GOLD) TERMINAL 14X14 RA 1L1P BLK JACK 40PIN FFC (ST)	YT02080110 YJ01003520 YJ01003520 YT02010780 YJ06011100	SV01		4822 273 10281	ROTARY SW SRBM13NF152-3NS	SR02030200
JU02 JU04 JU05		4822 265 41362 4822 267 31132 4822 267 31132	JACK 15PIN HLEM-15S JACK HLJ0521-01-1010 JACK HLJ0521-01-1010	YJ06010850 YJ01003050 YJ01003050	DY01   DY07 DY08		4822 130 32362	<b>PY03-DISPLAY CIRCUIT BOARD PY03-SEMICONDUCTORS</b> DIODE 1SS176,MA165,1SS254	HD20002000
JU31 JU32		4822 267 41009 4822 265 20542	TERMINAL 2P RCA PIN JACK TERMINAL YKC21-3249 8P	YT02020890 YT02020970	DY08		4822 130 80326	L.E.D. LT3D8B RED	HI10062320
L601 L602 L901 L902 LK01		4822 157 63828 4822 157 63828 4822 157 63829 4822 157 63829 4822 157 53521	M.P.X. COIL M.P.X. COIL HX-PRO COIL 105kHz HX-PRO COIL 105kHz CHOKO COIL TL-8 223J	LS10415020 LS10415020 TC10110030 TC10110030 LC22260710	RY51			<b>PY03-RESISTORS</b> VAR. 5KB RK11K114	RK05020530
LK02 LL01 LL02 LT01		4822 157 53521 4822 148 81074 4822 157 63825 4822 142 60388	CHOKO COIL TL-8 223J BIAS OSC COIL 105kHzOF-10 CHOKO COIL EL0607RA101K PULSE TRANSF.	LC22260710 TC10140350 LC11010130 TP41042010	R***			Carbon Film Fixed Resistor, ±5% 1/6W RY01	
S601 ▲ S831		4822 277 21789 4822 276 13242	SLIDE SW SSSUI-6MM KNOB PUSH SW SDDL B TV-3	SS02020970 SP01011830	RY01   JY02		4822 276 13537	<b>PY03-MISCELLANEOUS</b> PUSH SW SKHVB F 260GF RED	SP01012030
XU01		4822 242 81863	CER.VIB. 8.33MHz EFOEC8384T4	FQ08384020	SY01   SY04 SY05 SY06 SY07		4822 277 30867 4822 277 21791	SLIDE SW SSSU024-P06N1 SLIDE SW SSSU0 2-3 SLIDE SW SSSU L=6MM	SS02040040 SS02030370 SS02021250
▲ C831		4822 122 33276	<b>PS03-POWER SW CIRCUIT BOARD PS03-CAPACITORS</b> CER. 0.01μF ±20%	DK17103840	SY06   VY01			DISPLAY UNIT FIP7DMW6	HQ30814060
▲ L831		4822 157 70419	<b>PS03-MICELLANEOUS</b> LINE FILTER LF-4D-102	FN01020020	SY07   JY01   JY02			<b>PY13-DISPLAY CIRCUIT BOARD SUB PY13-MISCELLANEOUS</b> JACK 40 PIN FFC (L-TYP) JACK 10PIN FFC (L=TYP)	YJ06011500 YJ06011200
CV01 CV02		4822 124 21894 4822 124 21894	<b>PV03-HP. AMP CIRCUIT BOARD PV03-CAPACITORS</b> ELECT 10μF/16V ELECT 10μF/16V	EJ10601610 EJ10601610	DY71   DY79 DY81   DY83		4822 130 32362	DIODE 1SS176,MA165,1SS254	HD20002000
C***			<b>PV03-CAPACITORS (COMMON)</b> Electrolytic Capacitor, ±20%: CV03-CV06		DY83		4822 130 82964	L.E.D. LT3K8B GREEN	HI10114320
QV01		4822 209 83274	<b>PV03-SEMICONDUCTORS</b> IC NJM4560D	HC10007090	R***			<b>PY23-RESISTORS (COMMON)</b> Carbon Film Fixed Resistor, ±5% 1/6W RY71-RY73	
					JY71			<b>PY23-MISCELLANEOUS</b> JACK 10PIN FFC (L=TYP)	YJ06011200
					SY71   SY79		4822 276 20508	PUSH SW SKHVAE OR SOR-122HS	SP01011280
					DY51   DY57		4822 130 32362	<b>PY33-CD FUNC. KEY CIRCUIT BOARD PY33-SEMICONDUCTORS</b> DIODE 1SS176,MA165,1SS254	HD20002000
					SY51   SY57		4822 276 20508	<b>PY33-MISCELLANEOUS</b> PUSH SW SKHVAE OR SOR-122HS	SP01011280

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